International Code Council Annual Conference 2015

Monday 28 September

The New Zealand Response to the 22 February 2011 Christchurch Earthquake
AGENDA

• Nick Hill (Chief Executive, Building Officials Institute of New Zealand) – Rapid Building Evaluation “Getting the Process Started”

• Stewart Geddes (President, Building Officials Institute of New Zealand) – “On the ground at the coal face”

• Ron Dickinson (Past President, Building Officials Association of British Columbia) – Christchurch Rebuild – “The Long Journey”
RAPID BUILDING EVALUATION
“GETTING THE PROCESS STARTED”

BY NICK HILL,
BOINZ CHIEF EXECUTIVE
OVERVIEW OF THE EVENT

• Major event on the 4 September 2010 measuring magnitude 7.1 – today’s focus is on the response to the 22 February 2011 magnitude 6.3 earthquake, which is commonly believed to be part of the aftershock sequence from the September quake

• Four seismic events combined in February’s earthquake to produce “unusually strong ground shaking”

• These four dominant factors were: the high amount of energy released in the rupture of the fault, the direction of the energy, a “trampoline like” interaction between the geological layers under Christchurch, and the close proximity of the event to the city

• The ground accelerations were the largest ever recorded for a New Zealand earthquake, and four times higher than the highest accelerations measured in the magnitude 9.0 earthquake in Japan on 11 March 2011
THE IMMEDIATE AFTERMATH

22ND FEBRUARY 2011

• Buildings that were already weakened by the September 2010 quake were badly damaged, particularly those with unreinforced masonry

• Significant liquefaction affected the Eastern Suburbs, producing 40,000 tons of silt

• 185 people from more than 20 countries died, with over half of the deaths occurring in the Canterbury Television (CTV) Building, which collapsed and caught fire

• Christchurch was declared a state of national emergency, which lasted until 30 April, 2011

• Aftershocks rocked the city, with more than 361 aftershocks occurring in the first week alone

• 80% of Christchurch was without power, water and wastewater services were disrupted, and lines of communication were overloaded

• It is believed around 70,000 people left Christchurch in the weeks following the February event
THE IMMEDIATE RESPONSE
22ND FEBRUARY 2011

• Civil Defence procedures were activated, with the full emergency management structure in place within two hours of the event
• The “Central City Red Zone” is quickly established
• New Zealand Fire Service & Urban Search and Rescue teams respond to fire, serious structural damage reports and land slips, working with structural engineers, seismologists and geologists, as well as construction workers, crane and digger operators, demolition experts and volunteers
• The NZ Police (with assistance from the Australian Police) and Defence Force (NZ Army & Royal NZ Air Force) are deployed
• The New Zealand Red Cross and Salvation Army provide immediate humanitarian support
• Work and Income New Zealand & Housing New Zealand immediately begin contacting people to provide urgent financial assistance
• DBH contact BOINZ for co-ordination response assistance of Building Surveyors into Christchurch
CENTRAL CITY RED ZONE
REASON FOR THE RED ZONE

• Lunch time earthquake – many people out of buildings - the lucky ones survived
ORGANISATIONAL STRUCTURE OF OPERATION SUBURB

Key
Green = Not for profit/Membership based organisation
Blue = Government
Orange = Local Government
Red = BOINZ
OPERATION SUBURB

BOINZ INVOLVEMENT TIMEFRAME

• 22 Feb 2011
  o Earthquake (6.3) at 12.51pm
  o BOINZ contacted by DBH – mid afternoon (scoping assistance)
  o 2 x DBH teams sent to Christchurch
  o Random BCOs in South Island travel by car

• 23 Feb 2011
  o DBH and BOINZ initiate recruitment plan to get BCOs to Christchurch (subject to CDEM approval)
  o Auckland Council x 20 BCOs fly to Christchurch
  o BOINZ advises all councils and members, officially that BOINZ is the co-ordination body to get BCOs in to Christchurch
  o BOINZ develops process to co-ordinate manpower logistics - spreadsheets/by “wave”/by council
    ▪ Personal equipment
    ▪ Travel options
    ▪ Qualifications check
    ▪ Get their approvals
  o “Safety first” – approach taken by Christchurch City Council
BOINZ.ORG.NZ

CANTERBURY EARTHQUAKE RESPONSE
MONDAY 28th FEBRUARY UPDATE FOR BUILDING CONTROL MANAGERS

Dear Building Control Managers,

Thank you for your contributions to assist in the building evaluation process in Christchurch. The following is an update of progress and outline resources we urgently need over the next week.

The Building Officials contributing to Operation Suburb are inspecting houses in the eastern area of Christchurch.

This Operation is being managed by DBH and others, with DBH and BOINZ providing the coordinating role for supplying of the people resources.

1. The Operation combines welfare services and building evaluation staff providing an integrated assessment of people and their buildings. While helping the people directly, it is a critical project in information gathering to assist the next stage of the response and early stages of recovery including temporary housing needs and welfare requirements.

2. Because of its importance, the Operation is aiming to be completed by Saturday 5th March. To achieve this we need at least 200 building officials available on average every day until Saturday 5th March. To date the numbers have averaged 80 per day.

3. We need assistance from more new building officials as well as seeing if those who have returned home can come back for another stint as experience speeds the process.

4. At this stage we are unclear as to exact numbers of people we require to supplement.
OPERATION SUBURB
LOGISTICS SUPPORT COMMUNICATION

those already in Christchurch however our initial estimates is that we need at least fifty people who have not been involved to date.

5. In order to meet the Saturday completion target, we need to have new people on the ground by 7.00 am Tuesday which does not leave long to get mobilised. For most this will require travelling today. Due to the short advice time, Civil Defence logistics networks are not likely to be able to achieve that goal so can those that can be available please make your own travel arrangements. The Team in Chch will arrange transport for the return journey home (unless it is for an early Departure).

6. We are arranging for those currently in Christchurch to be asked if they can stay until Saturday or as long as possible. Hopefully if we have enough additional new people we may be able to allow a stand down day sometime mid-week to give them a break.

7. In return for a commitment until Saturday we will:
   - Make sure your people have appropriate accommodation, particularly those that are camping or staying with friends
   - Get BNs home Saturday evening
   - Get the support of your management if needed.

8. Operation Suburb is to be moved to the Westpac Centre (Jack Hinton Drive) tomorrow morning (from the City Art Gallery) after this morning’s briefing so all new and returning people should go there.

9. If you can contribute. Please advise, by return email to office@hbcrnz.org.nz:
   - Names, mobile numbers, accommodation yes or no, likely arrival method and time, departure date if not Saturday.

10. You also know that there has been the logistics and other challenges but things are getting better as systems and people “bed in”. The odd snafu will occur but we are confident it won’t be a major.

11. SO IN SUMMARY:
   - We need more people to resource 200 teams
   - We need new people by 7.00 am Tuesday so they need to organised and get travel sorted out themselves and get moving today.
   - We want people to stay until Saturday
   - We will do our best to accommodate and arrange travel home

Kind regards

Nick Hill
Chief Executive
04 4736003
0274 314 007

John Gardiner
Manager Determinations
Department of Building and Housing
OPERATION SUBURB

LOGISTICS SUPPORT COMMUNICATION

BOINZ.ORG.NZ

CANTERBURY EARTHQUAKE RESPONSE

MONDAY 28th FEBRUARY UPDATE

Dear Members,

Thank you for your fantastic support to date. We are averaging 80 teams a day at the moment. However, Operation Suburb is now being asked to step up another gear, with 200 Building Officials required on the ground tomorrow Tuesday 1st March.

At this stage we expect we will need those who were involved in the first wave (Friday to Sunday) to return if possible, plus those in the second wave who can stay on, to give us more days.

The plan is for this 3rd phase to have 80's available from tomorrow, Tuesday 1st March (if possible) to work through to the end of play on Saturday 5th March.

We estimate we will also need 50 plus new building officials, who haven’t yet been involved to make up the shortfall.

Accommodation will be arranged, if you haven’t got your own organised, as will the food. You will need to take photo ID, gumboots, your high vis gear and torches. Transport is available, but should you have vehicles available, please bring them.

The briefing venue will be moved tomorrow to the Westpac Centre (Jack Hinton Drive) Addington. So there will no longer be a need to transgress the cordon of the CBD, to get to the Art Gallery.

Earlier today an email memorandum was sent to BCA Building Control Managers outlining the need for more 80 resource. So please work in with them. If you are an employee, otherwise please reply direct. Auckland 80s need to contact Ian McCormack.

SO In Summary:
OPERATION SUBURB
LOGISTICS SUPPORT COMMUNICATION

- We need urgently 200 BOs on the ground tomorrow.
- We need at least 50 BOs who haven’t been involved to date
- You will be in Chch from Tuesday (or Wednesday if travel requires) through to end of play Saturday 5th March
- If employed by a BCA please co-ordinate via your team leader so advise coming to BOINZ is grouped by BCA.
- The information we need:
  - Names (including names of those already in Chch willing to stay – please mark these with an asterix, or indicate appropriately.
  - Cell phone details
  - Do you require accommodation Yes / No
  - Vehicle Yes / No
  - Likely arrival day/time (7am briefings)
  - Departure date if not Saturday.

You will need to make your own way to Chch due to the logistics around this short time frame. The team in the ground will look to organise transport back.

All replies to office@boinz.org.nz

Kind regards

Nick Hill
Chief Executive
04 4736003
0274 314 607

Institute Contact Details:

Building Officials Institute of New Zealand
PO Box 11424, Manners St, Wellington 6142
P: 04 473 6002  F: 04 473 6004
E: office@boinz.org.nz

We're on the Web!
See us at:
www.boinz.org.nz
## OPERATION SUBURB

### LOGISTICS SUPPORT FROM BOINZ

#### Personal Support
- Raewyn Laurenson: 03 544 4421, 021 775 050
- Liz Price: 03 545 2991, 021 1819103
- Jim Forsyth: 03 539 0500
- Greg Gallop: 021 775 050
- Jim Forsyth: 021 1819103

### Dates

<table>
<thead>
<tr>
<th>Wk</th>
<th>Dates</th>
<th>Teams</th>
<th>Contact (Cell)</th>
<th>Skill</th>
<th>Category/level</th>
<th>CHCH address Accommodation</th>
<th>Alternative Contact</th>
<th>Vehicle Rego.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>25FEB - 3MAR</td>
<td>TDC</td>
<td></td>
<td></td>
<td></td>
<td>31A Poraki Street, Kaiapoi</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leader</td>
<td></td>
<td>Inspector</td>
<td>Res 3</td>
<td>31A Poraki Street, Kaiapoi</td>
<td></td>
<td>DDC13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Glen Buckley (return 2/3)</td>
<td>0274 583 686</td>
<td>Inspector</td>
<td>Res 3 &amp; Comm 2</td>
<td>31A Poraki Street, Kaiapoi</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Liz Price</td>
<td></td>
<td>Inspector</td>
<td>Res 3 &amp; Comm 3</td>
<td>31A Poraki Street, Kaiapoi</td>
<td></td>
<td>DLH12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jim Forsyth</td>
<td></td>
<td>Inspector</td>
<td>All</td>
<td>31A Poraki Street, Kaiapoi</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Liz Price</td>
<td></td>
<td>Inspector</td>
<td>Res 3 &amp; Comm 3</td>
<td>31A Poraki Street, Kaipol</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jim Forsyth</td>
<td></td>
<td>Inspector</td>
<td>All</td>
<td>31A Poraki Street, Kaiapoi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>28FEB - 4MAR</td>
<td>WCC</td>
<td></td>
<td></td>
<td></td>
<td>25 Glenroy Street, Woolston</td>
<td>03 384 5646</td>
<td>FHE806</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leader</td>
<td></td>
<td>Inspector</td>
<td>Res 3</td>
<td>25 Glenroy Street, Woolston</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Brian Brasell</td>
<td></td>
<td>Inspector</td>
<td>Res 2</td>
<td>25 Glenroy Street, Woolston</td>
<td>03 384 5646</td>
<td>FHE806</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tim Bully (return 5th)</td>
<td>0274 999</td>
<td>Inspector</td>
<td>Res 3 &amp; Comm 3</td>
<td>25 Glenroy Street, Woolston</td>
<td>03 384 5646</td>
<td>FHE806</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bruce Mutton</td>
<td></td>
<td>Structural Engineer</td>
<td>All</td>
<td>27 Hawkesbury Ave, St Albans</td>
<td>03 355 5588</td>
<td>FPPS17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grant Bashford</td>
<td></td>
<td>Inspector</td>
<td>Res 3 &amp; Comm 3</td>
<td>27 Hawkesbury Ave, St Albans</td>
<td>03 355 5588</td>
<td>FPPS17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grant Fidler</td>
<td></td>
<td>Technical</td>
<td>Res 2</td>
<td>27 Hawkesbury Ave, St Albans</td>
<td>03 355 5588</td>
<td>FPPS17</td>
</tr>
<tr>
<td>3</td>
<td>8 - 11MAR</td>
<td>WCC</td>
<td></td>
<td></td>
<td></td>
<td>20 Glenroy Street, Kirolpol</td>
<td>03 384 5646</td>
<td>FPPS17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leader</td>
<td></td>
<td>Inspector</td>
<td>Res 3</td>
<td>20 Glenroy Street, Kirolpol</td>
<td>03 384 5646</td>
<td>FPPS17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Winton Griggs</td>
<td></td>
<td>Inspector</td>
<td>Res 3 &amp; Comm 3</td>
<td>20 Glenroy Street, Kirolpol</td>
<td>03 355 5588</td>
<td>FPPS17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>John McGirr</td>
<td></td>
<td>Inspector</td>
<td>Res 3</td>
<td>20 Glenroy Street, Kirolpol</td>
<td>03 355 5588</td>
<td>FPPS17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mike Curry</td>
<td></td>
<td>Technical</td>
<td>Res 2</td>
<td>20 Glenroy Street, Kirolpol</td>
<td>03 355 5588</td>
<td>FPPS17</td>
</tr>
<tr>
<td>4</td>
<td>14 - 18MAR</td>
<td>TDC</td>
<td></td>
<td></td>
<td></td>
<td>29 Condell Ave, Papamu</td>
<td>03 354 9547</td>
<td>FPPS17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leader</td>
<td></td>
<td>Inspector</td>
<td>Res 3</td>
<td>29 Condell Ave, Papamu</td>
<td>03 354 9547</td>
<td>FPPS17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Danny Beattie</td>
<td></td>
<td>Inspector</td>
<td>Res 3 &amp; Comm 1</td>
<td>29 Condell Ave, Papamu</td>
<td>03 354 9547</td>
<td>FPPS17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Steve Smith</td>
<td></td>
<td>Inspectors</td>
<td>Res 3</td>
<td>29 Condell Ave, Papamu</td>
<td>03 354 9547</td>
<td>FPPS17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>John Smit</td>
<td></td>
<td>Inspectors</td>
<td>Res 3</td>
<td>29 Condell Ave, Papamu</td>
<td>03 354 9547</td>
<td>FPPS17</td>
</tr>
<tr>
<td>5</td>
<td>21 - 25MAR</td>
<td>NCC</td>
<td></td>
<td></td>
<td></td>
<td>229 Condell Ave, Papamu</td>
<td>03 354 9547</td>
<td>FPPS17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leader</td>
<td></td>
<td>Inspector</td>
<td>Res 3</td>
<td>229 Condell Ave, Papamu</td>
<td>03 354 9547</td>
<td>FPPS17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phil Ruffell</td>
<td></td>
<td>Inspector</td>
<td>Res 3 &amp; Comm 2</td>
<td>229 Condell Ave, Papamu</td>
<td>03 354 9547</td>
<td>FPPS17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Johan Thiart</td>
<td></td>
<td>Structural &amp; Utilities Engineer</td>
<td>All</td>
<td>229 Condell Ave, Papamu</td>
<td>03 354 9547</td>
<td>FPPS17</td>
</tr>
</tbody>
</table>
OPERATION SUBURB
THE BOINZ PROCESS

1. Regular and accurate communication
   - Between BOINZ/DBH/CDEM
   - Between BOINZ/BCAs
   - Between BOINZ/BOINZ members

2. Developed checklist for all volunteer communication
   - Available dates to travel/modes of travel/codes for AirNZ
   - Qualifications/experience
   - Employer authorisation – often BCA co-ordinated teams from councils
   - Contact details/alternate contact details
   - Equipment requirement
   - Reporting protocols
   - Identification
Good morning Nick,

Thought I would flick you a quick email regarding our efforts down in Christchurch last week (while I am still awake – I seem to be getting more tired, rather than less!)

We arrived to a well oiled machine, and while there were a few areas/logistics that weren’t operating that smoothly, given the logistics/planning and management of such a huge operation and getting everyone mobilised I was very impressed.

It was certainly an experience, and I guess I can say that I am a little proud to have been involved in such an operation, and have been able to assist albeit in a small way.

The days were sometimes long and hard, very hot and dusty, and I looked forward to getting back to base at 1730hrs and unload my gear. But, given the chance to do it all over, there is no way that I would have ever NOT gone down there.

When I think of my most memorable moment, I guess it would have to have been a lady who was so relieved to hear that her house was ok (well – it was going to need to be further assessed, but not in any immediate danger of collapse) having lost her first home in the September earthquake she broke down in tears and gave me a huge hug. Just seeing the relief wash over her was pretty amazing.

Regards

Bernadette Mark

Engineer
POST RESPONSE ANALYSIS:
STRENGTHS IN OPERATION SUBURB
RESPONSE EFFORT

• There was immediate identification of the value that BOINZ could provide DBH & CDEM in assisting the logistics in coordinating and providing seamless BCO support into Christchurch.

• The sectioning of the Operation Suburb support response into timely phases or “waves” of BCO’s into Christchurch in a manageable quantum. Errors were few and minor due to this phasing.

• First wave - getting systems into place by coordinating BCO’s from the South Island into Christchurch over night and the following day quickly, to minimize errors without impacting large groups of individuals later.

• The phasing ensured a “stand-by” or readiness message from the Institute allowing BCO’s from around the country to prepare for possible deployment.

• The maintaining of regular and meaningful communications between DHB and BOINZ + BOINZ to members.
POST RESPONSE ANALYSIS:
WEAKNESSES IN OPERATION SUBURB RESPONSE EFFORT

• CDEM were difficult to work with in terms of timely responses and subsequent authorisations

• Instances of unprofessionalism and lack of co-operation; for example, a CDEM staff member unable to be contacted, had subsequently turned off their phone citing “it was ringing too much.”

• CDEM and seeking determinations: general funding authorizations; for example, travel allowances, affecting non council employed building inspectors who didn’t have a travel budget. Despite many attempts to co-ordinate and get outcomes from CDEM, the “practical” approach won, and BCO’s were advised to use cost effective means of getting to Christchurch, sometimes from their own pocket

• BOINZ and DBH responses lead by senior staff who probably over committed on a personal basis - intensive and unsustainable:
  - Level of accuracy, required senior people
  - No capacity to handover to other staff
POST RESPONSE ANALYSIS:
POST EVENT RECOMMENDATIONS

• Although the relationship between BOINZ and DBH worked well:
  o Need for a “CDEM liaison person” to be appointed to interface with DBH and BOINZ, in order to improve the communication process and deliver an urgent and appropriate response
  o Senior teams in both organisations could have been enlarged allowing for faster communications, speedier decisions and allowing for rotation capacity
• A more focused training regime for building professionals and a protocol around motorisation/ travel arrangements and identification collateral for warranted building professionals entering disaster zones
• Local authority readiness to set up and manage building evaluation
• Clarity around the “Green” placard, they did not say a building was safe, rather they identified no structural or safety hazards, the public took green as everything back to normal. Rather then a need to follow recommendation to obtain detailed structural assessment ASAP
“ON THE GROUND AT THE COAL FACE”

BY STU GEDDES,
BOINZ PRESIDENT
OPERATION SUBURB
“ON THE GROUND AT THE COAL FACE”
OVERVIEW

• Most of NZ became quickly aware of the 12.51pm earthquake by either feeling it or via radio/TV communications

• South Island BCOs responded immediately on an individual basis by driving to Christchurch

• Assembled a group of Building Officials, Engineers, Welfare Staff, and support crew

• More co-ordinated responses started to become apparent by 24 Feb

• Undertook approximately 72,000 rapid assessments

• Focus was upon whether buildings could be safely used for shelter, at least in the short term

• Identified buildings that should not be used for occupation & place “red” placards

• Provided support to the people affected
OPERATION SUBURB

WHAT DID THE JOB INVOLVE US DOING

“THE DAILY GRIND”

• First up each morning there was a update briefing on the situation, and any changed procedures.

• All the Building Officers were briefed on certain matters and appointed as the team leader for their group

• Picked up documentation prepared for us to get to our assigned area of the eastern suburbs

• Out of the CBS Arena heading towards our designated suburb. Devastation was rife through the streets on the way

• It took close on an hour to get out to the designated suburb

• It’s hard to explain how nervous you are whilst driving to a task like this
OPERATION SUBURB

“WE WERE OFF”

• Pretty large after-shocks were experienced
• Many thought it wise to leave a voicemail messages for my wives and family detailing where we were going, which street, the names of the people with in their groups etc, just to be safe in the unfortunate event of people having to come look for us
• Actually it was more concerning for families when they got the messages
OPERATION SUBURB

• Inspections of individual properties was the task at hand

• First trying to identify whether someone is at home
  - whether anyone is injured
  - or requiring assistance

• Respectful that this is still someone’s home

• Only about 25% occupancy, given it was a hard-hit area and many people appeared to have left in a hurry

• Welfare team - talking to and ensuring occupiers and homeowners were alright, running through a questionnaire collecting information & basically being reassuring
OPERATION SUBURB

• Working on a pretty tight timeframe of around 10-15 mins per property

• In many cases it didn’t require an internal inspection, depending upon what we found

• Hazards to look out for of course were things like falling debris from roof tiles, collapsing retaining walls around the property, dislodged gas cylinders & supply lines etc.
PLACARDS
THE POSTING SYSTEM

INSPECTED:
No restriction on Use or Occupancy

RESTRICTED USE:
No entry except on essential business

UNSAFE:
Do Not enter or occupy
OPERATION SUBURB

Below is one of the first houses, warranting a “Yellow” placard:
OPERATION SUBURB
A YELLOW PLACARDED HOUSE

• Beautifully tended
• Lot of obvious damage
  o Plaster had been shed from the exterior
  o Stone foundations had blown right out
  o Signs of shoring up the walls from the previous September 2010 quake
  o Chimney had come crashing down
• Some might look at this and say it wasn’t liveable
  o over two thirds of the home unaffected
  o Could provide adequate shelter for people to live there
• Yellow placard in this case meant they couldn’t use that front corner of the property, but live there otherwise
• Lots of examples of homes which shed their exterior claddings, particularly those with 100mm concrete block, or brick veneers
OPERATION SUBURB

RED PLACARDED HOUSE

• Photos below show un-reinforced concrete block walls which have literally torn themselves apart:

• In some cases it was only the roof structure which kept the dwelling tied together
REBUILDING A CITY CENTRE

The Successes

- Establishment of the Central City Development Unit agency to lead redevelopment.

- 100 day Blue Print Central City Recovery Plan Plan.

- Key anchor projects including new:
  - Sports Stadium,
  - Convention Centre
  - Performing arts precinct
  - Health Precinct
  - Cricket Oval
  - Justice & Emergency Service Precinct
  - Central Library
  - Avon River redevelopment
  - Metro Sports Facility
  - Bus Interchange
  - Retail Precinct
  - Inner city parks
  - Earthquake memorial