Enhancing Disaster Resilience in the Built Environment

Vision Statement

National Emergency Management Committee
Land Use Planning and Building Codes Taskforce

March 2012
Final
By 2025 ...

I am contributing to a stronger, more resilient Australia by being informed and prepared for the natural hazards that may affect where I live, work and play
COPYRIGHT

The Vision Statement: Enhancing Disaster Resilience in the Built Environment (released March 2012) was produced by PlanDev Business Solutions on behalf of the Land Use Planning and Building Codes Taskforce, a working group of the National Emergency Management Committee (NEMC). Unless otherwise noted in the list below, materials included in this document are licensed under a Creative Commons Attribution 3.0 Australia license:

The details of the relevant license conditions are available on the Creative Commons website (accessible using the link provided) as is the full legal code for the CC BY 3.0AU license (http://creativecommons.org/licenses/by/3.0/au/legalcode)

Requests and inquiries concerning reproduction and rights in this publication should be addressed to either: Co-Chair, Land Use Planning and Building Codes Taskforce, Mr Brendan Nelson - PO Box 15428, City East, Queensland, 4002 (brendan.nelson@qldra.org.au) or Co-Chair, Land Use Planning and Building Codes Taskforce Mr Peter Allen – Department of Planning and Community Development, 1 Spring Street, Melbourne, Victoria, 3000 (Peter.S.Allen@dpcd.vic.gov.au).

ACKNOWLEDGEMENTS

Thanks to the members of the National Emergency Management Committee Land Use Planning and Building Codes Taskforce (from herein, LUPBC Taskforce) who ensured a collaborative process was undertaken for the project. The Taskforce consisted of members of State and Territory Government planning departments, the Australian Local Government Association and the Commonwealth Attorney-General’s Department and the Department of Infrastructure and Transport. Thanks also to the various emergency management departments who were consulted throughout the project. Many thanks also to the Attorney-General’s Department who provided the funding to complete the project activities, and the Queensland Reconstruction Authority who managed the delivery of the project.

DISCLAIMER

This document was developed as a key deliverable of the Implementation Plan developed by NEMC for the National Strategy for Disaster Resilience. Due to the timeframe and funding constraints on the project, some of the material provided in the documents have not been fully validated and may require further updating over time.

This is the major deliverable for the NEMC LUPBC Taskforce and aims to provide direction over the coming years to achieve a built environment vision. Given the level of detail available at the time on the current state of disaster resilience through land use planning and building codes, PlanDev Business Solutions advises caution when using or interpreting the information.

Reference to any specific commercial product, process or service by trade name, trademark, manufacturer, or otherwise, within this document does not constitute or imply its endorsement, recommendation or favouring by members of the NEMC LUPBC Taskforce or the Australian Government.
Introduction

This document defines a built environment future state and outlines a national vision for disaster resilience through land use planning and building codes.

Background

The purpose of this document is to outline ‘where do we want to be’ in the future for disaster resilience in the built environment across Australia. It is part of the project reviewing the current state of land use planning and building codes in all jurisdictions to inform the Council of Australian Governments (COAG) on the priority of effort to make communities more disaster resilient. The diagram below highlights this document in context with other project elements.

About the project

The objective of the National Review of Land Use Planning and Building Codes project (the Project) is to enhance disaster resilience in the built environment by establishing a common understanding of land use planning and building policies, regulations and codes across Australia, undertaking a gap analysis on the current instruments and preparing an issues paper that provides a roadmap for key improvements to be implemented.

The Project will become an important activity in setting direction and identifying the priority of effort required to achieve an overall disaster resilience vision in each jurisdiction. One of the most critical components of the Project is identifying a national vision for the future state of disaster resilience through land use planning and building codes. An initial analysis and assessment of best practice approaches on these elements has been undertaken and a future vision has been developed.

Vision Statement

This document has been developed from initial consultation with the National Emergency Management Committee (NEMC) Land Use Planning and Building Codes Taskforce (LUPBC) and a stakeholder workshop in each jurisdiction. The approach provided the basis for determining the vision and future state of disaster resilience in the built environment, as well as providing a point from which to measure any gaps.
The Vision Statement document will be used to guide the current state review process and gap analysis that are proposed for subsequent stages of the Project. The next activity will identify the current state, allowing a gap analysis to be performed and finally the development of an issues paper and roadmap for achieving the national disaster resilience vision.

Drivers for the Project

Natural disasters are a regular occurrence across the Australian continent, causing more than $1 billion damage each year to homes, businesses and the nation’s infrastructure, along with serious disruption to communities. Scientific research indicates that more extreme weather events, and large-scale single events with more severe cyclones, storms and floods, are expected in the future. Managing disaster situations through improved land use planning and building policies and practice has been gaining increased support from stakeholders in each jurisdiction, however, it has not yet evolved to a point where there is a common or strategic view about how these matters should be addressed or developed into the future.

After a number of recent events, each jurisdiction has developed various approaches and responses to land use planning and building code issues. The key focus has been influencing land use planning, building codes and property resilience ratings through legislative and policy changes, as well as assisting in the post-disaster reconstruction efforts to fast track their recovery.

While these efforts have assisted in the local or jurisdictional response to disaster resilience issues for land use planning and building matters, it has led to some duplication of effort, lack of alignment between systems and legislation, high costs, lack of common standards and lack of clarity about various roles and responsibilities of each agency involved.

______________________________

1 Natural Disasters in Australia – Reforming mitigation, relief and recovery arrangements (Australian Government Department of Transport and Regional Services), 2002 p.120

National Perspective

In 2002, COAG commissioned a review of Australia’s approach to dealing with natural disasters – mitigation to guard against disasters, response during a disaster event, and post-disaster relief and recovery. The review was carried out by a High Level Group of officials representing Commonwealth, State, and Territory Governments and the Australian Local Government Association.

COAG adopted a new National Strategy for Disaster Resilience and agreed that jurisdictions would take immediate steps to implement its measures. The Strategy includes steps to improve our understanding of the risks of natural disasters, educating people of these risks and improving the methods of communicating urgent messages to communities so they can make informed decisions about their options when faced with natural disasters.

The Strategy also looks at how we can reduce the impact of natural disasters in the medium to long term by considering disaster prevention measures in current and future urban and regional planning. To achieve this, the emergency management considerations must be considered in the context of public policy in the areas of climate change, land-use planning, building codes and development standards.

COAG also agreed on the importance of insurance in disaster recovery and the provision and construction of resilient infrastructure. As part of the measures identified to be undertaken by governments as part of the Strategy, the following related specifically to land use planning and building issues:

- Work to ensure that land use zoning and planning decisions integrate consideration of priority hazards; and
- The Australian Building Codes Board will continue its work on risk-based building codes for priority hazards.

Delivery Statements
The NEMC LUPBC Taskforce has been allocated specific responsibility for developing an action plan for strategic priorities 6.1 and 6.2. Specifically:

**Task 6.1 requires that an action plan to work in partnership with the Australian Building Codes Board (ABCB), Standards Australia (SA), planning officials at all levels of government and across other relevant public and private organisations to influence and effect land-use planning and building codes so that they integrate consideration of priority hazards.**

All documents prepared as part of this project – including this Vision Statement - have been developed in collaboration with all jurisdictions, the Australian Building Codes Board (ABCB), Standards Australia (SA) and the Planning Officials Group (POG). Of particular note, the Roadmap document (the final document prepared as part of this project) provides a clear action plan to influence and effect land-use planning and building codes so that they integrate consideration of priority natural hazards.

**Task 6.2 requires that options are explored for routine disclosure of priority hazards on the transfer of real property and report back to COAG with a proposed way forward by the end of 2011.**

The matter of disclosure of priority hazards on the transfer of real property is examined at length within the documentation prepared as part of this project.

**Natural Hazards in Australia**

Due to Australia’s geographic location, topographical formation and sheer land mass, there is a wide variety of natural disasters that it experiences, ranging from bushfires, floods and severe storms to earthquakes and landslides. The impact of these disaster events can be devastating on local communities and can result in significant financial hardship and loss of life.

Most jurisdictions are vulnerable to the impacts of bushfires, floods and severe storms, while more tropical regions regularly confront the threat of cyclones. Many of these are a direct result of weather patterns in the region, as well as the use of the land (such as urbanisation and farming activities).

When discussing the different types of disasters between jurisdictions, there was great similarity between the hazards that are planned for and experienced. They included the following agreed disaster types:

<table>
<thead>
<tr>
<th>Disaster type</th>
<th>Disaster type</th>
<th>Disaster type</th>
<th>Disaster type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flood</td>
<td>Bushfire</td>
<td>Cyclone</td>
<td></td>
</tr>
<tr>
<td>Earthquake</td>
<td>Drought</td>
<td>Heatwave</td>
<td></td>
</tr>
<tr>
<td>Tsunami</td>
<td>Landslide</td>
<td>Pandemic</td>
<td></td>
</tr>
<tr>
<td>Severe Storms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(including tornado, severe snow storms, severe wind events and hailstorm)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Please Note**

This list excludes man-made hazards such as contaminated land, industrial explosions and power failure.
Vision Statement

A fundamental stage for delivering a resilient community is establishing a common vision for the future state of disaster resilience in the built environment

Built Environment Vision

By 2025 ...

I am contributing to a stronger, more resilient Australia by being informed and prepared for the natural hazards that may affect where I live, work and play

Stakeholder ‘Postcards from the Future’

Outlined below is a narrative of how the vision will be experienced by key stakeholder groups:

<table>
<thead>
<tr>
<th>Community</th>
<th>Business</th>
<th>Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>I understand the natural hazards that may affect my home and my neighbourhood and where appropriate, I have taken steps to protect it against future disasters.</td>
<td>Due to our ongoing business continuity planning (prevention, preparedness, response and recovery), we are well prepared and are able to recover quickly following a natural disaster event.</td>
<td>Our governments have and continue to invest in disaster resilience for our jurisdiction, ensuring that risks from natural hazards are minimised through investment in research, policy making and infrastructure, strong community engagement and understanding through open access to consistent, accurate and legible hazard data.</td>
</tr>
</tbody>
</table>
Assessment Framework

The built environment vision can be achieved by having a competent hazard framework in place. These include:

- **Themes** – focusing on legislation (including policy objectives), governance, processes, technology and education; and
- **Key Elements** – the components were assessed against the elements being hazards, engagement and resourcing.

Themes

There are five (5) themes that are essential for a jurisdiction to address in order to achieve the desired future state. These include:

- **Legislation** - any Acts, Regulations, Policy (detailing the adopted plan of actions by Governments), Regional and Local Planning Instruments that achieve the built environment vision;
- **Governance** - any formal or informal arrangements used to achieve the built environment vision;
- **Processes** - any mechanisms (legislative or otherwise) used to achieve the built environment vision;
- **Technology** – any electronic or online tools, data or information used to achieve the built environment vision; and
- **Education** – any community awareness programs or professional training used to achieve the built environment vision.

Key Elements

There are three key elements that underpin each of the five themes that need to be considered as part of the assessment process. These include:

- **All Hazards** – the element focuses on addressing all natural hazards occurring in a jurisdiction, ensuring that these hazards are addressed in a holistic manner, with all relevant risks being identified;
- **Engagement** – the element focuses on the scale of involvement by relevant stakeholders, including government agencies, research institutions, non-government organisations and community members with the expectation that all are involved collaboratively in disaster mitigation, response and reconstruction; and
- **Resourcing** – the element focuses on the level of commitment given to financial and human resources.

The following diagram (Figure 2) illustrates the resilience framework, including the themes and components.
Responsibilities

There are a number of professions, roles and responsibilities involved in land use planning and building that need to support the built environment vision. They include:

- **Land Use Planners** – take into account natural hazards and risks, apply best practice planning approaches during their decision-making, and take into account emergency risk reduction measures;
- **Developers** – ensure that their projects do not compromise the long-term safety of those that will live and work in their developments, or increase hazard risks for others in the community;
- **Architects, Building Designers and Engineers** – consider all relevant hazard impacts on structures and promote best practice and innovation in their designs;
- **Builders** – promote hazard awareness in the industry and a culture of compliance with building codes and standards;
- **Scientists** – to undertake research and modeling and to inform other stakeholders on the changing nature of natural disaster events; and
- **Elected Representatives** – ensure that decision making at all levels appropriately reflects natural hazard mitigation strategies in the built environment.

Benefits

There are a number of high-level benefits in implementing the built environment vision. They include:

- Aligning the effort of jurisdictions and targeting resource allocation to ensure that efficient implementation can occur;
- Inform local policy and processes while building capacity to prepare for, respond to and recover from disasters;
- Increase accountability and responsibilities of planning and building professions;
- Improve overall community resilience through integrated and holistic approaches; and
- Produce and maintain economic sustainability and security.
Vision Statement

Enhancing Disaster Resilience in the Built Environment

Achieving the Vision

Emergency management planning must better consider built environment risks and be integrated with strategic planning at all levels of government.

Ensuring Community Resilience

Communities that develop a high level of resilience are better able to withstand a crisis event and have an enhanced ability to recover from residual impacts. Communities that possess resilience characteristics can also arrive on the other side of a crisis in a stronger position than pre-event.²

The National Strategy for Disaster Resilience identifies a common set of characteristics for resilient communities, individuals and organisations, which include the following:

- Good functioning while under stress;
- Successful adaptation;
- Self-reliance; and
- Social capacity.

Resilient communities also share the importance of social support systems, such as neighbourhoods, family and kinship networks, social cohesion, mutual interest groups, and mutual self-help groups³.

All of these resilience characteristics need to be underpinned by appropriate building controls, suitable to local hazards and land use planning decisions that minimise the risks to social, built, economic and natural environments.

Features

A disaster resilient community is one where the following exists:

<table>
<thead>
<tr>
<th>Features</th>
<th>Description of a Resilient Community³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>People understand the risks that may affect them and others in their community, jurisdiction and the country</td>
</tr>
<tr>
<td>Preparation</td>
<td>Anticipating disasters to protect themselves, their assets and their livelihoods, building disaster resilience within communities over time</td>
</tr>
<tr>
<td>Partnership</td>
<td>Work together with local leaders and emergency services using their knowledge and resources to prepare for and deal with disasters</td>
</tr>
<tr>
<td>Strategic</td>
<td>Resilience outcomes taken into account when considering and developing core services, products and policies</td>
</tr>
<tr>
<td>Elimination</td>
<td>Land use planning systems and building control arrangements reduce community exposure to unreasonable risks from known hazards, and suitable arrangements are implemented to protect life and property</td>
</tr>
</tbody>
</table>

---

² Improving Community Resilience to Extreme Weather Events, Insurance Council of Australia (2008)
³ National Strategy for Disaster Resilience, Council of Australian Governments (2011) p.4
Natural Hazards in Australia

Due to Australia’s geographic location, topographical formation and sheer land mass, there is a wide variety of natural hazards that it experiences, ranging from bushfires, floods and severe storms to earthquakes and landslides. The impact of these disaster events can be devastating on local communities and can result in significant financial hardship and loss of life.

Most jurisdictions are vulnerable to the impacts of bushfires, floods and severe storms, while more tropical regions regularly confront the threat of cyclones. Many of these are a direct result of weather patterns in the region, as well as our use of the land (such as urbanisation and farming activities).

When discussing the different types of disaster between jurisdictions, there was great similarity between the disasters that are planned for and experienced. They included the following agreed disaster types:

<table>
<thead>
<tr>
<th>Flood</th>
<th>Bushfire</th>
<th>Cyclone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthquake</td>
<td>Drought</td>
<td>Heatwave</td>
</tr>
<tr>
<td>Tsunami</td>
<td>Landslide</td>
<td>Pandemic</td>
</tr>
<tr>
<td>Severe Storms (including tornado, severe snow storms, severe wind events and hailstorm)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please Note
This list excludes man-made hazards such as contaminated land, industrial explosions and power failure.

Impacts of Climate Change

There must be recognition that severe weather events are having a more significant impact on increasingly mobile human settlements across the world, including Australia. Natural disasters such as severe storms, flooding, droughts, heatwaves and cyclones, have been recorded at higher frequencies in Australia over the past decade than any time before.

Global warming is expected to cause an increase in weather extremes because it will change the distribution of heat and thus the flow of energy through the climate system. This will in turn alter the circulation patterns of the atmosphere and the oceans, and it will also modify the hydrological cycle by which water is circulated between the earth's surface and the atmosphere.⁴

Land use planning and building professionals need to prepare for the impact of climate change and adapt their approaches considering the risks and future predictions for our changing environment.

A further factor that is exacerbating the impacts of natural hazards on human settlements is the continuing expansion and growth of our urban areas. Human settlements are expanding into more environmentally constrained locations, which are also at risk to hazard events.

Emerging Hazard Issues

When undertaking any hazard risk assessment or mitigation activity, consideration needs to be given to future issues that may emerge and opportunities for new tools and techniques to be applied in the process.

This may include improving design and construction standards of buildings due to new materials available, determining where certain buildings can be constructed from improved flood modelling and implementing new management techniques for emerging risks to reduce the severity of disaster events.

The vision, roadmap and subsequent tools that are developed for disaster mitigation purposes must be future proofed and easily adaptable. This would be supported by regular (e.g. annual) reviews of the built environment vision statement to consider recent disaster events, overseas experiences and updated research on hazard risks.

Role of Land Use Planning and Building

Having knowledge and understanding of hazards and risks is of little use unless the information can be translated into relevant controls and mechanisms for dealing with them. Land use planning approaches and building controls that anticipate likely risk factors and the vulnerability of the population can reduce future possible impact of disasters.

Responsible land use planning can prevent or reduce the likelihood of hazards impacting communities. Building standards can mitigate the likelihood of loss of life, as well as damage to and/or destruction of property and infrastructure.

The strategic planning system is particularly important in contributing to the creation of safer and sustainable communities. Locating new or expanding existing settlements and infrastructure in areas exposed to unreasonable risk is irresponsible. Land use planning policies can be used to reduce the number of people and assets in areas where risk profiles have increased over time or settled when these risks were not fully understood.

For example, the predicted impact of climate change on sea level and the frequency and intensity of extreme weather events must be considered in an integrated approach to natural hazards in land use planning decisions, building code standards, and state and territory based regulations. Acceptability of risk, in the context of land use planning and development design, requires consideration of loss of life, as well as social, economic and infrastructure loss.

Comprehensive consideration of hazards and risks in the planning system needs sound understanding of the hazards and risks, as well as agreement on risk management principles and on the approach to strategic planning and development controls that will adequately mitigate identified risks. Where there are competing policy objectives, such as biodiversity conservation and fuel reduction, an agreed methodology or guidance is critical.

Recovery efforts following some types of disasters may require significant infrastructure reconstruction. Building to a higher standard, where appropriate, following a disaster will reduce the need for significant expenditure on recovery in the future and improve the resilience of infrastructure within an affected region. Appropriate land use planning is likely to reduce the risk of repeatedly damaged infrastructure.

Priority Outcomes

As identified in the National Strategy for Disaster Resilience (2011), the following outcomes have been identified as priority for land use planning and building codes:

- All levels of decision-making in land use planning and building control systems take into account information on risks to the social, built, economic and natural environments;
- Information on the likelihood of damage from hazards is actively shared, and tools are available to support understanding of potential consequences and costs;
- Building standards and their implementation are regularly reviewed to ensure they are appropriate for the risk environment;
- Development decisions take account of both private and public risks;

“Planning policy has to consider change. For example areas that have been considered marginally flood prone in the past may be at a greater risk in the future making them unsuitable for development ... I believe there will be some hard planning decisions made in the future to ensure development doesn’t go ahead in some areas”

Dyan Currie, National President, Planning Institute of Australia (PIA) February 2011

5 National Strategy for Disaster Resilience, Council of Australian Governments (2011) p.11
• Natural hazard management principles are included in tertiary and vocational training and education curricula for relevant professional and building industry sectors; and
• Settlements, businesses and infrastructure are, as far as is practicable, not exposed to unreasonable risks from hazards or have implemented suitable arrangements, which may include hardening infrastructure or taking up adequate insurance, to protect life and property from known hazards.

Current Situation

After a number of recent events, each jurisdiction has developed various approaches and responses to the land use planning and building code issues. The key focus has been influencing land use planning, building codes and property resilience through legislative and policy changes, as well as assisting in the post-disaster reconstruction efforts to fast track their recovery.

While these efforts have assisted in the local or jurisdictional response to disaster resilience issues for land use planning and building matters, it has led to some duplication of effort, lack of alignment between systems and legislation, high costs, lack of common standards and lack of clarity about various roles and responsibilities of each agency involved.

Initial feedback from stakeholders has indicated that there is currently a reactive approach to specific disasters from a land use planning perspective. This is reflected by the amount of effort and expenditure from post-disaster events compared with those spent on policy, legislative and implementation activities prior to events.

Lessons learned also need to be identified from disaster events and used more by strategic planners and policy makers when developing new land use planning approaches and policies.

The diagram (Figure 3) attempts to describe the current reactive approach to disaster resilience and the need to change that approach to a more proactive, strategic and collaborative approach.

Cost Implications

Over time, greater investment in mitigation is likely to reduce the economic cost of natural disasters in Australia. On average, natural disasters currently cost more than AUD$1 billion annually, although this estimate is grossly underestimated because it takes into account only those events which have incurred costs of AUD$10 million or more per event.

Additionally another AUD$1 billion per annum is spent by the Australian, State and Territory governments and local governments to offset the financial and social costs to individuals, communities and businesses, especially in rural and regional Australia.

Additional investment in natural disaster mitigation by all levels of government is conservatively estimated to provide a 15 per cent rate of return. Additionally, recent analysis revealed that in 67 remedial projects in flood mitigation, more
than AUD$2.10 was saved for every dollar invested. Effective planning and warning systems also help to reduce the level of damage and the costs incurred as a result of disasters.⁶

There is a significant opportunity now, more than ever, to review the financial expenditure from recent disasters across Australia and determine the cost of disaster mitigation activities versus the cost of recovery and reconstruction without the mitigation. There is enough recent evidence to show that if funding is spent on disaster resilience and mitigation strategies, the overall cost of the recovery and reconstruction work required after an event will be significantly reduced.

Further financial modelling is required to be undertaken on the areas identified for improvement through this initiative.

International Efforts

Natural disasters affect most countries around the world. Land use planning and building requirements have been a key focus in recent times in the resilience and preparedness work in countries including the United States and United Kingdom.

It is not uncommon to have a gap between hazard risk mitigation planning and local planning and regulatory land-use processes. Hazard mitigation is an increasingly vital area of practice for planners around the world and these strategies need to integrate into comprehensive regional, local and structure plans. The challenge is to ensure that hazard mitigation can be applied to zoning and subdivision codes, as well as building design and construction.

In the United States, the American Planning Association (APA) encourages planners to evaluate their communities' plans and regulations using a Safe Growth Audit. These audits can provide an important bridge between plans and actions. By highlighting the overall impacts of the complete set of community plans and policies, the audit can point out gaps and counterproductive relationships.

Importantly, a Safe Growth Audit is a means to an end and achieving true safe growth requires that the audit findings be implemented. This has implications for the audit process and subsequent recommendations. The APA recommends that the process should be inclusive, using a steering committee to bring stakeholders and decision makers to the table.

There are a number of other unique approaches being developed around the world and it is important to be aware of these and participate where possible, allowing disaster resilience to be enhanced from / by learnings in other countries. These will be considered during the gap analysis activity.

---

⁶ Extracted from Natural Disasters in Australia: Reforming mitigation, relief and recovery, Commonwealth of Australia (2004)
Maturity Model

For the purposes of this review, three levels of maturity have been identified within each jurisdiction as part of the journey towards achieving disaster resilience across the built environment. These are:

- **Basic** – the component exists but is not comprehensive or does not cover all priority natural hazards identified relevant for the jurisdiction. There is a significant gap in meeting the built environment vision.

- **Intermediate** – the component meets all of the guiding principles, covering all priority natural hazards relevant for the jurisdiction. There is a small gap in meeting the built environment vision and further implementation is needed, but is being addressed.

- **Advanced** – the component is advanced, is integrated and consistent across the jurisdiction. It goes beyond the minimum standards, and includes successful implementation, continuous improvement and feedback loops – it achieves the built environment vision.

These ‘maturity levels’ will be used to assess each of the components outlined in the *Assessment Framework* to determine a jurisdiction’s progress towards achieving the built environment vision.

The resilience maturity model will be consistently applied to each jurisdiction and the components in that jurisdiction to develop an overall perspective on the current state review for disaster resilience in the built environment.
This project aims to develop a high-level understanding of the various land use planning and building code policies and practices that currently exist to assist in the determining the effort required to achieve the built environment vision for disaster resilience.

There are a number of steps required for the successful delivery of the built environment vision. They include the following:

**Step 1 - Confirm Vision**

Key stakeholders in each jurisdiction and the NEMC Land Use Planning and Building Code Taskforce will review and confirm this document.

**Step 2 - Assess Current Capabilities**

Use the Resilience Framework and the Maturity Model to determine each jurisdiction’s progress towards the built environment vision. This will then allow a gap analysis (and issue paper) to be developed to identify opportunities for improvement.

**Step 3 - Develop the Roadmap**

Improvement activities can then be identified that will allow each jurisdiction to move towards ‘mature’ state and achieve the built environment vision.

**Step 4 - Implement the Roadmap**

Commence the implementation of key initiatives that will ultimately achieve the built environment vision.
Appendix A – Glossary of Terms

Outlined below is a glossary of terms for emergency management:

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disaster</td>
<td>A serious disruption to community life which threatens or causes death or injury in that community and/or damage to property which is beyond the day-today capacity of the prescribed statutory authorities and which requires special mobilisation and organisation of resources other than those normally available to those authorities.</td>
</tr>
<tr>
<td>Emergency management</td>
<td>A range of measures to manage risks to communities and the environment; the organisation and management of resources for dealing with all aspects of emergencies. Emergency management involves the plans, structures and arrangements which are established to bring together the normal endeavours of government, voluntary and private agencies in a comprehensive and coordinated way to deal with the whole spectrum of emergency needs including prevention, response and recovery.</td>
</tr>
<tr>
<td>Emergency service</td>
<td>An agency responsible for the protection and preservation of life and property from harm resulting from incidents and emergencies. Syn. ‘emergency services authority’ and ‘emergency service organisation’.</td>
</tr>
<tr>
<td>Hazard</td>
<td>A source of potential harm or a situation with a potential to cause loss; a potential or existing condition that may cause harm to people or damage to property or the environment.</td>
</tr>
<tr>
<td>Mitigation</td>
<td>Measures taken in advance of a disaster aimed at decreasing or eliminating its impact on society and environment.</td>
</tr>
<tr>
<td>Not-for-profit</td>
<td>The purpose of providing goods or services, but not for the purpose of making profit: a non-profit organisation; non-profit sector.</td>
</tr>
<tr>
<td>Preparedness</td>
<td>Measures to ensure that, should an emergency occur, communities, resources and services are capable of coping with the effects; the state of being prepared.</td>
</tr>
<tr>
<td>Prevention</td>
<td>Measures to eliminate or reduce the incidence or severity of emergencies.</td>
</tr>
<tr>
<td>Recovery</td>
<td>The coordinated process of supporting emergency-affected communities in reconstruction of the physical infrastructure and restoration of emotional, social, economic and physical wellbeing.</td>
</tr>
<tr>
<td>Response</td>
<td>Actions taken in anticipation of, during, and immediately after an emergency to ensure that its effects are minimised, and that people affected are given immediate relief and support</td>
</tr>
<tr>
<td>Risk</td>
<td>The likelihood of harmful consequences arising from the interaction of hazards, communities and the environment; the chance of something happening that will have an impact upon objectives. It is measured in terms of consequences and likelihood; a measure of harm, taking into account the consequences of an event and its likelihood.</td>
</tr>
</tbody>
</table>

**Note:** developed by COAG and provided in the *National Strategy for Disaster Resilience*. 
Appendix B – Roles of Government

Outlined below are the various roles of government in emergency management - those directly related to disaster resilience in the built environment have been bolded.

Commonwealth Government

The role of the Commonwealth Government in natural disaster management is to provide national leadership in collaborative action across all levels of government in disaster research, information management and mitigation policy and practice; to reduce the risks and costs of disasters to the nation; to mobilise resources when State and Territory disaster response resources are insufficient; and to provide national support for disaster relief and community recovery.

In particular, the Commonwealth Government has a major role in:

• Coordinating national strategic emergency management policy, in collaboration with the State and Territory Governments and local government
• Undertaking natural disaster research of national significance
• Identifying national priorities for natural disaster mitigation, in collaboration with other levels of government
• Providing support for disaster risk assessment and mitigation measures, in conjunction with the States, Territories and local government
• Providing operational support for disaster response to the States and Territories where their individual resources are insufficient
• Providing a national disaster relief and recovery framework and resources on a cost-sharing basis with the other levels of government, and
• Providing vital information services such as meteorological, hydrological, geophysical and other geo-data services that support warnings and disaster management.

The Commonwealth also has a continuing role in:

• Providing national leadership on mitigation strategies and assessment
• Providing financial assistance to States, Territories and local government for cost effective, priority disaster risk management
• Providing financial assistance to States, Territories and local government to assist them in meeting their disaster mitigation responsibilities

State and Territory Government

State and Territory Governments have primary responsibility within their own jurisdictions for natural disaster management in the interests of community safety and well-being. This involves responsibility for:

• Developing, implementing and ensuring compliance with comprehensive disaster mitigation policies and strategies in all relevant areas of government activity, including land use planning, infrastructure provision, and building standards compliance
Vision Statement

Enhancing Disaster Resilience in the Built Environment

• Strengthening partnerships with and encouraging and supporting local governments, and remote and Indigenous communities, to undertake disaster risk assessments and mitigation measures
• Ensuring provision of appropriate disaster awareness and education programs and warning systems
• Ensuring that the community and emergency management agencies are prepared for and able to respond to natural disasters and other emergencies
• Maintaining adequate levels of well equipped and trained career and volunteer disaster response personnel
• Ensuring appropriate disaster relief and recovery measures are available, and
• Ensuring that post-disaster assessment and analysis is undertaken.

Local Government

Where local government powers exist, local governments also have responsibilities, in partnership with States and Territories, to contribute to the safety and well being of their communities which means they have an important role participating in local disaster management. In some jurisdictions, the principal roles and responsibilities of local governments are:

• Ensuring all requisite local disaster planning and preparedness measures are undertaken
• Ensuring an adequate local disaster response capability is in place, including local volunteer resources
• Undertaking cost-effective measures to mitigate the effects of natural disasters on local communities, including routinely conducting disaster risk assessments
• Systematically taking proper account of risk assessments in land use planning to reduce hazard risk
• Undertaking public education and awareness, and ensuring appropriate local disaster warnings are provided
• Ensuring appropriate local resources and arrangements are in place to provide disaster relief and recovery services to communities
• Representing community interests in disaster management to other levels of government and contributing to decision-making processes, and
• Participating in post-disaster assessment and analysis.

Appendix B: About the Authors

PlanDev Business Solutions is a specialist company established by a group of professionals with direct State and Local Government experience. The PlanDev team have a wide range of backgrounds from land use planning, through engineering to business improvement and project management.

w: plandevbs.com.au

Shane Murrihy – Senior Consultant
Shane is a qualified land use planner with extensive experience in urban planning and compliance working with local and state government and the private sector across Queensland. In his most recent role as Program Leader of the Development Appeals and Assessment Systems team in Logan City Council, he has been responsible for strategic, policy and system development for land use planning related matters. Shane’s experience has covered a wide range of areas and involved senior positions in Council with responsibility for broad change initiatives.

e: shane.murrihy@plandevbs.com.au

David Carlisle – Project Manager
David is an experienced project manager and business consultant, with over 15 years working with government and businesses at various levels. Most recently, he managed the National ePlanning Roadmap project, overseeing and driving the successful delivery of the project outcomes. Prior to that, he was project manager for the Target 5 Days and Next Generation Planning projects on behalf of the Council of Mayors (SEQ), involving 11 partnering Councils and was responsible for implementing a range of business improvement activities. He has managed strategy development initiatives across Australia and internationally.

e: david.carlisle@plandevbs.com.au

NEMC LUPBC Taskforce Members

<table>
<thead>
<tr>
<th>Name</th>
<th>Jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brendan Nelson (Co Chair)</td>
<td>Queensland</td>
</tr>
<tr>
<td>Peter Allen (Co Chair)</td>
<td>Victoria</td>
</tr>
<tr>
<td>Dorte Ekelund</td>
<td>Commonwealth</td>
</tr>
<tr>
<td>Chris Collett</td>
<td>Commonwealth</td>
</tr>
<tr>
<td>Rolf Fenner</td>
<td>Australian Local Government Association</td>
</tr>
<tr>
<td>David Papps</td>
<td>Australian Capital Territory</td>
</tr>
<tr>
<td>Marcus Ray</td>
<td>New South Wales</td>
</tr>
<tr>
<td>Mark Meldrum</td>
<td>Northern Territory</td>
</tr>
<tr>
<td>Gary White</td>
<td>Queensland and Chair, Planning Officials Group</td>
</tr>
<tr>
<td>Yolande Yorke</td>
<td>Queensland</td>
</tr>
<tr>
<td>Dr. Donna Ferretti</td>
<td>South Australia</td>
</tr>
<tr>
<td>Peter Fischer</td>
<td>Tasmania</td>
</tr>
<tr>
<td>Loretta Van Gasselt</td>
<td>Western Australia</td>
</tr>
</tbody>
</table>

Observers / Interested Parties

<table>
<thead>
<tr>
<th>Name</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warwick Jones</td>
<td>Neil Robertson</td>
</tr>
<tr>
<td>Aaron Verlin</td>
<td>Mark Duckworth</td>
</tr>
<tr>
<td>Joe Buffone</td>
<td>Louise Jones</td>
</tr>
<tr>
<td>Robert Preston</td>
<td>Alina De Souza</td>
</tr>
<tr>
<td>Gerhard Visser</td>
<td>Darren Venn</td>
</tr>
<tr>
<td>Michael Hallowes</td>
<td>Vince McMullen</td>
</tr>
<tr>
<td>Linda Henning</td>
<td></td>
</tr>
</tbody>
</table>
Vision Statement

Enhancing Disaster Resilience in the Built Environment