Rising from the Ashes: Planning involvement in the recovery from a major bushfire

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Abstract

Bushfires are common and natural events that occur across Australian landscapes. They can have disastrous impacts on urban areas adjacent to bushland. With climate change bringing more volatile weather conditions, the number of bushfires occurring across Australia will continue to rise over coming years. Due to this ongoing threat, it is important that planners and authorities have a sound understanding of their roles in the recovery process. There is no clear response or procedure for planners to deal with major bushfire disasters, which often overwhelm local authorities. There are clear opportunities presented following major bushfire disasters for incorporating a reduction in future vulnerability through effective reconstruction planning. However, opportunities to implement change in the community are often not realised or acted upon appropriately due to the time constraints of the reconstruction process. This thesis argues that planning processes which take place following a bushfire could be refined to allow for a better balance between a speedy recovery and a quality planning outcome. Factors that contribute to this balance are explored and recommendations are made to ensure adequate protection for the community is incorporated into new approved developments whilst not delaying the reconstruction process significantly.
Acknowledgements

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I would also like to acknowledge the enthusiastic input from Ms Dorte Ekelund, Ms Kerry O’Neill, Mr Nigel Bell, Mr Dean Cerneka and Mr Ric Hingee. I would like to thank you all for taking time out of your busy schedules to become involved in this research project. This research would not have been possible without your support!
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1.1 Problem setting

Bushfires have been a component of Australian ecosystems and environments for over 40 million years (Baker and Stanton 2004) and the issue of the interface between human settlements and bushfire prone land is a growing problem. In recent decades, vulnerability to bushfire has become a major issue for many Australians in both urban and rural areas (Baker and Stanton 2004). Bushfires in Australia lead to the highest rates of death compared to any other natural hazard within the country (BTE 2001); however there is a trend for increased levels of building in bushfire prone areas (AFAC 2001). This growing interface area between the built environment and the bushfire prone natural environment leads to a number of issues that need to be faced by planners. A number of factors are driving people to live in this interface area, including population growth, urban sprawl, land prices, amenity benefits and lifestyle changes. Research from the USA suggests that people are prepared to accept the risk of fires because of the appeal of living in a more rural environment (Glenn 1999). Planners are not only faced with the difficulty of determining where new development should be carried out, but are faced with issues arising from existing communities which were developed prior to informed decisions being made in regard to bushfire safety and community vulnerability.

Whilst the majority of planning efforts are focused on the protection of communities and reducing their vulnerability to bushfire threats, there is also a need to accept the possibility that catastrophic circumstances could still lead to a major bushfire disaster across communities within the urban and bushland interface zone. For this reason, it is essential that planning authorities devote resources to prepare themselves and the community for these disasters, in order to ensure that an effective recovery is possible. Local authorities usually respond to major natural disasters in a reactive way, sometimes making ad hoc changes to the routine planning system and implementing temporary development assessment policies to deal with the overwhelming number of development applications. The quote below highlights this issue, and is referring to the way local government deals with bushfire disasters in Sydney.

Together, the increasing frequency of these environmental events and escalating demographic pressures pose a significant challenge to extant institutional and urban governance structures, which have tended in the recent past to deal with the problem in a reactive and often ambiguous manner. (Gillen 2005)
Many experts agree with this point, and therefore this research is directed at the recovery and reconstruction of the built environment following a major bushfire disaster. By understanding what is required in a large scale recovery effort, authorities can be more prepared to act in a time of crisis. The recovery process for communities devastated by bushfires is long and painful, often continuing for years following the disaster. There are innumerable problems that face planners throughout this process, such as striking a balance between the speed of the recovery and the quality of the planning outcome.

Following a major disaster, there is an urgent requirement to rebuild the built environment so that people can get on with their lives. Often houses, infrastructure, retail and commercial buildings, public facilities and other elements of the built environment are damaged or destroyed by bushfire disasters. For people within that community to return to a state of normality, these elements need to be rebuilt. However, the process is not as simple as rebuilding what was once there, as planners must also take the opportunity to look at strategic issues within the area. These strategic opportunities that may arise must be examined and acted upon in order to attempt to incorporate a reduction in vulnerability into the rebuilt community. Authorities generally do not have the time or resources in a time of crisis to adequately examine strategic issues and implement broader changes, and this is problematic as it often leads to communities being rebuilt with the same vulnerabilities to bushfire hazards. This is where a balance has to be struck, and it is up to planners to determine where this balance lies. Planners will be dealing with a number of conflicting interests and goals during the post-disaster planning process, making it more difficult to determine where to focus their efforts and resources.

This thesis discusses the issues that are faced by planning authorities and communities in the recovery and reconstruction of the built environment following a major bushfire disaster.
1.2 Research hypothesis and aims:

Hypothesis

A better balance can be achieved between the speed of post-disaster recovery and the quality of the planning outcome through a better understanding of the barriers faced by planners and residents, and an increased level of pre-disaster planning for the recovery of the built environment.

The role of planning in the aftermath and recovery process following a major bushfire is essential in allowing communities to recover from the destructive and traumatic impacts they can have. I believe that the planning processes that take place following a bushfire could be refined to allow for a better balance between a speedy recovery and a quality planning outcome. The current practices sometimes allow for a speedy recovery through fast tracking approvals, and whilst this is good for affected residents trying to get on with their lives, it does not always lead to ideal planning outcomes. On the other hand, some processes allow for major redevelopment of devastated areas, and this usually takes much longer than the community is willing to put up with. I believe a better balance between these two situations could be achieved by having processes and plans in place to avoid bureaucratic nightmares throughout the reconstruction period and to ensure adequate protection for the community is incorporated into the new approved developments.

The speed of the recovery process is dependent on a number of planning processes and responses, and this research will evaluate how effectively current legislation allows for a speedy recovery. The quality of the planning outcomes refers to the strategic planning involvement in reducing the future vulnerability of the community. This concept also includes the ability of planning authorities to identify and act upon any strategic opportunities that may arise following a major bushfire disaster.

The scope of this research is limited to the reconstruction of the built environment, and the processes which are conducive to this recovery. However, in order to establish how effectively this recovery and reconstruction process is being carried out, it is essential to consider aspects of the recovery of the social environment. Some relevant social factors will be included within this research, because people are the driving force behind the recovery and reconstruction of the built environment.
Research Aims

The aims and objectives of this thesis are as follows:

• To investigate current planning procedures and processes which take place immediately following a major bushfire disaster.

• To examine and analyse post-disaster opportunities and how planners respond to them.

• To identify barriers to the post-disaster recovery planning process and how to overcome them.

• To study recent bushfire disasters and evaluate the effectiveness of the planning processes involved in the recovery process.

• To identify ways in which planning authorities could be more prepared for the reconstruction process.

• To extrapolate lessons learnt from recent disasters in order to apply them to future planning processes.

• To make recommendations of changes to planning policies and procedures in response to the lessons learnt from the research and previous disasters.
1.3 **Rationale for thesis**

Through reviewing literature on the topic of bushfire management and recovery planning, it became apparent that there is a huge amount of literature focussing on risk management and mitigating the effects of bushfires; however there is very little available regarding the planning processes for recovery and reconstruction following a major bushfire event. The research gap in this particular aspect of bushfire related planning provides the basis for this thesis topic. Recent bushfire disasters in Australia, such as the Victorian bushfires of January/February 2009, highlight the relevance of the topic and the need for further research into the planning processes that take place immediately following a major bushfire disaster.

Post-disaster planning is extremely complex and somewhat unpredictable, which is why planning authorities are often completely overwhelmed following a major bushfire disaster. Further research into the effectiveness of previous strategies, the lessons learnt from previous disasters, the barriers which face communities and planners, and the opportunities which arise following major bushfire disasters is essential in guiding future planning processes. This thesis aims to identify and analyse these opportunities and barriers, and will conclude on the effectiveness of current disaster recovery processes.

This research aims to investigate the effectiveness of post bushfire disaster planning, and the ability of planners to implement changes necessary to ensure community safety in the future. The research will look at the planning opportunities presented by large scale disasters, and the barriers faced in terms of implementing changes. The research aims to examine these barriers and make recommendations which could be incorporated in plans and policies to ensure that post disaster planning is more effective in the future. The research will also examine how resistant communities are to planning changes following a disaster, and how they feel the system could be improved. The research will look at planning processes and statutory lessons which have been learnt from post-bushfire disaster experiences that could possibly be incorporated into everyday planning practices.
1.4 Methodology

Literature Review

In order to establish a sound contextual background for this research to be based on, an analysis of existing literature covering the area of study was carried out. Literature from Australia and from around the world was studied as part of this process. The literature review analysed literature covering why people choose to live in bushfire prone areas; the concept of recovery; overwhelming of building consent authorities following a major disaster; the legislative framework for disaster recovery; tensions between conflicting goals in the recovery and reconstruction process; and community involvement and resilience. The literature review not only analysed literature addressing post-bushfire recovery planning specifically, but planning in the wake of a variety of different natural disasters. This literature review provided direction for the rest of the research, as it identified information gaps in the available literature. These information gaps were addressed through further research processes.

Qualitative Research

Due to the complexities of the issues and processes involved in post-disaster planning, the research methodology aimed to get a number of different perspectives and understandings. This was done through selective interviews of people who have a great deal of knowledge and experience in the area of post-disaster planning. These interviewees had very different professional backgrounds, and included planning officials, town planners, community consultation facilitators and residents affected by major bushfires. To understand the issues purely from a planners’ perspective would leave the research lacking depth and credibility, and so this holistic approach to the selection of interviewees was taken. In-depth interviews were carried out to allow interviewees to share their experiences and knowledge. Table 1.4.1 lists the people interviewed as part of this research, and many have knowledge of bushfire recovery planning from both professional and personal experiences. Interviewees who had experience of post-disaster planning from multiple perspectives were essential in gaining a deep understanding of the broader issues involved.
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<td>Director</td>
<td>ACT Planning and Land Management Group</td>
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<td>Anonymous Interviewee</td>
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<tr>
<td>Nigel Bell</td>
<td>Director</td>
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<td>Kerry O’Neill</td>
<td>Long Term Planner</td>
<td>Victorian Bushfire Reconstruction and Recovery Taskforce</td>
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Table 1.4.1: List of interviewees.

**Dorte Ekelund**

Dorte Ekelund has been a planner for 28 years, and has extensive experience working in areas where bushfire hazard is a risk. Ms Ekelund has worked extensively within the NSW local government sector as well as holding senior leadership positions within the governments of the ACT and WA, and is currently the head of the Major Cities Unit within the Office of Infrastructure Australia. Ms Ekelund was the Director of the Territory Planning Branch, within the Planning and Land Management Group (PALM) and was the head of Strategic Planning at the time of the 2003 Canberra Bushfires. In that role she was responsible for the planning for new urban release areas and was also responsible for the policy framework within which development assessment decisions were made. Ms Ekelund also lost her house to the 2003 Canberra bushfires, which gives her a unique perspective as a planner and a survivor of the disaster. All the views Ms Ekelund gave for this research were her own personal views, and they in no way represent the views of her employer.

**Anonymous Interviewee**

This interviewee did not wish to be identified, however consented to being quoted in this thesis. This person has experience specific to the 2003 Canberra bushfires. For the purposes of this research paper, this person will be referred to as ‘Interviewee 2’.
Nigel Bell

Nigel Bell is the Director of Eco Design Architects, and has 30 years of wide planning and architectural experience. Mr Bell is a sustainability expert with wide ranging expertise, and has written on bushfires and buildings. He has also been heavily involved in the recovery process following the devastating 2009 Victorian bushfires. Mr Bell has been involved in the community visioning, collaboration and design charrette (Phoenix Workshop) which is focussed on the recovery and reconstruction of Marysville and surrounding towns.

Dean Cerneka

Dean Cerneka is a town planner currently heavily involved in the recovery and reconstruction of the town of Kinglake in Victoria, which was devastated by the 2009 bushfires. Mr Cerneka also lost his house to the 2009 bushfires, so he also has personal experiences involving the planning for reconstruction as well as his professional experience. It is acknowledged that the input from Dean Cerneka are his views only.

Ric Hingee

Ric Hingee is a resident of Duffy in the Australian Capital Territory, who lost his house to the 2003 Canberra bushfires. Mr Hingee has since become heavily involved in issues relating to bushfire recovery and politics, and is actively involved in neighbourhood and community groups. He is the Founding President of the Community Alliance Party in the ACT, which has a strong focus on sustainable development and is vocal on issues relating to development on the urban fringe and in bushfire prone areas. Mr Hingee rebuilt his home in Canberra following the 2003 fires, and the home incorporates a huge number of features designed to make it fire-resistant. The house has been the focus of media attention due to the extent of the protective measures that have been incorporated into the design.
Kerry O’Neill

Kerry O’Neill is a planner in the Long Term Planning branch of the Victorian Bushfire Reconstruction and Recovery Authority. She has been involved in the recovery and reconstruction of Marysville and other areas devastated by the 2009 Victorian bushfires. All the views Ms O’Neill gave for this research were her own personal views, and they in no way represent the views of her employer.

Other Research Methods

Throughout the research for this project, other research methods were employed to gather information. This included studying current legislation and planning policies in different states within Australia in regard to bushfire recovery and reconstruction. Many local and international examples of planning responses to major bushfire disasters were studied. Two particular examples of recent bushfire disasters in Australia were studied in great detail: Canberra bushfires of 2003 and the Victorian bushfires of 2009. A variety of other primary and secondary information sources were used in order to gather the necessary information, including newspaper articles, websites, government reports, other reports and information from community groups in affected areas. A site visit to Canberra was carried out in order to understand how communities were affected, the siting of communities within bushfire prone areas, and to take photographs.
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2.1 Introduction

This chapter provides a review of relevant literature regarding post-disaster planning in order to establish the context of the studied issues. Throughout this chapter, literature addressing the planning involvement in the recovery and reconstruction process following major natural disasters will be critically analysed, and this will form a base for the remainder of the research project. Literature was sourced from Australia, and other countries around the world.

Bushfires in Australia are not uncommon events, due to the climatic conditions and expansive bushland, but they only become a problem once they begin to threaten lives and property. Bushfires are a natural part of the Australian environment, and the number of bushfires occurring each year can be expected to keep rising, as Australia has been described as one of the most vulnerable developed nations with respect to climate change (Garnaut Review 2008). The purpose of this chapter is to critically review the relevant scholarly literature addressing the planning involvement in the recovery from a major bushfire disaster. Due to the limited scope of this research project, the available literature addressing the exact topic issue is extremely limited. For the purposes of setting the context of post-disaster planning, this review will cover literature which focusses on the planning involvement in the reconstruction process following a variety of different natural disasters.

Literature addressing all relevant aspects of the recovery and reconstruction process following major natural disasters will be critically reviewed, in order to understand the complex issues within their context. Firstly, the review will focus on literature addressing why people choose to live in bushfire prone land, in order to give an understanding of some of the dynamics that exist within communities in these areas. The review will then explore the concept of recovery following a natural disaster, and the processes involved. The pressures placed on local consent authorities following major disasters is important in understanding how the processes could be refined or improved, and literature addressing this issue will be analysed. The review then focuses on literature examining the legislative framework for recovery and explore the tensions between conflicting goals during the recovery process. The concept of community resilience is a strong theme in a large amount of post-disaster planning literature, and this issue will also be explored. Literature focussing on case studies from within Australia and from around the world will be examined in order to establish a strong contextual background for the studied issue.
2.2 Why live in bushfire prone areas?

To effectively plan for recovery from a major bushfire, it is necessary to have an understanding of why people choose to live in bushfire prone areas. Findings show that there is a trend for increased levels of building in bushfire prone areas (AFAC 2001) despite the fact that out of all natural hazards in Australia, bushfires lead to the highest rates of death (BTE 2001). This trend is not localized to Australia, as research suggests that in the USA people move to these areas because of the appeal of the amenity benefits of a more rural environment (Glenn 1999). The most common explanation of why an increasing number of people are living on the fringe of urban areas is the population pressures of cities forcing a spread into the urban-bushland interface. In Sydney, even though there are urban renewal strategies in place, about 30% of new houses are built on the urban fringe (Sinclair 2002). Pricing of land and houses is in some cases cheaper on the urban fringe or in non-metro areas, and this can also help to drive people to live in bushfire prone areas. There was a common trend amongst the literature elaborating on the values placed on aesthetics, such as views of the natural landscape, which draw people to the area. This attraction also draws developers, landowners and architects to place dwellings on hill-slopes and ridges, the most susceptible areas to bushfire attack (Little 2003). The majority of the literature condemns this style of development, stating that ribbon housing developments along mountain valleys or along ridges must be avoided (Gill 1979). The effective placement and design of houses is crucial to controlling the level of vulnerability experienced in these areas.

2.3 Exploring the concept of recovery

The majority of literature addressing post-disaster planning, begins by exploring the concept of recovery. Many authors look into the concept of recovery in great detail, and there are varying interpretations of what the process constitutes. Some direct definitions are provided such as:

*The coordinated process of supporting disaster-affected communities in reconstruction of the physical infrastructure and restoration of emotional, social, economic and physical well-being. (EMA 1996)*
The developmental process of assisting individuals and communities to manage the re-establishment of those elements of society necessary for their wellbeing. (OESC 2005)

It is clear from the above definitions that it is generally accepted that the notion of recovery is ‘as a supportive process; that is, a process in which the affected community plays a central role’ (Sullivan 2003). This is fundamental to understanding the processes which drive a successful recovery from a major bushfire disaster. Another important aspect of recovery is that of incorporating changes within the community through the recovery process, so that vulnerabilities are addressed in order to limit future risk (Rotimi, Wilkinson et al. 2009). In order to achieve this the process needs to be very inclusive, allowing a variety of inputs from different perspectives. To achieve this inclusiveness, recovery planning and management arrangements need to be developed in partnership with all parties who are either likely to be affected by an emergency or who have a role to play in the recovery of those affected (Sullivan 2003).

Recovery is a broad concept, and extends beyond just restoring physical assets or providing welfare services (Norman 2006). A holistic and integrated framework is needed to consider the multifaceted aspects of recovery which, when combined, support the foundations of community sustainability (Norman 2006). Some of the main influences in the recovery process are environmental, financial and economic, physical, community, psychosocial and emotional factors (Dwyer 2005). Figure 2.1 on the following page illustrates the four main sectors which need to be addressed through an effective recovery process to allow a community to re-establish itself. As the diagram shows, each sector is comprised of a number of components. These components are all essential aspects to consider when planning for the recovery of that sector, and all four sectors overlap in the centre of the diagram indicating that for a full recovery of the community, a holistic approach must be taken to ensure each sector is adequately addressed. As the main focus of this research is on the recovery and reconstruction of the built environment, it is important to note that the main components that need to be addressed in the recovery process are public buildings and assets, commercial and industrial, residential, rural and lifeline utilities (Norman 2006). The diagram shows the interdependence of elements within the recovery process.
This research has a defined scope limiting it mainly to the reconstruction of the built environment, and does not include the process of recovery in its entirety. It is very important, however, to understand the role of the recovery and reconstruction of the built environment in the overall process. Recovery and reconstruction involves a series of ongoing and related processes all set in motion by the disaster event, all taking place more or less simultaneously, and lasting various lengths of time beyond the event (Schwab, Topping et al. 1998).
A number of authors writing on the topic of post-disaster recovery try to break the process down into a number of stages. Whilst some authors state that models of stages of recovery are too simplistic (Rubin 1985), the majority agree that there are distinct stages. There is also agreement that these stages overlap and it is difficult to place set time frames on each stage as there are too many variables. A typical breakdown of the recovery process suggests the following five key stages:

![Typical breakdown of the steps involved in the process of recovery.](Source: Brunsdon and Smith 2004)

**2.4 Overwhelming of building consent authorities**

Throughout the review of post-disaster planning literature, there was a strong focus in much of the literature on the role of building consent authorities, and the difficulties they face in post-disaster periods. Recovery is often carried out by making ad hoc changes to the routine building approval system following a disaster (Le Masurier, Rotimi et al. 2006). The success of this method depends directly on the scale of the disaster, as this method of dealing with the influx of building approvals is a major bottleneck in the recovery process (WRLAWG 2004) following larger scale disasters. Relying on routine processes has proved adequate following some small-scale disasters (Le Masurier, Rotimi et al. 2006), however it can fail to capitalise on strategic opportunities presented by the disaster and is often not inclusive enough to nurture community resilience (Winkworth, Healy et al. 2009).

Identifying and making use of strategic opportunities presented by a major disaster to reduce the future vulnerability of the community is an essential component of post-disaster planning. These opportunities include fixing historic planning problems, such as inappropriate setbacks, lot layouts, access and infrastructure. This does not always take place if the building consent authorities are
overwhelmed by the number of applications received and the pressures placed on them to resettle the community as quickly as possible. The following quote highlights this issue, and is a common theme emerging in the majority of the scholarly literature available:

In the aftermath of a natural disaster, property owners and local officials often make decisions to rebuild homes, businesses, and public facilities in the same style, place, and design as the originals... These early decisions can foreclose many opportunities to reshape the pattern of development in a community so as to make it better and safer by reducing vulnerability to future disasters. (Schwab, Topping et al. 1998)

Routine statutory processes are generally only circumvented when an official state of emergency is declared following a major natural disaster (Le Masurier, Rotimi et al. 2006). Prior to this official state of emergency being declared, local authorities are often left unable to cope with the volume of work, due to shortfalls in experienced personnel (Le Masurier, Rotimi et al. 2006). A state of emergency is not always declared when a major disaster has occurred, such as the 2009 bushfire disaster in Victoria. This presents local building consent authorities with major problems, which then translate into a slower recovery for the community. Recovery processes also continue well beyond the point when the official state of emergency has been lifted, which often results in routine statutory processes becoming applicable once again, slowing the recovery process. For the reasons discussed above, it is essential that building consent authorities are prepared for disasters, with plans and a supportive legislative framework to assist them in coping with post-disaster planning processes.

2.5 Legislative framework for recovery

The majority of disaster planning literature focusses on prevention of major disasters and risk management, however this is out of the scope of this paper. There is however, a substantial amount of literature addressing the legislative issues regarding disaster planning. It is generally accepted that there is a great need for a stronger focus on developing a supportive legislative framework to allow post-disaster planning to be carried out as effectively as possible. Provision should be made for recovery processes in regulations and legislation that apply to routine construction (Le Masurier,
Rotimi et al. 2006) otherwise the system will not cope with natural disasters. Many authors writing in the area of post-disaster planning make a point that planning legislation was not drafted to cope with an emergency situation, the processes were not developed to operate under the conditions presented by a major natural disaster, and there is very little in the way of broadly endorsed recovery process frameworks (Feast 1995; Sullivan 2003; Rotimi, Wilkinson et al. 2009). The effectiveness of reconstruction could be improved by modifying the legislative and regulatory framework in advance of a disaster (Rotimi, Wilkinson et al. 2009).

A poor regulatory and legislative framework in regard to post-disaster planning has huge ramifications on the recovery process and the quality of the final outcome. The recovery process may present opportunities to rethink unsafe historic development patterns and practices which were based on uninformed decisions (Schwab, Topping et al. 1998). These opportunities may not be acted upon if local authorities are buried with building applications following a disaster, as they would not have the available personnel required to carry out the strategic planning at the time. Local authorities, especially Councils in rural areas, are also faced with funding and financial challenges. This makes the recovery process even more difficult in these areas, as the local authorities are often short on resources and personnel required to promote a fast recovery. Fast-tracking applications in order to resettle people who have lost their homes does not allow for these strategic changes to be made, and this is a poor planning outcome as it does not allow a reduction in vulnerability to be embedded in the rebuilding process (Rotimi, Wilkinson et al. 2009). The immediate aftermath of a disaster is clearly not an ideal time to start constructing a plan for long-term reconstruction because people are anxious to restore normalcy to their lives (Schwab, Topping et al. 1998), and this highlights the importance of a legislative framework that is designed to deal with major disasters.

In China, working out an “Integrated Disaster Reduction Plan” at national, provincial and county levels and bringing the plans into line with the related economic and social development plans is listed as a high priority for reducing the impacts of earthquakes and allowing for a sustainable recovery (Yaoxian 2002). Developing these plans and incorporating them in the legislative framework allows for a better planning outcome in the redevelopment of a devastated area. The legislative framework developed to support the reconstruction following major natural disasters must have clear goals, however it must be flexible to allow it to be applied in a variety of different
situations (MCDEM 2005). A clear regulatory framework allows for responsibilities to be clearly outlined, which avoids competition for control of the process between central, regional and local levels of government (Rolfe and Britton 1995). Studies allude to the fact that poorly formed legislation becomes a major impediment to the realisation of post-disaster reconstruction objectives (Meese, Butler et al 2005; Le Masurier, Rotimi et al. 2006; Middleton 2008) and leads to tensions arising between the perceived goals.

2.6 Tensions between conflicting goals

A strong theme emerging throughout literature addressing post-disaster planning is that of managing conflicting goals in the recovery process. There is tension between goals of resettling displaced people quickly in devastated areas, and the goal of mitigating future risks in the affected area through strategic planning (Rotimi, Wilkinson et al. 2009). The following quote highlights this tension which occurs in post-disaster planning processes:

Clearly the quicker communities return to habitability of as many of their homes as possible; the better it will be for restoring a sense of normality (recovery) although this is tempered with the need to decide whether building back in the same location is right for the community, especially if reduction in vulnerability is not embedded in the recovery process.

(Rotimi, Wilkinson et al. 2009)

Planners in post-disaster situations are therefore left with the decision of whether to break away from historic planning patterns in order to mitigate the impacts of future disasters or to fast-track processes to allow people to continue with their lives. However, planners have always been at the core of balancing competing interests intelligently, and the best way to respond in these situations is to have a pre-formulated recovery plan to fall back on (Schwab, Topping et al. 1998). The immediate post-disaster period is obviously one with immense potential for confusion, and an essential purpose of planning for post-disaster recovery and reconstruction is to provide some vision that serves as a beacon for decision makers (Schwab, Topping et al. 1998). It is a strong belief of many authors writing in this field that planners must accept that disasters will inevitably occur, and ensure that there is an adequate process and legislative framework in place to provide for a recovery
process which manages conflicting interests effectively and ensures that reconstruction is carried out in a sustainable manner. In order for conflicting interests to be managed effectively in the formulation of a post-disaster recovery plan, the community must be involved in the process of making the plan.

2.7 Community involvement and resilience

The key to an effective recovery for a community is community involvement. As discussed earlier in this chapter, the process of recovery encompasses many aspects of society and involves the restoration to an initial equilibrium (Maguire and Hagan 2007; Winkworth, Healy et al. 2009). The social, economic and natural environment recovery is outside the scope of this paper, as the focus is on recovery and reconstruction of the built environment, however it would be naive to ignore the important social factors that drive this recovery. A plan for post-disaster recovery and reconstruction will be required to be implemented in the midst of a crisis, and therefore needs to be supported by both the public and within local government (Schwab, Topping et al. 1998). The following quote reinforces this point:

"Effective recovery from disaster requires the establishment of planning and management arrangements which are accepted and understood by recovery agencies, combat agencies and the community." (Lunn 2001)

The needs and circumstances of communities are constantly changing, which reinforces the need for flexibility in planning processes (Sullivan 2003). It is generally accepted that recovery plans cannot be rigid, as the circumstances and scale of the disaster along with the dynamics within the community all play a major part in shaping the recovery process.

The importance of involving and empowering the community throughout the process of recovery and reconstruction cannot be overstated (Sullivan 2003), as this is crucial to the success of recovery initiatives and strategies. Community involvement in the recovery can lead to a greater sense of resilience within the community, and a feeling of empowerment at a time when all seems lost (Sullivan 2003; Berke and Campanella 2006).
Chapter 1
Introduction

Chapter 2
Issue in Context

Chapter 4
Post-Disaster Planning Opportunities

Chapter 5
Barriers Faced by Planners in Post-Disaster Planning

Chapter 6
Planning Barriers Faced By Residents

Chapter 7
Lessons Learnt
3.1 Bushfires as part of the Australian environment

It is a well known fact that bushfires are a natural and important component of the Australian natural environment, and fire has been used as a land management tool since the first aboriginal inhabitants (Koperberg 1997). Much of Australia’s native vegetation has evolved with fire, and like the vegetation in other dry climates, it has developed characteristics that promote the spread of fire (CSIRO 2009). The difference between bushfires being a natural process within ecosystems, and being major disasters, is whether it affects human settlements. Whilst town planning effectively aims to reduce the chance that people and property will be affected by fire, there is still the need to accept the reality that eventually bushfire disasters will occur in some areas. In this regard, it is important that bushfires are not seen as an unnatural and planners must prepared for the recovery process before the disaster occurs.

3.2 Climate change

An important factor which drives the need for planners to be prepared for major bushfire disasters is climate change, which is leading to more extreme weather conditions around the country. A study by Pitman et al. (2007) concludes that the likelihood of a significant increase in fire risk over Australia resulting from climate change is very high. As Nigel Bell stated in an interview, ‘despite all the rhetoric about emissions trading and climate change, federal and state governments all moved from mitigation, as bureaucracy knows its adaption because we are locked into two degree plus temperature rises already’. The majority of the major bushfire disasters in Australia’s history were the result of catastrophic weather conditions, such as long periods of drought and extremely high temperatures. It is in these conditions that bushfires become so powerful that they generate their own winds and become full scale firestorms, as seen in the 2003 Canberra bushfires and the 2009 Victorian bushfires. These specific fire events will be discussed in more detail further on in this chapter. In these ‘catastrophic’ events, it is almost impossible to control the fire using regular suppression methods, and often they result in widespread destruction if they meet with the built environment in either a rural or urban setting. As climate change impacts on the weather conditions, it is highly likely that there will be an increase in the occurrence of catastrophic bushfire conditions in the future. For this reason, it is essential that planners are prepared for an efficient reconstruction process so as communities can recover quickly.
3.3 Legislation applicable to bushfire reconstruction and recovery

Buildings being rebuilt in areas devastated by bushfire must be built to comply with all usual statutory planning legislation applicable in that state. The main legislation that requires changes from the original building in the recovery process is the Building Code of Australia. Many houses lost to bushfires were built to prior to the current level of planning controls, and they must be rebuilt to comply with the current Building Code of Australia. This often means that the original building cannot be rebuilt as it was, as design codes may have changed and specific building materials may be required. Australian Standards incorporated within the Building Code of Australia stipulate specific requirements for buildings, and there are specific requirements for construction in bushfire prone land.

Across Australia, authorities have worked to analyse bushfire risk factors and prepare bushfire prone land maps. If a building is to be rebuilt in a designated bushfire prone area, it must comply with provisions within the Building Code of Australia and Australian Standards specific to the Class of building and the Level of Risk that the building is exposed to. Table 3.3.1 outlines these building Classes and applicable Building Code of Australia (BCA) provisions and Australian Standards (AS).

<table>
<thead>
<tr>
<th>Class of Building</th>
<th>Type of Building</th>
<th>BCA Bushfire Provisions</th>
<th>Australian Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1a</td>
<td>Single dwelling</td>
<td>Part 3.7.4 of Housing Provisions</td>
<td>AS 3959-2009</td>
</tr>
<tr>
<td>Class 1b</td>
<td>Guesthouse</td>
<td>Part 3.7.4 of Housing Provisions</td>
<td>AS 3959-2009</td>
</tr>
<tr>
<td>Class 2</td>
<td>2 or more sole-occupancy units used as separate dwellings</td>
<td>Part G5</td>
<td>AS 3959-2009</td>
</tr>
<tr>
<td>Class 3</td>
<td>Accommodation or residence in public building</td>
<td>Part G5</td>
<td>AS 3959-2009</td>
</tr>
<tr>
<td>Class 5</td>
<td>Office type building</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Class 6</td>
<td>Shop type building</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Class of Building</td>
<td>Type of Building</td>
<td>BCA Bushfire Provisions</td>
<td>Australian Standards</td>
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<td>----------------------</td>
</tr>
<tr>
<td>Class 9a</td>
<td>Health care building</td>
<td>Part G5 in NSW only</td>
<td>AS 3959-2009</td>
</tr>
<tr>
<td>Class 9b</td>
<td>Public assembly building</td>
<td>Part G5 in NSW only</td>
<td>AS 3959-2009</td>
</tr>
<tr>
<td>Class 9c</td>
<td>Aged care building</td>
<td>Part G5 in NSW only</td>
<td>AS 3959-2009</td>
</tr>
<tr>
<td>Class 10a</td>
<td>Sheds and garages</td>
<td>Part 3.7.4 of Housing Provisions if attached to a Class 1 building</td>
<td>AS 3959-2009 if attached to a Class 1 building</td>
</tr>
</tbody>
</table>

Figure 3.3.1: Table listing applicable bushfire related BCA Provisions and Australian Standards for major Classes of buildings. (Adapted from BCA 2009, Bradford 2008, IFP 2009 and SAL 2009).

The provisions listed in the table above are generally applied at a national level, however there are some variations in some states. These variations are outlined below (adapted from Bradford 2008).

**New South Wales Variations:**

- Clause 3.7.4.0 requires the “Site Bushfire Attack Assessment” under AS3959 be replaced by an alternate method of assessment and incorporated into the integrated development process that forms part of any development consent. Additionally, the construction requirements of CBA Housing Provisions Clause 3.7.4.1 may be amended by the Development Consent in consultation with the Rural Fire Service.
- G5.2 requires the “Site Bushfire Attack Assessment” under AS3959 be replaced by an alternate method of assessment and incorporated into the integrated development process that forms part of any development consent.

**South Australia Variations:**

- Requirements as to what sites require protection are altered under SA 3.7.4.0, as well as additional bushfire protection requirements under SA 3.7.4.1.
- Requirements as to what sites require protection are altered under SA G5.2, as well as additional bushfire protection requirements under SA G5.3.

Australian Standard 3959-2009 specifies requirements for the construction of buildings in bushfire-prone areas in order to improve their resistance to bushfire attack from burning embers, radiant...
heat, flame contact and combinations of the three attack forms (SAL 2009). AS 3959-2009 has six Bushfire Attack Levels (BAL) which are used to determine which provisions and special construction measures a builder or designer will need to address to meet the appropriate BAL provisions (AFAC 2009).

Residents and other people carrying out reconstruction following a major disaster need to comply with the aforementioned legislation, as well as any local planning legislation in their area. After some larger scale disasters, a fast-tracking process is introduced to help local authorities get through the overwhelming number of development applications. In this case, if you were basically building on the same footprint or not encroaching into a designated building line area or setback standards, the official notification process is bypassed (Ekelund 2009). This process is introduced in times of crisis when there is widespread destruction of property, and applied in Canberra following the 2003 bushfires and in Victoria following the 2009 bushfires. When residents or builders choose to proceed through a fast-tracking process, all of the applicable provisions of the Building Code of Australia and Australian Standards as listed above need to be addressed in the development application.

### 3.4 Recent bushfires in Australia

This section looks at two recent bushfire disasters that have occurred in Australia, and the planning responses following them. The first case study is the Canberra bushfires of 2003, and the second is the Victorian bushfires of 2009. Due to these disasters occurring approximately six years apart, they are both at very different stages of recovery. As discussed earlier in this paper, the process of recovery is very long and complex, and both of these areas devastated by bushfire are still enduring this process.

#### Canberra Bushfires of 2003

The Australian continent is in the grips of a severe drought, and in January 2003 the Australian Capital Territory experienced the worst fires ever seen in the area which were fueled by the dry conditions and extreme weather (AON 2003). The catastrophic weather conditions included a combination of high temperature, low humidity, lightning strikes and strong gusty winds (AON 2003). The Canberra bushfires had been burning in NSW for 9 days before they reached the ACT,
and it was an extremely catastrophic event in that it was a number of fires coming together in a firestorm which creates its own weather (Ekelund 2003). Gale force winds drove the fires through the forested land adjoining Canberra, including the Stromlo Forest. Figure 3.4.1 shows a photo of an area of the Stromlo Forest as it is in 2009, still scarred from the intense fires of 2003.

Figure 3.4.1: Remnants of forested areas on top of Mount Stromlo with part of Stromlo Observatory to the right. (Source: Napier, 2009)

On Saturday 18 January, the fires began to spread into many residential areas of Canberra. The neighbourhoods of Duffy, Rivett, Chapman, Kambah, Higgins, Hawker and Crook were engulfed in intense bushfire (AON 2003). Pine plantations increased the vulnerability of these communities due to their proximity to urban areas. Fire authorities were overwhelmed and were unable to combat the fires, as the pine plantations burned with a very high intensity and the ‘pine trees grew beyond the fencelines all the way down to the road’ (Hingee 2009). The fires resulted in in the deaths of four people, and 500 homes being destroyed or severely damaged. Figure 3.4.2 shows a panoramic view of Eucumbene Drive in Duffy, ACT and the surrounding open woodland. Prior to the 2003 Canberra bushfires, this open woodland was a pine plantation, and the majority of the houses on this street and further into the urban area were lost to the fires.
The community in this area didn’t ever consider that they were in a bushfire prone area (Ekelund 2009) and this would have meant that people were not prepared. This lack of preparation, as well as the scale of the bushfires, led to lives being lost and widespread destruction of urban areas. The fire devastated whole urban communities, and fire spread well into urban areas due to burning houses and wooden fencing setting neighbouring houses and property on fire. Figure 3.4.3 shows fire-devastated Chauvel Circle in the suburb of Chapman where 15-20 houses in the street were completely destroyed (ABC 2009).
As well as the loss of houses in the devastated areas, many commercial areas were destroyed or damaged (Aon 2003) and other facilities were lost including the Mount Stromlo Observatory (refer to Figures 3.4.4 and 3.4.5), educational facilities and infrastructure.

The recovery process following this disaster was huge, involving the reconstruction of approximately 500 houses, damaged infrastructure and other elements of the built environment. Three interviewees who were involved in this research had extensive experience and involvement in the recovery and reconstruction process that Canberra was faced with. The following chapters of this paper will discuss many factors that influenced the speed and quality of the reconstruction process for Canberra after the 2003 bushfires.

**Victorian Bushfires of 2009**

The bushfires which occurred in Victoria in 2009 were of an unprecedented scale and nature, and tragically led to a very high loss of life in the affected areas, as well as widespread destruction of the built environment. Victoria’s flora and topography renders it one of the most bushfire-prone
parts of the planet (VBRC 2009). Figure 3.4.6 shows an aerial photo of a bushfire affected area in Victoria following the 2009 fires, and the extreme topography and extent of the fire can be seen. On February 7 2009 the devastating fires struck the state, and one hundred and seventy-three people died, in one of the worst fires in Australian history (VBRC 2009). Around 78 communities across the state were affected, and in some cases entire towns were destroyed (VBRC 2009). In total, 2000 properties and 61 businesses were destroyed, and 430,000 hectares of land was burnt.

Figure 3.4.3: Burnt bushland in Victoria following the 2009 bushfires, showing the extreme topography which made controlling the fire almost impossible. (Source: Nicholas Cottam 2009)

The weather and climatic conditions that led to the 2009 Victorian bushfires were catastrophic. The state of Victoria, along with the whole of south-east Australia, was experiencing a severe drought, and in January 2009 many locations in Victoria experienced no rain at all (VBRC 2009). Victoria experienced an exceptional heatwave in late January 2009, and on the day of the fires, February 7, many all-time high temperature records were set (VBRC 2009).
There was an understanding that the landscape of Victoria was predisposed to ‘a catastrophic event’. (VBRC 2009)

The size and intensity of the fires overwhelmed fire authorities (see Figure 3.4.6), and other issues such as limited access to some rural areas made fire fighting and evacuations difficult. This resulted in an extremely high loss of life and destruction within communities affected communities.

![Intense fires overwhelmed fire authorities and were extremely difficult to contain.](source: ABC 2009)

The reconstruction process that the community faces following the destructive fires is monumental. The recovery process will last for years, and many communities will never be the same again. There are a lot of changes that the affected communities need to face, and many difficult decisions need to be made in terms of planning and the reconstruction of the built environment. Ideally, the recovery process should be supportive of residents, and instill a greater sense of resilience within the community. It is also important that a reduction in future vulnerability is achieved through the reconstruction process. Several participants in this research were affected by the Victorian bushfires and have an ongoing role in the recovery process which still has a long way to go.
4.1 Introduction

Following a major bushfire disaster, there are often opportunities for planners to implement broader changes across communities. In these post-disaster periods, there is often a great deal of thought about why the disaster occurred, and what could be done to prevent it recurring in the future. There is an obvious need to re-examine historic land use patterns and other planning issues which could have contributed to the disaster. The post-disaster period can also present planners with strategic opportunities which are not directly to do with managing bushfire threat. These opportunities need to be effectively identified, and action needs to be taken to implement changes in a timely manner. There are often problems with implementing changes within a devastated community, as the majority of resources are directed into the recovery process. Implementing strategic changes is also often at the heart of addressing the issue of future vulnerability within affected communities. This chapter will look at the processes involved in identifying strategic opportunities, discuss some specific opportunities that arose following some recent bushfires in Australia, identify and discuss time constraints involved in acting upon opportunities, and look at issues and problems associated with implementing changes.

4.2 Identifying strategic opportunities

Planners can only act upon opportunities that have been identified, and therefore it is important to understand how and when these opportunities should be identified. All interviewees in this research agreed that the earlier that the opportunities are identified, the greater the chance that action can be effectively taken. The post-disaster period can provide the opportunity to fix major strategic problems, some of which authorities may have been aware of before the disaster. As Interviewee 2 said in the interview, ‘if there are major strategic deficiencies in the area, they would be known beforehand and they should be fixed up’. On the other hand, Dean Cerneka maintains that ‘unfortunately the strategic planning opportunities bushfires create with regards to potential changes in land use, development and the built environment are not fully realised’. All interviewees strongly believed that authorities needed to be prepared for major disasters by analysing strategic issues before a disaster occurs, and through this process prioritise issues that need to be addressed. Nigel Bell maintained that authorities needed to have their disaster management plans before the disaster occurred so opportunities are not missed.
Instead of responding in crisis, you are actually planning in anticipation.

(Bell 2009)

From an affected resident’s point of view, Ric Hingee believes that authorities should plan ahead then use that planning to fast track strategic issues following a major bushfire disaster. He believes that proactive thinking is essential if opportunities are to be acted upon, and that ‘there are years and years to work things out in case the place burns down, then it’s just a matter of putting this planning into effect’. This approach would ensure that broader planning issues and strategic deficiencies of a vulnerable area are identified prior to a disaster so authorities have the ability to take quick action in the aftermath.

Kerry O’Neill from the Victorian Bushfire Reconstruction and Recovery Authority also strongly believes that authorities are prepared with a plan before the disaster strikes. Ms O’Neill states that the plan must be clear about expectations, be clear about the process to be followed for community engagement and community planning, and must be prepared with a solid understanding of the roles of agencies in the rebuilding process.

Not all opportunities that arise following a major bushfire disaster are obvious to planning authorities. This is why community consultation and involvement is essential throughout the post-disaster recovery period. The community are able to raise issues which may have been missed by planners, and their involvement is also an important factor in the recovery process (Interviewee 1 2009; Bell 2009). Following the 2003 Canberra Bushfires, a community reference group was set up, and Interviewee 2 said that ‘it effectively raised the issues with the Government which could have arisen later and caused enormous troubles’. The quote below summarises the need for effective identification of opportunities both prior to and following the occurrence of a major bushfire disaster.

Obviously if you pre-plan it’s better than after, but you have got to do both.

(Interviewee 2 2009)
4.3 Specific opportunities following recent Australian bushfire disasters

This section will discuss the specific opportunities that arose following two recent major bushfire disasters in Australia: 2003 Canberra Bushfires and 2009 Victorian Bushfires.

2003 Canberra Bushfires

Following the bushfires that devastated Canberra in 2003, a variety of strategic issues and opportunities were addressed. These opportunities were addressed in order to allow for a better planning outcome for the affected communities, and to incorporate a reduction in vulnerability in the reconstruction period. Interviewee 2 stated that following the fires there was an ‘opportunity for more facilities and an opportunity to not only enhance fire protection but also sustainability’. In terms of opportunities for new facilities, the ACT Government decided to create new major recreation parks and an International Arboretum (Interviewee 2 2009).

Areas that were devastated by the bushfires were looked at, and they were rebuilt in a way that ensured that they were improved and that a legacy was left. The villages being rebuilt were rebuilt with sustainable development, with a better social mix and better economic viability. (Interviewee 2 2009)

The International Arboretum was created on a large hill in an area affected by fire that was in public ownership (Ekelund 2009). Figures 4.3.1 and 4.3.2 are photos of this arboretum, which in 2009 is still in early stages. Despite the irony creating an arboretum in a bushfire devastated area, Dorte Ekelund maintains that the arboretum is actually designed to impede fire movement by the spaces between them and the types of trees planted.

Figure 4.3.1: Sign for the International Arboretum and Gardens in Canberra. (Source: Napier 2009)
Another opportunity to provide more facilities for the community was realised after the fires, by rebuilding a destroyed forest as a major recreation area used for international mountain bike events (Interviewee 2 2009). The recreation area was created on Mount Stromlo, formerly covered in pine plantations which were destroyed in the fires. Figure 4.3.3 shows how the area has been converted, benefitting the community not only due to the provision of more recreation areas, but also providing greater protection for the adjacent urban areas by removing the pine plantations.

In terms of addressing strategic opportunities, planners in Canberra were faced with the difficult decision of whether to rebuild three small rural communities that were destroyed by the fires. The opportunity was acted upon to rectify past planning problems by deciding to not rebuild one of these communities. One of these communities was right at the urban edge, ‘so it made sense to rebuild it, with greater protections’ (Ekelund 2009). The other two, one in particular, were very exposed so the decision was made to not rebuild one and to increase the size of the other. The decision to not rebuild one of these communities was made by the Federal Government, which in normal circumstances would not have become involved. In this case, they argued that having these
small, isolated rural communities not supported by physical or social services was a planning aberration, and the fire created the opportunity to fix it (Ekelund 2009). By increasing the size of the community that was to be rebuilt, it ‘ended up having a bit more critical mass and ability to fight’ (Ekelund 2009).

![Figure 4.3.3: Stromlo Forest Park downhill mountain bike track and map. (Source: Napier 2009)](image)

This opportunity was able to be effectively acted upon and has allowed for more sustainable development to occur, whilst providing the rebuilt communities with greater protection from the threat of bushfire. This strategic opportunity was able to be identified early enough in the process to allow for action to be taken, and past planning problems to be addressed. This opportunity was identified following the fire, and required the intervention of the Federal Government to proceed due to the radical changes that it imposed on people living in those communities. It can be considered a successful outcome of post-disaster planning, achieving the goal of reducing the future vulnerability of these communities; however the process took a considerable amount of time and would have impacted on the lives of the people living in these communities.
There was a really important opportunity in terms of catchment management that arose after the fires in 2003. Much of the catchment area was covered in pine plantation, which was all but wiped out in the bushfires. This polluted the water supply for quite some time (Ekelund 2009) and presented planners with the opportunity to change the land-use within the catchment area to provide for better catchment management. There was debate over whether the pines should be replanted, but in the end it was decided that native regeneration of eucalypts would be far less vulnerable than the soft-wood plantations, and would improve the ecology of the area as it is more suited to cope with bushfires (Ekelund 2009). The decision was also made on the basis that regrowing a pine forest would require significantly more water than native regeneration, and would reduce the amount of water flowing into the catchment. This was an opportunity to change land-use to achieve greater goals such as more effective catchment management, and this opportunity was effectively acted upon following the disaster.

One other strategic issue that arose in Canberra following the 2003 fires was that of new urban release areas. The planning authorities had been looking at specific areas and had earmarked them for potential new urban release areas, and one of these areas was where there was a pine plantation. Prior to the fires, planning authorities had been working with the Head of Forestry to determine when the end of the rotation was for the plantation in order to establish the best time to introduce urban development to the area (Ekelund 2009). Due to the fact that the plantation was destroyed by the 2003 fires, an opportunity to speed up the planning for that process presented itself, as ‘there was no need to wait for the soft-wood’ (Ekelund 2009). Ms Ekelund also commented on the fact that there was resistance to this process occurring following the fires, and she was accused by some of being underhanded and opportunistic about the fires. These challenges will be discussed in greater detail further on in this paper.

The main strategic changes implemented in Canberra following the fire were to do with land-use change in order to remove forestry plantation. The pine plantations around Canberra contributed
significantly to the destruction of property and the loss of life, as the fires burned through them with such high intensity. By removing this forestry, many other strategic opportunities were presented, as discussed above, such as more effective catchment management and the fast-tracking of new urban release areas. These changes undoubtedly reduce the vulnerability of Canberra to future bushfire hazards.

2009 Victorian Bushfires

Following the 2009 Victorian bushfires, planners were faced with huge challenges in rebuilding devastated communities. Part of this challenge was to ensure that the communities were rebuilt with a greater level of protection, in order to reduce the vulnerability of the community to future threats from bushfire hazards. To achieve this protection, big picture issues need to be examined and strategic changes need to be implemented. Nigel Bell maintains that the community must accept that this disaster is not a one-off event, and must be prepared for future bushfire events. Mr Bell was responsible for facilitating the design charrette for the reconstruction of Marysville and surrounding communities, and stated that the ‘whole point of the design charrette was to capitalise on strategic planning opportunities’.

The township of Marysville and the surrounding communities were completely devastated by the bushfires, with only a few buildings left standing (ABC 2009). Whilst this widespread destruction is tragic, planners must focus their efforts on positive aspects and identify opportunities to rebuild the town in a safer and more sustainable way. Figure 4.3.4 on the following page shows a collaboration of ideas and opportunities that planners and the community identified and mapped out.

Nigel bell emphasised that in identifying opportunities and strategies in the reconstruction process, it is important to create a ‘vision’ for the future. This ‘vision’ is represented by the map on the previous page, which identifies important opportunities for the social environment, the economic environment and the built environment. Many opportunities arose for the reconstruction of the built environment, both in terms of reducing the future vulnerability of the communities and for rebuilding a more livable community. Mr Bell stressed that there was an opportunity to carry out best practice land-use patterns, which involved not spreading houses over ridges, building secondary loops and improving access generally. He noted that despite the obvious opportunities presented, the political will to do what is right is usually not there. These issues and barriers will be discussed further later in this paper.
Within the context of the Triangle communities, the draft Urban Design Framework seeks to:
Rebuild Marysville as a safer, more sustainable town with a distinct character, a high quality urban environment, sustainable services to support a vibrant local economy and a memorable place to visit.

The draft Urban Design Framework seeks to:
- Strengthen the economic, social and environmental sustainability of Marysville and Triangle communities
- Support the rebuilding of Marysville as an attractive, memorable place with a distinctive character
- Facilitate a sustainable and viable business and community services core in Marysville
- Improve accessibility and connections within the Triangle and within Marysville
- Protect and enhance the natural beauty of the environment and the high quality of water
- Build resilience to bushfire threat

Figure 4.3.4: Extract from the Draft Urban Design Framework for Marysville, highlighting opportunities to improve the community through the reconstruction process. (Source: VBRRRA 2009)
An opportunity to create some form of firebreak around Marysville arose following the fires, and this would help protect the community from future bushfire hazards. This is still being considered, and Nigel Bell is of the opinion that it is necessary in some form, as shown by the quote below; however there is still much debate on the issue. There is controversy within the community over what form this will take and what impacts it would have on the natural environment and the aesthetics of the town.

_The disaster will happen again because it is surrounded by forest, so to reduce the threat in town you effectively need a firebreak around the edge of town. Whether that is a golf course extended, or a memorial park for cycling, running or walking, you do things to separate the forest from the housing._ (Bell 2009)

Another opportunity which is currently being discussed for Marysville is that of constructing pedestrian laneways between the streets. This would be done to create a more pedestrian friendly environment, and in turn add to the vibrance and energy of the town centre. In order to prevent opportunities from being foregone, the draft Urban Design Framework for Marysville recommends a five year moratorium on the subdivision of the major sites in the town. This would be to encourage larger facilities such as resorts and guesthouses to be rebuilt, rather than the sites being subdivided up into housing (VBRRA 2009).

The post-disaster planning processes in Marysville have been heavily based on community involvement. A collaborative planning process has been carried out in order to use the local knowledge of the community to identify opportunities that should be incorporated into the post-disaster planning response. Mr Bell maintains that standard planning processes would not work in the specific case of Marysville, and the community needs to have a strong influence on how the town will be redeveloped.
4.4 Time constraints on acting upon opportunities following a major disaster

Following a bushfire disaster, there is often only a short amount of time to act upon opportunities. This emphasises the need for more thorough planning prior to the disaster occurring. Nigel Bell believes that planning authorities should prepare disaster management plans ‘before the disaster, so you know what you are after and structures are in place’. Both Interviewee 2 and Dorte Ekelund agree that there is not enough time in a post-disaster situation to respond to all opportunities that may arise. Interviewee 2 stated that there was ‘not enough time to act upon all opportunities as there was tremendous pressure from the media and the community to get things done’. Ms Ekelund maintains that there was a risk assessment process carried out following the disaster, and it was taken into account that ‘the building stock might turn over a couple of times’ between the immediate recovery phase and ‘when there is enough fuel in those forests again to have that catastrophic effect’.

Nigel Bell makes the point that it takes time to negotiate through difficult issues, and this can often lead to opportunities being foregone in the rush of rebuilding. All interviewees are in agreement that the best way for planners to be able to act upon opportunities effectively following a major disaster is to have identified the major issues prior to the disaster, and have the planning structures in place in order to allow for quick, decisive action. On the other hand, it is acknowledged that pre-formulated plans are not always accepted in a time of crisis, and can be met with resistance. As Interviewee 2 states, ‘even if you have prepared there will be a lot of pressure on you to justify your policies - everything is challenged post-disaster’.

Some opportunities are simply missed due to the urgent need to take action following a major bushfire disaster. For example, Ric Hingee believes that the powerlines on the urban fringe should be put underground in order to protect them from bushfires. He said that they lost electricity very quickly in the fires, and following the fire all the powerlines were down - ‘there was nothing left’. In this situation, there was not enough time to evaluate whether they should be put underground, as power had to be restored as a priority and no further thought was put into the process.
4.5 Implementation issues

Following major disasters, time constraints are not the only issues planners have in terms of implementing changes in response to opportunities. There are a whole variety of challenges and barriers that face planners in post disaster periods, which will be discussed in later chapters. This section will briefly discuss the specific implementation issues that planners face when reacting to strategic opportunities in a post-disaster situation.

There are many reasons why planners may have difficulties responding to opportunities in a post disaster period. In some disasters, such as the Canberra 2003 bushfires, the destruction of buildings can be somewhat patchy, making it hard for big picture planning processes to be implemented.

*In some areas it wiped out whole streets, in some areas it was just spots here and there, and then you’ve got to think if you raise the fire standard for all these ones in between, what about most of the houses that are still remaining? Are you making a statement that they’re all vulnerable? (Ekelund 2009)*

These situations are common, and must be considered by planners attempting to carry out strategic changes. Applying broad changes to communities which are only partially affected can potentially present planners with political and legal difficulties. Political influences are another factor that play a role in affecting the implementation of strategic changes. When planners identified an opportunity in Canberra after the 2003 fires in respect to catchment management, as previously discussed, there was political resistance to implementing the changes (Ekelund 2009). There was political support for the recovery of the forestry industry, and by implementing this change, the forestry industry would be wiped out of that area. This political resistance caused delays in implementing the strategic plans, and as a result around one million pine trees were planted prior to the decision to remove plantation forestry from the area (Ekelund 2009). Important barriers faced following the Victorian bushfires of 2009 were existing land use rights, and the political sensitivity associated with changing land uses in disaster zones (Cerneka 2009).
There are also issues implementing changes in regard to strategic opportunities due to resistance from within the community. Following the 2009 Victorian bushfires, extensive community consultation was carried out to get ‘past most of the old animosities’ and create the will to change things (Bell 2009). This is essential as policies need to be justified to the community, and be generally acceptable in order to be implemented successfully. The quote below illustrates the struggle planners have with getting communities to accept strategic planning decisions in the wake of a major bushfire disaster:

*It is hard, people after a disaster are not strategic. When people are traumatised they narrow their focus and become very blinkered on one or two objectives. (Interviewee 2 2009)*

It is also important not to ‘impose’ huge changes on the community without their involvement, as this can also lead to resistance. Kerry O’Neill maintains that authorities can be well meaning when devising plans to act upon opportunities in the post-disaster period, however if the community is not involved in making these decisions it ‘is likely to lead to much angst’.

**4.6 Conclusion**

The issues outlined in this section relate mainly to the implementation of action regarding post-disaster opportunities. The need for pre-planning for disasters, and having structures in place to act upon in a time of crisis is essential for effective recovery planning. There are a number of strategic opportunities that need to be addressed following a major bushfire disaster, and it is important that authorities are at least prepared to act upon the issues that were identifiable prior to the disaster. Large scale disasters often present planners with opportunities that cannot be planned for in advance, however authorities need to be prepared to identify these opportunities in a timely manner following the disaster. If an opportunity is not identified early on in the recovery process, it is unlikely that any action will be possible. Bushfire disasters can also unexpectedly speed up other planning processes which were already in progress, by providing an opportunity to alter land-uses in certain areas. Authorities should strive to identify these opportunities early, and work with the community to achieve a desirable outcome.
Community involvement in identifying opportunities is also very important. Communities have a wealth of local knowledge, and planners need to be prepared with strategies to engage the communities in post-disaster periods in order to capitalise on the opportunities available to them at the time. Engaging the community can also help reduce the level of resistance to plans, and ensure that plans are realistic and likely to be successfully implemented in the devastated community. There are clearly many more barriers faced by planners and the community, and these will be explored in the following chapters.
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5.1 Introduction

The immediate recovery and reconstruction following any major bushfire disaster presents planners with a huge number of issues to address in a very short amount of time. It is also a traumatic time for the community, and planners need to be aware of this throughout the entire recovery period. Planners are faced with a huge number of barriers that need to be overcome in order to effectively and efficiently carry out the enormous task of coordinating the reconstruction of devastated areas. There is a need to work with the community in achieving a balance between the speed of recovery and the quality of the planning outcome. It is important the community can get on with their lives as soon as possible; however it is paramount that planners consider how to reduce the future vulnerability of these areas affected by bushfires. Engaging the community throughout this process can be beneficial in many ways, and can also have drawbacks. Effective engagement can reduce the level of community resistance, as they feel that they are part of the process and it is not just being imposed upon them. Some planning policies and processes can assist the recovery process, whilst others can unnecessarily slow the process, causing frustration and angst within communities. All this must be carried out whilst local planning authorities are completely overwhelmed by the amount of work that needs to be carried out in a relatively short time.

5.2 Main barriers faced by planners

Recovery planning following a major bushfire disaster is extremely complex, and planners need to deal with a huge range of issues. There are a number of barriers which planners face during these times, many of which are very difficult to overcome. One main issue identified by planners as a barrier is that of having to comply with the rules and longstanding practices ‘that can inhibit the creative problem solving that is required’ (O’Neill 2009). There is not a lot of flexibility in government plans and policies, which can make applying them to abnormal situations very difficult. The main way of overcoming this barrier is to keep constant ‘pressure on government policies to ensure that they are up to date and are achieving their objectives whilst minimising needless controls’ (Interviewee 2 2009).

Another main barrier that most interviewees mentioned was that of emotions. The barrier of emotions is not only referring to planners dealing with their own emotions affecting their decisions,
but emotive responses by politicians in response to community pain (Ekelund 2009). In Ms Ekelund’s opinion, ‘the emotive was overshadowing the rational’ in decision making and recovery planning. Other barriers for planners and policy makers in the post-disaster period include the immense pressures from the community and the media to take action, the trauma of dealing with a disaster situation, and the constant demands (Interviewee 2 2009). The demands and pressures placed on planners, many of which may have been personally affected by the disaster, are enormous and are a factor in causing emotive decision making, rather than rational. There are such high pressures and demands for the recovery process to be fast, that some decisions may be made that would not have been made under normal circumstances. The following quote highlights this point:

*Decisions have to be made quickly and sometimes, with the benefit of hindsight, I think we would do a more lengthly and radical review of some of the things that were done.* (Interviewee 2 2009)

Lack of access to accurate information was also mentioned as a barrier to planners in the recovery period (O’Neill 2009; Interviewee 2 2009). Not having access to the necessary information or data, or having access to information that is imperfect, is a problem for planners using this information to make informed decisions for the future. Plans were made from information available at the time may not reflect the exact situation, and therefore some planning anomalies may occur in these post-disaster crisis periods.

Planners are also faced with the challenge of coordinating different government bodies in the planning and reconstruction period following a major bushfire disaster. There is often conflicting goals between authorities and coordination mechanisms between these authorities are weak. Dorte Ekelund stated that ‘different authorities had different priorities’, and Dean Cerneka maintains that responsibilities of different government bodies were unclear. Interviewee 2 emphasises the importance of the coordination mechanisms between authorities, and how these need to be clearly defined prior to a disaster, and this is backed by the majority of interviewees. The following quote illustrates Mr Cerneka’s views on managing government bodies in the disaster recovery period:
It seems that every time a large disaster happens, we reinvent the wheel with how we respond... Determining which body has command of the relief and recovery, and then legislating to ensure the body has the statutory authority to coordinate relief and recovery would greatly assist in responding to disasters and communities. (Cerneka 2009)

Resistance from within the community was also identified as a major barrier for planners. The main resistance came from the fact that the ‘new houses were often much bigger and more modern’ (Ekelund 2009) so they did not fit in with the existing community. Communities in bushfire affected areas generally provided resistance due to the massive changes in visual character proposed within that community. Interviewee 2 stated that it was the ‘extent of change’ that was the issue in these communities, and this is supported by Kerry O’Neill who suggests that ‘big changes are a confrontation and can be very threatening to people who want things back the way they were’.

The best way to reduce the level of community resistance to planning changes is to involve the community as much as possible. Another main barrier for planners that was identified is the inability of local authorities to cope with post-disaster planning situations. This will be discussed in greater detail later in this chapter.

It should be noted that Interviewee 2 believed there can be less barriers in a crisis situation than there are in normal circumstances. This would be because there is a willingness from the community to take action, and government agencies work together toward implementing changes. Ms Ekelund also agreed that in some cases barriers were removed in the crisis situation because ‘the fires were a catalyst to focus people’s attention’. This is true in some cases, for some specific issues, but in general there are a number of additional barriers and extra layers of bureaucracy for planners to work through.

Barriers can be overcome by planners having extensive background planning prepared prior to the disaster occurring, so that time and resources are saved in the time of crisis and to provide policy direction for authorities working to implement changes. Barriers to the rebuilding process can also be overcome to some extent by involving the community, increasing the level of transparency of decision making, and by focussing on positive aspects. By focussing on positive aspects, the community is more likely to become involved, supportive and motivated. A step toward positivity...
could be by implementing a catalyst building project, to kick off reconstruction in the community. In Marysville, Victoria, a performing arts centre is the proposed catalyst project, aimed at bringing hope to the community (Bell 2009). Similarly in Canberra, an International Arboretum was constructed after the fires as a legacy to the devastated communities (Interviewee 2).

5.3 Overwhelming of local authorities

Following a major bushfire disaster, local authorities are often completely overwhelmed by the work that needs to be done in the recovery process. There is often a lack of trained staff, resources and funding, which prevents local government from taking swift action. Resources are reallocated within these organisations in order to best address the needs of the community. In the post disaster period, Dorte Ekelund states that the ‘they (ACT Government) allocated most of the strategic policy and development control resources to the recovery, and other things were put on hold for months’. The ACT was better prepared to deal with the overwhelming of local authorities due to the fact that they have a State/Local Government hybrid system, so ‘it was easier for the ACT to get coordination happening than other circumstances where you’re dealing with usually two tiers of government and sometimes multiple local governments’ (Ekelund 2009). Following the 2003 fires, the ACT Government drew in secondments from Planning NSW and Queanbeyan Council in NSW (Ekelund 2009). In Victoria, local authorities were completely overwhelmed, and often bankrupted by the disaster.

*Murrindindi Council has been technically bankrupted by it all, and the staff everyday are overwhelmed by the level of needs. (Bell 2009)*

The above quote shows how severely some local authorities in Victoria were impacted upon following the 2009 bushfires. Most were overwhelmed in terms of workload for available staff as well as financially, potentially creating a significant bottleneck in the recovery and reconstruction process. The main way to overcome this issue is intervention from State Government, and assistance in the form of additional staff and funding. Local authorities can also be overwhelmed in terms of experience, as there is often a ‘lack of capacity in local authorities that have never encountered the need to build at the scale and urgency’ that the situation presents them with. This is
best overcome by contracting planners in who have extensive experience with disaster recovery and reconstruction to help give direction to staff within the local authority.

5.4 Achieving a balance

Following a major bushfire disaster, planners are faced with difficult decisions and must carefully balance conflicting goals. Arguably the most important set of conflicting goals faced by planners and the community is that of balancing the speed of the recovery and the time and effort put into ensuring an improved planning outcome. Following a bushfire disaster there is the need to assist people in rebuilding their lives as quickly as possible; however it is up to the planners to ensure that there is an increased level of protection incorporated into the rebuilt community in order to reduce the vulnerability of the community to future bushfire hazards. Kerry O’Neill maintains that it is an extremely difficult balance to achieve in the aftermath, when emotions are high. Another reason why this balance is so hard to achieve, according to Ms O’Neill, is that there are significant gaps in the base understanding of the opportunities and constraints in a post-disaster situation. It is important that planners strive to achieve a balance between a quick recovery, and the analysis of the strategic issues discussed in Chapter 4. Local and state Government may hold back individuals attempting to rebuild so that strategic planning can be undertaken and possible changes in land use may occur, however ‘priority is clearly given to allowing people to rebuild dwellings’ (Cerneka 2009).

There is tremendous tension in terms of wanting to do things quickly and wanting to do a complete review. (Interviewee 2 2009)

The initial response of authorities is typically to provide for the basic needs of the community. In the situation following the Canberra 2003 fires and the Victorian 2009 fires, a prioritisation process was carried out to determine the urgency of different needs of the community. The initial response involves an ‘audit of assets, both private sector and homes, community facilities and other assets’ (Ekelund 2009). The prioritisation in the immediate aftermath is to provide shelter, clothes and food for people within affected communities, and to deal with the immediate trauma of the situation (Ekelund 2009). The short term response of authorities involves planning out how the recovery process will be carried out, and what changes need to be made to enable this to happen.
Dorte Ekelund speaks of the approach that she took after the Canberra fires as a two-pronged attack, which looks at how the authorities were going to cope with the huge number of development applications, whilst simultaneously analysing big picture planning issues to establish whether the inherent risk in developing specific areas is too high.

One was looking at how we could speed up the development approval process for homes, but we also wanted to check that the policy environment was appropriate to allow people to rebuild and indeed in continuing to produce newer greenfield development. Were we putting people at risk or did we need to change our subdivision design codes and so forth.

(Ekelund 2009)

This approach was aimed at identifying any opportunities that may have arisen in terms of broader strategic planning, as discussed in Chapter 4. Analysing the appropriateness of the policy environment and strategic plans takes considerable time, and when these investigations begin in the aftermath of a major disaster it is highly unlikely that many broader changes will be implemented. One aspect of the policy environment that was analysed following the Canberra bushfires was that of increasing the deemed level of bushfire prone land classification for some areas. This did not end up being altered, as ‘it could have taken a long time to actually go through the whole process of getting a new deemed fire level of some higher classification, and the ACT did not have a framework for doing that at the time’ (Ekelund 2009). The focus of authorities in these situations is mainly on the speed of recovery, in order to get people housed again and to rebuild the community. There is an urgent need to help assist people to get on with the rebuilding process quickly, and the typical response of authorities in crisis situations is to put through regulations to speed up the approvals process.

Fast-tracking of applications is common in post-disaster periods. Development applications are typically fast-tracked where the building footprint of the new house is the same as the old house, or where it does not encroach onto general setback areas, and where the size of the house is not considerably larger than that of the original house. Ms Ekelund commented on her experience as an affected resident using the fast-track system to rebuild her house, saying that she ‘was fortunate to go through the fast process’. Fast-tracking development applications clearly has pros and cons, with
the benefits clearly being that people are able to start the rebuilding process faster. There are definitely some negative aspects involved in this process, including the lack of focus on decreasing future vulnerability of housing. Ric Hingee maintains that rebuilding on the same footprint is not necessarily a good option, as ‘the old footprint isn’t usually solar efficient’. Following the Canberra bushfires, the development application process was streamlined, however additional requirements regarding sustainable development were introduced. This new layer of policy meant that many people were excluded from the streamlined application process, as it was very difficult to meet these new requirements when building on the old footprint in most cases. It is clear that a more holistic approach within authorities is necessary when developing streamlined development application procedures.

Governments are, in many ways, unable to carry out fast action due to the processes required behind every decision. Nigel Bell states that ‘planning issues get in the way of fast government action’ and notes that while it took the government around three months to provide temporary housing following the 2009 Victorian bushfires, the private sector managed to organise a solution of portable housing within three weeks. This highlights the need for a flexible approach by governments when dealing with the recovery from major bushfire disasters. Both Dorte Ekelund and Kerry O’Neill state that a degree of expediency is required in government approach to disaster recovery, and Ms Ekelund mentions that the approach of authorities to the recovery from the 2003 Canberra bushfires was ‘very pragmatic’. There is clearly a need for this pragmatic approach in post-bushfire disaster situations, due to the complex social, psychological issues being faced by the affected community.

A large proportion of effective planning is about looking at particular circumstances and making a judgement in order to achieve the best outcome. Taking a more practical and pragmatic approach to planning in post disaster situations would clearly have benefits for the community in terms of achieving outcomes specific to the context and conditions of the community in crisis. As a profession, planners need to work with the passions of people and the political framework they are operating in, and even though from a technical perspective it appears that certain outcomes can be achieved, taking a pragmatic approach can be very effective especially in times of crisis (Ekelund 2009). This approach could also cause problems, as it typically results in decisions being made
whilst emotions are overshadowing the rational. Nigel Bell explains that decisions made in the heat of the moment, when emotions are high are not always perfect but are more than often necessary:

*It had to be done quickly, it wasn’t a neglect or an oversight, its just what happens when we try to rebuild quickly - we can’t wait for perfection. In disaster you are looking at best achievable outcome as distinct from perfection.* (Bell 2009)

The issue planners face in this regard is that if action is taken quickly, opportunities are foregone as there is not enough time to adequately identify and act upon them. On the other hand, if action is delayed too long, the community will suffer and the reconstruction process will stall. In Nigel Bell’s experience, it was essential that fast action was taken irrespective of the loss of opportunities, due to the immense pressures to take action.

*If we wait, it will be too late. If we move move ahead now, its too early; but of course you have to move.* (Bell 2009)

Much of the strategic work that planning authorities undertake following a major bushfire disaster is not ready to be implemented in the immediate rebuild. This was the case for some issues following the Canberra bushfires in 2003, including the issue of increasing the required standards for homes on the urban edge. Ms Ekelund said that the Government response in this regard was ‘mainly an information dissemination exercise to the people rather than putting in a regulatory requirement to upgrade the standard’.

Planners and authorities involved in the reconstruction and recovery following a major bushfire disaster will always be under immense pressure to take fast action, and therefore the best way to be able to do this is to be prepared. In order to achieve the ‘best achievable’ balance between the speed of recovery and the quality of the planning outcome, authorities need to have identified possible opportunities and prepared a plan for dealing with them prior to the disaster occurring. The pressures faced in the aftermath of a bushfire disaster usually result in unidentified opportunities being forgone, and the focus shifts to rebuilding the community as quickly as possible. Bushfires are an issue that are likely to be an ongoing threat to affected communities, and significant thought
and planning needs to go into developing a disaster recovery plan that identifies opportunities, outlines how the development application process should be streamlined, and have a degree of flexibility incorporated into it.

5.5 Engaging the community

Engaging the community is an important aspect of enabling the recovery and reconstruction process to go ahead quickly and smoothly, whilst minimising resistance from the community. There is significant debate between professionals involved in the recovery and reconstruction planning over how the community should be involved and what benefits it has. Nigel Bell, who has been heavily involved in the community consultation process for the reconstruction of Marysville in Victoria, is strongly of the belief that ‘the people who are most affected are least able to contribute’. This presents planners with a dilemma of how to involve the community, when to begin the involvement, and how extensively they should be involved. There is also debate over the role of community engagement in the psychological recovery of the community. It is essential for planners to gain input from the community when working to rebuild devastated communities, so that opportunities are identified that may be missed by local authorities. It is also important that the community is involved in the creation of plans so they have a sense of ‘ownership’ of the rebuilt community (O’Neill 2009).

Standard planning processes are often not suitable for communities devastated by bushfire disasters (Bell 2009). Mr Bell suggests that a collaborative approach to community involvement is a much better way to deal with recovery planning than low level consultation. Through this approach the community is able to talk about their experiences and help shape a vision for the future of their community, and being involved and listened to is a strong healing process. The quicker that a community can recover emotionally, the sooner they will be able to make rational decisions about the reconstruction and recovery of the built environment. Planners need to work actively with the community in order to overcome barriers and to reduce the resistance to planning changes throughout the recovery and reconstruction process.
5.6 Community perception of the planning system

In order to fully understand the constraints that planners face in post-disaster periods, it is important to understand how the community perceives the planning system. All of the interviewees responded by saying that the planning system is perceived badly within the community. As an affected resident and an active member of community groups, Ric Hingee noted that ‘no one had much respect for the planning process or planners, people just felt they were terrible bureaucrats who weren’t willing to make allowances for the situation’. Interviewee 2 suggests that the poor perception of the planning system is an amplification of the normal issues, where ‘those people who were trying to develop saw the planning system as a constraint; those people who were getting the development next door were seeing it as too liberal’. Throughout the recovery process, many contentious issues need to be resolved by planners, and it is unlikely that all these decisions will impress everyone in the community. There is also a mistrust of government departments to take the correct action in terms of management and leadership, and in Victoria following the 2009 fires government departments failed to take quick, decisive action (Bell 2009). The other possible cause of the planning system being perceived poorly by the community is confusion about the specific roles and processes within the system. People can get confused about the strategic role of planning in guiding and directing where development should go, and the regulatory function that has to guide development within that strategic framework (Ekelund 2009).

The most effective way to manage this tension is constant and effective communication with the community (Interviewee 2 2009). A greater level of transparency of policies and keeping the community informed of progress in the recovery planning is essential in overcoming this problem.

5.7 Other planning issues

Another issue raised which is a barrier to planners achieving the best possible outcome, is the initial response of the government in terms of assistance. Canberra resident, Ric Hingee said that after the 2003 bushfire disaster, people were very unhappy about the ‘planning responses and the aid responses’. Mr Hingee believes that a lot of thought needs to go into the initial assistance response of government authorities in a disaster situation. This assistance needs to be provided in the form of post disaster plans, information and financial assistance. Mr Hingee believes that offering people
some kind of incentive to go above and beyond the required fire ratings in constructing their home is extremely important. This incentive could be in the form of lowered rates, lessened taxes or a subsidy for building a highly fire resistant home. It is also noted that this would not only achieve a reduction in vulnerability to bushfire threat in the community, but would also lead to more sustainable development because ‘in building a house that is fire resistant, you are also building a house that is energy efficient’. Mr Hingee has built his house to exceed all prescribed fire ratings (see Figures 5.7.1 and 5.7.2), as he knows that he lives in a vulnerable area, and believes other people should be provided with assistance to be able to do the same if they live in a bushfire prone area. The photos below show a couple of the design aspects of Mr Hingee’s home that exceed the levels of protection required by legislation. Planning departments need to be able to access resources quickly after the disaster so they are able to effectively assist residents who need assistance with planning issues and the rebuilding of their houses (Cerneka 2009).

![Figure 5.7.1: Windows on Mr Hingee's house are all double glazed, with metal window frames, and no window sills in order to protect the house from direct flame contact and from ember attack.](source: Napier 2009)

![Figure 5.7.2: Insulated metal shields are installed on vulnerable windows and doors to protect from direct flame contact.](source: Napier 2009)
5.8 Conclusion

Planners are presented with a number of barriers when carrying out post-disaster planning, and these potentially slow the planning process and lead to a diminished quality of the final planning outcome. The most significant barriers faced are to do with co-ordination of authorities, overwhelming of local authorities and resistance to change from the community. The research concludes that the best way to overcome these issues is for organisational structures to be in place prior to the disaster so that authorities understand their roles and responsibilities in the recovery process. The research also identifies community engagement as an important process in reducing resistance to change, and this engagement should be genuine and meaningful. Community engagement is not only important for the planning process, but for the recovery process in general for the community.
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To effectively plan in the wake of a major bushfire disaster, planners must carefully consider the needs of the community. The people who lived and worked in the areas affected by bushfires are the most important aspect of the recovery process, and they are the main drivers behind the reconstruction process. It is essential that the community is considered in great detail when analysing the planning response to a major bushfire disaster, as the planning processes are aimed at assisting these people to re-establish their lives. When developing planning policies or processes, planners must consider the constraints that may be placed on communities, as well as the opportunities presented to them. Bushfire disasters are obviously very traumatic events for the affected people, and planning action must take this into account. This chapter will explore how this trauma affects the community, and the barriers that the community face when dealing with bureaucracy and the planning processes in a post-disaster situation.

6.2 Dealing with immediate trauma

In order for planners to take effective action following a major disaster, it is important to understand the basic social factors that may hinder the process. Communities are typically in a state of shock following the disaster, and are significantly traumatised by the event (Bell 2009). In devising public involvement strategies, planners must consider how to most effectively get useful information from communities to assist in the planning and reconstruction process. Many difficult decisions need to be made in this time, both by the community and by planners, and not allowing emotions to completely overcome rational decisions is paramount to effective planning involvement (Ekelund 2009).

Following major bushfire disasters, community groups usually form quite quickly to provide support for residents and other affected people (Interviewee 2 2009; Hingee 2009). After Mr Hingee lost his house to the bushfires, ‘a group was formed within the area to work on what was to be done next’ (Hingee 2009) and he ended up heading up that group. Communicating with these groups and the broader community is an essential aspect of the planning involvement in disaster recovery. In order to effectively implement planning policies, the community must be engaged in the process a meaningful way (Bell 2009). Nigel Bell has been heavily involved in the community consultation...
process immediately following the disaster. In his opinion, a collaborative process is necessary in that planners work with communities rather than preparing plans in the usual way involving low level consultation. The process that was carried following the 2009 Victorian bushfires involved a ‘Celebration Day’ which aimed to bring the community together and get the process of involvement started (Bell 2009). This was then followed by a design charrette which was open to the community, where planners were able to collect information from the community regarding what aspects of the town they would like to ‘leave behind’ and which aspects they wanted to incorporate in the reconstruction of the area (Bell 2009). Mr Bell stresses the importance of how these involvement processes should be well planned to help the community recover, and focus on the positive aspects (Bell 2009). Kerry O’Neill stressed the importance of having good facilitators in these processes, as they need to be able to ‘tune into where people are at and understand the psycho-social dimensions of community response’ (O’Neill 2009).

It is also important that through these processes, community emotions are managed effectively. Community upset must be noted, however it must not be allowed to take over in these processes (Bell 2009). A key aspect to managing the high emotions of the community, in the opinion of Mr Bell, was to keep consultation groups small and to have more of them. This is because ‘when you have big groups you get anger, you get pain speaking - so the key thing was to get small groups of people on round tables’ (Bell 2009). This ensures that people get listened to, and through the collaborative planning process adopted following the 2009 Victorian bushfires people felt that they were listened to, and unlike standard planning processes, ‘people are genuinely involved’ (Bell 2009).

Planners also face other issues in regard to the initial trauma of the disaster, such as not being able to contact residents who have left the area or do not wish to go to organised community involvement events. Nigel Bell suggests that ‘long term residents often feel left out or don’t go to meetings’. The only effective way for planners to respond to this is to have more effective communication with the community, and this is often done by choosing someone to coordinate the community involvement events who is a ‘trusted local person, rather than a hated bureaucrat’ (Bell 2009). This allows the community to feel more comfortable in the engagement process, and also helps with the emotional recovery of the community.
It is important that these issues are considered by planners in a post-disaster situation, as there was not the same process following the 2003 Canberra bushfires, and residents in Canberra felt that they had to fight to be heard on important issues (Hingee 2009). In the case of this disaster, a ‘formal group representing the community was referred to by the government’ in making decisions and identifying strategic opportunities (Ekelund 2009). Ms Ekelund also notes that ‘other smaller community groups influenced some of the rehabilitory framework that was put in place to move things through’. This approach was not as inclusive of the community as the approach taken in Victoria, and left many residents, including Mr Hingee, very unsatisfied with the level of consultation undertaken by authorities. Mr Hingee maintains that this is ‘really all to do with the fact that [the authorities] did not plan the rebuild properly’, and this resulted in planners facing unnecessary angst and anger from within the community. Effective pre-planning and inclusive consultation processes are key to providing support to the suffering community.

6.3 Bureaucracy and red tape

One of the main barriers that residents face during the recovery process is bureaucracy and red tape that slows the reconstruction stage considerably. This was a recurring issue that all interviewees mentioned as a significant barrier to residents, and the reconstruction process as a whole. Bureaucratic process are often slow and painful, and as an affected resident, Ric Hingee felt that throughout the process ‘bureaucracies hold up everything and cause problems’. Often residents are not only faced with the normal authorities and bureaucratic processes, but additional layers are introduced in a post-disaster situation. This was the case in Victoria, where the Victorian Government set up the Victorian Bushfire Reconstruction and Recovery Authority in the aftermath of the disaster. Nigel Bell maintains that ‘even setting up a new bureaucracy was a mistake, as the key body should have already existed, taken charge and built’. This is an extremely valid point, as the response of the authorities would be much quicker and more effective if the organisational structures required for a response existed prior to the disaster situation. This reaffirms the need for authorities to be more prepared for the occurrence of bushfire disasters, and have the means and resources to address large scale rebuilding processes very quickly.

Following the 2003 Canberra bushfires, efforts were made to ensure that the process was not needlessly complicated (Ekelund 2009). Ms Ekelund acknowledges that despite these efforts, ‘if
you’re one of the residents, you might feel it was too bureaucratic’. Ms Ekelund also believes that
due to the infrastructure and general planning practices in the affected areas already meeting general
standards and requirements, the challenges of planning and rebuilding were much less than those
faced in Victoria following the 2009 fires.

_I think in the ACT we did everything we could to make sure it wasn’t
bureaucratic within reasonable parameters. I think, the challenge in
Victoria is much greater because there are the fundamental questions about
putting people back in that environment._ (Ekelund 2009)

As a planner and an affected resident of the Kinglake area in Victoria, Dean Cerneka acknowledges
that ‘bureaucratic processes are very slow to respond to such time critical situations’. He suggests
that this is due to the ‘need to follow the chain of command process, and for any decision to be
approved and documented’. He also believes that due to the fact that there was not one body that
had command of the relief and recovery, bureaucratic delays were increased.

In these post-disaster situations, there is a need for an organised approach to the recovery process,
and it is inevitable that delays will be experienced due to bureaucratic processes. Immediate disaster
recovery ‘requires a command approach, as a lot of things need to be done quickly and they do need
to be worked out’ (Interviewee 2 2009). This justifies many bureaucratic processes, but work needs
to be carried out by planners to ensure that processes are as streamlined as possible to avoid
presenting significant barriers to affected residents trying to rebuild.

In many cases, due to the combination of the lack of available resources, overwhelming of
authorities, and additional bureaucratic processes, building in the post disaster period takes
significantly longer than in a normal situation. There is a broader misconception that after bushfire
disasters, planning processes are sped up for all people who are affected, however this is not usually
the case. Nigel Bell gives the example of a resident in Marysville who said that it took considerably
longer than usual for them to re-establish themselves than it did when they first moved to the area:
It took 3 months when they first came to town five years ago to get approvals and set up. It has taken them 7 months after the fires, with all the goodwill, to go through the extra layers of red tape. (Bell 2009)

The above situation highlights the need for more appropriate structures and processes to be designed prior to a disaster situation, and for authorities to consider the broader implications of setting up additional agencies and creating more layers of red tape for the residents to work through. Negotiating their way through bureaucratic processes is a major challenge for people affected by fires, and Interviewee 2 believes that ‘it would be adding too much to the community to wrap them up in red tape, they just wouldn’t be able to cope’.

The development of the Urban Design Framework for Marysville following the Victorian bushfire disaster was also subject to lengthy delays due to bureaucratic processes. The process is slow, and this can be frustrating for residents. Figure 6.3.1 on the following page outlines the main steps in the recovery and planning process, along with a timeline indicating how quickly these processes were occurring. As can be seen in the figure, there is a considerable period of approximately four months between the disaster occurring and the main community consultation beginning. This delay highlights the need for a body that will coordinate the recovery planning to exist prior to the disaster occurring. The overall timeframe illustrates the point that the planning process is slow, and can be very frustrating for residents or other people involved in the reconstruction.

Communication is the key to managing frustration within the community, and a greater level of transparency could also assist this situation. Some local Councils in areas heavily affected by bushfire in Victoria prepared flow charts to outline the approvals process for residents to follow, and Figure 6.3.2 shows an example. This approach helps residents understand the processes involved in the preparation and assessment of proposals. Streamlining processes and reducing the amount of red tape would benefit residents by allowing them to rebuild faster, however this should only be done if it can be achieved without reducing the overall quality of the planning outcome. Many long and slow processes are necessary in a rebuilding process, so any work that could be carried out prior to the disaster occurring would be extremely beneficial to residents and planners. The hierarchy and the roles of authorities in the rebuilding process should be clearly established prior to the disaster event, to minimise confusion, delays and conflicting goals between authorities.
Figure 6.3.1: Process and timeline of the planning process for Marysville, Victoria
(Source: Napier 2009; adapted from Murrindindi Shire Council 2009 with information from Nigel Bell 2009)
Vegetation removal for fire prevention

Post-fire information

Find a builder/draftsperson/architect to help you with rebuilding documentation and approvals

Consider your needs (i.e. dwelling size/design, sheds, vehicles access) with your builder/draftsperson/architect

Register your interest and/or intention to rebuild with Council and provide your details to Council’s Statutory Planning Unit

Council will contact you to arrange an appointment with Council’s Bushfire Rebuilding Team

Meet with Council’s Bushfire Rebuilding Team where you will be provided with information needed to prepare documentation

Proceed with preparing documentation for approvals

Council’s Bushfire Rebuilding Team comprises a:
• Town Planner
• Building Surveyor
• Environmental Health Officer
• Environmental Planner
• Development Engineer

Apply for approvals

• Consider siting and design of buildings
• Calculate a BAL assessment as required by building regulations
• Consider wastewater treatment, disposal and location on-site
• Consider construction cost

Site plan assessment against Clause 52.39 of the Nillumbik Planning Scheme for assessment by Council’s Statutory Planning Unit

Septic Tank permit application to be assessed by Council’s Public Health Unit

Building permit application, complete with BAL assessment, for assessment by your nominated Building Surveyor

Figure 6.3.2: Example of a guide to the bushfire rebuilding process for residents, prepared by Nillumbik Shire Council. (Source NSC 2009)
6.4 Other issues faced by residents

Other barriers that are faced by residents include the difficulties in meeting new building standards imposed upon them in the rebuild, lack of accommodation during the reconstruction stage, and technical problems with some planning policies. These issues are likely to cause frustration, and also impact on the speed of the reconstruction process following a bushfire disaster.

When rebuilding following a bushfire disaster, people are faced with a whole lot of building standards and requirements that more than likely did not apply to the previous building. These include bushfire standards and bushfire attack level (BAL) ratings, and policies to do with sustainable development. For example, in Victoria following the 2009 bushfires residents needed to rebuild their homes to meet the new BAL ratings, and must also achieve a 5 Star Energy Rating. This means that despite the authorities providing a fast-track option for development applications for houses that were very similar to the original dwelling, many people will not be able to go through this process. This is due to the fact that housing designs need to be changed considerably in many cases to meet these new requirements. There is also the added process of having to get a building surveyor to sign off on the BAL assessment and certify the house as 5 Star Energy rating prior to development approval, and this can be made even more difficult by a lack of qualified professionals. Planners should disseminate information to residents early on providing assistance on how best to meet these requirements. Affected resident Ric Hingee believes that detailed and practical information should be provided, not only outlining the guidelines, but providing direction and advice on how to actually achieve these ratings. Planners need to communicate this information in great detail early on in the recovery process, to allow people time to plan their homes accordingly.

Other issues faced include seemingly needless controls, which are imposed on sites that should be exempt. Mr Hingee mentioned that one of the difficulties that he had with the development application for rebuilding his house was that planning authorities required shadow diagrams. Shadow diagrams are usually required to ensure that the proposed building will not overshadow key areas of neighbouring properties, such as living room windows, private open space and other adjoining areas that need to maintain the amount of sunlight (InfoLink 2009). The issue there was that his neighbours were either uncontactable because they had been burnt out and were living...
elsewhere, or they had not designed their house yet (Hingee 2009). This highlights the need for greater scrutiny of the practical application of specific requirements.

### 6.5 Conclusion

This chapter highlighted the need for planners to work effectively with the community in the post disaster period, providing them with information and assistance in overcoming the barriers they face in the reconstruction process. By helping people through the complicated bureaucratic processes, the overall speed of the recovery process can be increased. This chapter also identified the need for significant work by authorities, prior to the disaster occurring, in setting up the structures and administrative bodies that will take control and command the recovery and reconstruction. Setting up an authority to manage the disaster recovery wastes valuable time and resources, whilst also potentially adding a layer of red tape for residents to deal with. Planners in post disaster periods need to work sensitively with the affected communities, and make judgements about particular circumstances in order to achieve the best outcomes.
7.1 Lessons Learnt

Lesson 1: There is a need for vulnerable communities to have a pre-formulated disaster management plan.

The findings of this research highlight the need for vulnerable communities to be prepared for the management of a disaster situation, by having a pre-formulated disaster management plan. Vulnerable communities include communities in bushfire prone land on the urban edge, and rural communities in bushfire prone land. This plan is essential in ensuring that the planning of the recovery and reconstruction goes ahead as quickly and as effectively as possible.

Ideally, this management plan should address the following issues:

- The organisational structure of relief and recovery bodies;
- The co-ordination mechanisms that exist between the bodies and agencies involved in the recovery and reconstruction;
- Expectations and objectives of the recovery and reconstruction process;
- The process to be followed for community engagement and community planning;
- Funding arrangements for authorities and agencies, and assistance for affected residents; and
- Identification of fast-tracking process for development applications.

By preparing a plan outlining the management details of a recovery process, authorities will be able to respond in a faster and more decisive manner when a bushfire disaster occurs. By outlining the organisational structure of relief and recovery bodies, and the co-ordination mechanisms between agencies, time will be saved and authorities will be clear on their roles and responsibilities. Expectations and objectives of the recovery process should be clearly outlined in the management plan in order to avoid confusion, therefore maximising the efficiency of the response of the authorities.

Outlining the process to be followed for community engagement and community planning will allow authorities to extensively research previous disasters prior to the event and decide on the best approach for that particular community. This will allow authorities to benefit from lessons that have been learnt from bushfire disaster recovery in the past. It is also important that the disaster
management plan outlines the funding arrangements for authorities and agencies involved in the recovery process. This is because there is often an extreme overwhelming of local authorities, and by quickly identifying funding arrangements in the wake of a bushfire disaster, the overall speed of the rebuilding and recovery process will increase. It is also important that assistance and relief funding is outlined in this plan, to efficiently manage resources in assisting affected residents.

The final essential component of the disaster recovery plan is the identification of a fast-tracking process. Authorities need to work out a process of speeding up development applications prior to a major disaster occurring, so as the reconstruction can be initiated earlier. Guidelines need to be set out in this plan identifying which development applications would be exempt from the full approvals process, and these guidelines need to be worked out in a practical manner using information and lessons learnt from previous recovery efforts.

**Lesson 2: There is a need for vulnerable communities to prepare a strategic plan which outlines major deficiencies and opportunities prior to a disaster occurring.**

The research has identified the need for communities that are vulnerable to bushfire hazards to prepare a strategic plan identifying broader planning issues and deficiencies in the area. The purpose of this plan is to identify strategic issues early, in order for planners to capitalise on any opportunities that a major bushfire disaster presents to them in terms of implementing broader changes. By having this strategic plan developed prior to the occurrence of a bushfire disaster, authorities are able to act quickly upon identified issues or planning deficiencies if the opportunity arises. Another benefit of this plan is that authorities will not need to direct as many of their resources into identifying strategic opportunities immediately following the fire, allowing more planners to become involved in the recovery and reconstruction.

The strategic plan would be able to give planners some direction when they are developing concepts in the recovery and reconstruction process. It would effectively reduce the confusion within authorities over which issues to address as a priority, as the major issues would already be identified. Carrying out this strategic planning process prior to a disaster occurring also allows for more effective community input into the plans. Community input following a major disaster is far less effective than prior to the disaster, due to the trauma of the bushfire event and the psychological
state of the people in affected communities. It is essential that the community is involved in the preparation of this plan, because it not only has to address strategic issues and opportunities in the area, but it must also be acceptable to the general community. The direction provided by this strategic plan allows for rational decisions to be made in a time of crisis, allowing planners and communities to overcome the significant emotional barriers that they face.

**Lesson 3: There is a need for more effective communication with the affected communities, and greater level of transparency in the decision making processes.**

One of the main factors affecting the speed of the recovery and reconstruction process that this research identified, is the lack of effective communication between authorities and affected communities. In a post disaster situation, authorities should strive to provide useful and practical information to the community to assist them through the recovery and reconstruction process. Government authorities should provide realistic advice to the community about how best to deal with the reconstruction and how to meet any new guidelines or standards. By providing this information to the community, the community perception of the planning system will improve and they are more likely to become involved in the recovery planning process.

An increased level of transparency in the decision making and planning processes allows residents to understand how the processes work, and will in turn reduce the level of angst and frustration in the community. Through this increased transparency, it is likely that the community resistance to planning decisions will be reduced, in turn allowing for a faster recovery process.

**Lesson 4: There is a need for more effective engagement of disaster affected communities in the recovery and reconstruction process.**

This research indicates that the effective engagement of the community in the recovery and reconstruction planning processes allows for the maximum number of planning opportunities to be identified. Members of the affected communities have the best knowledge of the area, and know what elements of the built environment worked previously and what did not work. This research also indicates that actively engaging the community in recovery planning processes helps reduce the amount of community resistance to plans, and gives affected residents an overall sense of ownership of the plans. Genuine engagement and collaboration with the community throughout the
recovery process also acts as a healing process, allowing residents to overcome the initial trauma of the disaster and get on with rebuilding their lives. The processes for effectively engaging the community should be worked out prior to the disaster occurring, and should be addressed in the disaster management plan (Lesson 1).

### 7.2 Addressing the hypothesis

*A better balance can be achieved between the speed of post-disaster recovery and the quality of the planning outcome through a better understanding of the barriers faced by planners and residents, and an increased level of pre-disaster planning for the recovery of the built environment.*

The research identifies many ways in which the speed of the post-disaster recovery process can be increased, and also identifies a number of ways to improve the quality of the planning outcome. The relationship between these two factors is extremely complicated, and the outcome of this research identifies the fact that there does not necessarily need to be a significant trade-off between the two. With greater preparation by authorities prior to the disaster occurring, opportunities to reduce the vulnerability of the affected communities can be acted upon immediately following a major disaster, whilst still managing to allow residents to rebuild quickly and get on with their lives. By using the knowledge gained from previous bushfire disaster recovery processes, planners can incorporate changes into the strategic framework and broader policy environment in order to be more prepared to respond in a crisis situation.

### 7.3 Broader application of findings

The findings of this research, and the lessons extrapolated from these findings, could be applied to a broader area of planning rather than just bushfire disaster recovery. The lessons learnt and the recommendations made could easily be adapted to apply to other natural disasters and the recovery that follows. These disasters could include major floods, earthquakes, typhoons, cyclones and hurricanes; and the recommendations would be relevant to vulnerable communities all around the world. Recovery and reconstruction following natural disasters is a significant challenge to planners everywhere, and these findings could be broadly applied in planning processes wherever disasters are likely to strike.
A lesson is truly learned when we modify our behavior to reflect what we now know.

(Source: Wildfire Lessons 2009)
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