

Planning for Natural Hazards: The Impact

[00:00:00] **Mark Maund:** Hi everyone and welcome to the People and Place Podcast by WSP. My name is Dr. Mark Maund and I'm WSP's Planning and Approvals Team Lead for Regional New South Wales and ACT. This year on the People and Place Podcast, we are introducing a miniseries titled Planning for Natural Hazards. I'll be speaking with some brilliant specialists around Australia who can contribute to the conversation around planning for natural hazards and a better future.

Before we begin, I would like to do an Acknowledgement of Country. We acknowledge the traditional owners of the lands where our projects take place throughout Australia and their continuing connection to culture, community, land, sea, and sky. We pay our respect to elders past, present, and future.

I'm very excited to be here today and to be joined by Helen Sloane. She's a Senior Associate in Planning and Approvals at WSP. She's a fountain of knowledge on planning for natural hazards, and I'm really excited to talk to her today. Lovely to have you here. Helen.

[00:01:00] **Helen Sloane:** Oh, thanks Mark, thanks for having me.

[00:01:02] **Mark Maund:** Can you tell us a little bit about yourself and your background?

[00:01:05] **Helen Sloane:** Yeah, so I probably had, oh gosh, 20 odd or more years of experience, but I've come from more a private and as well as public service background. So a lot of work in the public sector on assessing projects on that space, in the regulatory space. And also on the policies of climate change.

Worked in the greenhouse office for a while, which was interesting. But then moving into the private sector, certainly just impact assessment work which of course incorporates planning and factoring in climate change decisions as well. So interested in this topic and I've certainly come on board a lot more with you in the office and yeah, just learning on this journey all the time.

[00:01:39] **Mark Maund:** Thanks, Helen. Yeah, it's really interesting topic and obviously climate change is one of the big challenges that we all need to deal with at the moment. For myself, a little bit of my background in relation to planning for natural hazards, I've been exposed to disasters myself with flooding. We've had significant flooding events where I live, where our entire street was flooded.

And you've seen pictures of people jet skiing down streets, that was one of our streets. Luckily our house wasn't flooded but the entire street was. We've also been impacted by bush fires. There's been evacuations from our children's school during bushfire events. Well, they all evacuate to the communal central building within the school grounds and we've been asked to collect the children.

So it's quite a difficult time to deal with you lose communication with your family. People outside the area are concerned and don't know what's going on. Also in Newcastle where I live, there was an earthquake a little bit over 30 years ago, and there was significant damage to buildings. So there's been a lot of rebuild in the area to where I currently live.

And through that I've been interested in how communities build after these disasters have affected them and how they can approach things differently. We've seen the recent events with flooding and bushfire, the 2019, 2020 bushfires in Australia. And also the recent 2022 flooding in Northern New South Wales and Southern Queensland. So it's obviously a really significant issue to all of us, and many of us are directly affected by these events. Can you give us a little bit of background in some of your experiences in relation to natural hazards Helen?

[00:03:01] **Helen Sloane:** Sure. Yeah. Thanks, Mark. Interestingly enough, I was thinking of a natural hazard that happens this time of year in Canberra, which is the swooping magpies and I'm not to make light of the subject, but it's certainly a hazard and it's interesting enough because how do we mitigate that risk? We avoid it basically, and we also have communications to call when we are in strife or under our bikes and calling for assistance.

So in other places I've lived, of course more seriously, in both in Darwin and Canberra. Cyclones were always on the back of my mind. Memories still very strong from Cyclone Tracy up there, and certainly the community was still on top of that memory. Of course that was a category five, and it claimed 71 lives, destroyed 80% of homes at the time. So there was a query whether to move the entire city, but really they basically just rebuilt it in the same location.

So there is a, still the strong fear for another cat five. I lived up there for over 10 years in a newly developed cyclone code housing. I went through a couple of category ones in that home. But I still remember sitting downstairs with my toddlers in the car at that key point of deciding whether to go or stay to move to the local high school.

And it was very scary, communication was difficult with the wind. My family living in East Coast were very concerned about our progress in our situation. And then of course, the Canberra 2003 Bush fires affected my friends and family deeply. The city was not the same as it was back then. We lost so much bush and pastures nearby 487 homes.

My father's actually a veterinarian and the local competition sadly burnt down at the time. He basically spent the next six months fostering that business as well as his own under the roof and trying to rescue animals. But most recently, black summer bush fires horrific situation that my parents have now moved close to the south coast. We lost 33 lives across the country in that over two and a half thousand homes and 1 billion animals I might add. But certainly that's still personally affected my parents, we evacuated them twice. That whole community is still probably suffering from that, of course the South Coast community as well.

I wanted to talk more about the disaster ripple, a term I've heard recently used. The fact that impacts of disaster are far more reaching than we realize. Our two personal experiences are different, but I can't say your metric of experience of trauma is higher than my own. It's all very personal and it's a loss is a loss. And certainly those might be immediately affected, but it's beyond that. The ripple might affect us longer, for example, we all remember when 9/11 hit and the ripple effect that happened across the world with that. I remember moving to Sydney a lot, long after that and being quite terrified of actually going to work in the CBD for fear of a terrorism attack.

We all feel very unsettled by that even though we might have been immediately affected. It changes our perspective, certainly we can't really see trauma or disaster as a linear, like a bandaid solution, a cpr, and moving on once you stem the blood flow that's it. It's more about moving beyond that the personal health of the person, both at that time and well into the future. Being able to process it and then of course their immediate family and then the community view on that. So I just think it's really interesting thinking the disasters are really far reaching and affect us all very differently.

[00:06:02] **Mark Maund:** That's a really interesting point, Helen, around the ripple effect, and I think one of the things you and I talk about quite a lot is the need for a national approach to planning in Australia. And planning for natural hazards. As we've seen in recent events, disasters cross borders, they cross boundaries. They're much larger than individual states or territories or local government areas. So some of the things we really talk about in relation to planning for natural hazards is this idea for consistency and how we share information across different areas. One thing I did want to talk to you about is options for planning for natural hazards.

I might just quickly talk about the recent flood inquiry and some of the options in relation to planning. And maybe if you want to have a chat about the bushfire recommendations from the Royal Commission and just see how they come together to informing how we're gonna plan for disasters in the future.

So the recent floods, they're quite significant. There's over 4 billion in damage and it also affected agriculture where we lost about 500 million in agriculture. So more than just infrastructure, this affects our food supplies and ongoing businesses as well. So some of the recommendations from the recent inquiry include the risk based approach to calculating flood planning levels and also disaster adaptation plans for towns.

So what we're really moving towards, it seems is more detailed understanding of some of these hazard risks. And also the populations that live within these risk prone areas. How we can inform the planning decisions that we make. So we have a number of decisions that we need to look at, including existing towns and settlements and where to put new towns and settlements.

I noticed it was interesting that the inquiry talked about the six cities region option that's currently in New South Wales where they're trying to grow six cities across the state, and really that's an idea to get this more collective understanding of planning and again, to go

beyond existing borders into kind of more regional planning where we have more understanding of a lot of these disasters, how we can avoid these disaster prone areas, and also how we continue to provide housing and employment for people.

The other thing that was really interesting is the ability to simplify the planning system and the disaster provisions within that. So the idea to make it more simple is to have a clear line of sight between decisions and the disasters that we're aware of, and also allowing those to inform the regional and district plan so that we can plan into the next 30, 50 years on the current understanding we have in relation to disasters, where people will live, how cities will grow and expand.

And also having that real key focus around planning for a more resilient New South Wales. So these are really significant changes. I think in planning where it has historically been more short-term decisions, and I think there's a real focus and a real move towards some of these long-term decisions. So we might talk later on about what to do with existing settlements that are exposed to hazards, but maybe Helen, if you've got some feedback or some of the recommendations from the Bushfire Royal Commission, we might see how they have suggested we feed into the planning system as well.

[00:09:03] **Helen Sloane:** Sure, Mark. Australia has had more than 240 inquiries on natural disasters. Let's just put that out there and goodness knows how many recommendations were all wrapped into those. The Royal Commission was in 2020, so we're talking a couple of years ago, it was on national disaster arrangements. So of course that's all levels of government, down to the individual. So 80 recommendations and certainly there is a key chapter on land use planning and building regulation.

There is the communication piece, so the communication of natural hazard risk information to all individuals. So I think that's a similar type of theme working together and having a process to ensure that communication of being in a hazard prone area is in there, in the planning system and taken to the individual. And there's also, what they say is mandatory considerations of natural disaster risk in land use planning decisions. But so there's mandatory considerations, the state territory and local government should be required to consider the present and future natural disaster risk when making land use planning decisions for new developments.

So that's obviously transferred greater emphasis now obviously into the New South Wales response there. But it sounds like it's a lot more targeted in New South Wales in that regard now. Should there be voluntary decision or whether to move or not or should it really be mandatory in form of acquisition when they live in these flood prone or disaster pro areas.

Other outcomes of bushfire inquiry, certainly on community education. Look, and I think community's gonna be one of our key themes, which we talk to today. It's just these recent floods have really brought that to the fore about community cohesion and resilience and really building that. Yeah. And anything to do is supporting better decisions. So there's that entire piece we can talk to about hazard information and hazard information systems.

Certainly that was one of the key outcomes I think of the Lismore feedback from the community was the flood gauges basically didn't work. They weren't in the right place, They were washed away. And aside from that, how would they interpret them if they were even knowing they were filling up where's the level that they should respond to. So it sounds like there's some synergies there in the two reports, but perhaps the New South Wales one obviously is a lot more targeted. Mm.

[00:10:56] **Mark Maund:** The other thing to talk about, Helen this is a really interesting chat around all the many options and the many different ways we can approach planning. And the different timeframes in the disaster management cycle. So the preparation, the during the disaster, the recovery phase, how planning can be involved and improve people's lives over time.

One of those ways that planning can be involved in hopefully helping communities recover is through temporary emergency accommodation. We've seen a lot of people whose homes are destroyed or impacted by disasters. They could be burnt down, they could be dangerous because areas have eroded. Or they're just flooded and they're not safe to live in.

What a number of councils, and it's becoming increasingly relevant across Australia, is that there's dedicated locations for temporary emergency accommodation. We've seen that evolve through pod villages up and down the coast of New South Wales and moving into Queensland, and these become more relevant across Australia as well. So the idea is, and I think planning has a key role to play in this and can improve in this area where we have dedicated locations that these pods can move. People can use them for a temporary accommodation. Once they recover from their situation, they move out and those pods can move to another disaster prone area of Australia.

Unfortunately, these disasters will continue to occur, but if we have these dedicated locations, and it's a really good approach to help the community, and planning can have these places established or this sites established, they give people this chance to receive emergency accommodation, recover and move on to the next phase of their life.

However, that does take a lot of preplanning. So you need to identify land, you need to put infrastructure in place, water, power, sewer. You need to have facilities that people can come to. The pods can be delivered to whatever form of housing can arrive, and then it's able to be moved on again. So a lot of these challenges around having dedicated sites around Australia, but also understanding that they're time limited, so that once people have had the chance to recover, those pods will move on to a different location. But it's a really important way to approach the issue of temporary emergency accommodation during these events.

Another way that I quite like to talk about is the many different buildings across Australia in sports parks different community halls and the way we could retrofit a lot of these buildings to allow them to be used a temporary emergency accommodation. As needed and then once the disaster or that recovery phase has evolved, then people can move out and those facilities can return to their original intended purpose. I do think planning can spend a bit

more of its time and energy and thought in terms of being prepared for temporary emergency accommodation, and that's something I think we can all work towards. I don't know your experiences on that front Helen.

[00:13:30] **Helen Sloane:** Yeah, all I'd say is look similar to Covid. We had those popup centers developed fairly rapidly, so there's still one in a car park near the Canberra Hospital here, temporary accommodation for a large development in Darwin ended up being one of the most successful covid recovery centers in Australia. So that complex has actually been used for a couple of different reasons. So I agree with you, Mark, they should be established, in best case, movable or pop up or evolve into other accommodation needs depending on the circumstances as they arise.

My only point would probably be on, obviously proper planning within that facility to cope for again, the vulnerabilities across the community. Again, knowledge of the community is all, isn't it? I mean, I understand with Lismore local high school, or I'm not sure what their local response facility was, but basically everyone from the community, from the disabled, to their elderly, to the drug addicts, all coping with various issues, all thrown in one hot pot of a response center, really difficult to manage. So again, the right planning within that space for a proper response facility to cope for those various vulnerabilities in the community, and of course the right counselors and support personnel as well, which is another layer of complexity.

[00:14:42] **Mark Maund:** That's a really good point. I think we all know how diverse communities can be and being able to plan around for those in these multifunction spaces and multipurpose spaces for all different people at different stages of their lives through different levels of vulnerability is really important. That's a big role for planning to play in that. The other thing I'd like to move on to is the importance of strategic planning. So obviously one of the key fundamental early stages of planning is strategic planning. That's our identifying constraints, identifying land for future development to rezone for housing, businesses, industry, et cetera.

And also to work around environmental protection and avoiding where possible environmental hazards or natural hazards. The role of strategic planning I think is really important, and again, it's something that we need to spend more time on in Australia in terms of focusing on that strategic planning cause it is the very first level of being able to build resilient communities. So one of the positives of strategic planning is that it's where we identify land that's suitable for future development and also where we can identify land hopefully to avoid. And the first stage of building resilient communities where possible is to avoid natural hazards.

It's not always possible, but it is something that we should really work towards. The challenge to that is having really good information to make informed decisions, so having access to historical hazards, potential future hazard risk, and also sharing that information across Australia, different levels of government, private industry, community, et cetera, and the importance of really strong strategic planning within that.

So again, this comes back to the community being involved. We talk about this a lot in planning and it's one of the key things that I think we all need to understand is the importance of having experts, but also having the community directly involved in these decisions. There's different types of strategic planning. We can look at regional plans, also statewide plans and local environmental plans, et cetera. However, the strategic planning, I think as we talked about, natural hazards move beyond boundaries. They're much bigger than any local area, and I think strategic planning really needs to work as a minimum on a regional scale.

And preferably we can look towards a national policy approach across Australia, which would be something new in Australia because we don't have a national planning body, but a national approach to strategic planning with shared information, shared understanding, and these really strong ability to make decisions across the country in terms of sharing resources, sharing infrastructure, and where is it safe and appropriate for people to live.

I think strategic planning has a really strong role to play in the future of development of our cities. Helen, what's your understanding of the role of strategic planning and the importance in relation to natural hazard?

[00:17:20] **Helen Sloane:** Yeah, look, obviously incredibly important. I think it was raised after the 2021 bushfires that there was no national bushfire risk map, I think that's underway now. But likewise, is there a national flood risk map? I'm not sure. I mean, again, you could probably pull one together, but is it current data and this is it and it's keeping it current and live and model the data we can rely on and shared, as you said, across borders. I mean, certainly for the ACT, if you see a constraint map, you'll realize that basically all category one bushfire prone land. So in terms of where you put the population, really hard to avoid bushfire risk in the ACT. But I think they've learned a lot from the numerous bushfires.

I think there's over 200 bush fires a year around the ACT and it could be considered a regional planning strategy in itself. So there's a strategic bushfire management plan, but that's taken many years and again, lots of good data. So there's a hierarchy underneath that of operational tactical plans and maps. So really hands on. But on the vulnerable edge, it's land use planning is obviously really important. And that comprehensive fire management at those boundaries, cause they're continuing to put people moving into those bushfire risk areas and even across border as we talk about. So look, I think it's a really difficult topic.

They have recently changed the Land Use Planning Act, the ACT Planning Act here, and they've introduced the idea of district planning and expanding that to accommodate also climate change and wellbeing and environmental policy. So, as you say, Mark, very important for land use planning, but you overlay that with wellbeing and climate change and other environmental aspects. It's a lot to think about. Who'd be a planner hey?

[00:18:49] **Mark Maund:** Who'd be a planner, yeah, it's really interesting Helen. There are a lot of challenges. I think the opportunity involved in planning is why I'd be a planner. I think there's some really good approaches to helping build resilient communities. One of the

other natural hazards that we don't really talk about very much, that is a bit of a focus for me. Is also in terms of heat waves, so we have these kind of slow onset disasters. We know about floods, we know about bush fires, but things like heat waves in our urban areas, there's some quite hot areas that are experiencing quite extreme heats, partly due to the urban heat island effect, but also just because as we talked about, the change in climate.

So as these areas heat up, there are many people who need to escape from the heat in different places. So I think the option through planning to help create evacuation centers or just areas to escape from these extreme heats are really important. I know in some parts of Australia, they're setting up what they call heat refuges, where they're air conditioned buildings, or even if they provide shade and cool drinks for people in the community who are really unable to combat some of these heat wave conditions.

So I think heat waves are another really important aspect. Another layer, again, within planning that we can look at both in terms of providing shade and shelter in public spaces. Also appropriately designed buildings, also just creating refuge centers that people can go to, cool down, have some water, have the opportunity to cool themselves down, and just escape from heat in some of these really hot, extreme environments.

[00:20:16] **Helen Sloane:** Yeah, well just on that mark, I mean, I'd be interested to know what comes out in the next 12 months or beyond. Of course in Europe after the massive heat waves there, and of course the places like Canada, the underground tunnels you have to escape the snow in the extreme can also be functional as heat refuges, of course in periods of high heat. I know in Darwin very hit and miss with planning decisions up there. Obviously, extreme heat up there, very uncomfortable humidity. I remember a ridiculous amount of money spent on the local mall, which had a bare minimum cover. Basically it was beautifully designed, but it was a wavy pattern, which basically left you exposed to, to heat and rain. That was just throwing your hands up, despair about what could have been an ideal planning outcome totally the opposite. But I agree these pods that we talked about if they're not used elsewhere, why can't they be permanent and used as permanent refuges?

Mm.

[00:21:05] **Mark Maund:** Excellent point. And lastly, I just wanna talk about education, the importance of education. So we've seen just through social media. And on the news, we've seen a lot of the images of bushfire affected wildlife. Bush fire affected homes and buildings, also places that are flood prone, and we we're seeing the expressions for people trying to recover from these disasters.

It's a really challenging environment. Like we talked about. Education is one of the other really important role I think we can play in planning. Providing opportunity to educate the next generation in terms of what disasters could look like and how our cities and towns can really evolve to help manage some of those risks around natural hazards.

I'm be interested to understand your views on education and how you think planning can support that.

[00:21:47] **Helen Sloane:** Yeah, no, I think community's really willing to step up and help and educate people on when best to respond and giving them a license to go out in their tinnies and be those first responders. But harping back to my comment here on being a renter and understanding the response plan for everyone around here, and I live in this area. What should I know about it in terms of the planning space and where do I evacuate to?

Yeah, because I'm a renter that didn't come with my purchase agreement, so how do I receive that form of communication about the fact I live in such a high risk bushfire spot and potential heat waves as well in Canberra. So again, education a really key component. And again, touching on the flood inquiry people and their rain gauges, harping back to that might be all good and well to have one. But what does it mean when it reaches a certain level?

[00:22:29] **Mark Maund:** Excellent point. So yeah, education, community involvement, we've come full circle and that's understanding our local area, understanding our hazard risk, and feeding that back into decisions within planning and how we can, as all planners help support the growth of our cities and towns, but doing that in a resilient way with a very strong focus on resilience for natural hazards.

Helen, it has been great talking to you as always, and you've got a lot of information to share and I've really enjoyed the chat. Thank you for your time.

[00:22:54] **Helen Sloane:** Oh, thank you, Mark. Thanks for the opportunity.

[00:22:56] **Mark Maund:** Thank you so much for joining me, and thank you to our listeners for tuning in. If you're interested in the work we're doing, please get in touch. Our links will be in the podcast show notes.

Goodbye.