

Improving Design Outcomes in the Built Environment through Design Review Panels and Design Guidelines.

Trivess Moore¹, Tome Alves², Ralph Horne³ and Andrew Martel⁴

¹Centre for Urban Research, RMIT University

²Office of the Victorian Government Architect

³College of Design and Social Context, RMIT University

⁴Faculty of Architecture, Building and Planning, The University of Melbourne

Abstract: Design guidelines have been introduced in some jurisdictions as a process to improve design quality and outcomes in the built environment through the setting of minimum requirements for various design elements. However issues have been raised from building industry practitioners with the use and outcomes of design guidelines. For example it has been argued that they can become too prescriptive and limit innovation. In this context, design review panels offer a complimentary approach to ensuring improved design outcomes in the built environment, through independent expert review of proposed developments. This paper presents findings from interviews with 22 building industry stakeholders from Australia. These interviews explored the role, benefits and limitations of design guidelines and design review panels. On the whole, design guidelines were thought to be a beneficial tool which has lifted design outcomes in areas where it has been implemented. A number of issues such as constraining innovation and being too prescriptive were raised. Design review panels were seen to offer a way to reduce these issues, although the panel processes themselves present additional issues. Combining design guidelines and design review panels in particular ways may reduce limitations of either approach. It follows that jurisdictions utilising only one of these approaches (or neither) could usefully consider the benefits of complementary approaches.

Introduction

Over recent decades there has been a rapid growth in cities. Today, more than 54% of the world's population live in cities, a total which is expected to grow to more than 70% within a generation (UN, 2014). This urban growth is raising planning, design and governance challenges regarding housing affordability, sustainability and liveability, all set against the context of changing physical and economic climates. In particular, higher density housing is increasingly seen as a means to address the aforementioned challenges. There is now rapid growth of higher density housing around city centres. For example in Melbourne's CBD the population has doubled since 2001 and is projected to almost double again, both in terms of population and number of dwellings, by 2031; with the majority of dwelling growth to come in the form of one and two bedroom apartments (City of Melbourne, 2014).

Policy makers and built environment researchers are increasingly concerned that substantial new development occurring in many cities is lacking in 'good design' quality and are starting to understand the long term consequences of this for cities, households, society and the environment if design outcomes and quality is not improved. A recent survey of 25 residential apartment developments built in the preceding years in the Melbourne CBD found that 84% were deemed to have 'poor' or 'average' design quality outcomes (City of Melbourne, 2013b). In New South Wales perceived issues with poor design quality of higher density housing in the early 2000s was a catalyst for the introduction of a range of governance approaches designed to improve the situation, including regulations, design review panels and guidelines (NSW Government, 2015).

Improving the 'value' or design quality of buildings and the wider urban environment has not always been a priority issue for the building industry and governments (Carmona, 2001, Murray et al., 2013, Ministry for the Environment, 2005). Instead the focus has been on providing 'affordability' and maximising returns for developers through 'highest and best use' criteria (Christensen, 2014). Moreover, the two priorities, affordability and quality, have been regarded in some quarters as opposed/competing priorities, rather than complementary ones.

Long-run housing dynamics further complicate the design outcomes endeavour. Buildings invariably have multi-generational lifetimes, so poorly designed dwellings 'lock in' poor value outcomes, creating a legacy for current and future residents and impacting on the development and shape of the wider city (City of Melbourne, 2013a, Macmillan, 2006a). Demographic change, and changing housing needs and conceptualisations of good design over generations means it is also difficult to 'future proof' good design.

The structure of the residential development and construction industry is a further issue. If this encourages builders, owners and users to primarily think about their own requirements, with little consideration given to the wider urban environment, then it is unlikely that outcomes suit the requirements of the whole community (Simmons, 2008). The existence of such 'market failures' is a critical factor in current problems in delivering good design and improving value outcomes for society.

The challenge with 'value' in terms of good design is that value is manifest in a variety of ways and can mean different things to different stakeholders (CABE, 2001, Bole and Reed, 2009, Abdul-Samad and Macmillan, 2004). In the context of the built environment, value has typically been thought of in terms of capital costs, property values or other formal economic measures across a limited range of tangible considerations; location, quality, function, aesthetics and return on investment (Abdul-Samad and Macmillan, 2004, Cole, 2000). However, there has been an increasing focus on understanding and measuring wider value benefits of elements which have been harder to quantify, for example satisfaction, quality of life, liveability, sense of place, through-life costs, connectivity and urban space (Moore et al., 2014).

In response to these challenges, various approaches have emerged over the past 15 years to facilitate better design and construction outcomes. Primarily these involve the use of design guidelines and design review panels. Policy makers around Australia are currently looking to New South Wales to see what the outcomes of these approaches are having on the higher density housing market with a view of introducing similar requirements (OVGA and DELWP, 2015).

Facilitating good design and quality outcomes

Within the wider literature there is general agreement that 'good design' improves value outcomes across a range of social, environmental and economic parameters (Carmona, 2013, City of Melbourne, 2013b, Keck, 2013, Macmillan, 2006a). A recent report by the City of Melbourne states that:

'Good design considers the character of an area and the interface between the building and the street. It considers the environmental performance and building orientation to minimise resource use and maximise building efficiency over its lifetime. It ensures flexibility and adaptability to enable minor changes to the internal configuration of apartments while offering the capacity for internal spaces within apartments or buildings to change and be modified over time. Good design means optimising rather than maximising the amount of development on a site to deliver well designed apartments with good levels of internal amenity....Good design will create buildings that make a positive contribution to a neighbourhood and provide homes which make a positive contribution to people's general health and well-being.' (City of Melbourne, 2013a).

Since the late 1990s researchers have been trying to capture the benefits of good design and quality, and limitations of poor design, in an attempt to quantify outcomes. The Commission for Architecture and Built Environment (CABE) in the UK has been a champion of this research (CABE, 2001, CABE, 2002, CABE, 2003, CABE, 2005, CABE, 2007, CABE, 2010b). While a significant focus of this research has been on the residential housing sector, others have engaged in similar research for commercial buildings, health care facilities and schools (Ulrich et al., 2008, Lawson, 2004, CABE, 2002, Feilden, 2004, GBCA, 2008, Macmillan, 2006b, Carmona, 2004). With regards to good design in the housing sector, a range of benefits have been identified. These include increased sale/resale value, improved return on investment, lower maintenance costs, reduced running costs, quicker planning approval, increased public support, happier and healthier occupants, improved sense of place and reduced crime (Macmillan, 2006a, CABE, 2001, Places Matter!, 2009, City of Melbourne, 2013a, Carmona et al., 2002).

Design guidelines, developed and enforced by state or local planning offices, are being increasingly applied as a method of setting minimum design quality requirements. Examples include the State Environmental Planning Policy 65 – Design Quality of Residential Flat Development (SEPP 65 – recently renamed the Apartment Design Guide) in New South Wales or the Building for Life guidelines in the UK (DPI, 2011, Building for Life Partnership, 2012). Design guidelines aim to improve overall design quality and lift the bottom of the market by setting minimum good design criteria, and elements to avoid and are typically applied at the start of the design process. Some design guidelines, such as Building for Life in the UK, are based more upon asking a series of design related questions for the designer to address (Building for Life Partnership, 2012). Other guidelines are more prescriptive (e.g. setting minimum room areas based upon number of bedrooms).

Design guidelines can be prescriptive and limit innovation across the design, construction and utilisation of buildings (DPI, 2011). Design review panels are a way of addressing such limitations, or

can be used where no design guidelines exist (ODASA, 2013, CABE, 2010a, Design Council, 2013). They are made up of expert independent built environment experts with a range of professional backgrounds who are tasked with reviewing proposed developments on behalf of local planning authorities. Generally, panel members are engaged by state or local planning offices who also provide members with a framework for their role and how the panel will operate. The aim of the design review panel is to provide a critique of proposed developments and help to improve design outcomes by providing advice on how elements of the design could be improved. Design review panels also provide an opportunity to discuss elements of the proposed design which do not meet design guideline or other planning requirements to allow for the uniqueness of different development sites. Once a proposed development has been reviewed by the panel, the panel members report their findings to the local planning authority who considers this as part of the approval process. Typically a design review panel is engaged when the design of a development is seeking approval (i.e. towards the end of the design process), however some jurisdictions encourage this process to occur as early as possible to ensure panel recommendations actually inform design outcomes.

There is a lack of empirical research in the Australian context that engages with how building industry stakeholders experience and view the use of design review panels and design guidelines. This paper addresses this gap by addressing the question: *What are the roles, benefits and limitations of design guidelines and design review panels?*

The next section provides an overview of the methods applied in this research. Following this, the analysis and discussion is presented across three main topics: design guidelines, design review panels and combination approaches.

Method

Semi-structured interviews with 22 key building industry stakeholders from Australia were conducted during April-September 2014, with respondents in Victoria, New South Wales and South Australia. Stakeholders interviewed included developers, local government design and policy professionals, advisory bodies, architects, industry groups and researchers, in order to ensure a range of perspectives were included in the analysis. Table 1 presents general characteristics of the stakeholders interviewed. Stakeholders were identified through a 'snowball' approach (Atkinson and Flint, 2004).

Table 1: General characteristics of the 22 stakeholders interviewed.

Analysis Code	Area	Role	Location
S01	Industry group	General Manager	Victoria
S02	Developer	Design Manager	Victoria
S03	Developer	Project General Manager	Victoria
S04	Architect	Director	Victoria
S05	Government	Senior strategic planner	Victoria
S06	Government	Urban Designer	Victoria
S07	Government	Principal Urban Designer	South Australia
S08	Government	Project Director	South Australia
S09	Landscape Architect	Director	South Australia
S10	Developer	Managing Director	South Australia
S11	Government	Director	South Australia
S12	Architect	Principal	South Australia
S13	Developer	Chairman	South Australia
S14	Industry group	CEO	NSW
S15	Architect	Director	NSW
S16	Architect	Director	NSW
S17	Architect	Director	NSW
S18	Architect	Director	NSW

S19	Developer	General Manager Sustainability	NSW
S20	Government	Urban design coordinator	NSW
S21	Government	Manager Urban Design	NSW
S22	Architect	Chief executive	NSW

An interview schedule was developed from an initial literature review and the project brief with two key objectives;

- (i) inform an understanding of how value and good design is considered and measured across the building industry and consumers, and
- (ii) inform approaches to improving value and design outcomes, such as through the use of design review panels or urban design guidelines - this second part being the focus of this paper.

Semi-structured interviews allowed a set of key questions to be asked across all stakeholders, while retaining flexibility to explore elements in more detail where the conversation and experience of respondent presented appropriate opportunities. This was appropriate as a range of stakeholders were interviewed and each had different expertise and knowledge. Interviews were conducted at the stakeholders place of employment or over the telephone. The interviews lasted between 30-80 minutes. Interviews were audio recorded and the audio was transcribed verbatim via a third-party transcription service. Interview transcriptions were then analysed using NVivo across a number of key themes which emerged from the interviews. The project received ethics approval from RMIT University.

Results and discussion

This section presents the results and discussions of the interviews across three main areas: design guidelines, design review panels and beyond design guidelines.

Design guidelines

The SEPP 65 and the Residential Flat Design Code in New South Wales were identified by stakeholders as being the most significant Australian application of such a design approach. The general feedback was that design guidelines have an important role to play to facilitate good design outcomes, in particular to lift the bottom of the market. The feedback from New South Wales based stakeholders was that SEPP 65 and Residential Flat Design Code have helped to lift the bottom of the market and wider design and quality standards for the higher density housing market. Across all stakeholders there was significant support for SEPP 65 and what it had achieved. The New South Wales based stakeholders agreed that for the most part this improved quality of design was not difficult to achieve for the majority of development sites. Key strengths of design guidelines identified included the requirement of an architect for developments over a certain size, clarifying what good design should be and setting a consistent standard (level playing field) for the building industry.

I think there's no doubt that the quality of design for apartment buildings has gone up in New South Wales since SEPP 65 came in. (S14, industry group)

However, there were concerns raised that SEPP 65, and specifically the Residential Flat Design Code, is rather prescriptive, limiting innovation and causing unintended consequences for some development sites – but this constraint was contested across the stakeholders with as many stakeholders disagreeing that it did not allow for flexibility. The issue was that the design guidelines started out as 'rule of thumb' but had since become hard requirements across time and as elements of the code and planning approval had been challenged in the legal system.

Design guidelines can obviously improve the worst elements in our community, but they can also impact on innovation and creativity. (S12, architect)

I think that it strikes a good balance between having some strict performance indicators...at the same time providing some rules of thumb which allow you to innovate within defined boundaries (S17, architect)

Despite the identified limitations of the design guidelines, there was overall support for design guidelines as an approach for improving design quality for consumers and the wider built environment. Admittedly some of the stakeholders who were interviewed for this research benefited from the requirement to use an architect for the development of project plans, and so were likely to be more favourable to the design guidelines. However, the other stakeholders who did not directly benefit in terms of work, such as policy makers and industry bodies, were still supportive overall of the approach and what it was achieving. Stakeholders from Victoria and South Australia were informally following the progress of the design guidelines in New South Wales with the explicit interest of introducing similar design guidelines in their respective states. In fact, the South Australian government have been trialling the use of design guidelines in their Bowden development.

The majority of stakeholders disputed any idea that the building industry would not, or could not, adapt to having design guidelines which they must adhere to. In addition many stakeholders felt there was limited additional cost impact, either to their businesses or to consumers from having to meet such design requirements. However a couple of stakeholders felt there was a slight cost impost to consumers at the introduction of SEPP 65 in New South Wales which balanced out as the building industry adapted.

There's no evidence at all that the industry didn't adapt in Sydney when it was introduced and New South Wales when it was introduced 10 years ago, when improved amenity and design standards were brought in in The London Plan and the London Housing Design Guideline came out, the industry adapted. (S05, government)

Design review panels

Respondents in New South Wales and South Australia (where design review panels were used in some areas such as the Bowden development) felt that design review panels play an important role in improving design outcomes, particularly when applied in conjunction with design guidelines. Design review panels were deemed generally a beneficial process because developments were able to receive external expert advice. While there has been criticism in the literature that this expert feedback typically comes too late in the design process, stakeholders interviewed in this project found that they were generally able to present to design review panels early enough for the panels to influence design outcomes. In particular design review panels were praised for their ability to allow subjective site specific context to be applied to design guideline requirements to ensure more considered and improved outcomes were achieved.

Architects generally liked design review panels because it gave their good design wider industry support and helped them find better outcomes on challenging development sites. Developers liked the design review panels because they acted as a double check over the design and provided them with more direction. Government stakeholders liked design review panels as they ensured a higher quality of design outcome, particularly relating to design elements of the space around the buildings, and allowed flexibility to be retained for design innovation or allowances to be considered for challenging sites. By allowing an opportunity to present and discuss alternative design outcomes for some elements, all stakeholders felt that better, and generally fairer, outcomes were achieved.

It was critical I think in the SEPP in New South Wales that designers are involved in the value judgment and the kind of assessment of proposals so they can essentially understand where you're innovating and why you're innovating, and that that is a better quality outcome even if it doesn't tick a box. So you may not necessarily comply to a numeric standard under the SEPP, but the design review panel understands the situation, understands the idiosyncrasies of it, and therefore is able to make a value judgment... (S10, architect)

While there was overall support for design review panels the stakeholders were quite vocal about a number of weaknesses. These weaknesses were common across both New South Wales and South Australia and were raised across the range of stakeholders. They are similar weaknesses which have been found in international contexts, for example in the UK (Moore et al., 2014). The weaknesses were not enough to have stakeholders waver in their support for design review panels, just that there was room for improvement in how they were conducted. One of the key concerns was that there have been several occasions where stakeholders felt that members of design review panels were pushing their own design agendas and not allowing for an effective review process. It was also raised that there were good and poor panels across the state (New South Wales) and you could find yourself presenting to a panel without the range of industry experts they were designed for. If this occurred,

stakeholders were frustrated in trying to discuss design outcomes to professionals with very little design knowledge. Furthermore there was a lack of consistency over having design review panels for each local government area.

Another issue was raised around timing of when to use design review panels for most design impact. In some cases, for example Bowden in South Australia, developers were actively encouraged to go to an informal design review panel as early as possible to receive some initial feedback and guidance to ensure the design was heading in the right direction. The design would then undergo a formal review at a later stage. This approach provided more certainty for developers and saved them time and money in the longer term. The other issue was that the feedback from the design review panel members was subjective and could be disregarded by local planning authorities and so some stakeholders felt they needed more governance support to ensure that the panels were not a waste of time. Furthermore, there was a feeling that there needed to be more consistent use of common language around value and design, an issue which has been found elsewhere (Prasad, 2004).

The value of the SEPP would be a lot more valued if the design review panels were a part of an enforceable outcome. At the moment the design review panels are advisory only, and therefore Council planning staff can either take on board or disregard the design review panel's advice. (S17, architect)

Beyond design guidelines

The interviews identified a number of strengths and challenges to the use of design guidelines and design review panels. The two approaches have different aims in terms of design outcomes. The design guidelines are aimed at lifting the bottom of the market and ensuring a consistent minimum quality of design for all developments and consumers, such as determining requirements for access to natural light. The design review panels on the other hand are more geared towards understanding the nuances presented by each development site and allowing for alternative solutions, which remain within the general design intent scope, to be explored. Without design review panels, it would be difficult for some developments to meet the requirements of the design guidelines. Overall while both approaches were generally well supported, the feedback was that the use of *both* approaches can improve design outcomes and reduce the limitations of either approach in isolation and have (anecdotally) improved urban design outcomes where used (e.g. New South Wales).

I think it's really important, it's a really important element of that development process. I think in a similar way to how I said that introduction of SEPP 65 enabled legitimised conversations about design quality, I think design review has enable that here to a degree as well. It makes it a little difficult when it's not complemented by clear performance criteria that you might see in something like SEPP 65. (S07, government)

So you may not necessarily comply to a numeric standard under the SEPP, but the design review panel understands the situation, understands the idiosyncrasies of it, and therefore is able to make a value judgment about the fact that not only are you achieving the control you are in some ways bettering the control that was imagined under the SEPP. (S10, architect)

As such, design review panels have the ability to act as critical intermediaries (a go-between who can develop relationships and outcomes between different groups) between local planning authorities, developers, architects, designers, government and the community in terms of improving design outcomes across cities as cities transition to a sustainable and liveable future. The importance of intermediaries in shaping the built environment towards a more sustainable and affordable future has been found elsewhere (Guy et al., 2011). This is increasingly important if we want to ensure the rapid development of higher density housing in Australian cities is liveable into the future.

However it was clear that design review panels can only be of benefit to the design process, and as their role as intermediaries, if the panels contain a sufficient range of independent expertise. If this is not the case, the review panels can add significant burden and frustration to the design process. A small number of examples were provided whereby stakeholders felt that certain design review panels they had been involved in were biased in some way. How to have sufficient independent experts who can recognise the larger design picture is a key challenge moving forward. Suggestions from stakeholders on how to reduce this limitation included expanding the network of experts who sit on panels and ensuring that panels are refreshed on a more frequent basis. Another option to ensure design review panels remain on point is to conduct random reviews of design review panel outcomes.

This would ensure an additional level of accountability for panels and panel members and provide more support and certainty for stakeholders presenting to panels.

Conclusion

What are the roles, benefits and limitations of design guidelines and design review panels?

Some jurisdictions have implemented design guidelines and/or design review panels in an attempt to guide the industry towards improved design outcomes. This paper has presented analysis of interviews with 22 Australian built environment practitioners to understand their views about both approaches. The analysis found that there were a number of strengths and challenges to each approach. For example design guidelines in New South Wales (i.e. SEPP 65) were seen by many of the stakeholders as presenting a clear benchmark for what quality needed to be achieved and had in their views improved design outcomes in Sydney across the past decade; however others argued that this meant the guidelines had become too prescriptive over time and were now challenging to adhere to on some sites. Design review panels were seen to aid in this challenge by allowing a panel of experts to review development plans and engage with alternative design propositions. However a caution was raised that some design review panels had shown bias previously.

It was evident that design review panels helped to address a number of the limitations raised through the use of design guidelines. However without a more consistent approach to design review panels, both in their governance but also their assessment of proposed developments, there is the risk that the design review panels will not meet their intentions. The panels were seen to work best in conjunction with design guidelines and where a range of expertise was available on the panel. Further research is required to quantify the benefits of good design outcomes

Acknowledgements

This paper was produced from research undertaken by the Centre for Urban Research, RMIT University for a pilot project titled 'The Value of Good Design'. The project is funded by the Government Architects Network Australia and the Australian Institute of Architects, and a Federal Government Researcher in Business Grant. The project is ongoing.

References

- ABDUL-SAMAD, Z. & MACMILLAN, S. Improving design quality and value in the built environment through knowledge of intangibles Engineering Management Conference 2004, 2004. IEEE International.
- ATKINSON, R. & FLINT, J. 2004. *Snowball Sampling. The SAGE Encyclopedia of Social Science Research Methods. Sage Publications, Inc, Thousand Oaks, CA, Sage Publications, Inc.*
- BOLE, S. & REED, R. 2009. The Value of Design: A Discussion Paper. *Architectural Science Review*, 52, 169-175.
- BUILDING FOR LIFE PARTNERSHIP 2012. The sign of a good place to live. Building for Life 12. In: COLLINS, P. & QUINN, B. (eds.). London: Building for Life Partnership (CABE at the Design Council, Design for Homes and the Home Builders Federation) with the assistance of Nottingham Trent University.
- CABE 2001. The value of urban design. London: Commission for Architecture and the Built Environment.
- CABE 2002. The value of good design. How buildings and spaces create economic and social value. London: Commission for Architecture and the Built Environment.
- CABE 2003. The Value of Public Space. How high quality parks and public spaces create economic, social and environmental value. London: Commission for Architecture and the Built Environment.
- CABE 2005. Creating Successful Neighbourhoods - Lessons and actions for Housing Market Renewal. London: Commission for Architecture and the Built Environment.
- CABE 2007. Paved with gold. The real value of good street design. London: Commission for Architecture and the Built Environment.
- CABE 2010a. Helping local people choose good design. Design review network annual report 2009/10. London: Commission for Architecture and the Built Environment.
- CABE 2010b. Improving the design of new housing. What role for standards? London: Commission for Architecture and the Built Environment.
- CARMONA, M. 2001. Better urban design adds value. *Town and Country Planning*.
- CARMONA, M. 2004. Adding value through better urban design. In: MACMILLAN, S. (ed.) *Designing better buildings*. London: Spon Press.

- CARMONA, M. 2013. Does urban design add value? *Urban Design*, 126, 47 - 49.
- CARMONA, M., DE MAGALHÃES, C. & EDWARDS, M. 2002. Stakeholder Views on Value and Urban Design. *Journal of Urban Design*, 7, 145-169.
- CHRISTENSEN, F. K. 2014. Understanding value changes in the urban development process and the impact of municipal planning. *Land Use Policy*, 36, 113-121.
- CITY OF MELBOURNE 2013a. Future living. A discussion paper identifying issues and options for housing our community. Melbourne: City of Melbourne.
- CITY OF MELBOURNE 2013b. Understanding the Quality of Housing Design. Melbourne: City of Melbourne.
- CITY OF MELBOURNE 2014. Homes for People. Draft Housing Strateg 2014-2018. Melbourne: City of Melbourne.
- COLE, R. J. 2000. Editorial: Cost and Value In Building Green. *Building Research & Information*, 28, 304-309.
- DESIGN COUNCIL 2013. Design review. Principles and Practice. London: Design Council.
- DPI 2011. SEPP 65 and residential flat design code review. In: NSW DEPARTMENT OF PLANNING AND INFRASTRUCTURE (ed.). Sydney: NSW Government.
- FEILDEN, R. 2004. Design quality in new schools. In: MACMILLAN, S. (ed.) *Designing better buildings*. London: Spon Press.
- GBCA 2008. The dollars and sense of green buildings 2008 edition. Building the business case for green buildings in Australia. Sydney: Green Building Council Australia.
- GUY, S., MARIVIN, S., MEDD, W. & MOSS, T. 2011. *Shaping urban infrastructures. Intermediaries and the governance of socio-technical networks.*, London, Earthscan.
- KECK, S. 2013. The Value of Good Design. *Charter Insight*. Melbourne: Charter Keck Cramer.
- LAWSON, B. 2004. Assessing the benefits in the health sector. In: MACMILLAN, S. (ed.) *Designing better buildings*. London: Spon Press.
- MACMILLAN, S. 2006a. Added value of good design. *Building Research & Information*, 34, 257-271.
- MACMILLAN, S. 2006b. The value handbook. Getting the most from your buildings and spaces. London: Prepared for CABE.
- MINISTRY FOR THE ENVIRONMENT 2005. Summary of the value of urban design. The economic, environmental and social benefits of urban design. In: ENVIRONMENT, M. F. T. (ed.). Wellington: NZ Government.
- MOORE, T., MARTEL, A. & HORNE, R. 2014. Final report: Value of Design project. Melbourne: Report prepared by RMIT University for the Government Architects Network Australia and Australian Institute of Architects.
- MURRAY, S., BERTRAM, N., KHOR, L.-A., ROWE, D., MEYER, B., NEWTON, P., GLACKIN, S., ALVES, T. & R., M. 2013. Design innovations delivered under the Nation Building Economic Stimulus Plan—Social Housing Initiative. Melbourne: Australian Housing and Urban Research Institute at Monash University.
- NSW GOVERNMENT. 2015. *Better Apartments: SEPP 65* [Online]. Sydney: Dpartment of Planning and Environment, NSW Government. Available: <http://d.planning.nsw.gov.au/en-us/deliveringhomes/betterapartments.aspx> [Accessed 20/10/2015 2015].
- ODASA 2013. Guide to design review in South Australia. Adelaide: Office for Design and Architecture.
- OVGA & DELWP 2015. Better Apartments: A discussion paper. Melbourne: Department of Environment, Land, Water and Planning.
- PLACES MATTER! 2009. The Economic Value of Good Design 2009. UK: Places Matter!
- PRASAD, S. 2004. Inclusive maps. In: MACMILLAN, S. (ed.) *Designing better buildings*. London: Spon Press.
- SIMMONS, R. 2008. Good design: the fundamentals. UK: Commission for Architecture and the Built Environment.
- ULRICH, R., ZIMRING, C., ZHU, X., DUBOSE, J., SEO, H. B., CHOI, Y. S., QUAN, X. & JOSEPH, A. 2008. A review of the research literature on evidence-based healthcare design. *Herd*, 1, 61-125.
- UN 2014. World urbanization prospects: The 2014 revision - highlights. New York: United Nations, Department of Economic and Social Affairs, Population Division.