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Urban design guidelines for places with restorative values

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Abstract: This paper evolved from a case study of three Gold Coast beach precincts that examined the complex relationships between the urban design attributes and spatial arrangement of beach precincts and their effect on public access to activity, amenity and facility.

Australian and overseas urban design guidelines were examined along with the requirements of restorative places. The focus of the scrutiny of the guidelines was to identify the nature of urban design principles that enhance egalitarian, walkable access to the restorative values found in beach precincts. The intended goal was to produce urban design guidelines for walkable places with restorative values, where their design, planning and governance would reduce conflict amongst different groups.

This paper proposes an urban design model for the governance of accessibility to the inviting, secure and comfortable places associated with the values found in restorative environments. This model is a synthesis of the requirements of restorative environments and the urban design principles developed in the course of the research.

Keywords: Accessibility, Governance, Restorative Environments, Urban Design, Urban Design Guidelines, Walkability.

Introduction

This paper has evolved from a case study that sought to understand how people value, use and relate to urban beach precincts so that the urban design, planning and development of those places may functionally reflect the role that they play in people's lives (Cartlidge 2015). The case study examined the complex relationships between the urban design attributes and spatial arrangement of beach precincts and public access to activity, amenity and facility in three different types of Gold Coast beach precinct.

The case study suggested that walkability in beach precincts is associated with social, cultural, recreational and restorative purposes of visitation and use. Walkability in such places is dependent on the extent to which there is a political prioritisation of egalitarian access to activity, amenity and facility, rather than meeting alternative economic or active transport objectives (Cartlidge, 2015: 439ff.).

Urban design theories and guidelines were examined to produce an urban beach typology (Cartlidge 2010) and develop tools of analysis to assess and survey the beach precincts using the principles of governance that prioritised an accessible, walkable and restorative environment. One of these tools included the selection of urban design attributes that could be applied to the design of a 'walk through urban design analysis' of the precincts (Cartlidge, 2015: 165ff.).

The political focus of the analysis of those theories and guidelines was for egalitarian access to the restorative environments found in beach precincts. The analysis of the urban design guidelines concentrated on the characteristics of the urban design of beach precincts that adversely affect walkability. The intended goal was to produce urban design guidelines for walkable places with restorative values that do not compromise or conflict with their restorative nature.

This paper proposes the synthesis of the requirements of restorative environments (Kaplan 1995: 174) and the urban design principles developed from an analysis of urban design guidelines from Australian and overseas sources (Cartlidge, 2015: 114ff.). It results in an urban design model for the governance of accessibility to the inviting, secure and comfortable places associated with the values found in restorative environments.

The paper will briefly examine the relationship of walking and restorative environments with an emphasis on the way walking has shaped the arrangements of facilities and amenities oriented to desirable activities in restorative places. It will scan the nature of walkability in places with restorative values and then present a synopsis of the analysis of the urban design attributes and principles selected for the analysis of those places. Finally the paper will present the model for the urban design of places with restorative values and suggest further research for the improvement and refinement of the model.

The Relationship of Walking and Restorative Environments

Walking along with opposable thumbs, creative reasoning and protracted adolescence has defined and formed us as a species. Walking is about journeys and accessing activities, amenities and facilities. It is also about leaving private space, being outside in public space and then returning to private space (Solnit 2000). In this paper, the activity of walking is associated with accessibility to the social, cultural, recreational, physical and psychological benefits of restorative places. It is also related to the urban design characteristics of places that make them walkable and the barriers that exist to walking that inhibit or prevent their use.

These barriers to walking in the built environment are identified by Bentley *et al.* (1985: 9) as part of a political system in its own right, setting constraints on what a person can and can't do. Walkability is seen as a variable characteristic of place that is dependent on the purpose of visit. People walk to use the publically accessible activities, amenities and facilities found at a locality, within a precinct.

The case study was oriented towards the needs and desires of the walking visitor to the precincts and in particular, the walkability of the precincts and the degree of public access to the beach. Walking in this paper is also considered to include people pushing prams, walking dogs and those using mobility aids such as wheelchairs. The design of a 'walk though urban design analysis' drew on, but was not dependent on, professional opinions. This is because as Fitzsimons *et al.* (2010) observed there is no professional agreement on the concept, measurement and degree of importance of different characteristics of the built environment that contribute to the walkability of a place.

Walkability, as an urban design term, is usually seen as a measure to assess the relative characteristics of different urban forms. In the literature it is often associated with characteristics related to proximity, residential density, land use mix, accessibility, street networks and connectedness, walking facilities, aesthetics and safety (Giles-Corti et al. 2008). In the urban design literature *walkability*, as a characteristic of place, is often associated with positive values and outcomes for people from many different political perspectives.

Walkability is also a cultural value of place that is interpreted differently by individuals and groups in society. Walkability does not have consistent characteristics. For an individual, changes in context can change the perception of the walkability of a place. For example, socially a place may be walkable in company but not so walkable when alone; physically a place may cease to be walkable due to injury or illness; and emotionally a person can be deterred or attracted to walk in a place because of a previous experience associated with it.

Walking as a human activity is linked to our senses and related to the experience of places. This is recognised by the U.S. Surgeon General in issuing a call for walking and walkable communities to become a national priority. The 'call for action' includes the design of egalitarian walkable communities that are safe and easy to walk in (U.S. Department of Health and Human Services 2015). Walking in places with a restorative environment has special advantages, as they provide an opportunity for reflection that can further enhance the benefits of those environments for the recovery from stress and fatigue produced by living in busy urban environments (Kaplan, 1995: 172).

In much of the English-speaking world, walking as promenading has shaped the urban design and architecture of beach precincts (Gray 2006). Promenading has a traditional relationship to the liminal space of the beachfront and is often encoded in the cultural meanings ascribed to the term that many

visitors will bring with them to beach precincts. A promenade is place for 'strolling, where persons walk at leisure for exercise, display, or pleasure. Promenades are located in resort towns and in parks and are public avenues landscaped in a pleasing manner or commanding a view' (Encyclopaedia Britannica 2013). Promenades along the beachfront in foreshore parks also allow people to access the restorative benefits of beach, ocean and parkland simultaneously.

The Nature of Walkability in Places with Restorative Values

Urban places with restorative values include beach precincts, river and lake fronts, gardens and parks. These can be within, or adjacent, to urban areas and are often used by urban populations for the purpose of releasing tensions built up in their lives (Berman *et al.* 2008). Karmanov and Hamel (2008) also propose that the attractiveness of urban places is related to the level of cultural and historical information and meanings embedded in those places. Places such as beach precincts, with high cultural, historical and restorative value, are also places that can be considered to embody the *genius loci* of place (Walton *et al.* 2007).

The case study of three different Gold Coast beach precincts suggested that walkability in foreshore parks is associated with social, recreational and restorative purposes of visitation and use (Cartlidge 2015: 416). Walkability in such places is dependent on the extent to which there is a political prioritisation of egalitarian access to activity, amenity and facility rather than meeting alternative economic (Punter 2007) or active transport (White et al. 2014) objectives.

Walking in natural or restorative settings has been found by Berman *et al.* (2008) to have significant cognitive benefits. Bull *et al.* (2013) suggest that how we plan, design and manage natural landscapes that are accessible in urban areas, should be guided as much by their importance for health as other factors. Walking in parks for physical activity is seen as particularly important and often has conflicted urban design characteristics for children (Mackett et al. 2005), older people (Eronen *et al.* 2013) and women (Krenichyn 2006). Those characteristics identified as particularly important in supporting and inviting walking amongst these groups are: accessibility, perceived levels of safety, location and governance of those parks

Peron, Berto and Purcell (2002) also found that natural landscapes were consistently preferred over urban ones. These preferences can be modified by an individual's experience of place and the social and cultural values that influence their perspectives (Home, Bauer and Hunziker 2010). Hidalgo *et al.* (2006) found that aesthetic attributes do not predict attractiveness but the perception of restorative potential does. They also found that the historical-cultural, recreational and panoramic places were the most favoured places of a city, and that some urban places could also be restorative.

The link to restorative environments, particularly for urban populations, has been identified by (Kaplan & Kaplan 2011: 317) as not necessarily needing to be 'extensive or awesome' and that even modest natural environments in the urban form can contribute to people's sense of well-being regardless of economic means, age or nationality. This makes the need to create, conserve, and govern those valued places that can provide restorational benefits, particularly important. The governance of such places should not compromise the restorative benefits available to all by facilitating uses and activities that degrade egalitarian, walkable accessibility to activity, amenity and facility (Cartlidge and Armitage 2014).

Analysis of the Urban Design Guidelines for their Origin, Identity, Focus and Goals

Urban design theory has been informed by analyses of different places at particular times including twentieth century New York (Jacobs 1961), Boston (Lynch 1960), nineteenth century cities of Europe (Sitte 1889) and the medieval towns of Europe (Alexander *et al.* 1987) amongst many others. These analyses naturally generalise theory from the streets, public spaces and buildings of the cities being studied. However, they do not fully account for the preferred design characteristics of socially, culturally and historically valued places in the urban form that do not fit these categories, such as beach, river and

lakefronts, gardens and parks adjacent or in the urban form that also have a restorative value for people (Kardan et al. 2015).

Urban design guidelines are often presented as if they were apolitical, sometimes in an assumed intent to appear unaligned, rational or impartial (McGlynn and Murrain 1994). However, Fishman (1982) suggests that it is demonstrable that they always have some form of political intent in their formation. For many authors, urban design theories are visions of a better world articulated in print and plans, such as designing for nature (Beatley 2010), social cohesion (Howard 1902), or ending car-oriented sprawl development (Calthorpe and Fulton 2001).

Australian and overseas urban design guidelines were selected and examined for attributes and characteristics or urban design that resolve tendencies for conflict between different groups in their use of the physical forms and spaces of the public realm (Alexander et al. 1977). This was done in order to match the typological and urban design analysis of beach precincts with the intent of the case study research (Cartlidge, 2015: 21ff.). The urban design guidelines selected for the analysis were:

- 'Agenda for Urban Quality in Queensland' (Urban Design Alliance of Queensland 2005),
- the 'Fifteen Qualities of Good Urban Places' (Gold Coast City Council 2009),
- the Queensland Government sponsored 'Crime Prevention through Environmental Design for Queensland' (CPTED) (Lake et al. 2007),
- the design principles of 'Healthy Spaces and Places' (Planning Institute of Australia 2009),
- the 'Principles of Urbanism' (Congress for the New Urbanism 2013),
- the 'LEED 2009 for Neighborhood Development' checklist (Congress for the New Urbanism et al. 2010),
- the 'Urban Design Compendium One' (Walton et al. 2007),
- and, the 'New Zealand Urban Design Protocol'(Pirrit et al. 2005).

These guidelines were all examined to identify the identity, focus and goals or intent of the selected urban design guidelines and their contributory authors. The guidelines were also analysed for their political and professional identity, adversarial focus and suitability for an urban design analysis of the walking environment of beach precincts (Cartlidge, 2015: 114ff.).

All the guidelines examined include an articulated focus to redress or change development outcomes that they identify and oppose. The authoring group's focus for the guidelines is then the organising factor for a manifesto of change to achieve their goals. In all the guidelines that were examined, the intended process of change to the urban design of future development is evolutionary and adaptive; although the Charter of New Urbanism (Congress for the New Urbanism 2000) clearly wishes to replace the existing American form of car-dependent development as well as the contemporary regional planning paradigm.

Some consideration was initially given to adopting one of the identified urban design guidelines to the urban design analysis of the beach precincts in the case study. However, no single urban design guideline matched the intent and purpose of the research for the particular context of the analysis of beach precincts; none of them explicitly focused on the design of the public space network, connecting and facilitating peoples preferred use and activity in the liminal spaces between urban and natural environments.

One of the guidelines that were considered for the urban design analysis of beach precincts was the 'Healthy Spaces and Places' urban design guidelines. These guidelines are part of a global health initiative adopted by all levels of Australian government and are concerned with addressing the modern, western lifestyle health epidemic associated with undesirable development patterns. (Planning Institute of Australia 2009). However, the guidelines were not seen as a good fit for the urban design analysis, as walkability is uniformly conflated with cyclability and active transport in the extensive 'Healthy Spaces and Places' literature. The active transport literature concentrates on cycling and does not adequately define the nature of walkability in its guidelines (Australian Government 2004). This has led to the promotion of cycling in restorative places that creates conflict amongst different groups of users and is thought to

diminish the benefit of restorative environments for the young and old and women in all age groups (Cartlidge & Armitage 2014).

Table 1: Analysis of the Healthy Spaces and Places urban design guidelines

Name and Origin	Identity	Focus	Goals
Healthy Spaces and Places **Design Principles** **Australian Local Government Association, Planning Institute of Australia and Heart Foundation**	**Identity:** Global public health initiative of the World Health Organisation adopted by all levels of Australian Government. **General Orientation:** The design principles are intended for a government, health professional and developer audience and aim to influence the development of built environments to encourage active living. **Policies and Institutions**: World Health Organisation, Federal, State and Local Government policies and active and healthy programs initiated by local governments for instance the Gold Coast Physical Activity Plan. **Linked to**: Heart Foundation of Australia, Planning Institute of Australia, Australian Local Government Association, and CPTED International.	**Focus:** A national guide for planning, designing and creating sustainable communities that encourage healthy living. Using a raft of measures to educate and engage health professionals, design professionals and level of governments and communities of interest to encourage different physical activity patterns in existing settlement and deter replication of undesirable development patterns. **Adversary:** The modern lifestyle epidemic of mental health issues, obesity, diabetes, asthma and cardiovascular disease associated with the sprawling car dependent development of modern cities and lifestyle trends.	**Goals:** Achieving minimum physical activity standards for different demographic groups to reverse public health trends associated with the built environment.
	Published Influences: Giles-Corti *et al.* 2005; Maller *et al*. 2002; Ellaway *et al.* 2005; Gehl, 1989; Sitte, 1989; Booth *et al.* 2005; Frumkin *et al.* 2004; Gebel *et al.* 2005; Pappas *et al.* 2007; Newman and Kenworthy, 1999, 2000; Frank, Andersen and Schmid, 2004; Wen *et al*. 2006; Baum and Palmer, 2002; Sugiyama *et al.* 2007; De Vries *et al*. 2003; Grahn and Stigsdotter, 2003; Grow *et al.* 2009; Li, Fisher and Brownson, 2005; Tsuji *et al.* 2003; Whitzman, 2008; Cavanaugh, 1988.		

Identifying Urban Design Principles and Attributes from the Guidelines

Identifying and selecting suitable urban design principles was a component of the typological and urban design analysis of the beach precincts (Cartlidge, 2015: 29ff.). An important part of this was the construction of a 'walk-through urban design analysis' (Cartlidge, 2015: 149ff.). The analysis was composed of the urban design principles selected from an examination of the urban design guidelines (Cartlidge, 2015: 137ff.), suitable survey methods (Hall 2002), an adoption of the human scale of perception of places and activity (Hall, 1966; Gehl 2010), the incorporation of appropriate aspects of existing walkability checklists (Cartlidge, 2015: 157.) and the requirements of a restorative environment (Kaplan, 1995: 174).

When the urban design guidelines were textually analysed for their implicit meanings, and the identification of desirable properties of place, it was possible to identify four urban design principles that expressed values that could be used in an urban design analysis of beach precincts related to use and activity. Although the terminology in each of the urban design guidelines examined varies, it was possible to identify and governance, accessibility, diversity and human scale and need, as organising principles in all the documents (Cartlidge, 2015: 134).

The different guidelines all referred in some way to how well the places were cared for or *governed*, in order for people to move through the urban form in terms of *accessibility* of amenities and facilities. The more *diverse* the urban form was, the closer it met people's preferences and provided choice and opportunity. The different elements and features of the urban form meet *human needs* at an appropriate *human scale*.

The Attributes of the Selected Urban Design Principles

This approach allows the analysis of the urban design of beach precincts to be conducted in the spirit of existing urban design guidelines, but separates them from the original context, political intent and motivation, adversarial focus and values of those guidelines. It allows re-interpretation of the urban design analysis to a particular focus on restorative places, meeting the particular needs and desires of the people who use them for activity, amenity and facility in an environment that prioritises walkability.

The attributes of all the selected urban design principles are all interrelated and co-dependent. They are concerned with how people use the built environment and its public and private spaces, places, forms and edges. For example, a high degree of technical connectivity in the street layout of a place is of little real value to people if barriers for walking are erected at intersections and edges, and the public spaces are oriented to high speed vehicle traffic.

The attributes of *walkable, suitable and available* were assigned to the principle of **governance**. The attributes *connected, permeable and openness* were assigned to elaborate the principle of **accessibility**. *Opportunity, choice and supported* was assigned to the principle of **diversity**. *Sociable, safe and attractive* were assigned to the principle of **human scale and need** (Figure 1).

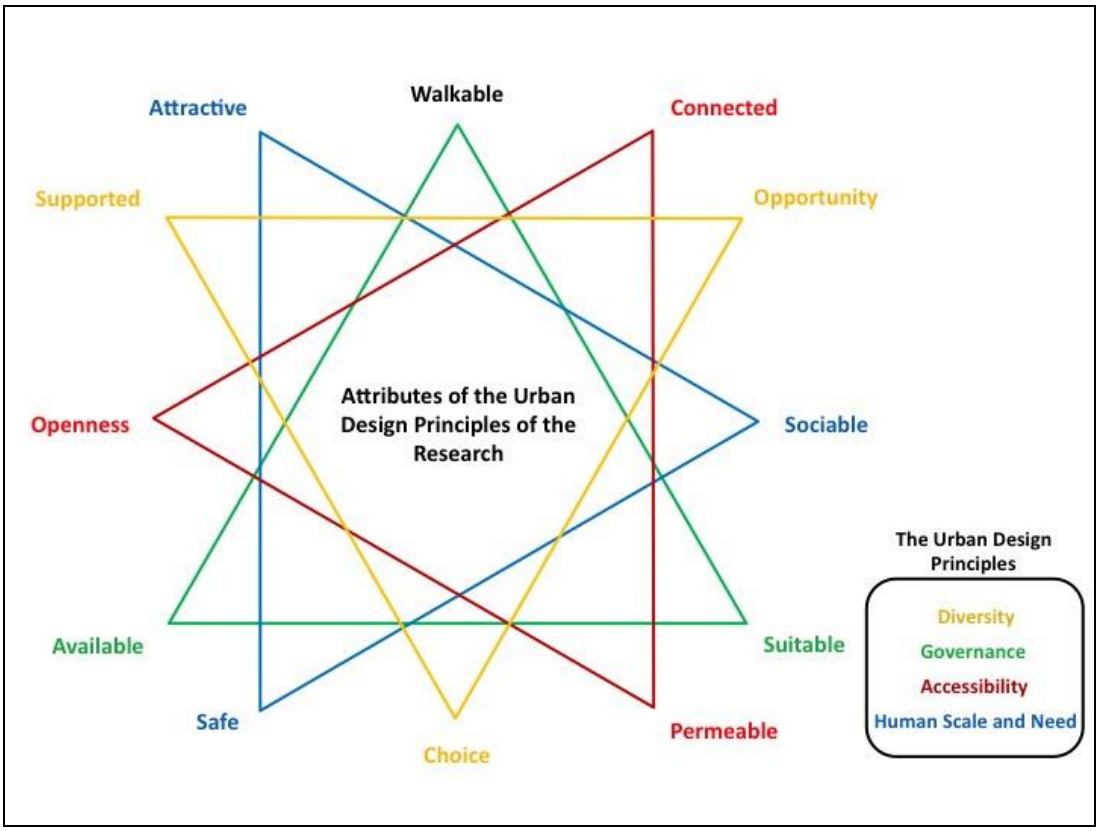

Figure 1: Attributes of the selected urban design principles (Cartlidge 2013)

Synthesising the Urban Design Principles and the Requirements of Restorative Places

In the course of the typological and urban design analyses of the beach precincts it was noted that the attributes, characteristics and values describing desirable urban design properties of place often overlapped. When applied to the analysis of the urban design of place they led to a degree of repetition when describing the characteristics of the attributes of those places. It is thought that this is due to the very inter-dependent and inter-changeable relationships of the different attributes, characteristics and values of urban places (Mumford 1961).

The urban design principle of governance is about how the locality has been arranged to be available and suitable for people to walk in. The urban design principle of accessibility is about where people can and cannot go and how easily they understand the choices on offer in the public space network. The urban design principle of diversity is about what people can do in the locality. The urban design principle of human scale and need is about how it feels to be there.

The analysis of governance and accessibility in the beach precincts tended to indicate that these are the most important urban design principles of good urban design. If there are flaws in achieving the desirable attributes, characteristics and values associated with these principles, the design principles of diversity and human scale and need that cascade from them are less relevant. Or as Bentley *et al.* (1985: 9) observed when discussing modern urban design: 'paradoxically, designers failed to realise that the built environment is a political system 'in its own right': try walking through a wall, and you'll notice that it is the physical fabric, as well as the way it is managed, that sets constraints on what you can and can't do' (Bentley *et al.* 1985).

The political decisions made in the governance of the beach precinct to favour use and activity determines the degree of diversity allowed in its different spaces and places. The way use and activity are spaced and arranged directly affects people's perceptions of place and what opportunities and choices are supported. The design of public space network and its spaces to suit particular project groups (drivers, cyclists, local residents, surf-lifesavers) and the preferences for activity and access to amenity in the provision of facilities, determine the levels of inclusion and exclusion of other demographic and activity groups. Without inclusive design practices, public places can only be attractive, social and safe spaces for those who are favoured (Ovstedal 2008).

This has led to a propositional construct that there is a set of decisions that people will make that are not related to the way professional urban design and planning guidelines have ordered the attributes and characteristics of beach precincts. Instead, a proposed set of urban design principles that most likely influences the decision for visitation for most visitors would be that the beach precinct is inviting, safe and comfortable for visitation. People are not thought to willingly visit an unattractive, unsafe place incapable of meeting their needs for activity, sociability and restoration.

The relationships of the requirements of restorative environments and the attributes of the urban design principles of 'diversity', 'human scale and need' which were selected for the urban design analysis of beach precincts were reordered to reflect this propositional construct. As shown in figure 2, the initial grouping of requirements of restorative environments and the attributes of the urban design principles of diversity and human scale and need were regrouped to signify the urban design principles of 'inviting', 'secure' and 'comfortable'. These reordered urban design principles can be described as follows:

- **Inviting** as 'being away' from the usual urban environment, in a sensually attractive, restorative environment with characteristics of place that allow for people to be fascinated by the forms and locations of the beach precinct, inviting people to visit, stay or linger.
- **Secure** as a place to visit, related to the environmental design of places and spaces to be considered as safe, supported and compatible with intended behaviours and activities for egalitarian use; and

- **Comfortable**, finally, people are assumed to prefer a place that allows them to choose a comfortable degree of social interaction with others, with the opportunity and choice of appropriate activities suited to the purpose of visit.

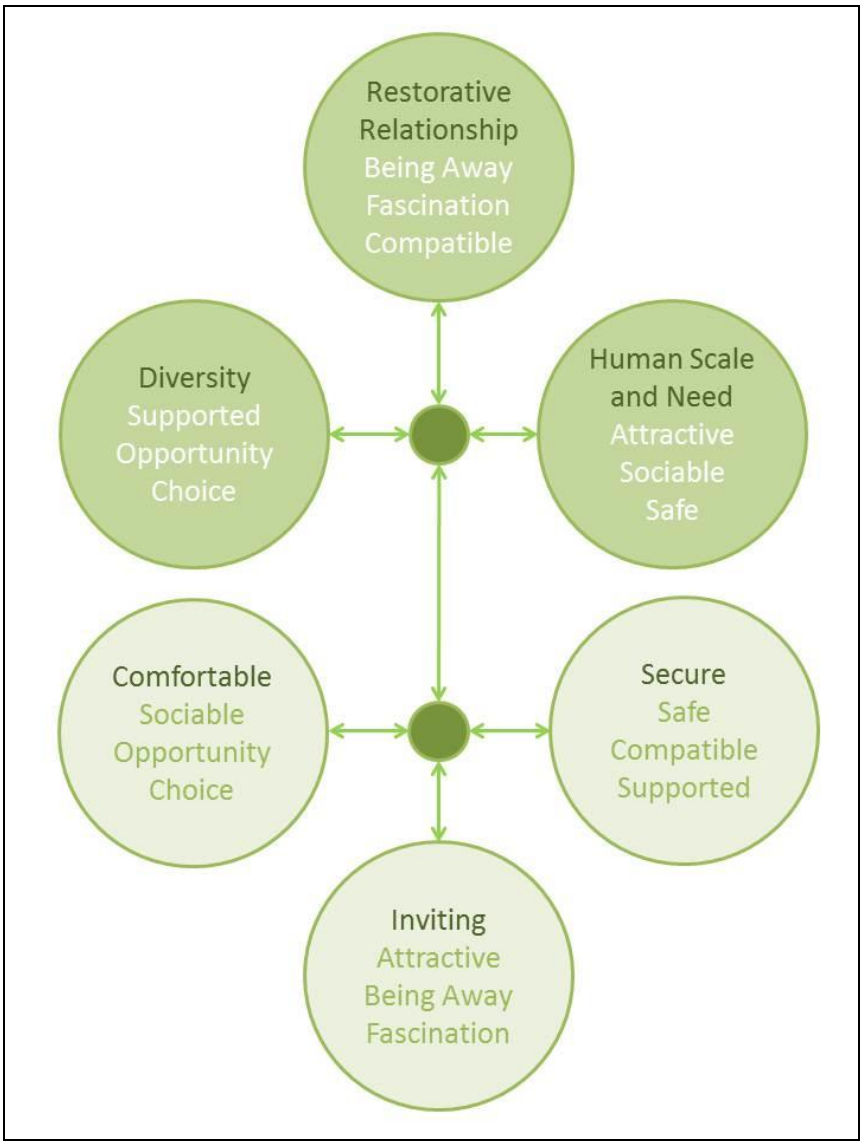

Figure 2: Reordering the urban design principles and requirements of a restorative place (Cartlidge 2013)

The Model for the Urban Design of Places with Restorative Values

The model for the urban design of places with restorative values (Figure 3) presented for consideration in this paper is a synthesis of the requirements of restorative places and the selected urban design principles. It is also a political and value-rational urban design model for egalitarian and walkable places that prioritise the local values of a place. This model can be used in the construction of urban design guidelines and can be adapted for urban precincts adjacent to or including beach, lake and river fronts, parks and gardens that are capable of creating a restorative environment for urban populations.

Balanced along this political platform are the particular places' values most associated with them. They include the value of a walkable precinct for all; the local values created by topography or history; the physical values of climate and the opportunity for physical activity associated with the place, such as

swimming; the emotional values associated with restorative environments in the formation of a sense of well-being; the social value associated with places and their activities, amenities and facilities, such as surf lifesaving clubs; the cultural values associated with places, such as the historical artefacts or, in Australia, their customary use by Aboriginal traditions; and the natural values of a place such as the elements and features of the landscape, their environmental values and the presence of restorative environments.

The peak political values of the model create a simple, political mission statement applicable to any locality or precinct for walkable and egalitarian public access to the activities, amenities and facilities found in particular places. This mission statement can be modified to analyse the values of those places in a pragmatic explanatory narrative of the desirable attributes, characteristics and values of place as suggested by Flyvbjerg (2003).

In applying the model to the creation of urban design guidelines for localities and precincts, it is recognised that urban design is a political-cultural process (Hayden 1995) and that politics is the way that society organises the production of the built environment to suit the cultural intent of society's dominant groups (Cuthbert 2007).

If urban design is to meet the needs of all the social and demographic groups for public space, then the role of good design is to understand and incorporate the most important values held by those groups (Carmona *et al.* 2001). The design process must identify the winners and losers in the production of public spaces and places for access to public goods, especially when the public goods are as valuable to society as a whole, as they are in the public realm (McGlynn and Murrain 1994).

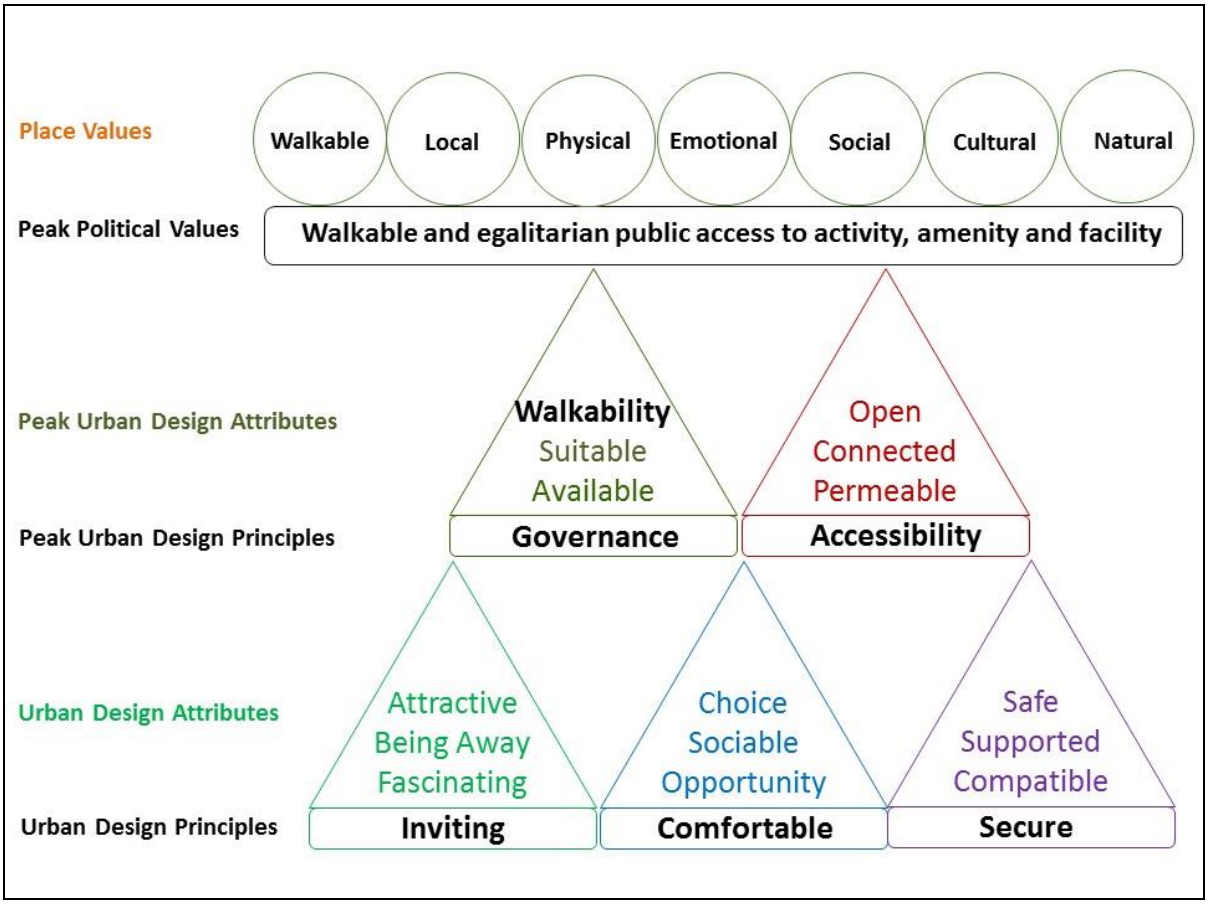

Figure 3: An urban design model for places with restorative values (Cartlidge 2015)

The Model for the Urban Design of Places with Restorative Values

The urban design model of places with restorative values was a product and finding of the case study (Cartlidge, 2015: 450ff.). To refine and further test its underlying premises it needs to be used to design walk-through, urban design analyses in different beach precincts and other types of restorative places. Urban design guidelines that arise from the urban design model for existing and proposed beach precincts should also be field-tested and peer reviewed to improve their articulation and translation into planning schemes, policies, programs and projects.

The urban design model for places with restorative values is intended to be used in conjunction with typographical surveys and analyses of the urban design of localities, within a precinct and to promote a clear focus for the design brief for the urban design and planning of those localities. The preferred approach to urban design would be to adopt a focus that is based on the restorative values of a locality. The urban designer would also identify the local, social, cultural and recreational values of the particular localities in a precinct and enhance their walkability. The precinct containing those localities would be developed to create an inviting, comfortable and secure experience of walking through, around and between the different localities.

Although an argument has been deployed in this paper cautioning against the general use of urban design theories constituted from case studies of specific places, the authors are of the opinion that there is an argument for the generalisation of the urban design guidelines proposed in this paper to different types of restorative places. This is established on the basis that most of the foundational case studies of urban design are concerned with the general urban design of cities and towns that are contextual to time and place, and sometimes are concerned with the study of dysfunctional places. The value-rational urban design model proposed in this paper may be generalisable to other places because it is concerned with durable and inherent values of place with restorative values. In much the same way that Maslow (1943) generalised theory from the observation of high functioning individuals, the urban design model in this paper is generalised from the observation of restorative places with important functional values for people.

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