Accessible and inclusive cities: Exposing design and leadership challenges for Bunbury and Geelong

Urban Planning (ISSN: 2183-7635)
Year, Volume, Issue, Pages X–X
https://doi.org/10.17645/up.vXiX.XXX

Article

Accessible and inclusive cities: Exposing design and leadership challenges for Bunbury and Geelong

Adam Johnson [1,*], Richard Tucker [2], Hing-Wah Chau[3] and Elmira Jamei [4]

[1] School of Arts and Humanities, Edith Cowan University, Australia; Adam.Johnson@ecu.edu.au
[2] School of Architecture and Built Environment, Deakin University, Australia; Richard.Tucker@deakin.edu.au
[3] College of Engineering and Science, Victoria University, Australia; Hing-Wah.Chau@vu.edu.au
[4] Institute of Sustainable Industries and Liveable Cities, Victoria University, Australia; Elmira.Jamei@vu.edu.au
* Corresponding author

Abstract

This paper compares research identifying the systemic barriers to disability access and inclusion in two regional Australian cities, and discusses some of the leadership and design challenges that will need to be addressed by government and industry to embed universal design principles within the planning, development and redevelopment of urban infrastructure.

In Geelong, Victoria, the disability community sought a more holistic and consultative approach to addressing access and inclusion, given the often opaque decision-making dynamics at play in the urban planning and development of a city. Systems-thinking and a collective impact approach were used to identify the complex and interdependent structural, social, economic and political processes obstructing or driving change, and to generate recommendations for action.

At Bunbury, Western Australia, a similar project saw a group of people with lived experience of disability take on the role of co-researchers in analysing the various factors that obstruct the integration of universal design at a local government level. Their research produced recommendations around introducing critical safeguards for universal design at the executive and technical levels of decision-making. These included recommendations such as ongoing staff training and technical support for universal design, stronger policies and procedures, benchmarking best practice, and most importantly, engaging in co-design with people with disabilities.

We describe the process followed in Geelong and Bunbury to identify how, through collaborative and action-oriented research processes, they exposed the technical, cultural, political, and systemic changes required to achieve more equitable access and inclusion in the urban landscape.

Keywords
access; accessible cities; co-design; disability; inclusion; inclusive design; participatory action research; universal design

Issue

1. Introduction

Achieving change in an ever more complex world is difficult, especially in the face of an array of complex 'wicked' problems, from an ageing population to climate change to intergenerational cycles of economic and social exclusion. As Conway et al suggest, "it can often seem that these challenges are insurmountable and that we lack the ability to make meaningful change" (2017, p. 3). For those who continue to be excluded from access to and participation in the social and economic life of cities, the pace of change must increase substantially.

In Geelong, a regional city of Victoria, Australia, the painfully slow progress faced by a knowledgeable, engaged and determined disability community who had for years lobbied for inclusion, visibility and improved accessibility suggested the need to move to a more holistic process for overcoming obstacles to change. The new approach drew attention to the complex system of underlying dynamics and patterns of interaction at play in their city. In this, systems-thinking was harnessed to a collective impact approach to create a solid understanding of the wicked, complex and interdependent structural, social, economic and political processes that obstruct or drive change. The collective impact approach aimed to maximise the sustainability of change by providing opportunity for a positive shift in attitudes towards disability. Systems thinking created a deeper understanding of the structural causes of inaccessibility and exclusion in the city and then identified the most effective actions to create change based on that analysis. By appreciating in this process factors like change dynamics, competing incentives and cultural norms, stakeholders were able to identify barriers to change, and find the routes around them.

In Bunbury, a regional city of Western Australia, a similar project used participatory action research (PAR) to engage a group of people with lived experience of disability as co-researchers. They were tasked with the role of analysing structural and cultural factors impacting disability access and inclusion outcomes within the City of Bunbury (the local government authority). Through qualitative engagement with key decision-makers at the City, and narrative analysis, the group identified significant technical and cultural barriers operating at the design stages of public infrastructure, leading to inaccessible design outcomes and the experience of being 'disabled by design'. Key recommendations, including training and technical support for universal design, stronger policies and procedures, benchmarking best practice, and engagement in co-design with people with disabilities were identified as key tools that the City could implement to facilitate change towards an enabling urban landscape, rather than a disabling one.

This paper describes the process followed in Geelong to explain how a series of actions were identified by the disability community as those with the greatest possible impact and feasibility to affect change. This process and resulting actions are then compared to the process followed and outcomes arising in Bunbury to reveal clear similarities but also important differences. At the heart of this comparison is understanding the very nature of making change, in the context of the seemingly insurmountable challenges facing people with lived experience of disability within Australian cities.

1.1 Impetus for the research

While both projects were conceived independently, they commenced with strikingly similar aims – reflecting a broader societal responsiveness towards disability access and inclusion. The City of Bunbury's aspiration in 2014 was to become the *Most Accessible Regional City in Australia* (MARCIA); a goal underpinned by a desire to understand how disability access and inclusion in the city compared to other similar-sized regional cities in Australia. The need for benchmarking was attributed to the lack of indicators by which the local government could conduct a comparative baseline self-assessment regarding their progress towards disability access and inclusion.

Five years later, the *Accessible & Inclusive Geelong Feasibility Study* (AIG) sought to ascertain the feasibility of making Geelong "a world-class accessible and inclusive city aligned with global benchmarks." Like Bunbury's aim, this was a highly aspirational goal that it became clear was difficult to measure. During the early stages of the project, a review of global evidence on benchmarking accessible and inclusive cities found that when it comes to measurement, accessibility is a slippery concept even when applied only to the built environment. While the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) (United Nations, 2007) did much to set an agreed definition of inclusion and equal access, the most direct explanation of built environment accessibility (Article 9) defines access only in terms of 'equal'

access, the elimination of 'obstacles and barriers', the 'implementation of minimum standards and guidelines', and the provision of 'appropriate forms of assistance and support' (United Nations, 2007).

Measuring inclusion might be said to be an even more boundless than accessibility, and there is certainly no agreed method (Neely-Barnes & Elswick, 2016). Taken together, lack of clarity about the concepts of accessibility and inclusion poses significant difficulties when applied to the task of defining the characteristics of an accessible and/or inclusive city. Without clear goals and baseline assessment, the achievements of both Bunbury and Geelong would be difficult to compare against other cities. However, both projects recognised the need to turn attention to uncovering the often hidden and complex dynamics of decision-making that were leading to inaccessible and discriminatory design outcomes in the first instance, and identifying key strategies that will facilitate lasting structural and cultural change.

2. Background

2.1 Models of Disability

People with disabilities have been often felt stigmatised and segregated from the rest of society, mainly due to pervasive negative societal attitudes and barriers encountered in the built environment (National People with Disabilities and Carer Council, 2009). As we shall summarise here, the root of such discrimination originates in the way disability has been socially and culturally constructed through public discourse over the past 100 years.

During 19th century, disability was largely constructed as personal tragedy or the result of some moral transgression. Disability was considered a burden to be endured, and even a eugenical threat to society (Mathieson et al., 2008). The dominant charitable response to disability was through the benevolent provision of institutional care (e.g., convalescent homes) for physically "disabled", and asylums for the mentally "impaired". The charity model, which typically involved forms of dislocation from one's family and community, led to people with disabilities being kept 'out of sight, out of mind'. Effectively, this removed any pressure from designers of the public realm to provide accessible or inclusive environments outside of the specialised institutions provided for people with disability (Imrie & Imrie, 1996; Kitchin, 1998; Mathieson et al., 2008).

Two world wars at the start of twentieth century saw rapid advancements in medical technologies, and a conversion or redevelopment of asylums into hospitals. The medical model offered people with impairment the hope of rehabilitation or recovery, and saw a massive rise in numbers of people with permanent disabilities effectively incarcerated. From the 1960s Western governments began to re-integrate people with disabilities back into their families and communities, leading to the widespread closure of institutions (Carling-Jenkins, 2014; Cocks, 1996). However, after being locked in for so many decades, many people with disabilities found themselves locked out of society due to the overwhelming prevalence of physical and attitudinal barriers – even up to the present era (National People with Disabilities and Carer Council, 2009).

The United Nations (UN) began articulating the rights of people with disability from 1975, aiming to highlight their needs in economic and social planning, in particular their right to a quality of life equivalent to the rest of the society (United Nations, 1975). In 1981, the UN raised concerns around the global phenomenon of inaccessible city scapes, and began to develop strategies for removing physical and social barriers to full participation in the community (United Nations, 2004). The social model of disability, developed from the late 1970s through to the 1990s, reframed the problem of disability by challenging charitable and medical model discourses that constructed disability as resulting entirely from personal tragedy or individual impairments. The social model instead critiqued the cultural and structural shortcomings in society that compound impairment, and even create it. Social model proponents argued that people experience impairment as a normal, expected condition of life, but that they become 'disabled' by society when barriers manifest in the form of physical barriers and attitudinal prejudices. The social model strongly influenced the creation of Australia's first National Disability Strategy (2010-2020), which aimed to unite State and Federal Governments in the purpose of removing barriers to a full and inclusive life for citizens with disability (Australian Department of Social Services, 2011).

More recently, the universalist model of disability, as an evolution of the social model, has defined ability in terms of a diverse spectrum, challenging the common binary of "disabled" and "non-disabled" (Bickenbach, Chatterji, Badley, &

Üstün, 1999). This shift has had significant implications for public design (Bickenbach et al., 1999) by positioning diversity as a core consideration for all design projects rather than an adjunct, and adding an imperative to carefully consider the full-spectrum of human abilities and limitations in all public design (Australian Network on Disability, 2015).

2.2 Disability participation in built environment design

According to Owens, no policy should be developed or course of action taken without the full and direct participation of those who will be affected (Owens, 2015). People with disability should therefore be actively involved in design-related policy developments and decision-makings that enable them to defend their rights and lifestyles (Baum, MacDougall, & Smith, 2006). Accordingly, researchers, architects and urban planners have highlighted the need to foster participation in urban design by people with disability. It is argued that the presence of people with disability in informing the design of the built environment will mitigate the adverse stereotyping of disability, and promote wider cultural and social acceptance of disability as a normal human condition (Nirje, 1985; Wolfensberger et al., 1972), and in turn lead to empowerment (Taket et al., 2013).

Out of new conceptions of disability as diversity have come strong advocacy for new approaches to built environment design for disability. Two commonly advanced approaches are worth describing here for their prominence in the results of the research described in this paper: Universal Design, and co-design.

Universal Design (UD), also known as 'inclusive design', 'design for all', 'accessible design' and 'barrier-free design' (Persson, Åhman, Yngling, & Gulliksen, 2015), is defined as "the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design" (Mace, 1991). The message behind universal design is that the full range of human diversity can, and therefore should be anticipated in design, and that public designers should seek to educate themselves about the spectrum of human abilities (Steinfeld & Maisel, 2012), and 'learn from the margins' (Rappolt- Schlichtmann & Daley, 2013). Despite growing acceptance of UD principles, their use in practice is still in its early stages (Steinfeld & Maisel, 2012).

When people with disability are partners in the process of designing public spaces, via processes known as co-design or participatory design, public design becomes a natural expression of an inclusive and participatory culture. Such co-design is described as a 'reflexive dialogue' where the designer is able to shift the existing scenario into an optical scenario (Sarmiento-Pelayo, 2015) – a process leading to trust, dependability, and increased social capital (Ho, Ma, & Lee, 2011). Yet there are obstacles to the inclusion of people with disability in design, such as their social isolation, their long history of oppression, and inaccessible urban environments, to name only a few. Moreover, Cook (2002) suggests that people with disability are perceived as 'hard to reach', not because of their impairments, but because of the unwillingness of authorities to involve them in decision-making processes in the appropriate manner.

3. Method

3.1 Principles and methodology

Both research teams, faced with a lack of external benchmarks of accessibility and inclusiveness, turned to the people in their target communities to identify what needed to be improved and how. Participatory Action Research (PAR) provided a methodological starting point to inform approaches to data collection from these stakeholders. PAR positions the traditionally powerless and oppressed as researcher and activist, engaged in a concurrent process of learning, sharing, and influencing.

In Bunbury, the study used PAR to investigate the facilitators of disability access in local government by facilitating the involvement of people with lived experience of disability as co-researchers. Over a period of 12 months, the team of co-researchers formulated research questions and engaged in deliberative dialogue with key design decision-makers working at the City of Bunbury local government authority, around how the organisation's culture, policies and practices shaped access and inclusion. They then produced a report containing several recommendations for embedding Universal Design and co-design into the organisation as commonly accepted practice.

Similarly in Geelong, an emancipatory and inclusive research approach provided a conceptual, ethical and methodological starting point that necessitated the inclusion of people with disability throughout. This ensured that the issues examined were those identified by people with disability and that the outcomes would be owned by and more easily translated to inform social change by people with disability themselves. The harnessing of such a collective impact approach to systems-thinking was in line with the use of systems thinking to frame community-based participatory research to address complex health issues as well as to enhance the study of neighbourhood functioning (BeLue, Carmack, Myers, Weinreb-Welch, & Lengerich, 2012). The methodology offered three key advantages: (1) directly sharing knowledge and experience between people with and without lived experience of disability on the barriers to accessibility and inclusivity; (2) allowing diverse stakeholders to generate a mutually agreed plan of action for overcoming city-scale obstacles to accessibility and inclusivity; and (3) maximising sustainability of change through collective impact, by providing opportunity for positive attitude shift towards disability in the process of conducting the research.

3.2 Data collection and analysis

Two modes of primary data collection were used in Geelong: systems thinking workshops that used the STICKE (Systems Thinking in Community Knowledge Exchange) tool, and focus groups with people with lived-experience of disability. Trained researchers guided participants through a series of activities to examine the interdependent causes and effects of a given problem. Meadows' (1999) framework of leverage points in systems analysis was used to evaluate the priority actions identified in the STICKE workshops from most to least effective. Actions were synthesised into themes via use of Malhi et al.'s (2009) 'intervention level framework.' Here, Meadows's 12 leverage points were collapsed into five corresponding intervention levels – paradigm, goals, systems structure, feedback and delays and structural elements – to rank priority actions from most effective to least effective. Participants were asked their views on the feasibility evaluations made in the STICKE workshops, as well as with the leverage points analysis. This process allowed participants with a range of abilities to assess the analytical process performed by the research team and assess the wider stakeholder evaluations made in the STICKE workshops.

In the Bunbury project, data collection involved the recording of facilitated dialogue between participants using a method known as 'appreciative inquiry', to identify current experiences of barriers encountered within the urban landscape and the how the City's design culture and practices were contributing to creating or eliminating barriers. This occurred over a 12 month period. The results were analysed using Framework Analysis, a form of 'thematic analysis' or 'qualitative content analysis' (Ward, Furber, Tierney, & Swallow, 2013), to identify thematic links and associations in the qualitative data, examine relationships between different parts of the data, and draw descriptive and/or explanatory conclusions clustered around themes (Gale, Heath, Cameron, Rashid, & Redwood, 2013). The themes identified via the process were used to guide further inquiry in an iterative process, and to articulate key findings and recommendations.

3.3 Stakeholders/Participants

In Bunbury, two key participant groups were identified: *Co-researchers* (people with lived experience of disability) (n=11); and *City Informants* (City of Bunbury employees or Councillors with influence over public design decisions) (n=32). The Co-research group was made up of six people with disabilities, three parents of people with disabilities, and two support workers, making eleven participants altogether. All group members had lived experience of physical, sensory or cognitive impairments resulting from spinal injury, stroke, learning difficulty, autism, low vision, or cerebral palsy. City Informants were City of Bunbury employees occupying positions ranging from CEO to on-the-ground technical officers, who held decision-making power in relation to urban development or redevelopment, and associated services.

In Geelong, stakeholders from a range of backgrounds were recruited. The sample was necessarily diverse, including people with a range of ages, professions, and abilities. Participants in the STICKE workshops (n=49 in total across three workshops) were drawn from disability support organisations, existing service providers and key government personnel. Three focus groups were held with a mix of persons identifying as having a disability and living with a range of physical, cognitive and sensory impairments. The process was informed by best-practice principles aiming to overcome many barriers that have traditionally excluded people with disabilities from research: carefully considering the varied accommodation needs of the participants; positive attitudes and an inclusive stance on the part of the researchers (Kroll, Barbour, & Harris, 2007). Each focus group was made up of members of the local community: a customer reference group

for a disability support provider with 12 participants; six local members of a support group for survivors of stroke and acquired brain injury; and seven representatives from a project taskforce set up from the beginnings of the project to regularly advise the research team.

4. Findings

At Geelong, the findings from STICKE workshops and focus groups were brought together into groups of nested actions addressing obstacles aligned to different leverage points in the complex system which might deliver city-scale accessibility and inclusivity. Identified were 5 Principles of Action, 6 prioritised actions and 28 interrelated actions grouped according to their alignment with each of the Priority Actions. Importantly, none of the actions identified can occur effectively in isolation, because they can only overcome systemic lassitude by being implemented in combination at different leverage points in the system.

At Bunbury, it was found that certain accepted policies and practices resulted in a frequent disregard of Universal Design in urban development processes. This was undermining efforts to achieve the stated goal of becoming the Most Accessible Regional City in Australia (MARCIA). The researchers concluded that the City lacked sufficient and ongoing training for staff in UD principles, lacked mechanisms or trigger points for engaging people with disabilities in co-design, and lacked certain measures to safeguard UD such as fit-for-purpose design policies, the engagement of external technical consultants with expertise in UD, and the benchmarking of best practice outcomes involving UD. These deficits resulted in inconsistent and unpredictable outcomes in terms of UD in the urban landscape, with too much discretion afforded to staff members with responsibility for such outcomes. The lack of such safeguards undermined community efforts to educate and collaborate with the City, especially when sympathetic staff members moved on to other roles or left the organisation, or if disability access and inclusion became a low priority for department managers.

Comparison of the recommendations of both studies is presented in Table 1.

Table 1. Recommendations of Studies in Bunbury and Geelong

Aspects	Bunbury	Geelong
Co-Design	Enable people with disabilities in decision-making about public infrastructure through co-design	Co-design as valuable and impactful method to achieve complex aspirational goals
Universal Design	Universal design as an important and relatable concept to revolutionise public design	Universal design as a means of overcoming access inequalities to built environment
Benchmarks	Develop best practice benchmarks for similar design contexts	Establish benchmarks for Geelong to become a world-class accessible and inclusive city
Incentives/ Accreditation	Incentives for achieving beyond minimum standards Information and assurance to the public through accreditation	Incentives for achieving increased accessibility Recognise best practices of world-class levels through accreditation
Employment/ Economic Participation	Equal employment opportunity policy in place with innovations in employment and progress towards the MARCIA aspiration	Engage people with disability to identify current barriers to participation in employment and the economy

5. Discussion

According to the findings of both studies, becoming an accessible and inclusive city requires lasting structural and attitudinal change that proactively fosters equitable access to, and participation in, the social and economic life of the city for all. City-scale accessibility evaluation should include both quantitative and qualitative (user-centred) indicators of mobility, proximity, transportation system connectivity, affordability, convenience and social acceptability. Measuring inclusiveness is even more elusive than measuring accessibility and entails multiple indicators across each of the five city

domains. As with accessibility, the measurement of inclusiveness should include user perception and go beyond a focus of 'being present here' to one of 'belonging here'.

While prioritising accessibility and inclusivity at a city scale necessitates a solid understanding of existing conditions, the measurement of these conditions remains elusive. Unfortunately, Universal Design, a framework that promises a user-centred perspective, is currently not measurable via recognised tools at either a building or city scale. An analysis by the Geelong study of documented initiatives revealed few concrete, measurable recommendations, timelines, evaluative criteria and/or budgets related to accessibility, with poor integration across initiatives, duplication and gaps in coverage.

It was recognised that work is urgently required to engage people with disability at the planning, implementation and evaluation stages of future urban development projects. Such actions hold the promise of a more sustainable outcome, by positioning people with lived experience of disability as collaborators and co-designers. Both studies acknowledged that the two regional cities have the imperative, opportunity and clear capacity to provide exemplary access and inclusion, but that leadership in these areas will require these government and other key stakeholders to work directly with people with disability to identify current gaps or barriers, and to develop best practices to overcome these barriers. This is founded upon a theoretical framework of inclusion that: (1) builds on social model ideas about addressing disability barriers; (2) extends beyond spatial and place-based conceptions of inclusion to add a relational context; and (3) positions collective impact approaches for the continued research, implementation and evaluation of actions.

The Bunbury study developed a new model of 'universal public design' to address the limited applicability of current definitions of UD to public realm design (see Center for Excellence in Universal Design, 2014; Mace, 1991), which typically describe the *outcome* of design rather than the *process* by which it might be achieved. By problematising the process, the focus is shifted away from evaluating design outcomes that tend to be context-specific, subjective and relative to an individual's impairment, towards an evaluation of the process by which the design is achieved. The argument is that a more rigorous process of public realm design – one that contains safeguarding measures for UD – will help to eliminate barriers at the planning stage rather than after the fact. The specific safeguards that constitute the model of universal public design are (1) ongoing training in U.D. and disability awareness; (2) contracting U.D. technical support specialists for complex public design work; (3) rigorous documentation of best practice benchmarks for UD; (4) enhanced policies and procedures related to UD (including checklists, reporting and accountability mechanisms); and (5) regular engagement of people with disabilities as design partners (co-design).

The study emphasised the importance of all five steps in maintaining the integrity of the universal public design process, but places most emphasis on co-design. Likewise, the Geelong study emphasises co-design in Recommendation 1.1 and 1.5. This is rooted in the participatory action research principles upon which both studies were founded, whereby those most affected by the issue at hand (people with disabilities) are empowered to participate as collaborators and equals in the process of inquiry, and to control the production of knowledge and its application. This is of critical importance because, historically, people with disabilities have been brutally excluded from discussion and decision-making about the shape of the world around them. Their expertise, distilled from years of overcoming barriers in the urban landscape on a daily basis, must be brought into dialogue with other more recognised forms of expertise, so that they can influence and control the outcomes that follow. Co-design follows this logic, and offers a place at the design table for people with disabilities alongside those with other forms of expert knowledge who help shape design decisions.

Cited within the Bunbury study, Rob Imrie notes that most writings about design reinforce a concept of the end user as "a remote figure, external to the professional fields of the [designer], and conceived of as an object to be "acted on" rather than embedded into the design process" (Imrie, 2012, p.878). The Bunbury study found that, despite being ubiquitously present amongst the end-users of all public realm design, people with disabilities are largely excluded from the development process. Perhaps because they are highly diverse in terms of impairment, or 'hard-to-reach' owing to circumstance, people with disabilities are often treated as a 'niche' or minority group to be consulted only if the design brief specifically calls for it. Somewhat compounding the issue is the existence in Australia of minimum design codes for accessibility in built environments, producing the unintended effect of 'compliance mentality' in which compliance with

any specified minimum design codes is deemed sufficient for addressing public access and inclusion needs – negating in some minds the need for further consultation or co-design.

Much emphasis is placed on the central importance of co-design in the Bunbury study. It is argued that achieving UD is critical to the success of *every* public realm design project, and that to achieve it, designers must engage in meaningful dialogue with those with lived expertise. The nature of this dialogue should be more than consultation, which engages stakeholders for a brief period and does not change the power relations between the two parties. Instead, the co-design should create multiple opportunities for ongoing exchange of expertise to ensure that UD aspirations are identified in the development stages, and integrated into the finished design as faithfully as possible. The Bunbury study recognises the challenges of successfully facilitating co-design in a local government context, and argues that skilled facilitation is critical to the process. The study suggests that those working in community development and public relations type roles are probably best suited to the work of facilitation, with appropriate training and support. It is also suggested that clear signals be sent from the leadership team about the organisation's expectations of their employees in respect to co-design, including the implementation of policy measures, training, support and performance indicators.

Design culture is analysed, with the conclusion (drawn from the work of Robyn Eversole) that design is a social process, and those responsible for it (development practitioners) should not view themselves as the "sole architect of change", but rather its "catalyst" working with "a broad range of social actors" who constitute a "largely untapped resource" in a "complex social landscape" (2012, p.133). Eversole argues that all design workers "must have the skills to work with a broad range of social actors to build relationships and mobilise resources for change" (2012, p.133), and therefore they will need to be trained not just in UD, but also in how to engage end-users with disability in co-design. Such a change in design culture represents a challenge to the 'new public management' paradigm in which the power base of leaders and decision-makers is rooted in their expertise and authority, and which has effectively "disempowered citizens by positioning them as individualised consumers at the end of a long supply chain" (Ryan, 2012, p. 322). Furthermore, it is recognised that co-design cannot succeed as a mainstream practice without changes to funding frameworks, policy frameworks, workforce skill levels, and an embracing of technologies such as online engagement.

The Geelong study provides some specific examples of policy measures that could be implemented to enhance access and inclusion in the built environment, including a new Access and Inclusion Policy embedded within the Principal Planning Framework, a review of the Apartment Design Guidelines for Victoria, a new decision-making criterion regarding access for all abilities, and the implementation of a new Local Planning Policy. The study recommends other safeguards such as the establishment of an S.151 Advisory Committee Access and Inclusion in the Victorian Planning System, and employing a high profile disability advocate to engage policy makers. The study also broadens the scope to transport and housing, which are typically controlled by the State Government, and recommends better resourcing to address current gaps, as well as taking a planned approach to auditing, shortlisting, and rectifying significant barriers (in collaboration with people with disabilities)

Both studies recommended that organisations work to identify and cultivate champions for access and inclusion, including from within the organisation and within the community. These champions would work to promote values of inclusion and collaboration, and provide training and guidance around UD.

6. Conclusion

Geelong and Bunbury exist as microcosms of the broader Australian urban landscape, and present with typical challenges from a UD point of view. This comparison of the two independent studies has highlighted the complex interplay of factors that impact UD and social inclusion outcomes, including leadership, design culture, and design safeguards. Lasting structural and attitudinal change is required to overcome the current state of play, in which people with disabilities are distanced from the design of the world around them, and treated as an aberration or special interest group, rather than as part of the 'norm' or 'mainstream'. Access and inclusion for all are fundamentally a design challenge that will involve explicit strategies on the part of governments and the design community to embed co-design, and strengthen UD safeguards. Similarly, stronger leadership is required from all levels of government to promote UD through policy development and cultural change.

382

383 **References**

384 Australian Department of Social Services. (2011). *National Disability Strategy [NDS] 2010-2020*. Retrieved from
385 www.dss.gov.au

386 Australian Network on Disability. (2015). *Design for Dignity Guidelines*. Retrieved from www.and.org.au

387 Baum, F., MacDougall, C., & Smith, D. (2006). Participatory action research. *Journal of Epidemiology and Community*
388 *Health, 60*(10), 854.

389 BeLue, R., Carmack, C., Myers, K. R., Weinreb-Welch, L., & Lengerich, E. J. (2012). Systems thinking tools as applied to
390 community-based participatory research: a case study. *Health Education & Behavior, 39*(6), 745-751.

391 Bickenbach, J. E., Chatterji, S., Badley, E. M., & Üstün, T. B. (1999). Models of disablement, universalism and the
392 international classification of impairments, disabilities and handicaps. *Social Science & Medicine, 48*(9), 1173-1187.

393 Carling-Jenkins, R. (2014). *Disability and social movements: Learning from Australian experiences (Interdisciplinary*
394 *Disability Studies)*. Ashgate Publishing Group.

395 Center for Excellence in Universal Design. (2014). *Universal Design*. National Disability Authority.

396 Cocks, E. (1996). *Under blue skies: The social construction of intellectual disability in Western Australia*. Edith Cowan
397 University.

398 Conway, R., Masters, J., & Thorold, J. (2017). *From design thinking to systems change. How to invest in innovation for*
399 *social impact.* RSA Action and Research Centre.

400 Cook, D. (2002). Consultation, for a change? Engaging users and communities in the policy process. *Social Policy &*
401 *Administration, 36*(5), 516-531.

402 National People with Disabilities and Carer Council. (2009). *Shut Out: The Experience of People with Disabilities and their*
403 *Families in Australia*. Retrieved from www.dss.gov.au

404 Gale, N. K., Heath, G., Cameron, E., Rashid, S., & Redwood, S. (2013). Using the framework method for the analysis of
405 qualitative data in multi-disciplinary health research. *BMC medical research methodology, 13*(1), 1-8.

406 Ho, D.-l., Ma, J., & Lee, Y. (2011). Empathy @ design research: a phenomenological study on young people experiencing
407 participatory design for social inclusion. *CoDesign, 7*(2), 95-106. doi:10.1080/15710882.2011.609893

408 Imrie, R. (2012). Universalism, universal design and equitable access to the built environment. *Disability and*
409 *rehabilitation, 34*(10), 873-882.

410 Imrie, R. F., & Imrie, R. I. R. (1996). *Disability and the city: International perspectives*. Sage.

411 Kitchin, R. (1998). 'Out of Place', 'Knowing One's Place': Space, power and the exclusion of disabled people. *Disability &*
412 *Society, 13*(3), 343-356.

413 Kroll, T., Barbour, R., & Harris, J. (2007). Using focus groups in disability research. *Qualitative Health Research, 17*(5), 690-
414 698.

Mace, R., Hardie, G., Place, J. (1991). Accessible environments: toward universal design. North Carolina State University: The Center for Universal Design. Retrieved from https://mn.gov/mnddc/parallels2/pdf/90s/90/90-AEN-CAH.pdf

Malhi, L., Karanfil, Ö., Merth, T., Acheson, M., Palmer, A., & Finegood, D. T. (2009). Places to intervene to make complex food systems more healthy, green, fair, and affordable. *Journal of hunger & environmental nutrition, 4*(3-4), 466-476.

Mathieson, J., Popay, J., Enoch, E., Escorel, S., Hernandez, M., Johnston, H., & Rispel, L. (2008). *Social exclusion: Meaning, measurement and experience and links to health inequalities. A review of literature.* WHO Social Exclusion Knowledge Network Background Paper 1. Retrieved from www.who.int

Meadows, D. H. (1999). *Leverage points: Places to intervene in a system*. Hartland, VT: Sustainability Institute.

Neely-Barnes, S. L., & Elswick, S. E. (2016). Inclusion for People with Developmental Disabilities: Measuring an Elusive Construct. *Journal of social work in disability & rehabilitation, 15*(2), 134-149.

Nirje, B. (1985). The basis and logic of the normalization principle. *Australia and New Zealand Journal of Developmental Disabilities, 11*(2), 65-68.

Owens, J. (2015). Exploring the critiques of the social model of disability: The transformative possibility of Arendt's notion of power. *Sociology of health & illness, 37*(3), 385-403.

Persson, H., Åhman, H., Yngling, A. A., & Gulliksen, J. (2015). Universal design, inclusive design, accessible design, design for all: different concepts—one goal? On the concept of accessibility—historical, methodological and philosophical aspects. *Universal Access in the Information Society, 14*(4), 505-526.

Rappolt-Schlichtmann, G., & Daley, S. G. (2013). Providing access to engagement in learning: The potential of universal design for Learning in museum design. *Curator: The Museum Journal, 56*(3), 307-321.

Ryan, B. (2012). Co-production: Option or obligation? *Australian Journal of Public Administration, 71*(3), 314-324.

Sarmiento-Pelayo, M. P. (2015). Co-design: A central approach to the inclusion of people with disabilities. *Revista de la Facultad de Medicina, 63*, 149-154.

Steinfeld, E., & Maisel, J. (2012). *Universal design: Creating inclusive environments*: John Wiley & Sons.

Taket, A., Crisp, B. R., Graham, M., Hanna, L., Goldingay, S., & Wilson, L. (2013). *Practising social inclusion*: Routledge.

United Nations. (1975). Declaration on the Rights of Disabled Persons. Retrieved from www.ohchr.org

United Nations. (2004). The United Nations and Disabled Persons - The First Fifty Years. Retrieved from https://www.un.org/esa/socdev/enable/dis50y30.html

United Nations. (2007). Convention on the rights of persons with disabilities [CRPD]. Retrieved from http://www.un.org/

Ward, D. J., Furber, C., Tierney, S., & Swallow, V. (2013). Using Framework Analysis in nursing research: a worked example. *Journal of advanced nursing, 69*(11), 2423-2431.

Wolfensberger, W. P., Nirje, B., Olshansky, S., Perske, R., & Roos, P. (1972). The principle of normalization in human services.

448

449 **Conflict of Interests**

450 The authors declare no conflict of interests.

451