Planning Neighbourhoods for all Ages and Abilities:

A Multi-generational Perspective

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Abstract: Taking a more integrated approach to planning our neighbourhoods for the continuum of inhabitants' ages and abilities makes sense given our current and future population composition. Seldom are the built environment requirements of diverse groups (e.g. children, seniors, and people with disability) synthesised, resulting in often unfriendly and exclusionary neighbourhoods. This often means people experience barriers or restriction on their freedom to move about and interact within their neighbourhood. Applying universal design to neighbourhoods may provide a bridging link. By presenting two cases from South-East Queensland (SEQ), Australia, through the lenses of different ages and abilities - older children with physical disabilities and their families (Stafford 2013, 2014) and seniors (Baldwin et al. 2012), we intend to increase recognition of users' needs and stimulate the translation of knowledge to the practice of planning inclusive neighbourhoods.

Introduction

More than ever, there is a need to plan and design neighbourhoods that are responsive to the continuum of needs of people of all ages and abilities, as the global community continues to experience growth in population as a result of birth rates and people living longer. As at 2013, in the world's highest income countries, children under 14 years comprised 17% of the population (19% in Australia), with older people (65yr+) making up 16% (14% in Australia) (The World Bank 2014a). Moreover, an estimated 15% of the total world's population lives with a disability, with one-fifth of those estimated to have a significant impairment (The World Bank 2014b, WHO 2011). In Australia, the rate is higher, with 18.5% (4.2 million) of the population estimated as having a form of disability across the age span, of which 8.8% are children between 5-14 years (ABS 2012). Of these, 6.1% of the 4.2 million Australians have a profound or severe activity limitation (ABS 2012). This trend in ages and abilities is projected to continue as global population continues to grow and medical science advances.

Taking a more integrated approach to planning our neighbourhoods and cities makes sense in light of these challenges. According to the American Planning Association (2011), a multi-generational approach to planning would consider universal design and smart growth principles simultaneously to meet the needs of various ages and abilities of inhabitants. However, in policy and practice few examples of integrated approaches exist. Instead, many guidelines focus on specific ages, abilities or planning trends. Not only does this offer little guidance for planners, developers and designers, it has not facilitated policy and resource-efficient allocations towards making neighbourhoods inclusive for multiple ages and abilities.

This paper promotes taking an integrated approach to tackle diversity of ages and abilities in neighbourhood planning in light of poor access, global tensions of population growth and unsustainable environments. It does this through critically discussing the literature on needs of inhabitants of various ages and abilities, and the concept of lifetime neighbourhoods. It brings together two participatory research cases on age and ability in south-east Queensland (SEQ), Australia, involving older children with physical disabilities and their families (Stafford 2013) and seniors (Baldwin et al. 2012). The paper ends

with a discussion of the built environment needs derived from the two cases, argues for the benefit of visual participatory research in stimulating action, and suggests that an integrated inclusive Universal Design (UD) approach can help realise liveable neighbourhoods for all.

Friendlier Neighbourhoods for All Ages and Abilities

Creating more sustainable, liveable and healthy neighbourhoods relies on these environments being "user-friendly" for inhabitants' diverse ages and abilities. "Friendly" in this context means being humanistic and responsive to the diversity of its inhabitants as well as promoting inclusion in all aspects of neighbourhood life. According to global reports (e.g. WHO, 2007, UNICEF, 2004, 2012), neighbourhoods are far from meeting the social and physical needs of many inhabitants. Rather, poorly planned and designed neighbourhoods are often found to be hostile towards many social groups such as children (e,g, Gleeson, 2006, Freeman and Tranter, 2012), seniors (WHO 2007, Baldwin et al 2012, Judd 2012, Judd et al. 2010, Vine et al. 2012), and those with disabilities (Stafford 2013, 2014, Gleeson 2001, Imrie 1996). Both social-cultural and political-economics influence, underpin, and control planning policy and practices and thus perpetuate these social-spatial injustices.

Neighbourhoods are considered unfriendly when physical and social environments are not supportive, or create a lack of fit between people and their environments. Having reviewed various policies and guidelines (Baldwin et al. 2012) and the broader scholarly literature on spatial and social problems with neighbourhoods for different social groups, clear patterns emerge. Consistently, neighbourhoods are viewed as unsafe and inaccessible, promoting cars rather than active means of transport. Inadequate pathways, parking situations, road sizes and surfaces impact on walking or cycling. Access to public transport varies widely with outer suburbs and fringe regional areas disadvantaged by poor proximity to, and limitations in frequency of services (Dobson et al. 2004). Limited retail, public services and social facilities in close proximity and easily accessible by walking are also noted as a problem in urban sprawl (Dunham-Jones 2009). All of these limit social interaction and increase a sense of isolation, compounding the negative impacts on the health of both people and the natural environment. To address this mismatch, many global organizations such as WHO and UN affiliates have produced guidelines informed by studies to stipulate what is needed to achieve better physical, social and health outcomes for people through better designed environments. What has emerged is two distinct approaches– Child Friendly and Age Friendly, as well as a separate ability friendly approach - Universal Design.

Age-Friendly

Older people of developed countries have received significant attention in relation to urban and health planning and design over the past decade. The impetus is twofold: planning to address the increasing older population in the future, and support of ageing-in-place policies and practices by making both interior and exterior living environments more responsive to their changing needs. For many older people, their housing and neighbourhoods can become inaccessible as mobility and cognitive abilities decrease because of pathological and natural aging (Kerr *et al.* 2012). Participation in physical activity minimises physiological changes associated with ageing and enhances cognitive functioning. Safe, even graded and well maintained walking paths are important because even if an older person lives within walking distance to services, a path of travel that is hazardous or uncomfortable will inhibit use (Joseph and Zimring 2007). Accidents are a major cause of concern for older people and falls are the most common reason for moving to residential aged care (Quinn et al 2009). Limited mobility and consequent physical and social isolation can force people prematurely away from their familiar community, where their connections and memories lie.

To create a better environment for older people, the WHO's (2007) *Age-Friendly Cities* Guideline, identified eight areas to be addressed to make communities age friendly: 1) outdoor spaces and buildings, 2) transportation, 3) housing, 4) social participation, 5) civic participation and employment, 6) respect and

social inclusion, 7) communication and information, and 8) community and health services (Plouffe and Kalache 2010). The key focus of the intervention is to support *active ageing*, enabled through age friendly policy, services and environments. WHO (2007, p.5) refers to active ageing as 'the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age'. "Ageing in Place"[1] has been adopted by older people and policy-makers alike. Older people embrace the concept in order to retain independence, privacy, and connections with people and place and thus identity and confidence, important to seniors as life circumstances change and personal needs increase. Policy-makers aim to decrease the cost burden of older people on society by reducing the provision of expensive care facilities. Thus physically and socially responsive environments are critical to a healthy neighbourhood. Importantly, WHO (2007) states that older people must be consulted and included in discussions and decisions that affect them in urban and regional settings. Too often that is not the case.

Child-Friendly

Similar to older people, children experience social spatial-marginalization through their interaction with built forms of everyday spaces. The neighbourhood, a first place of contact beyond the home for many, is one of these environments. Fear of traffic, lack of inviting interesting spaces, and safety concerns have limited children's interaction with their street and beyond, within their neighbourhood (e.g. Freeman and Tranter, 2012). Global resources (programs, guides and action plans) have emerged from UN international agencies and scholars in pursuit of improving the friendliness of neighbourhood environments since the late 1980s (e.g. UNESCO's Growing up in Cities).

One aspect of this movement has been channelled through programs about children that have evolved over time. *A World Fit for Children* (UNICEF 2002) focussed on children's rights for education and protection from abuse, while the *Child Friendly Cities* initiative (CFC - UNICEF, 2004) promotes the right of young people to participate and influence decisions about quality of life in cities. An Australian pilot of CFC is currently testing tools for inclusion of vulnerable children in community decision-making (UNICEF, 2015). Just as WHO's *Age Friendly Cities* insists that older people be involved in decision-making, likewise CFC states that children need to be at the centre of agendas for development and involved in achieving a more appropriate environment (UNICEF, 2004, p3). While acknowledging the importance of civic participation, the emphasis of WHO's *Age Friendly Cities* is on physical outcomes such as transportation and housing that lead to a better quality of life for all ages. In contrast, the CFC initiative (UNICEF 2004) identifies nine building blocks to child friendly cities that concentrate on process factors such as children's participation and children rights, with the physically tangible outcomes being: safe water and sanitation, walking safely on streets, meeting friends and playing, having green spaces and an unpolluted environment. Essentially though, these programs suggest that environments friendly for children, are friendlier for all.

The models of Environmental Child-Friendliness (ECF) by Horelli (2007) and colleagues Haikkola *et al.* (2007) as well as Driskel (2002) add multidimensional and multi-level concepts which consist of 'a network of places with meaningful activities, where young and old can experience a sense of belonging whether individually or collectively' (Horelli, 2007, p. 225) - Table 1.

1 The term 'aging in neighbourhood' might better represent the issue that older people do not necessarily want to continue living in an oversized or difficult to maintain home, but wish to continue to enjoy the security, familiarity and friendliness through connections with their local neighbourhood (Baldwin et al., 2012).

Table 1: Varying characteristics of Child Friendly Environments

CFC (UNESCO 2015)	Driskel (2002)	Horelli (2007, p. 271) Environmental Child Friendliness
1. influence decisions about their community 2. participate in family, community and social life and cultural events 3. have access to services regardless of ethnic origin... or disability 4. safe water and sanitation 5. walk safely on streets 6. meet friends and play 7. have green space 8. an unpolluted environment	1. social integration 2. variety of interesting settings 3. safety and freedom of movement 4. peer meeting places 5. cohesive community identity 6. green areas	1. house and dwelling 2. basic services (health, education and transport) 3. participation 4. safety and security 5. family, kin, peers and community 6. urban and environmental qualities 7. resources provision and distribution 8. poverty reduction 9. ecology 10. sense of belonging and continuity 11. good governance

What becomes clear in the child friendly environment agenda is that physical, social and political-democratic dimensions all need to be present to make an environment friendly for different children. In reviewing these many programs however, except for the inclusion of children with disabilities among the vulnerable in the CFC Australian pilot, there is limited recognition of the diversity of abilities of children. As such, the ability of these programs to resolve environmental un-friendliness experienced by children and others living with disabilities is doubtful. We return to this later in the paper.

A Multi-Generational Approach

The concept of "Lifetime Neighbourhoods" has emerged in the UK to span the continuum of age ranges (Bevan and Croucher 2011, Harding 2007) - Table 2. Lifetime neighborhoods are 'those which offer everyone the best possible chance of health, wellbeing and social, economic and civic engagement regardless of age. They do not exclude us as we age, nor as we become frail or disabled' (Harding 2007, p.6). Similar to the previous age-related concepts, it not only refers to built environment outcomes (e.g. through access), but also the need for a participatory process - 'resident empowerment' - that involves the range of stakeholders in identifying needs and determining their future neighbourhoods. Lifetime neighbourhoods are not just about older people, but the underlying principle is of inclusion: making neighbourhoods work well for people of any age but recognising that age-related disability is likely to become more prevalent as the population ages. While the document does draw attention to taking into account the needs of people with disabilities in general, the motivation for the lifetime neighbourhood research and the emphasis in the document is on supporting older people's independence, not those of all ages irrespective of ability. We now investigate the concept of Universal Design as a potential bridging concept for addressing the continuum of all ages and abilities.

Table 2: Summary of key characteristics of age-friendly cities and neighbourhoods

Child Friendly City Characteristics (Horelli 2007)	Ageing-Friendly City Core Features (WHO 2007)	Lifetime neighbourhoods (Bevan and Croucher (2011, p.7)
• house and dwelling • basic services (health, education and transport) • participation • safety and security • family, kin, peers and community • urban and environmental qualities • resources provision and distribution • poverty reduction • ecology • sense of belonging and continuity • good governance	• outdoor spaces and buildings • transportation • housing • social participation • civic participation and employment • respect and social inclusion • communication and information • community and health services	• supporting resident to develop lifetime neighbourhoods - especially resident empowerment • access • services and amenities • built and natural environments (including greenspace) • social networks/well-being • housing

Ability-Friendly

Despite legislative systems being in place to protect the rights of all people to be able to access, move about and interact within everyday built spaces, many people with disabilities experience barriers to their participation. Reasons for physical and social barriers include: standards and regulations focusing just on accessibility (Imrie 2001); access rarely being considered beyond the ramp, as few planners and designers considered how diverse people move, use and interact within various spaces (Carr *et al.* 1992); the body in space rarely being considered but when it is, it is often homogenized to the upright, forward facing adult, male form (Imrie 2004, Stafford 2014). In addition, access is often viewed as a compliance task that benefits only a minority of people (Imrie 1996).

The concept of Universal Design (UD) sought to challenge these assumptions by promoting built environment design for the continuum of the population without the need for modifications. Mace, in 1997, founder of UD, conceptualized it 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 (The RL Mace Universal Design Institute, 2015, para 2).

The upwelling of support for designing for all, stands as a critical turning point in built environment discourse: re-conceiving the creation of built environments from people with and without impairments, young and old to the continuum of inhabitants with diversity in age and ability. Aiding this shift in thinking to practice are the seven principles developed by Mace and colleagues outlined in Table 3.

Table 3. The Seven Principles of Universal Design (The RL Mace Centre for Universal Design 1997, cited in RL Mace Centre for Universal Design, 2015).

Number	Principle	Principle description
1	Equitable use	The design is useful and relevant to a wide group of users.
2	Flexibility in use	The design accommodates a wide range of individual preferences and abilities.
3	Simple and intuitive use	The design is easy to understand regardless of the knowledge, experience, language skills or concentration level of the user.
4	Perceptive information	The design communicates information effectively to the user regardless of the ambient condition or the sensory abilities of the user.
5	Tolerance for error	The design minimizes the hazards and adverse consequences of unintended actions of the user.
6	Low physical effort	The design can be used easily, efficiently and comfortably with a minimum of fatigue.
7	Size and space for approach and use	The size and space for approach, reach, manipulation and use should be appropriate regardless of the body size, posture or mobility of the user.

The significance of UD in helping to achieve rights and friendly environments for all ages and abilities is supported by many scholars, governments and organizations (Young 2013, Heylighen 2014). For example the American Planning Association highlights the role that UD and Smart Growth planning can play in connecting the needs of children and older people (APA 2012). UD offers the ability to create a better fit between the diversity of needs across the continuum of range of ages and abilities, and built environments. This leads to improved independence and participation, which is missing for social groups such as children and older people.

Yet, applying UD as a one-size fits all approach broadly requires caution (Tobias 2003, Pullin 2009, Imrie 2012). This is because, as Imrie (2012, p. 880) indicates, “space itself is social-culturally re-produced”, and “localized norms and understandings” of design exist (Imrie 2012, p. 880). Furthermore, universalism can risk stereotyping (Pullin 2009). As such, scholars like Imrie (2012) and Heylighen (2014) argue that more critical scholarly research is required to address these existing tensions and limitations.

Towards more inclusive and just neighbourhoods: a continuum of age and ability

In reviewing both age-friendly agendas and the ability-friendly approach of UD, some commonalities emerge. There is underlying recognition that *physical, social and political-democratic dimensions* like housing, services, certain physical qualities, social participation and inclusion, and security all help to make environments friendly for different inhabitants of different ages and abilities. To help transform neighbourhoods into inclusive and just environments for all, better integration of these agendas across the continuum of needs across ages and abilities at both macro and micro level is needed.

We therefore draw on two studies of lived experience of everyday spaces at the neighbourhood scale to point to a particular facet of Age-friendly and Child-friendly policies, moving around a neighborhood to enable social connectedness, and the bridging solution of Universal Design.

Case studies - Connecting the Needs of Children and Older People with Diverse Abilities through Universal Design

In both of the case studies, participants were asked to describe their experience of getting about their neighbourhood and what is needed to improve their use and participation in different settings. Important physical and social features were revealed as necessary to both older people and children to enable participation and independence in the neighbourhood. Both groups preferred to be freely able to move about and socialise safely. Whilst reflecting age-related characteristics, the concept of UD consistently arose as enabling their actual participation and independence.

The Context

Participants for both studies were drawn from communities in Southeast Queensland (Figure 1) during 2011/2012. All communities are classified as "Major Urban", cities with a population greater than 100,000 (ABS 2011). Case study one (CS1) included 10 older children (aged 9-12 years) with physical disability and their families living in four South-east Queensland locations: Sunshine Coast, Gold Coast, Brisbane and Caboolture-Bribie Island. The participants were sampled to capture the diversity in mobility that exists within the label 'physical disability' rather than location. The ten children recruited represent five ways in which the body moves through space (habitual mobility): walks unaided (n = 2), walks but tired over distances (n = 2), walks with crutches (n=1), moves by self-driving power wheelchairs (n=4); and moves by manual wheelchair pushed by others (n = 1). Case study two (CS2) included a total of 42 senior participants (aged 60 to over 85) in Brisbane City and the Sunshine Coast. In CS2, a rationale for choosing the Sunshine Coast as a case study was its higher than average population of people over 65, at 17%.

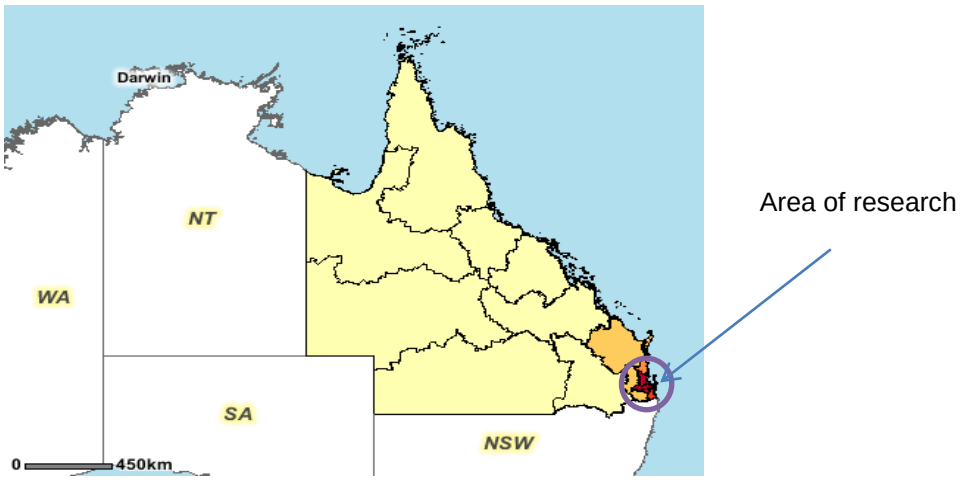
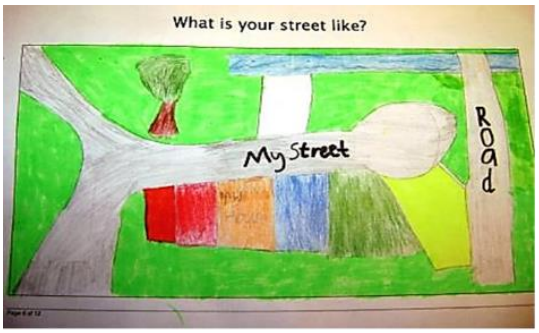


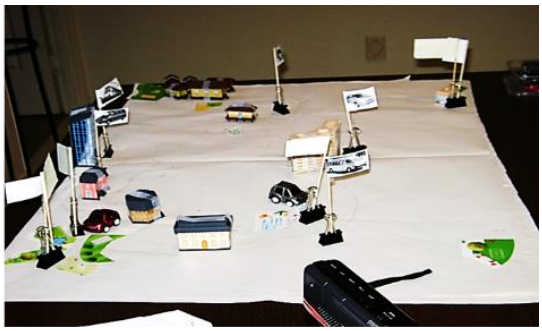
Figure 1. Location of Participants. Adapted from2006 Census MapStats: Queensland Location Code: 3 State: Qld by ABS, 2007.

Case study one is part of a larger study exploring children with disabilities and their participation in various everyday urban spaces. Data generation occurred over three visits and used activity-based interviews (refer to Figure 2) to elicit meaning and felt experience as understood by the participants. The semi-structured interviews occurred throughout each activity and were built upon over the course of the research. Data was analysed using Charmaz's (2006) grounded theory coding process and a phenomenological lifeworld approach (Dahlberg *et al.* 2008) to identify themes, meaning and

interconnections emergent from the children's body-space-time routines (body ballets) and their descriptions of inhabiting urban space.



Activity 1: Activity Book



Activity 2: Mapping

Activity 3: Designing

Photographs of body ballets

Figure 2: Children's Research Activities

Case study two used a technique called photovoice whereby seniors participants were asked to take photos that illustrate their perceptions of the built environment, at both the neighbourhood and accommodation level and identify both good features and barriers to making it a good place to live as they age. In each city, participants discussed the photos in a workshop, led by a facilitator. Each group selected photos and attached captions to develop a visual narrative to illustrate their shared perspectives. While a second stage was a design charrette, this paper focuses on the perspectives and principles about neighbourhoods derived from the photovoice phase. For further information see [citation supplied after review] (2012). Photos along with text were analyzed according to WHO's age friendly criteria. Additional criteria emerged through the analysis. The method of analysis enabled identifying patterns and content, linking visual images with verbal narratives about place.

While a number of significant findings emerged from each of the case studies, the results reported here focus on only one of the common themes that emerged: moving around the neighbourhood via footpaths.

Case Study One Results: Older Children with Physical Disability

While neighbourhood streets are seen as spaces for social interaction and activity, for older children with a physical disability they are spaces where activity involvement and independent mobility is often bounded at the home driveway. This has impact on both their autonomy and opportunities to move about freely and be involved in activities in different spaces around the neighbourhood. Reasons children and their families provided for this boundedness included: other people's actions (e.g. driver behaviour), parental

and self-concern, and the street form and characteristics. This point is summarised by 11 year old participant (P8):

> I would like for awareness to spread around that there are kids. ...I would like to bike ride up the street without worrying about cars going really fast. ... And then I would like to go over the road to say hi without ...worrying about people speeding.

Lack of sealed footpaths forced movement onto the road or via the grass verge. This was a significant factor in restricting movement and thus participation in different activities, whether this was riding a bike up the street, going to a friend's house around the corner, or going to the park to play or kick a ball. In many cases, the alternative routes intensified body-space tensions experienced by the children because of the lack of consideration of the pedestrian and diversity in how people may move through and occupy space. The key problems categorised from the data are presented in Table 4 and Figure 3.

Table 4: Hazards in children-environment interaction in using the street (Stafford 2013)

Alternative routes to a footpath	**Problems**	
The Verge as the footpath	1.	Unpredictable
	2.	Pot holes – risk injury
	3.	Inconsistently maintained
	4.	Varied surface (grass, dirt) and thickness of grass
	5.	Widths vary
	6.	Cars parked on verges
	7.	Neighbours unfriendly
The Road as the Footpath	1.	Moving vehicles
	2.	Parked cars
	3.	Driver behaviour (speeding)
	4.	Poorly maintained roads
	5.	Absence of crossings
	6.	Poorly located kerb ramps

Figure 3: Tensions on the Street

The importance of design to enable the freedom to move about one's neighbourhoods, was further illustrated through the designs that children created as part of their last activity-based interview, where they had free scope to design what their ideal habitat would be and then describe what they created. Whilst varied in approach, eight out of the 10 designs included footpaths connecting all the important spaces in their lifeworld and within close proximity to each other. A design of the children's ideal urban habitat is displayed in Figure 4.

Figure 4. Presence of important spaces connected by pathways in close proximity (10 minutes walking distance), valued by children in their ideal urban habitats designs.

The children's design and lived experience accounts further illustrated how elements like footpaths, kerb ramps, and pathways are viewed as connectors to spaces and are enablers of children's use and interactions with space; they also help to circumvent hazards and tensions associated with the road. Furthermore, incorporating these elements, by using accessibility standards and UD principles to inform

neighbourhood planning, not only helps removes barriers for older children with disabilities and families, it removes barriers for all inhabitants e.g. parents with prams.

Case Study Two Results: Older People

Photographs taken by these older participants illustrated both positive and negative aspects of moving about a neighbourhood. Of all photos taken at the neighbourhood scale, the largest number represented aspects of universal design. Figures 5 and 6 demonstrate the challenge associated with poorly maintained footpaths and poor access. Similar to concerns raised in CS1, comments about Figure 7 mentioned the danger of walking on the road due to no footpaths, but also pointed out that the uphill walk would discourage them from use.

Figure 5: 'Poorly maintained footpath'

Figure 6: 'Steep (and in wet weather, slippery) stairs to public buildings and public transport facilities makes it difficult to get around the community as you get older'

Figure 7 'No street lights or walkways for pedestrians'

In contrast Figure 8 provides an ideal example of a preference for a flat shady path. Typical of themes are photos showing meeting places and local gathering places that include older people (Figure 9) as well as multiple generations.

Figure 8: Pavements being maintained, accessible and unobstructed

Figure 9: Local safe gathering places

A Multi-Generational Approach with UD as the Common Thread to Neighbourhoods: Concluding Thoughts

Children with a disability and older people's perceptions of what is ideal are quite similar, and if addressed, would make getting around neighbourhoods easier for all people. This would potentially improve participation and promote liveability. Both case studies support existing findings that the urban form as well as social-cultural factors impact on both children and seniors being spatially mobile in the street. The cases selectively illuminate how the street itself plays a role in determining freedom of movements. At the same time proximity to activity nodes and areas to "hang out", connecting pathways and access provisions starting from home via the local street are critical to affording independent mobility and active participation.

Importantly both cases suggest that an important intervention to achieving friendlier neighbourhoods is pedestrian-focused planning, and an important starting point is in rethinkinghow local streets and footpath allocation are conceived and planned for in overall neighbourhood design. This is supported by Austroad's (2013) recent research review which identified a need for a greater emphasis on accommodating pedestrian activity in planning and design, and suggested changes to an array of technical guidelines. This is particular important when there are no national mandatory standards of practice.

Incorporating a UD approach into street design standards at neighbourhood level is another important intervention that could go some way towards providing more integrated and responsive approach across ages and abilities. Whilst UD design guidelines exist that promote accessible footpath, kerb ramps and crossing placement, and street furniture, the utilisation of UD in neighbourhood planning and design has been limited mainly to individual negotiations about new developments. Likewise, the concept of lifetime neighbourhoods, whilst not new, has yet to make a significant impact on planning and neighbourhood design (Harding 2007).

In this paper, we argue that improving understanding of the needs of a continuum of ages and abilities and applying this to neighbourhood design can result in more inclusive and user-friendly neighbourhoods.

The experiences from the cases further illustrate the important of doing so and what happens when we get it wrong.

Yet, the many guidelines for planners, developers and designers about how to make neighbourhoods liveable, are voluntary and inadequately address accessibility and compatibility of multiple users. The current lack of research synthesis about the diversity of inhabitants and information across areas of expertise (planning, design, engineering, health and social sciences) makes it difficult to understandand address diverse needs. Furthermore, there is little synthesis of the many guidelines on age-friendly, child-friendly, disability-friendly environments and few evaluations of their implementation and effectiveness in meeting residents' needs. Hurdles to translate research and knowledge to practice is a problem that perpetuates physical and social barriers.

While we suggest that UD is a useful bridging concept for addressing accessibility for multiple ages and abilities, it is risky to apply UD without recognition of the limitations of universalism, and without challenging the underlying social-cultural values that perpetuate the spatial injustices that many UD adherents are trying to resolve. It is for this reason that involvement of the users in place-specific neighbourhood design (or re-design) is so important. We therefore suggest that participatory research such as ours is a useful contribution when Councils or developers are designing a neighbourhood, or prioritising areas for re-development. Such research can be well-designed and target specific users at their own convenience, rather than relying solely on time-constrained public consultation or reactionary civic complaints. Further, visual images arising from research participants enable them to show and tell their own perspectives in an engaging manner. To avoid knowledge being locked up in academic journals, participatory research that involves end users and enablers fosters awareness and understanding.

Neighbourhoods are critically important spaces, where attention and application of UD is needed to promote inclusive environments for walking and social interaction. However, diversity of pedestrian’s freedom to use one of the most potentially available and affordable environments, the neighbourhood street, is currently constrained by planning and design determinants about when a footpath should be incorporated in street design. Planners and decision-makers must be ready to seize strategic opportunities to address multiple needs whenever and wherever they occur, for new or existing communities.

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