*Positioning Paper*

# Dwelling, land and neighbourhood use by older Home Owners

authored by

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for the

**AHURi**

Australian Housing
and Urban Research Institute

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# ACRONYMS

| | |
|---|---|
| ABS | Australian Bureau of Statistics |
| ACAP | Aged Care Assessment Program |
| ACAT | Aged Care Assessment Team |
| ACG | Allen Consulting Group |
| AIHW | Australian Institute of Health and Welfare |
| ALGA | Australian Local Government Association |
| ALSA | Australian Longitudinal Study of Ageing |
| AS 1428 | AS 1428: Design for Access and Mobility |
| AS 1428.1 | AS 1428.1-2001: Design for Access and Mobility. Part 1: General Requirements for access – New building |
| AS 1428.2 | AS 1428.2-1992: Design for Access and Mobility. Part 2: Enhanced and additional requirements – Buildings and facilities |
| AS 4299 | AS 4299-1995: Adaptable Housing |
| ASFA | Association of Superannuation Funds of Australia |
| ATSB | Australian Transport Safety Bureau |
| AURDR | Australian Urban and Regional Development Review |
| BCV | Building Commission Victoria |
| CACP | Community Aged Care Package |
| CALD | Culturally and Linguistically Diverse |
| CMHC | Canada Mortgage and Housing Corporation |
| COP | Community Options Projects |
| CPTED | Crime Prevention Through Environmental Design |
| CUD | Center for Universal Design |
| DDA | Australian Disability Discrimination Act |
| DIPNR | NSW Department of Infrastructure Planning and Natural Resources |
| DoHA | Australian Government Department of Health and Ageing |
| DUAP | Department of Urban Affairs and Planning |
| EACH | Extended Aged Care at Home |
| EACH-D | Extended Aged Care at Home – Dementia |
| FaCS | Australian Government Department of Family and Community Services |
| FCDC | Family and Community Development Committee |
| HACC | Home and Community Care |
| HILDA | Household, Income and Labour Dynamics in Australia |
| I'DGO | Inclusive Design for Getting Outdoors |

| | |
|---|---|
| IGR I | Intergenerational Report |
| IGR II | Intergenerational Report 2 |
| ILC | Independent Living Centre |
| JRF | Joseph Rowntree Foundation |
| NHF | National Heart Foundation |
| PMSEIC | Prime Minister's Science, Engineering and Innovation Council |
| QDH | Queensland Government Department of Housing |
| SEPP | State Environmental Planning Policy |
| SLA | Statistical Local Area |
| WDMR | Worthington Di Marzio Research Pty Ltd |
| WISE | Wellbeing in Sustainable Environments |

# TERMINOLOGY

| | |
|---|---|
| Accessible | Accessible Design, Accessible Housing – with a capital 'A'. A product, housing or environment that is Accessible meets prescribed government standards and regulations or agency requirements for being physically accessible to people with disabilities. |
| adaptable | adaptable housing – with a lower-case 'a' In its most general context, adaptable housing is housing that can be changed. The term 'adaptable' is also used to refer to the ability to make changes to the home during its lifecycle, to meet the preferences of the household: their size, composition and lifestyle. To avoid confusion, this design approach is referred to as 'flexible design' for this project. |
| Adaptable | Adaptable Design, Adaptable Housing – with a capital 'A'. Adaptable Design refers to housing that has been designed so that it is Visitable and can be modified easily and at minimal cost in the future if a resident or visitor requires it due to their disability or frailty. Adaptable Housing is addressed in the Australian Standard AS 4299-1995 Adaptable Housing. |
| Ageing in Place | Used interchangeably with 'staying put'. A term that describes people remaining living in their own home in the community as they age, rather than having to move to residential aged care. |
| Core Activity Restriction/Limitation | |
| | A restriction or limitation in personal care (bathing, toileting, dressing), mobility and/or communication. |
| Cost-Benefit Analysis | |
| | An analysis of the financial costs of including certain design features in a dwelling at the time of construction and during its lifespan, compared with the financial and social benefits to stakeholders in the dwelling. |
| Flexible Housing | Housing designed so it can be easily reconfigured to accommodate a household's changing size, structure and lifestyle. |
| home modification | Home modifications are custom structural changes made to a home so the resident can continue to safely live and move around it, and are the traditional approach for making the home environment more accessible and safe for older people when required. |
| older person | Used interchangeably with 'senior'. An older person is (defined in this project as) aged 55 years and over, in line with the eligible age for seniors housing. Chronological age groups: 55-64 years, 65-74 years, 75-84 years and 85+ years are used rather than descriptors of 'old'. |
| Profound Core Activity Restriction | |
| | See 'core activity restriction/limitation'. Where a person requires assistance with core activities all of the time. |
| senior | see 'older person' |

Severe Core Activity Restriction
see 'core activity restriction/limitation'. Where a person requires assistance with core activities some of the time.

staying put            see 'ageing in place'

Universal            Universal Design, Universal Housing Design – with a capital 'U'. The widely accepted definition is attributed to the Center for Universal Design (1997):'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.'

Visitable            Visitable Design, Visitable Housing – with a capital 'V'. Housing that is Visitable has three essential features designed in, which will allow a person in a wheelchair to visit. These are: a path of travel that is without steps to enter the dwelling, an entrance doorway and internal doorways that are wide enough for a wheelchair to fit through, and a wheelchair-accessible toilet on the entrance level of the dwelling. Other design features (not part of the definition) that increase the Visitability of housing have been incorporated into various regulations, including having power outlets, thermostats and light switches at a height that can be reached by a wheelchair user, having reinforcement in the bathroom walls so that grab bars can be installed, and having lever handles on doors.

Wayfinding            The cognitive process whereby people find their way about the urban environment.

# EXECUTIVE SUMMARY

## Aims

This project entitled 'Dwelling and Land Use by Older Home Owners' is a response to a research question in the 2007 AHURI Research Agenda, Research Area 2.2 Ageing and Housing, which stated:

What are the types, sizes and locations of dwellings occupied by older home owners? How do these patterns vary for different household sizes? What incentives or disincentives could encourage or discourage the efficient use of dwellings and land occupied by older home owners?

Following the award of the project, interest was expressed by the Department of Health and Ageing [DoHA] in providing additional funding to address two actions identified in the Report on the Findings and Recommendations of the National Speakers Series A Community for All Ages: Building the Future. These were:

Action 7.1 – In consultation with the Australian Housing and Urban Research Institute, identify the scope and need for a research brief into the cost-benefit of adaptable housing;

Action 7.2 – In consultation with the Australian Housing and Urban Research Institute and the development industry, identify the scope and need for a research brief into the level of demand for adaptable housing and the level of consumer support for adaptable houses.

The project was therefore expanded to include research on these issues, and its expanded aims are to:

1. Provide an understanding of the relationship between older home owners and their dwelling types, sizes and locations;

2. Examine the variation in these factors by the age of occupants, their level of ability, household type and cultural background;

3. Assess how efficiently housing stock is, and could be, used by older home owners, considering changes in their household size and composition over time;

4. Explore measures that might help to improve efficient use of the housing stock while improving liveability for older Australians;

5. Establish the costs and benefits of adaptable and universal housing design and propose an economic model to assess the consequences for older Australians if these are not adopted now;

6. Investigate the level of demand and consumer support amongst older home owners for adaptable and universal housing design.

## Context

The context for this project is the ageing of the Australian population and its implications for housing an increasing number of older people who are predominantly home owners and desire to remain living independently in their own home for as long as possible. Coupled with this is the policy imperative, for both social and economic reasons, to reduce the burden of care that the ageing of the population places on the community and the public purse.

Initial national policy responses to the ageing of the population came via the National Housing Strategy and Aged Care Reform Strategy (1992) that identified issues of the appropriateness and efficient use of housing for the older population, and the New Homes for Old Strategy of the Australian Urban and Regional Development Review (1994) which proposed policies for increasing housing choice and efficiency.

In addition, since the mid-1980s there has been a recognition of the need to provide assistance in the home to enable people to age in place. A number of programs have been introduced with increasing levels of care for people in their own homes – the Home and Community Care program (1984), Community Options Projects and Community Aged Care Packages (1992) and the Extended Aged Care at Home program (2002) – the latter providing nursing home level of care in the home. However, such programs only place more demands on the capacity of housing to accommodate these increased needs and levels of support.

The recent national policy impetus has come from three main documents

→ The National Strategy for an Ageing Australia (Australian Government, 2002b) which recommended that attention be given to housing design, enabling people to maintain accommodation or move to more suitable accommodation, improving awareness amongst consumers and the building industry and encouraging innovation in housing design;

→ The Intergenerational Report (part of the 2002 federal budget papers) which predicted that ageing would so inflate the cost of health, aged care and the age pension that the budget would be pushed into serious deficit;

→ The Intergenerational Report II (released by Treasurer Costello in 2007) which called for long-term planning in every portfolio to meet the challenge of Australia's ageing population, including removal of superannuation taxation and rules to permit workforce participation and tax exempt pensions.

Specific recent national built environment initiatives include:

→ Prime Minister's Science, Engineering and Innovation Council (2003) which recommended a multidisciplinary strategy 'to build more age friendly environments' including improvements in land use planning, transport investment, building regulations, design of public spaces and community crime prevention;

→ A Community for All Ages: Building the Future: The Report on the Findings and Recommendations of the National Speakers Series (2006): Key lessons learned from 11 seminars and workshops held around Australia included 'adopting a whole of government approach; increasing housing choice for consumers, promoting sustainable design and planning, training for industry, and infrastructure and urban design…to support a healthy and active community.'

DoHA's participation in this project arises from issues raised in the latter of these initiatives, for which it was responsible.

## Methodology

This is a multidisciplinary project involving researchers from sociology/social gerontology, architecture/urban design and industrial design.

The multi-stage project uses a combination of literature review, quantitative and qualitative methods in the following stages:

→ Stage 1: Literature review on housing design and utilisation;

→ Stage 2: Quantitative analysis of ABS Census Data (1996, 2001, 2006), the HILDA longitudinal data set and the 1999 ABS Housing Survey;

→ Stage 3: A quantitative survey of subscribers to the national seniors magazine 50 something, using both hard copy and online versions. This has been conducted, with around 1,750 completed surveys received to date (see Appendix 2 for survey form and associated materials);

→ Stage 4: Qualitative in-depth interviews of 70 survey respondents in three age cohorts (65-74, 75-84 and 85+) and across social and economic groups including the four main culturally and linguistically diverse (CALD) groups;

→ Stage 5: Cost-benefit analysis of housing design approaches (retrofitting, Adaptable Design and Universal Design) including the development of an economic model of the housing market to test a range of scenarios using these design approaches.

# Literature Review

*The Ageing Population*

Section 4.1 reviews the literature on what is regarded as 'old' or 'older' in Australia, the ageing of the population and associated health, disability and carer characteristics and issues for this group. It also reviews older people's use of medical services, their participation in the community and socialisation with family, friends and neighbours – issues which are all critical to their housing and desire to age in place. It therefore offers an important starting point for the study of older home owners. Its main conclusions relevant to this study are:

→ What is regarded as being 'old' varies widely amongst people as they age. While sociological literature generally uses chronological thresholds for 'old' (for example 60, 65 or 70 years) and sometimes categorises the 'young-old', 'mid-old' and 'old-old', most gerontologists (social and medical) prefer a non-chronological, biological definition based on a person's capability.

→ The term 'old' can be a form of negative labelling, with the terms 'older', 'seniors' or 'mature age' having more positive connotations.

→ The ageing of the Australian population is well established in published statistics, and evident both retrospectively (over the last three censuses) as well as prospectively according to ABS projections. Rapid growth in both the median age and the percentage of people 65 and over is occurring and will continue over the next 20 to 30 years, contributed to by the ageing of 'baby boomers' and post-war migrants.

→ Older people are very diverse, not only on the basis of ascribed characteristics such as age, gender, religion, ethnicity and background, but also on the basis of highly varied life experiences and life passages.

→ Health and disability problems increase markedly with age and can make independent living at home difficult. Many older people are also primary carers themselves for partners or others with serious health or disability problems.

→ Older people are major users of medical services, visiting their GP at more than twice the rate of younger people (8.6 times per year), with high levels of prescription provision and hospital admissions three times younger people.

→ Workforce participation amongst older people is increasing and will continue to do so, with 48 per cent of 55-59 year olds in full-time employment and 18 per cent in part-time employment, reducing to 28 and 16 per cent respectively for those aged 60-64.

→ For the retired, increases in leisure time can have both positive and negative impacts – for some, more time for socialising, community participation and volunteering, while for others, loneliness and isolation. Ability level has a marked effect on participation and hence satisfaction with social interaction.

→ While for older people, particularly men, the use of private vehicles dominates, public transport becomes more important with age, particularly for women. However, its use can be limited by distance from home, irregularity of services, inflexible timetables and cost.

→ The importance of income and wealth to older people is stressed, with the family home making a critical contribution to net worth, and increasingly so with age after

retirement. However, wealth is far from evenly distributed amongst older Australians.

→ Most older people are poorly prepared for retirement with generally inadequate superannuation, resulting in 66 per cent of those of qualifying age being on the age pension, only 62 per cent of whom are on a full pension. Women continue to be considerably disadvantaged in regard to lifetime income and superannuation, especially if single, widowed, divorced or separated.

### Older People's Housing and Households

Section 4.2 investigates the nature of the housing and households of older people in Australia, largely based on ABS Census (2001and 2006) and AIHW publications. It also provides an important information base for this research as well as identifying some current gaps in knowledge that this research aims to fill. The key findings are:

→ The vast majority of Australians aged 65 and over occupy a private dwelling, with only 7 per cent in residential aged care.

→ Separate houses dominate even more than for younger age groups; however, there is a progressive decline as age increases in favour initially of medium and higher density housing forms and, in later cohorts, residential aged care.

→ Women are less likely than men to live in separate houses and more likely to live in a non-private hostel or nursing home. They are also more likely to have a severe or profound disability requiring assistance. Those living alone are also more likely to live in medium to higher density housing than their coupled counterparts.

→ Older Australians are much more likely to own their own home outright than their younger counterparts, and there is a much lower percentage of renters compared to younger cohorts. Unlike younger groups however, older people were much more likely to be public than private tenants.

→ Older Australians are not evenly distributed geographically. Higher proportions exist in the eastern and southern states (NSW, Vic, Tas and SA), particularly in coastal areas and regional centres, with lower proportions in rural and remote non-urban areas. Likewise within cities, older people are more concentrated in certain suburbs, often in coastal locations, high amenity inner-middle or outer suburbs, or in areas with high amounts of public housing.

→ While new dwellings are known to be increasing in area despite reducing occupancy rates, no comprehensive published data is available on the area of existing dwellings or the land area occupied by them, let alone specifically for older people. However, analysis of the number of bedrooms of single and couple older households shows that three bedroom dwellings predominate, which would be regarded as under-occupied under the widely accepted Canadian Occupancy Standard. However, such views are highly contested, with numerous authors warning about such simplistic assumptions, given the many other functions (guests, study, workshop etc.) that bedrooms may serve.

### Ageing in Place: Preferences, Support and Care

Section 4.3 outlines literature on the desire to remain at home, the difficulties older people can face in doing so, the kinds of home care services available to assist them, and housing options should they need to move. The findings are as follows:

→ There is overwhelming evidence that most older Australians wish to remain at home as long as possible for a range of reasons, including personal and financial security, family memories, a sense of place and wellbeing, familiarity and maintenance of social networks. This is reinforced by the taxation system which favours investment in the family home and by government policy through the various home care programs.

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→ There are financial pressures that militate against ageing in place. These include inadequate superannuation, financing lifestyle expectations, providing financial assistance to children, and the opportunity to access equity in the home to meet these needs.

→ When older home owners do move, they can do so for a range of social, lifestyle and economic reasons, common among which are to move to a better location, to be closer to family or friends, to avoid the cost of home maintenance, to provide financial assistance to their children, or to act as carer or have their own care needs met.

→ Despite the desire to stay at home, difficulties increase with age, the most prominent being the burden of property maintenance, health care needs, transport, housework and mobility difficulties. Reasons for moving to residential aged care include inappropriateness of the design of most houses and the cost and energy involved in modifications.

→ Accidents are a major cause of concern for older people, with falls being the most common cause and reason for moving to residential aged care.

→ A range of government home care services have been progressively introduced over the years offering ever increasing levels of care. These include the Home and Community Care [HACC] program, Community Options Projects [COP] and Community Aged Care Package [CACP] program and the highest level Extended Aged Care at Home [EACH] program which provides equivalent to nursing home care in the home. Most HACC and CACP program recipients are home owners.

→ Older people are generally locationally very stable, with over 80 per cent in all four older age cohorts not having moved in an inter-census period. Of those who did move, 40 per cent of those aged 75 and over remained in the same Statistical Local Area. However, those aged 55-64 were the most likely of all cohorts to move away from an SLA.

→ Options available for those staying at home other than moving to residential care include renovating or modifying the home, taking in boarders or lodgers or converting to dual occupancy. For those moving, a wide range of housing options exist, including: moving to a smaller (medium density) dwelling; moving in with friends or relatives; moving into a granny flat; moving to a portable, relocatable or mobile home; moving into a rental property; or moving into a retirement village. Each of these has different costs and benefits, and choice will depend on variety of factors including financial resources, personal circumstances, locational preferences and ability levels.

*Housing Design and the Housing Industry*

Section 4.4 examines the design approaches intended to make housing more safe and accessible for older residents wanting to age in place; as an alternative to having to make custom home modifications to their housing. These include Universal and Adaptable Design, as well as Accessible Design, Visitable Design and Flexible Design. The implementation, costs, benefits and problems of each approach are considered. The key findings are:

→ Relying on home modifications has a number of disadvantages, despite their benefits for resident safety and access. They can require considerable cost and building work at a time when older people are vulnerable due to a decline in their ability; there is a perception that they can be unattractive and devalue the home; there is a low rate of compliance for modifications prescribed by healthcare professionals; and they are often not feasible for rental tenure. Despite this, when well targeted, modifications can promote independence and enhance the ability to remain at home.

→ Despite terms such as Universal Design, Adaptable Design, Accessible Design and Visitable Design all being methods used to provide improved access and safety in housing, they are very different approaches.

→ Universal Design has the distinct advantage of considering the widest range of ages and abilities of older residents and their households; the features are built in from the start, which can accommodate temporary health conditions and visitors; and it minimises the need for custom modifications, with their associated problems, at a later date.

→ Adaptable Design (in accordance with AS 4299) is becoming more widely used in Australia, but has the disadvantage of often only being implemented for a small proportion of housing or housing intended only for older people. It still requires modifications (with associated building work and cost) at a later date; so it is of limited use for visitors or for residents with temporary health conditions or disabilities.

→ Visitable Design is focused on specific features that will provide access for wheelchair users in all housing. As these features are the most critical for wheelchair users and some of the most expensive to retrofit, their inclusion in housing may require regulation as has been the case in the UK and some USA cities and, perhaps, soon throughout the entire USA.

→ Flexible Design is concerned with designing housing to be easily able to adapt to a household's changing size, structure and lifestyle: becoming larger or smaller, changing the sizes and functions of rooms and even converting between single and multiple dwellings. It has the potential to make better use of excess space in larger dwellings when desired by the owners, and to make smaller dwellings more space efficient to accommodate temporary increases in household size and changing household interests.

→ A combination of Flexible and Universal Design applied to all housing was proposed in a doctoral research study by Quinn (2006). The costs and benefits of a selection of housing design criteria developed in that study will be compared with those for Adaptable Design Class C criteria in AS 4299, and also compared with the costs and benefits of retrofitting conventional housing with custom home modifications.

## Urban Design and Participation in the Community

Section 4.5 reviews the design aspects of the urban environment that can, like the design of their home, increase or limit an older person's safety and independence; and thus their access to social activities, services and amenities in their local community. These aspects of the local community, or neighbourhood, include paths of travel, transport, buildings, open spaces, street fixtures and furniture, wayfinding, and safety and security. The key findings are:

→ Relative to housing, there has been limited research on the design of communities and outdoor environments for older people. Projects in Australia and the UK present optimal design approaches for the built urban environment. While some of these are being included in newly built communities, many existing neighbourhoods have considerable barriers for older people, restricting their participation in the community.

→ Communities require paths of travel that comply with AS 1428, are well maintained, separate from traffic, and designed for safety of pedestrians as well as users of faster moving wheeled mobility devices and bicycles, between all residents' homes and the homes of their friends, transport nodes, services and amenities.

→ People aged 65 or over account for a high number of pedestrian injuries and fatalities; the majority of which have been attributed to unintentional error by the pedestrian. Pedestrian crossings need to consider the slower speed of crossing for

people with mobility difficulties, be on the most direct route to discourage jaywalking, be well lit and have a transition from footpath to roadway without fall hazards or barriers.

→ The design of infrastructure for transport affects use by older people, with low use attributed to difficulty getting in and out of transport vehicles and getting to stops and stations. Though transport infrastructure is progressively being made to comply with the Disability Standards for Accessible Public Transport (currently under review), the numbers of priority spaces for older people need to be reconsidered with the increasing size of the older population.

→ Access to new and refurbished public buildings is being addressed in the Access to Premises Standard, which is currently still under development. However, as older people with mobility impairments and other restrictions will still have difficulties with inaccessible existing buildings and those where access provision would be an unjustifiable hardship, in the absence of regulation, market incentives for building compliance are needed. The design criteria in AS 1428.1 also need to be revisited to ensure they meet the needs of people aged over 60.

→ Wayfinding is more difficult for some older people due to vision and hearing impairments, dementia and limited proficiency in English. Familiarity with the neighbourhood greatly assists wayfinding, as do clear signage, logical routing, distinctive landmarks and adequate lighting.

→ For older people, fear of crime is more of an issue than risk of crime; older people are far less likely to be crime victims than younger people, but research shows they are more fearful of crime. As well as environmental design principles to prevent crime; older people benefit from measures which assist them to be more active and involved in their community, which has been shown to reduce their anxiety about crime.

## Conclusion

As well as providing an important context for the research, the findings of the literature review confirm the need for the current study by demonstrating the dominance of outright home ownership and three bedroom dwellings amongst older households, and raising questions about under-utilisation of the housing stock. It also identifies a lack of published up-to-date statistical evidence on the housing, households and tenure of older Australians and hence the need for analysis of 2006 Census and HILDA longitudinal data. A lack of data on dwelling and land area and the uses of rooms within dwellings is also identified. This is to be addressed in the survey forming part of the forthcoming research. Similarly, there is a lack of recent qualitative data on the attitudes and experiences of older people in regard to suitability of housing types, dwelling design (including modification), urban design and transport modes, issues that will be addressed in the forthcoming in-depth interviews.

The literature review also reveals that the factors influencing an older person's ability to remain in their own home are complex, warranting the inclusion of a detailed set of questions in the survey and further exploration in the in-depth interviews. A lack of Australian information on the costs and benefits of the various housing design approaches advocated for supporting ageing in place also confirms the necessity for this to be undertaken as part of the research project, along with economic modelling of various implementation scenarios. A lack of local research on the role of the design of the urban environment to ageing in place will also be addressed.

The literature review has also helped to guide the research by highlighting a number of important issues, including appropriate use of language, appropriate age categories, the importance of wealth and income to housing choices, geographic concentrations of older people, and differentiating between various housing design approaches to support ageing in place.

A number of policy implications also emerge from the literature including: the need for care and support initiatives to be matched with a focus on housing and urban design; the necessity for an integrated, whole-of-government, multidisciplinary approach to ageing and housing policy development; and the need for clarification of the roles and implementation options for different housing design approaches amongst industry, government and community support services.

Finally, the literature reveals some policy dilemmas. Firstly, the strong support from older people themselves, government and the community sector for ageing in place results in an apparent under-utilisation of the housing stock. Secondly, ageing in place can occupy housing that is close to labour markets that might otherwise be used by younger people in the workforce; however, this also often removes people from social networks and access to services. It also conflicts with policies to encourage older people to remain for longer in the workforce. Both these issues will be informed further by the forthcoming research.

# 1 INTRODUCTION

This Positioning Paper provides the context for a national multidisciplinary research project to examine the experiences of Australian men and women who are already in older age cohorts, together with the expectations of baby boomers approaching retirement, regarding the potential for older people to continue living in their homes as they age. Until now, little empirical work has been undertaken to gauge the extent and efficiencies of older people's present dwelling and land use and the prospective dwelling and land use aspirations and expectations of future retirees in Australia.

The research project brings together the collaborative expertise of senior academic researchers from sociology and social gerontology, architecture and urban design, and industrial design to examine this important issue.

This Positioning Paper and the outcomes of the forthcoming empirical research will provide crucial understanding of the future challenges and opportunities, options and aspirations of older Australians, regarding their housing and land use choices. It is of particular relevance to those with interests and responsibilities in areas of development and implementation of public policies; community and not-for-profit organisations and service providers; private corporations with housing, investment and development interests; as well as ageing Australians and their families.

While the primary funding for the research is via an AHURI research grant, this is supplemented by additional financial and in-kind support from the Commonwealth Department of Health and Ageing to address two research recommendations of the report of the National Speakers Series A Community for All Ages: Building the Future: The Report on the Findings and Recommendations of the National Speakers Series (Australian Government Department of Health and Ageing [DoHA], 2006b). The project builds on a small existing portfolio of AHURI research on housing and ageing, in particular, Olsberg & Winters' (2005) work on intergenerational housing transfers in later life, Judd et al.'s (2004) work on older homelessness and Quinn's (2006b) AHURI supported doctoral research on ageing and universal housing design.

## 1.1 Background to the research

Home ownership has long constituted the 'Australian dream', and living in your own home has had a critical relationship to identity and social participation.  Despite escalating prices for residential properties, Australians not only continue to have a high rate of home ownership compared with many other countries, they have traditionally had a still higher, almost universal, rate of aspiration to home ownership. Particularly at retirement, ownership of a home, unencumbered by mortgage, has been seen as a norm rather than a privilege, with the 20 per cent of elderly households in other tenures regarded as disadvantaged (Baum & Wulff, 2001). A desire to stay in their homes even until death remains a strong preference for many older Australian men and women (Beer, Faulkner & Gabriel, 2006). Yet the design of the standard family home has changed little in the past 60 years, despite increasing urbanisation, residential density and the growth of medium and high density apartment developments (Bringolf, 2007).

However, people are living longer, lifestyles are changing and the numbers of older people in the population is set to double over the next two decades. Such demographic changes are placing increasing demands on the public purse which are driving new policy visions for aged care and welfare services by governments – for the federal government, for state governments and even for local government. There is increasing emphasis upon policy options which assume that older people may be able to remain living in their homes and, even when incapacitated, will choose to do so and get support services delivered as needed (Beer et al., 2006).

Government policies and service delivery programs are increasingly predicated upon principles of 'ageing in place' or 'staying put'. Ageing in place, as discussed in the

literature (Olsberg, Perry, Encel & Adorjany, 2004; Olsberg & Winters, 2005), is usually viewed as a positive approach to meeting the needs of the older person, supporting them to live independently or with some assistance for as long as possible. It typically implies that most older people prefer to live in their own home, rather than an institution or care centre. But the persistence of mass market housing designs and older people continuing to live in homes unchanged for decades are expected to create increasing pressures for older men and women, their families, their carers and service providers.

## 1.2 Aims of the research

The original four aims of this project were to:

1.  Provide an understanding of the relationship between older home owners and their dwelling types, sizes and locations;

2.  Examine the variation in these factors by the age of occupants, their level of ability, household type and cultural background;

3.  Assess how efficiently housing stock is, and could be, used by older home owners, considering changes in their household size and composition over time;

4.  Explore measures that might help to improve efficient use of the housing stock while improving liveability for older Australians.

Two additional aims were later included arising from the participation of the Department of Health and Ageing in the project. These were to:

5.  Establish the costs and benefits of adaptable and universal housing design and propose an economic model to assess the consequences for older Australians if these are not adopted now;

6.  Investigate the level of demand and consumer support amongst older home owners for adaptable and universal housing design.

A series of research questions and sub-questions were developed from the original aims as follows:

1.  What are the variations in housing type, size and locations for older Australian home owners?

→ What are the housing types, sizes and locations for older Australian home owners and how does this compare with other housing tenures?

→ What are the sizes of older home owners' dwellings in terms of the sizes and functions of rooms?

→ What is the effect of age, ability and CALD background on variations in housing type, size and location?

2.  How efficiently do older Australian home owners utilise the housing stock they occupy?

→ What are the sizes and compositions of older home owners' households, considering usual and temporary residents?

→ What is the frequency of change in household size and composition among older home owners, and how do they respond to these changes in their use of their land and dwelling?

→ What is the effect of lifestyle and care requirements of older home owners on their utilisation of their land and dwelling?

3.  If there are inefficiencies, what incentives or disincentives could encourage more efficient use of dwellings and land occupied by older home owners?

→ What are the policy options for more efficient use of dwellings and land occupied by older home owners?

→ What are the incentives and disincentives for older residents making more efficient use of their land and dwelling?

An additional four questions were added as a result of the participation of DoHA in the project:

4. What are the costs and benefits of adaptable and universal design of housing compared to conventional design and retrofitting?

5. What is the level of demand and consumer support amongst older home owners for adaptable and universal housing?

6. What are the levels of participation of older home owners in locally based activities and social networks and how important is residential location in maintaining these?

7. How important is access to familiar support services (e.g. medical, health) for older home owners and hence residential location in maintaining such access?

## 1.3 Policy context

The policy context for this study is the necessity for governments to address the needs and potential costs of an increasingly ageing society (discussed more fully in Section 1.3.1). It is well recognised within government that the ageing of the population will have many social and economic impacts, not the least of which will involve their housing and care arrangements.

### 1.3.1 Key National Ageing Policy Initiatives

The ageing of the population has been met with an increasing focus on care and housing policies for older people, initially in the early 1990s via the National Housing Strategy and Aged Care Reform Strategy (Howe, 1992) and the New Homes for Old strategy (Australian Urban and Regional Development Review [AURDR], 1994). The available data on dwelling and household size of older home owners, who comprised the vast majority of older residents, indicated considerable under-utilisation of stock. In response, the New Homes for Old strategy identified new policies and programs to provide increased housing choice for older people, while increasing the efficiency of the stock (AURDR, 1994). A number of these have been implemented.

More recently, the important impetus in terms of public policy has come from three major documents released by the federal government: the National Strategy for an Ageing Australia (Australian Government, 2002b), the Intergenerational Report [IGR I] part of the federal budget papers (Australian Government, 2002a) and the Intergenerational Report II [IGR II] released by Treasurer Peter Costello in 2007 (Australian Government, 2007a). These documents were the first to present long-term national strategic perspectives on the demographic challenges which confront Australia, in particular, the ageing of the population and the threats to fiscal sustainability that such changes are expected to bring.

The National Strategy for an Ageing Australia presented a long-term approach in which the whole of government was challenged to identify and develop policies to meet the exigencies of Australia's ageing population. Here it was stated that it was essential that greater attention be given:

to housing design which is suitable to older people – whether it be housing specifically for older people or housing which meets the changing needs of people as they age. The ability of the structure and design of housing to be adapted to support people's varying levels of independence will provide future cohorts of older people with more options to remain in their own homes and communities (Australian Government, 2002b:27).

Goal 2 of that paper stated that it was essential 'that public, private and community infrastructure is available to support older Australians and their participation in society' (ibid:34). Dot points 6 and 7 of Goal 2's stated objectives included:

→ 'Exploring options that enable older people to maintain their accommodation in accord with their needs, or enable them to move to accommodation which better suits their needs;

→ Improving consumer and housing design and building industry awareness of housing options for older people, and encouraging innovative housing designs' (ibid:34).

In 2002, in a report which Treasurer Costello claimed first 'put the ageing of the population on the map' (Costello, 2007), the Intergenerational Report [IGR I] (Australian Government, 2002a) provided a more in-depth analysis of the economy and the challenges of the next 40 years in Australia for long-term planning. The IGR I stated that a number of federal programs (such as health, social security and education) were sensitive to demographic factors (2002a:4) and, as the population ages, the budget 'blow-out' would be unsustainable. A 40 year projection and review of Commonwealth spending and revenue assuming various demographic and economic parameters was provided by the IGR I. It was suggested that the demographic trends – the doubling of the over 65 population and the quadrupling of the over 85 population – will so inflate the cost of health, aged care and pension support that it will push the federal budget deficit to $87 billion in present value terms (as at May 2002). Such increasing public debt would push interest rates up, threaten private investment and be nationally economically unsustainable.

In 2007, a second Intergenerational Report [IGR II] (Australian Government, 2007a) was released, which reported on a range of legislative and regulatory changes that had been introduced and provided a policy framework to maintain fiscal sustainability and economic growth. The IGR II called for future long-term planning by every portfolio area to achieve greater 'population, participation and productivity' to meet the challenge of Australia's ageing population. It reported on changes in health, education, family benefits, employment, welfare, pensions and superannuation which had been introduced through legislative or regulatory measures. A transformation of the national retirement income system through changes to the occupational superannuation system was most vaunted as means to assist new retirees and those large numbers of baby boomers born between 1946 and 1961 who would be retiring in the next 15 years. These included changes to superannuation taxation, to superannuation contributions and superannuation payment rules to facilitate continuing in the workforce past traditional retirement age through transitional retirement income arrangements. Removal of tax on payment of superannuation benefits to those over 60 and tax exempt pensions payments were introduced to encourage greater self-provision for financial needs in retirement. A more extensive discussion of these changes is included in Borowski and Olsberg (2007).

Such in-depth policy analyses have been seen as relevant to major public policy questions and the development and implementation of many programs by federal, state and territory and local governments. A number of major projects have been undertaken by AHURI, for example, to assist policy decision-makers to consider the relevance of these policy frameworks for future housing, independent self-care transitory residential provision and supported residential care by government, private, community and not-for-profit organisations (see AHURI website www.ahuri.edu.au). But until now, little empirical work to gauge the extent of older people's present dwelling and land use and the prospective dwelling and land use aspirations of future retirees has been undertaken. This project addresses those issues and will provide crucial opportunities for policy makers, the development industry and older residents themselves.

### 1.3.2  Ageing in Place Initiatives

It has long been recognised by government that a key strategy to address the issue of an ageing population and its potential social and economic impact is to encourage older people to age in place in their own home for an extended period, rather than

move to institutional care. This has the dual benefit of being the preference of the majority of older people while also reducing the potential burden on government expenditure for institutionalised aged care. Accordingly, the government has progressively introduced a series of programs to support older people remaining in their own home via the provision of community based care and home modifications: the Home and Community Care [HACC] program in 1984 followed by the Community Options Projects [COP] and Community Aged Care Packages [CACP] in 1992, and the Extended Aged Care at Home [EACH] program in 2002 (Australian Institute of Health and Welfare [AIHW], 2007c:123,128). Each represents a progressive step-up of care available in the home, in the case of EACH to nursing home level. These programs are discussed in more detail in Section 4.3.3.

With increasingly higher levels of care being delivered in the home environment, the capacity of housing to accommodate safely the more demanding needs of residents and their carers is an important issue, in regard to both new and existing stock. Whether this is achieved by purpose-built 'seniors housing' or more broadly within the general housing stock via 'Accessible', 'Adaptable', or 'Universal' design strategies is also an important issue (see Section 4.4).

However, ageing in place can lead to an apparent under-utilisation of the dwelling stock, though it can be argued that such observations are often based on a lack of knowledge about the actual spatial needs of older home owners, particularly in terms of accommodating the needs of their families on a temporary or permanent basis, and a diverse range of home-based activities (Kendig & Neutze, 1999; Wulff, Healy & Reynolds, 2002). In fact, little is known about the attitudes of older home owners to their homes or alternative living arrangements. Neither is much known about how dwelling type, size and location might be factors which impede ageing in place for older home owners.

### 1.3.3 Ageing related built environment initiatives

Following the New Homes for Old Strategy (AURDR, 1994), two national initiatives have focused on the importance of housing and the built environment to healthy ageing. The first of these was a 2003 report of the Prime Minister's Science, Engineering and Innovation Council [PMSEIC] on Promoting Healthy Ageing in Australia. Its purpose was to present 'a vision for an additional 10 years of healthy and productive life expectancy by 2050' (PMSEIC, 2003:i) including a research agenda to help achieve this vision. The report covered issues including health promotion and disease prevention, work and social environments and the built environment, including housing, local neighbourhoods, transport, urban planning and the design and technological innovation required to enhance the 'long-term livability and economy of the built environment' through 'land use and building designs that anticipate, and are responsive to, the diverse needs of people over the life course' (PMSEIC, 2003:50).

With regard to the built environment, the report recommended 'That a multidisciplinary strategy be developed, to build a more age friendly built environment, supporting innovation in planning, design and technology to assist older Australians to maintain their independence at home with good quality of life.' This strategy was to include:

→ 'Examination of the impacts and options for improvements in land use, planning, transport investment, building regulations (in-fill, building of granny flats), design of public spaces (to allow safe walking) and community crime prevention;

→ Developing ergonomic information and standards for design and technology that help to overcome the limitations presented by the ageing process including sensory loss;

→ Development, evaluation and promotion of innovative products and materials, assistive technology and building and transport design that will assist older people

to maintain their independence. Incentive grants to industry and design awards could be used to promote innovation' (PMSEIC, 2003:vii).

In 2005 the Office for an Ageing Australia within DoHA coordinated a National Speakers Series on built environment issues entitled A Community for All Ages: Building the Future in partnership with a range of built environment and local government peak bodies. The series involved 11 seminars and workshops in capital cities and other major centres around Australia 'to raise awareness of the need to plan and build better communities to meet the long-term needs of a future Australian population which will have a higher proportion of older people' (DoHA, 2006a:7). It also 'aimed to challenge traditional models of housing and community design…and move our thinking from our current car-oriented suburbs to creating 'walkable communities' where older people can remain active in their own homes and communities' (DoHA, 2006a:8). The series report noted a number of key lessons learned:

→ 'Adopting a whole of government approach';

→ 'Increasing housing choice for consumers';

→ 'Promoting sustainable design and planning';

→ 'Training for industry…including the use of guidelines and best practice building and design models for adaptable housing';

→ 'Infrastructure and urban design…are essential to support a healthy and active community' (DoHA, 2006a:9-10).

The report included a number of recommendations and actions around promoting 'adaptable housing'; providing training for built environment professionals; awards and competitions; development of national planning guidelines and promotion of research on the costs and benefits of 'adaptable housing'; the development of an 'economic model if more adaptable housing is not adopted now'; and determining the level of demand and consumer support for so-called 'adaptable houses'. Finally it recommended the establishment of 'a national universal design initiative to draw together the many stakeholders involved in creating and using the built environment for the benefit of all' (DoHA, 2006a:15-19).

The research recommendations of this report have resulted in DoHA's involvement in this project and have been incorporated into the aims, objectives and research questions to be addressed in this research project.

## 1.4 Content and scope of the paper

The primary purpose of this Positioning Paper is to introduce the aims, background and methodology of the research, review the relevant literature on ageing and housing, and consider its implications for future stages of the research and for ageing and housing policy.

While it includes a review of published ABS Census, Australian Housing Survey (1999) and HILDA longitudinal data, it does not include any analysis of unpublished data from these data sets as this will form part of the investigation to be undertaken in later stages of the research to be incorporated into the Final Report along with findings of other stages of the research.

The literature review is followed by a conclusion and appendices that includes a copy of the four-page survey published in the national seniors magazine 50 something, an accompanying magazine article, follow-up advertising and the Participants Information Statement required by the ethics policy of the University.

# 2 METHODOLOGY

The multi-stage research uses a combination of literature review, quantitative and qualitative survey methods, census and other data analysis, cost-benefit analysis and economic modelling to address the aims and research questions.

## 2.1 Literature review on housing design and utilisation

A review of national literature on ageing, housing design and utilisation, and incentives/disincentives for methods of improving utilisation, has been undertaken as an important starting point for the research along with a contextual review of literature on housing and older people. A review of housing options has also been undertaken, e.g. providing more compact dwellings; alternatives to home ownership; design approaches that provide an appropriate housing environment for increased independence; safe care provision and more efficient use of interior space; and housing structures that can provide a better fit between dwelling size and household size for older residents. The content for this Positioning Paper is based largely on this literature analysis.

## 2.2    Quantitative housing data analysis

Analysis of 1996, 2001 and early release of 2006 Census data (via the web-based ABS Census Table Builder service) will also be undertaken to provide trend data on housing types and sizes (number of bedrooms) of older home owners and the ages, household size, ability levels and birthplace of their households. More detailed analysis and locational aspects of older housing needs will be analysed using spatially disaggregated 2006 Census data when this is available later in 2008.

Analysis of HILDA longitudinal data will be undertaken to provide more detailed information on the ability levels of older home owners, why household members join and leave, home-based employment and childcare, data on temporary residents such as visiting children, caring responsibilities of residents, home maintenance costs, community participation and satisfaction with their residential neighbourhood.

Finally, 1999 ABS Australian Housing Survey data will be analysed to gain insight into the nature and relationships of temporary residents to older home owners, the bedrooms set aside for their use, plus additional information on age and condition of dwellings, details of rooms and their functions, types of alterations and additions made, repairs and maintenance and modes of travel to shops. While somewhat out of date, this data set is unique in some of these areas.

These three data sets should provide a very comprehensive view of the housing and households of older home owners.

## 2.3 Quantitative surveys

Following the successful survey methodology utilised by Olsberg and Winters (2005) in an earlier AHURI study, a self-administered four-page survey (see Appendix 2) was included in the October-November 2007 issue of 50 something. This bimonthly journal of the National Seniors Association has a circulation of 280,000. The survey will elicit data on size and composition of households, dwelling details, usual and temporary residents and frequency of change in household size and composition, the effect of family and household changes, home activities, health, care requirements and use of dwelling spaces. Attitudes to current and future housing needs and requirements will also be obtained.

An online version of the survey was also available on the City Futures website as an alternative to filling in and posting the survey. To increase the response rate, a follow-up advertisement was included in the December-January issue of 50 something (see Appendix 3) inviting readers to complete either the hard copy or online survey. Another

100 survey forms were made available to a Western Sydney service provider at their request for distribution to their clients. At the date of publication, 1,761 surveys had been received: 1,666 in hard copy and 95 online.

After checking and coding, data will be manually entered, cleaned and analysed using SPSS. The expected bias in favour of Anglo-Australians will be addressed in the qualitative stage of the research. As the survey is underway during the preparation of this Positioning Paper, it will be reported on in the Final Report.

## 2.4  Qualitative in-depth interviews

The quantitative survey will provide a database on respondents willing to be contacted for in-depth surveys. These will be analysed to identify locational concentrations of older home owners in both metropolitan and non-metropolitan NSW where interviews can be clustered. A total of 70 in-depth in-home interviews will be undertaken in a spread of localities. Constraining interviews to NSW is proposed to reduce costs. It is anticipated that this will not result in serious bias in the outcomes. Interviews will provide detailed material on the size and function of respondents' dwellings, their use of space and amenities, attitudes to housing needs and preferences and responses to various incentives and disincentives proposed to increase the efficiency, safety and ease of use of their housing. With consent, relevant (non-identifying) photographs of their housing space will be taken to visually demonstrate use of space.

Of the 70 in-depth interviews; there will be 10 interviews for each of the 65-74 years, 75-84 years and 85 years and over cohorts from an Anglo-Celtic background, and 10 interviews each covering all older age groups for the four main CALD communities: Southern European, Eastern European, Middle Eastern and Asian. Because women are a major group in this demographic, care will be taken to ensure appropriate gender representation. Recruitment will be boosted by fieldwork in localities with high concentrations of older CALD households (from Stage 2). A translator will be provided where required. Participants will be selected to represent a range of socio-economic groups. Interviews will be recorded and transcribed to assist later analysis using NVivo software.

## 2.5  Cost-benefit analysis and economic modeling

Following the interest and support of the Commonwealth Department of Health and Ageing in the research, an additional methodological stage was added to address additional research questions. This will involve a cost-benefit analysis of three different approaches to housing design to support ageing in place compared to conventional housing design, and economic modelling of the approaches over time. The approaches will comprise home modification (of conventional design), so-called 'Adaptable Design' (to Category C of AS 4299-1995 Adaptable Housing) and 'Universal Design' (based upon a selection of housing design criteria identified by Quinn (2006a)). This will be undertaken by using simulated designs based on standard housing types (detached house, townhouse and home unit).

Anticipated costs and benefits for each approach will be identified and assigned a quantitative value where possible. On the cost side, key variables are likely to comprise construction, maintenance and retrofitting. On the benefits side, reductions in residential care, home care, rehousing, government administration and health care spending are likely to be included.

In order to understand the costs and benefits of different approaches over time, an economic model of the Australian housing market will be developed. This will use quantitative data obtained in Stage 2 and existing population projections (for example, ABS Population Projections (ABS, 2006c)) to forecast the number of older households and the supply of dwellings over a 20-year period. The model will be used to test various scenarios, including a 'business as usual' scenario and three scenarios using the selected housing design approaches. Sensitivity analysis will be conducted to

assess the robustness of the modelling to changes in key variables. The outputs of the cost-benefit analysis will be a net present value and benefit cost ratio for each scenario, along with a qualitative discussion of intangible costs and benefits.

## 2.6 Research questions, methods and data sources

Table 1 shows the relationship between research questions, data sources and methods used in this research.

**Table 1: Research questions, data and methods**

| Research questions | Data | Methods |
|---|---|---|
| What are the variations in housing type, size and locations for older Australian home owners? | | |
| 1.1 What are the housing types, sizes and locations for older Australian home owners and how does this compare with other housing tenures? | 1996, 2001 and 2006 ABS Census data | Single and bivariate statistical analysis of ABS housing type, size (no of bedrooms) and location by age of respondent |
| 1.2 What are the sizes of older home owners' dwellings in terms of the sizes and functions of rooms? | 1996 ABS Australian Housing Survey data<br><br>Quantitative data from self-administered survey<br><br>Qualitative data from in-depth interviews | Single and bivariate statistical analysis of quantitative survey data<br><br>Theme tree analysis using NVivo software |
| What is the effect of age, ability and CALD background on variations in housing type, size and location? | 1996, 2001 and 2006 ABS Census data<br><br>Quantitative data from self-administered survey<br><br>Qualitative data from in-depth interviews | Single and bivariate statistical analysis of ABS personal and dwelling variables, and of survey data<br><br>Theme tree analysis using NVivo software |
| *How efficiently do older Australian home owners utilise the housing stock they occupy?* | | |
| What are the sizes and compositions of older home owners' households, considering usual and temporary residents? | HILDA data on household relationships, housing type and no. of bedrooms for older cohort<br><br>1996 ABS Australian Housing Survey data<br><br>Quantitative data from self-administered survey | Single and bivariate statistical analysis of survey data |
| What is the frequency of change in household size and composition among older home owners, and how do they respond to these changes in their use of their land and dwelling? | HILDA longitudinal data on household relationships, housing type and no. of bedrooms for older cohort<br><br>Quantitative data from self-administered survey<br><br>Qualitative data from in-depth interviews | Single and bivariate statistical analysis of survey data<br><br>Theme tree analysis using NVivo software |
| What is the effect of lifestyle and care requirements of older home owners on their utilisation of their land and dwelling? | HILDA health, lifestyle and living situation data for older cohort<br><br>Quantitative data from self-administered survey<br><br>Qualitative data from in-depth | Single and bivariate statistical analysis of survey data<br><br>Theme tree analysis using NVivo software |

| Research questions | Data | Methods |
|---|---|---|
| | interviews | |
| If there are inefficiencies, what incentives or disincentives could encourage more efficient use of dwellings and land occupied by older home owners? | | |
| *3.1 What are the policy options for more efficient use of dwellings and land occupied by older home owners?* | National literature review<br>Quantitative data from self-administered survey<br>Qualitative data from in-depth interviews | Review of documentation on precedents and best practice examples |
| *3.2 What are the incentives and disincentives for older residents making more efficient use of their land and dwelling?* | National literature review<br>Quantitative data from self-administered survey<br>Qualitative data from in-depth interviews | Review of documentation on precedents and best practice examples<br>Single and bivariate statistical analysis of survey data<br>Theme tree analysis using NVivo software |
| What are the costs and benefits of adaptable and universal design of housing compared to conventional design and retrofitting? | Estimates based on simulated design(s) incorporating conventional, adaptable and universal features | Cost-benefit analysis |
| What is the level of demand and consumer support amongst older home owners for adaptable and universal housing? | Quantitative data from additional questions in the self-administered survey<br>Qualitative data from additional content in in-depth interviews | Statistical analysis of data from selected survey questions<br>Theme tree analysis of qualitative data from in-depth interviews using NVivo software |
| What are the levels of participation of older home owners in locally based activities and social networks and how important is residential location in maintaining these? | Quantitative data from additional questions in the self-administered survey<br>Qualitative data from additional content in in-depth interviews | Statistical analysis of data from selected survey questions<br>Theme tree analysis of qualitative data from in-depth interviews using NVivo software |
| How important is access to familiar support services (e.g. medical, health) for older home owners and hence residential location in maintaining such access? | Quantitative data from additional questions in the self-administered survey<br>Qualitative data from additional content in in-depth interviews | Statistical analysis of data from selected survey questions<br>Theme tree analysis of qualitative data from in-depth interviews using NVivo software |
| How important is propinquity to family and friends for older home owners, and hence location in respect to maintaining such access? | Quantitative data from additional questions in the self-administered survey<br>Qualitative data from additional content in in-depth interviews | Statistical analysis of data from selected survey questions<br>Theme tree analysis of qualitative data from in-depth interviews using NVivo software |
| How important are design elements external to the land and dwelling (urban design) in maintaining access to local | Quantitative data from additional questions in the self-administered survey | Statistical analysis of data from selected survey questions |

| Research questions | Data | Methods |
| --- | --- | --- |
| services, activities and amenities for older home owners? | Qualitative data from additional content in in-depth interviews | Theme tree analysis of qualitative data from in-depth interviews using NVivo software |

# 3   LITERATURE REVIEW

This chapter reports on the literature review which is the central concern of this Positioning Paper. It is divided into five sections as follows:

→   The Ageing Population;

→   Older People's Housing and Households;

→   Ageing in Place: Preferences, Support and Care;

→   Housing Design and the Housing Industry;

→   Urban Design and Participation in the Community.

It focuses primarily on the literature concerned with Australian ageing and housing, but also includes relevant international literature. It includes discussion about the issues raised in the literature, identifies any gaps and considers implications for future steps in the research process.

## 3.1   The ageing population

This section reviews the ageing phenomenon in Australia and its health, disability, social and financial dimensions. It commences with a discussion of terminology and age thresholds followed by an outline of the evidence for the ageing of Australian society and associated health and disability issues. It then explores the roles of older people as carers, their use of medical services, their social activities and community participation and finally their wealth and income characteristics.

### 3.1.1   Older, but not yet old

For many, being 'old' is in the future rather than the present. The late 30s might seem middle-aged to a teenager, but those who have reached that age don't consider they will be middle-aged for another decade. Likewise, the threshold for being aged or old shifts with age, from around 61 years for those in their late teens, to 69 years for those aged 35-54, then 75 years for those aged 75+. It seems most people as they reach their later years continually re-evaluate their concept of when they will be old, because they rarely see themselves as old now (Worthington Di Marzio Research Pty Ltd [WDMR], 2006:34).

Often, a chronological measure of age is used, and the definition of 'old' varies among studies and statistical data sets, generally 60, 65 or 70 years. Age groups are then sometimes further divided into young-old (65-74), mid-old (75-84) and old-old (85+) (Family and Community Development Committee [FCDC], 1997:2). The lowering of the age at which superannuation can be accessed in Australia introduces another group, those aged 55-64, who according to this nomenclature could perhaps be labelled 'pre-old'. Alternatively, the Australian Institute of Health and Welfare [AIHW] has labelled people aged 50-64 as 'mature age', prior to reaching 'older' at 65 years (2007c:2).

Labelling age groups 'old' has been associated with negativity towards ageing and inaccurate associations of people's capabilities, focusing on their decline. A biological measure of age that has no direct association with chronological age is being used in gerontology, to better represent a person's capability. It focuses on phases of life, known as 'ages'. The third age is generally concerned with wellbeing, freedom and independence, and generally begins following retirement from employment. The fourth age is concerned with decline and dependence, even the period preceding mortality (FCDC, 1997:3). It is perhaps the association of the fourth age with being labelled 'old' that is the source of much of the negativity among the ageing population.

The term 'senior' is generally viewed more positively than 'old' (WDMR, 2006:46). However, there is some discrepancy in the age when 'senior' status is reached. A senior is defined by the federal government as a person aged over 50 years (Australian

Government, 2007b). Yet, seniors must reach the age of 60 before they are eligible for the Seniors Card, and access to 'seniors housing' through planning instruments such as New South Wales' State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 is 55 years.

In this research, the term 'senior' will be used interchangeably with 'older person'. In line with the age limit of 55 years for seniors housing policies, seniors are defined as people aged 55+. For statistical purposes, the chronological age groups 55-64 years, 65-74 years, 75-84 years and 85+ years will be used rather than descriptors of 'old'.

### 3.1.2  Population ageing

People aged 55 years or over account for almost a quarter of the total population (ABS, 2007b). By 2021, this is expected to increase to at least 30 per cent, and by 2051, at least 38 per cent (ABS, 2006c:83). The ageing of the baby boom generation is playing a significant role in our ageing society, with the first of the 'boomers' already reaching the age of 60. Census figures show an increase of 28.7 per cent in the population aged 55-59 over the last five years, compared to a 6.8 per cent increase in the overall population (ABS, 2007b), illustrated in Figures 1 and 2.

**Figure 1: Number of people aged 55+, Australia, 1996-2006 censuses**
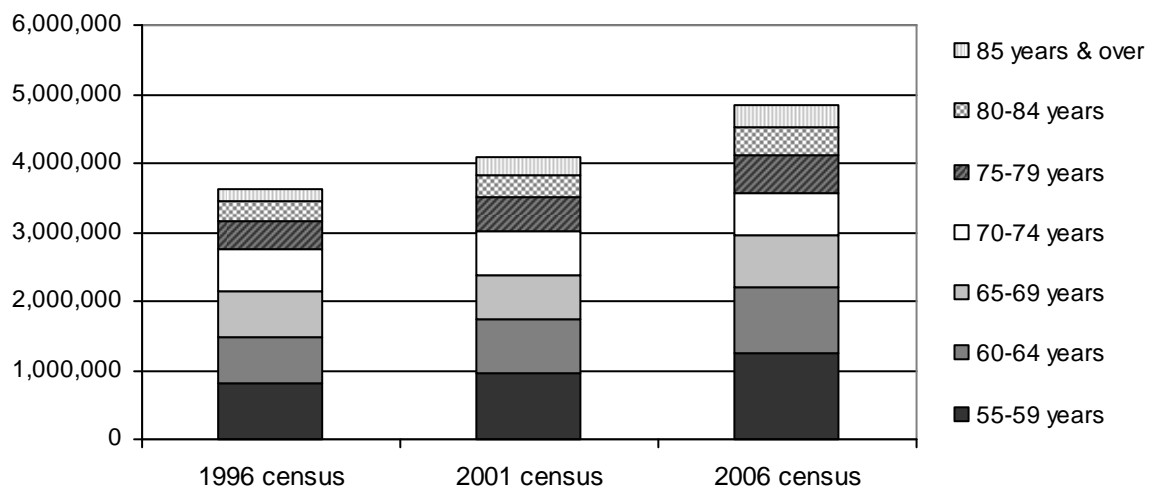


Source: adapted from ABS, 2007b

**Figure 2: Percentage of people aged 55+, Australia, 1996-2006 censuses**
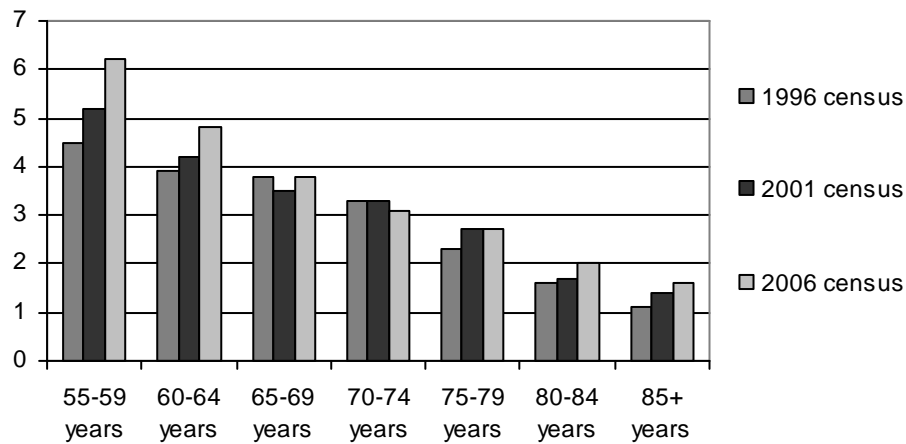
Along with the Australian-born baby boomers, many postwar migrants have reached or are approaching their senior years. In the 2006 census, 34.9 per cent of people aged 65+ (953,702) were born overseas, 61.1 per cent of these in non-English-speaking countries (AIHW, 2007c: Table 1.1,1.2). Figure 3 indicates that the most common non-English-speaking countries that people aged 65+ had migrated from were Italy, Greece, Germany, the Netherlands and China. Among those aged 75+, Poland was also a considerable source of migration.

**Figure 3: Selected countries of birth of overseas-born Australians, by age, 2006**
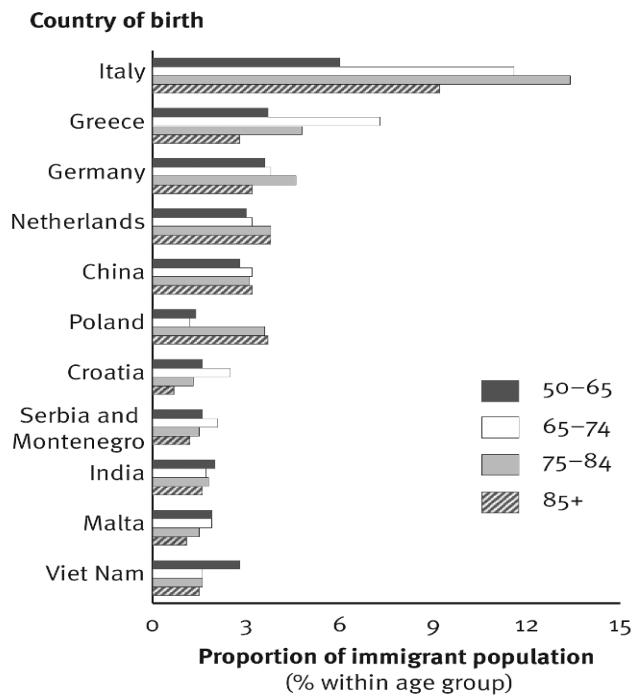


Source: AIHW, 2007c:4

The baby boom generation are not the sole reason for the rise in the senior population. The earlier generation are living longer than their predecessors (Figure 4). The 2006 census showed a 62.0 per cent increase in the 85+ years population in the last 10 years, with females accounting for more than two-thirds of this age group (ABS, 2007b). Now, an 85 year old can expect to live for another six or seven years (ABS, 2007g: Table 7.1,7.2).

**Figure 4: Life expectancy in years, by older age groups, Australia**
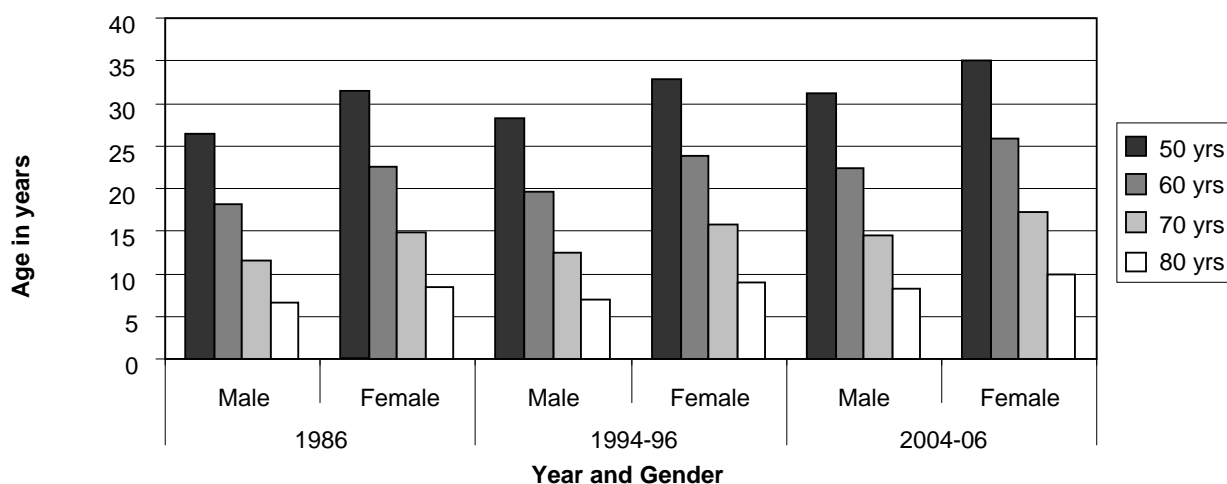


Source: Adapted from ABS, 2007g: Table 7.3

Figure 4 shows the outlook for the younger age groups is also a considerably greater life expectancy, with the life expectancy of a person at 60 increasing by three to four years in the last two decades, to 22.3 years for males and 25.8 years for females (ABS, 2007g: Table 7.3). This increase is most pronounced since the 1970s and was influenced by reduced mortality from cardiovascular conditions (AIHW, 2007c:58). There is a distinct contrast, however, in the outlook for the Indigenous population. At age 60-64 their expected life span in 2001-06 was estimated to be only 13.1 years for males and 14.4 years for females (ABS, 2007g: Table 9.12).

The outlook: ageing Australia

ABS population projections are based on three scenarios representing different assumptions (high, medium and low – Series A, B and C respectively on the following three graphs) about fertility rates, overseas migration and life expectancy.[1] Figure 5 indicates a rapid ageing of the population over the first half of the century, with the median age likely to increase from 36.4 years in 2004 to between 39.9 and 41.7 years by 2021 and further to between 44.6 and 48.2 years by 2051. Then in the second half of the century it is expected to increase more slowly to between 46.1and 49.3 years by 2101 (ABS, 2006c:43). The critical growth period is therefore over the next 20 to 30 years.

**Figure 5: Projected population, median age, Australia**



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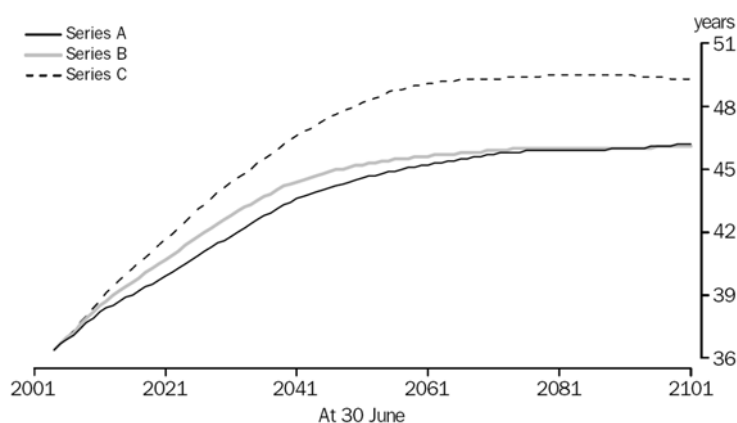
[1]  Further details about the assumptions behind each of these ABS series can be found in ABS Population Projections (4 September 2008) Catalogue 3222.0, page 8.

Another way to illustrate the ageing of the population is by projected growth in the number of people aged 65 years and over, as shown in Figure 6.

**Figure 6: Projected population aged 65 years and over, Australia**
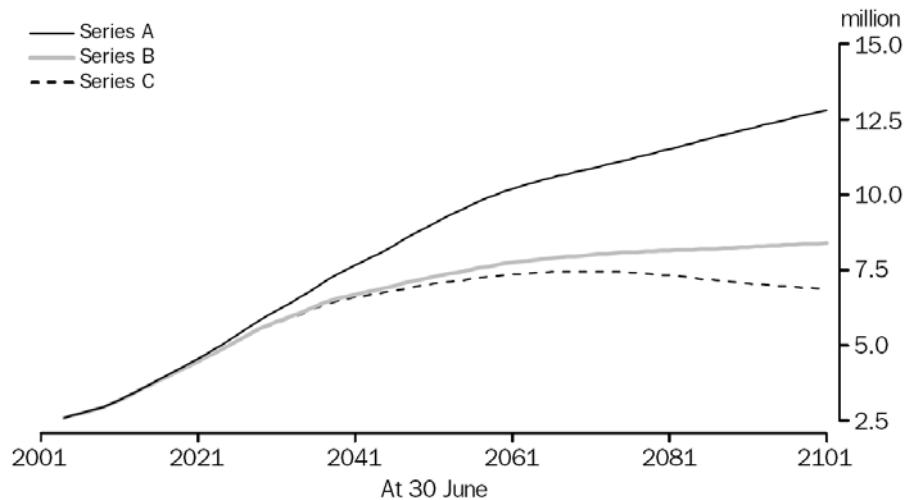
Again, for all three scenarios this shows considerable growth for the first half of this century, peaking at a rate of 4.4 per cent per annum in 2012 then flattening out for the more conservative Series B and C assumptions, but continuing to climb for the less conservative Series A scenario (ABS, 2006c:45). This would see the 65 and over population grow from 2.6 million in 2004 to between 4.5 and 4.6 million by 2021, to between 7.0 and 9.0 million by the middle of the century and eventually to between 6.9 and 12.8 million by the end of the century. Under these scenarios, the percentage of 65 and older people in the population would increase from 13 per cent in 2004 to between 18 and 19 per cent in 2021, to between 26 and 28 per cent in 2051, and eventually to between 27 and 31 per cent by 2101 (ABS, 2006c:44).

Projections for the growth in the 85 and older group are even more dramatic (Figure 7) peaking at 7 per cent per annum in 2006 and with a second peak of between 7 and 9 per cent in 2032 when the baby boomers reach this age group. This would see the number people aged 85 and over grow from 295,600 in 2004 (or 1.5 per cent of the population) to between 1.6 and 2.5 million by the middle of the century (6 to 8 per cent) and to between 1.7 and 4.3 million (7 to 10 per cent) by the end of the century (ABS, 2006c:45-46).

**Figure 7: Projected population aged 85 years and over, Australia**
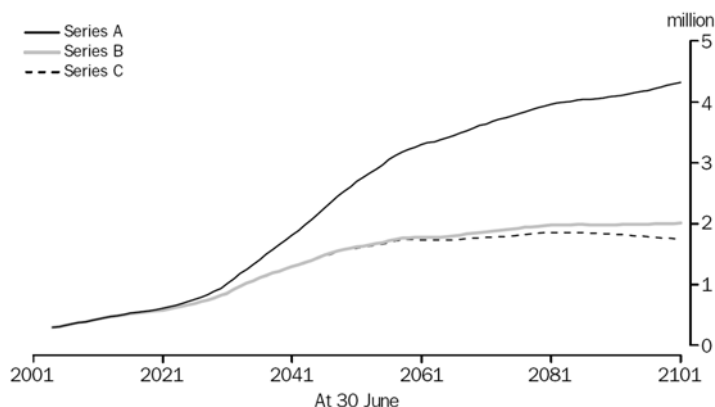
### 3.1.3 Health and Healthcare

Ageing does not necessarily result in a person experiencing declining health or disability. In 2003, close to 45 per cent of people aged 65+ had no disability. However, the rate and degree of disability does increase with age, along with limitations to the core activities of self-care, mobility and communication (AIHW, 2007c: Table A17.1).

People with a severe or profound core activity restriction require assistance with self-care, mobility and/or communication, occasionally or all of the time. This could be provided by informal carers or aged care programs. For all age groups, and especially after 85, a higher proportion of women than men have a 'severe or profound' core activity limitation. Those people reporting only mild limitations do not require assistance, but could make use of specialised aids and equipment for these core living activities (AIHW, 2007c:60-61). The proportions of older people with core activity restrictions are shown in Figure 8.

**Figure 8: Proportion with core activity limitation, by age and sex, Australia, 2003**
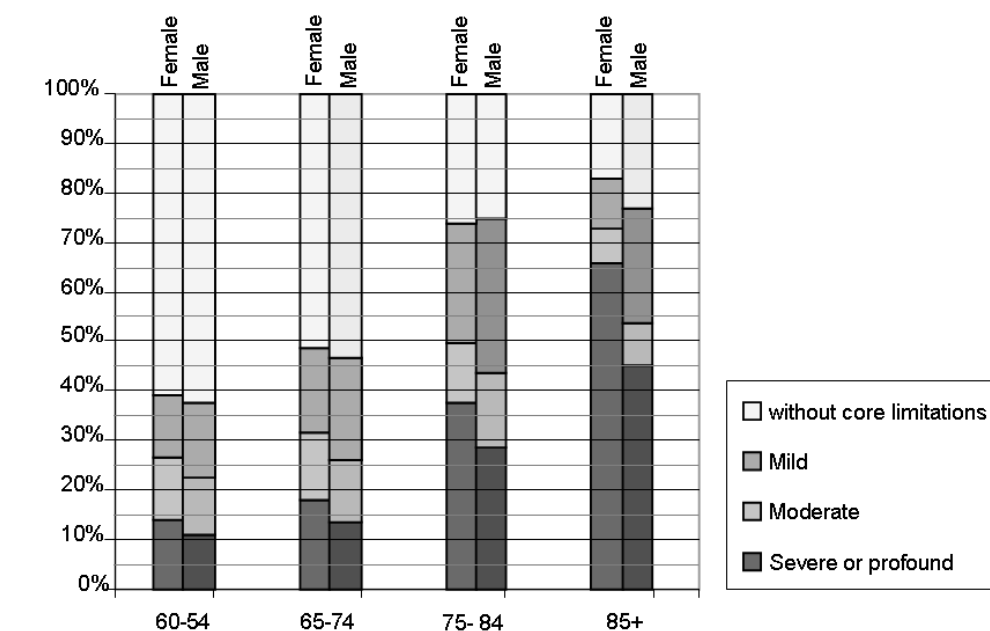


Adapted from Fig 17.1 AIHW, 2007c

Table 2 shows that the youngest of the older age group have, by far, the greatest need for property maintenance, followed by assistance with housework. However, by the age of 90, most have the need for assistance with healthcare, self-care and mobility. The need for transport assistance is at its highest between 70 and 84 years, reflecting the age when many people stop driving.

**Table 2: Persons aged 60 and Over, Need For Assistance by age, 2003, Australia**

| | 60-64 years ('000) | 65-69 years ('000) | 70-74 years ('000) | 75-79 years ('000) | 80-84 years ('000) | 85-89 years ('000) | 90+ years ('000) | Total ('000) |
|---|---|---|---|---|---|---|---|---|
| **Activities for which assistance needed** | | | | | | | | |
| Personal activities (a) | | | | | | | | |
| Self Care | 41.1 | 42.8 | 52.0 | 64.0 | 77.5 | 66.4 | 53.4 | 397.3 |
| Mobility | 55.3 | 50.2 | 71.9 | 93.7 | 114.0 | 89.3 | 63.9 | 538.2 |
| Communication | *7.4 | 11.8 | 13.9 | 18.0 | 31.9 | 32.7 | 31.5 | 147.3 |
| Cognition or emotion | 46.9 | 35.7 | 36.7 | 48.2 | 62.2 | 56.5 | 42.7 | 328.9 |
| Health Care | 75.2 | 69.9 | 113.9 | 128.8 | 147.6 | 102.8 | 66.8 | 705.0 |
| All needing assistance with personal activities | 123.1 | 111.3 | 144.0 | 157.1 | 171.7 | 114.9 | 73.6 | 895.6 |
| Paperwork | 26.5 | 25.7 | 33.7 | 56.9 | 70.0 | 66.8 | 45.4 | 325.0 |
| Transport | 61.8 | 60.4 | 98.1 | 118.9 | 122.4 | 82.9 | 33.8 | 578.3 |
| Housework | 77.1 | 68.3 | 93.9 | 107.6 | 109.9 | 66.2 | 27.4 | 550.3 |
| Property maintenance | 142.5 | 113.5 | 148.3 | 166.1 | 136.2 | 75.6 | 32.5 | 814.8 |
| Meal preparation | 16.7 | 15.3 | 26.3 | 40.9 | 38.7 | 34.8 | 14.3 | 187.0 |
| All needing assistance with at least one activity (b) | 220.2 | 187.6 | 237.5 | 260.7 | 239.8 | 151.7 | 87.3 | 1384.8 |
| Assistance not needed | 631.3 | 514.0 | 384.5 | 264.5 | 126.5 | 39.8 | *4.8 | 1965.5 |
| **Total** | **851.5** | **701.6** | **622.0** | **525.2** | **366.3** | **191.5** | **92.1** | **3350.2** |

* estimate has a relative standard error of 25% to 50% and should be used with caution

(b) total may be less than the sum pf the components as persons may need assistance with more than one activity.

These activities were only asked of persons with a disability.

Source: ABS, 2004a: Table 21

Table 3 shows that the most common health problems causing severe or profound activity restrictions in 2003 were arthritis, hearing impairment, hypertension and heart disease.

Musculoskeletal conditions (arthritis, back problems and osteoporosis) affect more than 60 per cent of people aged 65+ and have a considerable effect on their independence. Arthritis is experienced by 35.8 per cent, in around a third of whom it is severe enough to require assistance with core activities some or all of the time. Arthritis results in joint pain and stiffness, limiting mobility. Older people with arthritis reported a need for assistance with going out of the home (74 per cent), getting in and out of bed (30 per cent) and moving around within the home (33 per cent). Personal care tasks were also difficult, with 43 per cent requiring assistance with dressing and 28 per cent with bathing (AIHW, 2007c:84). Hip and knee replacements are an increasing and effective treatment for arthritis (AIHW, 2007c:84), but will further limit mobility during

rehabilitation, particularly when a wheelchair is required. Likewise, rehabilitation from joint fractures in the 8.9 per cent of people with osteoporosis can further restrict their mobility to the use of a wheelchair. The design of the home can have a critical effect on the impact of these mobility restrictions, whether they are permanent or temporary, particularly if the home can only be accessed with stairs.

Several other health conditions are shown in Table 3 that have an effect on the mobility of older people, and thus their ability to move around inside and outside the home, including stroke, limb damage due to injury, diabetes and Parkinson's disease.

Dementia has a considerable impact on the independence of an older person and their ability to remain living at home. Table 3 shows that, in 2003, 98.0 per cent of people with dementia required assistance with core activities some or all of the time. As well as the cognitive complications of dementia, these people also had, on average, another four health conditions. In 2006 the incidence of dementia had reached 6.5 per cent of the population aged 65+, but it was far more pronounced in the oldest population; affecting 17.1 per cent of males and 24.9 per cent of females in the 85+ age group (AIHW, 2007c: Table 25.1). It is estimated that undiagnosed mild and moderate dementia among people living in the community would raise these figures further still (AIHW, 2007c:87).

96 per cent of people with mild dementia live in the community, while 91 per cent of those with moderate or severe dementia live in residential aged care. In 2003, nearly half of the residents in residential aged care had dementia. The AIHW expected the rate of dementia in older people to increase by 17 per cent between 2006 and 2011, and by 150 per cent to 2031 (AIHW, 2007c:87-88). This would place a considerable strain on available residential aged care facilities, and suggests a potential increase in caring for older people with dementia, at home.

Table 3 shows that sensory impairments (vision and hearing) affect 8.2 and 29.4 per cent of older people, respectively. Despite the availability of assistive devices such as prescription glasses and hearing aids, they can have an effect on independence in the home. Particularly when the impairment is severe or profound or when an older person does not recognise they have lost a degree of hearing or vision, there can be safety issues.

**Table 3: Severity of disability among older people with selected health conditions, 2003, Australia**

| Health condition | With health condition | | | | | With health condition and profound or severe core activity limitation | | |
|---|---|---|---|---|---|---|---|---|
| | Number | % of people aged 65+ | Number for whom health condition is the main condition | % for whom health condition is the main condition | Mean number of health conditions | Number | % of those with the health condition | % of people with a severe limitation |
| Hypertension | 927,500 | 37.1 | 242,100 | 26.1 | 3.72 | 210,.00 | 22.7 | 37.5 |
| Arthritis | 893,400 | 35.8 | 428,100 | 47.9 | 4.01 | 280,500 | 31.4 | 50.0 |
| Hearing disorders- all | 73,2900 | 29.4 | | | | 242,600 | 33.1 | 43.3 |
| Heart diseases | 448,800 | 18.0 | 143,900 | 32.1 | 4.60 | 167,000 | 37.2 | 29.8 |
| Back problems | 408,900 | 16.4 | 183,700 | 44.9 | 4.43 | 112,000 | 27.4 | 20.0 |
| Diabetes | 304,000 | 12.2 | 110,700 | 36.4 | 4.09 | 100,300 | 33.0 | 17.9 |
| High cholesterol | 291,400 | 11.7 | 28,100 | 9.7 | 4.12 | 47,500 | 16.3 | 8.5 |
| Stroke | 252,800 | 10.1 | 61,800 | 24.5 | 4.74 | 126,200 | 49.9 | 22.5 |
| Osteoporosis | 221,900 | 8.9 | 67,400 | 30.4 | 4.37 | 85,100 | 38.3 | 15.2 |
| Vision disorders- all | 205,700 | 8.2 | - | - | - | 116,200 | 56.5 | 20.7 |
| Asthma | 176,500 | 7.1 | 61,300 | 34.8 | 4.25 | 56,700 | 37.3 | 7.1 |
| Head injury/ acquired brain damage | 133,600 | 5.4 | *6,400 | *4.8 | 5.09 | 45,400 | 34.0 | 8.1 |
| Nervous tension/ stress | 106,300 | 4.3 | 23,900 | 22.5 | 5.14 | 39,700 | 37.3 | 7.1 |
| Dementia & Alzheimer's disease | 99,300 | 4.0 | 67,300 | 67.8 | 5.26 | 97,300 | 98.0 | 17.4 |
| Cancer | 99,300 | 4.0 | 41,400 | 41.6 | 4.17 | 37,600 | 37.9 | 6.7 |
| Depression | 98,000 | 3.9 | 44,600 | 45.8 | 4.94 | 49,200 | 59.5 | 10.4 |
| Leg/knee/foot/hip damage from injury or accident | 97,300 | 3.9 | 44,600 | 45.8 | 4.94 | 49,200 | 50.5 | 8.8 |
| Problems with speech | 78,000 | 3.1 | | | | 67,800 | 86.9 | 12.1 |
| Phobic or anxiety disorders | 45,500 | 1.8 | 10,700 | 23.5 | 5.33 | 27,400 | 60.3 | 4.9 |
| Parkinson's disease | 26,500 | 1.8 | 10,700 | 23.5 | 5.33 | 27,400 | 60.3 | 4.9 |
| Any Condition | 2,164,800 | 86.7 | | | 3.27 | 560,900 | 25.9 | 100.0 |
| Total 65+ | 2,496,800 | 100.0 | | | 2.84 | 23% (65+) | | |

Note: People may have more than one health condition so percentages do not add to 100. *estimate has a relative standard error 25-50% and should be used with caution.

Source: AIHW, 2007c: Table A17.2

### 3.1.4 Provision of Care

While older people have their own health problems and care requirements, a number of them do provide care for others. Older people are a major source of informal care, both for people with disabilities of all ages, and for grandchildren.

Care for Others with Disabilities

The ABS Disability, Ageing and Carers Survey in 2003 showed a sizeable minority of older people were carers for others with a disability or health condition, or who are aged 60+. As illustrated in Figure 9, 19.4 per cent of males and 24.1 per cent of females aged 55-64 were carers. For males, this increases with age, to 22.1 and 24.3 per cent for those in the 65-74 and 75+ age groups respectively. For females, it is the opposite; reducing to 19.2 then 13.3 per cent for the same ages.

Most of the older primary carers assisted with mobility (77 per cent) and with self-care (66 per cent) and 29 per cent assisted with communication (AIHW, 2007c:34). The ABS Survey also showed that the time commitment for primary carers was considerable – effectively a full-time job. At least 40 hours per week were spent by primary carers aged 65+, caring for someone with a disability in their household; and 73.4 per cent of these primary carers were caring for a person with a profound limitation in their personal care, mobility and/or communication (2004a: Table 32). 93.1 per cent of primary carers aged 65+ were caring for their spouse or partner at home (ABS, 2004a: Table 30).

**Figure 9: Carer status by older age group – all persons living in households, 2003, Australia**
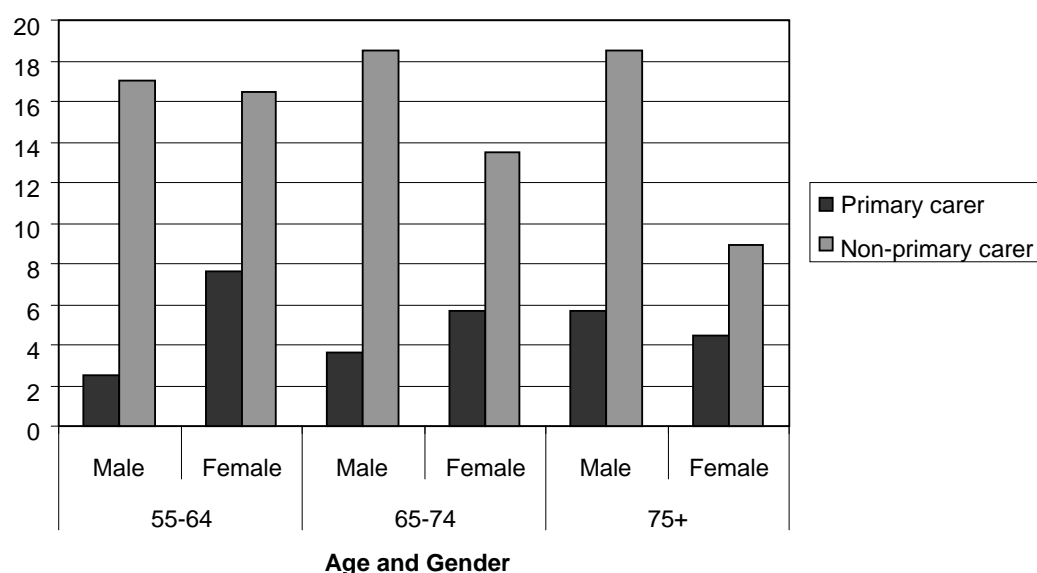


Source: Adapted from ABS, 2004a: Table 27

The effect of housing design on the carer role is considerable. Unlike professional carers in residential aged care, who would generally have a good level of health, knowledge of safe work practices, and work in an environment that has been specifically designed for care delivery, many carers are frail and have health conditions themselves. They are also highly likely to experience an injury that they attribute to their caring activities (Cummins et al., 2007:18). Unlike professional

carers, they might have limited education in avoiding injury while caring for others, and their close relationship with the care recipient could lead to them undertake more hazardous tasks, particularly manual lifting, which are avoided in residential aged care. Injuries resulting from slips, trips, falls on slippery or poorly designed floors, stairs and ramps, or from difficulty using fixtures and fittings, could lead to the carer being unable to continue this role. In some cases, the hazardous or inaccessible home environment might lead to unwanted, premature entry to residential aged care (Quinn, n.d.).

Though most older carers care for someone in their own household (ABS, 2004a: Table 30), those caring for people outside of their own home, whether a partner, child, parent or other person, can be assisted or hindered by their proximity and the available mode of transport from their home.

Childcare

Older Australians are major providers of childcare. According to the 2006 census 637,962 of people age 55 years or more were providers of unpaid childcare. This represents 13.2 per cent of this age group (ABS, 2007a).

Grandparents provide the majority of informal care to children aged 0-11 years, and particularly for their very young grandchildren aged 0-4 years. The ABS 2005 Child Care Survey showed 28.0 per cent of children aged 4 years and under were cared for at least part of the time by a grandparent (ABS, 2005: Table 27). Most childcare by grandparents took place on weekdays only (76.7 per cent), and most was for one (44.0 per cent) or two (18.6 per cent) days per week (ibid: Table 5). However, 10.9 per cent of children 0-12 years were cared for by a grandparent every weekday, and 6.4 per cent had more than 40 hours a week of care provided (ibid: Table 4,5).

Whether older people provide care for young children in their own home or that of the children, there is an impact on the design of housing. The older carers' home will need to not only suit the abilities of the older person, it will need to be 'child-safe' as well. For very small children, a bedroom or at least a sleeping area would need to be provided for day stays as well as overnight visits. Indoor and outdoor play areas might also be needed. Similarly, the homes of younger families will need to suit older people. Proximity and travel to the place of care also needs consideration, particularly if there are early starts and late finishes on working days. Also, the surrounding communities need to consider that there will be older people and young children using services and amenities, even in neighbourhoods that are considered to be predominantly for older people or for young families.

### 3.1.5 Use of Medical Services

It is important to understand the use of medical services for older people to appreciate their care requirements at home as well as their travel requirements to a health facility.

'General practitioners (GPs) play a significant role in the lives of many older people as primary health-care providers and as a point of referral to other health services' (AIHW, 2007c:105). Older Australians visit their GP at more than twice the rate of people aged less than 65 years, on average about 8.6 times per year. The annual number of visits increases with age, and is considerably higher for older women than men. By far the most common reasons were for a check-up or prescription. The rate of prescription provision for people aged 65+ years was more than 100 per 100 visits, highlighting the importance of access to both GP and pharmacy services for older people (AIHW, 2007c:105,109).

People aged 65+ also have a higher use of hospitals than the younger population. They comprise 35 per cent of all hospital separations (being admitted for treatment). This represents 926 separations per 1,000 population, compared to a crude rate of 340 separations for the Australian population. In contrast to GP visits, older males have a considerably higher rate of hospital separations than females (AIHW, 2007c:114).

53 per cent of hospital separations for older people are for same-day procedures (AIHW, 2007c:114-115). Considering that these require early morning arrival and/or departure late in the day, proximity of the hospital to an older person's home and the provision of transport increases in importance. In many cases, the nature of their health condition or medical procedure (such as cataract procedures or the administration of anaesthetic) would prevent a person driving themselves.

The number of same-day hospital separations as a proportion of all separations decreases with age, while the length of stay for multi-day separations increases. In 2004-05, the average length of multi-day stay for males aged 85+ was 10.5 days, and for females was 11.3 days (AIHW, 2007c:115). Proximity and transport to the hospital could be less critical for a patient on a longer multi-day stays, but they would still have a considerable impact on families who are visiting, particularly for patients aged 85+, as their spouse and perhaps children would themselves be elderly.

### 3.1.6 Workforce Participation and Retirement

In line with the policy of encouraging older people to remain in the workforce for as long as possible, their workforce participation has increased considerably. Table 4 shows the increase in the employment of older people over the last 10 years, in all age groups, both part-time and full-time. The increase in part-time work was greatest in the 60-64 years age group, while full-time work showed a considerable increase among people aged 55-59 and 60-64. The greatest increase was for women in the 55-64 age group, at 17.4 per cent (AIHW, 2007c:21).

**Table 4: Labour status of people over 45, 1996 and 2006 (percent), Australia**

| | October 1996 | | | | October 2006 | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | *45-54* | *55-59* | *60-64* | *65+* | *45-54* | *55-59* | *60-64* | *65+* |
| Employed | 73.7 | 54.4 | 29.7 | 5.5 | 79.9 | 66.7 | 43.7 | 8.1 |
| Full time | 58.2 | 40.3 | 21.1 | 2.8 | 60.3 | 48.5 | 27.9 | 3.9 |
| Part time | 15.6 | 14.1 | 8.6 | 2.7 | 19.6 | 18.2 | 15.8 | 4.3 |
| Unemployed | 4.6 | 4.2 | 1.7 | * | 2.5 | 1.8 | 1.4 | 0.1 |
| Looking for full-time work | 4.1 | 3.7 | 1.3 | * | 2.1 | 1.3 | 1.2 | * |
| Looking for part-time work | 0.5 | 0.5 | 0.3 | * | 0.4 | 0.5 | 0.3 | * |
| Labour force | 78.3 | 58.6 | 31.3 | 5.5 | 82.4 | 68.5 | 45.1 | 8.2 |
| Not in the labour force | 21.7 | 41.4 | 67.7 | 94.5 | 17.6 | 31.5 | 54.9 | 91.8 |
| Total number ('000s) | 2,331.4 | 836.0 | 714.8 | 2,215.8 | 2,846.9 | 1,280.1 | 1,013.6 | 2,757.5 |

Source: AIHW, 2007c: Table 6.1 (* = Nil or rounded to zero)

Despite these increases, full-time participation is still relatively low by 55-59 years: less than half. Participation almost halves again in the following five years. In the 65+ age group, more than 96 per cent are not working full-time.

The concept of retirement is changing, and many who retire from full-time work gradually reduce their hours, commence part-time work or re-enter the workforce at a later time (AIHW, 2007c:24-25). Of those aged 45+ who nominated their intended retirement age in the ABS Retirement and Retirement Intentions survey, the most common intended age was 60-69 years, suggesting that workforce participation will continue to increase among older Australians (AIHW, 2007c:26).

Continued workforce participation among older people and increases in part-time work suggest that older workers might be reluctant to travel long distances to their workplace, and home-based work could increase. This has implications for the proximity of home to the workplace, the availability of transport, and the provision of data and communication facilities, as well as home office space, in dwellings.

### 3.1.7  Social Activities and Community Participation

The ability level of older people has a marked effect on whether they are able to go out as much as they would like. In the 2003 ABS Survey of Disability, Ageing and Carers, 85 to 87 per cent of older people living alone were satisfied with their frequency of going out, which was consistent across all age groups. In contrast, those living alone with a 'profound or severe limitation' (needing assistance with core activities some or all of the time) showed far less satisfaction; only 47 per cent could go out as often as they would like. Likewise, people with limitations who lived with others were less likely to be satisfied with the frequency they went out (46 per cent), compared to people without limitations living with others (86 per cent) (AIHW, 2007b:137-138).

### Socialising with Friends, Family and Neighbours

Older people's propinquity (i.e. physical and psychological nearness) to family and friends is, in part, affected by the physical distance of their homes and their transport options for face-to-face contact, and their use of communication technology for remote contact. For those 29 per cent of people aged 65+ and 39 per cent of people aged 85+ who are living alone, nearness to friends and family can address the risk of social isolation and loneliness (AIHW, 2007c:11).

AIHW analysis of the 2006 ABS General Social Survey [GSS] indicates that 96.6 per cent of females and 95.0 per cent of males over 65 have contact at least once per week with family and friends outside the household (see Table 5). This varies very little between older age cohorts except for those 85 years and over of whom 99.5 per cent of women and 89.0 per cent of men have at least one contact per week (AIHW, 2007c: Table 10.1).

**Table 5: Contact at least once a week with family and friends living outside the household by people aged 55 and over, by sex, 2006, Australia**

|  | *Any form of contact* | | *Face-to-face contact* | | *Total* | |
|---|---|---|---|---|---|---|
|  | *Number* | *Per cent* | *Number* | *Per cent* | *Number* | *Per cent* |
| *Female* | | | | | | |
| 55-64 | 1,084,500 | 96.4 | 922,100 | 82.0 | 1,125,100 | 100.0 |
| 65-74 | 681,500 | 96.0 | 584,900 | 82.4 | 710,100 | 100.0 |
| 75-84 | 488,600 | 96.7 | 409,100 | 81.0 | 505,100 | 100.0 |
| 85+ | 139,200 | 99.5 | 114,00 | 81.5 | 139,800 | 100.0 |
| Total | 1,309,300 | 96.9 | 1,107,900 | 81.8 | 1,355,100 | 100.0 |

| | Any form of contact | | Face-to-face contact | | Total | |
|---|---|---|---|---|---|---|
| | Number | Per cent | Number | Per cent | Number | Per cent |
| females 65+ | | | | | | |
| **Male** | | | | | | |
| 55-64 | 1,059,300 | 94.4 | 848,800 | 75.7 | 1,121,600 | 100.0 |
| 65-74 | 649,500 | 95.4 | 476,400 | 70.0 | 680,700 | 100.0 |
| 75-84 | 388,700 | 95.6 | 263,100 | 64.7 | 406,700 | 100.0 |
| 85+ | 69,900 | 89.0 | 65,300 | 83.1 | 78,500 | 100.0 |
| Total males 65+ | 1,108,100 | 95.0 | 804,700 | 69.0 | 1,166,000 | 100.0 |

Source: AIHW, 2007c: Table 10.1

For face-to-face contact, the percentages are lower and the gender differences more marked, with 81.8 per cent of females and only 69.0 per cent of males aged 65+ having such contact weekly. However, the lower weekly face-to-face social contact among men declines from 75.7 per cent in the 55-64 cohort to a low of 64.7 per cent in the 75-84 age group, whereas that of women remains fairly stable at around 81 or 82 per cent. Conversely, in the 85+ age group, men actually had more face-to-face weekly contact (83.1 per cent) than did women (81.8 per cent). No explanation is offered for these gender differences (AIHW, 2007c:35).

At around 80 per cent, the number of older people having weekly contact with non-resident family and friends is consistent with other ages of adults. Similarly, the reasonably consistent level of around 20 per cent of older people having daily face-to-face contact with family and friends outside their household is a small increase from middle age (45-54), but is no different from younger adult years (ABS, 2007h: Table 2).

Also based on ABS GSS data, the AIHW report noted that 'around 93 per cent of older people living in the community participated in informal social activities (e.g. visiting or socialising with friends) in the 3 months before the interview' and that 'the most common type of social activity was visiting (or being visited by) friends (87 per cent), followed by meeting friends for indoor (61 per cent) or outdoor (58 per cent) activities'. This declined with age, particularly for outdoor social activities, for both genders. However, for those aged 85+, only 15 per cent of men and 9 per cent of women had participated in informal social activities in the three months prior to the survey (AIHW, 2007c:36).

GSS data shows that around two-thirds of older people had all or most of their friends of a similar age, until they reached the 85+ age group, when this fell to just fewer than half (ABS, 2007h:Table 31). Considering that older people are mainly socialising by visiting their similarly aged friends, or being visited by them, the design of their homes, and the distance, path of travel and provision of transport between their homes is particularly important.

There is little published to date from the HILDA longitudinal survey regarding the social networks of older people specifically, but the first statistical report indicates that only 10.8 per cent regarded themselves as having a 'poor social network', while a much higher 35 per cent reported that they had 'unhelpful neighbours' (Headey, Warren & Harding, 2006).

## Participating in the Community

Figure 10 illustrates ABS GSS data on the active involvement of older age groups in a range of social or support groups. Women appear to be more actively involved in all groups at a higher and more consistent level than men, with the exception of sport or physical recreation. Women appear to have much higher levels of involvement (between 25 and 30 per cent) in other social groups, whether religious/spiritual, crafts/hobbies or adult education. A higher percentage of men in the younger two cohorts (55-64 and 65-74) had no active involvement in social or support groups. In the oldest cohort (85+), a higher percentage of women had no active involvement in such activities in the three months prior to the survey. This suggests that men are more socially isolated in the younger cohorts and women in the older.

Participation in sporting and recreational activities is low for older people and declines with age. The GSS found participation within a 12 month period in 2005-06 was close to 60 per cent for people in the 55-64 age group, declining to 53 per cent, then 41 per cent in the following age groups. By the 85+ age group it was a mere 25 per cent (ABS, 2007h: Table 31). Frequent participation in sport and recreational activities is markedly lower. Just 32 per cent of 55-64 year olds and 27 per cent of people aged 65+ participated more than twice per week. While the proportion of females in this frequent participant group exceeded males for those aged 55-64 by about 10 per cent, there was negligible difference between genders for those aged 65+ (ABS, 2007i:Table 5).

The most popular recreational activity for people aged 55+ was, by far, walking for exercise, undertaken by 35 per cent of 55-64 year olds and 29 per cent of people aged 65+. The next most popular activities among 55-64 year olds were golf (9 per cent), aerobics/fitness activities (8 per cent) and swimming (6 per cent). Despite a drop in participation, the same activities were popular in the 65+ age group, along with a rise in lawn bowls participation (6 per cent) (ABS, 2007i:Table 7).

**Figure 10: Active involvement in social or support groups in the last 12 months, by age and sex, 2006, Australia**
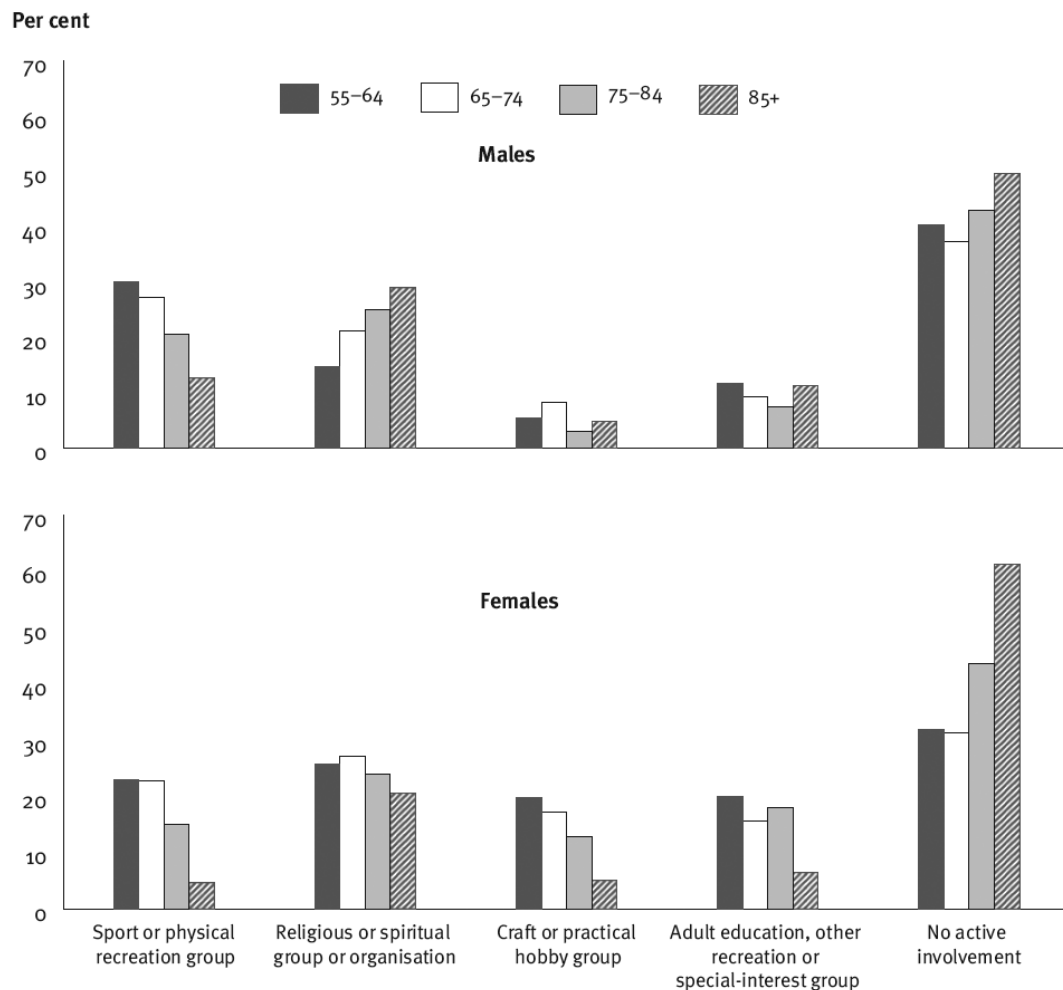


Source: AIHW, 2007c: Figure 10.1

The reported reasons for this very low level of participation were predominantly related to age, ongoing injury or illness and lack of interest. If there was any mention of factors related to a lack of access to sport and recreation facilities, it was negligible (ABS, 2007i:Table 19). The low rate of regular participation in sporting and recreational activities, and the high rate of older people who do not participate at all, is a particular concern considering the importance of physical activity to healthy ageing.

As might be expected, involvement in cultural events also declines with age, with 80.8 per cent of 55-64 year olds having attended at least one event in the last 12 months compared to 72.7 per cent of 65-74 year olds and only 58.6 per cent of 75 and older persons. Females were found to generally be somewhat more involved in cultural events than their male counterparts (82.1, 76.6 and 61.7 per cent compared to 79.6, 68.8 and 54.4 per cent respectively for the three same cohorts). Attending the cinema was by far the most popular cultural event for the 55-64 and 65-74 cohorts for both men (53.1 and 40.3 per cent) and women (58.1 and 49.1 per cent), with other activities such as libraries, botanical gardens, zoos and aquariums, art galleries and museums being attended by between 20 and 30 per cent of these age groups. For those 75 and older, while overall cultural event participation declines, libraries are attended more than cinemas.

Among adults, older people have the highest level of participation in religious or spiritual groups or organisations and attendance at religious services (ABS, 2007h:Table 29; Headey & Warren, 2007:94). In the 55-64 age group, participation is similar to people aged 35-54 years: around 20 per cent. For those aged 65+, participation rises and remains relatively stable, at 24 to 25 per cent (ABS, 2007h:Table 29). The HILDA survey found that around 27 per cent of females and 20 per cent of males aged 60+ attended religious services at least once per week. These females reported a higher level of satisfaction with life and feeling part of the local community than females who attended services less frequently. Surprisingly, this frequent attendance appeared to have the opposite effect on males (Headey & Warren, 2007:96).

Many older people are also involved in and make a significant contribution to civic life (see Table 6). The ABS GSS survey revealed that in 2006 around a quarter of those aged 65 and over (23.9 per cent of males and 26.7 per cent of females) were actively involved in community organisations, while 16.3 per cent of males and 10.7 per cent of females had 'active involvement in governance and citizenship groups', including bodies corporate and tenant associations. Less formal civic activity (such as boycotting, petitions, protests, meetings and rallies) involved over a third (36.6 per cent of males and 35.2 per cent of females) aged 65 and over. In all three categories, involvement is greatest in the younger cohorts and decreases with age (AIHW, 2007c:29-31).

**Table 6: Community and civic participation in the last 12 months, by age and sex, 2006, Australia**

| | Active involvement in governance and citizenship groups | | Active involvement in community organisations | | Engagement in civic activity | | Total persons |
|---|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % | |
| **Males** | | | | | | | |
| 55-64 | 285,100 | 25.4 | 272,800 | 24.3 | 535,100 | 47.7 | 1,121,600 |
| 65-74 | 126,300 | 18.6 | 180,000 | 26.4 | 278,800 | 41.0 | 680,700 |
| 75-84 | 61,900 | 15.2 | 82,700 | 20.3 | 134,000 | 32.9 | 406,700 |
| 85+ | **1,800 | **2.3 | *16,400 | *20.8 | *13,900 | *17.7 | 78,500 |
| Total males 65+ | 190,000 | 16.3 | 279,100 | 23.9 | 426,700 | 36.6 | 1,166,000 |
| **Females** | | | | | | | |
| 55-64 | 223,900 | 19.9 | 360,400 | 32.0 | 606,100 | 53.9 | 1,125,100 |
| 65-74 | 88,700 | 12.5 | 219,000 | 30.8 | 304,900 | 42.9 | 710,100 |
| 75-84 | 47,700 | 9.6 | 121,300 | 24.0 | 145,900 | 28.9 | 139,800 |
| 85+ | 145,500 | 10.7 | 361,800 | 26.7 | 475,700 | 35.1 | 1,355,100 |

Older people also make a major contribution to the community through voluntary work – and more so than younger people. According to the ABS GSS, in 2006 an estimated 690,400 contributed 160 million hours to community work (AIHW, 2007c:28). Table 7 indicates that volunteering (other than in the oldest 85+ age group) is somewhat

greater amongst women than men and, as would be expected, declines with age. Depending on their age, volunteers commonly contribute between 1.5 and 2 hours per week (AIHW, 2007c:28-29).

**Table 7: Volunteering, by age and sex, 2006, Australia**

|  | Males | | | | Females | | | | Persons | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | 55-64 | 65-74 | 75-84 | 85+ | 55-64 | 65-74 | 75-84 | 85+ | 55-64 | 65-74 | 75-84 | 85+ |
| Volunteers ('000) | 304.8 | 203.7 | 89.2 | *20.1 | 421.6 | 250.4 | 116.0 | *10.9 | 726.4 | 454.1 | 205.2 | 31.1 |
| Volunteer rate (%) | 27.2 | 29.9 | 21.8 | *25.7 | 37.6 | 35.1 | 22.9 | *7.8 | 32.4 | 32.6 | 22.4 | 14.2 |
| Total annual hours (million) | 63.7 | 53.6 | *36.2 | *1.6 | 68.5 | 49.5 | 17.8 | **1.3 | 132.2 | 103.2 | 54.0 | *2.9 |
| Average annual hours | 209.1 | 263.2 | 405.8 | *76.9 | 162.5 | 197.9 | 153.8 | **122.1 | 182.0 | 227.2 | 263.3 | *92.8 |
| Median annual hours | 66 | 120 | *121 | *50 | 84 | 84 | *90 | **47 | 80 | 104 | 104 | **28 |
| Median(a) weekly hours | 1.3 | 2.3 | *2.3 | **1.0 | 1.6 | 1.6 | *1.7 | **0.9 | 1.5 | 2.0 | 2.0 | **0.5 |
| All persons ('000) | 1,119.5 | 681.1 | 409.9 | 78.5 | 1,119.8 | 713.8 | 506.8 | 139.8 | 2,239.3 | 1,394.8 | 916.7 | 218.4 |

*Estimate has a relative standard error of 25% 50% and should be used with caution

** Estimate has a relative standard error greater than 50% and is considered too unreliable for general use

(a) Median annual hours divided by weeks in the year (52).

Source: ABS GSS as cited in AIHW, 2007c:Table 8.1

Compared to their younger counterparts 'older people were more likely to volunteer for community or welfare organisations (33 per cent) than sport and physical recreation organisations (13 per cent), although older male volunteers (19 per cent) were more likely to be involved in sport and recreation organisations than females (8.5 per cent) (AIHW, 2007c:28).

Volunteering has been shown to have a beneficial effect on seniors. Analysis of AARP's Beyond 50.05 Survey showed a significant link between volunteering and factors for successful ageing, including life satisfaction, quality of life and coping with the challenges of their later years (Kochera, Straight & Guterbock, 2005:Table 5).

Another important form of community involvement is in education activities. While very few older people participate in formal education (only 4,214 who were 60 years and older in 2005), it is estimated that 31,600 people 60-64 year old and an additional 28,500 people 65 and older were undertaking 'publicly-funded vocational education and training courses in 2005' (NCVER 2006, Table 3 as cited in AIHW, 2007c).

Transport for social and community activities

The ability to drive can have a considerable effect on the independence of older people. Particularly in areas that are not serviced by frequent public transport services, private transport is often relied upon for maintaining social networks and access to amenities and services.

For older people, the private vehicle is still the transport option most relied on; however, the number of drivers reduces as age increases. In the 65-74 age group, 92.5 per cent of males still have access to a vehicle for driving; this is only a small reduction from the peak of 93.4 per cent for the 35-44 year age group. Even in the 85+ age group, nearly two-thirds of males drive (ABS, 2007h:Table 3). For females, the decline in driving is much greater over time. From a rate of 87.9 per cent for the 55-64 age group, it drops to 71.9 per cent, then 55.3 per cent, and finally to a low of just 14.2 per cent, in the following decades (ABS, 2007h:Table 4).

A lack of public transport availability, either through excessive distance to the nearest transport stop or infrequency of service, can lead to older people continuing to drive when their health condition makes it no longer safe for them to do so. In Sydney, the public transport requirement for seniors (over 55s) housing in the community is a single service in the morning and a single service in the afternoon to and from the residential development, on weekdays. There is no requirement for any public transport on weekends ('State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004,':Clause 26).

Cost of public transport has been an issue for older people, particularly for those reliant on private buses. Programs that subsidise travel cost for pensioners on public and private transport, such as the $2.50 day ticket in Sydney, have addressed this (at least in some urban areas) to some extent.

Reliance on public transport is particularly problematic in regional areas. Older people have reported inflexible timetabling which does not suit their needs, a lack of transport in school holiday periods in areas where bus services are focused on school runs, higher cost of private bus services compared with public services that are often not available, and the limited availability of community transport (Fogg, 2000a).

As many older women who have stopped driving are reliant on their husband to drive them when attending medical appointments, shopping and social activities, they can become socially isolated when their husband dies. They are less likely to be able to rely on their family for transport, as many younger people have migrated away from regional areas. Also the prevalence of older people making a sea- or tree-change on retirement means that their families are not close by (Fogg, 2000b).

### 3.1.8 Wealth, income and housing

Wealth

Wealth is a net concept and measures the extent to which the value of household assets exceeds the value of household liabilities. Wealth matters enormously both to older individuals and to households with a reference person in pre-retirement or retirement stages of the lifecycle. Wealth confers a level of economic security as it directly generates income, enabling individuals to cope when incomes fall. Also, the capacity to borrow money is directly dependent on the level of ownership of assets. Despite the relatively low average incomes of older individuals and households in Australia,[2] there is a clear age-based profile to wealth holdings as household net

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[2] NATSEM/AMP Report No. 7, March 2004, revealed that 70 per cent of people aged 65 and older had income less than $300 per week.

worth steadily increases with age of household reference person. The significance of home ownership as a source of private wealth is widely recognised in a range of government reports and policy documents released over the past 15 years (for example, Harding, King & Kelly (2002), Kelly & Harding (2004), AIHW (2007c)). This stems from increases in the value of owner-occupied housing and the high levels of home ownership of older people together with demographic change which together have resulted in large increases in older people's share of total national wealth (Kelly, 2001).

As a consequence, ownership of housing wealth has prompted considerable public commentary on the potential for the use of personal wealth such as owner-occupied housing as a source of increased self-provision in retirement (AIHW, 2007c:44). This section reports on the financial resources of older men and women, those in retirement and in the pre-retirement stages of the life passage. Their financial resources are crucial to decisions concerning future housing choices and options. This section also provides an important context for the cost-benefit analysis which constitutes one of the next stages of the project.

In 2005-06, households with a reference person in the age group 55-64 years had the highest mean household net worth ($824,000) (ABS 2007f:Table 13A, cited in AIHW, 2007c), higher than the average mean net worth of all households ($563,000). The mean net worth of households with a reference person in the age group 65-74 years was somewhat lower than this at $743,000, and that of households with a reference person aged 75 years and over was lower again at $575,000. Kelly reports that the level of household wealth peaks in the pre-retirement years of 55 to 64, after which it declines, and also tends to be greater for couples for all age groups (Kelly, 2001:22). AIHW suggests that reduced mean net worth at older ages, compared with wealth at age 55-64 years, can be attributed to the drawing down of assets for consumption during retirement and different patterns of wealth accumulation throughout the lifecycle for different age cohorts (ABS, 2006l, cited in AIHW, 2007c:44).

For many older people, their home represents a significant part of their assets. Despite recent increases in the coverage of superannuation and in the amounts held in superannuation retirement savings, the major component of older people's wealth remains in owner-occupied housing assets. HILDA survey data, for example, reports that property constitutes almost 55 per cent of all household assets and close to 75 per cent of assets of the median household (HILDA, 2002). And for most older people, equity in their home is unencumbered by mortgage or debt. In 2003-04, 85 per cent of couples with a reference person aged 65 years and over owned their own home without a mortgage, as did 74 per cent of lone persons aged 65 years and over (ABS, 2006l:Table 3, cited in AIHW, 2007c:44).

Figure 11 reveals that although the mean net worth of households decreased with age, nevertheless the proportion of assets held in owner-occupied housing continues to increase in older cohorts as a proportion of mean net worth so that, for households with a reference person 75 years and over, almost 60 per cent of household net worth lies in owner-occupied housing.

**Figure 11: Composition of household Networth, by age group of reference person, 2003-04, Australia**
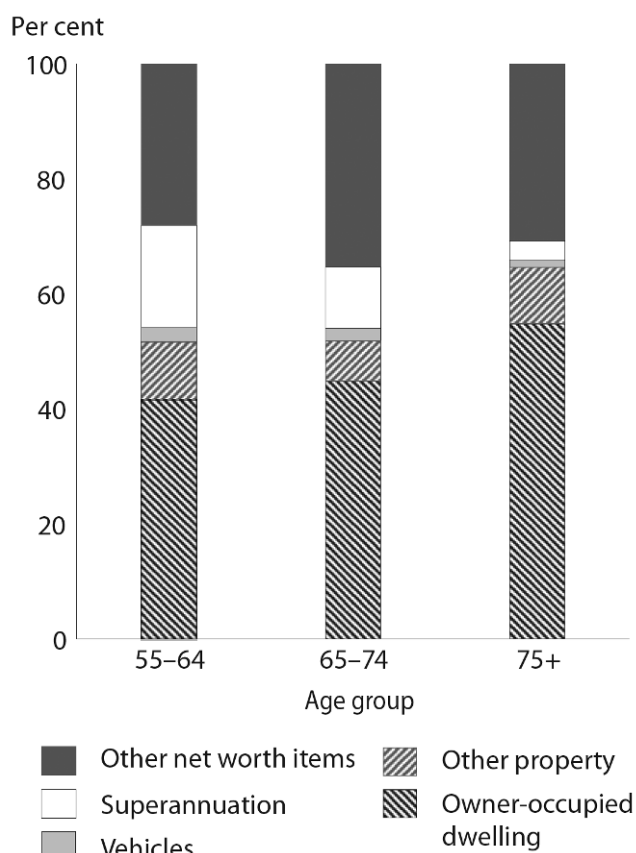


Source: ABS 2006I, Table 20 as cited in AIHW, 2007c:44

It is important to note here that the wealth of older people in Australia is not evenly distributed. The wealthiest quarter of those aged 65 and over own 71 per cent of the total wealth of that age group, and the disparity between them and the other three-quarters has increased in recent years. Moreover, those in the lowest fifth are not home owners (Harding et al., 2002:9). This inequality is not simply a function of the lifecycle. Ownership of wealth in Australia is very unequally distributed, with the bottom half of the distribution owning less than 10 per cent of total household net worth while the wealthiest 10 per cent account for 45 per cent of total net worth. An analysis of household wealth in Australia indicates that it is significantly related to a range of factors including age, country of birth, parental occupational status, education, marital status, working hours, income, self-reported savings behaviour, a willingness to take risks and even various lifestyle behaviours, such as smoking and alcohol consumption (Headey, Marks & Wooden, 2004). And according to this analysis, even within age cohorts, including older age groups, 'there is very pronounced concentration of wealth in the hands of relatively few' (Headey, Marks & Wooden, 2004:27).

Despite the obvious peak for the wealth holding of the pre-retirement cohort aged 55-64 years, Table 8 shows the wealth holdings of most Australian households to be relatively modest.

For the median household where the reference person is aged between 55 and 64 years, net worth is about $430,000, which is well short of what is required to provide

what the Association of Superannuation Funds of Australia recently defined as 'a comfortable lifestyle' (Association of Superannuation Funds [ASFA]/Westpac, 2007). Allegedly, this requires an income at current prices of just over $43,000 a year, which in turn would require, in order to retire at age 60, an investment portfolio of about $650,000. Further, it must also be borne in mind that much of household net worth is tied up in the primary place of residence which is not so easily converted into cash.

**Table 8: Distribution of household wealth by component of age of household reference person, 2002, Australia**

| Age cohort (years) | Property (Net)* ($000) | Household net worth* ($000) |
|---|---|---|
| 55-64 | 313 (220) | 674 (430) |
| 65-74 | 280 (200) | 494 (309) |
| 75+ | 199 (160) | 332 (241) |

*Mean values, $000s (Medians in parentheses)

Source: Adapted from Headey et al., 2004: Table 5

Headey, Marks and Wooden (2004:50) conclude as follows:

…if we assume that Australians desire to continue to live in the same home (admittedly a simplistic assumption given that many Australians move into smaller, less expensive housing as they age), then the median household in the 55-64 age group really has only about $240,000 available for funding retirement, given the median net value of primary residences for [that] age group is $190,000. Add the fact that many of the reference persons for households in this age bracket have already retired, then it seems safe to conclude that the dependence of most retirees on government to meet their consumption needs is not going to change any time soon.

Table 9 shows inequality in wealth for all age groups, seen most clearly in the interquartile wealth ratio. This shows how the wealth of households at the 75th percentile exceeds that of households at the 25th percentile in the distribution. Interestingly, the level of inequality in the wealth distribution within age groups is less than the level of inequality within the entire population.

**Table 9: Measures of the distribution of net worth by age group, 2002, Australia**

| Age (yrs) | Net worth percentile ($000) | | | | | Interquartile ratio | |
|---|---|---|---|---|---|---|---|
| | 10th | 25th | 50th | 75th | 90th | 75/25 | Gini coeff |
| 55-64 | 15 | 156 | 426 | 837 | 1436 | 5.4 | 0.57 |
| 65-74 | 12 | 137 | 305 | 567 | 1080 | 4.1 | 0.57 |
| 75+ | 14 | 109 | 237 | 394 | 646 | 3.6 | 0.54 |
| Total | 4 | 51 | 214 | 492 | 910 | 9.6 | 0.61 |

Source: Adapted from Headey et al., 2004:Table 6

## Income

There are obviously major differences in the income of pre-retirees and those already in retirement, as among pre-retirees there are also differences in the income of full-time, part-time and unemployed people. Data from the HILDA Survey Wave 2 revealed that average total personal income from employment for 2002-03 for pre-retirees aged 50 to 69 years employed full-time was $52,500, contrasted with part-timers' average of $30,800 and $16,600 for those not in the paid labour force (Household Income and Labour Dynamics in Australia Survey [HILDA], 2002). An analysis of pre-and post-retirement income by AMP/NATSEM revealed that people retiring before age 55 are not well off and that many younger retirees have very low incomes. Those aged 50-54 receive an average of just $11,000 per year and over half of all younger retirees have personal incomes of between zero and $10,000 a year. These low incomes reinforce the view that many may not have retired from choice, but rather have been forced into retirement. The proportion of retirees with higher incomes increases dramatically in the 55-59 age group, but then drops dramatically after age 60. The report suggested this is most likely because they have gained access to superannuation savings at age 55, but that this income they have been living on in the first few years of retirement is depleted and unsustainable in the longer term. The report also showed that households that maintain at least one member in employment have a considerably higher income than where both are retired (AMP/NATSEM, 2004:3).

For the majority of the older population, superannuation retirement benefits are negligible, are most frequently used to pay off debts or are quickly depleted in the first years after retirement (Association of Superannuation Funds [ASFA], 2007). The majority of retirees and older people who have not been in the paid workforce very quickly find themselves entirely dependent upon the age pension for income (ASFA, 2007). At 30 June 2006, 66 per cent of the population over the qualifying age received the age pension. The qualifying age for men was 65 years and for women 63 years (AIHW, 2007c:47).[3] While the pension is means tested for eligibility according to income and assets, recipients also receive a range of other ancillary benefits (see Centrelink website: www.centrelink.gov.au). At 30 June 2006, the maximum single person pension rate was $499.70 per fortnight (from September 2008, this is $562.10). For those on the partnered full-rate pension, the maximum for each member of the couple was $417.00 per fortnight (rising to $469.50 each in September 2008). Of the 1.9 million recipients of the age pension at 30 June 2006, 62 per cent received a full-rate pension. Part-rate pensions are common among younger age pensioners, accounting for approximately 41 per cent of recipients aged less than 70 years, compared to 32 per cent aged 85 and over. Recent trends show people reaching age

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[3] The qualifying age for women is being progressively increased and will be the same as men (65 years) from 1 July 2013.

pension qualifying age with higher levels of income and assets are more likely to receive a part-rate than full-rate pension than previously (FaCSIA, 2006, cited in AIHW, 2007c:48). It is projected that by 2050 two-thirds of age pensioners will receive a part-rate pension as a consequence of rising superannuation coverage and higher workforce participation rates in older age groups (Costello, 2007; DFACS, 2003, cited in AIHW, 2007c:48). In June 2006 women made up 58 per cent of age pensioners (AIHW, 2007c:48).

Despite the removal of previous discrimination suffered by women in access to superannuation eligibilities, the persistent gender based differences in lifetime income in the paid workforce continues to mean that the vast majority of pre-retirement women and of women already in retirement have inadequate private savings for retirement. 'For example, an estimated 50 per cent of females born between 1946 and 1961 have superannuation accounts of $8,000 or less (Kelly, 2006)' (AIHW, 2007c:48). Gender differences in superannuation savings reflect persistent differences in the occupational and earning profiles of men and women, and women's higher rates of part-time and casual work and their fragmented careers in the paid workforce (for a more detailed gender analysis of superannuation and retirement savings in Australia, see Olsberg (2001; 2004; 2005; 2006)).

Women have also been shown to be most at risk of financial disadvantage as a result of marital separation and/or divorce as well as death of a spouse as a result of their reduced age pension benefit as a single pensioner. AMP NATSEM found that, while the average woman has less income in the early days of divorce, she appears to be more asset rich than the average man (2005b:9). This is because women tend to get the family home if (as most often) they have assumed responsibility for children. However, overall women are less likely to accumulate wealth after divorce. Iin particular those who remain single with children are likely to struggle in retirement because they have negligible superannuation or investments other than the family home (AMP/NATSEM, 2005b). Smyth and Weston (2000) suggest that 'all other things being equal, earning capacity is probably the most important of each spouse's personal resources on divorce'. And generally, men are more likely to have greater earning capacity. This means that after a divorce, each spouse's path to recovery is likely to be different. The AMP/NATSEM study, using the HILDA data for 2003, found that, on average, men who separated saw their household disposable income decrease by $4,100 per annum, while women who separated saw their household income fall by 42 per cent, down $21,400 per annum (AMP/NATSEM, 2005b:10). Needs adjusted family income, which takes account of the number of people who have to be supported by the income of a household, reveals an even more dismal result for women who have separated or divorced and are now lone parents (42 per cent of divorced women are now lone parents, compared with 14 per cent of divorced men). While men now living in a single person household gain a substantial increase in household equivalent income ($24,800 one year previously when they were married to $37,800 one year later), female lone parents experience an equivalent disposable income decrease of almost 25 per cent, a loss of $5,100 (AMP/NATSEM, 2005b:11). These findings support earlier AMP/NATSEM findings that the retirement savings of lone parents (who are mainly women) are too heavily concentrated in their home and are likely to be inadequate to provide support in retirement (AMP/NATSEM, 2005a).

The implications of loss of a partner for older private renters, either through death divorce or separation, are particularly grievous for women as the majority of this population are female. Babacan et al. found that older Australians who have lost a partner are much more likely to have low incomes and be dependent upon income support programs (2006). The report found that although outright home ownership is an important characteristic of older Australians, 16 per cent are in private or public

rental tenures (Babacan et al., 2006:32). Older singles who have lost a partner are much more likely to rent, and divorced or separated older singles are particularly reliant upon rental housing. This becomes increasingly important as the numbers of older Australians who are separated or divorced continues to increase (from 184,000 in 1981 to 705,000 in 2001) (Babacan et al., 2006:32).

The main source of income for some older individuals can change over the course of retirement. Almost two-thirds of retired men in 2004-05 relied on a government pension or benefit as their main source of income. However, at the time of their retirement, only 54 per cent had received government pensions as their main source of income. Government pensions and allowances show the greatest change in numbers of people when comparing source of income at retirement with current income source. Just over 1.3 million retirees received government pensions and allowances as the main source of income at retirement; this number had increased to almost two million for current income in 2004-05 (AIHW, 2007c:48).

The financial resources of older people are one of the crucial determinants of future housing choices and options and lifestyle possibilities. There is a wealth of research which indicates that older people are inadequately prepared for retirement, most particularly that the baby boomer generation have made few plans for their financial needs in retirement (Access Economics, 2001; AMP/NATSEM, 2004; Association of Superannuation Funds [ASFA], 2007; Australian Government, 2002a; 2007a). Olsberg and Winters (2005) revealed that higher expectations for retirement lifestyles, overseas travel, leisure pursuits and elective and essential health care will place a strain on older people's financial resources. They warned of a national delusion among pre-retirees about what future governments will provide in the way of pension increases and other government health and service benefits for an increasingly numerous aged population. Government reports warn of an untenable fiscal burden presented by the demographic changes and call for older people to remain longer in the paid workforce (Australian Government, 2007a). The previous Coalition federal government introduced a raft of changes to provide enhanced tax advantages for people to make increasing contributions to superannuation and to benefit from tax free retirement payouts and personal pensions (see Borowski and Olsberg, (2007).

There is increasing interest by government policy decision-makers and the commercial financial services market in the potential and possibilities of older home owners to access equity from their owner-occupied housing to meet their enhanced expectations for retirement lifestyles and the increasingly user-pays health and aged care environment. Olsberg and Winters (2005) predicted a surge in numbers of pre-retirees and retirees wishing to access equity in the family home to provide the resources for their future lifestyle, health and residential needs. Already the market for equity access products such as commercial reverse mortgages and equity conversion products has escalated dramatically. SEQUAL reports that the numbers of such products have grown dramatically and the numbers of older people who took out reverse mortgage loans in 2007 had doubled from the previous year (Dell, 2007). The age at which older people take a reverse mortgage has fallen from 74 years to 72 years. There is as yet no quantitative data on the amounts or the purposes to which they put the sums taken out as reverse mortgages on their owner-occupied housing. However, Keiran Dell, SEQUAL manager, states that some bank lenders report some older people are using these resources to pay for renovations to adapt homes to the needs of themselves or ageing partners (Dell, 2007). One of the primary focuses of the empirical field work of this project and the cost-benefit analysis will be to assess the likelihood and possibilities of older people's choices in this regard.

### 3.1.9 Conclusions

This review of the ageing phenomenon and its health, disability, social and financial dimensions has provided an important context for the forthcoming research. It also has a number of important implications for future stages of the research:

→ It will guide the use of language about ageing, by avoiding terms such as 'old' that can be seen as negative labelling in favour or more acceptable terms such as 'older' or 'seniors' which will be used interchangeably.

→ Given the variations in perceptions about what constitutes 'older' or 'seniors', it has led to the adoption of four age cohorts (55-64, 65-74, 75-84 and 85 and over) for the purposes of analysis, rather than using a single age threshold.

→ It has outlined the well established statistical evidence for the ageing phenomenon, to confirm the fundamental assumptions behind the research, and the important role baby boomers and migrants play in this.

→ Since health and disability problems increase with age, it highlights issues that are likely to have an important bearing upon older people's capacity to remain independent in their own homes, and have access to transport health and other services. It will be important therefore to explore these issues in both the survey and in-depth interviews.

→ It notes the important role that older people play as carers, particularly for grandchildren and for ageing partners, which has implications for the design or modification of housing as well as support services. It therefore has a direct bearing on one of the key issues in this research – efficiency of dwelling and land use – and will be followed up in the survey and in-depth interviews.

→ Part-time work, increases in leisure time, volunteering, participation in community groups or activities and socialising with family and friends can mean more time spent at home and in the local community. This can create new demands on the space and design of the dwelling, as well as on the design of the urban environment to facilitate safe and convenient access to facilities and services. This warrants the inclusion of questions on these topics in the survey and in-depth interviews.

→ While older people are still highly car-dependent, the increased use of public transport (particularly by women) warrants further investigation in the survey and in-depth interviews concerning its accessibility, regularity and affordability, as well as the design of the local neighbourhood environment to ensure safe and convenient access to transport and other services.

→ Given the importance of wealth and income to housing choices and the lifestyle aspirations of retiring baby boomers, it is of concern that most retirees are poorly prepared with inadequate superannuation, and that older women, especially if single, widowed or divorced, are particularly disadvantaged. This is likely to be an important driver of both housing choice and the need to accessing equity in the family home to finance lifestyle. These issues are partly covered in the survey questions, but will need to be explored further with sensitivity in the in-depth interviews.

## 3.2 Older people's housing and households

This section explores the literature on the nature of the housing and households of older people in Australia relevant to Research Questions 1 and 2 on housing types, sizes and geographical location of older home owners; comparisons with other tenures; dwelling size and room functions; and size and composition of households. It

also has some bearing on efficient utilisation of the housing stock, though this is more fully discussed in Section 4.3.

There are a number of sources of data on dwellings and households in Australia, namely, the ABS Census, the ABS Australian Housing Survey (last conducted in 1999) and the HILDA longitudinal data set. However, published, up-to-date data on the housing and households of older people is minimal, as the release of 2006 Census data is still in progress and only limited findings from the Australian Housing Survey and HILDA are presented for older age cohorts. What data is available in published form therefore tends to be based on the 2001 Census and there is some inconsistency in the age thresholds or categories used. However, it does give a broad, if a little outdated, picture. In later stages of this research, analysis of unpublished data from these sources will be undertaken.

### 3.2.1 Housing Type, Tenure and Location

Only a very small minority of older people live in nursing homes (now known as high-level care in a residential aged care facility). In 2006, just 7.0 per cent of people aged over 65 lived in residential aged care, and more than half were 85 years or older (AIHW, 2007d:Table A1.3). The age of admission has continued to rise over the last decade, and those who move to residential aged care have higher care needs than in the past (AIHW, 2007d:Table 4.1,4.31). In accordance with their preference, most older Australians are living in the community.

Housing Type

A more detailed breakdown of 2006 Census data into the various subtypes of accommodation for older persons has yet to be published. However, in its publication *Ageing in Australia, 2001*, the ABS points out that of the 1.7 per cent of the Australian population that lived in non-private dwellings in 2001, persons aged 65 and over accounted for almost half (48.9 per cent). 6.7 per cent of older persons lived in non-private dwellings: 3.1 per cent in nursing homes, 2.8 per cent in cared accommodation and 0.7 per cent in other types of non-private accommodation (2003:40).

Even in the private market, only a small percentage of older Australians live in specialised aged accommodation (commercial retirement villages, seniors living complexes or independent living unit developments). The vast majority of older people are living in separate houses that they own, mortgage free (Figures 13 and 14).

At the 2001 Census, 71.1 per cent of persons aged 65 or more lived in separate houses, 8.0 per cent in semi-detached/row/terrace/townhouses, 9.3 per cent in flats/units/apartments and 3.3 per cent in self-care retirement accommodation – making a total of 93.3 per cent in private dwellings. (ABS, 2003).

Figure 12 shows how dwelling structure in 2001 varied with age groups beyond 45 years. The first four bars (grey) represent private dwellings and the last one (white) non-private accommodation (including hostels, nursing homes, hospitals and other cared accommodation). In private dwellings, there is a marked decline in separate house occupancy (from 83.4 per cent to 33.6 per cent), most noticeably in the later three cohorts (75-84 to 95+). Accordingly there is a steady increase both in medium density (5.9 to 8.9 per cent) and higher density housing (6.7 to 10.4 per cent) from 55-64 to 75-84 and then a steady decline as non-private nursing home and cared retirement/aged accommodation increases. Self-care private retirement/aged accommodation can be seen to increase from 0.2 per cent to 6.8 per cent between the age groups of 65-74 and 85-94, decreasing to 3.2 per cent in the 95+ cohort. Non-private (institutional) accommodation is very small in the first three cohorts but grows

rapidly in the older three, from 6.6 per cent in the 75-84 age group to 27.2 per cent in the 85-94 age group and finally to 50.1 per cent for those aged 95 and over.

**Figure 12: Dwelling structure characteristics of persons 45 and over, Australia, 2001**
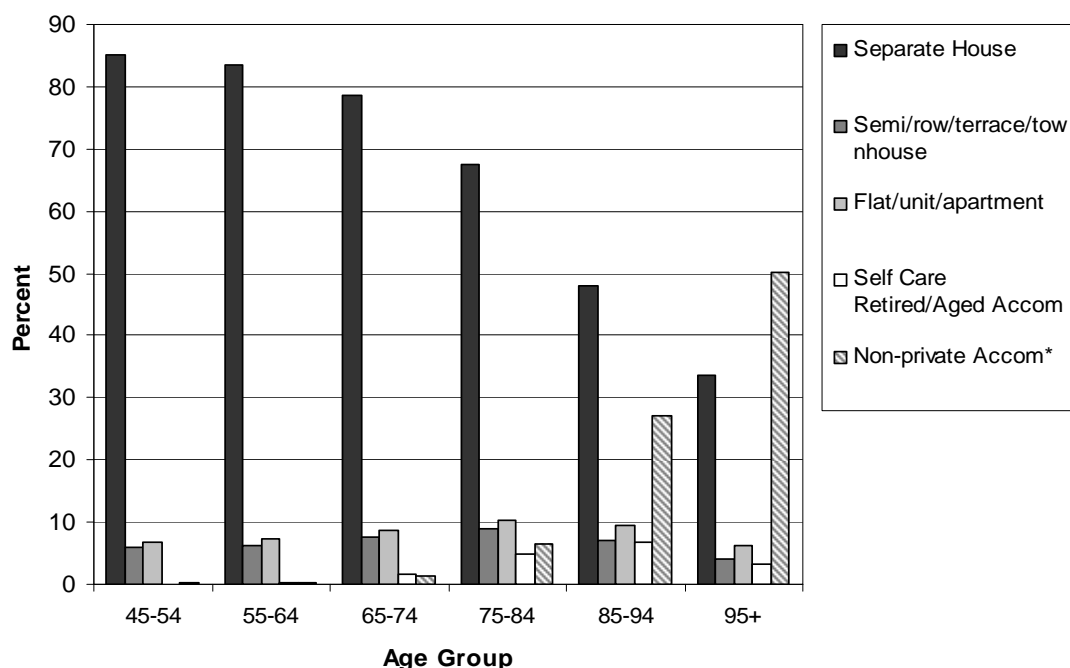


*Includes ABS Census categories: Nursing Homes, Cared Retired/Aged Accommodation (including hostels) Hospitals and Other Cared Accommodation.

Source: Adapted from Table 3.10, ABS, 2003:42

Some interesting gender differences for those 65 and over are also noted in the Ageing in Australia report:

→ Women were decreasingly likely to live in a separate house than men, and in medium and higher density housing types;

→ Women were almost twice as likely as men to live in non-private accommodation (nursing homes and cared accommodation), increasing markedly with age, reflecting their longer life expectancy and the greater likelihood that men would have a spouse to assist in their care (ABS, 1999 cited in ABS, 2003).

Living on ones own also had an impact on dwelling type with almost twice as many living alone in medium density as couples (13.0 per cent compared with 6.8 per cent), more than three times in a flat, unit or apartment (18.5 per cent compared with 5.8 per cent) and two and a half times in self-care retired or aged accommodation (7.1 per cent compared with 2.8 per cent) (ABS, 2003:41).

Housing Tenure

We know from Census data that older Australians are much more likely to be home owners than those in younger age groups. In 2001, according to the AIHW (2007c:Table 4.2), 80.7 per cent of older households with a reference person of 65 or over owned their own home outright and only 3.6 per cent with a mortgage (a total of 84.3 per cent). This compared to only 27.5 per cent of outright owners and 39.4 per cent with a mortgage (or a total of 66.9 per cent) among younger households (with a reference person under 65 years of age). This is because older people are more likely to be asset rich and housing debt-free, having had a longer life span to accumulate

assets, including housing, and more time to pay off a mortgage. Accordingly, the percentage of older renters (12.5 per cent) was less than half that of younger renters (31.1 per cent).

**Figure 13: Selected tenure type, persons(a) aged 15 years and over living in private dwellings, 2001, Australia**
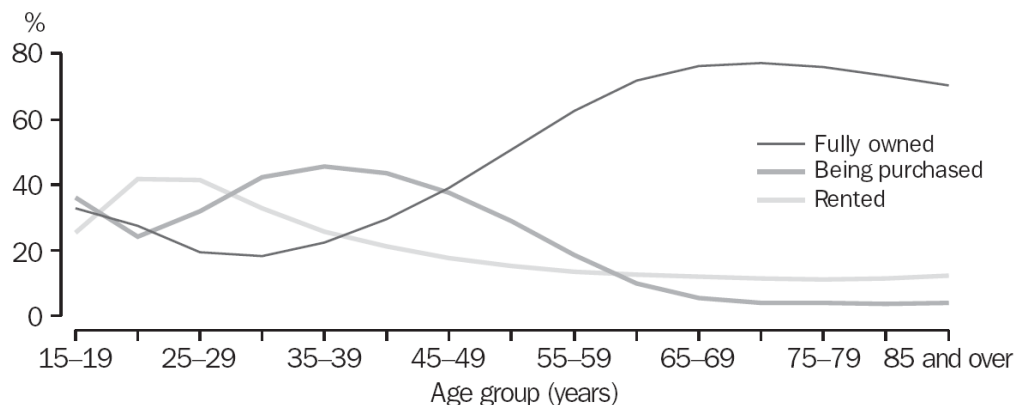


(a) Excludes all visitors.

Source: ABS, 2003:44)

Figure 13 shows tenure type by age group in 2001 from the 15-19 year age group to 85 and over. Outright ownership increases significantly with age from 18.2 per cent in the 30-34 year age group to a peak of 77.2 per cent for those 70-74 years of age, then declines to 70.3 per cent for those 85 or more. There is a corresponding decline in those purchasing, reducing from around half of the 35-39 age group to only 4.4 per cent of those 65 and over. Not surprisingly, tenancy peaks at around 40 per cent in the 20-24 and 25-29 age groups and then steadily declines to a residual level of only 11.7 per cent for those 65 and over (ABS, 2003:45).

There are marked differences between older and younger renters in terms of the type of landlord. In 2001, renters 65 years and older were fairly evenly split between the public (39.0 per cent) and private (42.3 per cent) sectors, with an additional 5.8 per cent in community or cooperative housing. Younger renters (less than 65 years) on the other hand were predominantly (72.7 per cent) renting from private landlords (ABS, 2003:45). The high level of public sector rental among older people could be a cohort effect or reflect the targeting of allocations to people with higher support needs (Jones, Bell, Tilse & Earl, 2007:95).

Geographical Location

At the time of writing, there was as yet no published ABS 2006 Census data on the geographical distribution of older people, nor specifically on older home owners. Such an analysis will be undertaken at a later stage of this research as the 2006 Census data and Table Builder is released. However, information is published in the 2001 ABS Census publication *Ageing in Australia* (2003) which notes that 'Australia's states and territories are ageing at different rates. New South Wales, Victoria, South Australia and Tasmania comprised higher proportions of people aged 65 years and over than Australia as a whole, South Australia and Tasmania having the highest proportions (14.7 and 13.9 per cent respectively) (ibid:7).

**Figure 14: State and territory of usual residence, persons(a) aged 45 years and over**
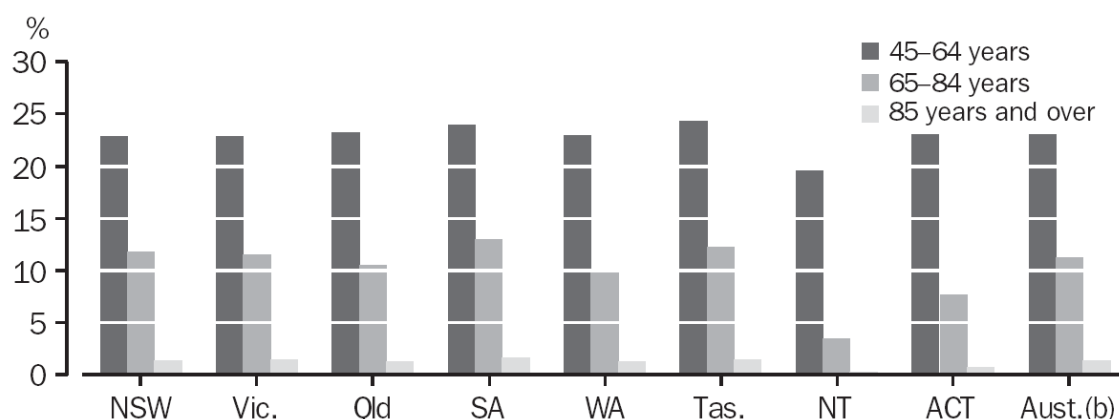


(a) Excludes overseas visitors.
(b) Includes Other Territories.

Source: ABS, 2003:7, Graph 1.6

In terms of regional distribution, the report noted that in 2001 older people lived in major urban areas in a very similar proportion to the general population (64.1 per cent compared to 65 per cent) but are marginally under-represented in 'other urban' areas and 'rural areas'. This pattern had 'remained relatively stable over the last 30 years.' When broken down into age groups and using the Australian Standard Geographical Classifications for remoteness, it can be seen that older people are less well represented in the more remote areas (see Figure 15).

**Figure 15: Remoteness areas of usual residence, persons(a) aged 45 years and over**
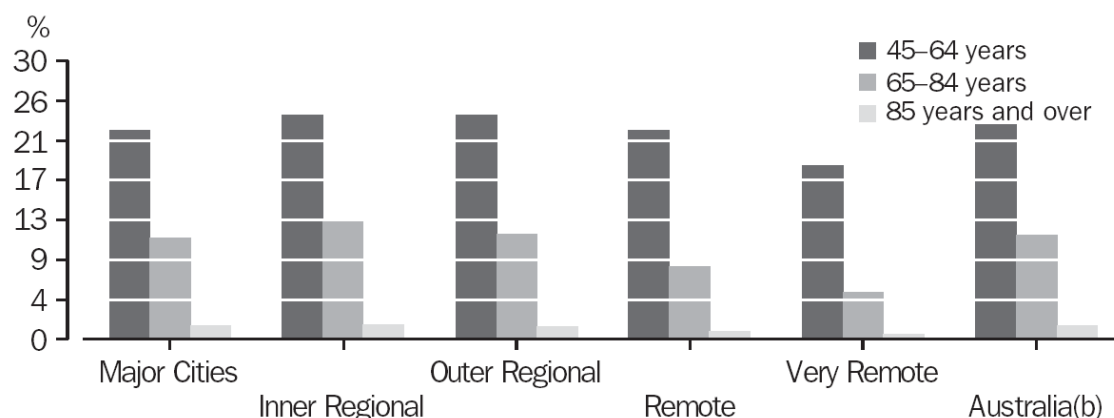


(a) Excludes overseas visitors.
(b) Includes migratory and not stated or inadequately described place of usual residence.

Source: ABS, 2003:9, Graph 1.9

Areas with the highest concentrations of people over 65 were found to be mostly coastal areas of eastern and southern Australia. However, as Gurran, Squires and Blakely note in their study of sea change communities, while such coastal communities are older than the general population and are ageing at a faster rate, 'Retirees contribute to the sea change phenomenon, but are no longer the major drivers of coastal population growth' (Gurran, Squires & Blakely, 2005:2). In fact, in not one of the nine sea change communities they studied did the median age reach 50 years. However, they also noted that the oldest communities 'tend to be the smaller areas with a lower population base', meaning that 'older people are choosing

smaller and more remote places to retire' and therefore 'communities with lower levels of services – a problem that intensifies as they age or if a partner dies' (Gurran, Squires & Blakely, 2005:31).

Figure 16 shows the distribution people over 65 by SLA. The highest concentrations (more than 20 per cent above the proportion for Australia as a whole) are in the eastern and southern coastal areas, and in the regional areas to the inner west of the great dividing range – areas containing most of the major regional centres.

**Figure 16: Proportion of persons(a) aged 65 years and over by SLA of usual residence**
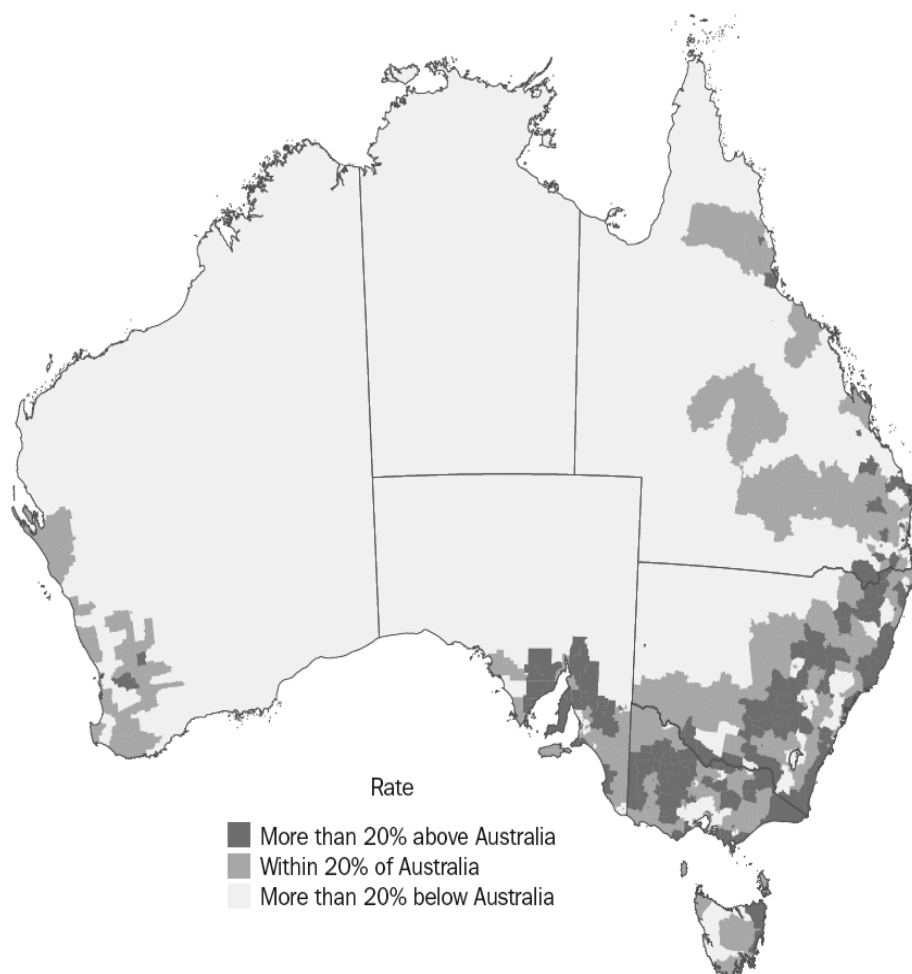


(a) Excludes overseas visitors
Source: ABS, 2003:15,Graph 1.14

Internal migration data for older Australians from the 2006 Census is yet to be published, but flows between 1996 and 2001 are shown in Figure 17. This indicates that the major population flows are from NSW and Victoria (49 and 23.5 per cent respectively of all people 65 and over who moved) to Queensland. Despite this, Queensland is has one of the lowest proportions of older people among all states.

**Figure 17: Main net interstate migration flows(a) persons(b) aged 65 years and over, 1996-2001**



Scale: 1 mm of thickness of line corresponds to 1,000 people.

(a) Excludes net flows of less than 250 people.
(b) Excludes persons who were overseas in 1996 and overseas visitors in 2001.

Source: ABS, 2003:18, Graph 1.18

Within major urban areas, older people are also not evenly distributed. In the Sydney, Statistical Division in 2006, people 65 and over were more highly concentrated in the Central Coast, North Shore, eastern and southern suburbs and the western SLA of Penrith. In Melbourne, concentrations exist in the Mornington Peninsula, inner-middle eastern and south-eastern bayside suburbs and outer north-eastern suburbs (ABS, 2008a; 2008b).

### 3.2.2  Household size and composition

A review of published data from the census in 1996, 2001 and 2006 reveals households are becoming smaller (Figure 18). Those with one or two residents and lone person households now account for 58.5 and 24.4 per cent of all households, respectively (ABS, 2007c).

**Figure 18: Number of persons usually resident, Australia**
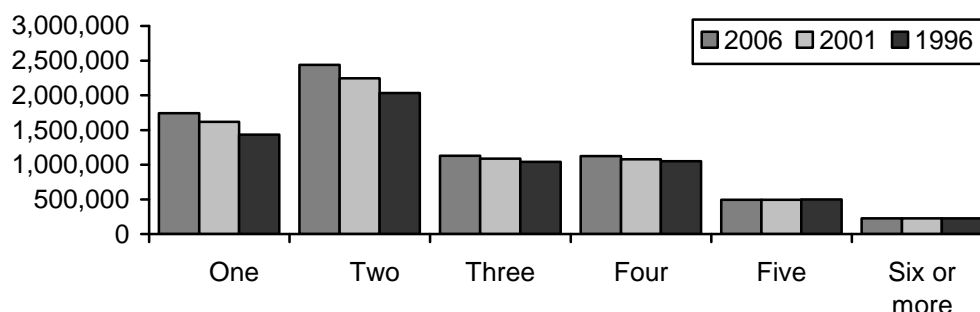


Source: Adapted from ABS, 2000a; 2006a; 2007c

There is no published census data on the size of seniors' households; however, a review of relationships in older persons' households shows that the majority live in a two person household, with their spouse or partner (Figure 19). This characteristic remains for men of all ages. For women, there is a permanent transition to a majority of lone person households in the 75-84 age group (ABS, 2007f). For people aged 65+, single and couple households account for 28.7 and 57.6 per cent of all households in private housing, respectively (AIHW, 2007c:Table A3.2).

**Figure 19: Relationship of household members, by older age group, 2006 Australia**
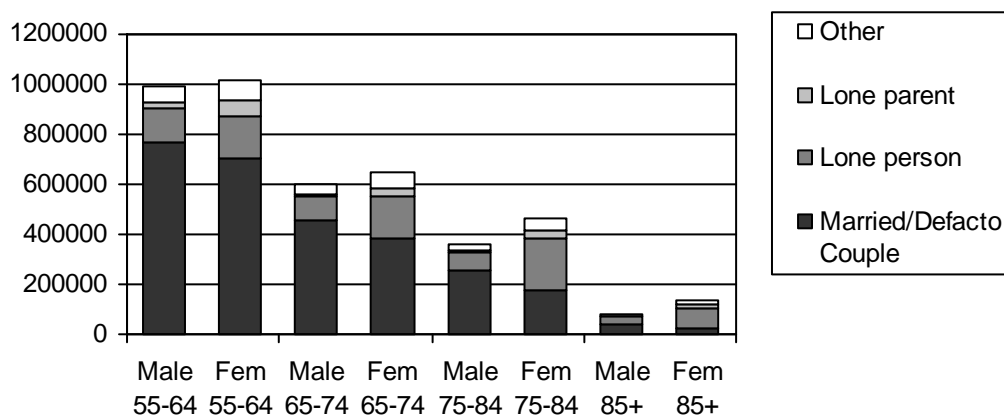


Source: Adapted from ABS, 2007f

The household size and composition data in the census considers those people who 'usually live' in the household, that is, they have lived there or plan to live there for at least six months (ABS, 2006b). There is no measure of temporary residents, that is, people who regularly stay with the household at least 20 nights in a year (ABS, 1999: Section 2). Data on temporary residents is collected in the Australian Housing Survey, but has not been published (ABS, 2000b).

### 3.2.3 Dwelling Size and Utilisation

'Utilise' is defined as 'make practical and effective use of' (Oxford Dictionaries, 2005). However, in Australia, housing utilisation (and the notion that older people under-utilise their housing) is based on a more quantitative measure of housing occupancy,

that is, a comparison of the number of bedrooms in a dwelling with the number of occupants.

The ABS adopts the Canadian Occupancy Standard as the benchmark for efficient dwelling occupancy. This uses the number of bedrooms to represent the size of the dwelling, and the number of usual residents and their relationship to determine whether it is over- or under-occupied (ABS, 2000b). Its specification is shown in Table 10.

**Table 10: Canadian occupancy standard**

| *Specification* |
| --- |
| → No more than 2 persons per bedroom |
| → Children less than 5 years of age of different sexes may reasonably share a bedroom |
| → Children 5 years of age or older of opposite sex should have separate bedrooms |
| → Children less than 18 years of age and of the same sex may reasonably share a bedroom |
| → Single household members 18 years or over should have a separate bedroom, as should parents or couples |

Source: Adapted from ABS, 2000b

## Dwelling size

An indication of dwelling sizes for older Australians can be obtained from 2001 Census Data in *Ageing in Australia* (2003). In 2001, 16.3 per cent of all households with a reference person of 65 years or older occupied dwellings with four bedrooms, 48.4 per cent with three bedrooms, 25.0 per cent with two bedrooms and only 6.1 per cent with one or no bedroom (ABS, 2003:47). This means that almost two-thirds (64.7 per cent) of single and couple households occupied dwellings with three or more bedrooms.

Figure 20 indicates the distribution of bedroom sizes for single, couple and other households with a reference person of 65+ years of age. Three bedroom dwellings predominate except for those in self-care retirement accommodation who are more likely to occupy one or two bedroom dwellings. These trends are expected to have continued, but comparable published information from the 2006 Census is not available at the time of writing.

**Figure 20: Number of bedrooms by type of household, persons aged 65 years and over in private dwellings, Australia, 2001**
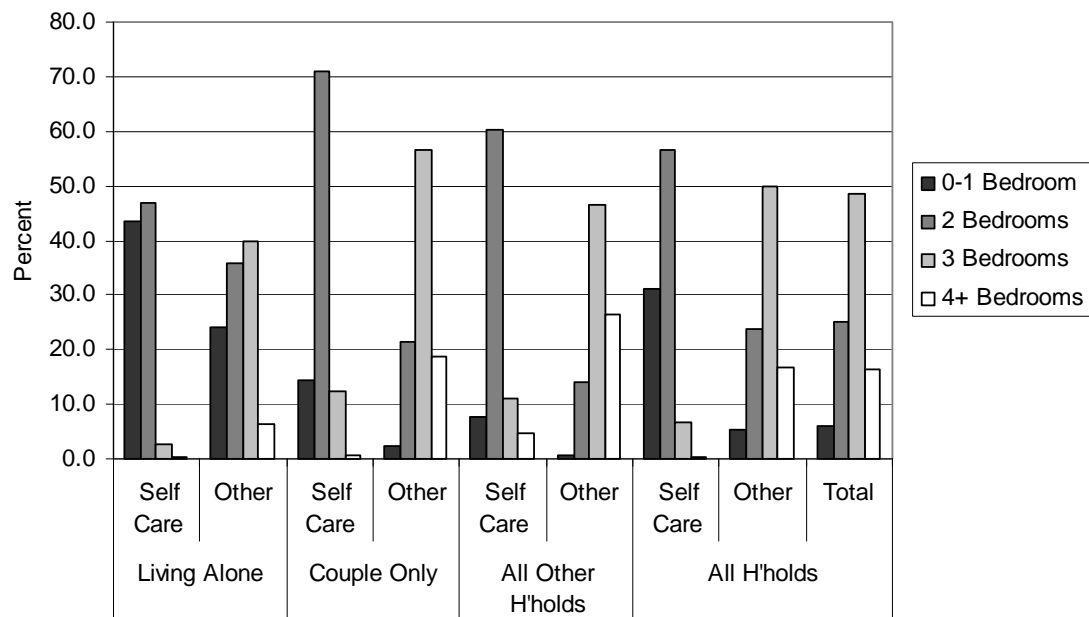


Note: 'Self-care' refers to self-care retirement/seniors accommodation and 'Other' to all other forms of private dwellings (separate houses, terrace/row/townhouses)

Source: ABS, 2003:47

Figure 21 shows a similar distribution for households with a reference person of 85 or more years of age. Likewise, three bedroom accommodation continues to dominate for households in other private dwellings, except for those living alone who have a higher likelihood of two bedroom accommodation.

**Figure 21: Number of bedrooms by type of household, persons aged 85 years and over in private dwellings, 2001, Australia**
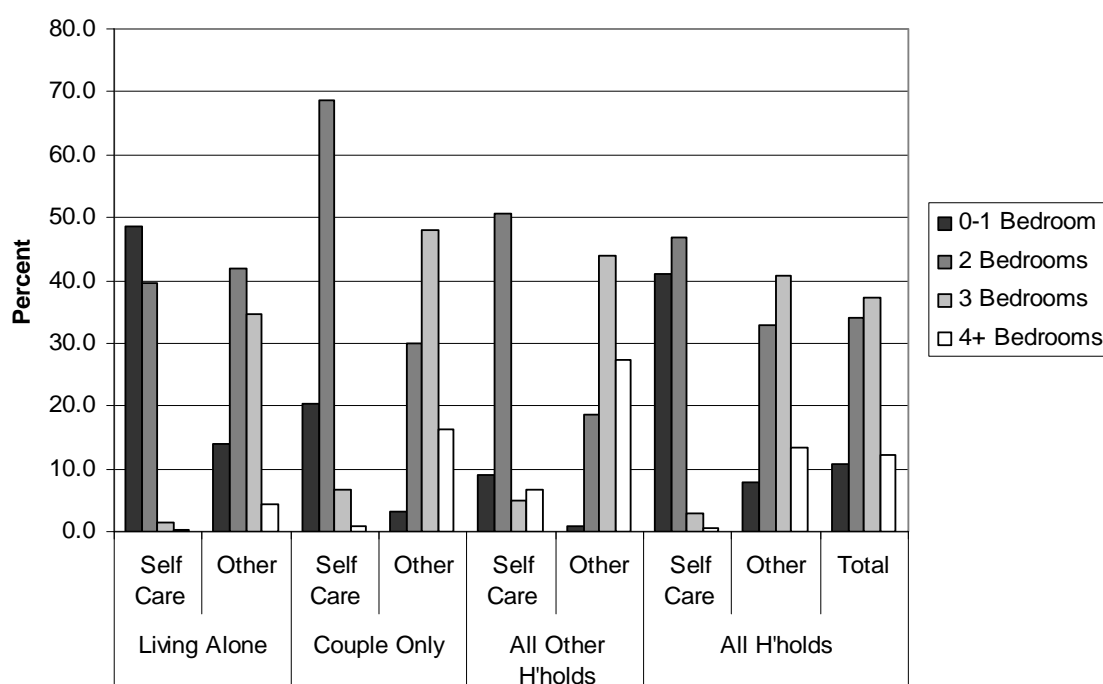


Source: ABS, 2003:47

According to the ABS's cited Canadian Occupancy Standard (Table 10), single and couple households require a dwelling with no more than a single bedroom. As such, there is the perception that the vast majority of older people are under-utilising their dwellings.

The focus on a quantitative measure for housing utilisation has been challenged, particularly in regard to older people's use of their housing (Davison, Kendig, Stephens & Merrill, 1993; Kendig & Neutze, 1999; Sweeney Research, 2006; Wulff et al., 2002). Older people (along with the younger population) have a preference for additional housing space and, it seems, make use of it. In one study, additional uses for bedrooms included storage for their children's (despite having left home) belongings, space for visiting grandchildren's toys and equipment (highchair, pram, cot etc.), an office, and a sewing or craft room. There was also anticipation that adult children may come back home to live at various times in the future (Sweeney Research, 2006).

Criticism of Using Occupancy Standards to Define Dwelling Under-utilisation

The adoption of the Canadian Occupancy Standard to establish whether housing is under-utilised has faced criticism. In his paper on the 'mismatch argument', Batten (1999) claims that, when it was adopted in the National Housing Strategy, there was an error in the citation of the Standard. He argues that the addition of the statement 'a minimum of one person per bedroom' in the Australian document to the Standard's limit of two persons per bedroom effectively transformed the Standard's intended use as a determination of overcrowding to one of under-utilisation.

Batten's explanation of the intention of the Canadian Occupancy Standard as a minimum housing standard rather than a maximum housing standard also clarifies to some extent the reason for using the measure of bedroom numbers to determine

overall housing size, and thus under-utilisation. Batten also refers to the previously used King's Standard of under-occupancy:

→ '1 person occupying 5 rooms is over-supplied;'

→ '2 persons occupying 6 rooms are over-supplied, and thereafter a supply of 1

→ extra room for each person is an over-supply' (R. King, 1973, p.9 as cited in Batten, 1999:143).

A measure of the overall number of rooms is arguably a better quantitative measure of dwelling size, particularly as modern Australian dwellings rarely consist of just bedrooms, a bathroom, kitchen and lounge and/or dining room. Common are large, open plan entertaining spaces, home-office areas and large master bedrooms, perhaps with walk-in wardrobes. The Australian Housing Survey (1999) did collect data on the overall number of rooms of each type in the dwelling, though this has not been published. This data will be analysed in the following stage of the project. However, even a measure of total rooms and their functions in a dwelling is arguably a poor indicator of housing size, without an associated area measurement.

Based on building activity data, Table 11 shows a 20.6 per cent increase in the floor area of new houses in the 10 years prior to 2004, and a 40.3 per cent increase in the previous 20 years (ABS, 2006d). However, no accurate data is available on the floor area of all dwellings, let alone for the housing of older Australians. The extent to which this increase in dwelling area is reflected in older people's dwellings is therefore uncertain.

**Table 11: Average floor area of new residential buildings, Australia**

|  | 1984-85 | 1993-94 | 2002-03 | Change from 1984-85 to 2002-03 | Change from 1993-94 to 2002-03 |
|---|---|---|---|---|---|
|  | $m^2$ | $m^2$ | $m^2$ | per cent | per cent |
| New houses | 162.2 | 188.7 | 227.6 | 40.3 | 20.6 |
| New other residential buildings | 99.2 | 115.9 | 134.0 | 35.2 | 15.6 |
| All new residential buildings | 149.2 | 171.1 | 205.7 | 37.4 | 20.2 |

Source: ABS, 2006d

### 3.2.4  Land Size and Utilisation

The similar absence of data on residential land size for older people's dwellings leaves only dwelling structure (separate houses, townhouses, apartments etc.), as discussed in Section 4.2.1, as a general indicator of the amount of associated land. The extent to which this quantitative measure represents actual area and utilisation of the land cannot be determined.

### 3.2.5  Conclusions

The two most useful published sources on older people's households were found to be the recently published AIHW Older Australians at a Glance (2007c) which uses some of the most recently available statistics including from the 2006 Census, and the 2003 ABS publication Ageing in Australia (2003), based on the 2001 Census.

Data on the housing and households of older people from the literature review will be useful for comparison with our analysis of 2006 Census data, and as a benchmark

against which to determine how representative of the Australian population are the respondents to the survey.

Some other important issues that are highlighted in the findings have implications for the current research project and its future stages:

→ The overall dominance of private dwellings, separate housing and outright home ownership amongst older Australians. This underlines the importance of the focus of the research on older home owners;

→ The tendency of older people to be more highly concentrated in the eastern and southern states, particularly the coastal areas and regional centres, rather than in more remote areas. This will be helpful in identifying areas for in-depth interviews;

→ The relatively high proportion of public renters as opposed to private renters when compared with younger age groups, reflecting the relative financial disadvantage of older people who have not been able to achieve home ownership. Though not of direct interest to this study, by contrast this illustrates the difficulties faced by older people who are not home owners;

→ The modest but progressive increase in medium and higher density, and eventually non-private (hostel and nursing accommodation), housing with age. Attitudes to alternative housing types will be investigated further in the in-depth interviews;

→ The dominance of three bedroom dwellings, suggesting, at least superficially, an under-utilisation of the housing stock by older people  but revealing inadequacies with current concepts and measures of 'under-utilisation'. Since efficiency of use of the dwelling and land is a major focus of this study, this will be pursued in more detail in both the survey and in-depth interviews;

→ Gender differences in housing type, non-private accommodation and disabilities requiring assistance reflecting the greater longevity of women. This will also be explored further in the in-depth interviews.

→ Some important gaps in published data on older people's housing have also been identified, including:

→ Data on household size and its relationship to dwelling type;

→ Floor area of dwellings occupied by older people – only data on new dwellings available;

→ Land area associated with the dwelling – little information currently available.

→ The future stages of this research will attempt to address these deficiencies via the analysis of 2006 Census data (for household size) when available q and the survey of older home owners.

## 3.3  Ageing in place: preferences, support and care

This section of the literature review focuses initially on the desire of older people to remain at home and the difficulties they can face in doing this. It then gives an overview of the range of home care programs available to support ageing in place, the services they offer, eligibility requirements and the clientele they serve. Finally it looks at the mobility of older people and the options available to them should they choose to move.

### 3.3.1  The desire to remain at home

The preferred option of most older Australians is to remain in their homes for as long as possible and until their changing circumstances necessitate a move to an assisted

*The vast majority of older people live in houses selected decades earlier when they were in the paid workforce and had larger houses. Their use of dwellings and areas changes significantly when children leave home and after widowhood in old age. Few people adjust their housing after retirement unless they eventually can no longer drive or maintain their homes. Only 11 per cent of people wish to move* (Kendig & Neutze, 1999).

The reasons for choosing to age in place are numerous, but essentially the home represents 'a combination of personal and financial security, family memories and a sense of place and wellbeing' (Manicaros & Stimson, 1999). Ageing in place allows them to spend their declining years in familiar surroundings where they can maintain their network of family and friends, facilities and services (Manicaros & Stimson, 1999). Various studies in which older people have been interviewed about their housing (Davison et al., 1993; Dupuis & Thorns, 1998) suggest that people become more attached to their homes as they age. In addition to the values already mentioned, through long tenure it becomes associated with memories that are part of a resident's identity. It may have become further imbued with meaning through the contributions made in building, buying, modifying, furnishing and decorating it, as well as growing a garden. There is a value in familiarity with the home, the neighbourhood and people in the neighbourhood.

As well, the persisting strong 'Australian dream of home ownership' and the substantial tax advantages of maintaining equity in the family home have led to an extreme fixation on home ownership by older people.[4] The continuing high demand upon public housing, and older people's strong resistance to insecure private renting at market rents, also contribute to a strong desire to age in place or to stay put. And there are still substantial proportions of older people who wish to leave the family home as a legacy to their children (Olsberg & Winters, 2005).

Ageing in place is also increasingly endorsed by governments, not just in Australia but also in North America, the United Kingdom, Scandinavia and elsewhere in Europe, where there seems to be a general consensus that 'the role of the state in the provision of welfare needs to be curtailed' (DeVaus & Lixia, 1997). Where government-provided services for the elderly were previously seen as an 'inviolable social right', this is no longer accepted as governments respond to the fiscal restraints on spending imposed by economic globalisation (Organisation for Economic Co-operation and Development, 2003:18). Sen argues that, instead of providing unbridled welfare, it is the government's role to 'foster self-reliance and self-provisioning' and to reduce people's reliance on welfare and restrict access to it (Sen, 1997 as cited in DeVaus & Lixia, 1997).

Regardless of older people's desires to age in place, recent developments will put increasing pressures upon their choices. To the extent that living costs exceed income, the increased duration of the post-earning phase of the life course would be expected to place a greater demand on private assets. While other asset types may be more accessible than housing, for many older people the options will be to extract equity from their home or to trade-down their residence. They can free up housing assets to meet living costs by trading down to flats, smaller houses or cheaper locations, moving to other accommodation such as with families, retirement villages

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[4] Means testing of the age pension excludes the family home. See also as indicated earlier Baum & Wulff, (2001), Merlo & McDonald, (2002), Winter & Stone (1998).

and aged care, and by borrowing against housing assets. As well, many older people are under pressure to assist their children financially (Olsberg & Winters, 2005), and there is considerable evidence that the parental dependency phase of life is extending well into the child-bearing years of middle age (Kemeny, 2005:61). For many, there are unplanned-for demands upon financial resources from adult children. As Olsberg and Winters (2005) point out, some older people refer to their children as 'Kippers' (Kids in Parents' Pockets Eroding Retirement Savings). All these factors have a part in placing financial pressures upon older people and making it increasingly difficult for them to remain in the family home.

There are a number of reasons why older home owners move (Faulkner, 2001; Olsberg & Winters, 2005; Robison & Moen, 2000). These include social and lifestyle reasons: moves on retirement or when children leave home to a location or house that they prefer, moves to places that have better amenities, such as close to shops, transport or recreation, moves to be closer to family or friends for social reasons, or as carers. They may move because of the cost and burden of upkeep on the house. They may move to release equity in their house, either to meet their own costs or to provide assistance to their children. Finally they may move because of their own current or anticipated care needs, to retirement accommodation with care services or to aged care institutions. While people deciding to move probably take into account many of these considerations, they represent a continuum from free choice to necessity. Reluctance to move concerned loss of independence, strong emotional attachment to home, pets, loss of space and furniture, and the task of moving itself:

Some research details older people's expressed preference for dying at home rather than moving. Davison et al. (1993:180) found that 'Irrespective of frailty, the intact "parental unit" can resist well-meaning attempts by children to suggest moves' and that couples usually made the decision whether to move or stay. Where couples didn't agree, they found the husband's view had prevailed. One couple they interviewed 'decided to move into a hostel together because their bachelor son wanted the home'. However, widows were much more likely to be influenced by their children and assisted by their children to find suitable accommodation and to move. They are also more likely to live with their children's family than are widowers or couples (ABS, 2001).

There are a number of issues and contradictions for public policy around people's desire to remain living in the family home and to age in place, rather than move to what in many cases may be more suitable accommodation. As well as being motivated by a desire to enable people to age with dignity and independence, there is resistance regarding public policy intervention concerning the contested assets of the elderly. The first issue concerns the implications for quality of life, the second concerns the most efficient use of housing stock, and the third concerns the impact of older people's housing and residential care on fiscal sustainability.

The spatial mismatch argument is that older single people or couples occupying a large family house are an inefficient use of the housing stock. Based on the Canadian National Occupancy Standard of bedrooms per person, older people in private houses have a very low utilisation rate compared with other households. However, Kendig and others (Davison et al., 1993; Kendig & Neutze, 1999) argue that, as older people spend on average 18 hours a day in their house, they are actually making greater use of it than those who work full-time. Older people they interviewed used the extra bedrooms for various hobbies and home production, as well as having friends and family members to stay. Kendig and Neutze further question why the housing choices of older people are singled out as wasteful over-consumption, rather than other forms of wealth consumption by other sectors of society.

A further rationalist argument is that retired people do not need to live in areas of high employment and could be encouraged to leave cities, to make housing available for workers. A sizeable minority in Australia in fact do so, particularly moving to more attractive rural and coastal areas (Olsberg & Winters, 2005; Salt, 2002). On the other hand, the need to be close to amenities, care and support and public transport might make that not a rational option. People also wish to live near their friends and family and often want continuity with familiar areas (Olsberg & Winters, 2005).

Ageing in place is also increasingly endorsed by Australian governments, not only in the form of favourable tax (capital gains) and pensions treatments (Winter, 1999) but also in terms of aged care policy:

> *A major aim of aged care policy is to meet the preference of older people to remain in their homes by providing assistance with activities such as personal care, health care, and household tasks. Government agencies may provide services directly or purchase them from other formal providers. The activities most commonly supported by formal providers were property maintenance, health care and housework* (ABS, 2002).

The forthcoming empirical stage of this project will continue to explore the preferences of older people to remain in their home as they age, and to canvas possibilities which may support their desires to do so.

### 3.3.2 Difficulties of Living at Home

In old age, the difficulties of living at home and trying to age in place increase. According to Figure 22, the maintenance of the home and their own health, house chores, transport and being able to move around appear to be among the top five difficulties.

**Figure 22: Activities for which older people need assistance, 2003, Australia**
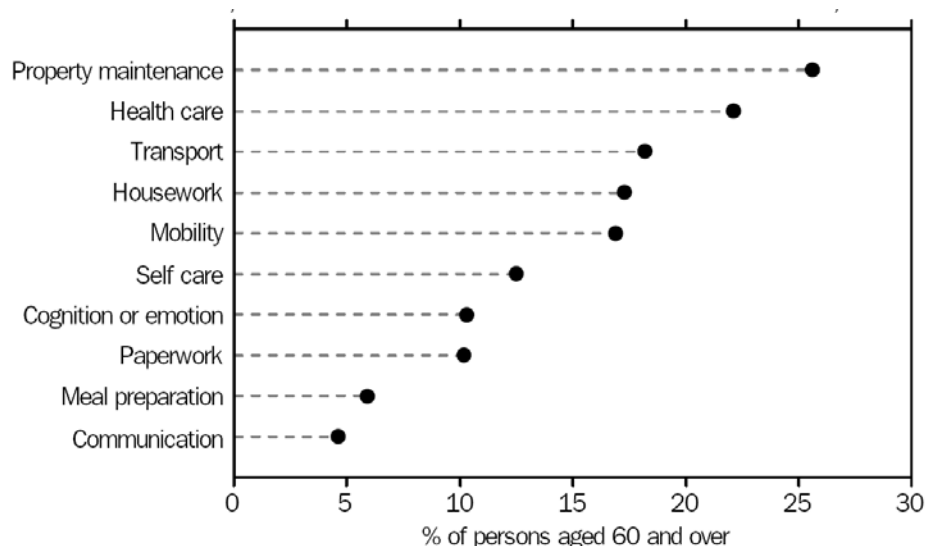


Source: ABS, 2004a:9

## What prompts the move to a residential aged care facility?

The desire to age in place does not change, even after transportation and household chores start to become difficult or even dangerous; and despite the efforts older people have to make to maintain their independence when contrary to the views of their adult children (Gross, 2006). Most of the time, the move to residential aged care

is not voluntary, but a consequence of an incapacity to maintain independence and inability to cope with the difficulties of ageing in place.

As they get older, it becomes more and more difficult for elderly people to deal with their own safety, their independence and their comfort in coping with daily living activities. Among the issues are:

→ Dangers and potential accidents at home: falls are very common and can be one of the main reasons to move into residential aged care;

→ Being and feeling safe alone, especially when they are single;

→ Receiving continuous appropriate care;

→ Family members who live far away feel uncomfortable and worry about their elderly parent(s);

→ A carer is not guaranteed; even in the case of children being carers, they are mostly not trained to support an elderly person;

→ Most of the time, homes are not designed to suit the needs of people at all levels of disability;

→ The cost and energy necessary to make any modification(s) to the home can appear daunting to older people;

→ Every elderly person will have different levels of disabilities and varying health conditions. To this end, their home will require a unique set of strategies;

→ Loneliness, dissatisfaction, dependence, loss of meaningful roles and depression can be major problems (Heikkinen, Waters & Brzezenski, 1983).

These difficulties may all prompt the move to residential aged care when it becomes too difficult to manage at home. Appropriate housing design to address the kind of difficulties listed above can potentially extend the time older people can spend in their own home.


## Accident rates for elderly people

Elderly people spend more time at home, where nearly half of the accidents occur (Harrington & Harrington, 2000). The fact that more are staying at home and want to age in place, combined with the actual difficulties of doing so due to a general deterioration in health condition and the prevalence of disabilities, increases the exposure they have to an accident, either within or outside the home. The rate of head injury and acquired brain damage for people 65 and over is around 5.5 per cent, and leg/knee/foot/hip damage from injury and accident is around 4 per cent (ABS, 2004a).

Table 12 shows the injury-related hospitalisations for people aged 65 and over, with falls being the most prevalent. Although there is still little research or data to support the hypothesis that environmental modifications can prevent falls (Nevitt, 1995), they are a significant cause of injury resulting from neuromuscular and functional decline. The most common risk factors are stairways without railings, high and irregular steps, clutter on the floor, loose rugs, and bathrooms without grab bars.

**Table 12: Injury-related hospitalisations of people aged 65 and over by external cause of injury, 2004-05, Australia**

| External cause of injury | 65-74 | 75-84 | 85+ | Total |
|---|---|---|---|---|
| Falls | 12,771 | 26,433 | 22,915 | 62,119 |
| Complications of medical and surgical care | 13,769 | 13,997 | 5,015 | 32,181 |
| Exposure/contact with heat, substances, currents or forces of nature or other unspecified factors | 3,479 | 3,538 | 1,818 | 8,835 |
| Exposure to mechanical forces | 2,669 | 1,932 | 741 | 5,342 |
| Transport accident | 2,075 | 1,908 | 566 | 4,549 |
| Other (a) | 1,073 | 896 | 442 | 2,411 |
| Total with external cause code | 34,507 | 45,339 | 29,168 | 109,014 |
| External cause code | 8 | 19 | 6 | 33 |
| Total | 34,515 | 45,358 | 29,174 | 109,047 |

(a) includes: sequelae of external cause or supplementary factors related to external causes of sickness and death; accidental drowning /submersion or other accidental threat to breathing; assault, intentional self-harm, event of undetermined intent.

Notes

1. ICD-10-AM codes U50-Y98

2. Table excludes in-transfers and statistical admissions

3. Table includes care types of acute care, rehabilitation, palliative care, geriatric evaluation and management, psychogeriatric care, maintenance care, other admitted care. Excludes care types of hospital border and posthumous organ procurement.

4. More than one external cause can be recorded on a patient record. Columns may add to more than the total separations.

5. Each category of external cause is counted only once per separation, i.e a separation with two types of fall is counted once against 'Falls.'

6. External causes can be coded in connection with an additional diagnosis of injury, poisoning and certain other consequences of external causes and a non-injury principal diagnosis, for example when a patient is admitted to hospital for another reason but sustains an accidental injury or complication of treatment while in hospital. Separations of this type are excluded from the table.

Source: AIHW, 2007c: Table A34.2

Appropriate housing design and environmental modifications are capable of reducing or even preventing falls in many instances, thereby improving the lifestyle of older people and ensuring a longer and safer ageing in place.

### 3.3.3 Home care services

The preference of older people to remain at home is being supported by the increased availability of government-funded home care services (AIHW, 2007a:1). Approximately one-third of the total government funding budgeted for residential aged care is allocated to community care, and this is generally set to continue over the next 40 years (Australian Government, 2007a).

There are three broad levels of care services available to older people living at home: Home and Community Care [HACC], Community Aged Care Packages [CACP] and Extended Aged Care at Home [EACH]. HACC services are the most widespread and include in-home assistance as well as centre-based services such as respite care. CACP and EACH provide, respectively, the equivalent of low-level and high-level residential aged care in an older person's home. A new program, EACH Dementia (EACH-D), provides the high level of care of EACH to people with symptoms of dementia (AIHW, 2007a:1).

Despite remaining a minority of places compared to residential aged care, the provision of CACP and EACH services is increasing. In the second half of the 1990s, the provision ratio of government-funded care recipients to the population aged 70+ remained reasonably constant, at 94 per 1,000. Since 2000, the provision ratio has been increased by more than 10 recipients (Figure 23).

**Figure 23: Number of operational residential aged care places, CACPs and EACH packages, and transition care places, and the provision ratio per 1,000 persons aged 70 years and over(a) from 30 June 1995 to 30 June 2006**

| | Places and packages | | | | | Provision ratio | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | Residential aged care | CACP | EACH | Transition care | Total | Residential places | CACP ratio | EACH | Transition care | Total[(a)] |
| 1995 | 134,810 | 2,542 | .. | .. | 137,352 | 92.2 | 1.7 | .. | .. | 93.9 |
| 1996 | 136,851 | 4,431 | .. | .. | 141,282 | 90.6 | 2.9 | .. | .. | 93.5 |
| 1997 | 139,058 | 6,124 | .. | .. | 145,182 | 89.2 | 3.9 | .. | .. | 93.1 |
| 1998 | 139,917 | 10,046 | .. | .. | 149,963 | 87.1 | 6.3 | .. | .. | 93.3 |
| 1999 | 141,697 | 13,896 | .. | .. | 155,593 | 85.6 | 8.4 | .. | .. | 94.0 |
| 2000 | 142,342 | 18,308 | .. | .. | 160,650 | 83.6 | 10.8 | .. | .. | 94.4 |
| 2001 | 144,013 | 24,629 | .. | .. | 168,642 | 82.2 | 14.0 | .. | .. | 96.2 |
| 2002 | 146,268 | 26,425 | .. | .. | 172,693 | 81.7 | 14.8 | .. | .. | 96.4 |
| 2003 | 151,181 | 27,881 | 255 | .. | 179,062 | 82.8 | 15.3 | .. | .. | 98.1 |
| 2004 | 156,580 | 29,063 | 860 | .. | 186,503 | 84.2 | 15.6 | 0.5 | .. | 100.3 |
| 2005 | 161,765 | 30,973 | 1,673 | .. | 194,411 | 85.3 | 16.3 | 0.9 | .. | 102.5 |
| 2006 | 166,291 | 35,383 | 3,181 | 595 | 205,450 | 85.6 | 18.2 | 1.6 | 0.3 | 105.8 |

(a) The ratios are based on Australian Bureau of Statistics (ABS) population estimates released in December 2006, cat. no. 3101.0, and are recalculated back to 1997 (ABS 2006a).

*Notes*

1. The 2006 EACH total includes 601 EACH Dementia packages.

2. The ratios for 2006 differ from those published by the Australian Government Department of Health and Ageing which, for reporting in 2006, used small area projections based on the ABS 2002 Population Projections, Series B.

3. From 1999, the data in this table include places and packages provided by Multi-Purpose Services and flexible funding under the Aboriginal

.. Not applicable

Source: AIHW, 2007d: Table 1.1

### Eligibility for home-based care services

Home-based care services differ in their eligibility criteria and their method of referral and assessment. There is a single point of entry to all government-funded aged care facilities and to the CACP, EACH and EACH-D programs: the Aged Care Assessment Program (ACAP). This consists of an assessment of the care needs of the potential

client, conducted by a multidisciplinary[5] Aged Care Assessment Team (ACAT). In their assessments during 2004-05, ACAT recommended that 54 per cent of clients living in the community remain in the community; 25 per cent move to low-level residential aged care, and 19 per cent move to high-level care (AIHW, 2007c:122-123).

Accessing HACC services does not require ACAT assessment, though ACAT can direct clients towards these services when it is appropriate. An older person living in the community can refer themselves for HACC services, or they can be referred by friends, family or medical professionals. The types of referral for HACC services are shown in Figure 24.

**Figure 24: Methods of assessment and referral for home-based care in Australia, 2005-06**

Self-referral (25.4%)

Hospital referral (16.4%)

Family, significant other, friend (15.8%)

Other community-based government medical/health service (12.2%)

GP / medical practitioner - community based (11.3%)

Aged Care Assessment Team (6.4%)

Community nursing or health service (4.4%)

Other (2.8%)

Home and Community Care (HACC)

Aged Care Assessment Team

Community Aged Care Packages (CACP)

Extended Aged Care at Home (EACH)
Extended Aged Care at Home – Dementia (EACH – Dementia) Dementia)

Residential Aged Care Facility (low level)

Residential Aged Care Facility (high level)

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[5] Includes doctors, nurses, social workers, physiotherapists and occupational therapists.

## Age of home-based care clients

Generally, the recipients of community-based care were younger than the equivalent in Aged Care Facilities (Figure 25). Each type of care had a similar proportion of people in the 75-84 age group.

Only about 30 per cent of EACH recipients were aged 85+, compared to around 50 per cent of recipients of CACP and the equivalent high-level care in residential aged care facilities. There is no explanation for this lower age profile in AIHW statistics (AIHW, 2007a; 2007c, table 37.1,38.1,40.1). Two factors that possibly contribute are: fewer people aged 85+ having access to the higher level of informal care required for EACH, considering their spouse and children would also be ageing; and younger people with very high care needs might be much more resistant to entering residential aged care.

**Figure 25: Age distribution – Residential aged care and community care in Australia, 2005-06**
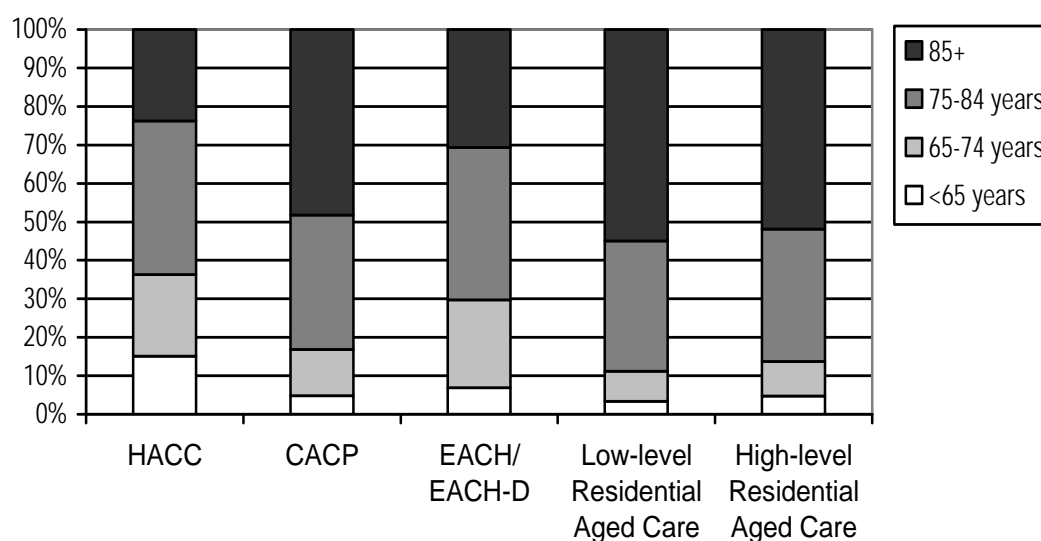


Source: AIHW, 2007a:Table A3;  2007a:Table 37.1, 38.1, 40.1

**Figure 26: Number of HACC clients 2005-06, Australia**



| Service | Number of clients |
|---|---|
| Assessment | 243,142 |
| Domestic Assistance | 220,278 |
| Nursing Care (Home) | 140,246 |
| Transport | 125,621 |
| Home Maintenance | 114,569 |
| Meals (Home) | 99,048 |
| Allied Health Care (Centre) | 96,833 |
| Social Support | 87,996 |
| Centre-Based Day Care | 82,842 |
| Personal Care | 65,515 |
| Allied Health Care (Home) | 59,758 |
| Carer Counselling Support | 59,498 |
| Meals (Centre) | 44,494 |
| Nursing Care (Centre) | 39,478 |
| Respite Care | 35,522 |
| Home Modification | 23,999 |
| Self Care Aids | 15,886 |
| Support and Mobility Aids | 12,743 |
| Other Goods and Equipment | 12,474 |
| Medical Care Aids | 3,721 |
| Other Food Services | 3,683 |
| Care Counselling Support | 2,914 |
| Formal Linen Service | 1,491 |
| Communication Aids | 1,487 |
| Aids for Reading | 227 |
| Car Modifications | 160 |

AIHW, 2007d: Table 1.1

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## Home and Community Care (HACC)

HACC services are provided by a wide variety of government, community and private organisations. Figure 26 shows the number of HACC clients receiving different services. The most common service other than assessment is domestic assistance. Transport and home maintenance are the fourth and fifth most common types of services. The common requirement for domestic assistance and home maintenance indicate an aspect of the home that creates considerable difficulty for many older people living in the community and has particular implications for the design of older people's housing. Likewise, the common need for transport has implications for the design of the neighbourhood environment and location of older people's housing to amenities, services and transport.

In 2005-06, approximately 45 per cent of HACC clients lived alone, and the remainder lived with family (50 per cent) or others (5 per cent) (DoHA, 2007a:Table A10). Home owners and purchasers account for three-quarters of HACC recipients. Residents of self-care housing (privately owned or in other tenures) in retirement villages are also eligible to receive HACC services and account for an additional 4 per cent of recipients (Figure 27).

**Figure 27: HACC recipients: accommodation setting, 2005-06, Australia**
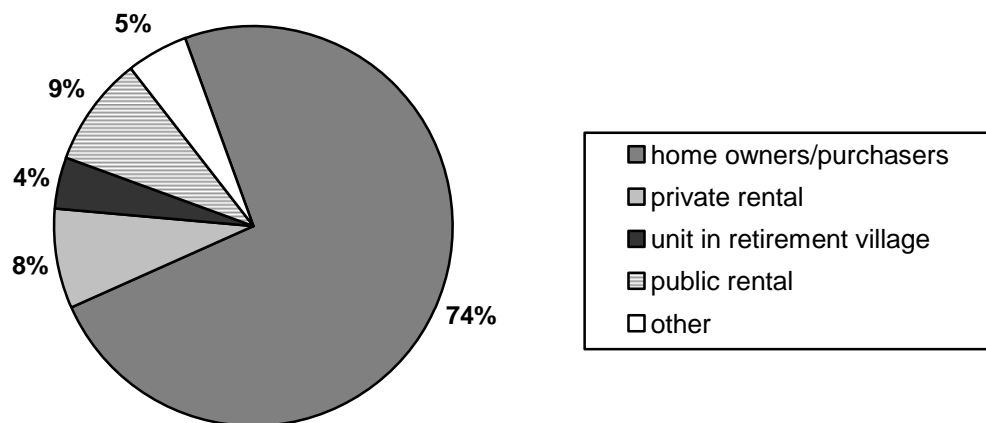


Source: DoHA, 2007a: Table A11

## Community Aged Care Packages (CACP)

Just over half of CACP recipients lived alone, while close to 40 per cent were living with family. Home owners and purchasers account for almost two-thirds of CACP recipients (Figure 28).

**Figure 28: CACP recipients: Usual residence status, 2005-06, Australia**
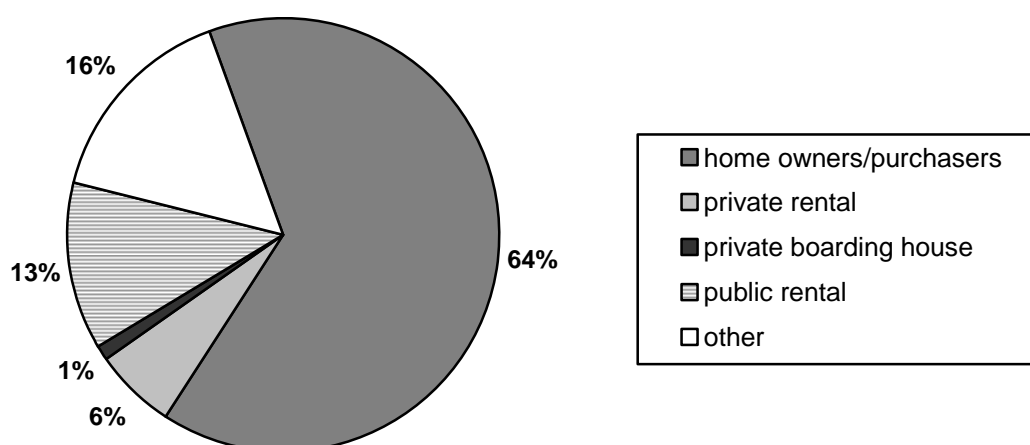


Source: AIHW, 2007a: Table 3.6

## Extended Aged Care at Home (EACH)

EACH is still a relatively new program, having been piloted in 2000. It has expanded each year since it commenced in 2002, but its provision of 2,131 places in 2006 represented a minimal alternative to residential aged care (151,737 residents) (AIHW, 2007a:51; AIHW, 2007d). However, it is an important alternative; providing an opportunity for older people to remain in their home even when their care needs have escalated to a level that previously would have forced the move to a nursing home.

65 per cent of EACH packages were provided in major cities. The remainder were mainly in inner regional areas (25 per cent), with few in outer regional areas and none in remote areas (AIHW, 2007a:51). Data on recipients' housing tenure is not supplied by the AIHW (AIHW, 2007a).

90 per cent of EACH recipients lived with others, usually family members, who provide considerable informal care. As well as the effects of their carer role on these other members of the household, the design of the home will have a considerable impact on them. The home environment needs to maximise the independence for the EACH recipient, but also meet the safety and use requirements of the carer.

## Extended Aged Care at Home – Dementia (EACH-D)

EACH-D is the newest and smallest of the home-based care programs. It commenced in early 2006, with just over 600 packages available (fewer than half with recipients) by mid-year. 78 per cent of these packages were provided in major cities, with the remainder fairly evenly split between inner and outer regional areas; again, none were provided in remote areas.

Similar to the standard EACH recipients, 88 per cent of EACH-D recipients lived with others (AIHW, 2007a:79-80). The design of their home would have an even greater impact for these households, due to additional safety and wayfinding measures being needed in response to the recipients' cognitive decline.

## Informal Care

A distinct contrast between living in residential aged care, and receiving the equivalent low-level and high-level care services at home, is the additional support provided by informal carers. Generally, as the level of home-based care increases, the likelihood that a client also has an informal carer increases.

In 2005-06, 46 per cent of HACC clients also had informal care provided by family or friends (DoHA, 2007a:Table A9). There is no data on the number of CACP clients with

a carer. Ninety per cent of EACH recipients had the support of an informal carer; 74 per cent of the carers were co-resident. EACH-D recipients had an even higher proportion of live-in (85 per cent) or visiting (12 per cent) carers (AIHW, 2007a:53,80). This represents a tremendous care input from the families of care recipients, potentially also impacting an older person's household size and dwelling space requirements.

### 3.3.4  Stay Put or Move? Housing Options for Older People

Older People's Mobility

The 2006 Census showed that the relocation rate over the previous year for people aged 55-64, 65-74 and 75-84 was quite consistent and was similar to those in the 45-54 age group. Approximately 85 to 88 per cent of people in these age groups remained living in the same home. In the 85+ age group, the rate had dropped to 80 per cent (ABS, 2007d). This increase in relocation of the oldest group coincides with an increase in the numbers entering residential aged care (Figure 29).

For those who had moved in the previous five years, 40 per cent of people aged 75+ had remained in the same Statistical Local Area [SLA]. Younger adults (25-44 years) and the 65-74 year olds tended to move further, with only 34 to 35 per cent staying in the same SLA. The rate of staying in the same community dipped slightly (31 per cent) for 55-64 year olds (Figure 30)

**Figure 29: Place of usual residence one year ago by older age group, 2006, Australia**
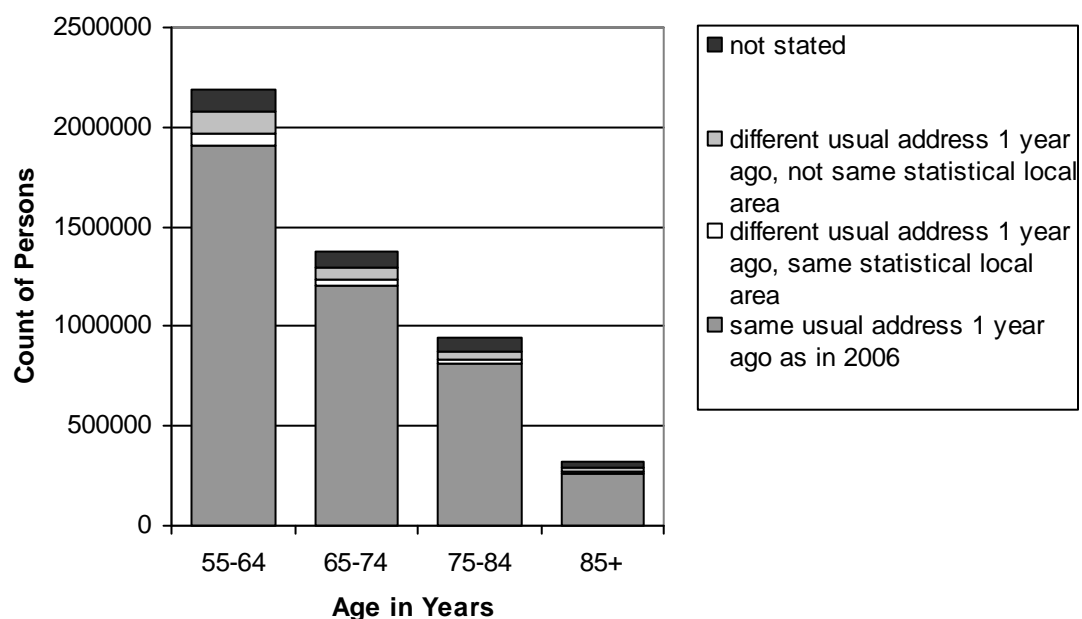


Source: Adapted from ABS, 2007d

**Figure 30: Place of usual residence five years ago by older age group, 2006 Australia**
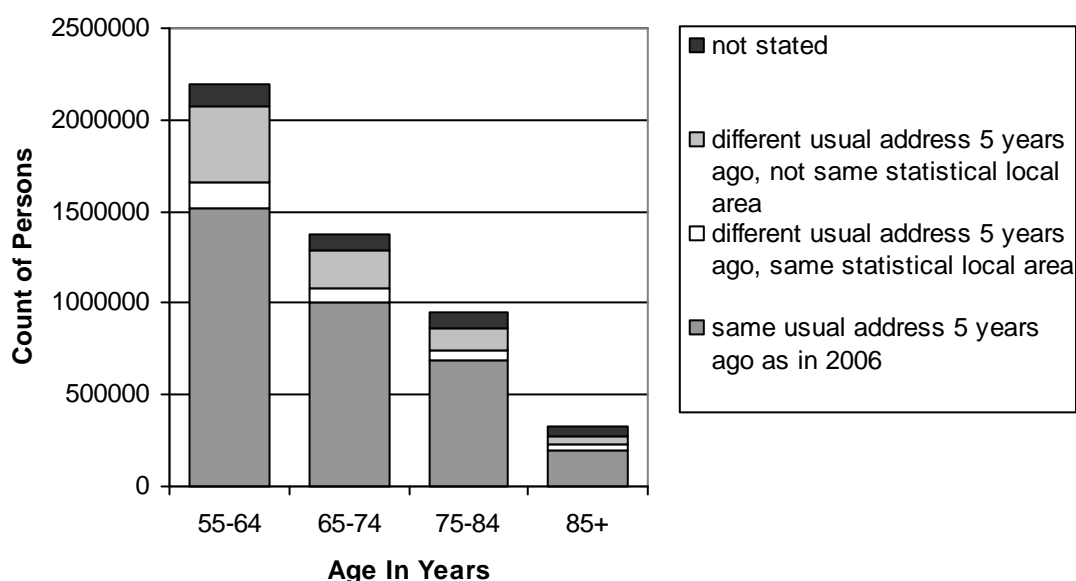


Source: Adapted from ABS, 2007e

Likewise, those in the 55-64 age group had the highest proportion of older people moving away from their local area.

Faulkner and Bennett's analysis of the Australian Longitudinal Study of Ageing (ALSA) found that, in earlier waves, the main reason for older people's intention to move was to obtain 'Modified, better designed or more suitable accommodation' (Faulkner & Bennett, 2002:Table 3.8). However, recent research on the housing careers of people with disabilities and their carers concluded that the majority of housing stock was unsuitable for the needs of people with mobility difficulties (particularly wheelchair users). Also, the difficulty of finding suitably designed housing and the cost of modifying a home to make it accessible discourages them from moving (Kroehn, Hutson, Faulkner & Beer, 2007).

Housing Options

Older people who own their own home have more choices for their future housing, compared to those in other tenures. Most importantly, this includes the choice to remain in their home – effectively 'staying put'.

The Australian government's Moving House – Your Choices provides a number of choices of housing for older people, aside from residential aged care. There are two broad categories: staying put in their existing home (often a large family home), or moving to another home. A variety of options are given for each, summarised in Table 13. The selection of housing can depend on an older person's circumstances, level of ability and economic resources.

**Table 13: Home choices**

| *1. Staying put options* | | |
|---|---|---|
| Renovate, modify or repair home for the future | → | modifications to suit levels of mobility |
| | → | consider safety, security, design and condition |
| Take in boarders or lodgers | → | let out a spare room to a boarder or lodger to assist with household or other expenses |
| Convert to dual occupancy | → | build additional dwelling on same block of land |
| | → | divide existing dwelling into two dwellings |
| | → | a granny flat or demountable dwelling in the garden of the existing dwelling |
| *2. Moving options* | | |
| Move to a smaller or more convenient home | → | courtyard, terrace, villa or townhouse, unit |
| Move in with friends or relatives | → | part of the household |
| Move to a granny flat | → | adjacent to the home of friends or family |
| Move to a portable, relocatable or mobile home | → | in a residential park |
| Move to a rental or leased property | → | public housing |
| | → | private rental housing |
| | → | community housing |
| | → | cluster housing |
| | → | boarding house or hostel |
| Move to a retirement village | → | independent (self-care) units or serviced units |

Source: Australian Government Department of Family and Community Services (FaCS), 2001

## Renovate, modify or repair home for the future

The age of a dwelling can have a direct bearing on the need for, and cost of, repairs and maintenance. Anecdotally, many older people renovate their home when they retire or become empty-nesters. This can be the ideal time to make the home better suited to their future needs, and reduce requirements for repairs. The 1999 Australian Housing Survey published the types and costs of alterations, and the types and costs of repairs and maintenance. This data was not separately available for older age groups, so will be examined in the data analysis stage of the project. Home maintenance and modification is discussed in Section 4.4.2.

## Take in boarders or lodgers

Taking in a boarder or lodger has been a traditional way of providing additional income, but can have implications for privacy and security. A homeshare scheme run by the Benevolent Society in NSW and Wesley Mission in Melbourne is an alternative arrangement where an older person provides accommodation for a younger person at no cost, in exchange for 10 hours assistance each week, for example, cooking, laundry, housework, gardening, transport, shopping or even walking the dog (but not personal or medical care). Aside from this, the benefit for the older person is the security of having someone in the home at night and companionship. Likewise, the younger person has the companionship of the older person, as well as no-cost housing. Each organisation screens homesharers, matches compatible older and

younger people and manages the homeshare contract (Benevolent Society of NSW, 2006).

This type of arrangement eliminates much of the risk for an older person sharing their home. Though it does not provide income, it avoids the considerable cost of a professional companion or purchase of home assistance services. Lack of privacy could be an issue, depending on the design of the dwelling.

The extent of data on the number of older people living with boarders and lodgers will be examined during the data analysis date of the project. Attitudes towards renting part of their home will also be addressed in the quantitative survey and interviews.

## Convert to dual occupancy

Converting a property to dual occupancy was highlighted in the New Homes for Old strategy as an 'important opportunity for increasing housing choice for older people' (AURDR, 1994:23). It reported that, at that time (the early 1990s), half of the development applications being received in Sydney were for dual occupancy, and half of these applications were from long established, aged over 55, occupiers. It considered the benefits of dual occupancy for the older home owner to be remaining in their own home and neighbourhood; having the capital improvement of their home site, which would be also easier and less costly to manage; and the ability to derive income from the new dwelling, to assist with lifestyle and living expenses. The wider benefits were primarily the provision of additional housing density using private capital and the increased efficiency of care and service delivery to older people. A range of issues arose with the dual occupancy strategy in following years. As indicated above, half of the applications were not from established occupiers and so, for many developments, the resulting dwellings reflected the lack of incentive to fit with the amenity of the neighbourhood. In Sydney, community objections to the dual occupancy policy included lack of privacy, overshadowing and excessive density. When the policy was changed, removing occupation restrictions and allowing separate title for the second dwelling, dual occupancy development and associated community resistance increased; in response, new housing policies were developed in the late 1990s (S. Smith, 1997). Despite the change in focus of dual occupancy housing policy towards general higher density housing, and the negative reaction from the community, the original approach had distinct benefits for older people and, according to Smith, was generally accepted (S. Smith, 1997).

Similar approaches for housing older people, such as accessory apartments as used in North America, could face resistance. In Canada, a method of providing an additional dwelling for rental within the main dwelling addresses some of the concerns related to dual occupancy, and is known as FlexHousing (see Section 4.4.7).

## Move to a smaller or more convenient home

In the Housing and Retirement Survey, moving to a smaller home was a reason for moving house for one-third of those who had done so in the previous five years (Olsberg & Winters, 2005:38-39). A qualitative study found 'home and garden maintenance were deciding issues for some people' (Olsberg & Winters, 2005:39). For those who intended to move in future, more than 60 per cent would move to a smaller home (Olsberg & Winters, 2005:43).

Aside from the appeal of a smaller or lower maintenance home, some older home owners move to a smaller dwelling with the intention of releasing capital to live on. This was a reason for around 10 per cent of those who had moved, and 30 per cent of who intended to move, in the Housing and Retirement Survey (Olsberg & Winters,

2005:39, 43). However, in some areas, the cost of the smaller dwelling can be similar or higher than the larger family home being sold (DIPNR, 2004b:15).

For those who can move, there are a range of structures of smaller homes to select from, including:

→ Single detached housing on individual allotments;

→ Semi-detached, row or terrace housing on individual allotments with common party walls;

→ Attached row or group housing on strata title;

→ Walk-up flats, units or apartments;

→ High rise flats, units or apartments.

In a BIS Shrapnel survey on empty nesters in the 50-64 age group conducted in 2001, the preference of those who intended moving was for a smaller single storey dwelling with an open plan design and small courtyard or garden with minimal maintenance. Apartments were also not as favoured due to their strata title and owners corporation, which were viewed with some 'suspicion' after many years of Torrens title ownership (DIPNR, 2004b).

The desire for a single storey dwelling is of particular interest due to the implications for accessibility if an older person develops mobility problems. This should be compared to the structure and number of storeys in the dwellings that they actually move to. The 1999 ABS Australian Housing Survey and HILDA provide data on the number of storeys in a block of flats/units/apartments (which will be analysed for older residents in the housing data analysis (stage 2) of the project); however, neither of these data sources considers the number of storeys in the dwelling itself.

In walk-up flats, units and apartments, there can be access difficulties for people living above the ground level, if they have mobility problems. This could result in increased demand for ground floor dwellings as the population ages. Such problems are largely eliminated in higher density residential developments that have lift access to each storey. Newer high rise apartment buildings also often come with on-site facilities such as round-the-clock security or concierge, gym and swimming pool, meeting and social facilities. Therefore, they could perhaps be considered as an alternative to a retirement village. Some have the added advantage of very close proximity to transport and retail services. As previously mentioned, the Australian Housing Survey and HILDA data analysis can provide the number of older people in high rise apartments, but their motivation their satisfaction with this choice would benefit from further qualitative study.

## Move in with friends or relatives

Moving to live with family has generally received a very negative response from older people. In Olsberg and Winters' study, the idea 'was met with quite animated articulations of disdain and dismissal' (Olsberg & Winters, 2005:82). Similarly, Faulkner and Bennett's analysis of the ALSA showed that, should an older person or their partner require assistance, moving in with family was by far the least favoured option in every age group (2002:Table 3.9). This is in contrast with the experiences of multigenerational living in some Asian and European cultures, a point made in Olsberg and Winters analysis (Olsberg & Winters, 2005:83). As their study involved relatively few older people of CALD backgrounds, and Australia's population of older people of Asian and European origin is increasing, the acceptability of multigenerational living warrants further investigation (Olsberg & Winters, 2005:101-102). It is also important to note that both studies questioned older people about

moving in with their family, not their family moving in with them (Faulkner & Bennett, 2002:Table 3.9; Olsberg & Winters, 2005:107, Q7). These two options can have very different effects on independence and family relationships and are also worthy of further investigation.

## Move to a granny flat

Granny flats (also referred to as 'accessory apartments' and 'ECHO housing') are self-contained dwellings that are located within a main dwelling, attached to a main dwelling or detached from the main dwelling but located on the same parcel of land. They offer more privacy and independence than shared households. The older person usually lives in the granny flat associated with the dwelling of family members or others. Alternatively, older home owners can live in the main dwelling and either use the granny flat for family members or rent it out.

A movable units program now run by the Victorian Office of Housing and some community housing programs was highlighted as one of the housing innovations in the mid-term review of the Aged Care Reform Strategy Stage 2 (Forsyth, 1992:57-59). In this long-established program, people aged 55 years or over who are eligible for public housing and in receipt of a disability support pension can have a one bedroom self-contained manufactured granny flat installed in the backyard of their friend's or family's home. These units have a shower with grab rail as standard and can be modified with a ramp and additional grab rails if required. Other non-structural modifications can be made for wheelchair users (State Government of Victoria Department of Housing Services [DHS], 2007). This type of unit is useful when the living situation is temporary, such as an older person with profound core activity restrictions wanting to delay entry to residential aged care. Their design is critical, due to the tight space requirements and reliance on informal carers. By designing the unit to avoid the need for specialised modifications, the refurbishment costs prior to each installation can be reduced.

In Olsberg and Winters' study, the response to moving to live with family in a granny flat was quite negative (Olsberg & Winters, 2005:82). Yet, at least for one European participant, this was a favourable arrangement (Olsberg & Winters, 2005:83).

In the 2006 Census, just 10,324 occupied granny flats (attached to a house) were counted in Australia; including unoccupied granny flat, this figure rises to 12,098. Data on the number of older residents occupying granny flats and their tenure has not been published. The accuracy of this figure in the census is questionable, given the enumeration method. In 2006, dwelling structure was recorded by the census collector, so it is likely that some flats attached to houses, particularly those not occupied by a separate household, would be missed if they were not visible from the street. In some Canadian cities, granny flats (called accessory apartments) comprise around 20 per cent of rental housing (CMHC, n.d.-c).

## Move to a portable, relocatable or mobile home

Though caravans can be rented or owned, most older caravan park residents own their caravan and lease the land from the park operator (Greenhalgh & Connor, 2003). Facilities (bathrooms and laundries) may be common or individual, depending on the appointments of the caravan. An AHURI study in 2003 found many older residents lived in caravan parks for lifestyle reasons and had done so for many years. Several of them expressed absolutely no desire to return to low density housing with private gardens or to a flat or townhouse because they enjoy the 'community' or 'village' atmosphere and the camaraderie and security of the caravan park. Their desire was to stay put for as long as they could physically do so (Wensing, Holloway & Wood, 2003:44). This raises the issue of the suitability of the design of caravans and

relocatable homes for people with declining abilities, particularly when the internal spaces are very small and the reliance on common park facilities, such as laundries and, in some cases, even bathroom facilities

According to the AHURI study, people aged 65 years and over comprised 23 per cent of caravan park residents and a further 58 per cent of manufactured home estates (Wensing et al., 2003). However, it points out the lack of accurate data on the numbers of older people living in portable, relocatable or mobile homes.

Despite the high level of private ownership of caravans, the insecurity of rental tenure in caravan parks can be problematic. The closure of many parks, as they are sold for more profitable housing development, bring the risk of homelessness for older residents (Greenhalgh & Connor, 2003; Wensing et al., 2003).

## Move to a rental or leased property

The options for rental housing include:

→ Private rental housing;

→ Community housing;

→ Cluster housing;

→ Boarding house or hostel.

The disadvantages of private rental, in particular, lack of tenure security and high housing costs, are well documented (Howe, 2003). The additional disadvantage of rental tenure for making home modifications is discussed in Section 4.4.2. Though there has been some suggestion that there is a financial advantage for home owners to become renters, few Australians do so (Beer et al., 2006:30), as the disadvantages with this form of housing tenure are immense. With the additional funds on entry to rental tenure, older renters are not in the same dire position as those who have spent a lifetime in rental tenure, and many will not need to compete for the lowest cost housing. However, they will still experience the social and emotional disruption of potentially frequent relocation, competition with younger renters for properties and, if the physical environment is unsuitable if their abilities deteriorate, possible restricted access to care services (Howe, 2003:16). For these reasons, it appears that moving from private home ownership to private rental tenure should be avoided.

Public housing rental provides more security of tenure, but the supply of housing is limited and waiting lists are long. Community housing can be a more readily available alternative to public housing for older people who are eligible (Donovan Research, 2002). According to the National Social Housing Survey, people aged 65+ were the age group most satisfied with their community housing and, of those with a disability or health condition (32 per cent), almost all (31 per cent) had their homes modified. Another favourable feature of community housing is the location. For those residents who rated distance of their home to facilities and their social network (medical services, shops, bank, emergency medical facilities, family and friends and transport) as being important, 80 to 90 per cent were satisfied with their current housing arrangements (Donovan Research, 2002).

There are a variety of types of cluster housing available for seniors, from townhouse developments to group housing with common facilities. An advantage of cluster housing is that older people can maintain their independence but can also access support if they require it. One of the best-known types is Abbeyfield Housing. It consists of houses in the community with 10 ensuite-bedsitter rooms for older residents and a common kitchen, laundry, guest room and garden. A resident housekeeper provides main meals and cleaning of common areas, while residents

provide other meals and do their own laundry and cleaning. Eligibility requirements are as for public housing, and being aged 55+ (FaCS, 2001).

Cohousing is another type of cluster housing. Rather than having private rooms within a common dwelling, it generally consists of a common shared dwelling as well as each person or family having their own private dwelling. Cohousing is a form of intentional community, which is initiated and managed by the older people living in it, rather than an outside organisation. Social cohousing for older people originated in Denmark and the Netherlands in the 1980s (Bamford, 2005). Examples in Australia are currently limited. One in Fairfield, Sydney, consists of a 10-household community for older Vietnamese migrants (Bamford, n.d.).

Boarding houses and hostels are an option for older people with little income, and cost around 85 per cent of the pension. Boarding houses generally offer a single room with shared kitchen and bathroom facilities. Hostels provide similar facilities, but also include meals, laundry, cleaning, and assistance with medication, personal care and managing finances (FaCS, 2001).

## Move to a retirement village

Retirement villages are generally age specific residential developments, limited to residents 55 years and over. There are a variety of tenures, with fees payable on entry and exit. Usually they are located adjacent to, rather than within, urban areas, due to the cost of the large quantity of land for large-scale development. However, the advent of 'vertical villages' is intended to provide retirement village facilities in high rise residential towers within urban areas (DIPNR, 2004b).

Some retirement villages have on-site social and recreational facilities, and additional care services on a user-pays basis available; the extent of these are regulated in some states. McGovern and Baltins outline the facilities typically included in various types of retirement villages (2002:33). All (including low-cost villages) would generally have a community building, social coordinator and 24 hour emergency call service. The more modest villages would also have a swimming pool, spa, craft/activities room, village bus and medical rooms. The premium additions provided by higher cost, resort-style villages would include a gym, tennis court, bowling green, putting green, workshop, vegetable garden, cafe/restaurant, hairdresser and computer room. Low- and high-level residential aged care facilities can be located on the same site. Though village residents do not have priority for entry, having these facilities on-site is considered desirable by residents (Stimson, McCrea & Star, 2002b:73-74). Dwellings are specially designed for older people (to varying degrees), and can be self-contained independent (self-care) or serviced units. Serviced units might not have full kitchen facilities; they have housekeeping and laundry services provided, and meals provided in either a communal dining room or delivered to the unit.

A 2000-01 survey found almost all retirement village residents had moved from a home they owned outright (96 per cent), the vast majority of whom had lived in houses (80 per cent), with smaller numbers in medium density dwellings such as townhouses (4 per cent) and units or flats (14 per cent) (Stimson, McCrea & Star, 2002c:59).

The most important reason given in the survey for moving from their previous home was related to health and the need for more assistance. The other major reasons were related to maintenance of the home and garden (Stimson et al., 2002c:60-61). There was no clear reason given as to why housing in the community was rejected in favour of a retirement village; most residents in the study did not consider alternatives. The main influence for moving to the village was finding it appealing when they visited

(42 per cent) and being influenced by friends or family (47 per cent) (Stimson, McCrea & Star, 2002a:57-58).

The survey also found the services and facilities that were desirable or very desirable in a retirement village (in order of importance) were:

→ 24 hour emergency call service;

→ Reputable management and staff;

→ Community centre;

→ Provision for social activities;

→ Village bus;

→ Library;

→ Lock-up garage;

→ Serviced apartments;

→ Games room;

→ Barbeque area;

→ Nursing home on-site;

→ Hostel on-site (Stimson et al., 2002b:73-74).

The most used facility was the community centre, used by around 70 per cent of residents frequently or very frequently. This was followed by social activities, library and games room. Bowls, the village bus and the pool were used frequently or very frequently by around a quarter of residents. Much less use was made of the gym, workshop, internet, golf and tennis court (Stimson et al., 2002b:79).

A more recent study compared the satisfaction and quality of life of older home owners who had moved to independent units in a retirement village, with those who had considered a retirement village but remained in the community. It found that 'overall satisfaction with life, and satisfaction with friendships and social life, was significantly higher for village respondents than the community group. In addition, the great majority of village respondents said their dwelling/garden was more suitable than their previous housing' (Gardner, Browning & Kendig, 2005:191). The reasons given by those whose life in general had improved were predominantly social activities, the dwelling and garden, health support and physical security. The study reported that the reasons most of the home owners in the community did not move to a retirement village were the tenure and the financial arrangements for purchasing a unit. Other reasons were the age composition, the density of the social environment and reduced privacy and, to a lesser extent, smaller dwelling size and loss of independence (Gardner et al., 2005:193-194). It is important to note that the study did not determine whether the community group had remained in their home or moved to a new dwelling. Presumably many of them remained in their home and those issues that prompted them to consider a retirement village remained and were perhaps exacerbated over time. Further research on comparative satisfaction of those moving to retirement villages and those moving to other housing in the community would be useful.

In-fill seniors housing

In-fill Seniors Housing (in NSW) is generally grouped with retirement villages as 'over 55s' housing. However, while many larger villages are located on the urban fringe, in-fill housing is better integrated into the wider community. These are usually developments of townhouses or apartments purchased with strata title. Like other

strata title developments, some include common social and recreational facilities which require maintenance fees. However, the focus is the location and design of housing; though there should be access to services, no services need to be provided with the residential development (DIPNR, 2004a:8). Like standard retirement villages, they are limited to people aged 55 years or older.

The provision of in-fill Seniors Housing in New South Wales is regulated by SEPP (Housing for Seniors or People with a Disability). It is perhaps better known by its previous name SEPP5. SEPP5 originated in 1982, but clearer provision for in-fill Seniors Housing was included in a major revision in 1998. Another revision in 2000 set further standards for design and location and removed the requirement for support services (DIPNR, 2004b:5-6). SEPP 5 was replaced by SEPP (Seniors Living) in 2004, which was then renamed to its current title following a review in late 2007.

Currently in NSW, Seniors Housing must have certain design provisions in accordance with Australian Standard AS 4299-1995 Adaptable Housing. It must be located within 400 m of services and amenities, or within 400 m of transport to those services and amenities. Although reservation of housing located closest to services and amenities is clearly beneficial to older people and those with disabilities, it reduces the housing available to others who also may have a need for housing in such close proximity, for example, a parent with small children and no access to a car (Quinn, n.d.).

While younger people can live in the housing with someone aged 55+, the dwelling cannot be rented or otherwise occupied by younger people on their own.[6] This limits the market for its sale or rental, and also prevents an older person from 'passing down' the dwelling to their children for occupation (Quinn, n.d.).

An advantage of clustered seniors housing is the increased efficiency of supplying HACC services to many clients on a single site, compared to visiting individual dwellings sprinkled throughout the wider community (DIPNR, 2004b:12).

### 3.3.5  Conclusion

This section has confirmed that the desire of older people to remain in their own home for as long as possible is well established in the literature, as are the psychological, social and economic reasons for this. However, their ability to age in place depends also to a large extent on the care and support that can be provided to enable this, and the suitability of the dwelling and residential environment. Where the current home is unsuitable, it can also involve decisions about what kind of housing and location to move in to. As has been demonstrated, the options are many, but will themselves be constrained by financial, social, health and other considerations. How often older people move, and what trade-offs they make between location, housing type and affordability, are very relevant to a primary focus of this study concerned with the efficient use of housing and land by older people.

The findings of this section therefore provide an understanding that will be important to later stages of the forthcoming research, both as a comparison to our own findings and as a guide for structuring the content for the in-depth interviews. Some issues of particular interest to be followed up will be:

→  Emotional attachment to the home and the location;

→  The importance of family and social networks to decisions about ageing in place;

→  Financial considerations in staying put or moving;

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[6] People aged under 55 years are eligible for this housing if they have a disability

- → Attitudes to different housing options;

- → Lifestyle considerations in choice of housing and location;

- → Importance of accessibility to care and support services;

- → Gender differences in housing and care needs;

- → Cultural differences in attitudes to ageing in place, housing and care options.

The literature review also raises two interesting policy conflicts:

- → The efficient use of housing stock, versus the dignity, independence and wellbeing associated with ageing in place in a house arguably bigger than necessary;

- → Encouraging retired people to move away from high employment areas to make housing available for younger people, versus the poorer amenities and health and support services in such areas and the potential disruption of family and social networks involved.

Both these issues are central to the aims of this research. As well as attempting to obtain more reliable data on dwelling size, land area and household size, a major focus of both the quantitative and qualitative surveys will be on the use of space, to gain a more nuanced understanding of 'efficiency' or 'utilisation' debate.

Unlike data on dwellings and households, the statistical data on difficulties of ageing in place, care and support in the home and utilisation of home care services is up-to-date having being recently published by AIHW (2007a; 2007c; 2007d) and DoHA (2007a) with some supplementary recent ABS (2007d; 2007e) published data based on the 2006 Census. This will be taken further in our own analysis of 2006 Census and HILDA data and will also provide a useful benchmark for comparison with survey respondents and help to inform the selection of participants for the in-depth interviews.

## 3.4 Housing design and the housing industry

Traditionally, when a health condition or impairment reduces the physical, mental or sensory abilities of an older person living in the community, their home has been modified to increase safety, access and usability. These modifications can assist a person to remain living in their home and avoid unwanted relocation to residential aged care. Common modifications include ramps to replace stairs when a resident has a mobility problem, and non-slip floor treatments and grab rails in the bathroom to reduce the risk of falls.

This section reviews literature on the housing design approaches that can be used to reduce or avoid the need to modify the home. Universal Design and Adaptable Design are the two approaches for designing housing that are the focus of Research Question 4 and 5. As well as addressing these design approaches, this section examines two others that also aim to provide more accessible housing: Accessible Design and Visitable Design. Another design approach, Flexible Design, which responds to the housing changes that are needed as a household's size, composition and lifestyle change over time, completes the scope of the review.

The review compares each of these design approaches with the current practice of making home modifications, explains the differences between each, and includes the various advantages and disadvantages, and any related cost-benefit analysis.

### 3.4.1 Housing design options

A range of housing design options are in use around the world[7] to address the difficulties that some people with disabilities have when using their homes. In addition to the tradition of making modifications to the home, and newer approaches of Universal and Adaptable Design, other options include Accessible Design and Visitable Design.

**Table 14: Variations in housing design options**

| Design approach | | |
|---|---|---|
| Accessible | *population* | - people with disabilities |
| | *housing* | - specialised housing, often custom-designed |
| | *approach* | - designed to be used by one or more people with particular disabilities |
| Visitable | *population* | - wheelchair users |
| | *housing* | - all housing |
| | *approach* | - features that will allow a wheelchair user to visit the homes of their family and friends |
| Adaptable | *population* | - people who might develop a disability in the future |
| | *housing* | - all housing |
| | *approach* | - is 'Visitable' and designed to be easily and cost-effectively modified if required |
| Universal | *population* | - people of all ages and all abilities |
| | *housing* | - all housing |
| | *approach* | - designed to be safe and accessible for residents and visitors, from the start |
| Flexible | *population* | - people of all ages and all abilities |
| | *housing* | - all housing |
| | *approach* | - can be adjusted to accommodate different residents and changing lifestyles |

All these options have the common aim of making housing accessible (Building Commission Victoria [BCV], 2002:4). Thus, rather than concentrate solely on Universal Design and Adaptable Design in this project, it is important to understand the benefits of, and differences between, each of these them when considering the most appropriate approach for improving access, usability and safety in older people's housing. Table 14 outlines for each design option: the population that is the focus for the design, the potential market for the housing, and the approach used. An additional design approach concerned with accommodating changing household size and structure is also addressed: Flexible Design.

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[7] For an overview of design approaches being implemented internationally, see Starr (2005).

### 3.4.2 Home modifications – type, implementation, costs, benefits and problems

Home modifications are custom structural changes made so the resident can continue to safely live and move around it (DoHA, 2007a:68). Custom modifications to conventional housing have been the traditional approach for making the home environment more accessible and safe for older people when required. Modifications can be government-funded through HACC programs in each state or privately funded. Occupational therapists attached to Aged Care Assessment Teams [ACAT] and HACC programs advise on appropriate modifications. Alternatively, in Victoria, Archicentre conducts home safety inspections for seniors and people with a disability at no cost. In each state there are also Independent Living Centres that provide assistance with selecting assistive devices, a showroom display of assistive devices, and a product catalogue on their website.

Home owners are in a far better position than older people in other housing tenures to make modifications to their home if required. Private renters face the greatest difficulty. The Australian Disability Discrimination Act [DDA] 1992 gives a person in rental premises the right to modify their own premises and modify the common property in a strata development should their disability require better safety or access. However, as well as the cost of the modification, they must return the property to its original state when they end their lease. The lack of tenure security in private rental accommodation severely limits the feasibility of making modifications, even if the tenant has the capacity to finance them.

## Type and implementation of home modifications

Statistical data on the type and number of home modifications made by older people and people with a disability in Australia is limited. The ABS Disability, Ageing and Carers survey summary showed that only 12 per cent of all people with a disability living in a private dwelling made a modification to their home, and the most common type was the installation of grab rails, followed by toilet, bath or laundry modifications (ABS, 2004a:32). However, there was no detail provided for older people in this publication. The HILDA Survey data collection is limited to whether modifications have been made. The HACC minimum dataset shows that in 2005-06, 20,469 clients aged 65+ received home modifications, but this does not consider those making modifications to their home without the financial assistance of the HACC program (DoHA, 2007a:Table A18).

In AARP's Fixing to Stay study, safety was the most common reason for home modifications. The most prevalent simple modifications were nightlights in hallways and bathrooms to reduce the chance of tripping, and non-slip strips in the bathtub or shower (Bayer & Harper, 2000:35). The most common major modifications were installing light switches at the top and bottom of dark stairwells to reduce the chance of tripping, adding handrails or grab bars to the bathroom and adding handrails to both sides of stairs.

For a person with reduced mental ability, for example, a resident with dementia, there will be a greater need for safety modifications. Along with the more usual modifications related to avoiding falls, additional measures can include locks on external doors, windows, cupboards and electrical appliances, fencing of yards, and secure storage of medications and chemicals (Silverstein & Hyde, 1997). While these are similar to those that are common for child safety, they are made more difficult by an adult's greater height, reach and strength.

Home modifications not only affect the resident, they have a considerable effect on the caregiver also. Calkins and Namazi's study on home modifications for adults with

dementia living in the community found that 85 per cent of caregivers also benefited from the modifications for reasons such as they 'made caregiving easier', 'decreased anxiety' and 'increased safety of the environment' (Calkins & Namazi, 1991).

**Figure 31: Home modified with a ramp for access**



Source: Australian Ramp Systems, 2007

## Cost of home modifications

In the early 1990s, providing government-funded modifications to assist people to remain in their home longer was considered cost-effective compared to residential aged care. However, the increasing demand has increased the cost considerably, resulting in long waiting lists (Bringolf, 2007).

There is no data available on the full cost of home modifications in Australia. Governments funded a total of $5,137,638 worth of home modifications in 2005-06 for people aged 65+ through the HACC program (DoHA, 2006c:Table A19). The average cost was $251. However, it is expected that the amount spent privately by residents, both those who received some HACC assistance and those who received no HACC assistance, would far exceed this amount.

## Benefits of home modifications

The benefits of home modifications for older people relate to access throughout the home, and safety. Their ability to reduce falls has been the focus of considerable research, but the results are inconclusive; it appears that modifications do not reduce falls on their own, but could do so as part of an overall strategy to address risk factors for the older person (Kochera, 2002b; Todd & Skelton, 2004). However, home modifications can promote independence (Kutty (2000), cited in Kochera, 2002b:5) and increase accessibility to enable the resident to remain in the home, particularly when the modifications directly respond to residents' specific requirements.

## Problems with home modifications

Despite the benefits of home modifications for resident safety and access, many people who could benefit from home modifications have not made them, and even when modifications have been prescribed by an occupational therapist, there is a high degree of non-compliance. Perceived high cost, negative effect on home resale value,

unattractive appearance and not being worth the trouble are some reasons given (Ohta & Ohta, 1997).

Though the cost in many cases might not be high, the need for the modification often comes at a time of sudden health problems or when a chronic health condition is deteriorating. This can make meeting the cost of the modifications difficult for some. The Fixing to Stay study also examined reasons why residents did not modify their home, either at all, or as much as they wanted. From a set range of responses, those that were a major reason were being unable to afford the modification (18 per cent) and being unable to do it themselves (20 per cent) (Bayer & Harper, 2000).

The widespread perception that modifications and some assistive devices are unattractive is understandable (Figure 32). The nature of home modifications means that the focus is usually on minimising cost of installation (particularly for government) and maximising functionality (Bringolf, 2007). To stretch the limited pool of public funding to accommodate as many clients as possible, more costly sophisticated products and finishes are rarely feasible. When installed in a home that was never designed for such features, the result can be incongruous with its design (Quinn, n.d.).

**Figure 32: Staircase modified with a stairlift**



A stairlift modification can provide a resident with access to upper or lower levels of the home when they are unable to use the stairs. Despite the benefits of home modifications, some people who need them are concerned at the appearance and stigma of having them installed.

Source: Bison Stairlifts, 2007

Considering the high number of older Australians living with family or others (see Section 1.3.2), it is important to take into account the effect that home modifications will have on other members of the household. They can have an impact on storage space, circulation space, convenience and cleaning, and some assistive devices for adults can present a hazard to small children (Quinn, n.d.).

### 3.4.3 Accessible design – benefits and problems

In its broadest definition, Accessible Housing 'describes the ease of access to a house' (Aged and Community Services Australia, 2005:4). However, in the housing industry, it generally means housing that that meets prescribed government standards and regulations or agency requirements for being physically accessible to people with disabilities (Center for Universal Design [CUD], 2006a). Most Accessible homes are custom designed for an individual or a market with a particular health condition, impairment or disability. Often, Accessible Housing is focused on the needs of people who use a wheelchair. Because of this limited market focus, it can appear quite different to conventional housing and can even appear institutional. With the exception of more recent, architect designed homes, an Accessible home is recognisable as such.

The Australian Standard for Accessible Design: AS 1428.1-2001 Design for Access and Mobility. Part 1: General Requirements for Access – New Building Work specifies the design of environments intended to be used by people with disabilities, in particular, wheelchair users. It is focused on public buildings and environments only, though some sections form the basis of guidelines, standards and regulations for residential dwellings.

There are two difficulties arising from the practice of relying on this Standard to specify the design of housing, especially housing that is intended to be used by, and meet the needs of, older people. First, because the Standard is intended for public buildings, the spaces are designed for a large number of users in a public environment, rather than the small household in a home environment. Also, the specifications consider the types of assistive devices that a person with a disability would use when out in public, which could differ considerably from those they would use at home (Figure 33). For example, a person with a mobility difficulty might use a powered scooter when they travel to work or to local amenities, but rarely inside the home (Quinn, n.d.). In one major anthropometric wheelchair user study, the participants were measured in the wheelchair they used when they were in public spaces. 'Informally, most respondents reported that they had smaller and more manoeuvrable chairs for use at home' (Steinfeld, Maisel & Feathers, 2005:41).

**Figure 33: Accessible toilet fittings complying with AS 1428.1-2001**



The requirements for toilets in AS 1428.1-2001 are intended for commercial installations only. Focused on wheelchair users, this type of toilet is not necessarily suited for use by people with all sensory, mental or physical disabilities. Some elements might assist in guiding the design of residential bathrooms for wheelchair users, but can appear institutional. The space requirements for the bathroom consider people using their outdoor wheelchairs; for many, this wheelchair could differ from the one used at home.

Carekit 100. Source: Independent Living Centres Australia – NSW [ILC-NSW], 2007

Second, the anthropometric data (measurements of people) that was used in this Standard only considered people aged 18-60 years. It is unknown whether the resulting sizes of spaces, such as bathroom layouts, heights of controls and work surfaces, and lighting levels, would meet the needs of those older than 60.

## Benefits of accessible design

The primary benefit of Accessible Housing is that it can enable a person who would be unable to live independently or interdependently in conventional housing to live in their community. For some, the alternative would only be institutional care.

## Problems with accessible design

As well as a benefit, the practice of custom-building Accessible Housing also creates a problem. Because the production volumes are low, the costs can be high compared to a conventional home (Standards Australia, 1995:4). The lack of competition in the market leaves little incentive for manufacturers and builders to spend the time to

resolve and improve their designs to the extent that they would for the more lucrative general housing market, so appearance and function are sometimes compromised.

Custom-building accessible housing results in a lack of suitable stock available for those who do not want, or cannot build, a custom-designed home. In turn, when selling an Accessible home, the potential market is limited.

As for home modifications, another issue for Accessible Housing is the focus only on the needs of one resident in the household. Should the design of fittings and fixtures only consider the needs of the person with the disability, the needs of others, including carers, might be missed. For example, lowered kitchen bench heights installed to suit a wheelchair user (Figure 34) can result in back injury to other householders and carers who need to bend down to use them.

**Figure 34: Lowered, wheelchair-accessible kitchen**



This lowered kitchen for wheelchair users is designed by SieMatic. Though elegant, and more functional for a wheelchair user than a standard-height kitchen; it would be unsuitable for a carer or if there were others in the household who would use it while standing.

Source: The K&Bzine, 2005

### 3.4.4  Visitable design – implementation, costs, benefits and problems

Visitable design aims to assist people in a wheelchair to visit their friends' and family's homes. It is focused on the needs of wheelchair users, and is applicable, and in some places regulated, for all housing. Housing that is Visitable has three essential features designed in, which will allow a person in a wheelchair to visit: a path of travel that is without steps to enter the dwelling, an entrance doorway (Figure 35) and internal doorways that are wide enough for a wheelchair to fit through, and a wheelchair-accessible toilet on the entrance level of the dwelling (Table 15).

**Table 15: Critical features for visitable housing**

| *Visitable housing design* |
| --- |
| 1. a step-free path of travel to an entrance |
| 2. wide doorways to fit a wheelchair |
| 3. a wheelchair-accessible toilet on the entry level |

Source: Adapted from Concrete Change, 2003c

The origins of Visitable Design are unknown; however, it gained recognition and momentum in the USA through an organisation, Concrete Change (E. Smith, 2003). In the USA, several states and cities have regulations requiring some or all of these Visitability features, applicable either for all new built housing or alternatively, any

housing that is receiving funding from the city, state or federal government (Concrete Change, n.d.).

In addition to the three essential Visitability features, other design features that increase the Visitability of housing have been incorporated into various regulations in the USA. These include having powerpoints, thermostats and light switches at a height that can be reached by a wheelchair user, having reinforcement in the bathroom walls so that grab bars can be installed, and having lever handles on doors (Concrete Change, n.d.).

**Figure 35: No-Step entrance**



Location: Universal Design House, Atlantic City; Photo: Joanne Quinn

There is a similar regulation for particular access features in all new housing in England and Wales. Known as Part M of the Building Code, this requires a level or ramped approach to the dwelling, a level threshold and floor on the entry level, a toilet on the entry level (or main level if there are no habitable rooms on the entry level), hallways and doorways wide enough for a wheelchair, and power outlets, light switches and communication sockets at a specified height that can be reached by wheelchair users. Where the gradient of the site makes the level floor and the level or ramped approach to the dwelling unfeasible, the design of staircases with handrails for ease of access by ambulant users is specified (Office of the Deputy Prime Minister, 2004).

Australia does not have any requirement for Visitability; however, the inclusion of a living space, food preparation space and bedroom space on the entry level, and potential for future installation of a lift or stair lift in multi-storey housing, are provisions that are being proposed in addition to basic Visitability features for the Australian Building Code (Australian Network for Universal Housing Design, 2005).

Implementation of visitable design

The general consensus among advocates is that enhanced Visitability features need to be regulated in all Australian housing (Royal Australian Institute of Architects, 2005:10; Ward, 2005). In a cost-benefit analysis of Adaptable Housing, Hill recommended certain features needed to be included in all housing from the start, as 'later adaptation is not practical, and would incur significant costs': minimum door widths of 820 mm (internal) and 850 mm (entry), minimum corridor widths of 1,000 mm, circulation (path of travel) to AS 4299-1995 Class C, bathroom walls strengthened for grab rails, and lift access between floors of multi-storey buildings. These features should be regulated in the Building Code of Australia (Hill, 1999:7).

Those cities in the USA with Visitability measures that do not enforce them with regulation use financial incentives. For example, the Illinois Accessible Housing Demonstration Grant Program has a financial grant available to builders incorporating certain enhanced Visitability features, while Virginia has a tax credit available to home owners. Though many of the requirements only apply to housing that has been partially funded, there are some regulations applicable for all housing (2007a; Center for Inclusive Design and Environmental Access, 2007b; Kochera, 2002a). In addition to the Visitable Design regulations in various cities and states, Concrete Change reports that there is currently a bill for Visitability, the *Inclusive Home Design Act 2003 HR 1441*, before the US congress. This requires five accessible features in all federally-funded homes:

→ At least one zero-step entrance on an accessible route at the front, side or back of the home, or through an attached garage – wherever is most feasible for the given terrain;

→ All interior passage doors on the main floor of the home providing a minimum of 32 inches of clear passage space;

→ A useable bathroom with at least a toilet and sink on the main level;

→ Blocking in bathroom walls (but not grab bars);

→ Electrical and climate controls such as light switches, sockets and thermostats located at reachable heights (Concrete Change, 2003b).

## Cost of Visitable Design

The cost of incorporating Visitable Design features in housing at the time of construction has been assessed. When builders' perceptions of the effect of Part M on the UK Building Code were examined, the feeling was that Part M added to development costs, though not in a prohibitive sense, and few builders were able to quantify accurately any additional costs that they attributed to Part M (Joseph Rowntree Foundation [JRF], 2003).

The cost of Visitability was assessed for the US *Inclusive Home Design Act 2003* and found to be US$98 for a dwelling built on a concrete slab and US$573 for one with a basement or crawl space (Concrete Change, 2003a).

## Benefits of Visitable Design

The benefits of Visitability for older people relate to their own housing and the housing of their family and friends. In some cases, a step-free entrance and a ground floor bathroom could be sufficient to assist a person to remain in their home when they experience mobility difficulties. Such mobility difficulties could be permanent or be temporary, for example, following a knee or hip replacement. Even if additional modifications are required, their cost is far less when the major construction requirements for Visitability are in place.

The main advantage of Visitability, however, is the social benefit. People who use wheelchairs or have other mobility difficulties are not prevented from attending celebrations or other social events at the homes of their friends and family because they cannot get their wheelchair into the home, because they cannot or do not want to be carried into the home when there is no access for their wheelchair, in order to maintain dignity or safety; or because they are unable to use the toilet facilities either at all or independently.

## Problems with Visitable Design

Though evidence suggests that the benefits of incorporating Visitable design in all housing outweigh the cost, the difficulty of regulating it and enforcing those regulations remains. The long process for the inclusion of Access to Premises requirements in the Building Code of Australia suggests that incorporating Visitable Design in housing would be similarly, if not more, involved.

Should the Visitability features be included in the Building Code, the difficulties with compliance when Part M was introduced in the UK suggest that building compliance will also be an important consideration (JRF, 2003).

**Figure 36: Reinforcing in bathroom walls**

A cut-away section of plasterboard wall demonstrating the installation of plywood reinforcing underneath.

Location: Universal Design House, Atlantic City. Photo: Joanne Quinn

### 3.4.5  Adaptable design – implementation, costs, benefits and problems

In its literal definition, adaptable housing is housing that can be changed. Freedman outlines three stages where adaptability can take place in the lifecycle of a building:

→ In the design phase when the ability to make changes to a home before or during occupation is designed in;

→ In the construction phase when the builder has the option of selecting from the range of potential features for the home;

→ During use, where the home owners make changes from those made available during the design and construction process (Freedman, 2002:12).

In the housing industry, the term 'adaptable housing' has been used to describe two broad approaches. The first generally refers to the ability to make changes to the home during its lifecycle, to meet the preferences of the household: their size, composition and lifestyle (Canada Mortgage and Housing Corporation [CMHC], n.d.-d). The second refers to making changes to accommodate residents' needs should they develop a disability in the future.

In Australia, Adaptable Design in housing fits the latter definition. It is housing that has been designed so that it is Visitable, and can be modified easily and at minimal cost in the future if a resident or visitor requires it due to their disability or frailty (Standards Australia, 1995:4,8,10). In Adaptable Housing, 'the structural elements and other elements that are difficult to change, will be designed to anticipate later modification to enable accessibility' (BCV, 2002:5). The intention is to provide a dwelling with the

capacity for Accessible Housing features to be utilised in future if required, but allowing some of these to be hidden or omitted until they are needed. Experience has shown that many non-disabled people do not like the look of Accessible Housing features and it is very difficult to rent on the wider market. Also, some people with disabilities do not need or want all of the features in an Accessible home (CUD, 2006a).

An example of a very simple Adaptable Housing feature is the provision of block reinforcing in a bathroom wall so that a grab rail can easily be installed if required (Figure 36). An even simpler example is having the kitchen flooring extend underneath cupboards so that a cupboard can be unscrewed and slid out from under the bench top to provide knee space for a wheelchair user to work at the kitchen bench (CUD, 2006a). A more complex Adaptable feature would be a bathroom with a bathtub that could be removed and a wheelchair accessible shower installed in the same location, using existing plumbing (Standards Australia, 1995:4.4).

## Implementation of Adaptable design

The requirements of Adaptable housing are outlined in the Australian Standard AS 4299-1995 Adaptable Housing. Though not mandatory, it is referenced by government and community housing programs for older people, such as in Seniors Housing in New South Wales (State Environmental Planning Policy [SEPP](Housing for Seniors or People with a Disability) 2004), by the Queensland government's Smart Housing Policy (Queensland Government Department of Housing [QDH], 2004), and by some local councils for a proportion of housing in new residential developments.

AS 4299-1995 Adaptable Housing features three categories, based on compliance with a number of housing requirements. Housing that conforms to Class C of the requirements contains the essential features in Table 16. There are additional desirable features in the Standard. Housing with 50 per cent of the first priority features conforms to Class B of the Standard, and housing with all essential and desirable features meets Class A.

**Table 16: Schedule of features for adaptable housing – Class C**

| *Adaptable house class C* |
|---|
| DRAWINGS |
| - Provision of drawings showing the housing unit in its pre-adaptation and post-adaptation stages |
| SITING |
| - Continuous accessible path of travel from street frontage and vehicle parking to entry complying with AS 1428.1 |
| LETTERBOXES IN ESTATE DEVELOPMENTS |
| - Letterboxes to be on hard standing area connected to accessible pathway |
| PRIVATE CAR ACCOMMODATION |
| - Car-parking space or garage min. area 6.0 m × 3.8 m |
| ACCESSIBLE ENTRY |
| - Accessible entry |
| - Accessible entry to be level (i.e. max. 1:40 slope) |
| - Threshold to be low-level |
| - Landing to enable wheelchair manoeuvrability |
| - Accessible entry door to have 850 mm min. clearance |
| - Door lever handles and hardware to AS 1428.1 |
| INTERIOR: GENERAL |

## *Adaptable house class C*

- Internal doors to have 820 mm min. clearance
- Internal corridors min. width of 1,000 mm
- Provision for compliance with AS 1428.1 for door approaches

LIVING ROOM & DINING ROOM

- Provision for circulation space of min. 2,250 mm diameter
- Telephone adjacent to GPO [General Power Outlet]
- Potential illumination level min. 300 lux

KITCHEN

- Minimum width 2.7 m (1,550 mm clear between benches)
- Provision for circulation at doors to comply with AS 1428.1
- Provision for benches planned to include at least one work surface of 800 mm length, adjustable in height from 750 mm to 850 m or replaceable
- Refrigerator adjacent to work surf ace
- Kitchen sink adjustable to heights from 750 mm to 850 mm or replaceable
- Kitchen sink bowl max. 150 mm deep
- Tap set capstan or lever handles or lever mixer
- Tap set located within 300 mm of front of sink
- Cooktops to include either front or side controls with raised cross bars
- Cooktops to include isolating switch
- Work surface min. 800 mm length adjacent to cooktop at same height
- Oven located adjacent to an adjustable height or replaceable work surface
- GPOs to comply with AS 1428.1. At least one double GPO within 300 mm of front of work surface
- GPO for refrigerator to be easily reachable when the refrigerator is in its operating position
- Slip-resistant floor surface

MAIN BEDROOM

- At least one bedroom of area sufficient to accommodate queen size bed and wardrobe and circulation space requirements of AS 1428.2

BATHROOM

- Provision for bathroom area to comply with AS 1428.1
- Slip-resistant floor surface
- Shower recess - no hob. Minimum size 1,160 × 1,100 to comply with AS 1428.1 (Refer Figures 6 and 7)
- Shower area waterproofed to AS 3740 with floor to fall to waste
- Recessed soap holder
- Shower taps positioned for easy reach to access side of shower sliding track
- Provision for adjustable, detachable hand held shower rose mounted on a slider grab rail or fixed hook (plumbing and wall-strengthening provision)
- Provision for grab rail in shower (Refer to Figure 7) to comply with AS 1428.1
- Tap sets to be capstan or lever handles with single outlet
- Provision for washbasin with clearances to comply with AS 1428.1
- Wall cabinet with light over or similar
- Double GPO beside mirror

TOILET

- Provision of either 'visitable toilet' or accessible toilet
- Provision to comply with AS 1428.1
- Location of WC pan at correct distance from fixed walls
- Provision for grab rail zone (Refer Figure 6)

- Slip-resistant floor surface (vitreous tiles or similar)

LAUNDRY

- Circulation at doors to comply with AS 1428.1

- Provision for adequate circulation space in front of or beside appliances (min. 1,550 mm depth)

- Provision for automatic washing machine

- Where clothesline is provided, an accessible path of travel to this

- Double GPO

- Slip-resistant floor surface

DOOR LOCKS

- Door hardware operable with one hand, located 900 to 1,100 mm above floor

Source: AS 4299-1995

In the UK, 'Lifetime Homes' for improved access by people with disabilities were developed by the Joseph Rowntree Foundation. A similar concept to Adaptable Design, these have 16 design features, providing further ease of access than Part M of the Building Code (JRF, 2007). They address car-parking, lift and communal stair dimensions, illumination levels, circulation spaces, living areas on the main level, glazing height and provision for a future lift, hoist and grab rails (Table 17). Like Adaptable Design, Lifetime Homes are focused on the needs of people with disabilities, now and in the future.

**Box 1: Lifetime homes standards**

**Access**

1. Where car-parking is adjacent to the home, it should be capable of enlargement to attain 3.3metres width.*

2. The distance from the car-parking space to the home should be kept to a minimum and should be level or gently sloping.*

3. The approach to all entrances should be level or gently sloping.* (Gradients for paths should be the same as for public buildings in the Building Regulations.)

4. All entrances should be illuminated*** and have level access over the threshold,* and the main entrance should be covered.

5. Where homes are reached by a lift, it should be wheelchair accessible.*

**Inside the home**

6. The width of the doorways and hallways should accord with the Access Committee for England's standards.*

7. There should be space for the turning of wheelchairs in kitchens, dining areas and sitting rooms and adequate circulation space for wheelchair users elsewhere.***

8. The sitting room (or family room) should be at entrance level.*

9. In houses of two or more storeys, there should be space on the ground floor that could be used as a convenient bed space.

10. There should be a downstairs toilet** which should be wheelchair accessible, with drainage and service provision enabling a shower to be fitted at any time.

11. Walls in bathrooms and toilets should be capable of taking adaptations such as handrails.

12. The design should incorporate provision for a future stairlift* and a suitably identified space for potential installation of a house lift (through-the-floor lift) from the ground to the first floor, for example, to a bedroom next to the bathroom.***

13. The bath/bedroom ceiling should be strong enough, or capable of being made strong enough, to support a hoist at a later date.*** Within the bath/bedroom wall provision should be made for a future floor to ceiling door, to connect the two rooms by a hoist.

14. The bathroom layout should be designed to incorporate ease of access, probably from a side approach, to the bath and WC. The wash basins should also be accessible.***

**Fixtures and fittings**

15. Living room window glazing should begin at 800mm or lower, and windows should be easy to open/operate.***

16. Switches, sockets and service controls should be at a height usable by all (i.e. between 600mm and 1,200mm from the floor).***

Notes

*Designated as 'essential' in the Housing Corporation Scheme Development Standards.

**Designated as 'essential' in the Housing Corporation Scheme Development Standards for five persons and above dwellings, and recommended in others.

***Designated as 'recommended' in the Housing Corporation Scheme Development Standards.

Source: JRF, 1997: From Box 1

Some of the Lifetime Homes standards are only feasible when incorporated into newly built housing or major refurbishments. No-cost changes such as repositioning switches, powerpoints and controls at more accessible heights, and low-cost changes such as widening pathways, have been found to be easily incorporated into a refurbishment program (JRF, 1996).

## Cost of Adaptable Design

Advocates of Adaptable housing claim that the cost increase at the time of building is minimal and saves considerably more should the home require modification in the future, and a cost-benefit analysis of Adaptable Homes conducted on Class C features in AS 4299-1995 Adaptable Housing supported this (Hill, 1999). Hill's study found that the additional cost of including the Adaptable features at the time of building was 1 per cent or less, and less than 6 per cent if a lift was to be added to a walk-up apartment block. The cost savings in the future should the building require modifications were far more substantial, as shown in Table 18 (Hill, 1999:4-5).

**Table 17: Costs of adaptable housing, comparative cost expressed as % of total cost**

| Dwelling type | Initial cost of AS 4299 class C | Cost of adaptive upgrade with prior provision | Cost of modifications if no prior adaptive features |
|---|---|---|---|
| Single Dwelling | 0.5 -1.0% | 0.7-1.2% | 8.7-12% |
| Townhouse | 0.5 -1.0% | 5.7-6.7% | 19 -23.8% |
| Low-mid rise | 0.3 -5.8%* | 0.3 -7%* | 10.3-21.9% |
| High rise | 0.3 -0.7% | 0.3 -0.7% | 9.2 -12.9% |

* Higher percentage due to the added cost of a lift

Source: Hill, 1999: Table 1

However, the report of this study suggests that this might not be the case for smaller one bedroom public housing units, due to their size being considerably smaller than the size of private one bedroom housing units and the space requirements of Adaptable Design. The details in the report are limited so the actual cost effects cannot be determined (Hill, 1999:5).

When the costs of Lifetime Homes in the UK were evaluated in comparison with conventional housing, the results were similar. The additional cost for two and three bedroom housing was less than £300 in 1997. For two storey homes without a ground floor toilet, the cost of installing one would add £990 to £1,144 (JRF, 1997). Presumably the additional toilet would have a positive impact on the resale value of the home, but it is uncertain whether this would offset the cost of its inclusion.

It appears that, in terms of labour and materials, the cost of Adaptable Housing and Lifetime Housing is a very small percentage of the total dwelling cost. These design approaches mainly rely on the design and layout of housing and, therefore, on the skill of the designer. The additional cost of a designer or architect skilled in Adaptable Housing design has not been factored into either of the above cost assessments.

## Benefits of Adaptable Design

The primary benefits of Adaptable Design in housing are the inclusion of features that can be used by residents and visitors right from the start, and the relative ease and cost of additional modification in the future compared with modifying a conventional dwelling. As the more accessible version of the dwelling has been considered in the original design, it has the potential to also appear more unified and less institutional than a conventional dwelling that has been modified. Hill identified the economic benefits to government as:

→ Potential savings in major adaptations costs by providing for such changes in the up front design of the property;

→ Reduced need to move into residential care;

→ Reduced cost of rehousing;

→ Reduced government administration costs;

→ Savings in home care costs for elderly and people with a disability;

→ Savings in health care costs;

→ Savings in reduced falls at home (Hill, 1999:6).

Along with the benefit of cost savings in rehousing, home care and injury prevention to older residents are of course the benefits to the resident resulting from the common aims of each of these design approaches: access, avoiding injury, and not having to make an unwanted move form their home.

No evaluations of Australian residents' satisfaction with their homes that were built to AS 4299-1995 were found during the literature review. There have, however, been studies on residents' satisfaction with Lifetime Homes in the UK. A study of resident satisfaction when existing homes were refurbished to Lifetimes Homes standards found that residents approved of, and saw the benefit of, most of the standards, though in some cases this was only after implementation. Those changes that were considered only beneficial to people who were elderly or had disabilities, such as a ramp at the home entrance or support rails in the bathroom, were resisted. Though a ramped entrance to the rear entrance of the home was generally considered acceptable, the perceived stigma of a ramp at the front was such that in one case a

resident wheelchair user requested that only a temporary ramp be installed (JRF, 1996).

## Problems with Adaptable Design

When it comes time for an Adaptable home to be adapted to accommodate a resident with a disability or health condition, the problems faced with Accessible Housing arise. The new features are focused on the access needs of one resident; changes to the home might not suit all of the residents in the household as they often require a compromise to housing features.

Using the earlier example of removing a kitchen cupboard, the knee space provided for a wheelchair user will allow them to continue to prepare meals in the kitchen, but the storage space has been lost. In the case of simple installation of grab rails in the reinforced bathroom wall, the bathroom will be safer and more accessible for the person who needs the rail, but the bathroom appearance could be unattractive and institutional. Such compromises also affect the resident with a disability, but they have to determine what need is the greatest. The evaluation of Lifetime Homes in a housing refurbishment program found that 'wheelchair users who required additional space, typically for a ground floor shower/WC, accepted that some concession to loss of storage or some other facility was inevitable' (JRF, 1996).

Another disadvantage of Adaptable Design is that some modifications can still be quite costly and would not be feasible for a visitor or for a resident with a temporary health condition. For example, adapting a bathroom by the removal of a bathtub and replacement with a wheelchair-accessible shower still requires substantial building work and cost, even when the dwelling has been designed to make these alterations without the need for plumbing changes. This could be beyond the means of an elderly person with deteriorating mobility or a sudden critical mobility problem such as a broken hip. It is also very unlikely that such an adaptation would be made for a visitor. The permanence of this type of adaptation creates the further problem of returning the bathroom to its original state should the residents end their lease or sell the dwelling.

Universal Design originated with a 'recognition that, because most of the features needed by people with disabilities were useful to others, there was justification to make their inclusion common practice' (Mace, Hardie & Place, 1996). This has at times been construed as Universal Design being the inclusion of Accessible Design in every dwelling. However, Universal Design is very different from Accessible Design, and even Adaptable Design.

### 3.4.6 Universal Design – features, implementation, costs, benefits and problems

The most widely accepted definition was developed in 1997 at the Center for Universal Design, North Carolina State University: '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' (CUD, 1997). This is accompanied by seven principles, shown in Table 19.

**Box 2: Principles of universal design**

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**Universal Design:**

**The design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialised design.**

**PRINCIPLE ONE: Equitable Use**
The design is useful and marketable to people with diverse abilities.
*Guidelines:*
**1a.** Provide the same means of use for all users: identical whenever possible; equivalent

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when not.
**1b.** Avoid segregating or stigmatising any users.
**1c.** Provisions for privacy, security and safety should be equally available to all users.
**1d.** Make the design appealing to all users.

## PRINCIPLE TWO: Flexibility in Use
The design accommodates a wide range of individual preferences and abilities.
*Guidelines:*
**2a.** Provide choice in methods of use.
**2b.** Accommodate right- or left-handed access and use.
**2c.** Facilitate the user's accuracy and precision.
**2d.** Provide adaptability to the user's pace.

## PRINCIPLE THREE: Simple and Intuitive Use
Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
*Guidelines:*
**3a.** Eliminate unnecessary complexity.
**3b.** Be consistent with user expectations and intuition.
**3c.** Accommodate a wide range of literacy and language skills.
**3d.** Arrange information consistent with its importance.
**3e.** Provide effective prompting and feedback during and after task completion.

## PRINCIPLE FOUR: Perceptible Information
The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
*Guidelines:*
**4a.** Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information.
**4b.** Provide adequate contrast between essential information and its surroundings.
**4c.** Maximise 'legibility' of essential information.
**4d.** Differentiate elements in ways that can be described (i.e., make it easy to give instructions or directions).
**4e.** Provide compatibility with a variety of techniques or devices used by people with sensory limitations.

## PRINCIPLE FIVE: Tolerance for Error
The design minimises hazards and the adverse consequences of accidental or unintended actions.
*Guidelines:*
**5a.** Arrange elements to minimise hazards and errors: most used elements, most accessible; hazardous elements eliminated, isolated, or shielded.
**5b.** Provide warnings of hazards and errors.
**5c.** Provide fail safe features.
**5d.** Discourage unconscious action in tasks that require vigilance.

## PRINCIPLE SIX: Low Physical Effort
The design can be used efficiently and comfortably and with a minimum of fatigue.
*Guidelines:*
**6a.** Allow user to maintain a neutral body position.
**6b.** Use reasonable operating forces.
**6c.** Minimise repetitive actions.
**6d.** Minimise sustained physical effort.

## PRINCIPLE SEVEN: Size and Space for Approach and Use
Appropriate size and space is provided for approach, reach, manipulation and use regardless of user's body size, posture, or mobility.
*Guidelines:*
**7a.** Provide a clear line of sight to important elements for any seated or standing user.
**7b.** Make reach to all components comfortable for any seated or standing user.
**7c.** Accommodate variations in hand and grip size.
**7d.** Provide adequate space for the use of assistive devices or personal assistance.

Universal Design is often considered a new concept, but was actually being discussed more than two decades ago (CUD, 2000). Its origins go back further to the barrier-free movement in the 1950s, with the aim to design more accessible spaces and environments. The various trends in design professions have also played a major role in this development. In the 1940s, the architect Ludwig Mies Van Der Rohe was promoting 'universal spaces' and was designing accessible and people friendly spaces. This approach was followed in the 1950s by industrial designers and architects, namely Charles and Ray Eames, Eero Saarinen and Dieter Rams, Edgar Kaufmann Jr and designer Max Bill, who were all talking about 'good design' and embracing the 'good design' movement. In the 1970s, architect Ron Mace was the first person to put the two words 'universal' and 'design' together and to talk about Universal Design (Peters, 2001).

**Figure 37: Grab rails in bathrooms**



The addition of grab rails can give the bathroom an institutional appearance.

Despite many styles of bathroom accessories, grab rails tend to be the same style (left) unless custom-designed (right)

Location: Universal Design House, Atlantic City. Photo: Joanne Quinn

Some Universal Housing features appear very similar to those in Adaptable housing, Lifetime Homes, Visitable housing and Accessible Housing. For example, a step-free entrance (Figure 33) is a common feature. Some even classify these housing approaches as being a form of Universal Design. For this project, however, Universal housing is distinguished from other approaches by two factors: the residents who are the focus for the design, and the implementation in housing stock, as explained in Figure 38 (Quinn, 2006a).

Universal Housing considers the needs of residents of all ages and the widest range of abilities, rather than focusing on the needs of people with particular disabilities, and it is applied to all housing types, not just housing for older people or people with a particular ability restriction (D). Visitable housing is also applied to all housing types, but the focus for design is on wheelchair users (B). Accessible Housing, being specialised, follows path A. Adaptable housing and Lifetime Homes can be used for specialised older people's housing or housing for people with disabilities, or they can be incorporated into the wider housing market. Generally, though, their focus is the needs of people who have a disability or might develop one (A or B).

**Figure 38: Approach for Universal Design**
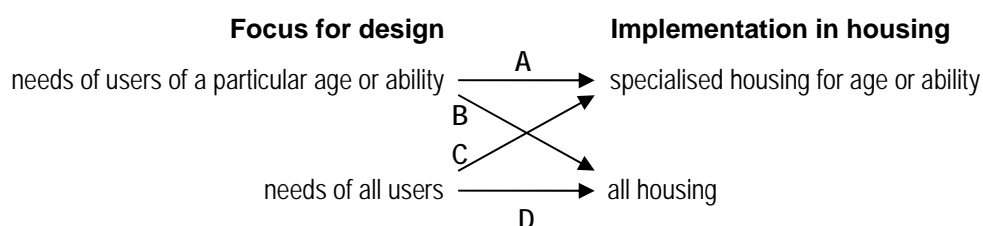


Source: Quinn, 2006a

## Universal Design Features

As Universal design is far less regulated and standardised than other approaches, there is considerable discrepancy in what features make a Universal home. Generally, guides include the essential features required for Visitable Design: a step-free path of travel into the home, sufficiently wide doorways, and a toilet on the entrance level. The other features vary considerably between different Universal Design guides, ranging from prescriptive fixtures and fittings to general performance requirements.

The original Universal Design Features for Housing developed by the Center for Universal Design (Box 2) were intended as a guide and include both structural features best incorporated when the home is built and non-structural features that can be more easily added to a finished home. Despite many of these being intended as a guide or examples, some are often incorporated into other Standards and guidelines as a prescriptive requirement. For example, the Universal Design component in a Habitat for Humanity project required single-lever water controls at all faucets, hand-held showers, lever door handles and front-mounted controls on kitchen appliances (CUD, 1999). This can lead to the misconception that for a dwelling to be Universal, it must have a particular fixture or fitting; for example, a parcel shelf at the front door. On the contrary, there are many ways of meeting all residents' needs when they are entering a dwelling (Quinn, 2006a).

The Universal Design features in Box 2 appear quite focused on incorporating the needs of people with reduced physical and sensory abilities into all housing, for example, features that would be critical for older people with symptoms of dementia and for small children, such as lockable kitchen and bathroom storage for chemicals, are not included.

**Box 3: Universal design features in housing – characteristics**

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*Entrances*

Stepless Entrances

* It is best to make all home entrances stepless.

* More than one stepless entrance is preferred.

* At least one stepless entrance is essential; if only one, not through a garage or from a patio or raised deck.

Other Entrance Features

* One-half inch maximum rise at entrance thresholds.

* Min. 5' x 5' level clear space inside and outside entry door (can be smaller if automatic power door provided).

* Power door operators whenever possible.

* Weather protection such as a porch, stoop with roof, awning, long roof overhang and/or carport.

- Built-in shelf, bench or table with knee space below located outside the door.

* Full length sidelights, windows in doors and/or windows nearby.

- Wide-angle viewers and TV monitors.

- Lighted doorbell at a reachable height, intercom with portable telephone link and/or hardwired intercom.

- Light outside entry door and motion detector controlled lights.

- House number should be large, high contrast, located in a prominent place.


*Interior Circulation*

* An open plan design. Minimises hallways and doorways and maximises sight lines.

* At least one bedroom and accessible bathroom should be located on an accessible ground floor entry level (same level as kitchen, living room etc.).

* Clear door opening width (32'minimum, 34' – 36' wide doors), for all doorways.

* Flush thresholds at all doorways.

* Clear floor space (18' minimum) beside door on pull side at latch jamb.

* Circulation route 42' minimum width.

* Turning space in all rooms (5' diameter).

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## Vertical Circulation

* All stairs should be appropriate width and have space at bottom for later installation of a platform lift, if needed.

If a two-story dwelling:

* at least one set of stacked closets, pantries, or storage spaces with knockout floor      OR

* a residential elevator with minimum 3' x 4' clear floor area installed at the time of initial construction.

* Stair handrails to extend horizontally beyond top and bottom risers.


## Bathrooms

When more than one bathroom is provided, all should meet the following criteria, including bathrooms on second floor.

* At least one bathroom must have one of the following accessible bathing fixtures:

• minimum 5' x 3' (4' preferred),curbless shower OR • tub with integral seat, waterproof floor and a floor drain.

Other bathrooms in the same house may have a tub with an integral seat or a 3' x 3' transfer shower with 'L' shaped folding seat and 1/2' maximum lip (curb) in lieu of fixtures described above. When possible, arrange at least one shower control for right-hand use and one for left-hand use.

* Adequate maneuvering space: 60' diameter turning space in the room and 30' x 48' clear floor spaces at each fixture. Spaces may overlap.

* Clear space (3') in front and to one side of toilet.

* Toilet centred 18' from any side wall, cabinet, or tub.

* Broad blocking in walls around toilet, tub and shower for future placement and relocation of grab bars.

- Grab bars should not be stainless steel or chrome. Use colours to match decor.

* Lavatory counter height 32' minimum.

- Knee space under lavatory (29' high).

- Countertop lavatories preferred with bowl mounted as close to front edge as possible.

- Wall hung lavatories acceptable with appropriate pipe protection.

- Pedestal lavatories are not acceptable.

- Long mirrors should be placed with bottom no more than 36' above finished floor and top at least 72' high.

- Full-length mirrors are good choices.


## Fixture Controls

* Offset controls in tub/shower with adjacent clear floor space.

- Single-lever water controls at all plumbing fixtures and faucets.

- Pressure balanced anti-scald valves at tubs and showers.

- Adjustable height, movable hand-held shower head or 60'-72' flexible hose allows easy use by people of all heights.

- Hand-held shower heads in all tubs and showers, in addition to fixed heads, if provided. Single-lever diverter valves if needed.

- Mixer valve with pressure balancing and hot water limiter.


## Kitchens

* Space between face of cabinets and cabinets and walls should be 48' minimum.

- Clear knee space (minimum 29' high)under sink (must have pipe protection),counters, and cook tops. May be open knee space or achieved by means of removable base cabinets or fold-back or self-storing doors.

* Variable height (28'- 42') work surfaces such as countertops, sinks, and or cooktops. May be

mechanically adjustable in 2' increments or be electrically powered, through a continuous range.

- Contrasting colour border treatment on countertops.

* Stretches of continuous countertops particularly between refrigerator, sink, and stove top.

- Adjustable height shelves in wall cabinets.

- Full-extension, pull-out drawers, shelves and racks in base cabinets.

* Full height pantry storage with easy access pull-out and/or adjustable height shelves.

- Front-mounted controls on all appliances.

- Cooktop or range with staggered burners and front or side-mounted controls.

- Glare-free task lighting to illuminate work areas without too much reflectivity.

- Side-by-side refrigerator with pull out shelving.

    OR

- Under counter or drawer type refrigerators installed on raised platforms.

- Built-in oven with knee space beside, set for one pull-out oven rack at the same height as adjacent countertop.

- Drop-in range with knee space beside, top set at 34' above finished floor.

- Dishwasher raised on a platform or drawer unit, so top rack is level with adjacent countertop.

- Single-lever water controls at all plumbing fixtures and faucets.


### Laundry Areas

- Front-loading washers and dryers, with front controls, raised on platforms.

* Laundry sink and countertop surface no more than 34' above finished floor with knee space below.

* Clear floor space 36' wide across full width in front of washer and dryer and extending at least 18' beyond right and left sides. (Extended space can be part of knee space under counter tops, sink etc.)


### Storage

* 50% of all storage should be less than 54' high.

- Adjustable height closet rods and shelves.

- Power operated clothing carousels.

- Motorised cabinets that raise and lower.


### Garages And Carports

- Power operated overhead doors.

* 8' minimum door height or alternate onsite parking for tall vehicles.

* Extra length and width around cars.

* Sloping garage floor (with through-the wall vents at bottom of slope to release fumes) in lieu of stepped entrance with ramp from garage to house interior.

- Avoid ramps in garages.


### Decks

* Build deck at same level as house floor.

* Keep deck clear of the house and use slatted decking for positive drainage.


### Hardware

- lever door handles
- push plates

- loop handle pulls on drawers and cabinet doors—no knobs
- touch latches
- magnetic latches in lieu of mechanical locks

### *Home Automation*
- Motion detector light switches in garages, utility spaces, entrances, and basements.
- Remote controls for selected lights.
- Remote controls for heating and cooling.
- Doorbell intercoms that connect to portable telephones.
- Audible and visual alarms for doorbell, baby monitor, smoke detectors etc.

### *Light and Colour*
- Colour contrast between floor surfaces and trim. Avoid glossy surfaces.
- Colour contrast difference between stair treads and risers.
- Emphasise lighting at stairs, entrances and task lighting.
- Ambient, focused, and variable lighting.
- Contrast between countertops and front edges or cabinet faces.

### *Switches and Controls*
- Light switches 44'- 48' high, and thermostats 48' maximum height.
- Easy-touch rocker or hands free switches. (See Home Automation.)
- Electrical outlets at beds and desks, fourplex boxes each side for computer and electronic equipment as well as personal use equipment.
- Electrical outlets, 18' minimum height. Easier to reach without bending and from seated position.
* Electrical panel with top no more than 54' above floor located with minimum 30' x 48' clear floor space in front.

### *Windows*
* Windows for viewing, 36' maximum sill height.
* Use casement, awning, hopper, or jalousie style windows.
- Use crank operated style and power operators whenever possible.

### *Sliding Doors*
* Exterior sliding doors: drop frame and threshold into subfloor to reduce height of track, or ramp the finished floor to top of track.
* Interior pocket doors: when fully open door should extend 2' minimum outside doorjamb and be equipped with open loop handles for easy gripping.
* By passing closet doors: each panel should create an opening at least 32' clear.

Source: Centre for Universal Design [CUD], 2006b

The argument that Universal Design, in principle and in practice, does not adequately meet the needs of people with dementia has been made (Calkins, Sanford & Proffitt, 2001). There is also the need for housing design, even older people's housing, to consider children.

Therefore, most universal home environments would require a variety of requirements covering all users: babies to the very elderly, the very small in stature to the very large, and a very diverse range of physical, sensory and mental ability levels. The design features would need to be incorporated into the design of housing right from the start and be available all the time, for residents and visitors (Quinn, 2006a). The difficulty is then determining what the needs of all of these users are, how this translates to the design of the home environment, and how this will be acceptable to designers, developers, owners and residents.

In industry, there is a preference for more concise requirements which include only the most critical features for people with a physical disability, which are required at the time of design and construction. The Australian Network for Universal Housing Design supports a minimum of 10 criteria for housing to be universal, shown in Box 3.

**Box 4: 10-point minimum criteria for inclusion in a universally designed home**

> *1. Easy access*
>
> People of all ages and abilities should be able to gain easy access from the front boundary or car-parking area to the entrance of the dwelling.
>
> *2. At least one level entrance*
>
> The dwelling should feature at least one level entrance to enable all home occupants to enter and exit the dwelling with ease.
>
> *3. Bathroom, living space and bedroom on the entrance level*
>
> The entry level to the dwelling should provide a living space, bathroom & toilet and a bedroom space. Clear open plan living provides functional living areas for all home occupants and improves natural surveillance within the home especially for parents with young children.
>
> *4. Bathroom capable of future adaptation*
>
> Bathrooms should accommodate a spatial profile which could enable future adaptation to accommodate changing family needs and abilities of home occupants
>
> *5. Reinforcement of bathroom walls*
>
> Walls in the bathroom and shower feature reinforcement to enable the future installation of grab rails if required by the home occupants.
>
> *6. Kitchen access*
>
> The dwelling enables all home occupants to easily access and manoeuvre within the kitchen area.
>
> *7. Easy access doors and corridors*
>
> The internal passages and doorways within the dwelling facilitate ease of movement between rooms and accommodate the circulation needs of all occupants;
>
> *8. Consistent installation of switches, powerpoints and window controls*
>
> Light switches, powerpoints and other operating devices are installed at a consistent height to ensure ease of access for all home occupants
>
> *9. Easy operable door and window controls*

Door and window operating hardware is easy to manipulate and can be operated by the home occupants regardless of age or ability

**10. Provision at stairways for future lift installation**

If stairways are featured, constructing a straight stairway more easily accommodates the installation of lift in the future if required due to ageing, mobility changes or the addition of a child who has a severe mobility impairment.

Source: Australian Network for Universal Housing Design, 2006

The federal Department of Health and Ageing has published a similar list of 10 features and the Independent Living Centre has developed nine key conceptual housing design features (Bringolf, 2007).

**Box 5: Top 10 housing features for all stages of life**

**1. Easy access to the home**

Access to the home should include a step-free covered entry with a clear pathway, from the street or the garage to the main entry.

**2. Safety and security**

A clear line of sight to the entry provides safety and security. Movement sensor activated lights give good visibility between all indoor and outdoor living areas.

**3. Wide doorways, openings and corridors**

All internal and external doorways (920mm) and corridors (1200mm) should be wide enough for prams, trolleys, wheelchairs, crutches and walking frames.

**4. Light switches and door handles**

It is good to have light switches, electrical outlets and thermostat controls in an easy to reach spot for a person sitting or standing. Lever door handles are easier for everyone to use no matter what their age or ability.

**5. Reinforced walls for future grab rails**

Reinforcing the walls in the bathroom, shower and toilet makes it easier to install grab rails at a later date if required.

**6. Slip-resistant flooring**

Slip-resistant flooring throughout, especially in wet areas such as kitchens, bathrooms and laundries will help to reduce the risk of falls.

**7. Open plan kitchen**

Kitchens with an open floor area provide good access for everyone. Where possible install adjustable shelving and pull-out storage drawers. Lever handles on all taps will allow them to be used with minimum force.

**8. Open plan bathroom**

Sufficient floor space in bathrooms and toilets and level entry to the shower recess allow access for everyone. A hand held/height-adjustable showerhead is easy for people sitting or standing.

**9. Smart house technology**

Include cabling and outlet points in all rooms throughout the home for future integrated

electronic control and communication systems, such as; telephone, television, security and internet, plus the possible need for tele-care at a later date.

**10. Two storey houses, villas, apartments**

It is a good idea to consider the possibility of extra space near internal stairs for later installation of a lift or stairclimber if needed.

Source: DoHA, 2007b

To identify a more comprehensive range of housing features, driven by the needs of people of all ages and the widest range of abilities, housing design criteria consisting of performance requirements were developed in doctoral research by Quinn. These were based on an analysis of existing Australian and international regulations, guidelines and standards on Universal, Adaptable, Visitable, Accessible and Flexible design, as well as design guides for particular impairments, health conditions and populations. The result was more than 200 criteria which were then validated by peak user groups (Quinn, 2006a, n.d.).

## Implementation of Universal Design

Despite the long history of Universal Design, implementation in Australia is limited and is mainly confined to demonstration homes. Demonstration homes that combined universal design with environmental sustainability have been built in Subiaco and Harvest Lakes in Western Australia (Karol, Leggett & Siano, 2005; Landcorp, n.d.) and as part of the Smart Housing program in Queensland which is also responsible for public housing with Universal Design features (QDH, 2007).

The means of implementing Universal Design have been the source of much debate around the world. Implementation has certainly been limited. There has been support for Universal Design features to be regulated in the Building Code of Australia for all housing; however, the features proposed are primarily those for enhanced Visitability (Ward, 2005). As discussed in Section 4.4.4, Visitability has already been successfully implemented in the UK through Part M of the Building Code and in a number of US cities.

Implementation through financial incentives, for the developer or the home owner, has also been proposed. Financial incentives are used in various countries for Visitability and additional Universal or Accessible features. The Australian Network for Universal Housing Design recommends that 'incentives at the State Government level (grants) and at the Commonwealth level (tax relief) should be introduced for building work not covered by the BCA' (Ward, 2005).

A market-led approach has also been proposed. Some useful Australian guides have been published such as *Welcome* (Building Commission Victoria [BCV], 2002) and *Housing for Life* (Master Builders Association of the ACT, 2001), which discuss Universal Design and give examples. There already exists a good range of Universal fittings and fixtures for housing (whether intended and promoted as such or not), particularly for kitchens, storage and home automation (Figures 39, 40 and 41).[8]

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[8] See a wide range of fixtures and fittings on the general market that provide increased usability, access and safety on the Independent Living Centre Database (Independent Living Centres Australia – NSW [ILC-NSW], n.d.).

**Figure 39: Existing universal products: a dishdrawer™**



A Dishdrawer™ is a dishwasher that is located within reach of standing and seated users. A locking mechanism can prevent access by children and people with cognitive impairment, for whom this could be hazardous.

Location: Universal Design House, Atlantic City. Photo: Joanne Quinn

**Figure 40: Adjustable storage for access by all members of the household**



Kitchen pantry storage that has a full range of height adjustability allows residents to position the contents at the most convenient height. Shallow units store a single row of goods, eliminating the need to move items out of the way to view those behind. The more frequently used goods can be stored in the front units. For residents who might be overwhelmed by the quantity of pantry goods (perhaps children or people with dementia), the rear storage units can easily and temporarily be concealed from view.

Location: Universal Design House, Atlantic City. Photo: Joanne Quinn

## Cost of Universal Design

As for Adaptable housing, the advocates of Universal Design in housing claim the costs are little, if any, higher than conventional designs. Examples include lever door handles being comparable in cost to other door hardware styles, the cost increase in providing wider doors being offset by the corresponding saving in wall material, and the minimum cost of providing adjustable height hanging rails in wardrobes. When additional circulation space is required in critical areas such as bathrooms, advocates advise 'borrowing' it from cupboards or utility spaces (CUD, 2000).

Some features of Universal Design only require a change in location, making costs negligible in new housing. Lowering the height of light switches and raising the height

of powerpoints can put them in reach of most people, as can moving the bathtub controls closer to the outside edge (CUD, 2006a).

Other fixtures and fittings are more costly due to their complexity of design. For example, a multi-layered rotating pantry provides far more functional storage space and is more convenient, but considerably exceeds the cost of simply installing fixed shelves (Figure 40). With increased demand and greater production volumes, prices are reduced; however, for the home owner, the benefit of the storage needs to match or exceed the cost. They also need to have the financial means to include it.

To date there has not been a published cost-benefit analysis of Universal Design in Australia. A Habitat for Humanity project in conjunction with the Center for Universal Design, 'Affordable and Universal Homes', resulted in the revision of the local Habitat for Humanity's standard house plans to Universal Housing. Though the effect of the design changes on Habitat's housing are not available, it suggests that with well-considered design, Universal housing can be produced even when housing affordability is a priority (CUD, 1999).


## Benefits of Universal Design

The benefits of Universal Design over other options primarily concern its cost, appearance and availability.

Because a Universally Designed home considers all users from the start, there will be no changes that compromise some members of the household. For example, under-basin access for seated users needs to be provided along with adequate bathroom storage, all of the time (Figure 41). Also, when locating controls, appliances and storage at a height that is accessible to wheelchair users, the effect on the safety of small children is considered, and methods of preventing unsafe access are incorporated (Quinn, n.d.) (Figure 42)

Universal Design is conducive to visits from young children (avoiding the need for major 'baby-proofing' changes to the home) and older friends who have mobility difficulties or other impairments. It is readily accessible to people with a wide range of disabilities. Older people have a much broader choice of Universal housing. They can remain in their own home; alternatively, they can move to a new home and choose it based on desired features and location, rather than settle for one selected from a small range that meets their needs or can be modified within their means (Quinn, 2006a).

**Figure 41: Provision of access without compromising storage**



Combining fold-away doors in a vanity with roll-out storage allows a resident or visitor to use the basin when seated, whenever required. Under-basin storage can be rolled out and replaced on demand, so storage space is not compromised

Location: Universal Design House, Atlantic City. Photo: Joanne Quinn

## Problems with Universal Design

There are a number of difficulties with the implementation of Universal Design due to its very nature: designing for all ages and the widest range of abilities. For a home to be truly universal, it would need to be safe, usable and accessible for all residents and visitors. For the practising architect, designer or builder wanting to provide Universal housing, obtaining the information on what design features are required for people of all ages and the widest range of abilities can be overwhelming, and unfeasible within the time constraints in the industry (Quinn, 2006a).

Many guides, regulations and standards for Universal Design are quite prescriptive. Housing is deemed to be Universal if it contains a checklist of features such as lever door handles, rocker switches, a hand-held shower and raised garden beds. This is perhaps for ease of building or compliance. Unfortunately, this restricts the freedom of housing designers and home owners, and limits innovation. For example, a home with sensor-operated doors and a hand-held control for lighting meets the same user needs (Quinn, n.d.).

When taking a Universal Design approach to housing, architects and other building designers are limited by the availability of appropriate fixtures and fittings. Some products have been designed for Accessible Housing to meet the needs of particular disability groups, but are unsuitable for a wider market due to low-volume production methods, poor styling and limited consideration of other users. A wide range of innovative products that meet the needs of all users is needed, so that designers are not limited to stereotypical solutions such as lever door handles and colour-coordinated institutional grab bars (Quinn, n.d.).

A final issue for Universal Design is its strong association with Accessible Design. A widespread perception that it is an attempt to universally apply Accessible Design to all housing limits its acceptance by the housing industry and the wider housing market. This perception is perhaps in part due to the necessity for disability advocacy groups to develop and promote it, in the general absence of progress by the housing design and building industries (Quinn, n.d.). This confusion 'is of great concern to the universal design movement' (Bringolf, 2007) who are focused on improved mainstream design rather than the continued application of specialised housing features.

**Figure 42: Products: a fridge in a drawer**



Drawer-style refrigeration is just one method that could be used to provide cold storage that is easily reached by all members of the household. These units are not widely available on the Australian market.

Location: Universal Design House, Atlantic City. Photo: Joanne Quinn

### 3.4.7 *Flexible design – forms, implementation, costs, benefits and problems*

Flexible design in housing is concerned with changing the home over time to accommodate a household's changing size, structure and lifestyle. It can be incorporated with other approaches such as universal or adaptable design, or environmental design. Freedman refers to this as 'adaptable housing' (Freedman, 2002), but to avoid confusion with Adaptable Housing in Australia, it is termed 'Flexible'.

One example of Flexible design is Canada's FlexHousing™. The flexibility component in FlexHousing is also called 'adaptable design' but unlike Adaptable housing in Australia that concentrates on making housing more accessible for people with disabilities, it is focused on making the dwelling larger and smaller, changing the functions and sizes of rooms, and even converting between single and multiple dwellings (CMHC, n.d.-d). For older residents experiencing a constantly changing household, for example:

→ adult children moving out;

→ children moving back in (sometimes with a partner and a grandchild or two);

→ grandchildren coming to stay for school holidays;

→ overseas relatives having an extended visit;

→ a frail elderly parent moving as an alternative to residential aged care;

→ or later, a live-in carer for themselves;

a home designed to be flexible can avoid having too much or too little space, or having to make unwanted moves to new dwellings (CMHC, n.d.-a).

## Forms of Flexible Design

Freedman categorises four forms of housing flexibility (adaptability): the manipulation of volumes, spatial arrangement, growth and division, and manipulation of subcomponents (Freedman, 2002:16-18). These are discussed further below:

→ Flexibility through manipulation of volumes

Manipulation of volumes considers how the orientation and configuration of the overall residential building on its land, the relationship of the dwelling to adjacent attached or detached dwellings, and the location of entrances and circulation to and within the dwelling, permit changes to the dwelling over time.

For example, the conversion of a space to a living area generally requires good natural lighting to the space during the day and, preferably, an outlook or access to gardens or outdoor areas. An area that has an outlook onto a neighbour's wall, or a basement that has very limited natural light, would be unsuitable for conversion.

Having more than one entrance that can be accessed from the street allows a dwelling to be more easily converted into independent dwellings for separate households. Similarly, having separate vertical access to the upper storeys of a multi-storey dwelling allows for independent households on different levels.

Within the dwelling, the access to rooms affects how they can function in the future. For a space to be usable as a bedroom, it would need to be accessed from a public space in the dwelling, not solely through another bedroom. Similarly, the space adjacent to the main entrance would not be suitable for a bedroom.

→ Flexibility through spatial arrangement

Spatial arrangement considers how the interior of the dwelling can be adapted before and during occupancy. This very effective form of flexibility is perhaps the simplest and lowest-cost. An example would be a room that could be used as a home office, a living room or a bedroom at different times, depending on the size and the lifestyle of the household. Having space along a wall for a cupboard containing a fold-down bed unit can enable the living room to be converted into a bedroom for guests or even residents. Freedman's suggestion of using a bookshelf unit to divide an open-plan lounge and dining area with windows at either end is a very simple option. Moving the bookshelf unit onto a wall can quickly open up the space when required. The divided configuration provides privacy, but maintains natural lighting to both areas.

→ Flexibility through growth and division

Adding an upper storey or a rear extension, or building an independent unit (accessory apartment or granny flat) on to a dwelling, are common methods of 'growing', or adding on to a home. Usually these additions are an afterthought to the original design and require major construction and cost. By considering the growth and division of the dwelling in the original design stage, it can expand and contract to better accommodate the space requirements of the household.

Adding-in to the home is a method of growing the home by fitting out spaces that have been built but not finished for habitation. For example, a house constructed with generous lined ceiling space, which has flooring-quality ceiling joists and perhaps even skylights, can be later easily finished to provide an additional bedroom or study if required. Similarly, this additional space can be considered in a basement or lower-ground garage.

In contrast, a larger home can be designed to be divided into smaller independent units when some of the space is not required by the household. An independent unit within the dwelling might be required when an ageing parent comes to stay to avoid premature entry to residential aged care, or when adult children remain living at home or return after living elsewhere; in these scenarios, this configuration provides greater privacy and independence within the household. Alternatively, the independent unit might be completely separate with its own entrance. This configuration provides complete independence for each household. It could be used for extended family who want to live as separate households or used as rental accommodation to supplement the owner's income.

Having independent living units provided within the building envelope can reduce the cost of additions and simplify the addition process. At its simplest, the conversion between a single dwelling and multiple dwellings could be locking an internal door. By avoiding the building of structures external to the original house, neighbours and local community concerns about floor space ratios and effect on the streetscape can also be better addressed.

→ Flexibility through manipulation of sub-components

The manipulation of sub-components includes features such as wiring, heating and ventilation ducting and bathroom and kitchen fixtures and fittings that need to be replaced, upgraded or repaired during the lifespan of the dwelling. This can be required because they wear out or become obsolete due to new technology. By designing the dwelling to make these sub-components easily accessible, upgradeable and replaceable, the dwelling can accommodate technological advances and changing resident interests over time. Consider a kitchen area that might need to be expanded, or another kitchen area that needs to be provided when adult children return home, perhaps with their own children, for a period of time. Independent kitchen cabinets that are free-standing rather than fastened to the walls with adhesive,

and plumbing and wiring that are easily accessible though access panels in the floor, would allow a kitchen area to be quickly and cost-effectively provided for the time it is needed and then later removed.

## Implementation of Flexible Design

The concept of flexibility in housing is not new; Freedman cites a number of examples where housing cost and space efficiency drove housing design flexibility in the postwar baby boom. Of these, Robertson's Flexabilt home in 1952 used retractable walls and movable storage to provide 72 variations to a single floor plan in the USA. The maisonettes in Le Corbusier's Unité d'habitation in France featured open plans and terraces, along with partitioning of children's bedrooms. In the 1960s, Habraken developed a method of modular housing spaces which was applied in housing projects in Europe and the UK (Freedman, 2002).

In Australia, flexibility in housing was a focus of the Ageing of Aquarius project at RMIT; a research project on current and future housing design for ageing baby boomers (RMIT Architecture, 2008).

## Cost of Flexible Design

Affordability has generally been one of the main drivers for flexible housing. It is a key component of Flexhousing™; however, a published indication of costs was not available. Some of the economic benefits include the reduction in costs associated with moving home: agents fees, removalists and building fees; a reduction in renovation costs as rooms can be more easily reconfigured; reduction in the cost of office space if it is required, as it eliminates work travel and office rent; and reduction in childcare costs, with the option of living space for an ageing parent who might wish to live with the family and assist with care for pre-school grandchildren ([CMHC], n.d.-b).

## Benefits of Flexible Design

The benefits of flexible housing to older home owners are the increased freedom to remain in their home when their household requirements change, and the ability to configure a large family home into two or more self-contained dwellings and rent out the additional dwelling to provide additional disposable income.

Flexible housing designs also benefit people living in other housing tenures. In Australia, private renters have limited opportunity to make any changes to their leased dwelling. Unlike in other countries, they are generally not permitted to modify, renovate, paint or even fasten a picture hook into the wall, unless permission is granted by the landlord. Major changes are unlikely to be approved and, in the face of no security of tenure, quite unfeasible. There is little option other than moving to a new home if household changes make their dwelling unsuitable in size or configuration. A flexible home that can easily be reconfigured without any structural changes could avoid the need for an older person to relocate if they require extra space to accommodate extended family, or the dwelling (and rent) becomes too large when their children move or spouse dies. Likewise, when a tenant in public housing no longer needs a family-sized dwelling after their children move away, the potential exists for it to split into two self-contained dwellings to accommodate another tenant (Quinn, n.d.).

By providing self-contained dwellings, flexible housing offers greater privacy and independence to multiple generations of family who might not otherwise consider living together when elderly parents need companionship or assistance, or when adult children need to return home. The benefit to the community is potentially a greater supply of low-cost rental housing. According to CMHC, in Montreal and Vancouver

this type of housing makes up close to 20 per cent of rental stock (n.d.-c). Because the configuration of the home into two dwellings does not require additional building, there is minimal impact on neighbours, and therefore less opposition.

Problems with Flexible Design

The design and building of flexible housing is relatively straightforward. However, ability to configure housing into two or more dwellings would not comply with many local governments' housing requirements. It is important to note that flexible housing differs from dual occupancy housing with two titles. It is a single dwelling with a single title. Though it could be partly rented out when configured as two or more dwellings, it could only be sold as a single dwelling (Quinn, n.d.).

Some restrictions proposed to be placed on accessory apartments in response to community concerns include limiting their use to older residents only, requiring the owner to be living in one of the dwellings, restricting the size of the dwelling, placing limits on the number of occupants, and prohibiting external changes (Cram, 1993).

### 3.4.8    Conclusions

Irrespective of the choice of home – remaining in the existing home, or moving to a smaller home, mobile home, granny flat, rental home or retirement home – older people's housing needs to be designed to be safe, usable and accessible, if they are to remain living in their choice of home.

This section has shown that although the traditional approach of making home modifications to older people's housing can provide the required safety, usability and accessible features, it has a number of disadvantages. These include considerable cost and building work at a time when older people are vulnerable due to a decline in their health or ability; a perception that they can be unattractive and devalue the home; a low rate of compliance for modifications prescribed by healthcare professionals; and a lack of feasibility for rental tenants. These issues will be examined further in the cost-benefit analysis stage of the project.

The literature review took a broader examination of housing design approaches (beyond Universal Design and Adaptable Design) that have the common objectives of safety, usability and access in housing. This has had a number of implications for the later stages of the research:

→ Universal Design was shown to have two distinct advantages over the other approaches: it considers the widest range of ages and abilities of older residents, their households and their visitors; and features are built into the dwelling from the start. Older people's support for housing that is designed to avoid the need for future modification is being examined in the quantitative survey and the in-depth interviews;

→ There has been some necessity to focus on a small range of Universal features in housing, which mainly concern the most critical needs of people with disabilities. For better access and safety of all residents and visitors in older people's households (including children), a wider range of universal features need to be considered. The cost-benefit analysis will include a comprehensive range of design criteria, based on Quinn's (2006a; 2006b) study;

→ Adaptable Design (in accordance with AS 4299) is perceived as being a more feasible approach but still requires modifications (with associated building work and cost) at a later date. This limits its use for visitors, or for residents with temporary health conditions or disabilities. The perceived importance among older residents of being able to more easily modify their home, compared to avoiding the need for modifications at all, is being assessed in the quantitative survey and

in-depth interviews. The costs and benefits of Adaptable Design and Universal Design will also be compared;

→ The inclusion of Visitable features (whether just the three critical features, or additional ones for enhanced access) has been successfully regulated in the UK, several states and cities in the USA, and perhaps soon, the entire USA. This supports regulated access in Australian housing, as is currently being advocated. Older people's support of Visitable features in housing is being examined in the quantitative survey and in-depth interviews. Regulated inclusion of such features will also be a component of the cost-benefit analysis.

→ The review also examined literature on Flexible Design, which is concerned with designing housing to be easily adaptable to a household's changing size, structure and lifestyle: becoming larger or smaller, changing the sizes and functions of rooms, and even converting between single and multiple dwellings. This had additional implications for the project:

→ The ability to provide an accessory apartment or granny flat within the walls of the dwelling can better utilise excess dwelling space in larger dwellings. For home owners, it can provide rental income and more independent accommodation of a carer, companion or adult children in parents' homes. For older non-home owners, it can provide an alternative source of rental accommodation, or a means of living with their family with a more acceptable degree of independence. The quantitative survey and in-depth interviews are examining the circumstances under which older people might consider their children living with them, compared to the circumstances where they might live with their children. The circumstances under which they might rent part of their home are also being examined.

→ Designing housing space to be multi-functional can potentially reduce the required size of family homes, while still accommodating temporary increases in household size and changing household activities. The comprehensive range of design criteria being used for the cost-benefit analysis will include features for housing flexibility. Older home owners' space requirements and use of housing space will be a key component of the in-depth interviews.

The combination of Flexible and Universal Design features to be used for the cost-benefit analysis are presented as performance requirements to maximise design creativity and innovation. As such, there are a variety of options for each of the criteria that will be considered in the design of three standard housing types: detached house, townhouse and home unit.

The comparison of these design features, with Adaptable Design Class C criteria in AS 4299, will provide insight into their feasibility in current housing design processes and the Australian housing market. This will provide a useful comparison to previous analyses of the costs associated with Visitable Design in the USA, Lifetime Homes in the UK and Adaptable Housing in Australia.

## 3.5  Urban Design and Participation in the Community

This section is concerned with literature on the role of the urban environment in supporting older people to age in place, the importance of which has sometimes been overlooked due to the focus on the home itself and the services provided therein. Firstly it looks at the importance of the urban environment to health, wellbeing and accessibility to local services. It then discusses seven aspects of urban design that are of particular importance in supporting older people wishing to remain in their own home and neighbourhood.

Like the previous section, because of its design focus, it is accompanied with photographs to illustrate the issues raised. It is of particular relevance to Research

Question 9, as well as Research Questions 6 and 7 on the importance of location to participation in local activities and social networks and access to support services.

### 3.5.1  Healthy Ageing and the Urban Environment

Just as the design of the home can increase or limit an older person's independence and safety; the design of the urban environment has a major influence on their involvement in the community: access to social activities, services and amenities.

The importance of access to retail and health services was discussed earlier in Sections 4.1.5 and 4.1.7. Even if an older person's home is located within walking distance to their local shops or general practitioner, they can have difficulty or be unable to access them if the path of travel does not have an adequate footpath or involves a hazardous crossing of a busy road. Likewise, an Accessible tram might stop nearby, but if the older person does not have a path of travel to the tram stop that is Accessible, or if the tram stop does not have the facilities to enable passengers to identify where and when the tram departs, the service could be unusable (Allen Consulting Group [ACG], 2008:76-77).

It is not just accessing facilities that is important. Walking is the main form of exercise for older Australians.[9] When the design of the neighbourhood is safe and pleasant so that it is easy and safe to go outdoors, they are more likely participate in the recommended level of physical activity, improving their health and increasing life satisfaction (I'DGO, 2007a).

Research on the design of communities and outdoor environments for older people is limited, relative to work on the design of housing (Mitchell & Burton, 2006); however,, there are a number of projects recently completed or currently in progress. For example, the UK's Inclusive Design for Getting Outdoors [I'DGO] research project is investigating how the design of the outdoor environment affects the quality of life of older people. The project involved surveying close to 800 older people, as well as conducting in-depth interviews and focus groups across the UK on their outdoor environment (I'DGO, 2007b), and will result in 'a list of quality of life criteria for older people in relation to outdoor environments and guidance on designing outdoor environments that enhance older people's quality of life' (Mitchell & Burton, 2006).

The Wellbeing in Sustainable Environments [WISE] research unit at the Oxford Centre for Sustainable Development has conducted a research project that investigated 'perceptions, experiences and use of the outdoor environment by older people with dementia and identified design factors that influence their ability to successfully use and negotiate their local neighbourhoods' (Mitchell & Burton, 2006). Prior to this, there had been a dearth of research on the design of outdoor environments for people with dementia; most research concentrated on designing supportive institutional environments and, more recently, dementia-friendly housing. However, as there is a general desire among people with dementia to remain living at home for as long as possible, and most do so, it is important that the design of their local community supports their independence. The familiarity of their home and local neighbourhood has been shown to assist them to better cope with their mental and physical symptoms (Mitchell & Burton, 2006).

Work on the design of the outdoor environment for older people is also currently underway in Australia. A recommendation from the 2005-06 National Speakers Series A Community for All Ages: Building the Future was the development of a planning guide for the design of healthy Australian built environments. This project is being developed by the Planning Institute of Australia, the National Heart Foundation of

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[9] See Section 4.1.7  for discussion on older people's recreational activities.

Australia [NHF] and the Australian Local Government Association [ALGA], with the Commonwealth Department of Health and Ageing [DoHA], and is currently in the process of being implemented. The national planning guide is taking the NHF's Healthy by Design: A Planners Guide to Environments for Active Living as its starting point (DoHA, 2006c; NHF, 2004).

Healthy by Design presents a number of optimal design approaches categorised as: walking and cycling routes; streets; local destinations; open space; public transport; seating, signage, lighting, fencing and walls; and fostering community spirit (NHF, 2004). The following section will examine literature on seven similar key areas of the urban environment that can have a considerable effect on a senior's participation in the community:

→ Paths of travel;

→ Transport;

→ Public buildings;

→ Open spaces;

→ Street fixtures and furniture

→ Wayfinding;

→ Safety and security.

### 3.5.2  Paths of travel

Residential developments designed for use by older people, such as retirement villages and over-55s housing, are generally required to comply with the path of travel provisions in the Australian Standards series AS 1428 which provide details of environmental design for people with disabilities. They include requirements for the design of pathways, ramps, stairways and lifts, public buildings and fixtures, and parking spaces. There is currently no requirement in the Building Code (see discussion in 4.5.4) for communal areas in new residential developments in the general community to meet this Standard, but some do so. Irrespective of whether a house or residential development is accessible, residents can be enabled or hindered in visiting the wider community by the path of travel provided.

Even in major towns and suburban areas, many residential streets lack basic footpaths. Residents are required to walk on the nature strip or on the roadway. Travelling on uneven grass or earth paths presents a considerable risk of a fall for people who are ambulant but frail, and can be impossible for those who use a wheelchair or other mobility device. Likewise, travelling on the roadway presents a high risk to older people and the wider pedestrian community, even when the traffic lanes are separated with continuous line-marking (Figure 43). Use of these often considered 'pedestrian areas' for parking requires the pedestrian to travel in the traffic lane, further increasing the risk of being hit by a vehicle. Healthy by Design recommends also prohibiting parked cars in driveways that block the footpath (NHF, 2004).

**Figure 43: Shared use of roadway: pedestrians and parking**



In the absence of footpaths on busy roads, many pedestrians use an allocated 'non-traffic' lane on the roadside. Parked cars require the pedestrian to move into the traffic lane (R), which is even more hazardous in areas with limited visibility of oncoming vehicles (L). These lanes are also used by overtaking vehicles.

Location: Castle Hill, NSW. Photo: Joanne Quinn

## Footpaths

A continuous path of travel, separated from passing traffic, is required on a footpath between a resident's home and their local transport stop, services and amenities (NHF, 2004:9-10). AS 1428.1 requires a footpath to be a minimum of 1 m wide, and AS 1428.2 has an increased requirement of 1.2 m, but notes that a minimum of 1.8 m is needed for two wheelchairs to pass each other (Standards Australia, 1992; 2001). Healthy by Design recommends footpaths a minimum of 1.5 m wide on collector and lower order streets and of 2.5 m on arterial roads and adjacent to services and amenities (NHF, 2004).

A minimum of 1.8 m clear path width is required for access by wheelchair users and carers pushing prams; two groups that are heavily represented among seniors (Quinn, 2006b; n.d.). Narrow paths and obstructions are hazardous to people with low vision, are difficult to negotiate by those with mobility impairments, and can be impassable by people with larger mobility devices (Figure 44). An audit of footways in the I'DGO study showed 68 per cent exceeded 1.5 m in width, but 62 per cent had an effective clear width of less than this due to obstruction by permanent obstacles (Newton & Omerod, 2007b).

Shared paths are designated, signed paths for pedestrians, cyclists, people in wheelchairs and other wheeled vehicles such as mobility scooters. Wider paths are required because users are travelling at different speeds. Healthy by Design recommends local shared paths be 2 to 2.5 m wide, and higher use arterial paths be 2.5 to 3 m wide. However, in very busy areas it suggests that it may be better to separate the cycling paths from the walking paths (NHF, 2004). In the I'DGO study, only half of participants felt safe from cyclists, skateboarders and rollerbladers on the footpath. Cyclists were the greatest concern; speed and inability to hear them approaching were issues raised. Two-thirds of the older participants preferred not to use a footway with cyclists, even when their separate paths were marked. There was also concern with mobility scooters on the footpath, with speed and being unable to hear them approach again being issues. Marked, separated areas on a shared path for cyclists and walkers could be safer for scooter users, as they can travel in the bike lane (Newton & Omerod, 2007a).

**Figure 44: Footpaths with obstructions preventing access**



Location: Randwick, NSW. Photo: Joanne Quinn

Footpaths require a wide and smooth surface, without trip hazards (I'DGO, 2007c). Though many start out with a suitable surface, damage from tree roots, unevenness at the junction of driveways, and poorly finished surface repairs following access to underground utilities leave them extremely hazardous for ambulant residents and those who use mobility devices or push prams (Figure 45). Regular maintenance of footpaths and management of surface repairs are required to avoid trip and fall risks; the ALGA recommends having a footpath inspection program (ALGA, 2006:10).

The colour and pattern of footpaths can be an issue for people with dementia. For some, impaired depth perception can result in them misinterpreting contrasts in colour or pattern on a pathway, as a change in level; they risk falling when they attempt to step up or down. Busy patterns can appear to move and cause dizziness, and reflective or shiny surfaces can be construed as being wet or slippery (Mitchell et al., 2003:627).

**Figure 45: Uneven Footpaths**



Location: Randwick (L), Balmain (R), NSW. Photo: Joanne Quinn

Changes in footpath gradient that incorporate steps or overly steep slopes can be hazardous or a barrier to people with mobility difficulties, wheelchair and scooter users, and people pushing prams (Figure 44). A resident living in such a street can be

unable walk to local amenities, or even leave their home on foot, as a result. The requirements for ramps and stairways are provided in AS 1428.1.

**Figure 46: Stairs on the path of travel: A hazard or barrier to some residents**



On hilly terrain, a staircase on the path of travel can make the footpath inaccessible. If this is the only route, a resident could be unable to leave their home.

Location: Randwick, NSW. Photo: Joanne Quinn

With age-related sight deterioration, adequate lighting along paths of travel becomes more critical for preventing falls. Street lighting, particularly when only installed on one side of the roadway or close to overhanging trees, can be insufficient to light the path of travel in the early morning or evening. When the pathway is uneven, it is even more hazardous. Despite Australia's relative consistency in daylight hours compared to many other countries, it becomes dark in winter during general business and shopping hours. This can limit safe travel for older people to and from transport stops and amenities during the winter months and prevent their enjoyment of extended evening shopping hours and evening social functions.

## Street crossings

Though fatal accidents involving older pedestrians have fallen dramatically in the past 25 years, older people still represent a high number of pedestrian fatalities. People aged 65+ account for about one-third of all pedestrian fatalities, despite being just one-eighth of the population. In 2006, there were 82 pedestrians aged 60+ killed, of whom 62 were aged 70+ (Australian Transport Safety Bureau [ATSB], 2004:203; 2007:Table 2,4,11). The ATSB suggests that there could be a substantial increase in older pedestrian deaths as the population ages, and 'Reducing the number of older pedestrians killed is therefore a significant issue and challenge for road safety.'(2004:203).

According to the ATSB, the majority of elderly pedestrian fatalities have been attributed to unintentional error by the pedestrian, rather than the fault of the driver: 'They occurred predominantly in urban areas (96 per cent of cases), commonly took place on carriageways with undivided streams of opposing traffic (64 per cent of cases) and were mostly at locations subject to speed limits of 60 kilometres per hour or less (81 per cent)' (2004:203).

People with mobility impairments are slower to cross roads, which can leave insufficient time to safely reach the other side. When dedicated pedestrian crossings are not provided at a location adjacent to facilities on either side of the road, it is common for even people with very poor mobility to attempt to cross in the traffic (jaywalk) rather than walk some distance to a dedicated crossing (Figure 47). If the pedestrian's ability to judge the speed of approaching vehicles is diminished (as might

be the case for the rising number of seniors with dementia symptoms), the risk is further increased. Healthy by Design recommends pedestrian operated lights in streets with a traffic volume of 5,000 vehicles or more per day, or where traffic is a perceived or actual threat to pedestrian safety; and marked zebra crossings on streets with a lower volume of traffic. Pedestrian crossings should be located on the direct line of travel to ensure they are used (NHF, 2004:12).

**Figure 47: Pedestrian crossing: Not located on direct travel route**



A pedestrian crossing (in background) located some distance from this hospital and the bus stop directly across the road results in pedestrians crossing through traffic.

Location: Randwick, NSW. Photo: Joanne Quinn

Even at pedestrian crossings with controlled traffic lights, the time taken for a person with a mobility impairment to cross the road can exceed the time allocated. In some cities, the remaining time for safe pedestrian crossings is shown on the traffic indicator, to help address the problem of leaving insufficient time to cross.

*Healthy by Design* recommends timed pedestrian crossings be aligned to the walking speed of an older adult. Also, having a maximum wait time of one minute, or increasing the frequency of pedestrian crossing phases in peak periods, should be considered to encourage pedestrians to cross when signalled that it is safe to do so (NHF, 2004:12).

The ATSB found that about one-third of older pedestrian deaths occurred at night, dawn or dusk, which it considers is high, as most older pedestrians travel during the day. Most of these deaths were in areas where there was little or no street lighting (2004:203). This suggests that street lighting should be provided to meet the requirements of pedestrians, rather than solely vehicles.

**Figure 48: Kerbs and kerb cuts**



Kerbs can make the path to the shops inaccessible to wheelchair users and ambulant older people – a kerb cut on one side of the street is little use if the kerb on the other side is a barrier (right).

In addition to vehicle hazards, the transition from footpath to roadway further contributes to street crossing difficulties. Stepping up or down from the kerb can be a fall-risk for ambulant seniors who have a reduced level of vision, have difficulty perceiving the change in level, have restricted hip and knee movement due to arthritis, or who are otherwise frail. Wheelchair users can find the kerb a complete barrier (Figure 48).

Kerb cuts are a common method of assisting wheelchair users, carers pushing prams and people with mobility difficulties to avoid having to step up or down at the kerb. Their design is addressed in AS 1428.1. However, many older kerb cuts do not fit these dimensions or are inappropriately located.

An alternative to the kerb cut is to raise the pedestrian crossing to footpath height (Figure 49). This functions as a traffic slowing device and more visible crossing, as well as eliminating the change in level. These crossings are most commonly installed in shopping precincts. *Healthy by Design* also recommends having a speed limit of 30 km/h in shopping precincts (as well as surrounding schools and community facilities) (NHF, 2004:12).

**Figure 49: Raised pedestrian crossing**



Location: Randwick, NSW. Photo: Joanne Quinn

### 3.5.3 Transport

Despite the availability of transport services within close proximity to an older person's home, they can be unusable. A Sydney survey found that only 10 to 11 per cent of trips by older people were taken by public transport; and the main reasons for older not using public transport when it was available were difficulty getting in and out of vehicles (53 per cent) and difficulty getting to stops and stations (30 per cent) (ABS, 2004b:43; 2007h:18).

The requirements of transport for people with disabilities are set in the Disability Standards for Accessible Public Transport 2002. This Standard is applicable to all types of public transport in Australia including aircraft, buses, trains, trams and light rail, ferries and taxis, and their infrastructure. It is currently under review; in early 2008 a draft report was released (ACG, 2007).

The accessibility of transport vehicles is a considerable issue for older people, but is beyond the scope of this project. However, the infrastructure provided – transport stops, boarding and disembarking points, waiting areas, signposting, ticketing, lighting and paths of travel – are aspects of the urban environment that can make transport accessible or inaccessible for older people.

Trains

Railway stations are being progressively made accessible to the Disability Standards for Accessible Public Transport 2002 and AS 1428; however, the accessibility of infrastructure is lagging behind the accessibility of train carriages (ACG, 2008:24). For instance, in NSW 100 per cent of rolling stock in metropolitan areas and 50 per cent in regional areas were reported to be accessible for people who are mobility impaired, but only 32 per cent of CityRail stations and 93 per cent of CountryLink stations were wheelchair accessible (ACG, 2008:Table 3.1,3.2).

Despite the high reported level of accessibility of train carriages, the Disability Standards of Accessible Public Transport Review Draft Report makes the important note that although carriages are considered accessible, they still require that passengers be assisted to board and disembark. People in wheelchairs or using mobility scooters must rely on rail staff to manually position a ramp to bridge the surface between train and platform (ACG, 2008:28). With the ageing population and increasing numbers of scooter users, which are larger and heavier than wheelchairs (ACG, 2008:29), these arrangements have the potential to impact on railway staff workloads and the required stopping time at stations.

Generally, train infrastructure was found to have improved since the Standards had been implemented. The aspects of infrastructure are: the accessible path of travel throughout the station, including paths, ramps, stairs and lifts; boarding points and devices; waiting areas and toilets; ticketing; provision of information on train services; and fixtures and fittings such as lighting, doors, handrails and ground surfaces (ACG, 2008:25-26).

According to the Standard, by late 2007 full compliance was required for priority seating, and 25 per cent compliance was required for allocated spaces for wheelchairs (ACG, 2008:26). However, it is possible that current seating levels will not accommodate the increasing numbers of older passengers with mobility difficulties. The current requirement for space in waiting areas is 5 per cent or two of the seats to be 'identified as available for people with disabilities if required' as well as 'a minimum of 2 allocated spaces or 5% of the area' for wheelchair users (Disability Standards for Accessible Public Transport, 2002:Part 7). If the station is a busy transport hub with, say, 40 seats in the waiting area, only two need to be marked for priority use by older

people or those with a disability. Likewise, only two spaces need to be allocated for wheelchair use, which might be insufficient, particularly when they are also needed for people with prams.

## Buses

Bus stops are currently far less accessible than most railway stations (AGC, 2008:55). Many have no suitable surface for boarding and disembarking or accessible path of travel to them (ACG, 2008:55). Some also lack signage, notice of route or timetable, seating, shelter and lighting (Figure 50). At the end of 2007, only 25 per cent of bus stops were required to be accessible. A target date of 2017 has been set for 90 per cent compliance with Disability Standards, and full compliance by 2022 (Disability Standards for Accessible Public Transport, 2002:68,71-72).

The Draft Report made particular mention of problems with information on timetabling and routes. People with a vision impairment have difficulty differentiating which bus they need to board when stops are serviced by a number of routes, and difficulty locating the correct stop for their route when there are many bus stops located together (AGC, 2008:57).

**Figure 50: Suburban bus stop**



A suburban bus stop with minimal signage and no timetable, shelter, seating, hard surface for boarding and disembarking, or footpath to access it can be unusable by some older people.

Location: Castle Hill, NSW. Photo: Joanne Quinn

## Trams and Light Rail

Newer metro and light rail services with dedicated stops are more likely to have better access for older people with a reduced level of ability. All of the light rail stations in the Sydney Metro service are accessible (Metro Transport Sydney, 2007), whereas the longer-serving Melbourne and Adelaide tram services have a mixture of accessible and inaccessible stops (ACG, 2008:36). Older stops in the centre of Melbourne city streets can be particularly hazardous for older people, as the path of travel is very narrow and close to moving traffic (ACG, 2008:36).

New tram stations in Melbourne have raised platforms that align with the floor of the tram for a no-step entry (Figure 51); however, these account for only about 10 per cent of Melbourne tram stops (ACG, 2008:36). Although new low-floor, accessible trams account for 21 per cent of the fleet, it is estimated that only 3 per cent of tram services combine an accessible tram and tram stop (ACG, 2008:34,36).

## Ferries

As for trams, ferry services with wharves that have been recently built comply better with Disability Standards (ACG, 2008:69). In Western Australia and Queensland, infrastructure is more accessible than in Sydney, which has fewer than half of its

wharves accessible with direct assistance, despite the accessibility of the ferry fleet (ACG, 2008:68). The difficulty with ferries is their movement in the swell and the slope of the ramp, which can be too steep for a wheelchair at tidal extremes (ACG, 2008:69).

**Figure 51: Improved access at tram stations**



New on-street tram stations in Melbourne have wider, elevated platforms for ease and safety when boarding and disembarking

Source: Yarra Trams, 2007

### 3.5.4 Public Buildings

To access services and amenities in the community, it is critical for older people to be able to locate, enter and use public buildings. These include shopping centres and individual stores, the GP and other medical services, banks, and recreational and community centres. Currently, this can be difficult for older people and people with a disability. As for Visitable housing,[10] perhaps the most important features of public buildings are the circulation space into and throughout the building and access to toilet facilities. Of course, being able to access the facilities and services provided in the building is also essential; for example, restaurant, theatre and auditorium seating, bank and retail counters and shop displays.

The AS 1428 Standards address, to some extent, the physical requirements of public buildings for people with a disability, including entrances, doorways, circulation and toilet amenities. However, these are technical specifications rather than regulatory requirements; the extent and the buildings to which they apply are determined by the Building Code of Australia. Though some of these specifications are referenced in the Building Code of Australia for various types of buildings, it is not to the extent required to meet the DDA.[11] An Access to Premises Standard that would better match the accessibility of public buildings in the Australian Building Code to the DDA is under development, but is yet to be incorporated (ABCB, 2007).

Irrespective of Building Code compliance with the DDA, some issues still need to be addressed to maximise older people's access to public buildings. First, the Building Code of Australia will only apply to new building work. Second, there are exemptions in the DDA for 'unjustifiable hardship' in complying with design requirements. Third, the extent to which the measurements and features in AS 1428.1 will actually meet

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[10] Visitable housing is discussed in Section 4.4.4.

[11] The DDA 'provides that it is unlawful to discriminate against a person with a disability in relation to provision of access to premises other than where providing access would cause 'unjustifiable hardship''(Australian Building Codes Board [ABCB], 2004).

the physical needs of older people is difficult to determine, since the research on which they are based did not test people aged over 60 years (Standards Australia, 2001:6). In the absence of regulation, market incentives are needed for building owners to overcome hardships and provide the required access in the many existing inaccessible public buildings. Also, further research is needed to ensure that the physical features provided in building standards and regulations will meet the needs of older Australians. Mitchell et al. identify additional measures to those in AS 1428 to assist people with dementia. For instance, to locate and recognise the building they require, buildings should not be uniform in appearance; rather, a variety of architectural styles, colours and materials should be used to make them distinctive (Figure 52). Locating the entrance is made easier when buildings are 'facing the street with clearly visible and identifiable entrances' (Mitchell et al., 2003:620). For those areas of buildings that should not be accessed by the public, entry can be discouraged by making doors undistinguished.

The design of building interiors can also assist people with dementia. Confusion and anxiety caused by too much visual and audible stimulation can be avoided by reducing clutter and having a clear interior layout, and minimal and legible signage, as well as reducing noise with sound insulating materials (Mitchell et al., 2003).

**Figure 52: Use of colour to highlight building entry**



Colour has been used to highlight the entrance of the building and to distinguish the main access door from the identical supplementary door.

Source: Richardson, 2003

### 3.5.5  Open Spaces

Proximity

Healthy by Design recommends that public open spaces, including large parks, be located within a maximum of 500 m walking distance of people's homes. This correlates to approximately a five to 10 minutes walk for an older person with mobility difficulty. This maximum distance is supported by the findings of the WISE study of people with dementia; though participants were ambulant, many were frail and had the unsteady gait typical of dementia, which made walking more than about 500 m difficult (Mitchell & Burton, 2006). Healthy by Design recommends that small local parks be located closer, within 150 to 300 m safe walking distance of homes (NHF, 2004:16).

Features

Including enjoyable features and activities such as children's playgrounds, gardens, pleasant sheltered (natural or structured) areas to promote sitting, meeting and socialising, and amenities such as cafes, toilet facilities and drinking fountains were advocated in Healthy by Design and supported by the I'DGO study (NHF, 2004; Thompson, Sugiyama, Alves & Southwell, 2007). Playgrounds can be used by the many grandparents caring for young children (Figure 53) and such lively settings may be enjoyable for older people, particularly those with dementia (Thompson et al., 2007). Another important feature for open space in the I'DGO study was a water feature, such as fountain, river or beach. This was preferred by 97 per cent of participants and 'contributed to longer time spent in outdoor activity' (Thompson et al., 2007).

Plants

Plant selection is important for open space. Broad canopy trees provide shade and make a pleasant environment, particularly aligned along pathways. Dense trees and plants are preferred, but should not obscure sight lines, to maintain security. To avoid injury, particularly for people with dementia and for children, plants should not be spiky or poisonous. Parks and open areas need to be maintained to ensure that fallen leaves do not accumulate on paths, making them a slip hazard (Mitchell & Burton, 2006; Mitchell et al; NHF, 2004).

**Figure 53: Desirable features of parks for older people**



Source: Thompson et al., 2007

### 3.5.6 Street Fixtures and Furniture

In the I'DGO study, the presence of street furniture such as seats, toilets, cafes and shelters were predictors of the time participants spend outdoors and were considered a significant incentive for older people participating in outdoor activities (I'DGO, 2007c). In addition, street furniture, including seating, bus stops, post boxes, drinking fountains, water features and civic structures such as statues and memorials, provide useful landmarks for older people, and particularly people with dementia, when navigating their community (Mitchell & Burton, 2006; Mitchell et al., 2003; Sheehan, Burton & Mitchell, 2006).

It is important that street fixtures and furniture do not infringe on the minimum clear footpath width; for people with dementia, it is also important that they do not create

clutter. Clutter caused by multiple advertising signs and structures like railings, bins and bollards can lead to confusion (Mitchell et al., 2003).

**Figure 54: Paths of travel to seating**



The park seating on the hill (left) can be inaccessible for people with mobility difficulties. The park seating at the same level as the path (right) improves access and has space alongside for wheelchair users or a pram. Continuation of the path to the seat would further improve access.

Location: Randwick, NSW. Photo: Joanne Quinn

The availability of seating along the path of travel provides a rest point for ambulant older people who cannot walk long distances (Figure 54). *Healthy by Design* recommends seating with backrests and armrests, and that seat and armrest height be suitable for older people. Seats should also be positioned to encourage social interaction, take advantage of views and provide frequent rest breaks (NHF, 2004). For people with dementia, seating is recommended every 100 m along a path of travel (Mitchell et al., 2003). Clear space next to seating provides room for wheelchair users to sit alongside (NHF, 2004).

### 3.5.7 Wayfinding

In its simplest terms, wayfinding assists a person to know where they are now and how to get to their destination. For the older population, this can be more difficult due to the higher incidence of vision and hearing impairments and reduced cognitive ability (dementia). The high number of ageing migrants, many of whom have English as a second language or have limited proficiency in English, can have particular difficulty navigating their way around the community. Four factors in the built environment that have a considerable influence on wayfinding – signage, routing, landmarks and lighting – will be discussed.

### Signage

*Healthy by Design* recommends signage and site maps be provided to give clear direction to points of interest in the community (NHF, 2004). However, the design of signage needs to consider the range of visual ability, language proficiency and cognitive ability of older people. Colour, layout, symbols and the size and style of typeface are all important.

Mitchell et al. advise that the age-induced yellowing of the eye lens is even more pronounced in people with dementia. This yellowing, called colour agnosia, reduces the ability to distinguish between similar light or dark tones, as well as blues and greens. For this reason, signage should not rely on colour-coding; clear contrast in hue is more effective (Mitchell et al., 2003). In the WISE study, signage that was

simple, with large dark letters on a light background, was the easiest to read and understand (Mitchell & Burton, 2006). AS 1428.1 recommends 30 per cent luminance contrast for highlighting critical features (Standards Australia, 2001:64).

The ALGA advises that street and business signage needs to be legible for both drivers and pedestrians (ALGA, 2006:10). So that it can be viewed when standing and seated, AS 1428.1 specifies that signage be located between 1,200 mm and 1,600 mm above the ground or, if it could be obscured, at least 2,000 mm above the ground (ibid:50).

Where applicable, symbols can be more effective than text, overcoming the need to be proficient in written English (Figure 55). In the WISE study, all participants, with and without dementia, recognised the sign for the UK post office, for its symbol and colouring. Participants with dementia only recognised symbols that they encountered frequently and that were realistic representations (Mitchell & Burton, 2006).

Clearly, not all signage in the community is currently appropriate for an ageing population. Accordingly, the ALGA recommends the replacement of existing street signage with signs that have larger lettering, colour contrast, a plain typeface and a non-reflective surface (ALGA, 2006:11).

**Figure 55: Bus signage**



Bus signage that relies on text (left) can be unrecognisable for those who are not proficient in reading English. A bus icon (right) can be better understood.

Location: Castle Hill (L) and Baulkham Hills (R), NSW. Photo: Joanne Quinn

## Routing

'I'm just used to the area – I've got to know it and I go to the same places more or less each time' (Mitchell & Burton, 2006).

Older people rely on familiarity and regular use of routes from their home to local destinations, to avoid becoming lost (Mitchell & Burton, 2006). The design of routes through the urban environment can assist further with orientation and wayfinding. According to Mitchell et al., there is 'a connection between successful orientation and wayfinding and simple, small-scale urban layouts with a minimum of nodes and junctions and maximum visual access along routes' (Mitchell et al., 2003:628). The I'DGO study examined the effects of street configuration and street layout on routing for older people, but is yet to publish their design recommendations (Burton & Mitchell, 2007).

Healthy by Design recommends planning street layouts to assist people to travel from their home to their destination via the most direct route (if desired) and providing access from cul-de-sacs to walk through to surrounding streets. It states that 'a grid

street layout provides legible travel routes, being well integrated with surrounding streets' (NHF, 2004:12). Though a basic grid pattern is perhaps the simplest and most legible urban layout, it can present a difficulty to people with dementia, as the uniformity of streets and junctions can make orientation difficult (Mitchell et al., 2003:623). Mitchell et al. advocate 'a deformed grid based on an adapted perimeter block pattern with direct, connected routes, few nodes and junctions, and visual access along routes (to) provide the legibility necessary for older people with dementia' (2003:623). Most older people in the WISE study found 'simple, well-connected street layouts with uncomplicated road junctions the easiest to use and understand' (Mitchell & Burton, 2006).

## Landmarks

Older people generally rely on visual cues for wayfinding, making use of familiar, distinctive and personal landmarks to orient and guide them. For those with dementia who cannot draw on their short-term memory or rely on mental maps, these cues are even more important. Landmarks are essential at street junctions to better identify the different routes (Mitchell et al., 2003).

In the WISE study, the older participants regularly looked for landmarks to help clarify their location and route. There were four types of commonly used landmarks: historic or civic structures, such as churches, town halls and war memorials; distinctive structures, such as clock towers and public art; places of activity, such as parks and playgrounds; and places or buildings that had personal significance, such as their GP or favourite pub (Mitchell & Burton, 2006).

Non-homogenous streets with various styles, shapes and colours of buildings were more interesting and easier to follow. Their different architectural features such as doors and windows and gardens assisted wayfinding. Other useful cues were street furniture, such as phone boxes, post boxes and bus shelters (Mitchell & Burton, 2006).

## Lighting

Mitchell et al. advise that adequate lighting is important for older people's wayfinding, particularly due to reduced visual acuity which can require two to five times more light than that of young people. Street lighting needs to be bright, without causing glare or deep shadows (Figure 56).

In Age-Friendly Built Environments, the ALGA suggests using lighting incorporated into the design of stairs, walls and walkways, to help older people with orientation and navigation (ALGA, 2006:10). Daytime lighting is also important. When entering a building from a sunny street, a transition in lighting is required so those with reduced visual acuity can adjust their sight and reduce the risk of falls (Mitchell et al., 2003).

**Figure 56: Lighting**



*Healthy by Design* advises providing lighting for areas intended to be used at night, but avoiding low-level and in-ground lighting, which limits visibility for pedestrians (NHF, 2004:19).

Source: NHF, 2004:20

### 3.5.8  Safety and Security

Crime is a major concern for older people, and living in a safe and secure environment is an important aspect of healthy ageing. If healthy ageing is about active participation in life, then crime and fear of crime is important because it can affect people's willingness to participate in activities beyond the home.

Adam Graycar, Director of the Australian Institute of Criminology (AIC) in his forward to A Safe and Secure Environment for Older Australians states that:

> *Research in recent decades has consistently shown that older people are far less likely to be victims of crimes than people in other age groups. Despite this decreased risk, the patterns of victimisation of older people differ in important respects from patterns in younger age groups. Research has also consistently shown that older people are more likely than younger people to be more fearful of crime* (James, Graycar & Mayhew, 2003:v).

Consistent with other Western countries, the risk of older people in Australia being victims of crime, whether these be personal offences (such as robbery, assault, sexual assault and homicide) or household crimes (such as burglary and vehicle theft), is actually lower than for younger age groups. While consumer fraud is the most prevalent crime against older people (twice that of assault or theft, and 13 times that of robbery), this is still less risk than for younger age groups. Therefore, the report argues 'It is not age per se which reduces the risk of crime, but some other factors associated with it – for example, the tendency to spend more time at home, to live in more secure forms of accommodation, and not to own a motor vehicle' (James et al., 2003:1).

Fear of crime, therefore, is more of an issue than risk of crime. However, even levels of fear of crime are not high on average. According to the 2006 ABS Crime and Safety Survey, although older people (65+) were more likely to feel unsafe at home both during the day and after dark, only 7 per cent of older respondents felt unsafe at home while alone after dark. However, 90 per cent of males compared to 79 per cent of females felt safe when alone at home after dark. Daytime figures were closer at 95 per cent of males and 93 per cent of females feeling safe while alone at home. Feelings of safety at home were also found to decrease with age, but still remained well into the high 80 per cent range for males and the high 70 per cent range for females (AIHW, 2007c:12). Evidence on older people's perception on safety in the neighbourhood from this survey is not published, but according to James et al. (2003:43), the earlier 1999 ABS Crime and Safety Survey indicated less concern among people aged 65+ about neighbourhood crime and disorder with 35 per cent indicating no such problems compared to 31 per cent of 55-64 year olds, and 24 per cent under 55 year olds. The older cohort had lower perceptions than their younger counterparts in all seven neighbourhood problem categories, a finding consistent with data from the UK (James et al., 2003:43).

The AIC report suggested that older people most likely to be afraid of crime are those who 'are more socially and physically vulnerable to the consequences of crime; live in areas with high levels of crime and disorder; are on a lower income; and have been previously victimised or in contact with other victims' (2003:2). It cites research evidence for 'a relationship between anxiety about crime, community involvement and self-confidence':

> *Those older people who are most active and involved in their communities, or who are made to feel involved, are less likely to be anxious about crime. Conversely, the more isolated older people become from others, the more*

*likely they are to lose confidence and trust, and to withdraw further.* (James et al., 2003:43)

While the causes of crime are complex and socio-economic, it has long been recognised that the design of the built environment, while not deterministic, can play a role in supporting or inhibiting crime (e.g. Angel, 1968; Clarke, 1992; Crowe, 1991; Jacobs, 1961; Jeffery, 1971/77; Newman, 1972). The role of the physical environment is also recognised in the AIC report:

> *The quality of the immediate physical environment as well as the social environment influences the health and safety of older people. Access to regular and reliable transport, social support, as well as appropriate housing, is a fundamental determinate of health and wellbeing* (James et al.,2003:20).

In regard to the links between urban planning, safety and public health, it states:

> *Town planning and land-use decisions are important crime prevention, public safety and public health issues. Overall physical and mental health benefits can result when people live in accessible, safe, well designed thoughtful structures and landscapes. The design and location of housing can facilitate integration with other resources and other generations. For example, the location could be near health centres and could also encourage interaction with neighbourhood social life. By creating more practical environments, older people would be able to remain independent longer and also increase their wellbeing and security.* (James et al., 2003:43)

The use of environmental design as a means of helping to reduce opportunities for crime is known as situational crime prevention or more popularly as CPTED (Crime Prevention Through Environmental Design), though this latter term is problematic because of its deterministic language.

CPTED is therefore a preventative approach aimed at reducing opportunities for crime involving 'management, design or manipulation of the immediate environment…so as to increase the effort and risk of crime and reduce the rewards as perceived…by offenders' (Clarke, 1992:9). It has also been defined as 'a crime prevention strategy that focuses on the planning, design and structure of cities and neighbourhoods. It reduces opportunities for crime by using design and place management principles that reduce the likelihood of essential crime ingredients (law, offender, victim or target, opportunity) from intersecting in time and space' (NSW Police Force, 2008).

It is generally accepted that there are four main principles of CPTED. These are summarised below from the NSW government's guidelines for the assessment of development applications:

1. **Surveillance** – deterrence by providing:
   → Clear sightlines between public and private places;
   → Effective lighting of public places;
   → Landscaping that makes places attractive, but does not provide offenders with     a place to hide or entrap victims.

2. **Access control** – directing or restricting the movement of people through:
   → Landscapes and physical locations that channel and group pedestrians into target areas;

- → Public spaces which attract rather than discourage people from gathering;

- → Restricted access to internal areas or high-risk areas (such as car-parks or other rarely visited areas). This is often achieved through the use of physical barriers.

3. **Territorial reinforcement** – providing a feeling of community ownership of public space through:

- → Design that encourages people to gather in public space and to feel some responsibility for its use and condition;

- → Design with clear transitions and boundaries between public and private space;

- → Clear design cues on who is to use space and what it is to be used for.

- → Care is needed to ensure that territorial reinforcement is not achieved by making public spaces private spaces, through gates and enclosures.

4. **Space management** – ensuring that space is appropriately utilised and well cared for by:

- → Activity coordination;

- → Site cleanliness;

- → Rapid repair of vandalism and graffiti;

- → Replacement of burned-out pedestrian and car-park lighting;

- → Removal or refurbishment of decaying physical environments (Department of Urban Affairs and Planning [DUAP], 2001).

Although earlier CPTED approaches focused heavily on physical interventions, recent literature and practice also emphasises the importance of the participation of community stakeholders in decision-making, design, implementation and ongoing place management (JRF, 1995; Taylor, 1998).

Most state governments now have their own CPTED or similar guidelines. In NSW these were embodied in planning legislation in 2001 under Section 79C of the Environmental Planning and Assessment Act (DUAP, 2001). The adoption of CPTED principles in the design of residential environments, particularly where this involves a participatory community-based approach, can be useful in improving the safety and security of public spaces and encouraging increased use by older people. This is also recognised in the AIC report:

The principles of CPTED…have an important role to play when considering the safety and security of older people. By addressing the physical environment, it is possible to prevent opportunities for crime including theft, vandalism and threats to personal safety (James et al., 2003:20).

### 3.5.9 Conclusions

This section has established that the design of the urban environment influences older people's access to community facilities, amenities and transport, socialising with friends and family, and participation in recreational activities, particularly walking for exercise. The design of the urban environment can, therefore, like the design of the home, enhance or limit older people's safety and independence. Conversely, a poorly designed environment can provide considerable barriers for older people. The literature review has demonstrated that design of paths of travel, transport, public buildings, open spaces, street fixtures and furniture and measures to ensure easy

wayfinding and safety and security are all important in contributing to a safe and accessible urban environment for older people.

It has also revealed that the relationship between ageing, health and the design of the urban environment is a relatively new area of research and policy attention linked to the healthy cities (or healthy planning) debate. Its importance has been recognised by governments, health and built environment professionals both overseas and in Australia and work is underway on a national planning guide for the design of healthy Australian built environments as recommended in DoHA's National Speakers Series report. The other significant initiative is the National Heart Foundation's Healthy by Design guidelines, which is supported by the Planning Institute of Australia.

While progress has been made on the provision of more easily accessible public transport, there remain deficiencies in the design of transport stops, boarding and disembarking points, waiting areas signage, ticketing, lighting and paths of travel – all potential impediments for older users. The numbers of priority spaces allocated for older people and wheeled mobility users may also need to be reconsidered with the increasing size of the older population.

Fear of crime is more of an issue amongst older people than the actual risk. However, urban design has a role to play both in reducing opportunities for crime and encouraging older people to be more active and involved in their community, which in turn has been shown to reduce their anxiety about crime. The adoption by some state governments of CPTED or 'Safer by Design' guidelines is a welcome initiative in improving the safety of urban environments for older people.

These findings confirm the importance of the research to focus not merely on the dwelling and associated land, but also on the design of the surrounding urban environment and on the accessibility to public transport. It is possible that these could be as important as the design of the dwelling in enabling older people to remain living independently in their own home. The urban design issues identified in this section will therefore be further explored both quantitatively in the analysis of the postal survey, and qualitatively in the in-depth interviews.

# 4 CONCLUSION

This Positioning Paper has reviewed a wide range of literature from a number of disciplines relevant to the proposed study of the dwelling and land use of older home owners in Australia. It has included a review of evidence concerning:

→ The ageing population phenomenon and its implications for the health, disabilities, social activities and financial resources of older Australians – all important to the ability of older people to remain living in their own home;

→ The housing and household characteristics of older Australians, including their housing tenure, in order to ascertain current housing choices and behaviour;

→ The meaning of the home, the desire of people to remain at home and the care and support options available to older people to enable them to remain longer in their own home;

→ A range of housing design approaches aimed at assisting older people to remain in their own home;

→ The role of urban design and planning in supporting older people's desire to age in place.

## 4.1 Implications for This Study

As well as providing an important context for the proposed research, the literature review has confirmed the need for this study for the following reasons:

→ The dominance of outright home ownership and three bedroom dwellings amongst older Australians raises questions about the efficient use of housing and land by older home owners and therefore underlines the importance of the current research.

→ It confirms the significant challenge that an ageing society presents for the future, and specifically in relation to the capacity of housing and home based care to satisfy the desire of most older people to remain living in their home for as long as possible.

→ There is a lack of up-to-date statistical evidence (e.g. much of the published information on housing, households and tenure is based on 2001 Census or earlier data) and some significant gaps in knowledge about older home owners and their dwellings (e.g. household size, dwelling area, land area). This confirms the need for an analysis of 2006 Census, HILDA longitudinal survey and 1999 Australian Housing Survey data concerning older people, their housing and related behaviour.

→ There is a lack of data available from the ABS on dwelling and land area (except for floor area of new dwellings from Building Activity statistics) and uses of rooms within dwellings (other than number of rooms and bedrooms). This study will attempt to collect more detailed information on these aspects.

→ Currently accepted measures of housing under-utilisation are simplistic, problematic and contested. There is a need for better definitions and measures based on a richer understanding of both dwelling and use characteristics.

→ There is a lack of recent qualitative data on the attitudes and experiences of older Australians in regard to the suitability of various housing types, dwelling design (including modifications), urban design and transport modes. These issues will be a major focus of the forthcoming in-depth interviews.

→ The factors influencing an older person's ability to remain in their own home or choose to move to other accommodation are complex, including considerations of health, ability, dwelling design, financial resources, location in relation to family and social networks, and accessibility of services and community facilities. This warrants the inclusion of questions on these issues in the survey, and their exploration in more detail via the in-depth interviews.

→ There has been little local analysis of the costs and benefits of different design approaches aimed at supporting the desire of older people to age in place. The cost-benefit analysis of retrofitted home modifications, adaptable design and universal design to be undertaken at a later stage of the research will fill this gap.

→ In Australia there has been little research on the importance of urban design to older people and ageing in place. This will be investigated in both the survey and the in-depth interviews.

→ Some specific issues arising from the literature review will be important in guiding future stages of the research. These include:

→ The need for care in the use of language to avoid labeling, particularly in the in-depth interviews;

→ Clarification of appropriate age thresholds and groups for the survey analysis;

→ The need to recognise important gender differences across a range of ageing and housing issues in framing the in-depth interview schedule;

→ The importance of wealth and income to housing choices and the sensitivity of these issues means that they will need to be carefully approached in the in-depth interviews;

→ Concentrations of older people in certain urban, regional and coastal areas will be useful to test the geographical representation of survey respondents and will be considered in the selection of participants for the in-depth interviews;

→ Information on housing design features (or guidelines) for each of the approaches identified in Section 4.4 will be useful in undertaking the cost-benefit analysis.

## 4.2 Implications for Ageing and Housing Policy

The literature review reveals that over the last two decades there have been some significant policy responses to the ageing of the Australian population, from both a social and an economic perspective, many of which either directly or indirectly relate to the housing and urban environment issues that are important to the desire of older people to remain in their own homes. An important outcome of these policy initiatives are the range of programs that have been progressively introduced providing increasingly higher levels of care and support in the home (HACC, COP, CACP, EACH and EACH-D). However, these only place more emphasis on the capacity of housing to accommodate higher levels of care.

Policy initiatives that have directly aimed at the design of housing and residential environments include the New Homes for Old Strategy (AURDR, 1994), the Prime Minister's Science, Engineering and Innovation Council on Promoting Healthy Ageing in Australia (PMSEIC, 2003) and the recommendations contained in the DoHA Office for Ageing Australia's National Speakers Series A Community for All Ages: Building the Future (DoHA, 2006a) which was aimed at a wide audience in the public, private and community sectors.

Nevertheless, policy development in regard to the housing and urban design needs of older Australians is yet in its early stages and needs to be considered more holistically with care and support initiatives. Until recently, the focus has been very much on a

narrow disability-led, rather than design/industry-led, approach, with a historically inadequate commitment from the housing industry and design professionals. The National Speakers series correctly identifies some important areas of need for further policy development in design related areas. These include:

→ The need for further development of technical documents 'to recognise links between the built environment and health and wellbeing (Recommendation 1);

→ The need to improve awareness and training for industry and local government on 'age friendly built environments' (Recommendation 2);

→ The need to include training on appropriate design for ageing into undergraduate and professional development for built environment professionals (Recommendation 3);

→ The need for development of competitions and awards for age friendly transport, housing and public amenities (Recommendation 4);

→ The need to develop marketing and promotional material on appropriate design for consumers (Recommendation 5);

→ Support for national urban planning guidelines for health and wellbeing (Recommendation 6);

→ The need for cost-benefit research for appropriate design approaches and economic modelling of various implementation scenarios (Recommendation 7);

→ The need for a national universal design initiative embracing both environmental and industrial design (Recommendation 8).

→ This suggests the necessity for a whole-of-government, multidisciplinary approach to ageing and built environment policy development.

The outcomes of many of these recommendations are yet to be realised. This includes the proposed incorporation of 'adaptable' and healthy design principles into the Department of Environment's Your Home Technical Manual and the new urban planning guidelines for design for health. When completed, they should begin to provide a much broader and integrated approach to policy development in the ageing and housing field.

There is, however, some confusion and disagreement within government, the industry and advocacy sectors about the design paradigms (and terminology) for supporting ageing in place. The five most important of these (Accessible, Visitable, Adaptable, Universal and Flexible Design) have been reviewed in Section 4.4. Each is based on different principles, covers a different range of potential users, and implies different policy responses:

→ Accessible Design – Government standards and regulations applied only to housing for people with disabilities (including older people);

→ Visitable Design – Government regulations applied to all housing via building codes;

→ Adaptable Design – Standards and guidelines applied to housing that may be occupied by a person with a disability or to facilitate ageing in place;

→ Universal Design – Either government or industry standards or guidelines for voluntary application, or regulation for all new housing via building codes;

→ Flexible Design – Either government or industry standards or guidelines.

Which approaches are most appropriate and how they are applied is therefore an important policy question.

Finally, the literature reveals a policy dilemma concerning the desire of older people to remain at home and under-utilisation of the dwelling. While the concept of ageing in place is strongly supported by older people themselves, government policy makers (for health, social and economic reasons) and community support services, using current measures it appears this leads to a degree of dwelling under-utilisation. This reflects ABS data on older people and their households which shows low occupancy rates amongst older Australians and a predominance of three bedroom dwellings. The counter-argument put in the literature (Davison et al., 1993; Kendig & Neutze, 1999; Wulff et al., 2002) is that older people spend more time at home, need space for hobbies, part-time work and visiting family and hence utilise the space more than many younger households who are more likely to be in full-time employment.

A second dilemma is that staying put occupies housing close to labour markets which might better be occupied by younger people in the workforce. However, this is countered by the argument that this only disconnects older people from support services and important social networks that are amongst the important benefits of ageing in place. It also contradicts the policy objective of encouraging older people to remain longer in the workforce.

The forthcoming survey and in-depth interviews will explore both these issues further. It will also investigate consumer acceptance of housing options and design paradigms for supporting ageing in place by exploring the attitudes and values of older people in regard to these. It will thus inform the policy debate on the 'efficiency' and 'utilisation' of housing by older home owners.

Finally, an important concern of this research project is to more clearly articulate the housing design approach options available, their costs and benefits, consumer preferences and policy implications, and to inform the housing utilisation debate by providing a more detailed analysis of the number of permanent and temporary residents, the number and use of rooms, and the perceptions of older home owners of the suitability of the dwelling for their needs.

## 4.3  Next Steps in the Research

At this stage in the research, the literature review is complete and the survey responses are substantially received (approximately 1,750 to date). Coding of the responses is underway and analysis will proceed shortly. This will be followed by selection of the participants for the in-depth interviews and then by undertaking the in-depth interviews Simultaneously, work will proceed on the 2006 Census (subject to availability of data), HILDA and 1999 Australian Housing Survey data analysis and on the cost-benefit analysis of the various housing design approaches for supporting ageing in place.

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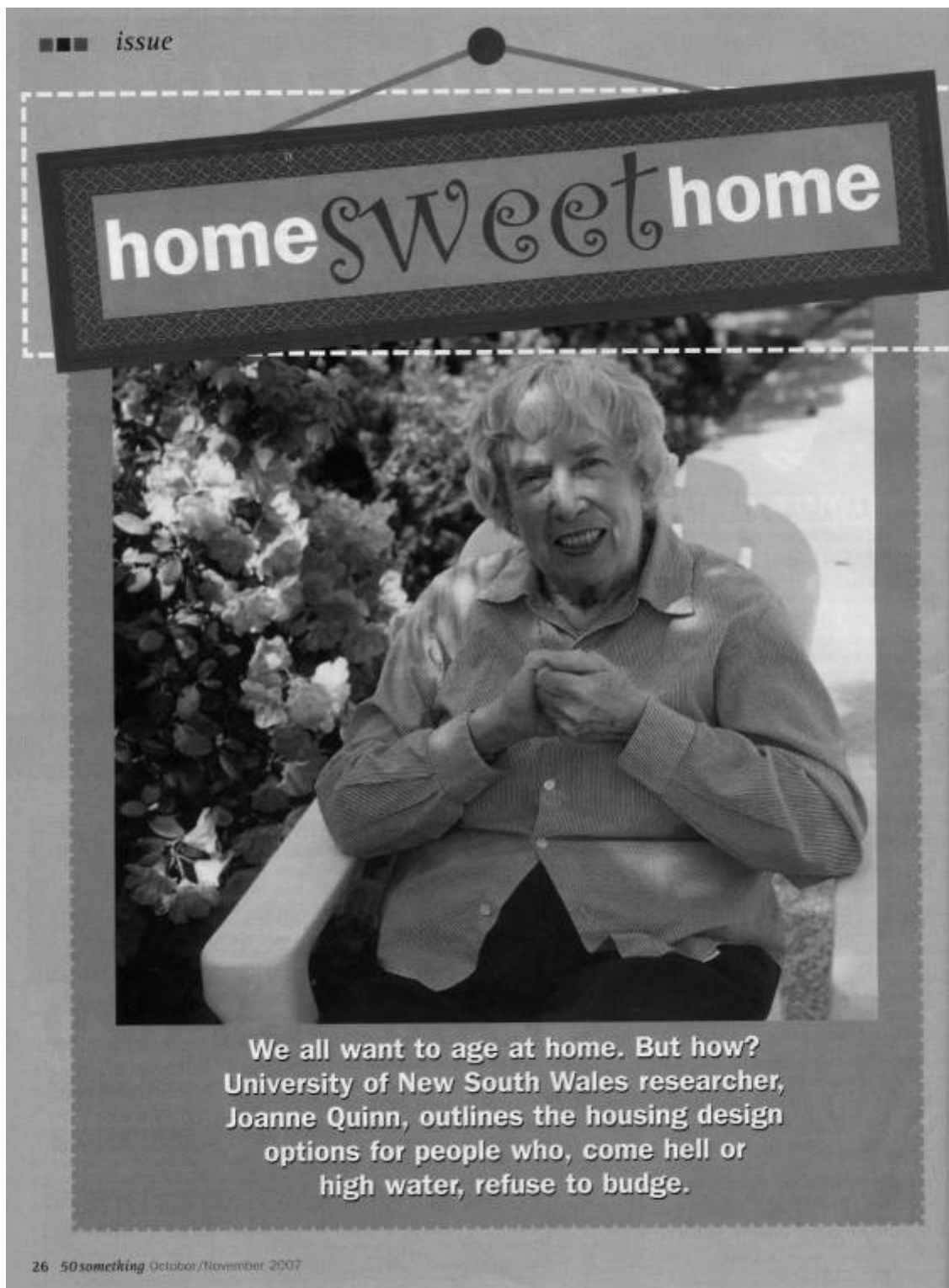
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# APPENDICES

## Appendix 1: Article, 50 something Magazine



■■■ *issue*

# home**sweet**home

We all want to age at home. But how?
University of New South Wales researcher,
Joanne Quinn, outlines the housing design
options for people who, come hell or
high water, refuse to budge.

26   *50 something* October/November 2007

Ask most Australian seniors where they would like to live as they get older, and the answer would be in their own home in the community. But are current housing designs what seniors want for their future home? Will current housing styles suit the many different lifestyles and types of household?

Will housing suit any particular care requirements, now or in the future?

Is housing located so seniors can socialise with friends and family, participate in recreational and social activities, and attend appointments?

As the baby-boom generation approaches its senior years and the proportion of older people in the Australian population increases, it is important that governments, the private sector and the community are aware of older people's housing needs.

Seniors' households today differ considerably from previous generations. While many live in one- or two-person households, for others, the traditional "empty-nester" life stage is certainly being challenged! More adult children remain living in their family home well into their twenties. Some move out, only to return home after travelling, to save money for their own home or perhaps when they are between homes. Many seniors are providers of childcare for grandchildren and, at the same time, might also be the carers for elderly parents. For those who have migrated to Australia, or made a sea-change or tree-change, the household often expands with temporary residents: those friends and family arriving for a short visit or a staying for weeks at a time!

The diversity among this current generation of Australian seniors is reflected in the wide range of dwelling types they live in, such as large free-standing houses, town-houses, villas, apartments or mobile homes. Some prefer to remain in the homes they've lived in for many years and perhaps raised a family; others choose to move to a new home, even a new location. In recent years, private seniors' housing developments exclusively for 'over-55s', and independent units in managed retirement villages have become popular new housing options.

These days, older people with a health condition or disability can be assisted to live at home with a variety of home-based care services, from basic assistance with housework or home maintenance right through to high-level 'nursing-home' care. However, the design of the home needs to be safe for these carers, as well as maximising the safety and independence of residents.

When the design of the dwelling makes daily activities difficult or unsafe for residents and carers, modifications are often made. Some of the most common modifications include ramps or a stair lift if a resident finds it difficult to use the stairs, and grab rails in the bathroom.

There are also now some new design approaches for making housing more safe and accessible, for residents or their visitors who need assistance, that involve designing special features into the dwelling when it is initially built.

## Visitable housing design

- A step-free path of travel to an entrance
- Wide doorways to fit a wheelchair
- A wheelchair-accessible toilet on the entry level

One of these design approaches is known as "Visitable" design. Visitable design assists wheelchair users to visit the homes of their friends and families, and includes at minimum of three design features: access to the dwelling that does not involve steps, doorways wide enough to accommodate a wheelchair, and a wheelchair-accessible toilet on the entrance level of the dwelling.

These features can be the difference that allows a grandmother in a wheelchair to attend family celebrations in the home of her children, or a young boy in a wheelchair being able to accept invitations to birthday parties at the homes of his class-mates. In some countries it is now mandatory for all new housing to be built with these features. In addition to these three key features, there are some other design features that can increase the visitability of housing. They include having the kitchen, a living area and a full bathroom on the entrance level of multi-storey dwellings, as well as a bedroom on this level. This bedroom accommodates an overnight visitor, but can also be used when a resident is temporarily unable to use the stairs.

## Adaptable housing design

*Easily and cost-effectively modified in the future if required*

Another design approach is "Adaptable" housing design. Adaptable design in housing provides a dwelling that as well as being Visitable, can be more easily and cost-effectively modified in the future if a resident develops a health condition or disability. Adaptable features in a two-storey home can include having space in the design of the staircase for the later installation of a stair lift, or having a set of stacked cupboards with the flooring between able to be knocked out to fit an elevator. In the bathroom, the bathtub could be easily replaceable with a wheelchair-accessible shower, without major plumbing or structural changes. Some Adaptable features in the kitchen could be a work surface that can be easily adjusted in height or replaced, and cabinets easily removed, to provide suitable work height and leg space for a resident using a wheelchair in future.

## Universal housing design

*Designed for people of all ages and the widest range of abilities, avoiding the need for modifications in the future*

The third design approach is "Universal" housing design. Universal housing design provides a dwelling that is designed for people of all ages and the widest range of abilities right from the start. The aim is to avoid the need for modifications in the future. As the name implies, universal housing design considers everyone, from older people to babies, in the design of the dwelling. So as well as being safe and accessible for older people, housing would not need to be "baby-proofed" when children arrive (or when they come to visit grandma and grandpa) because it is already designed to be safe for children.

A dwelling that is universally designed could be safely and more easily used by a visiting friend with a health condition or disability, like arthritis or dementia. Likewise, it would not require changes if a resident had a temporary condition, say, following a car accident or recovering from surgery.

*The City Futures Research Centre at the University of New South Wales is undertaking a study of seniors' housing requirements. Have your say by completing the survey in this issue or on the City Futures website at www.cityfutures.net.au*

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# home sweet home



1. This house features a level entry without steps at the threshold that could prevent a friend from visiting the home. The threshold is specially designed to be weatherproof. Along with the wide front door that accommodates most people, this entrance has an adjacent door that can be opened up if additional space is needed for large furniture items or appliances.

2. A side-opening oven door could be used as a way of assisting people to get much closer to the oven and not need to reach over a hot surface. A place to rest heavy cooking pots and trays when transferring them in and out of the oven could be provided with a slide-out shelf below the oven. Features like cool touch oven doors can further reduce the risk of children getting burnt.

3. One method of avoiding the need to bend down low and reach inside the cupboard to access contents is to have slide-out shelves.

4. There are many ways of designing doorways and lighting so that all residents and visitors can use them. These door handles are located at a height that can be reached by adults and children. Their lever-action can still be operated when a person does not have full use of their hands, perhaps because of arthritis, or when their hands are full with household items or even when carrying a sleeping baby.

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## Appendix 2: National Housing Survey Form

**Page 1** (reduced from A4)

# Have your say…  ☰UNSW  AHURi  *Australian Government*
*The University of New South Wales*  *Australian Housing and Urban Research Institute*  *Department of Health and Ageing*

As most senior Australians want to remain living in their choice of housing as they age, it is important that housing is available to suit their household, lifestyle and future care needs; and that governments, the private sector and the community are aware of older people's needs.

The City Futures Research Centre at UNSW invites seniors to share your opinions on your housing needs by completing the following questionnaire. You can also complete the questionnaire or read the research Project Information Statement at www.cityfutures.net.au

Information provided will be confidential in keeping with privacy laws.

To have your say, complete and return the following 4 page questionnaire in a sealed envelope (no stamp needed) to:

REPLY PAID 61244
Seniors Housing Survey
City Futures Research Centre
The University of NSW
Sydney NSW 2052

*Please tick your answer ✓ You might like to make some additional comments - please attach another sheet of paper*

**First, we would like to find out about the home you currently live in…**

**Q1** Is the dwelling you live in …?

○ a separate house   ○ a semi-detached, row, terrace, villa or town house   ○ a flat, unit or apartment in a *(number)*_____ -storey residential block   ○ another type of dwelling *please specify* _____

**Q2** Is your home …?

**A** ○ owned outright   ○ owned with mortgage   ○ rented privately   ○ rented public housing
○ other *please specify* _____

**B** located in   ○ the general community   ○ a seniors residential development   ○ another type of development *please specify* _____

**C** comprised of   ○ one storey   ○ two storeys   ○ more than 2 storeys

**Q3** If known, please indicate the approximate size of…

**A** the floor area inside your dwelling   _____ m² *or* _____ squares   ○ don't know

**B** your house block (*or* courtyard/balcony if a unit)   _____ m² *or* _____ sq. feet   ○ don't know

**Q4** How many separate bedrooms…?

**A** does your dwelling have   *number*_____

**B** are NOT regularly used for sleeping in, by the usual residents in your household   *number*_____
*please indicate their other uses* _____

**Q5** How many OTHER SEPARATE rooms do you have in your dwelling, that are not bedrooms?

| | | | |
|---|---|---|---|
| bathroom with toilet | *number*_____ | combined lounge-dining room | *number*_____ |
| bathroom without toilet | *number*_____ | separate dining room | *number*_____ |
| separate toilet | *number*_____ | separate lounge room | *number*_____ |
| kitchen | *number*_____ | separate office or study room | *number*_____ |
| separate laundry room | *number*_____ | other *please specify* _____ | *number*_____ |

**Q6** What type(s) and number of car parking spaces do you have?

○ enclosed lock-up garage for *number*_____ cars   ○ carport/undercover parking for *number*_____ cars   ○ uncovered off-street parking for *number*_____ cars   ○ no off-street parking

Please tell us about the requirements of your household...

**Q7** Who are the PERMANENT and TEMPORARY residents in your household?

*The PERMANENT residents in a household live there continuously for 6 months or more and the TEMPORARY residents in a household are people who regularly visit and stay overnight (at least 20 nights each year).*

| Please identify each resident as PERMANENT or TEMPORARY. Fill in last section for TEMPORARY residents only | PERMANENT RESIDENT | TEMPORARY RESIDENT | RELATIONSHIP TO YOU | | | | | | | | | GENDER | AGE | TEMPORARY RESIDENTS ONLY | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | USUAL LENGTH OF STAY | | | | VISITS PER WEEK, MONTH OR YEAR | | |
| | | | self | partner (spouse) | your/partner's child | your/partner's parent | your/partner's grandchild | other relative | friend | tenant/boarder | other | circle M or F | state AGE in years | 1 or a few nights | 1-3 weeks | 1-3 months | 4-6 months | number of times each... | week | month | year |
| PERSON 1 | O | | O | | | | | | | | | M / F | ___ | | | | | | | |
| PERSON 2 | O | O | | O | O | O | O | O | O | O | O | M / F | ___ | O | O | O | O | | O | O | O |
| PERSON 3 | O | O | | O | O | O | O | O | O | O | O | M / F | ___ | O | O | O | O | | O | O | O |
| PERSON 4 | O | O | | O | O | O | O | O | O | O | O | M / F | ___ | O | O | O | O | | O | O | O |
| PERSON 5 | O | O | | O | O | O | O | O | O | O | O | M / F | ___ | O | O | O | O | | O | O | O |
| PERSON 6 | O | O | | O | O | O | O | O | O | O | O | M / F | ___ | O | O | O | O | | O | O | O |
| PERSON 7 | O | O | | O | O | O | O | O | O | O | O | M / F | ___ | O | O | O | O | | O | O | O |
| PERSON 8 | O | O | | O | O | O | O | O | O | O | O | M / F | ___ | O | O | O | O | | O | O | O |
| PERSON 9 | O | O | | O | O | O | O | O | O | O | O | M / F | ___ | O | O | O | O | | O | O | O |
| PERSON 10 | O | O | | O | O | O | O | O | O | O | O | M / F | ___ | O | O | O | O | | O | O | O |

**Q8** Has your household size changed in the last 5 years?

O yes    O no    If yes, how?    O increased by *number* _____ residents    O decreased by *number* _____ residents

*reason for change(s)?* _____

*effect of change(s)?*    O moved to a different home    O made alterations to home    O neither

**Q9** Do any of the above residents in your household require assistance with activities at home?

O yes    O no

| If yes, Please identify the resident using their person number from Q7 above | TYPES OF ASSISTANCE | | | | | | | | REASONS FOR ASSISTANCE | | | | | | | CARE PROVIDED BY | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | self-care activities eg. eating, toileting, showering, dressing | moving about the home | communicating with others | supervision | preparing meals | cleaning inside the home | maintaining garden | home maintenance | a short-term health condition (lasting less than 6 months) | a long-term health condition (lasting 6 months or more) | disability (lasting 6 months or more) | old age | young child | difficulty with language | other cause *please specify* | person(s) in your household | visiting family/friend carer | visiting professional carer | other carer *please specify* | no current carer |
| PERSON ___ | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| PERSON ___ | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| PERSON ___ | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| PERSON ___ | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| PERSON ___ | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O |

**Q10** How suitable is your current dwelling for the following?    very suitable ← _____ → not suitable

Accommodating the number of permanent and temporary residents    O O O O O

Accommodating any residents' special care requirements *(if applicable)*    O O O O O    O n/a

Please tell us about your local activities and how you think they are likely to change in 5 years...

**Q11**
A How often do you attend the following activities?
B What method(s) of travel is usually used?
C How important is close access for attending these activities?

| | | A HOW OFTEN YOU ATTEND | | | | | | B TRAVEL | | | C IMPORTANCE OF CLOSE ACCESS TO THESE LOCAL ACTIVITIES | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | number of times each... | week | month | year | don't attend | don't know | walk | car | public transport | very important | ⟵ | | ⟶ | not important |
| visit friends and/or family you like to spend time with | now | | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | in 5 years | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| have friends and/or family visit you | now | | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | in 5 years | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| community and/or social clubs | now | | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | in 5 years | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| religious services and activities | now | | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | in 5 years | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| sport & recreational activities | now | | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | in 5 years | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| educational courses: teaching or learning | now | | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | in 5 years | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| dining out | now | | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | in 5 years | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| shopping, banking & other retail services | now | | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | in 5 years | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| theatre & other cultural activities | now | | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | in 5 years | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| medical and other health appointments | now | | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | in 5 years | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| volunteering activities | now | | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | in 5 years | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| other activities *please specify* | now | | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | in 5 years | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**Q12** Does your household have a car(s)?

○ yes  ○ no

If yes, *how many?*_____

A Driven by you? — now ○ yes ○ no / in 5 years ○ yes ○ no

B Driven by others in household? — now ○ yes ○ no / in 5 years ○ yes ○ no

**Q13** Do you have public transport available?

○ yes  ○ no

If yes, *Please give details for each TYPE OF TRANSPORT that is available. (eg. bus, train, tram)*

| Types of Transport | DISTANCE TO TRANSPORT | | | APPROX. FREQUENCY OF DAYTIME SERVICE | | | | | SATISFACTION WITH AVAILABILITY OF EACH OF THESE TYPES OF PUBLIC TRANSPORT | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 400m (1/4 mile) or less | 800m (1/2 mile) or less | more than 800m (1/2 mile) | up to 1/4 hr | every 1/2 hr | every 1 hr | every 2 hrs | every 4 hrs + | very satisfied | ⟵ | | ⟶ | very unsatisfied |
| 1 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 2 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 3 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

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We would like your opinion on how suitable your home will be as you get older...

**Q14** Have you already made any modifications to your dwelling to make it safer or easier to use?

○ yes ○ no  if yes, *please specify* _____

**Q15** Are you likely to need to modify your current dwelling in the future to make it safer or easier to use?

○ yes ○ no  if yes, *please specify* _____

if yes, *are you likely to be able to pay for these?*  ○ yes ○ no ○ uncertain

**Q16** If you develop a disability and/or your need for assistance increases, how important would it be...?

**A** that the home you are living in...

| | very important ← → not important |
|---|---|
| will meet your needs without any modifications being required | ○ ○ ○ ○ ○ |
| can be modified easily and at low cost to meet your needs | ○ ○ ○ ○ ○ |

**B** that you can move to a home...

| | |
|---|---|
| that better meets your needs | ○ ○ ○ ○ ○ |
| that is specially-designed for older people | ○ ○ ○ ○ ○ |

**C** that the homes of friends and family you like to visit...

| | |
|---|---|
| have no steps leading to the entrance | ○ ○ ○ ○ ○ |
| have a toilet on the entry level of 2 storey housing | ○ ○ ○ ○ ○ |
| have a kitchen and living room on the entry level of 2 storey housing | ○ ○ ○ ○ ○ |
| have a bedroom on the entry level of 2 storey housing | ○ ○ ○ ○ ○ |

**Q17** Are there circumstances under which you would consider the following?

Have adult children live in your home
○ yes ○ no ○ n/a  *reasons* _____

Live with adult children in their home
○ yes ○ no ○ n/a  *reasons* _____

Rent part of your home to others
○ yes ○ no ○ n/a  *reasons* _____

Move to a self-care or independent unit in a managed retirement village
○ yes ○ no ○ n/a  *reasons* _____

Move to a dwelling in an 'over-55s' or 'seniors living' housing development in the general community
○ yes ○ no ○ n/a  *reasons* _____

Move to a residential aged care facility (hostel or nursing home)
○ yes ○ no ○ n/a  *reasons* _____

Use professional care services in your home if you require assistance
○ yes ○ no ○ n/a  *reasons* _____

**Q18** Now, a few questions about you...

Your country of birth? _____ If not Australia, *how many years have you lived here?* _____

Your main language spoken at home? _____ Are you an Aboriginal or Torres Strait Islander? ○ yes ○ no

Your postcode? _____ Number of years you have lived in your current home? _____

Are you...?  ○ working full-time  ○ working part-time  ○ self-funded retiree  ○ pensioner/part pensioner  ○ other

Your annual household income (before tax)?  ○ under $25,000  ○ $25,000-$49,999  ○ $50,000-$74,999
○ $75,000-$99,999  ○ $100,000-$124,999  ○ $125,000 or more

**Thank you for your time.**

If you are willing to be contacted for a follow-up interview please add your phone number: (   ) _____

**Appendix 3: Follow-Up Advertisement in *50 something***

# Appendix 4: Project Information Statement

FBE HREAP **FORM 3 – PROJECT INFORMATION STATEMENT** January 2007

## PROJECT INFORMATION STATEMENT

THE UNIVERSITY OF
NEW SOUTH WALES

Date: **6 September 2007**
Project Title: **Dwellings and Land Use by Older Home Owners**
Funded by: **Australian Housing and Urban Research Institute (AHURI)
and the Commonwealth Department of Heath and Ageing**

Approval No.: **75054**

FACULTY OF THE
BUILT ENVIRONMENT

### Participant selection and purpose of study
As most senior Australians want to remain living in their choice of housing as they age, it is important that housing is available to suit their household, lifestyle and future care needs; and that governments, the private sector and the community are aware of older people's needs.

The City Futures Research Centre at UNSW invites senior residents to share your opinions on your future home by completing the Seniors Housing Survey. This survey is available in the October-November 2007 issue of the National Seniors Association magazine 50 *Something* or online at www.cityfutures.net.au.
You were selected as a possible participant in this study because you are aged 55 years or more.

This study examines how senior housing residents use their land and housing space, and aims to provide a far better insight into residents' needs and preferences for the housing environment as they get older. This will enable us to identify housing solutions that can make best use of available land and housing, while ensuring that older residents' housing requirements and preferences are met. While the study has a focus on home owners, the findings of the study will also assist in identifying appropriate housing solutions for older people in private and public rental housing.

### Description of study
If you decide to participate, we ask that you complete the Seniors Housing Survey, either in the October-November 2007 issue of the National Seniors Association magazine 50 Something, or online at www.cityfutures.net.au. The survey will take approximately 30-45 minutes. It is important that all responses are anonymous, so please do not include your name or address on the survey.

Following the survey, we will conduct 70 follow-up interviews with respondents from New South Wales, in order to obtain some additional in-depth information on requirements and preferences for the design and layout of housing space. If you would like to participate in one of the follow-up interviews, we will ask you to sign a consent form. These interviews will take approximately 2 hours.

### Confidentiality and disclosure of information
Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission, or except as required by law. For those agreeing to participate in the in-depth interviews, we would like to tape record the interview to ensure that your views and responses are accurately recorded. If you have any concerns about this process, please let us know.

The overall survey and interview findings will be integrated into a Final Report provided to the Australian Housing & Urban Research Institute (AHURI) and the Commonwealth Department of Health and Ageing. The Final Report will be available for download on the AHURI (www.ahuri.edu.au) and the UNSW City Futures Research Centre website (www.cityfutures.net.au). Selected findings may also be disseminated at conferences and in academic journals.

### Your consent
Your decision whether or not to participate in the follow-up in-depth interviews will not prejudice your future relations with The University of New South Wales or other participating organisations. If you decide to participate in one of the follow-up in-depth interviews, you are free to withdraw your consent and to discontinue participation at any time without prejudice by completing the statement below and returning this entire form to Bruce Judd, City Futures Research Centre, University of NSW Sydney 2052

If you have any questions, please feel free to ask Bruce Judd on (02) 9385 7777 or b.judd@unsw.edu.au.
(Signed)
(Name)

Complaints may be directed to the Ethics Secretariat, The University of New South Wales, SYDNEY 2052 AUSTRALIA
(phone 9385 4234, fax 9385 6648, email : ethics.sec@unsw.edu.au)

**REVOCATION OF CONSENT.** Project Title: Dwellings and Land Use by Older Home Owners
(Please send this entire form to the above address.)
I hereby wish to withdraw my consent to participate in the follow-up in-depth interviews for this research project. I understand that such withdrawal will not jeopardise my relationship with The University of New South Wales, other participating organisations or other professionals.

.....................................        ...................................................        ...................................
      Signature                                   Please PRINT name                                        Date

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