

Forsyth, Ann and Wendy Sarkissian (1994).

"Housing for Older Australians: Site-Planning Basics,"  
*Australian Planner* 31(3): 177-183.

## Introduction

Throughout the 1980s, planners and housing experts increasingly focused attention on a dramatic demographic shift: the ageing of the population. As the numbers of Australians over 65, but especially over 75, increased, public housing authorities, voluntary agencies and private developers concentrated on building, and expanding, their housing designed specifically for older people. Simultaneously programs like the federal Home and Community Care (HACC) scheme provided services to allow older people to stay in their existing homes.

This population growth prompted a new wave of studies (from participatory planning exercises and market research to academic surveys and post-occupancy evaluations) which tried to systematically evaluate housing and services for older people. This article draws on one part of that research, in both Australia and overseas, into the site planning of housing developments designed for older people. It outlines major findings and highlights some important issues which have not received much discussion in Australia.<sup>1</sup>

The article is in three parts. After a set of general objectives for the planning and design of housing for older people, the main part of the article presents basic guidelines for the location and planning of housing developments for older people. Finally, we provide a list of what we consider some of the most useful resources for the design of housing for older people.

While the paper is aimed at people proposing, or evaluating, larger developments of self-care units, many guidelines will be applicable to the development of other types of housing such as individual granny flats, supported accommodation (hostels), or dwellings for younger people with mobility impairments.

## Objectives

Variety is a key concept in the provision of housing for older people. Older Australians are if anything more "individual" with passing years, and will live in a variety of housing types and tenures and household or family arrangements. They may also have a wide variety of physical impairments (such as reduced mobility, frailty, reduced sight and hearing, and increased sensitivity to extremes in temperature), as well as changes in mental functioning, which will need to be catered for in housing. Physical design need not exacerbate the difficulties that many people experience as they grow older, rather it can support people by helping: conserve energy, reduce frustration, encourage social contact, and keep people mentally active and physically fit (CMHC 1983:2).

When older people move into purpose-built accommodation, their unit, together with the amenities and services provided, forms a new home environment. Home has deep symbolic meaning tied to security, independence, privacy, status and self expression. Just as in their previous home life, residents should be able to enjoy: the right to privacy, the option to decide on unit-sharing arrangements, voluntary participation in communal activities, and a voice in administration.

This set of considerations can be listed as a series of objectives relevant to all aspects of housing for older people:

- Provide variety and choice;
- Foster a sense of autonomy, independence and usefulness;

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<sup>1</sup> The authors wish to thank their colleagues with whom we have worked over the years at trying to figure out how to plan better housing for older people, in particular Pamela Esdaile, Kevin Taylor, Margarita White, Sevan Sivacian, Tim Schwager, Ann Cross, Louise Kelly, Lois Rothwell, Richard Lloyd, and Bruce Walker.

- Provide a safe environment;
- Reinforce individual levels of competency;
- Compensate for sensory and perceptual changes (for example increase the variety of textures to compensate for more common problems with sight and hearing), and for some decrease in physical mobility;
- Design for easy orientation;
- Encourage social interaction and participation in activities;
- Provide individual privacy;
- Allow personalisation and control over the environment;
- Provide for adaptability of design;
- Provide access to community services, facilities and information;
- Establish management policies on the use of facilities and activity programming;
- Improve the public image of older people (Jordan 1975:47-53; Carstens 1985:15).

### **Guidelines<sup>2</sup>**

The following twenty-three guidelines form a basic summary checklist for designing and evaluating housing for older people. The resource list at the end of the article contains references which deal in more depth with particular issues.

#### ***Location and site selection***

**Background:** Older people prefer living in their own homes as long as possible. However, rather than indicating their desire to live in a large home per se, this finding indicates that older people's existing homes satisfy other criteria: are close to family, friends, community networks, facilities and services; have been modified and personalised; and support a variety of activities.

#### **Guidelines:**

- Where possible locate housing in established residential areas close to essential public facilities and services.
- Avoid locations close to alleys and abandoned buildings; rather locate in areas perceived by older people as safe and conducive to outdoor activities including walking to services and to visit. These sites should not require "fortress" style designs which turn their backs on the street.
- Encourage the development of granny flats.

#### ***Segregation and integration***

**Background:** An extensive review of empirical studies of older people in age-segregated and age-integrated neighbourhoods showed that generally those older people who were unhappy in their living situation were those who had not had choice over where they lived (Forsyth 1987). Choice and variety seemed to be the key issues, with some older people preferring to live around younger people, particularly family members, and others preferring the company of their own age group.

#### **Guidelines:**

- Provide choice for older people in their housing location.
- Pay careful attention to the boundaries of the site so that older people do not have to "run the gauntlet" through a territory dominated by youths and children. Discourage children using the site in ways that are annoying or harassing.

#### ***Opportunities for activity***

**Background:** Older people, particularly those who have been recently widowed, or who are sensitive about their age and physical disabilities, may feel shy about social activities. On the other hand, many older people have more free time than at most other parts of their lives.

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<sup>2</sup> The guidelines draw upon our previous work in planning and designing housing for older people, in particular Sarkissian and Forsyth (1986). Other key references are listed in the resources list at the end of the article. In the interests of clarity and brevity, we have not keyed guidelines individually to their sources.

**Guidelines:**

- Provide opportunities for residents to engage in activities which they consider important and useful; for example using permeable materials so residents can personalise their homes with mementos, plants and other touches; or providing opportunities for gardening and entertaining. .
- Reduce the chance of serious accidents by conforming to AS1428; by lighting hazard areas such as changes in level, and by ensuring that telephones and other emergency call devices are available.

***Links with neighbourhood***

**Background:** Proximity and accessibility to neighbourhood services and facilities are major contributors to older people's satisfaction with their housing. Although not all residents will use all services, distances should be the same for residents of self-care and serviced accommodation. Although distance is important, the key issue is that the walk is easily traversed, level and hazard-free.

**Guidelines:**

- Locate the site entrance within a 200 to 400 (possibly 500) metre walk of a major transport stop which provides a link to essential services. A NSW Central coast study defined "reasonably frequent" transport as a minimum of four return services daily with two return services daily on weekends between 9 am and 5 pm. The service needs to be reliable with a direct connection to facilities at a reasonable cost (Central Coast 1984).
- Provide signs with easily accessible information about transport route and timetables.
- Locate housing within 400 metres level walk (or bus ride) from: grocery shop or retail centre with butcher, chemist, public park, church, senior citizens centre, barber/hairdresser, newsagent, laundromat.
- Locate housing within 800 metres level walk (or bus ride) from: post office, bank/cheque cashing, snack bar, dry cleaners, library, and hotel.
- Locate housing within public transport access of: department store, dentist, doctor, hospital, cinema, sporting facilities, nearest relative, adult education.

***Site planning***

**Background:** Site planning should aid orientation and provide a home-like environment.

**Guidelines:**

- Provide a site plan and circulation pattern that is easy to identify, remember and explain to visitors with clear unit addresses within the conventional system of streets, entries and units.
- Provide a clear and consistent distinction between the front and back doors of the units.
- Use natural and built landmarks and other "cues" such as colour and decorative planting to give identity to different parts of a large site.
- Provide a clear sign at the main site entry, at a scale suitable to the surrounding neighbourhood, and ensure that it is lit at night.
- Avoid fortress-type designs as they can become institutional and isolated. Designs that are more open encourage access and can be designed to reduce crime (see below).
- Focus housing located next to a medical facility away from the facility.

***Image and building form***

**Background:** People living in retirement housing in the 1990s grew up into adulthood, and formed their aesthetic tastes, in the 1920s through the 1940s. Detached houses were the aspiration, and in many cases, experience of this generation of Australians. In general, the development should also be compatible with the architectural character of neighbourhood residences.

**Guidelines:**

- Design the dwelling or development to 'read' as a home environment, with "domestic" touches. . Provide a sense of a house on its own land (even if that is not literally the case) by clustering and separating roof forms, and use of balconies, terraces, awnings and porches.
- Avoid long continuous buildings or rows of buildings.
- Avoid finishes which look "unfinished" unless they are common in the local area, but rather select materials consistent with those used in local single-family housing.

### ***Density and housing type***

**Background:** The number of units on the site, as well as how they are clustered and related to natural site elements, will affect the development's attractiveness. Although large projects generally have a negative image, size alone is a relatively weak predictor of overall satisfaction. Developments of more than 100 units do need extremely sensitive design to avoid their being perceived as institutions. To lower perceived density, the development should aim to look as much as possible like a group of individual dwellings with street frontages and private yards.

#### **Guidelines:**

- Limit the number of households sharing an entry to between 3 and 8.
- Provide sensitively landscaped open space, more than 9 metres wide, between fronts or backs for dwellings to filter views and contribute to privacy; however fronts of units facing each other across courtyards should be less than 30 metres apart to foster neighbouring.
- In larger developments, provide identifiable clusters of groups of up to 20 dwellings related to specific landscaped areas, or neighbourhoods of 80 to 100 units.

### ***Aspect and microclimate***

**Background:** As older people, particularly those with low-incomes and mobility impairments, spend much of their time indoors or near their homes, it is important that their home environment is as comfortable as possible.

#### **Guidelines:**

- In temperate climates, provide a northerly aspect for living areas, courtyards and balconies to permit summer sun to enter units while screening summer sun; in tropical areas emphasise ventilation and protection from the sun.
- Ensure units are buffered from excessive wind and winter draughts.
- Locate windows and doors to capture summer breezes.
- Avoid glare from blank walls facing windows.

### ***Vehicular access to and within site***

**Background:** While older people do not drive cars to the same extent as younger ones, they do use cars and depend for outings on friends and relatives who drive. Their older friends who may become disoriented will have difficulty finding a site which does not have a clearly marked entry.

#### **Guidelines:**

- Provide safe and convenient vehicular access to the site for day and evening use.
- Provide clear signage to direct vehicles around the site.
- Ensure that all signs, including those on nearby streets, are clearly lit.
- Avoid entries near bends or hills.
- Design entry drives to favour faster moving in-bound traffic and minimise turns.
- Road pavement widths are a trade-off. Narrower dimensions are generally safer from pedestrians. Wider dimensions are necessary for full manoeuvrability, and allow space for open car doors and people in wheelchairs. . Ensure that access for ambulances, funeral directors, and removalist vans is provided to all units.
- Provide easy access for other service vehicles, such as garbage trucks, without letting this access dominate the site plan.

### ***Parking provision, location and design***

**Background:** Parking design should allow easy circulation and prevent confusion with parking spaces easily accessible from units. Specific provisions will depend on local council requirements and car ownership rates. Parking should not dominate the site or disadvantage pedestrians.

#### **Guidelines:**

- Provide clearly sign-posted spaces for short-term visitor parking close to the main entry so it is the first parking space visitors pass: locate this parking in front of dwellings (to allow residents to see approaching visitors).
- Design parking in a straightforward and consistent manner.
- Provide clearly marked parking for people with disabilities close to the main building entrance so they do not have to use a separate back entrance.
- Provide extra spaces for boats, caravans and trailers. A Central Coast study suggested one additional space for every twenty units (Central Coast 1984).
- Provide open spaces for washing cars and for car maintenance.
- Locate parking spaces no further than 45 metres from the main entrance, individual unit, or (for underground parking) from the lift.
- Locate away from shortcuts which teenagers may use through the site.
- Wide two-way aisles are better than one-way aisles which may be confusing. It is unwise to mix one-way and two-way aisles.
- Because of reduced peripheral vision in older people, parking area layout should not require good driver vision to the extreme left or right.
- Underground car parks require very careful design to minimise problems of crime. . Use trees to shade cars.

### ***Getting picked up or dropped off***

**Background:** Convenient, easy to find pick-up and drop-off places, with comfortable waiting areas are important to older people.

#### **Guidelines:**

- Provide a lit bus stop with seating, reached by a safe pedestrian crossing, near the main entrance, or on the edge of the site with a good view of coming traffic. Overhead shelter is recommended.
- Provide covered drop-off areas for wheelchair users on the same level as the building entrance.

### ***Pedestrian segregation and traffic management***

**Background:** Pedestrian safety is a critical concern to older people. The pedestrian casualty rate is highest for those aged 5 to 14 and those 65 and older.

#### **Guideline:**

- Make street crossings safer by: reducing the distance across traffic lanes; increasing time provided at crossings with signal lights; reducing or marking barriers such as curbs; increasing visibility; and limiting or modifying traffic flow along major pedestrian routes by use of speed humps etc.

### ***Pedestrian access to and within site***

**Background:** Older people value strolling and many use walking close to home as their main form of exercise. As the majority of older people are women, safety of access is a primary consideration, particularly at night.

#### **Guidelines:**

- Locate the development to give it a natural pedestrian and visual focal point or "gate way".
- Make sure parking areas do not block pedestrian paths to and from the site.
- If non-residents use the site as a short cut, either stop this by placing a barrier, or channel it by providing at least one legitimate shortcut which does not violate resident territory.
- Provide one major pathway which connects most units to on and off-site activities. So as not to violate other residents' territory, the path should go past but not through activity areas: paths to the fronts and backs of units should be clearly differentiated; and paths to activity areas should not pass through semi-private residential areas (see illustration 1).
- Provide options for choosing alternate routes, including longer routes for recreational walking.
- Develop pedestrian routes in a series of hierarchies, including major public routes giving access to community facilities, to cluster and unit access routes.
- Provide firm and level surfaces with kerb cuts, ramps and handrails where necessary. Although the whole site should be accessible to people in wheelchairs, for certain mobility impairments steps are preferable to ramps and thus the two should be used in parallel.
- Treat path edges carefully to avoid older people tripping, and to prevent plant materials falling on the path and making it slippery.

### ***Pedestrian access to multi-unit buildings***

**Background:** For residents with restricted mobility, convenient, safe access to building entrances becomes increasingly important. The closest door in a multi-unit building is likely to be used as the main door for residents, particularly in bad weather, even if this means using back doors which pass through residential areas. Older people's eyes may adapt to changes in lighting levels more slowly, momentarily blinding them as they move indoors and so care must be taken to minimise glare and hazards.

#### **Guidelines:**

- Provide entrances which appear "private", are safe from intruders, and are located on the most direct convenient route from transport or path systems.
- Ensure that residents moving from the parking area to the main entrance of a multi-unit building do not pass other residents' units.
- Provide a wide canopy, extending over the drop-off area at the main building entry, to act as a front porch.
- Keep the entry area free of hazards and provide handrails and vertical elements for holding onto.
- Provide automatic sliding entrance doors, or single-leaf swing doors at least 810 mm wide with large lever type door handles.

### ***Strolling and sitting***

**Background:** While strolling is popular, rest areas are necessary for ambulatory people and wheelchair users alike. The strolling route and seating areas need privacy, protection and visual complexity.

#### **Guidelines:**

- Provide paths with a variety of spaces, and with different levels of "difficulty" arranged in a series of longer and shorter loops, as some residents are very mobile. Include natural or constructed destination points such as gazebos, duck ponds, or a picnic area.
- Light paths well for evening use.
- Provide comfortable seating with backs and arms, in a variety of arrangements, at intervals of not more than 65 metres along the major path.
- Locate seating to take advantage of interesting scenes, without interfering with pedestrian movement or dwelling privacy. For fixed seating, ensure that space is available for people in wheelchairs to join the grouping. An area of 1525mm by 1980mm allows for manoeuvring a wheelchair into place, although a wheelchair can fit in a space 700mm by 1100mm.
- Locate seating to avoid extremes of sun and wind.

### ***Outdoor Community Space***

**Background:** The primary reasons for using shared outdoor space are recreation, social interaction and being near the activity of others. Basic considerations in design of communal outdoor spaces should be: safety, security, negotiability, ease of access and comfort. Clustering outdoor spaces together provides more opportunities for meeting others involved in different activities.

#### **Guidelines:**

- Clearly indicate the uses of particular outdoor areas and avoid multi-purpose spaces as confusion may result especially among mentally frail older people. Spaces can, however, be grouped in close proximity and subtly defined with such elements as wells, planting, fences, and changes in colour and texture (see illustrations 2 and 3).
- Avoid isolated outdoor spaces which have no connection to other spaces and activity.
- Create a separate area especially for use by men who are outnumbered in older age groups.
- Relate shared outdoor activity spaces to the main pedestrian circulation route or to indoor community spaces, and provide some separation from residences.
- Ensure that shared spaces will not be mistaken for a public park.
- Provide a carefully designed play area for visiting children in a location where residents and watch without having their privacy invaded. . Provide opportunities for gardening and include raised beds, 600mm high for wheelchair users and 750mm high for people who have trouble bending.

### ***Landscaping image and function***

**Background:** For housing at medium densities landscaping can literally make or break the development. Older people, who spend much of their time at home, value the opportunity to see trees, flowers and animal life and to have contact with the natural world by walking or by observing landscaping from their units. Landscape design and selection of plants requires a balance between visual and sensory variety, and providing unity or coherence to aid orientation.

#### **Guidelines:**

- Select plants and landscape features to create a garden-like appearance and not a park-like one.
- As fallen leaves and fruits pose a hazard for walkers, select trees which have leaves which will not be slippery; plant fruit trees away from paths.
- Select a variety of plants including some flowering plants, and some which are perfumed or change colour.
- Locate gardens where they are visible from dwellings.

### ***Security and crime prevention***

**Background:** The older years are a vulnerable time physically and psychologically. Failing eyesight and reduced physical strength cause many older people to feel vulnerable in their housing environments. Many old people fear crime and fear of crime can be as powerful a factor as crime itself. Security and crime prevention were the most important issues in a survey of older public housing tenants in Sydney (Sivaciyan 1986) and surveys generally show high levels of fear of crime among older people in large communities and those who live alone.

#### **Guidelines:**

- Place windows and orient entries to maximise natural surveillance of the site.
- Ensure that residents can see who is at the door before opening it.
- Provide choices for residents between ground-floor and upper level units, as not all will wish to live on the ground floor for security reasons.
- Make sure that site entries are narrow enough to appear private, while not creating a place for an intruder to hide.

- Be cautious about using only a change in paving to differentiate between public and resident areas, as it is unlikely to deter intruders, especially at night.
- Provide clearly defined yards, or raised planter beds, as buffers between private interior and communal outdoor uses.

### ***Dwelling entry***

**Background:** As Zeisel et al. (1983:108) state quite eloquently: "entering into a place where a person lives is more than just passing through the front door. In a single-family house, it typically includes passing through a front yard, a porch, a door and an entrance hall. Even in a mid-rise apartment, this unit edge is a zone with thickness rather than a thin wall. In this zone residents prepare to present themselves to the rest of the world by doing things such as putting on coats and boots. Residents also present themselves to others symbolically at the unit edge with decorations saying 'this is who I am and where I live'. The unit edge is where residents deal with problems like carrying packages while opening the door and controlling access by outsiders."

#### **Guidelines:**

- Provide each unit in a multi-unit development with a separate entry which is clearly delineated by colour, decoration, a small porch or "porch-like" transition area or recess, and which has a "conventional" address (see illustration 4). This transition space can be created in units with access from corridors, as well as in those with external access.
- Provide private entries to as many ground floor units as possible.
- Clearly differentiate between the front door and back door.
- Ensure entries do not face each other directly across a corridor, or are directly opposite lifts.

### ***Private yards***

**Background:** A pleasant, easily accessible, fenced private outdoor yard is essential for resident satisfaction. Private yards or balconies provide an extension of the indoor space of a dwelling.

#### **Guidelines:**

- All units must have fenced private open space, either a yard or a balcony. Front display gardens are not essential.
- Locate the space to offer views of activity.
- Promote privacy by staggering units, and by using high-level windows in adjacent units.
- In temperate climates orient for solar access to allow sitting out in winter, gardening, and clothes drying; ensure that there is shade in summer months.
- To allow for activities such as gardening, entertaining, and drying laundry, yards should have one dimension at least 3.7 metres, with a minimum area of 9m<sup>2</sup> with 14m<sup>2</sup> preferred.
- Consider using "cut-out" fencing which allows either for complete privacy if filled in or planted, or for some surveillance of the common open space if left open.
- Avoid horizontal wooden slats which are easy to climb; vertical slats (150mm wide with 50mm gaps) can provide privacy and fleeting views.
- Provide an external light.

### ***Balconies***

**Background:** Balconies provide private open space at upper levels and should be designed for year-round use.

#### **Guidelines:**

- Provide balconies for units up to the 12th floor. Over this height, older people may feel unsafe.
- Design the primary balcony as a physical extension of the living area, not the bedroom.
- Minimum clear width should be 1800 mm, with 2000 mm preferred to allow movement in a wheel chair or conversational furniture placement. Minimum size is 4.65m<sup>2</sup>.
- Conversational furniture grouping needs to be accommodated so that tables and chairs are not so close to the railing that children can climb on them and leap off!
- Locate the balcony so that it does not block all views to the ground from indoors.



- In temperate climates orient balconies for maximum sunlight; protect from extremes of weather by using such elements as blinds, awnings and recesses.
- Balcony railings should be 1200mm high with spaces between vertical elements not greater than 100mm to promote a feeling of security, but have some open construction to allow a view out and downward from a seated position. For example, a low masonry wall with vertical metal bars topped by a solid railing at 1200mm would fulfil these criteria.
- Promote privacy by: designing balconies so residents can easily enclose or screen, separating balconies by at least 6 metres, recessing, or providing solid walls between balconies.
- Ensure that light bulbs can be changed without needing to climb onto a stool etc.

### ***Siting of community facilities for use by non-residents***

**Background:** If facilities are provided on site for use by non-residents, care must be taken to integrate the facilities with the surrounding neighbourhood without violating residents' privacy and security.

#### **Guidelines:**

- Locate these facilities in areas where they are easy for non-residents to identify but so that outsiders are not forced to walk through the site to get to them.
- Provide separate resident and non-resident entrances.

### ***Garbage and recycling***

**Background:** Although the design cannot influence the quality and frequency of garbage collection, it should acknowledge the need to deal with garbage and recycling collection vehicles and personal and whole site garbage collection.

#### **Guidelines:**

- Locate private garbage area close to kitchen entrances.
- Allow enough space for the storage of separated recyclables, including on-site composting.
- Provide individual bins rather than large containers.
- Provide a convenient way of disposing of bulky items.

## REFERENCES AND RESOURCES

The most useful and design-oriented references are marked with an asterisk. Other references are included as a guide to further reading or as a starting point for research. As the academic literature evaluating environments for older people is quite extensive, we have tried to select recent work by prominent researchers. However, we have included some older studies.

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