

**Mirvac Fini: Burswood Lakes
Public Open Space and the Needs of Older People
in the Residential Environment**



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Working Paper 8:

*Public Open Space
and the Needs of Older People
in the Residential Environment*

**Mirvac Fini
Burswood Lakes**

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1.0 Introduction

This *Working Paper* is designed as an integral contribution to the landscape master planning process for Burswood Lakes. While it is acknowledged that there is no intention that Burswood Lakes is to be 'retirement community', demographic realities and future trends will significantly affect the population of this residential community. We can expect a population of ageing Baby Boomers, who are likely to have considerable contact with young children as part of their daily lives. Many of the older adults who choose to live at Burswood Lakes will work from home in consultancy arrangements. A separate *Working Paper* will address the particular needs of this group.

While it is true that Australians are living longer and are more energetic as they age than their counterparts some years ago, there are certain inevitable characteristics which accompany the ageing process. A wide body of research literature has documented the generic physical and psychological characteristics of an ageing population. Again, while not focusing on matters such as disability or frailty, it is widely accepted in social design circles that a physical environment that supports the requirements of older people is likely to support the needs of a much wider segment of the population. For example, older eyes are more susceptible to glare. Designing the transition from the interior of a dwelling's entry to the outside public realm to enable eyes to adjust to light changes simply makes it easier and safer for all users undertaking this transition. Equally, younger, able-bodied people can also slip on wet leaves that have blown onto a pedestrian path. While the consequences for younger bodies may not be so severe, the simple decision to contain landscaping in beds with raised borders will reduce the chances of an accident on a pedestrian path in wet weather.

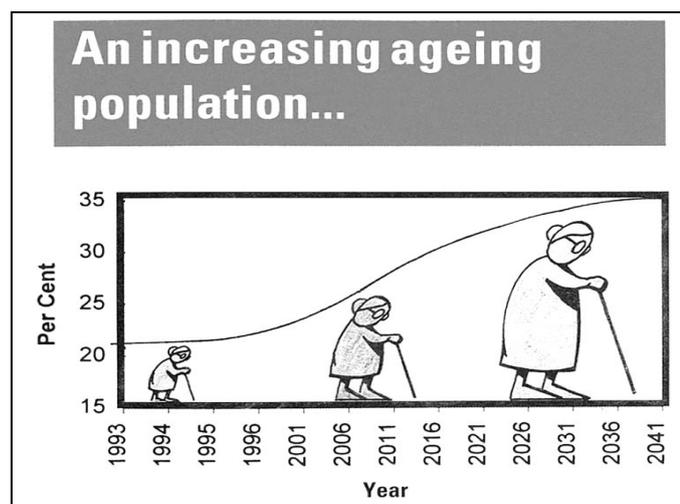


Figure 1: An ageing male and female population

For the purposes of this *Working Paper* older people are defined as any residents and their visitors who are aged more than 55 years or who are retired or semi-retired.

Because of the great variability in the levels of fitness in older people, we must clarify that we are not talking about the 'frail old-old' component of the older population. We expect that this group will have a higher proportion of women than men as a result of the shorter life-expectancy of the Australian male (see *Figure 1*). As the population of Burswood Lakes ages, the proportion of women will inevitably increase. Further, as Australians are indicating a preference for 'ageing in place', many of these older women are likely to prefer to remain within the familiar residential environment of Burswood Lakes with its convenient access to public transport and entertainment facilities. This ageing population will greatly benefit from the foresight of the developers in providing at the outset a physical environment that is safe, comfortable and congruent with their needs.

While it is not expected that members of this age cohort will have young children living at home on a permanent basis, recent Australian Bureau of Statistics (ABS) research reveals that a very high proportion of older people have regular care of young children. This trend is likely to continue and the proportion is likely to increase, as young couples struggle to maintain the level of income necessary for house purchase and the increase in costs and demands of modern living. Child-care is increasingly expensive and many parents are turning to their parents to provide child-care on a regular basis. The implications for Burswood Lakes are that, while designing for a mature population, it will also be necessary to make specific provision for children and the supervision of children's play.

These older people and the children for whom they will be responsible need to be protected from inappropriate behaviour or crime within the residential environment. Thus, the guidelines contained within *Working Paper 5: Illustrated Crime Prevention through Environmental Design* and *Working Paper 6: Guidelines for Children in the Outdoor Residential Environment*, specifically address the needs of matters related to crime prevention and safety, and children, respectively. Again, an environment that is appropriate for the needs of these two groups is likely to support the needs of others.

1.1 Contents of this working paper

This *Working Paper* focuses on the outdoor residential environment and specifically ways in which the planning and design of common (or shared) open space and the wider public realm within Burswood Lakes can support the needs of older people. The material in this *Working Paper* is complemented by *Working Paper 7: Planning and Design of Public Open Space in Burswood Lakes*, which addresses urban open space and park provision in a more general sense. Critical to the success of residential areas for older people is the acknowledgement of the primacy of the **hierarchy of open space** (see *Figure 2*). This means that there needs to be clearly distinguishable difference among the following: the private space, garden, terrace, balcony or yard of the dwelling; the common or shared open space which is regarded as the territory of a group of dwellings (often in a cluster configuration); and the wider public open space of the whole residential environment, which can be used by all residents for active and passive recreation.

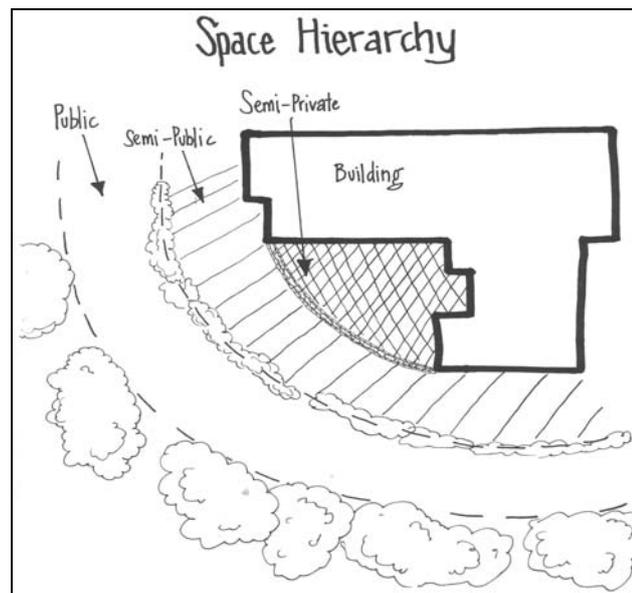


Figure 2: Space Hierarchy

It is assumed that, with the exception of the public path which accesses the Golf Course along the southern boundary of the site, all of the open space areas described above are to be designed for the use and enjoyment of the residents of Burswood Lakes and not primarily for non-residents.

1.2 Characteristics of older people

Older people are not a homogenous group. They have a range of needs and preferences. However, they do share a number of common general qualities and characteristics as a result of the ageing process:

- ◆ Possible sensory and perceptual changes;
- ◆ Potential decrease in physical mobility, changes in muscular efficiency and co-ordination - older people are generally slower, less strong, accurate and confident in walking, climbing, gripping, lifting, pushing and pulling;
- ◆ Potential loss in comprehension and orientation, including: memory loss, forgetfulness, disorientation and incoherence; and
- ◆ Possible reduction in social contacts, caused by retirement, loss of health, death of intimate friends etc.

In addition to the above general characteristics, older people also experience changes in customary roles, rights and duties. These common general qualities and characteristics of ageing are also sometimes exacerbated by some of the following issues:

- ◆ Low income;
- ◆ Suitable housing;

- ◆ Poor nutrition;
- ◆ Personal mobility and transportation;
- ◆ Educational opportunities;
- ◆ Isolation, loneliness and marginalisation; and
- ◆ Health.

1.3 *The needs of older people in the residential environment*

All the guidelines in this *Working Paper* support a primary objective: providing open spaces that are suitable and appropriate to the needs of older people. Clearly, the aim is to achieve a residential environment that facilitates rather than hinders independence and interaction.

Significantly, older people, whether they are retired or working from home, spend a much larger proportion of their time within the residential environment than do younger people. They are keenly aware of the patterns of the sun, which parts of a landscaped area are cold and windy and where they can conveniently retreat during times of stress. (The same factors apply to the design of the dwelling itself and will be addressed in a forthcoming *Working Paper*.) Because many older people are also keen gardeners, they may perceive the contributions of the landscape designers as being inappropriate to their needs, if the design is not congruent with their tastes. It is important to bear in mind, with respect to landscape design, as well as dwelling design, that the aesthetic values of this user group were formed in the 1950s or earlier. Opportunities for residents to contribute to the landscape will be highly valued and an overall aesthetic that is not inconsistent with the qualities of the domestic gardens that many of these residents will have recently left will undoubtedly be appreciated.

Moving house can bring mixed emotions: the excitement of moving versus the work involved in making the transition; the prospect of a new environment, new people and new experiences versus separation from the familiar; what to keep and what to take, and how to dispose of those items not taken. For older people who tend to value certainty, routine and security, moving can be psychologically and physiologically demanding. Further, the additional stress of moving from the family home can significantly contribute to levels of stress and the psychology of social exclusion and potential isolation. These factors can be further exacerbated when the motivation to move is not of one's own choosing, for example, brought about by death, separation, economic difficulties, relocation for work, relocation for health or healthcare facilities, etc. Importantly, the new home needs to provide a supportive and congruent environment for psychological and physiological health, factors fundamental to 'social capital'. Personalisation of the environment fosters a feeling of 'ownership' and a sense of belonging and security; the older person is making their territory their own. This individuation and the physiological benefits for the older person cannot be over-emphasised.

1.4 Authorship and acknowledgments

This *Working Paper* was written by Dr Wendy Sarkissian and Beauford Stenberg, based on earlier research by Wendy Sarkissian, Ann Forsyth, Pam Esdaile, Sevan Sivacian, and Marguerita White. Illustrations are by Steph Walton and Andrea Cook, based on earlier drawings by Kevin Taylor, and adapted from illustrations in published literature. Photographs are by Wendy Sarkissian unless otherwise indicated.

2.0 Public open space and the needs of older people

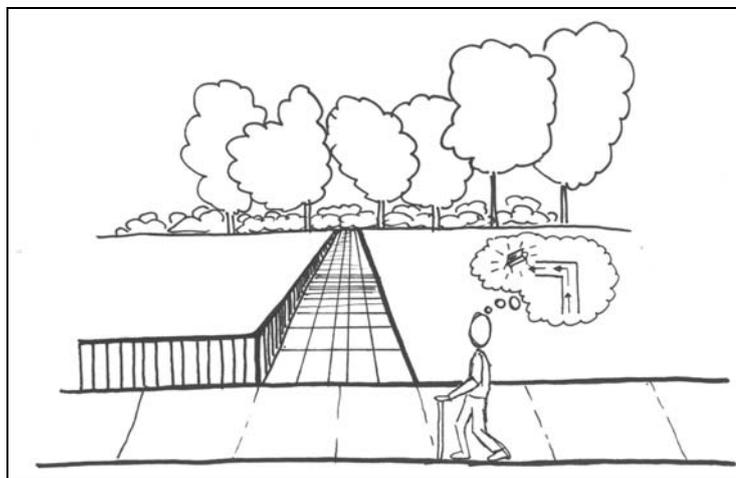


Figure 3: Making sense of the physical environment

The physical environment, particularly open spaces, should have six principal qualities if it is to meet the needs of its older users. It should:

- ◆ Make sense;
- ◆ Offer potential for exploration;
- ◆ Permit role choices and support new behaviour;
- ◆ Be accessible to all people;
- ◆ Foster independence; and
- ◆ Be economical to build and maintain.

The open space environment should make sense (see *Figure 3*) so that older people are not confused. Visual cues (landmarks, signage etc.) and tactile cues (handrails, wall and path texture changes, see *Figure 4*) should provide information about location and pathways so that older people can orient themselves and navigate with ease. Then it will be easy for the older person to have a cognitive or mental map of the environment.

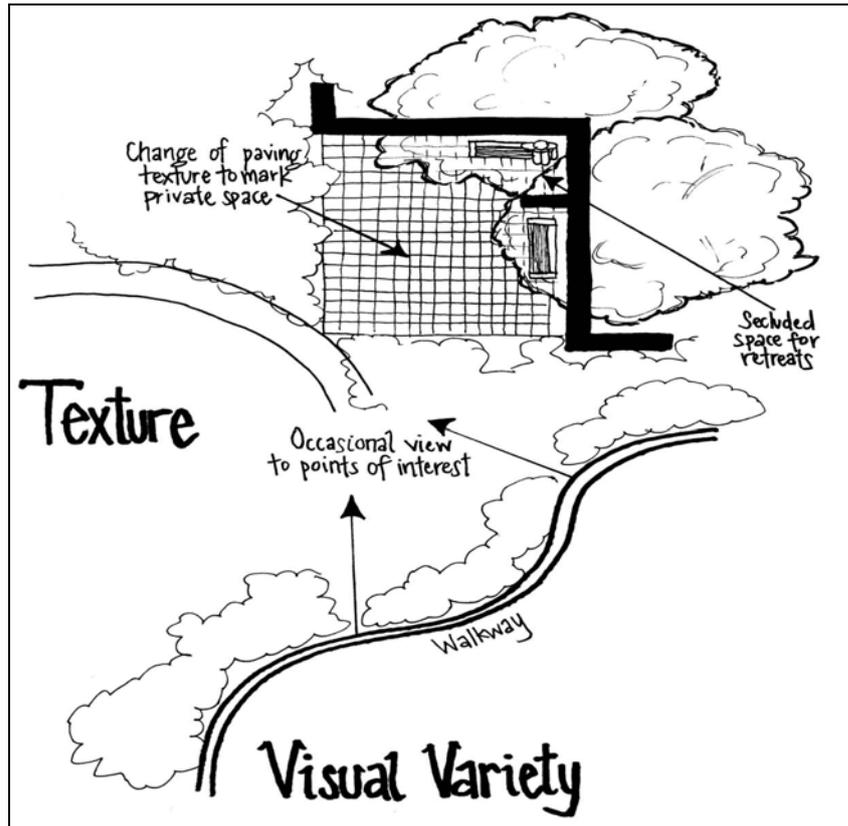


Figure 4: Texture and visual variety

The residential environment should offer older people the potential for exploration. In this context, 'exploration' should be understood as providing diverse and discoverable objects, textures, experiences and sensations with an abundance of choice and possibility. This exploration should also provide sensual exploration to cater for people with a sensory disability or impairment (visual, auditory, kinaesthetic). This aids direction and orientation, as well as contributing to the aesthetics and textural variety of open space. For an example see *Figure 13: Texture in the environment*.

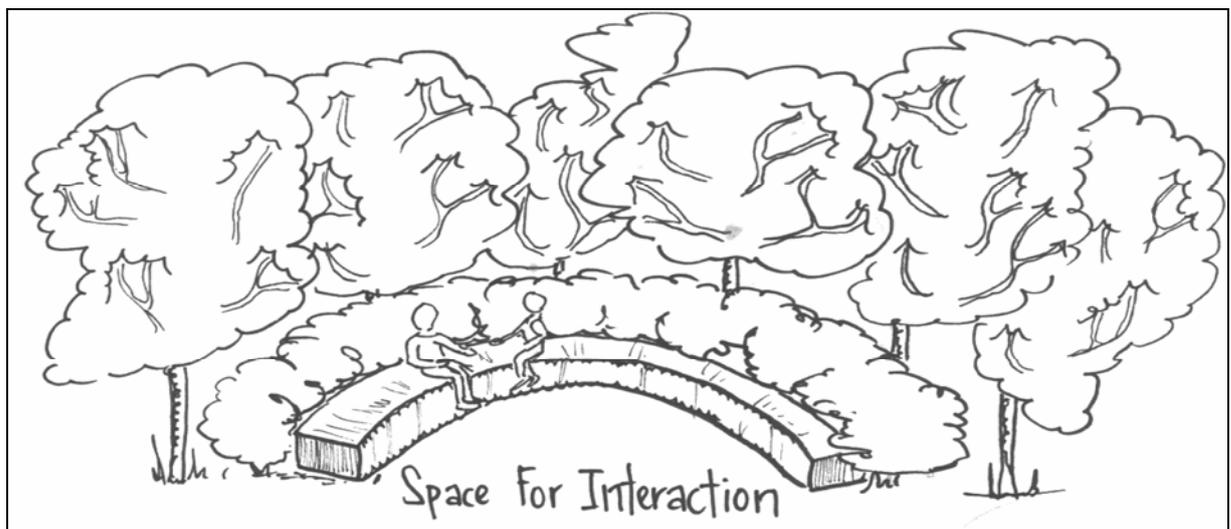


Figure 5: Space for interaction

The residential environment should permit role choices and support new behaviour. It should provide opportunities where older people can choose to be in an isolated niche, in an area that encourages or increases the opportunity for sociability (see *Figure 5*), or a location that vicariously includes them yet preserves their spatial separation (see *Figure 6*). Older people generally fall easily into routine; therefore, supporting and encouraging new behaviour of older people through the suitable designing of open spaces is important.

Even though certain open spaces should be designed to encourage a certain kind of user group through designed 'ownership', the outdoor environment should cater for a diverse community and their different accessibility and requirements. The residential environment should be designed to foster and encourage independence. Autonomy, independence, and usefulness are fostered by providing personalisation opportunities and control over the residential environment - both indoors and outdoors.

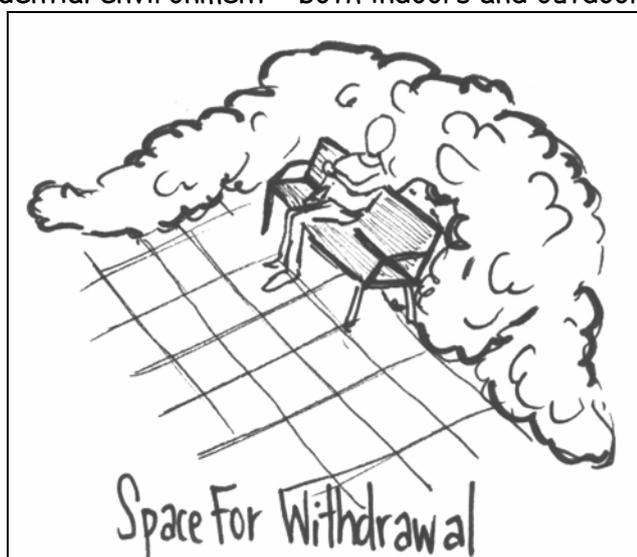


Figure 6: Space for withdrawal

Key factors influencing the design of outdoor residential environments for older people include:

- ◆ Options/variety in types of spaces, their potential uses, location and degree of shelter afforded;
- ◆ Proximity to main circulation routes and to common activity spaces;
- ◆ Contact with visual/aural pleasures of the natural world;
- ◆ Opportunities for personalisation and territorial expansion;
- ◆ Security and freedom from intrusion and outsiders;
- ◆ Location within hearing and sight of other tenants; and
- ◆ Accessibility to individual units and dwellings.

The following features can enhance residential satisfaction:

- ◆ Outdoor community spaces designed and located to reflect user needs and encourage maximum use and enjoyment;

- ◆ A variety of types of spaces, potential uses, location and degree of shelter; and
- ◆ Variety of exercise and recreational activities (active and passive) opportunities for personalisation and territorial expression.

The following general requirements should be considered:

- ◆ Uses of the place clearly defined;
- ◆ Variety of spaces;
- ◆ Variety of seating options;
- ◆ Barrier-free environments;
- ◆ Take into account heat, cold, sun, glare, shade and wind; and
- ◆ Adaptable for changing population and their needs.

3.0 Design of outdoor spaces

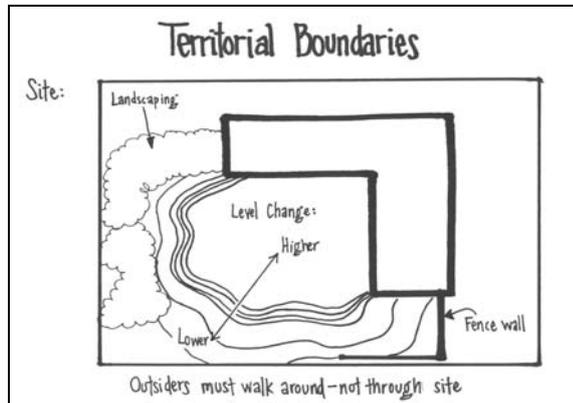


Figure 7: Territorial boundaries

This section addresses the planning and design of outdoor space. The primary reasons for using outdoor spaces are for social interaction and being near the activity of others. Clusters of housing around common (or shared) outdoor spaces provide opportunities for meeting others, as well as an opportunity to engage in specific activities (see *Figure 8*).

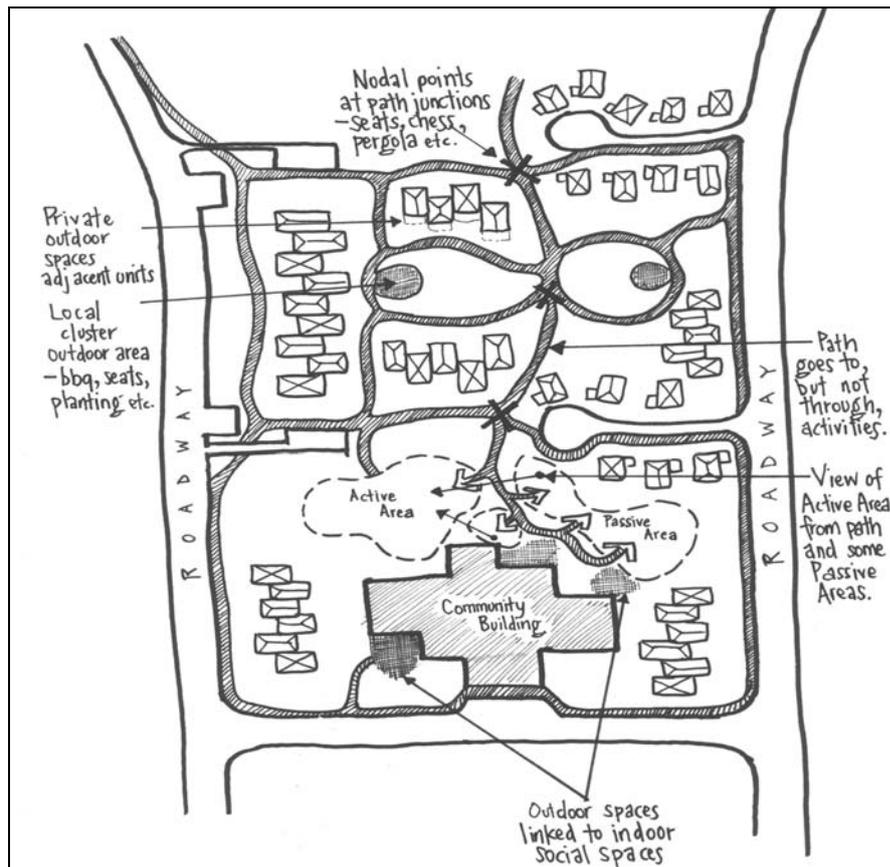


Figure 8: Open space design

To facilitate a positive relationship between older people and their outdoor residential environments:

- ◆ Make clear to which specific group of dwellings each outdoor space 'belongs' to provide focal points or landmarks in the common (or shared) open space (see **Figure 7**). These can include fountains, bird feeders, trees, clock tower, flag pole, fish pond - to aid orientation and interaction;
- ◆ Provide a variety of outdoor spaces designed for specified activities like: sitting in the sun or shade, alone or in a group; outdoor games; barbecues; gardening; walking without barriers or steep slopes;
- ◆ Provide outdoor facilities for adult sport and leisure;
- ◆ Make sure the types of activities are appropriate to the adult population (their age, ethnicity and so on);
- ◆ Set aside some areas (possibly raised planter beds in sunny locations) on the site where residents can garden; Provide tool storage, seating and running water. Make sure that these gardens are visible from community open spaces and units;
- ◆ Locate a carefully designed children's play area (for visiting children)¹ where residents can watch without having their privacy invaded;

¹ As noted in the introduction, it is expected that a high proportion of older residents of Burswood Lakes will have regular care of children, most likely their grandchildren. The careful integration of the needs of older people with the needs of young children and their supervision by adults will ensure that there are no conflicts between these user groups.

- ◆ Locate shared areas so that they are accessible and visible from a maximum number of points, while ensuring that individual units maintain their visual and acoustic privacy;
- ◆ Locate outdoor games areas along major pedestrian routes or near the community centre so residents can casually stop and join in;
- ◆ Provide shaded seating and storage near outdoor games areas;
- ◆ Provide a landscaped seating area near the entry to the development, where residents can watch the main 'action'. Take care, however, that people entering do not have to 'run the gauntlet' of onlookers;
- ◆ Locate shared patios (or other common or shared open space) for parties and barbecue areas next to interior community areas;
- ◆ Ensure that common open space shared by residents of a group of dwellings has been designed so an outsider would not mistake it for public open space; and
- ◆ Explicitly state what each outdoor community space is to be predominantly used for.

4.0 Recreation



Figure 9: Planning for recreational equity

Loss of status because of retirement, reduced income and a youth-oriented society require opportunities for older people to learn and engage in new activities in outdoor areas. The outdoor residential environment can greatly support this objective.

To encourage and support recreation, active and passive activities and new learning and social opportunities:

- ◆ Provide a range of activities/spaces for active and passive recreation (see *Figure 9*);
- ◆ Provide appropriate hard surfaces and soft surfaces for activities;
- ◆ Install active 'doing' spaces;
- ◆ Provide appropriate viewing and observation areas so people can easily see landmarks, significant landscaping, recreation and activity areas, eg. fountains, bird feeders, gardens, picnic area etc.; (see *Figure 10*)

- ◆ Provide a garden-like setting with trees to stroll through;
- ◆ Promote and support socialising and game playing through the design of appropriate facilities and spaces;
- ◆ Provide storage for special equipment;
- ◆ Provide comfortable sitting and socialising areas; and
- ◆ Provide secluded 'retreats' and reflective niches.

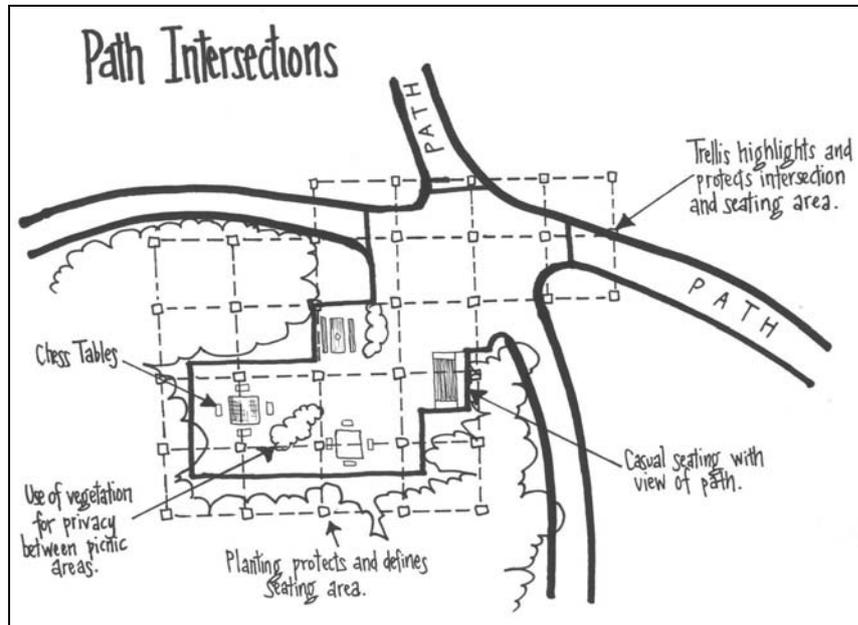


Figure 10: Path intersections

5.0 Casual social encounters near home

As one of the pervasive characteristics of older people is their inability or aversion to engage more than 8 to 10 people at one time and/or navigate larger or more complex spaces, it is important to provide an environment that supports casual social encounters near home (refer *Figure 11: Shared Residential Open Space*). Therefore, small, comfortable spaces that support intimate sociability are highly valued.

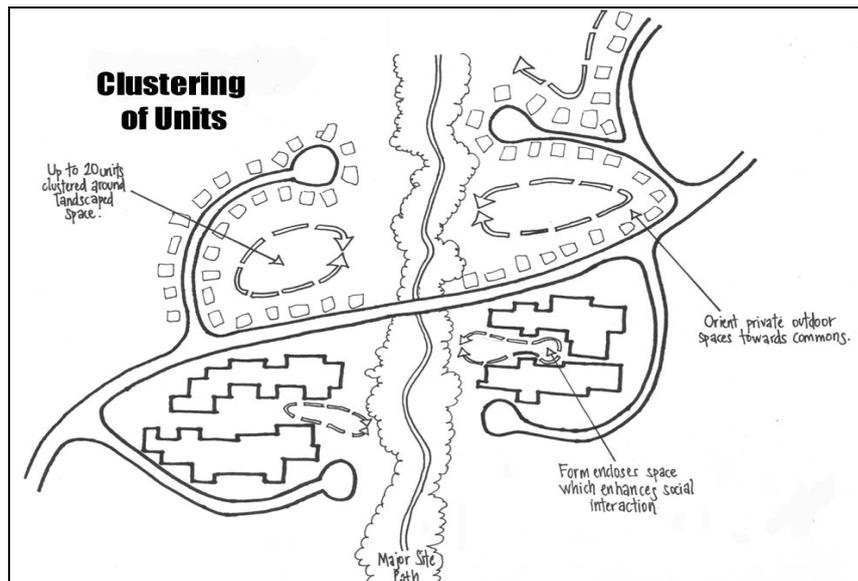


Figure 11: Shared or common open space

To support casual social encounters in the residential environment:

- ◆ Arrange dwellings and open spaces so that neighbour and social contact is possible without being forced;
- ◆ Ensure that doors do not face each other across walkways;
- ◆ Avoid isolated dwellings, structures, landmarks etc., at ends of corridors or walkways;
- ◆ Ensure interior and exterior common or shared spaces are surrounded by clusters of dwellings;
- ◆ Provide entry and/or parking space within visual and verbal communication distance from adjacent public circulation space;
- ◆ Arrange communal facilities, like rubbish bins and mail-boxes, to have comfortable seating or a suitable social environment nearby to facilitate neighbourly communication;
- ◆ Provide comfortable seating and suitable social environments near entranceways and throughways;
- ◆ Provide outdoor seating areas large enough to accommodate several people without conflict;
- ◆ Locate sitting areas on grade near units where older residents can meet each other and greet passersby; and
- ◆ Plan small, defined outdoor spaces (see *Figure 12*).

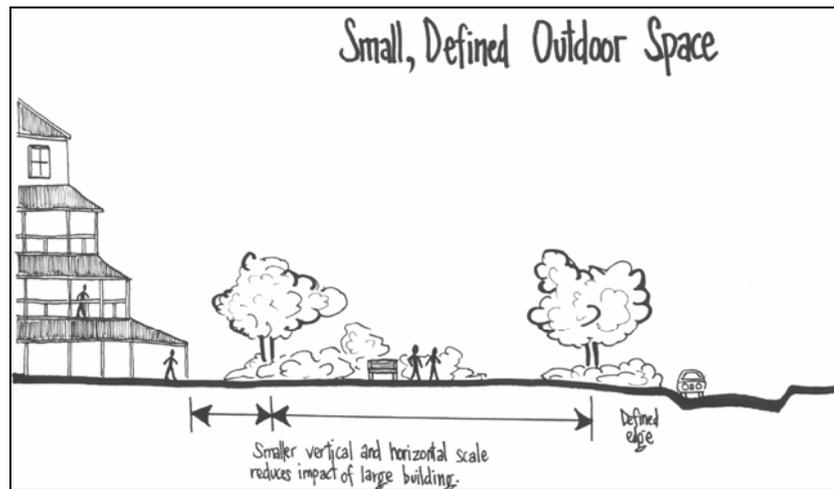


Figure 12: Small, defined outdoor space

6.0 Landscaping

This section examines landscaping suitable for residential environments for older people. As the majority of older people tend to spend a great deal of time at home, gardens, parks and landscaped areas nearby are extremely important. Older residents especially value the natural environment and often gardens and gardening are an active interest and hobby. They also value the visual, auditory, kinaesthetic, olfactory, tactile, and social opportunities that landscaped open spaces provide.

The guidelines in this section are: space hierarchy; sensory stimulation; natural features; group territories; landscaping detail; garden-like appearance; landmarks and provision for maximum use; trees and shrubs; planting edges; awareness of nature; raised flower beds and safe landscaping, among others.

As visual acuity is often reduced with age, all landscaping and plant choice must be selected to be hazard-free and provide and encourage an environment of sensory stimulation (see *Figure 13*). Importantly, plan for growth and change. Landscaped open spaces should permit redesign during the life of the development. Recreation patterns and open space users may change. Opportunities should be provided for intimate contact within small groups, while still providing visual and acoustic privacy. 'Togetherness' should not be sought as an aim if individual privacy is to be sacrificed. The design should be for choice: to interact or not.

To ensure an appropriate and supportive open space landscaped environment for older people:

- ◆ Convey a planned space hierarchy, communicating a clear transition from neighbourhood public space to private space (see *Figure 2*:). This increases control over use and defines areas for residents only;

- ◆ Select landscaping materials for safety and security²;
- ◆ Ensure that landscaping and vegetation are in harmony with nature, enhance natural features of the site and promote natural beauty, comfort and security;
- ◆ Employ plants to provide shade, privacy, define areas, reduce local wind velocity, provide seasonal interest, screen undesirable views and provide a refuge and source of food for animals and insects (see *Figure 14*);

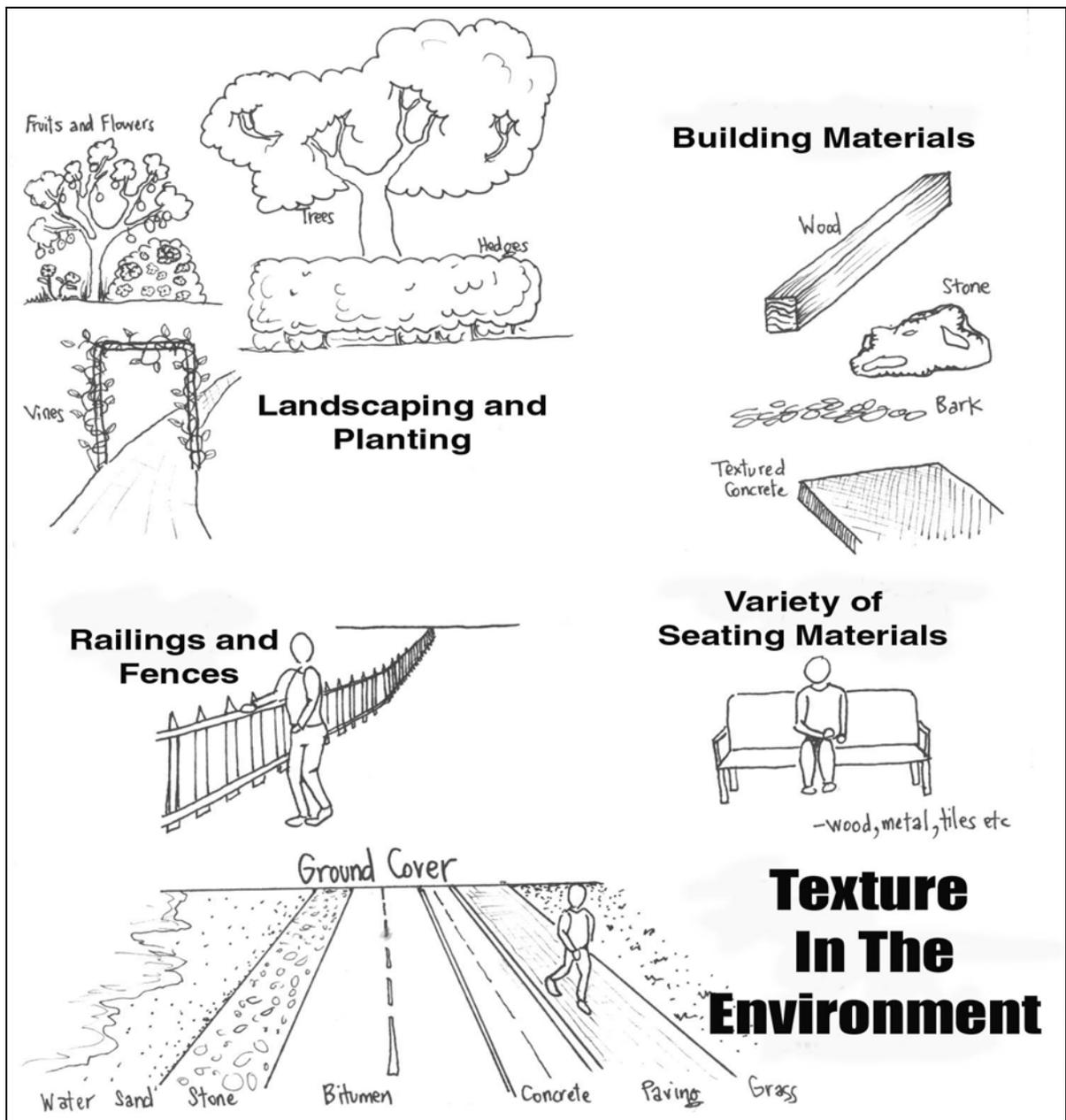


Figure 13: Texture in the environment

² See *Working Paper 5: Illustrated Crime Prevention through Environmental Design (CPTED) Guidelines* for more specific CPTED advice.

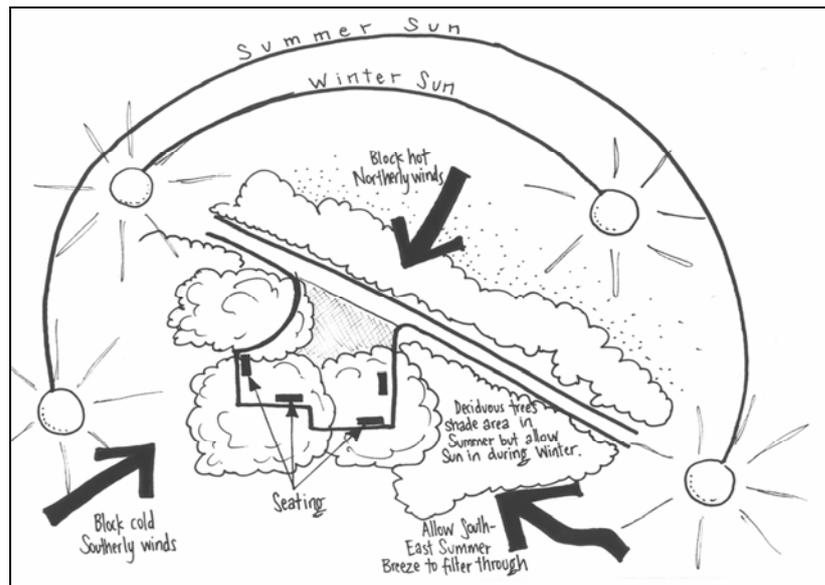


Figure 14: Creating microclimates with vegetation

- ◆ Fallen leaves pose a possible tripping hazard to older people. Thus, select non-deciduous plants and those that do not have leaves that will be slippery when fallen onto hard-surfaces;
- ◆ Ensure that all planted areas (other than lawns), that are next to hard-surfaces, have timber edges, raised borders, or retaining walls to ensure that landscaping materials are not directed onto paths, as this can make them slippery;
- ◆ Avoid planting fruit trees near paths but definitely consider the provision of edible landscaping elsewhere;
- ◆ Avoid planting material which obscures vision for drivers or pedestrians - use high-branching plant materials or low ground covers;
- ◆ Select flowering plants and trees that change colour with the seasons and provide diversity throughout the year and indigenous plants that encourage native birdlife and beneficial insects and animals (see *Figure 15*);

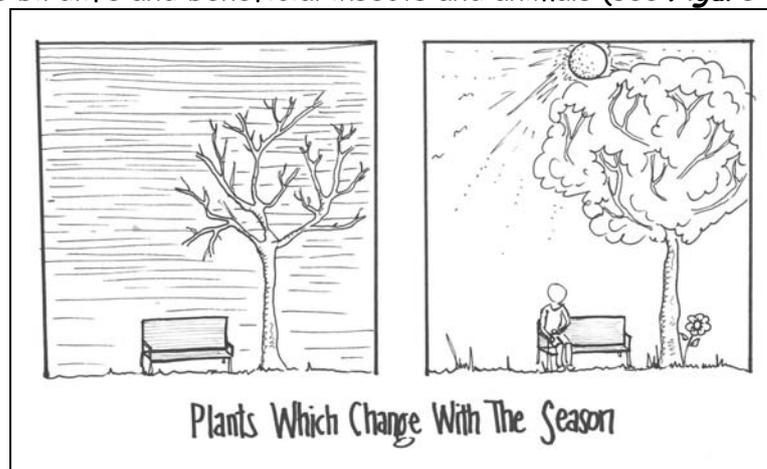


Figure 15: Plan for seasonal variation of vegetation

- ◆ Select plants and landscape features carefully to create a 'garden-like' appearance (not a park-like one), using flower beds and gazebos for shaded resting;
- ◆ Delight the senses by using visual, auditory and tactile stimulation to convey the image or message of a space eg., fountains, waterfalls or other water features, birdbaths, flowing shrubs and trees close to paths;
- ◆ Provide residents with the opportunity to modify landscaping but ensure that the success of the landscaping does not depend on their efforts;
- ◆ Encourage residents to garden for themselves and if possible, provide them with the opportunity of a 'community garden';
- ◆ Provide raised flower beds and gardens to facilitate viewing and gardening without stooping (plant material height: approx. 635mm to 890mm enables people in wheelchairs or those unable to bend or stoop to touch and smell flowers) (see *Figure 16*);

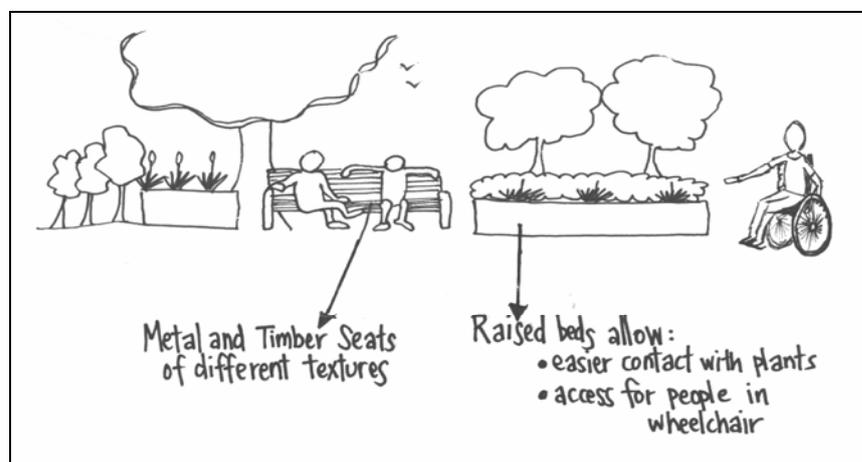


Figure 16: Raised flower beds increase access

- ◆ Locate gardens to be visible from dwellings and structures (especially important for housebound people) and combine landscaping with other features or focal points to encourage use of common or shared outdoor open spaces;
- ◆ Provide orientation and way-finding markers around the site;
- ◆ Foster 'predictability' of a space to reduce confusion and conflicts over appropriate uses. Landscaping can provide a cue for intended user group, such as residents of a particular cluster of dwellings;
- ◆ Define and differentiate spaces for use by various resident groups using signage, landscaping, landmarks or other visual and/or tactile cues;
- ◆ As older people often have reduced visual acuity, provide visual complexity and opportunities for close proximity viewing and provide a greater level of detailing (even to the point of 'clutter');
- ◆ Provide a variety of images and thematic spaces, encouraging a variety of activities and maximum active and passive use of the open space; and

- ◆ Ensure that shrubs or other landscape features that could conceal an intruder are not located at 'problem' areas or near entrances (see the CPTED guidelines in *Working Paper 5: Illustrated Crime Prevention through Environmental Design [CPTED] Guidelines*).

7.0 Pedestrian access to the site

This section examines the needs for pedestrian access to the site. As housing for older people generally has a lower car ownership ratio than housing for younger households, older people often navigate around by 'feel'. They highly value strolling and many use walking as their main form of exercise. For many older people, particularly women, safety of access is a primary consideration, particularly at night. The following issues are considered in this section: entrance to the site; non-resident access; pedestrian links to the neighbourhood; way-finding and orientation; and bicycle access to paths.

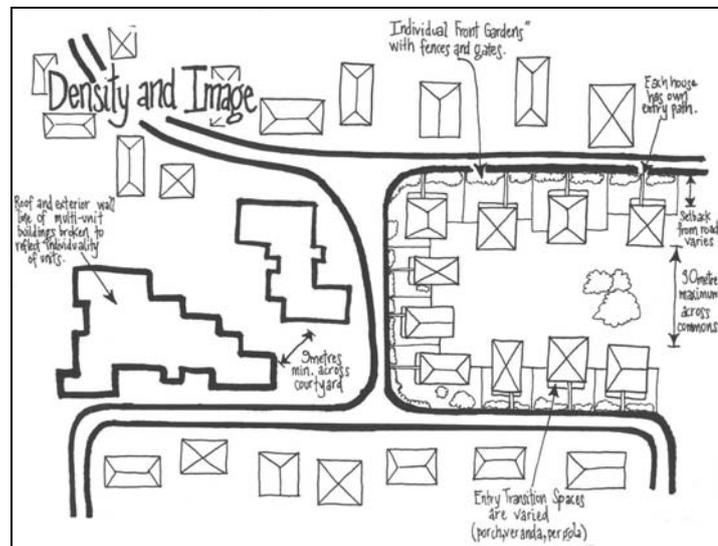


Figure 17: One primary connective pathway

To encourage and support pedestrian access to the site:

- ◆ Ensure that the whole development and each housing cluster are located to facilitate natural pedestrian access and visual focus;
- ◆ Provide landmarks, way-finding cues and signage to help residents and visitors orient themselves;
- ◆ Locate or relocate bus stops as near as possible to the major pedestrian artery to minimise walking distance (100-500m level walk is ideal);
- ◆ Place pedestrian crossings at suitable locations, ensuring they have protracted crossing times and visual and auditory signals;
- ◆ Provide clear and convenient drop-off areas;

- ◆ Ensure all paths are designed in accordance with AS1428 which states that "accessways walkways, ramps and landing shall have an unobstructed width of not less than 1000mm wide";
- ◆ Avoid steps, sharp gradient changes, loose ground cover, slippery path surfaces and provide adequate drainage and lighting and handrails at all gradient changes or danger points; and
- ◆ Provide one major hard-surfaced pathway connecting most dwellings with major on- and off-site activities (see *Figure 17*).

8.0 Strolling and sitting and access within the site

This section is one of the most important sections in this *Working Paper*, as research reveals the great importance strolling and sitting holds for older people. While walking is one of the most popular forms of exercise among older people, a high percentage of older people experience difficulty walking or use mobility aids. Walking as a popular pastime for older people actually increases with age. This section includes: seating location; seating design; wheelchair access to seating areas; weather protection of seating; outdoor table design; walking circuit; path intersections and path safety; way-finding; predictable pedestrian patterns; paths for social interaction; barrier free access; slope of paths; path width; paving and walking surfaces; paving materials to avoid; handrails along paths; benches along paths; kerbs and kerb cuts; steps and ramps on paths; safe outdoor ramps; ramp design; stairs versus ramps; outdoor stair design; treads and risers; stair colour; lighting and handrails; separate pedestrian and cycle systems and hazards, and major pathways.

A key element is the 'looped' walking circuit (see *Figure 18*) that is interesting and comfortable for the older pedestrian.³

³ The 'looped' walking circuit will be valued by all users of the site - not simply older people.

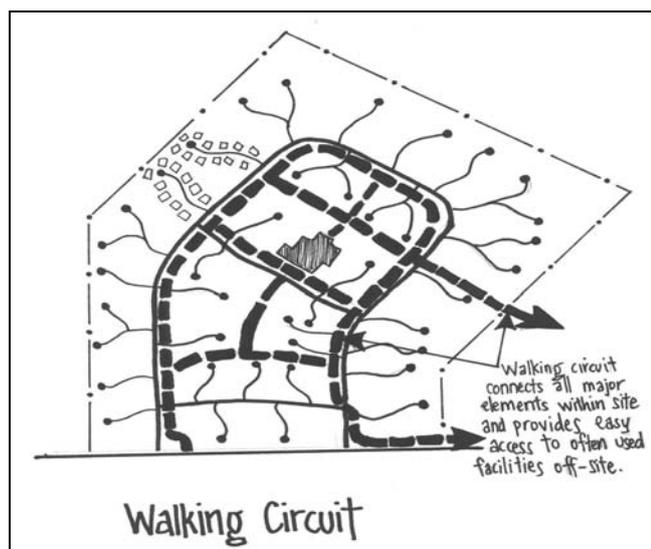


Figure 18: Looped walking circuit

To support strolling and sitting and encourage access within and around the site:

- ◆ Plan paths and sitting places and landscaping with solar access, glare and wind in mind, maximising winter sun, while providing shade in summer;
- ◆ Provide paths for strolling with meandering continuous 'looped' routes and constantly changing views and ensure this loop is connected to an off-site path;
- ◆ Provide places for people to access, where they can retreat. If natural retreats are not accessible, construct special features as retreats, eg., gazebo, duck pond, waterfall or picnic area, etc. (see *Figure 19*);



Figure 19: Equity of access to a water feature

- ◆ Locate intimate seating areas within 7m of the path and at appropriate intervals so that older people can rest, and once seated, can recognise people walking by. Ensure that conversational seating areas do not interfere with pedestrian movement (see *Figure 20*);

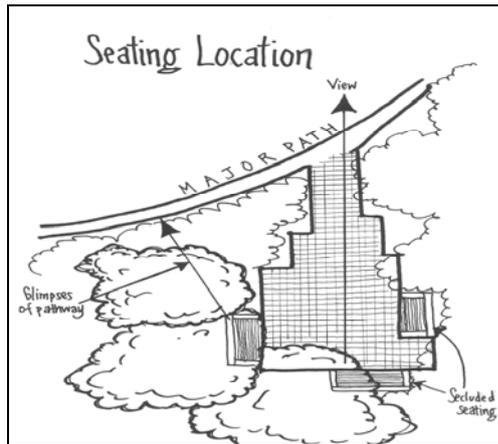


Figure 20: Seating location

- ◆ Ensure all seating has back supports and arm rests;
- ◆ Provide some individual seating. Conversational seating areas should be at right angles to one another to facilitate comfortable communication (see *Figure 21*);

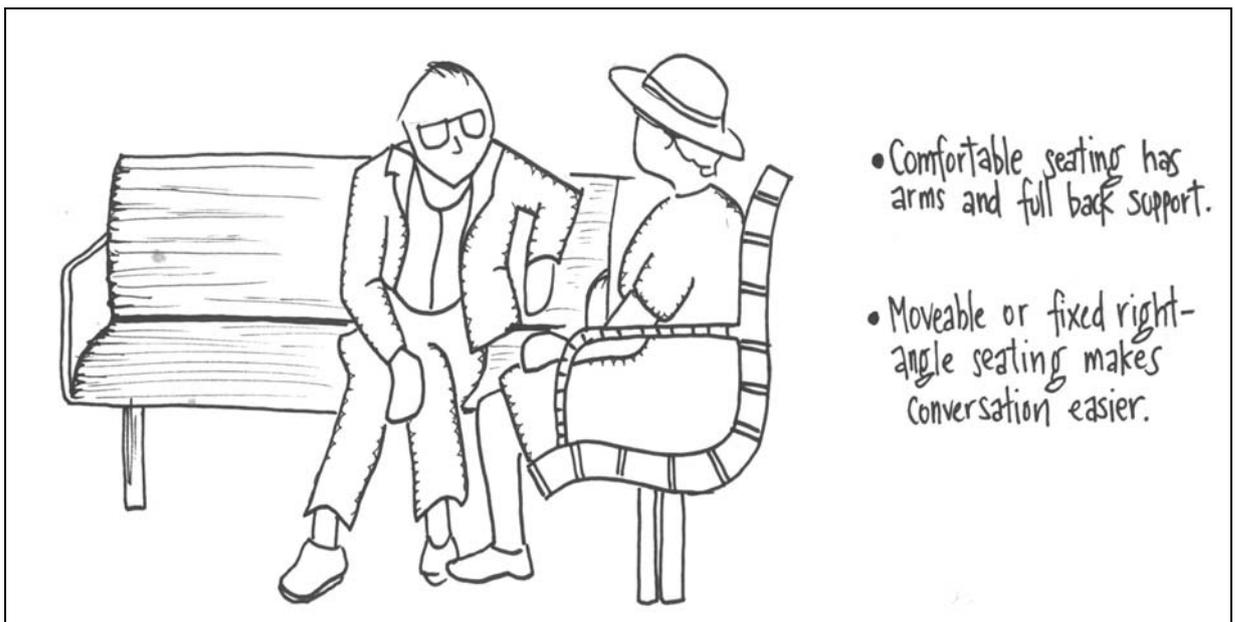


Figure 21: Conversational seating

- ◆ Consider provision of moveable outdoor seating;
- ◆ Limit non-resident use of the site as a short-cut by either installing a substantial barrier or making at least one legitimate short-cut which does not violate resident territory;
- ◆ Ensure that parking areas do not block entrances to natural pedestrian pathways that are often used to get on and off the site;
- ◆ Design path intersections to cope with a greater concentration of traffic and socialising and locate games areas along pathways;
- ◆ Light safe pedestrian routes evenly to encourage evening use;

- ◆ Ensure that path width allows two wheelchairs to pass with ease;
- ◆ Ensure that all pathways comply with AS1428;
- ◆ Design footpaths to accommodate predictable types and volumes of pedestrian traffic;
- ◆ Consider using well-drained, even-surfaced ramps and grades, rather than steps: provide handrails along steep sections;
- ◆ Provide landmarks, mark entrances and differentiate clearly between paths at the front and back of dwellings and between 'public' and 'resident-only' paths to avoid confusion;
- ◆ Provide one major pathway which connects most units with major on and off-site activities (see *Figure 7*);
- ◆ Provide paths which are directionally simple but allow for a choice of route (see *Figure 22*);

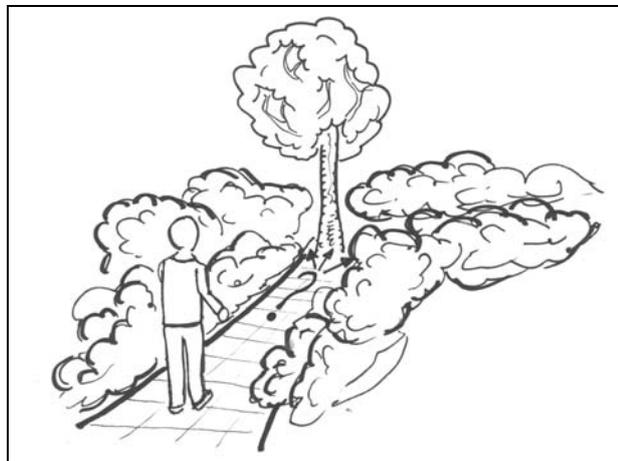


Figure 22: Simple paths that permit a choice of route

- ◆ Plan paths so that no population group has to violate the temporary territory of another, while moving around the site; paths should go 'to-but-not-through-areas';
- ◆ To avoid hazards like bark and leaves on paths, ensure all paths have edges to keep landscaping off;
- ◆ Avoid tan bark landscaping; and
- ◆ Provide hard-surface pedestrian paths.

9.0 Safety and security⁴

This section addresses the issues of security and crime prevention. The older years are a particularly vulnerable time, physically and psychologically. Failing eyesight and reduced physical strength cause many older people to feel vulnerable. Most important in crime

⁴ See *Working Paper 5: Illustrated Crime Prevention through Environmental Design (CPTED)* for detailed CPTED guidelines.

prevention are physical and psychological supports that comprise elements of security, orientation and control.

It is important to provide a safe environment, as older people may be fearful, because of reduced levels of physical and mental competence and other insecurities. Older people also make easy targets for crimes against person and property. Personal accidents and medical emergencies are common.

To foster safety and security:

- ◆ Minimise the number of entries onto site;
- ◆ Limit the number of units or dwellings people pass on the way to a back door that is likely to be used as an interior short cut to parking, shops, bus stops, and the train station;
- ◆ Ensure that the path from parking space, train or bus to the dwelling is short and direct and visible from units;
- ◆ Promote natural surveillance and visibility of open space (see *Figure 23*);

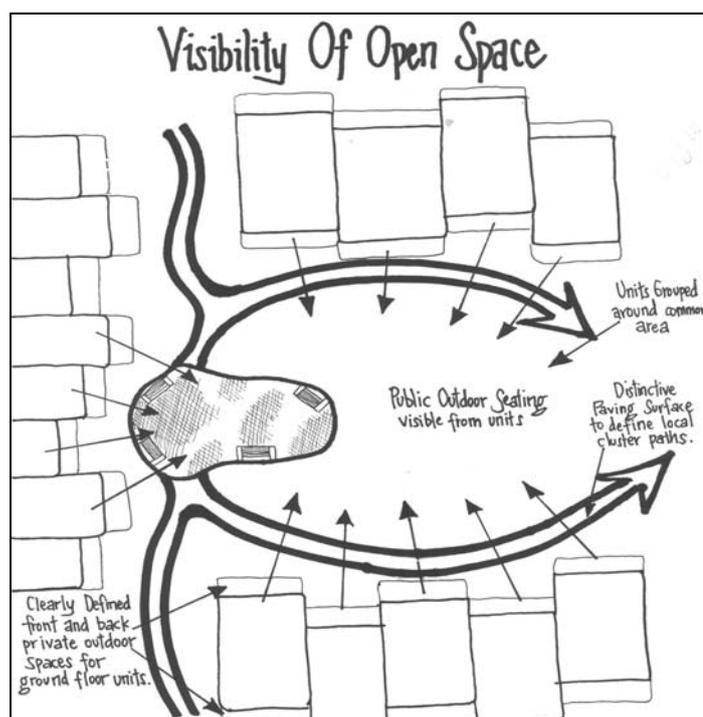


Figure 23: Visibility of open space

- ◆ Ensure that residents do not have to walk past parked cars or areas where there is no surveillance on the way to their units;
- ◆ Ensure that visitors can be viewed with ease, prior to opening the door, eg., windows providing view of visitor access, peepholes located at a convenient height;
- ◆ Locate the management office in a central, visible point to facilitate surveillance;
- ◆ Locate social rooms near heavily used areas;

- ◆ Locate entries to enhance surveillance from units and open space;
- ◆ Eliminate opportunities for casual short-cutting, especially by young people;
- ◆ Provide clear vehicular and pedestrian access routes (see *Figure 24*);

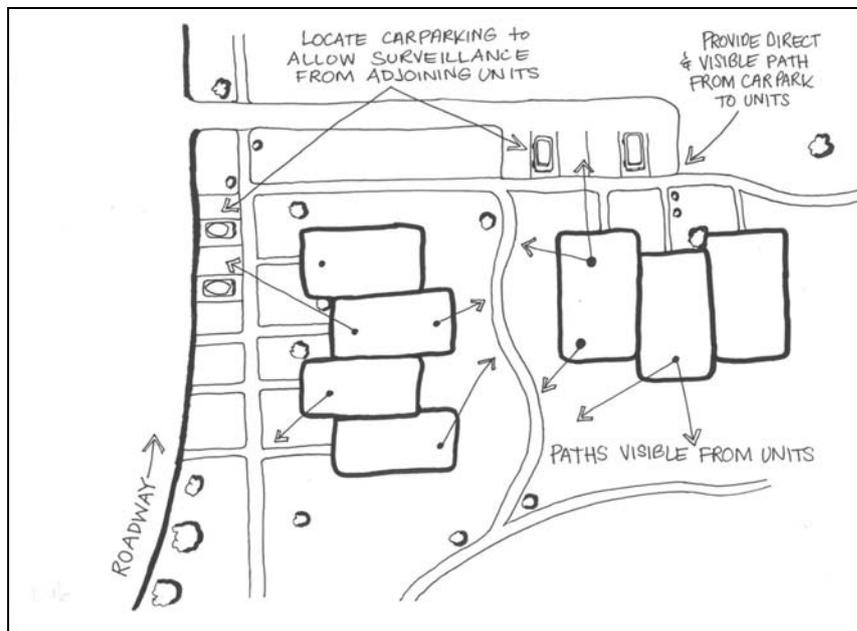


Figure 24: Natural surveillance of car parks and paths

- ◆ Provide a well-lit pedestrian route unobscured by planting and focus pedestrian movement along a well-used route;
- ◆ Discourage intrusion by strangers or young people into areas for residents' only use by employing real or symbolic barriers, eg., low fences, hedges, a change in hard surface material or landscaping (see *Figure 25*);

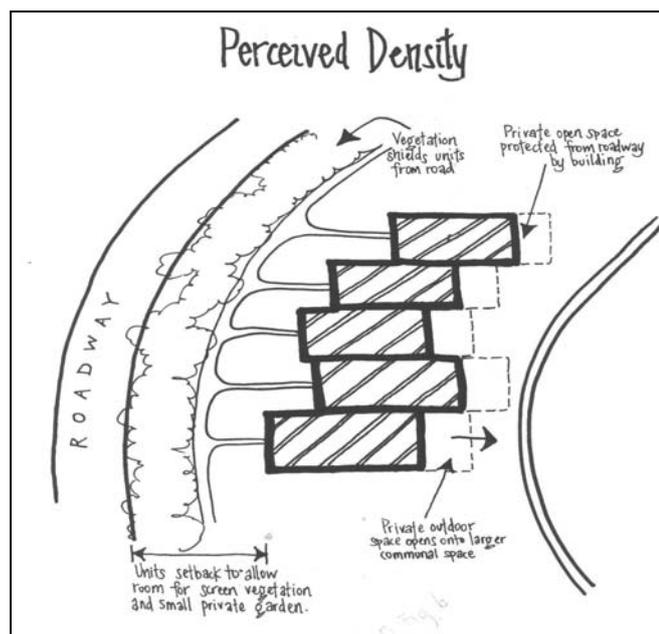


Figure 25: Design to reduce perceived density

- ◆ Provide direct access to buildings from all parking areas, local streets and public transport;
- ◆ Locate parking places in a protected place, with surveillance from units and community spaces;
- ◆ Provide real or symbolic barriers to discourage intrusion by strangers into common or shared landscaped spaces for residents only;
- ◆ Design well-lit entrance-ways, located for nighttime use, with no places for people to hide;
- ◆ Make site entries narrow enough to appear 'private', while not creating a place for an intruder to hide; and
- ◆ Ensure facilities are planned for equitable access (see *Figure 26*).



Figure 26: An accessible water fountain

10.0 Pedestrian segregation and traffic management

This section discusses the important issues of pedestrian segregation and traffic management. Not surprisingly, pedestrian safety is a critical concern, as many older people will stay indoors, rather than take their chances with hazards involving vehicular traffic. It must be borne in mind that the minimum walking speed for most fairly able ambulatory older people is much slower than for the population at large. They are not able to cross intersections quickly.

To ensure appropriate pedestrian segregation and traffic management:

- ◆ Ensure adequate traffic management provisions to protect residents from moving vehicles where vehicular segregation is neither possible nor appropriate (see *Figure 27*);
- ◆ Pay particular attention to the design of crossings from the site to the bus or the train station;
- ◆ Limit length of straight stretches;
- ◆ Avoid long sight lines;
- ◆ Ensure that the 'home-like' quality of road design appears different from surrounding residential streets;

- ◆ Limit speed by humps, no more than 40m apart, sharp bends, narrowed roadway;
- ◆ Do not permit vehicles too close to street-facing dwellings (Dutch minimum of 9.6m); and
- ◆ Provide adequate (low-glare) street lighting, especially at 'danger' points.

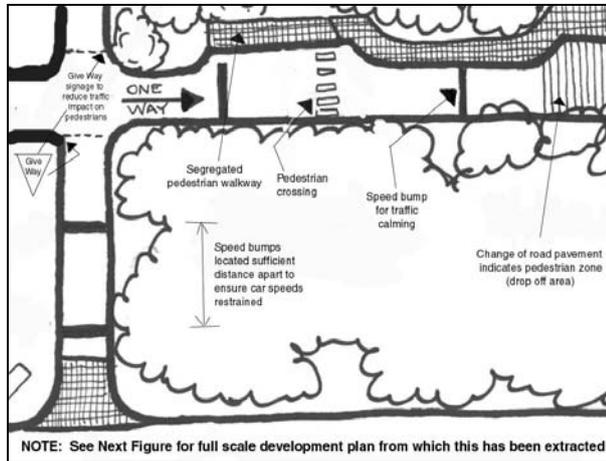


Figure 27: Traffic management for pedestrian safety

11.0 Vehicular access to and within the site

This section examines the requirements of vehicular access to and within the site's open spaces (see *Figure 28*).

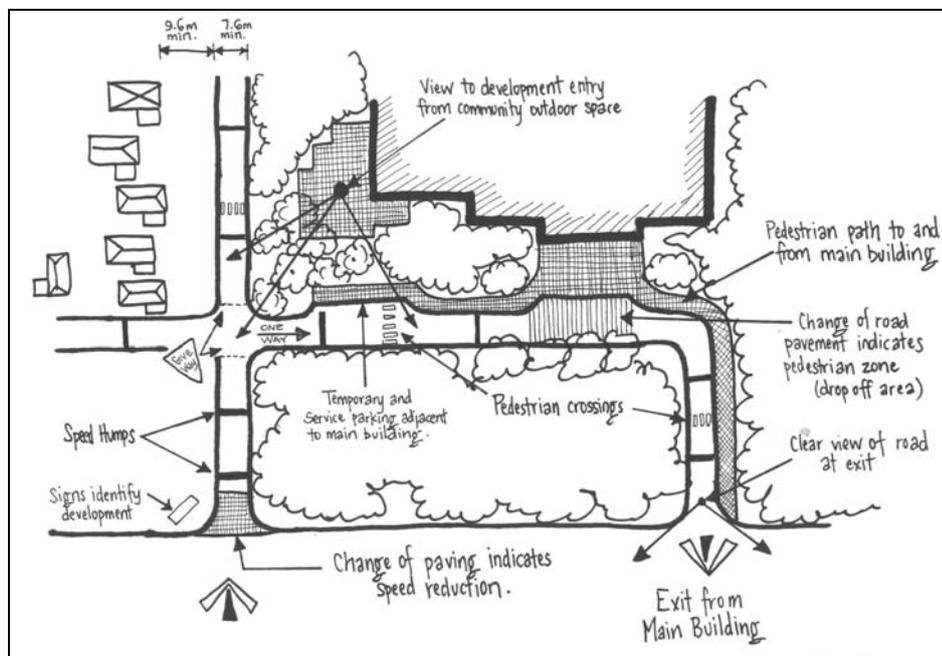


Figure 28: Vehicular access to and within site

To create appropriate vehicular access to and within the site:

- ◆ Ensure vehicular access to the site is safe and convenient, well-lit and suitable for day and evening use;
- ◆ Ensure drop-off, pick-up and waiting areas are easily accessible to older people, and are located near and connected to clusters of dwellings by pathways;
- ◆ Provide the opportunity for residents in common or shared areas and individual units to watch other residents and visitors come and go;
- ◆ Install appropriate signage and vehicular control measures such as 'go slow' signs, road surface changes', and speed bumps spaced no more than 40m apart;
- ◆ Ensure that vehicle access through the site consists of one continuous, 'legible' route without steep gradients or sharp turns;
- ◆ Limit length of straight stretches to deter speeding; and
- ◆ Provide low-glare lighting at potential danger points.

12.0 Parking provision, location and design

This section examines parking location and design and how this is related to the needs of older residents. The guidelines recommend that parking be located to provide easy circulation, ease of access and to prevent confusion. This section outlines the needs for parking provision. It reinforces a position taken throughout the guidelines, that parking should be designed so that it allows easy circulation and prevents confusion. Specific provision will depend on the requirements of the Town of Victoria Park, of course. Nevertheless, a number of guidelines are presented in the form of general principles.

To ensure that parking provision, location and design are appropriate to the requirements for older people:

- ◆ Locate parking areas to provide easy circulation, ease of access and prevent confusion;
- ◆ Where exterior parking is provided, place parking areas as close to each unit as possible in several small areas rather than one large parking lot;
- ◆ Ensure that carports or garages are clearly associated with each cluster of units;
- ◆ Locate parking so that cars do not dominate views from units but still permit natural surveillance from units;
- ◆ Provide clearly marked wider spaces for residents who use wheelchairs and design vehicle-free paths from all parking areas for people in wheelchairs;
- ◆ Ensure that there is adequate parking provision for residents, staff and visitors;

- ◆ Relate parking provision to local car ownership rates, local public transport patterns, access to shopping, and the residents' economic profile;
- ◆ Provide adequate sign-posted parking spaces for people with a physical disability (AS1428);
- ◆ Provide clearly signposted visitor parking, close to the building entrance and in the first parking areas visitors pass when arriving; and
- ◆ Provide approximately one additional space for every twenty dwelling units to be used for parking caravans, trailers and boats.

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