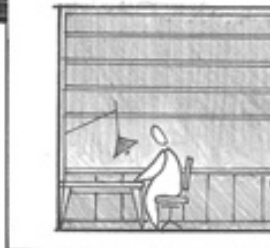
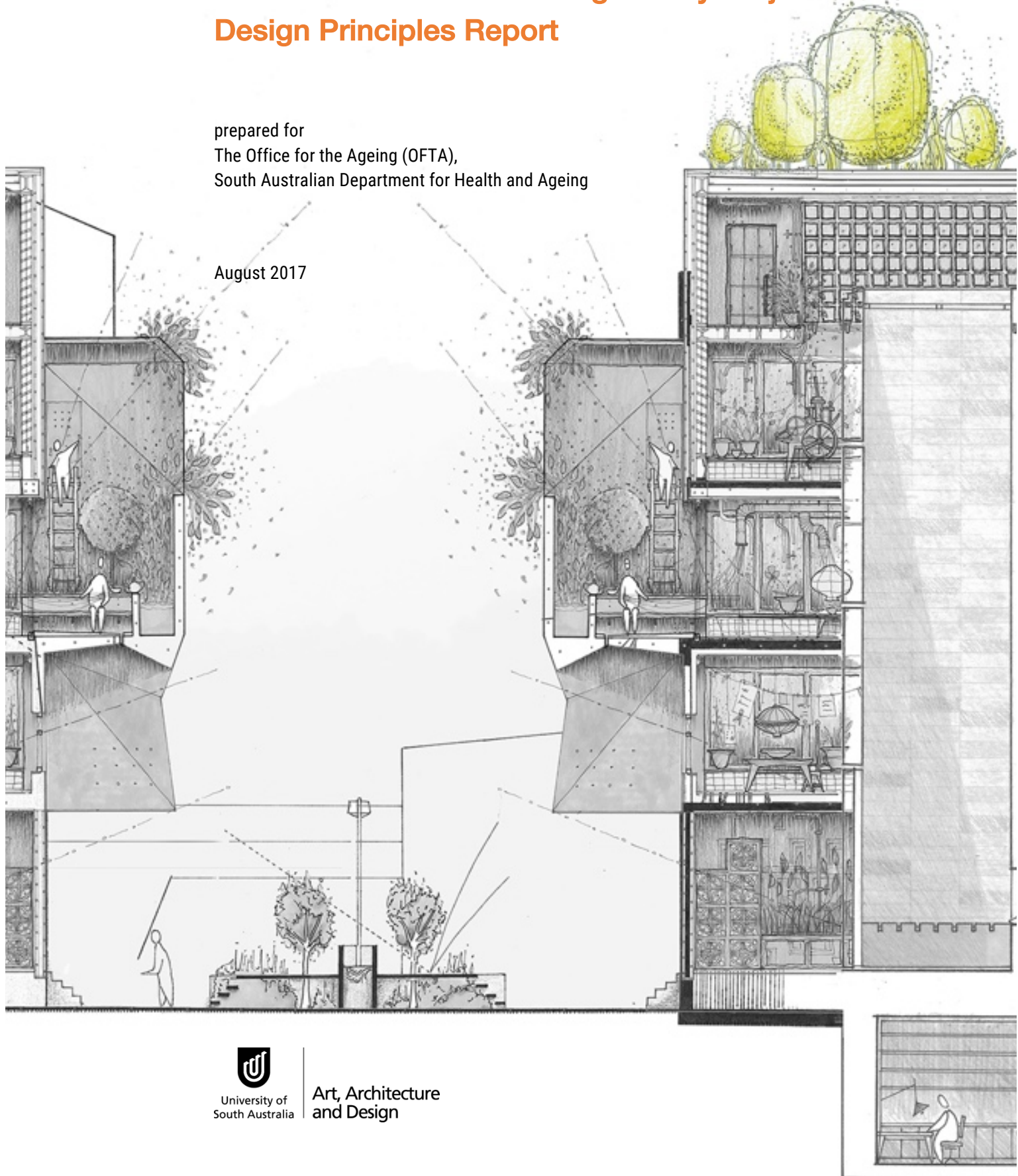


Innovation in Social Housing 90 Day Project: Design Principles Report

prepared for
The Office for the Ageing (OFTA),
South Australian Department for Health and Ageing

August 2017



“Do not be overwhelmed by the house of the future.

Think of the 25 million social dwellings which exist in Europe, of the users, who want to recover the dignity they might never have had, and label them the future. Return to the first person before designing and remember that a ventilated kitchen encourages cooking, that bedrooms should be more than just oversized wardrobes, that circulation elements should not cross the living areas. If you add outdoor space, pamper it, so that the user sees it as a plus and not a minus. Give it the option to create its own ecosystem and facilitate an invasion of greenery. Do not force the users to live together, do not attempt to engineer their behaviour. Generic residents do not exist, they are as unique as you are . . . Try to make the standards compatible with common sense and give the unexpected a chance.”

Fernández Per, Aurora, Javier Mozas, and Javier Arpa.
Density is Home, a+t density series. Vitoria-Gasteiz, Spain:
a+t Architecture Publishers, 2011, p. 13.

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Executive Summary

The Innovation in Social Housing 90 Day Project is a collaborative study seeking new forms of social housing in South Australia for the over-50s. It is a partnership between Housing SA who own the Government's housing assets, Renewal SA who are responsible for managing their procurement and delivery, and the South Australian Department for Health and Ageing's Office for the Ageing who advise on age-specific requirements. The project is the first stage of the development of new design briefs for Housing SA projects aimed specifically for older tenants. This Design Principles Report has been undertaken by staff and students of the University of South Australia's School of Art, Architecture and Design (AAD) as a response to observations during project workshops involving current social housing tenants and housing industry members. This report should be read in conjunction with the Australian Centre for Social Innovations' *Tenant Workshop Report*.

Design Principles that respond to the concerns and desires of tenants and industry representatives are described in this report, along with precedents of housing projects that offer tangible examples of innovative design approaches. These tenant and industry observations occurred through consultation in three workshops: a Tenant Workshop, an Industry Workshop and a summative Co-Design Workshop drawing the two groups together. The Design Principles act as strategies to stimulate thinking, as opposed to devices to be deployed directly, and are organised into four overarching themes that summarise the workshop findings:

- tactics that convey a sense of 'home';
- tactics that improve spatial characteristics;
- tactics that enhance outdoor relationships; and
- tactics for improved social cohesion.

In general, the tenants who occupy social housing and the industry members responsible for providing it, all desire the same things from their housing and these can be categorised within the four themes of the Design Principles. In simple terms the Principles are about sound human-centred design, and further research and consultation is advised around what Renewal SA's current briefing documents are asking of providers, what consultation avenues with tenants are in place during the design process and how the provided housing is being assessed post-occupancy.

Clear from the workshops consultation process is that some form of social contract will play a role in the success or failure of many of the Design Principles, if implemented. While tenant and industry representatives welcome a more shared and community-minded way of living, many tenants have experienced negative relationships with neighbours, presenting placement and management challenges for Housing SA. It is evident, however, that participants in the workshops are accepting of new modes of shared living and welcome the benefits that can come with a more socially inclusive social housing development.

Project Context

Project intent

The 90 Day Innovation in Social Housing Project delivered by the Office for the Ageing aimed to:

1. Identify potential housing models for older Housing SA tenants that meet a diversity of support, care and lifestyle needs as they age.
2. Identify higher density housing and precinct design requirements for older persons that can cater to diverse support, care and lifestyle needs, and support independence and engagement in community life.
3. Inform the development of a design brief for a higher density housing development to be constructed by Renewal SA as a demonstration project.

The outcomes of this project will help inform future housing developments undertaken or commissioned by the South Australian Government and be made available to inform the wider housing sector.

This design report synthesises the observations of the project's three consultation processes:

- a **Housing SA Tenant Workshop**, facilitated by The Australian Centre for Social Innovation;
- a **social housing sector Industry Workshop**, facilitated by the UniSA research team (the authors of this report); and
- a tenant and industry **Co-design Workshop**, facilitated by Democracy Co.

Having listened to those who live in social housing and those involved in developing it, this report presents design principles that might foster innovation in social housing for the over-50s.

Project limits

The research team acknowledges that as the 90 Day Project in essence is a scoping exercise aimed at identifying initial opportunities for innovation, the issues identified through the consultation process are necessarily broad and the responses therefore deliberately generic. As such, consultation with indigenous tenants, those with culturally-specific needs and ambitions, tenants with special needs, and tenants with specific physical, mental health or social support needs, has not been undertaken as part of this project.

Such work is complex and necessary, but lies outside the scope of this initial project. The research team recommends such consultation be undertaken in any future corollary work.

Defining an 'ageing in place' strategy

The design principles of this report are offered as a set of strategic design tactics that suggest opportunities for innovation – what this report does not provide is commentary or advice on accessibility issues associated with ageing in place housing, commonly referred to as 'slips and trips' mitigation. As such, the principles assume that design and construction methods such as step-free doorways and showers, wide hallways, and good circulation are integrated into over-50s social housing as a matter of course and as part of industry best-practice. To this end, Renewal SA's existing *House Design Guide* is considered to be adequately covering these design requirements.¹ So how *should* 'ageing in place' be defined for the purposes of fostering innovation in South Australia's social housing?

Key to ageing in place, as might seem obvious, is a fundamental desire to remain living in one's current house, and a home's location is a central principle underpinning this satisfaction or the opposing desire to relocate elsewhere when housing is no longer suitable.² Home-owners and mortgagees have been shown to be more satisfied with their housing than both private renters and social housing tenants, and are therefore less likely to feel the need to relocate and are far more likely to age in place.³ However, perhaps through a lack of housing choice, social housing tenants generally exhibit reduced housing mobility until the age of 60, where poor health forces many to have to move to more suitable accommodation.⁴

What is required then, is a new mix of social housing offerings that extends the tenure of those over the age of fifty and delays (if not outright avoids) the need for residents to move unless it is to necessary specialist care. Beyond providing accommodation that suits reduced mobility, as required of Renewal SA's current *House Design Guide*, age-appropriate housing requires two clear supply strategies:

1. Housing developments that are located in well-serviced precincts that by nature support an ageing community while avoiding institutionalising and stigmatising them; and
2. Housing design that achieves increased density and stronger social connections while accommodating as broadly as possible the needs and aspirations of its residents as individuals.

Whilst the current *House Design Guide* identifies that "*public housing should not be readily distinguishable from new private sector housing*",⁵ this is described solely in regard to external streetscape appearance, form and building setback; it does not relate to the organisational structure of the housing development, nor the design of individual dwellings within it. Furthermore, rather than aiming for housing that is indistinguishable, there is an opportunity to revisit the language of the briefing documents to encourage housing that is *distinguished* for its best-practice approach to housing older residents.

¹ Government of South Australia, "Form of Housing: 1.1 House Design Guide," (Adelaide: Renewal SA, 2016).

² Australian Institute of Health and Welfare, "The Desire to Age in Place among Older Australians," (Canberra: AIHW, 2013).

³ *Ibid.*, 13-14.

⁴ *Ibid.*, 12-13.

⁵ Government of South Australia, "Form of Housing: 1.1 House Design Guide," 8.

Identifying good neighbourhood precincts

Tenant and industry discussion at the three project workshops displayed a clear preference for walkable neighbourhoods: those that provide the most regularly used services and facilities within easy walking distance. It is generally accepted that for people to choose to walk somewhere, 'walkable' means within a 400m radius from their home where possible (a five-minute walk) and beyond that, within 800m (a ten-minute walk).⁶

Overwhelmingly, workshop participants indicated a desire to be able to walk to local shops, civic facilities, health practitioners, social facilities and churches, and where such targets could not be reached on foot, easy walking distance to reliable public transport was identified as important. Whilst detailed recommendations of precinct analysis, design and servicing are outside the scope of this design report, sound precinct selection and development is a core principle that underpins any attempt at creating innovative social housing.

In addition, when related to social housing for ageing in place, the industry and tenant feedback strongly suggests that the 'walkable neighbourhood' concept becomes increasingly important with age, extending to the capacity for residents to remain independent by using mobility scooters. As such, the means with which to incorporate scooters easily within new housing developments and beyond in their greater community is an increasingly important factor to consider.⁷

Defining 'density' and what it looks like

A clear concern expressed by residents in the Co-design Workshop was that new and more dense forms of social housing for the over-50s will mean being forced to live in tall apartment buildings that prioritise maximum unit yield at the expense of liveability. In short, whilst tenants appreciated the need for housing to shift to a medium density model, many connected the notion of medium density housing with images of high-rise apartment buildings, a perceived loss of amenity and a sense that an entirely new and undesirable form of housing would be forced upon them.

However, whilst high and medium density developments *can* take the form of tall, efficient apartment blocks they do not have to, as evidenced by the South Australian Government's 'Understanding Residential Density' publication.⁸

.....

⁶ See, for example: Jan Gehl, *Life between Buildings: Using Public Space* (New York: Van Nostrand Reinhold, 1987). Although not a foolproof metric measure, and one that has been subject to challenges in the past, this 5 minutes / 10 minutes benchmark is useful as a basic method of describing the notion of a 'walkable' place.

⁷ Renewal SA's existing *House Design Guide* currently requires providers to allow for parking and charging of mobility scooters; tenants' stated concerns with inadequacies relate to older properties.

⁸ Government of South Australia, "Updating Understanding Residential Densities: A Pictorial Handbook of Adelaide Examples," (Adelaide: The Government of South Australia, 2011). The density examples of this document were used by the research team in a presentation entitled 'What is Density?' to the participants of the Co-design Workshop. Participants indicated a general sense of relief at being shown a variety of approaches to density, and a greater acceptance that more dense housing might provide positive outcomes for their living arrangements.

For the purposes of this research, the Government’s existing density definitions⁹ have been assumed:

low density	<35 dwellings per hectare	1 – 3 storeys
medium density	35 – 70 dwellings per hectare	4 – 10 storeys
high density	>70 dwellings per hectare	10+ storeys ¹⁰

These density figures assume *net* density, as opposed to *gross* density. Net residential density is calculated using the property’s site area only, measured using the boundary dimensions, whereas gross density includes all non-residential areas such as external footpaths and roads. The resultant ‘dwellings per hectare’ figure is therefore a measure of each dwelling’s *share* of its site *on average*. In the example below, medium density is observable in Parkside in eight traditional row houses.



Medium Density in single storey
1870 row cottages, Parkside

site area: 1,632m²

dwellings: 8

avg site area per dwelling: 204m²

net density: 49 dwellings per hectare

source: *Updating Understanding Residential Density*

⁹ "The 30-Year Plan for Greater Adelaide: A Volume of the South Australian Planning Strategy," (Adelaide: Department of Planning and Local Government, 2010), 95.

¹⁰ The relationship between the height of a building and the overall density of a development is not absolute and the Government provides these heights as general guides only. The Parkside example described here demonstrates, for example, that medium density can be achieved at a single storey level.

Further examples in Adelaide show us that high density can also be achieved by low scale row and terrace housing, both old and new. Such housing demonstrates that increased density:

- is not a new concept;
- can be evidenced across Adelaide;
- does not always reveal itself as an intensified form of housing;
- is a factor of how much of a site a dwelling shares on average;
- is not an indicator of the overall size of the development;
- is not an indicator of the overall numbers of dwellings on a site;
- does not always have to be high rise; and
- can be achieved in housing types other than apartments.

Understanding what we have

Government-owned social housing in South Australia is operated by Housing SA with the management of asset renewal and construction undertaken by Renewal SA. Our existing social housing makeup can be understood as:

<i>type</i>	<i>number</i>		<i>type</i>	<i>number</i>	
Boarding house	18	0.06%	Townhouse	2,029	6.33%
Bedsitter	116	0.36%	Flat (cottage)	3,771	11.77%
Apartment	142	0.44%	Double Unit	4,028	12.57%
Flat (other)	735	2.29%	House (attached)	8,207	25.61%
Flat (walk-up)	1,935	6.04%	House (detached)	11,063	34.52%

Of the 32,000 housing assets in metropolitan Adelaide, 73% are detached or attached individual houses that are generally of a minimum of two bedrooms. By comparison, 64% of Housing SA tenant households are two person households, creating something of a mismatch: the vast majority of houses are family-oriented, whereas the majority of households are not traditional family structures. In addition, 50% of Housing SA's primary tenants are over the age of 55.¹¹

Current Renewal SA projects are seeking to redress this imbalance with a focus on mid-scale apartment buildings of around four storeys and small lot housing of one and two storeys, generally on allotments less than 120m². The work of this research project seeks to further expand this housing diversity.

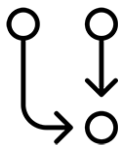
¹¹ Data source: Renewal SA, "Public Housing Stock Profile & Current Projects: Presentation to OFTA 90 Day Housing Project Industry Workshop," (Adelaide: Government of South Australia, 2017).

Emerging Themes in Housing for Older People

What tenants want / What industry says

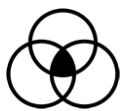
In support and extension of TACSI's *Tenant Workshop Report*,¹² the research team observed in the resulting Co-design Workshop that tenant ambitions, whilst varied and at times contradictory, share a common goal of living collegially, respecting each other's space and achieving a sense of ownership over one's home. Within that, opinions are divided over the desirability (or otherwise) of binary decisions such as whether pets should be allowed, if gardens should be fully private or fully shared, or whether overlooking within a development should be avoided completely or strategically allowed as part of a more communal way of living. In reality, such decisions will not be either/or responses but those where degrees of difference will be explored on merit. Such merit-based selection is already encouraged by Renewal SA in relation to the arrangement of rooms across levels in two and three storey housing and in regard to material and construction choices,¹³ however such thinking can be extended to those types of occupational needs and performance outcomes described here.

Attendees at the Industry Workshop identified the following areas of importance in designing age-appropriate social housing for the over-50s:



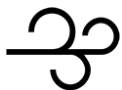
Adaptive Reuse

To ensure that valuable urban context is not lost it is worth considering solutions that incorporate existing buildings creatively with any new urban fabric. This may be achieved through the extension, renovation, or modification of existing dwellings or boundaries. It may also be achievable through the reuse of materials or parts of buildings.



Passive Design

Simple measures during the design process can ensure that once completed, a building will require less aid from active energy sources to perform the tasks required by its inhabitants. Passive design measures allow the building to perform its tasks with greater efficiency, ultimately costing less for the environment and inhabitants.



Ventilation

The ability to cool homes and alleviate the effects of heat in homes can be achieved through the strategic placement of openings to allow natural breezes to sweep through dwellings.



Views

While striking views are not always available, proper orientation and the maintenance of clear lines of sight can allow residents to enjoy their surroundings from within their homes. Internally, dwellings and their sites may be organized to enjoy views onto a public domain, to greenery beyond, or to small private spaces.

¹² The Australian Centre for Social Innovation, "Innovation in Social Housing: Tenant Workshop Report," (Adelaide: TACSI, 2017).

¹³ Government of South Australia, "Form of Housing: 1.1 House Design Guide," 26-28.



Energy

Emerging technologies are coming closer and closer to allowing the individual to not only manage the generation of energy but also the management of locally sourced power. This is becoming possible through improvements in power storage technologies whether it be for low, medium or high density dwellings.



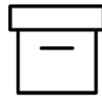
Privacy

The ability to maintain both a sense of privacy and a feeling of connection with other residents and the environment is integral to forming a community. In order to achieve this, open spaces with varying levels of privacy should be included in all designs. Sheltered balconies can provide the most private spaces, shared courtyards can act as semi-private social spaces, while community parks and piazzas can act as larger gathering places.



Noise

Dwellings, no matter their density, can offer a sense of seclusion for their occupant. This is especially relevant when considering the varied lifestyles of people in medium or high density housing. Noise transfer can be mitigated with appropriate design measures, ensuring that all inhabitants can maintain independent daily rhythms.



Storage

Homes, amongst their many functions, act as repositories for a lifetime of objects; some practical, others sentimental. The ability to accommodate both is crucial in a house becoming a home. While traditional low density housing allows resident to store objects at their fingertips, higher density housing may make clever use of attics, cellars, and compact storage solutions in the absence of a private shed.



Private Gardens

The backyard is a fundamental part of Australian living but is sacrificed in medium and high density living. While it is important to maintain what the private garden does for all residents, there is more than one way to achieve what a backyard has traditionally provided for our homes. Even small outdoor spaces can have an enormous impact, if carefully positioned and accessed.



Green Space

Integrated and well-designed landscaping can provide many benefits to inhabitants beyond aesthetic value. Plantings, when included thoughtfully in multiple parts of a building, can help maintain cool temperatures. Landscaping to paths, roofs and balconies provides the maximum combined benefit, while tokenistic greening, such as an isolated 'green wall', may have aesthetic value but little direct benefit to the community.



Pets

The inclusion of extended family (not always of a human variety) is of great importance when designing inter-generational housing. The ability for residents to keep and accommodate the needs of a pet while not encroaching on the privacy and amenity of others, is an important challenge to address.



Security

One of the many advantages of living in higher density conditions is an improvement to security. The proximity to neighbours and an increase in pedestrian traffic mean that help is more often close at hand. Other solutions in higher density dwelling types might include maintaining the ground floor as a shared space, allowing separation of public and private areas and a sense that neighbours are nearby if needed.



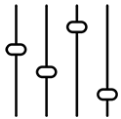
Visitor Accommodation

Dwellings, being usually designed for a specific number of inhabitants, can only accommodate a limited number of additional guests. Visitor accommodation can take the form of a separate dwelling within a housing complex to be allocated as visitor accommodation for all to share. This is important for older residents who may require temporary live-in assistance.



Social Accessibility

The ability to be in close and immediate contact with a local community when desired, is essential for a healthy lifestyle. While the particular form of contact will vary inter-generationally, the ability for architecture to facilitate these connections is always important.



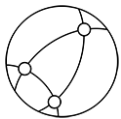
Self Sufficiency

The ability to complete a variety of daily tasks independently changes with age. Conscientious consideration in the access of dwellings both internally and to the public realm, and in the design of the public realm, is therefore essential. The inclusion of lifts and ramps, as well as safe and manageable public paths in the immediate surroundings of the building will aid accessibility. Ramps that are generous in width and part of a landscaped setting de-institutionalise houses for older people.



Car Free Space

Car parking in a multi-residential development, when integrated into the design at an early stage, may be better located in basements or as a cluster at ground level. This reduces the impact of cars adjacent the dwellings, allowing for better pedestrian access. Additionally, as the role of individual car-based transport may change in the future, car parking may be converted by those who wish, into additional storage facilities or functional spaces.



Reliable Transport and Integrated Network

The importance of reliable transport is crucial in a strong social housing system. Broader public transport systems that connect residents to the greater city area can be supplemented by local community-based satellite bus services for shorter suburban trips.



Local Shops

The presence of civic functions and basic retail amenities such as delis, pharmacies, butchers and bakeries, allows residents to take ownership of street spaces and begin to form a local culture.



Integrated Workplace + Walkable Precincts

A vibrant community will include a variety of occupants within its streets. A street which is solely dwellings (forming dormitory suburbs) will be less vibrant than a street which includes offices, dwellings and retail outlets. Additionally, the ability to commute on foot to work, to shop locally, and to seek recreation within one's own neighbourhood, creates a strong local community and culture.

This summary of identified issues from the Industry Workshop was presented by the research team to participants at the Co-design Workshop. When amalgamated, the concerns and ambitions of both the industry and tenant representatives display agreement on the following issues:

on design, construction, servicing and delivery:

- the importance of pilot projects to test new ideas and development strategies;
- including older tenants in the design and delivery of housing projects;
- emphasising high quality construction and fixtures in order to assist building longevity and reduce ongoing maintenance and repairs;¹⁴
- making universal design / accessibility elements discrete and less institutionalised;
- the capacity for housing choice and diversity, including houses for those who want to share facilities with others and for those who desire privacy and seclusion;
- the importance of housing being desirable and beautiful, however one defines ‘beauty’;
- the ability to take up shared servicing arrangements relative to solar generation, power supply and water provision, and to take advantage of simplified cost-effective billing;
- the incorporation of passive design principles to reduce tenants’ environmental footprint and expenditure on electricity and water;
- the provision of lifts, particularly as related to bringing shopping home;
- the provision of storage, including for mobility scooters;
- the ability to store personal items within dwellings;
- visual legibility of common vs private areas;
- achieving access to light, ventilation and views;
- internal space for furniture and belongings, often inherited and with deep personal meaning;
- achieving good acoustic separation between tenancies;
- positioning the pedestrian at the centre of design within a housing development and providing good ground level bicycle storage;
- providing common spaces for shared interests (eg: musical instruments) and for family and service-provider visits;¹⁵
- the ability to customise one’s dwelling through painting, hanging pictures and private gardening in raised garden beds;
- the capacity for dwelling flexibility over time through re-configuration;
- the incorporation of smart technology;
- future-proofing dwellings by incorporating wider corridors, provision for grab rails, higher power points and the choice of built-in or bring-your-own furniture.

¹⁴ This theme was discussed in relation to stated historical scepticism over a perception of the cheapest tenders being awarded social housing building contracts.

¹⁵ Such use of a ‘common house’, which provides a large communal kitchen, dining and living space for those who may wish to occasionally share meals, coupled with a guest room for visitors, is a central principle of Cohousing. It provides a dedicated and large shared living facility to supplement individual residents’ private dwellings. See for example, Charles Durrett, *The Senior Cohousing Handbook: A Community Approach to Independent Living*, 2nd ed. (Gabriola Island: New Society Publishers, 2009).

on outdoor space

- the retention of large areas of landscape, including the encouragement of birdlife;
- access to gardens and outdoor spaces, even if just via a permanent view;
- outdoor spaces that are active and have a purpose, such as for exercising and raising produce.

on social inclusion and neighbourliness

- being and feeling secure: physically, psychologically, and as related to tenure;
- the avoidance of social exclusion through retreating into dwellings to avoid disruptive neighbours;
- achieving solidarity with neighbours through shared lifestyle ambitions whilst acknowledging the benefits of and desiring a mix of tenant ages;
- the importance of planning the operational structure of a housing community before designing the building, and working to a residents' social contract;
- having access to formal and informal exercise equipment;
- having access to a library of 'stuff': treadmills, blenders, bicycles etc to share;
- not facing front doors to each other and being able to come and go discretely when stopping to chat is not desired.

It is important to acknowledge that in the spirit of generating ideas at both the Industry and Co-design Workshops, the feedback described above was elicited through both open and facilitated general discussion. The resulting list of ambitions was therefore put forward by participants and observed by the research team without values being attributed to them, nor hierarchies being developed to limit or refine each element. Any form of housing project is likely to be subject to 'trade-offs' where, for example, the desire for a private laundry and drying area may be outweighed by the desire for high quality open space or greater storage should laundry facilities be shared. As such, each ambition identified above is documented neutrally without attributing greater or lesser value to one individual ambition.

The ambition of the Design Principles

The ambition of the research team's responding Design Principles, therefore, is to act as a set of tactics that encourage innovation by synthesising and responding to these emerging themes from the Tenant, Industry and Co-design Workshops. What is evident from these discussions with those involved in providing social housing and those who call it home, is that in general terms we all want the same things in our housing, albeit with degrees of difference among individuals. We hope for:

- housing that supports a sense of identity and place;
- housing that avoids institutionalising us, both behaviourally and aesthetically;
- housing that affords us safety;
- spaces for us to come together with neighbours or hide away by ourselves;
- access to high quality outdoor space;
- spaces we can customise and make our own;

- spaces that allow us to pursue our hobbies and interests; and
- places that connect us with our local neighbourhood and the greater city.

What the workshops have identified is that most of the housing needs and desires raised are arguably universal to all age groups. However, what differentiates social housing for the over-50s (particularly those living in social housing) is a heightened emphasis on the security of residents' tenure coupled with increased concerns over neighbours not 'fitting in' with the group as a whole, thereby compromising the liveability and amenity of the development.

It would appear these two factors of tenure and neighbourliness become increasingly important with age, where for the most part, residents are less likely to want to move the older they get.

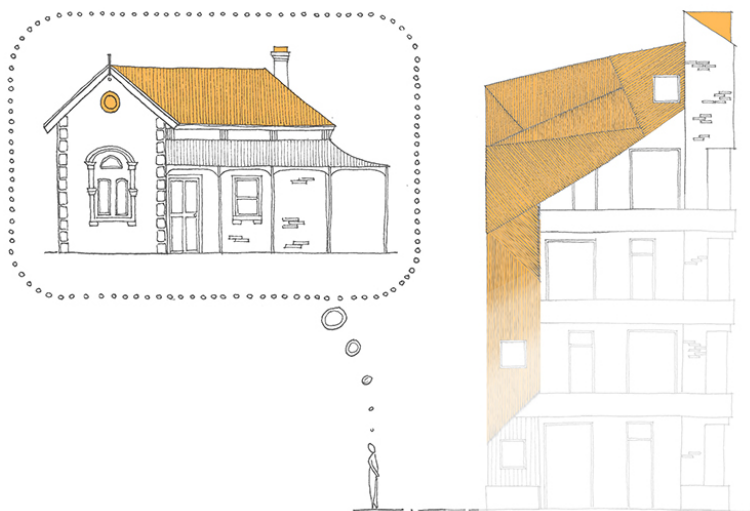
Such administrative and delivery issues are beyond the scope of the Design Principles presented in this report, but it can be assumed that new ageing-in-place ambitions for social housing require supporting strategies at organisational and operational levels to help deliver such innovation.

Towards New Design Principles and Tactics

At a design level, a one-size-fits-all approach to housing does little to foster innovation, and the function of the Design Principles is to therefore act as a set of generative design strategies rather than complete design solutions. Whilst not exhaustive, they synthesise the issues identified in the workshops into four themes that together suggest opportunities to foster innovation in social housing for the over-50s. Within each of the four themes, the principles are offered not as finite or intact rules, but rather as thinking points that might trigger approaches not previously considered. The Principles assume some level of sharing amongst residents and requisite compromises to individual privacy. While some tenants stated a preference for their individual privacy and a desire not to have to share facilities, strong support was given by the majority to shared tenant facilities, the provision of guest accommodation, common rooms, and resources sharing. Such socially inclusive ways of living were also stated as desirable by participants in the Industry Workshop.

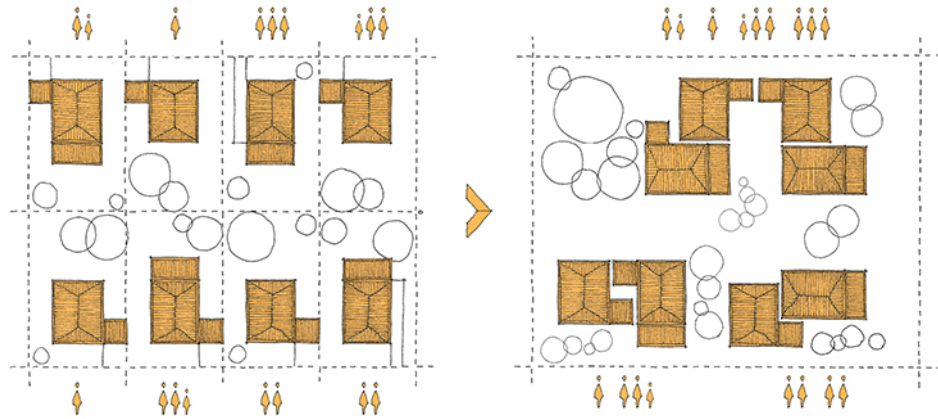
Design Principle 1: tactics that convey a sense of 'home'

Tactics such as these may evoke memory and relate a housing project to its context. They can unlock nostalgia through reference, for example using traditional housing typologies such as the semi-detached house in new ways to generate apartment buildings, or by reconfiguring the traditional terrace house from a block form to clustered zones.



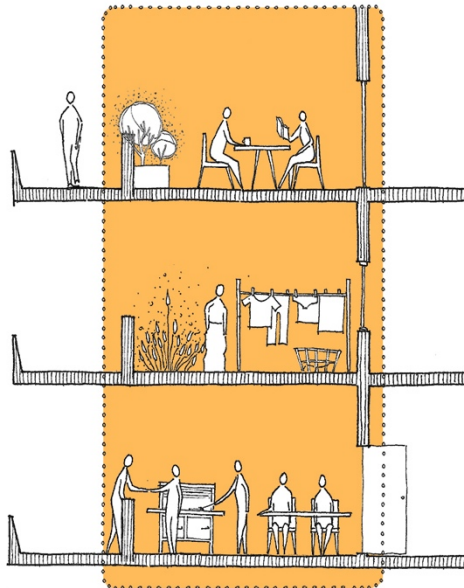
1.1 Unlocking 'home' through form and scale.

Apartment buildings are potentially daunting for residents, particularly when moving from a family home with traditional front and back yards. The bulk and mass of an apartment building can be made more familiar by breaking its elements into those of a more human scale. Verandahs can become balcony canopies; window mouldings can be reinterpreted as window hoods or patterned glazing mullions, and roof forms can be sculptural rather than hidden behind flat parapets.



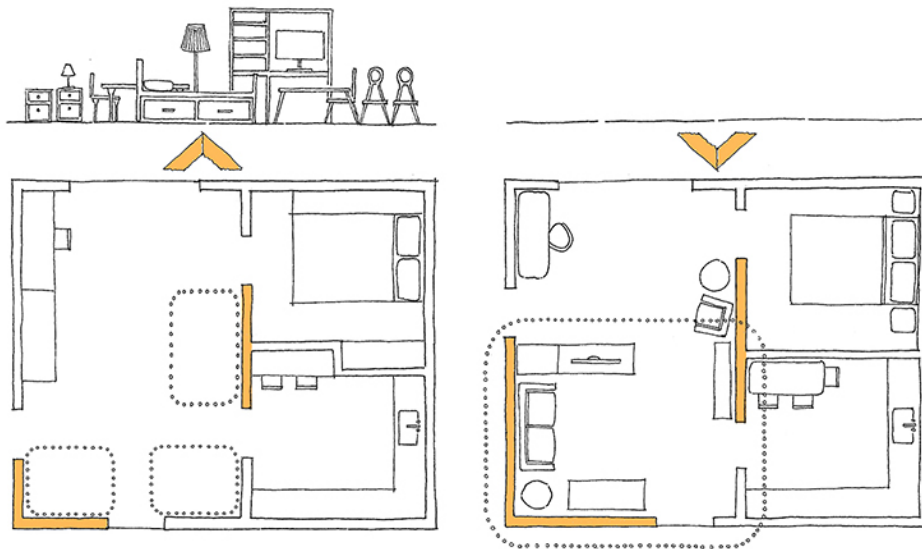
1.2 Using traditional housing typologies in new ways.

Reconsidering the apartment building as a series of connected clusters can increase housing numbers and density across a site whilst creating a variety of open spaces. Doing so has the potential to create dwellings and gardens that are dispersed across the site to create a variety of built and unbuilt scales, as opposed to a singular large-footprint apartment building. These smaller in-between garden spaces might be shared across two or three dwellings, as described by Design Principle 3.1.



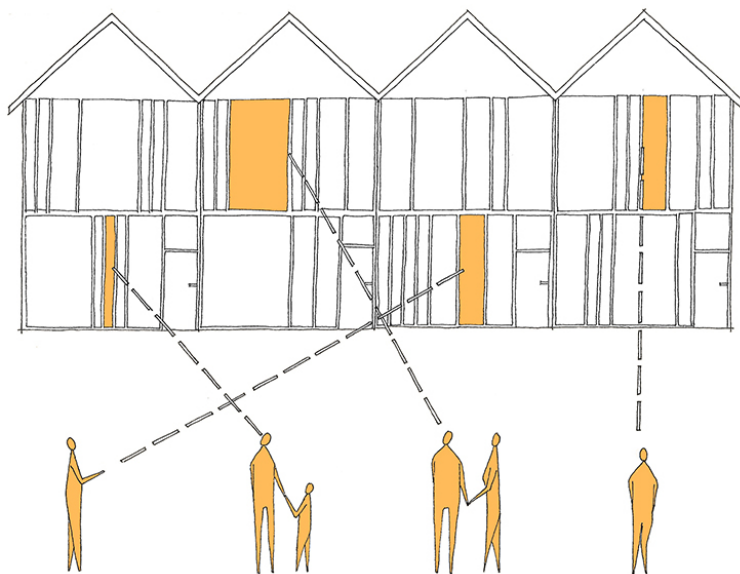
1.3 Reinterpreting front yards.

A traditional freestanding or semi-detached house presents an identifiable hierarchy of spaces. The road meets the footpath; the footpath meets the front fence; the fence bounds the front garden; the garden edges the house. In a multi-housing development, footpaths can be rethought of as shared walkways while balconies, if generous enough, can take the place of small active front yards.



1.4 Providing 'slack' space.

Designs that anticipate a resident's 'stuff' allow varied possessions and furniture to be brought along, used and enjoyed in a new dwelling. Providing blank walls unencumbered by doorways, circulation space or services creates so-called 'slack' space for residents to use as they see fit and to house furniture and other items of importance. The provision of a room with blank walls may appear to be a logical given, but small, functional and flexible dwellings are difficult to design. Requiring designers to provide furnished floor plans that anticipate different methods of use can help identify shortcomings in a proposed dwelling's layout.

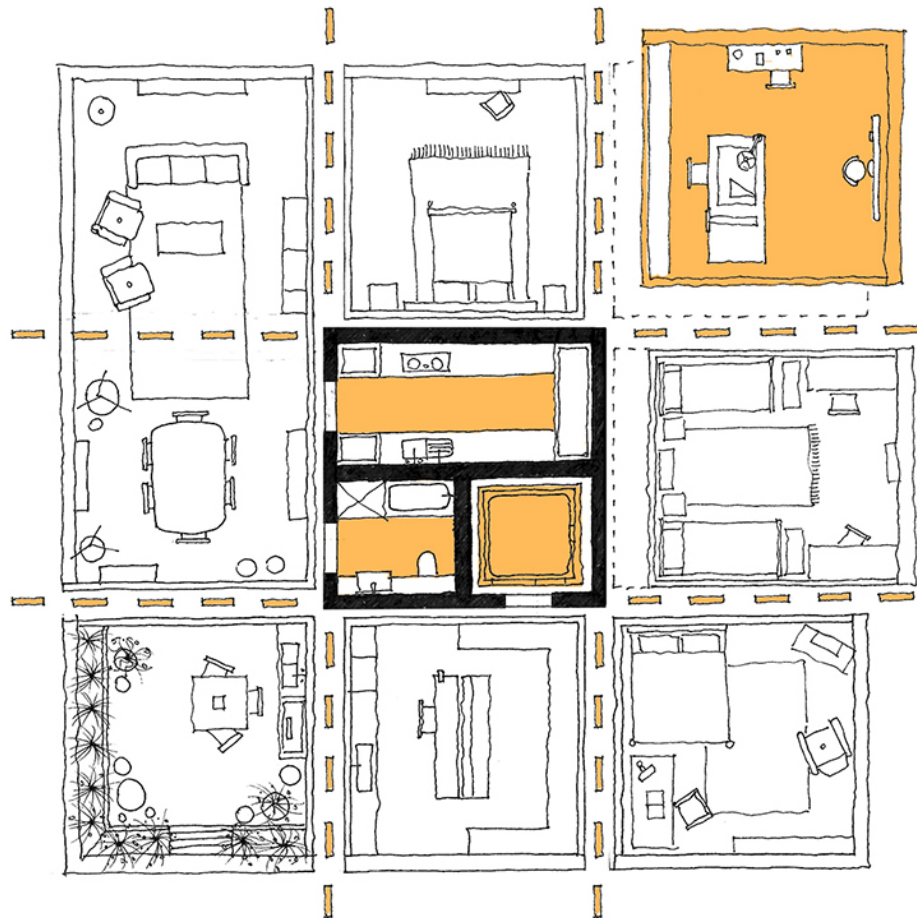


1.5 Designing facades as wayfinding devices.

Varied facades give each building on site and each dwelling within a building some form of individual identity. The ability for a resident to customise a balcony through additive landscape and shading devices further dilutes the potentially institutionalised effect of group housing.

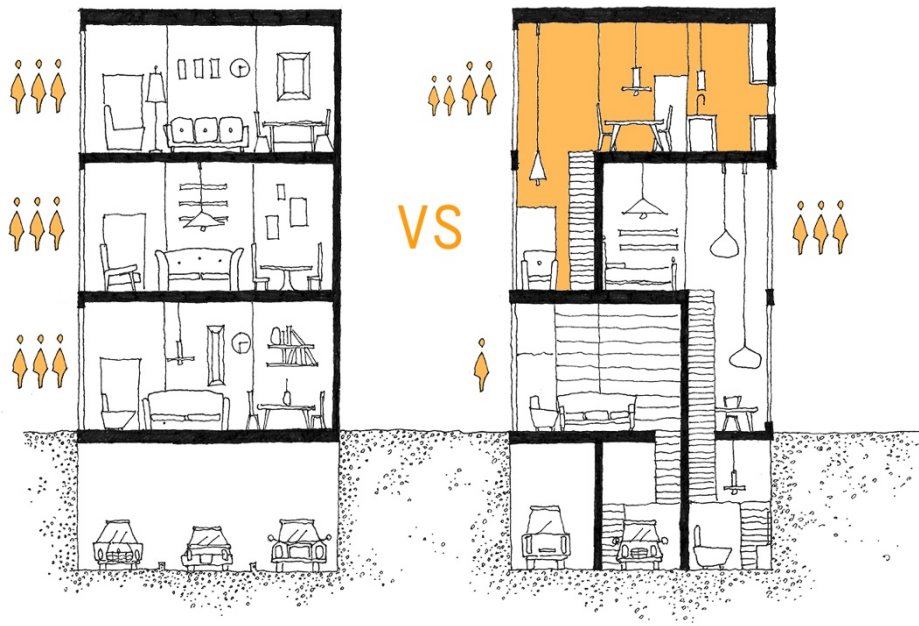
Design Principle 2: tactics that improve spatial characteristics

Tactics that compress or release space and mix low elements with high elements vary a building's volume. Spatial perception can be enhanced by staggering building footprints and facades. Connecting rooms with free movement as opposed to via single doors can make small spaces feel bigger. Diagonal views across the internal spaces of a dwelling enhance the sense of space, as do multiple views to the outside.



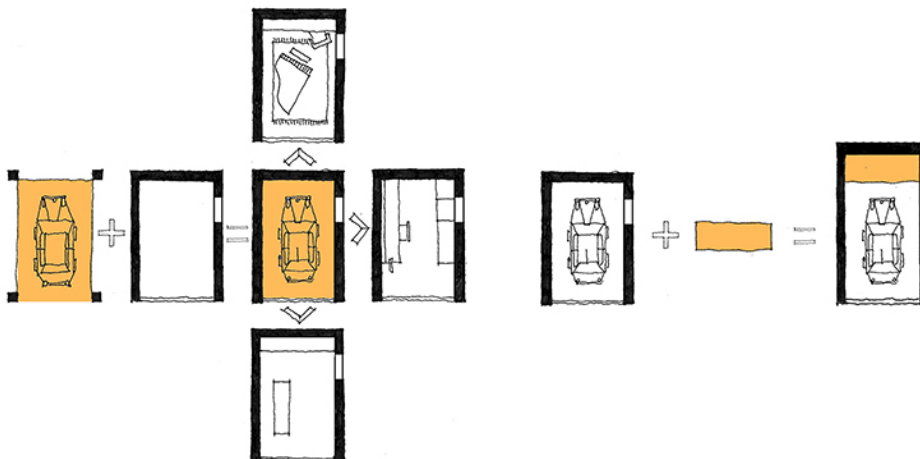
2.1 Free space promotes flexibility.

Designing a building as a mix of hard infrastructure and free space encourages users to tailor their use of a dwelling to their needs. Consolidating kitchens, bathrooms and laundries into a structural core and allowing all other space to be non-loadbearing enables the reconfiguring of space during or between tenancies. When located together, these hard infrastructure cores allow tenancies to spread or shrink so that larger and smaller dwellings can be achieved as needed. This effect can produce much-needed choice in dwelling sizes across a development.



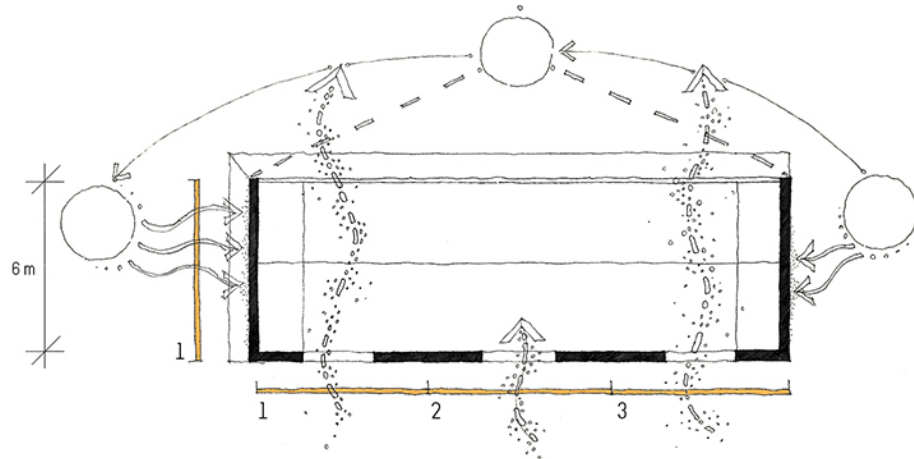
2.2 Varied volumes create welcome difference.

Cross-over apartments see the same volume as a traditional apartment building reconfigured differently. Double height spaces allow for greater separation within a dwelling and can improve access to light and ventilation. Where such dramatic changes are unachievable, simply creating some spaces with higher than expected ceilings helps to create spatial variety and more enjoyable spaces to occupy. Such changes in volume can also force variety into a building's facade, as it reduces the repetition of window and wall elements.



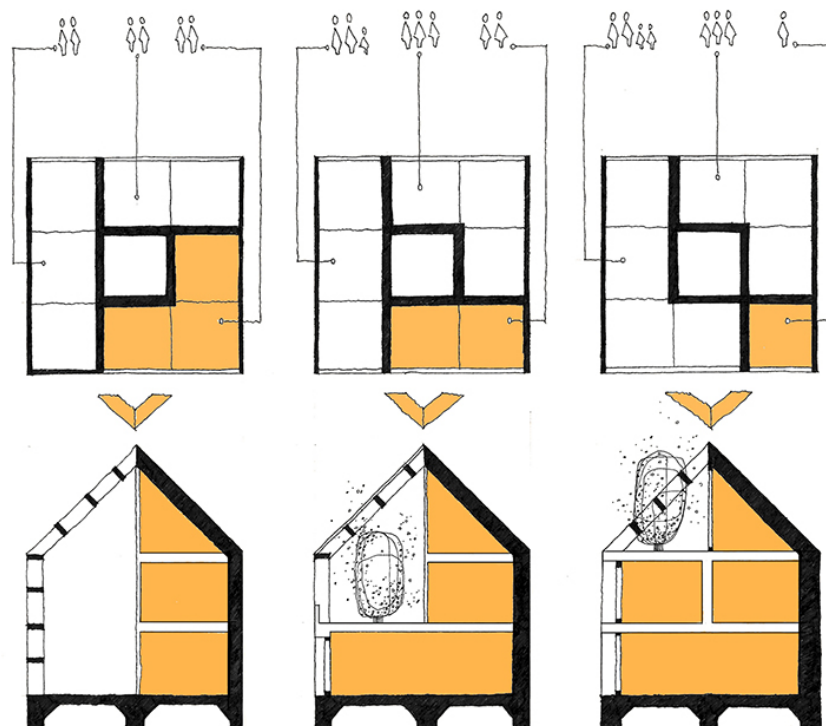
2.3 Flexible and adaptable storage improves liveability.

While Renewal SA's current *House Design Guide* encourages storage within parking areas, covered parking or enclosed garaging can serve multiple innovative purposes. A carport attached to a dwelling can double as a covered outdoor space. A garage can be a place in which to play music, study, or undertake hobbies. A garage provided with a window, where practical, significantly increases amenity and makes these other uses even more enjoyable, while a garage that is extended by even 600mm provides a useful area for storage or tasking.



2.4 Narrow footprints allow light and breeze.

A dwelling footprint that is no more than around 6m deep and of carefully considered proportions creates a large usable space whilst enabling good light penetration. The provision of windows in opposing walls allows cross ventilation and helps to limit a resident's reliance on mechanical cooling. Staggering such narrow footprints allows a larger collection of dwellings to be assembled into a cluster or apartment building whilst creating opportunities for garden and balcony areas.

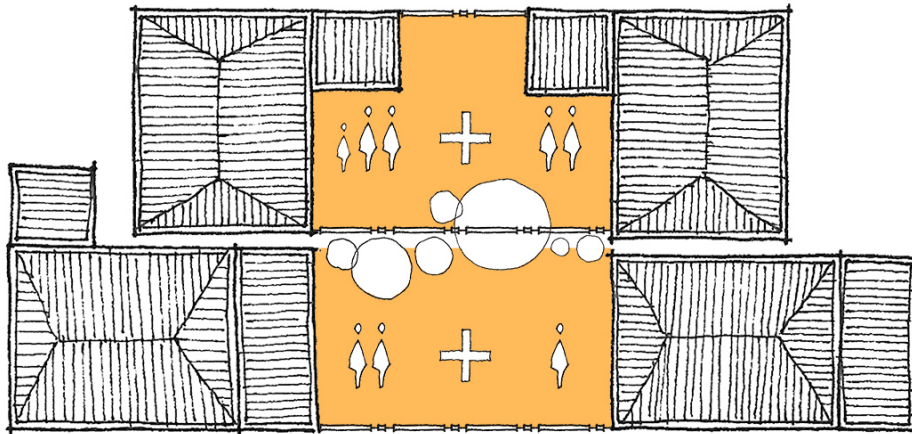


2.5 Adaptable spaces.

Repeated room sizes does not have to mean repeated dwelling types. Additionally, not all parts of a building have to be built at the same time. Providing core building elements that are fixed allows the building to function as designed from the outset, while unbuilt spaces can be occupied over time as needs change. Such adaptive building behaviour can occur horizontally, in the layout of the dwellings, and vertically, in the way residences occupy different building levels. While a building budget will normally be exhausted at a project's inception, a base building that anticipates future growth by allowing space for additions can accommodate a new building program years later.

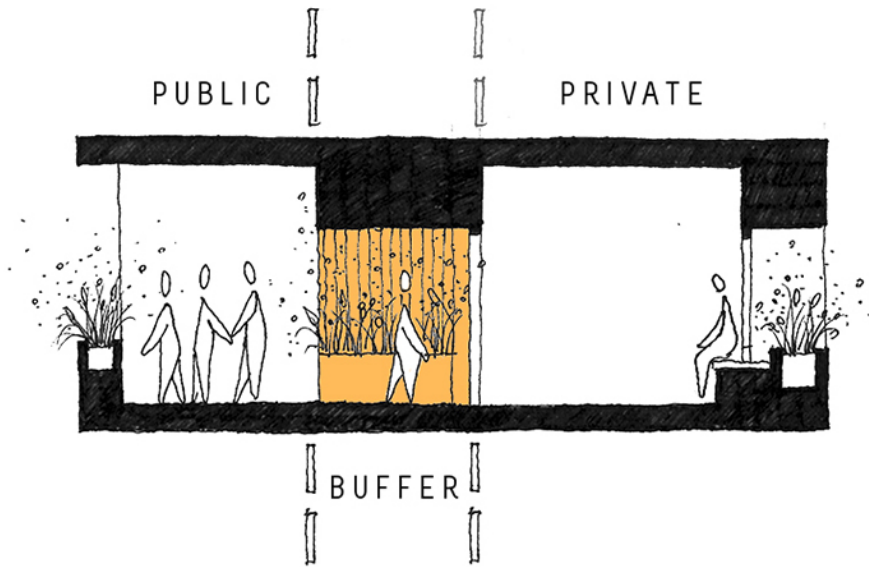
Design Principle 3: tactics that enhance outdoor relationships

Access to high quality landscaped spaces was stated as highly desirable for participants in the Industry and Co-design Workshops. Whether or not an outdoor space is deemed successful often relies on sufficient time and money being spent on the maintenance of those spaces. Maintenance, in turn, is affected by design: too much green space can result in high up-keep requirements, while so-called 'low maintenance' spaces often rely on excessive hard surfaces which can affect amenity. The following tactics acknowledge the importance of a sound landscape design and maintenance programme, and offer ways in which strong relationships with such spaces might be enhanced.



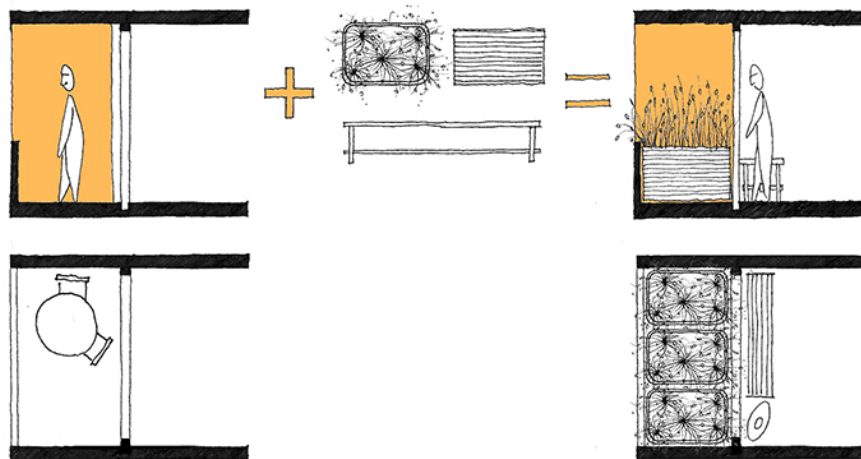
3.1 Generous open space proportions.

Whilst large singular garden spaces can be successful in group dwellings, they require regular maintenance that is often beyond the capacity of residents, particularly those of advancing age. This requires the development's owner to bring in external contractors for most if not all of the maintenance work. But smaller open spaces can still be generous, particularly if they have a strong relationship with the rooms that adjoin them. Stepped floorplans can enclose space that can either be privatised to a particular dwelling or shared between two or three dwellings, as described by Design Principle 1.2. Sharing garden space amongst a smaller number of users increases the chances of them being maintained informally by residents.



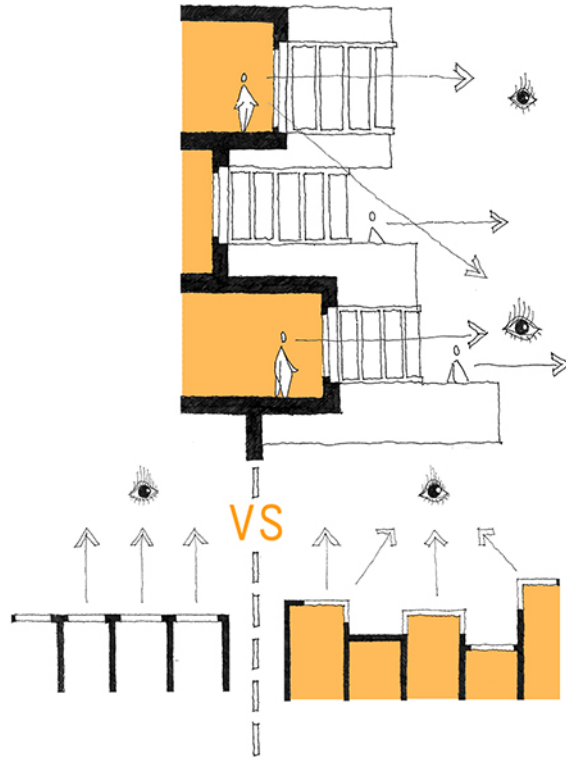
3.2 Public building perimeters.

Centralising services within a building's footprint enables the perimeters of a dwelling to be opened to external areas. However this can create a tension between what is public space and what is private. Ground level walkways and upper level circulation balconies can be buffered from dwellings with semi-private courtyards before a dwelling's front door is reached. Reducing the scale of a space at this semi-private point provides a visual clue to others that they are about to enter someone else's private space.



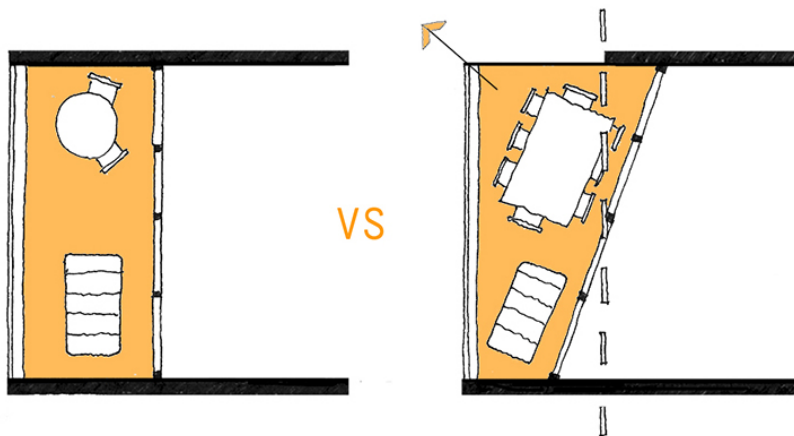
3.3 Private building perimeters.

Building perimeters that are not connected to private spaces can also benefit from a sense of ownership and a display of activity. Balconies provided with planter beds provide a reason for people to regularly use these spaces, promoting incidental contact among residents across balconies and from above and below. Small balconies, when afforded the opportunity to work as a garden, can extend a living space and increase amenity when the two are visually and physically connected.



3.4 Staggered spaces.

Renewal SA's *House Design Guide* for apartments acknowledges that staggering a building can reduce external noise transmission and promote desirable passive surveillance. Stepping a building's footprint or facade creates staggered spaces in plan and such spaces open the opportunity for varied floorplans across dwellings. They also provide multiple views out, as they encourage diagonal views across, up and down space. Beyond passive surveillance, such stepping increases the perception of space from within a dwelling.

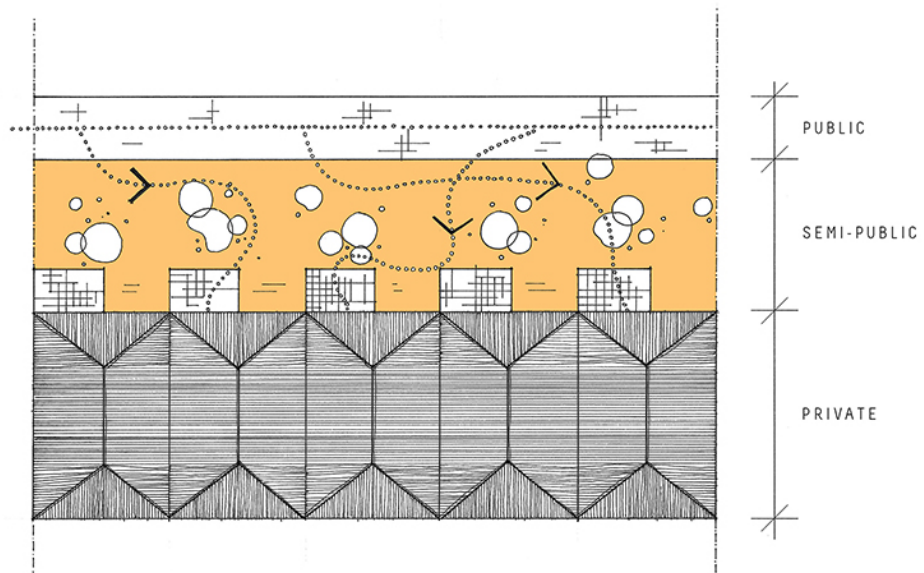


3.5 Angled balconies.

Balconies designed as rectangles *can* be highly amenable, but require sufficient depth to be usable for a table and chairs. Where such space cannot be provided, angling a balcony to share space with a living room provides an alternative. This may result in the balcony not achieving the current minimum width requirement at the short end, but greater overall usability and amenity. The resulting angled facade provides the added benefits of layering the building's edge and enabling diagonal views out of the dwelling.

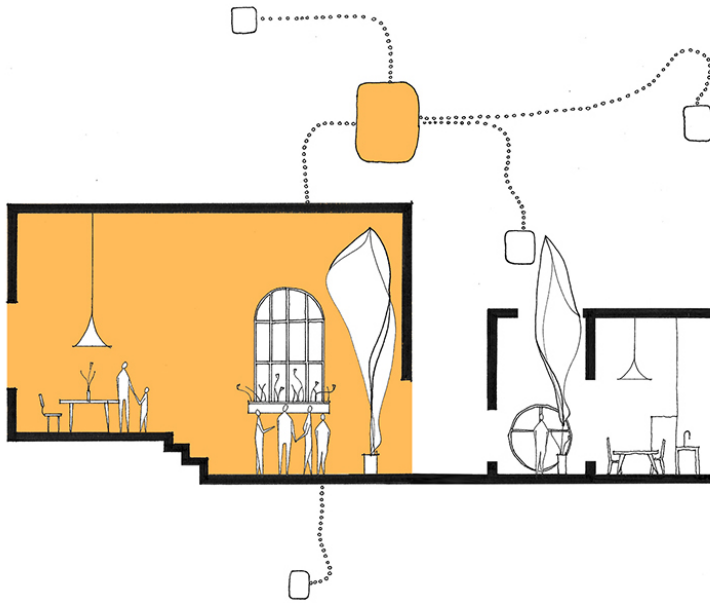
Design Principle 4: tactics for improved social cohesion

Providing public spaces that physically, visually and socially connect dwellings can increase a housing group's sense of community. Privacy for individual dwellings remains important when housing density increases, but the privacy expectations for residents must often shift to notions of 'relative' privacy. This can be aided by providing larger shared spaces in combination with smaller private spaces. Dwelling entrances can be clustered to avoid singular large entry foyers, and providing visual clarity and identity to individual dwellings within a singular building can further help residents establish their own identity within a group.



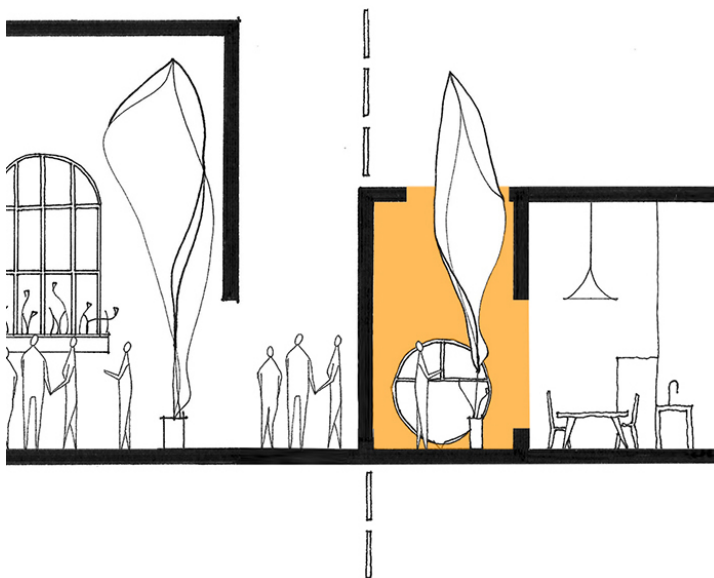
4.1 Continuous public space.

Continuous public space can act as a spine that binds individual dwellings within a group. However, circulation elements that directly abut dwellings risk unwanted intrusions on privacy and amenity. This can be mitigated by scaling the level of privacy within public space from public to semi-public spaces. Transitions between the two might be achieved by landscape elements that keep the common areas continuously linked, but visually and physically separated from resident's front doors and windows.



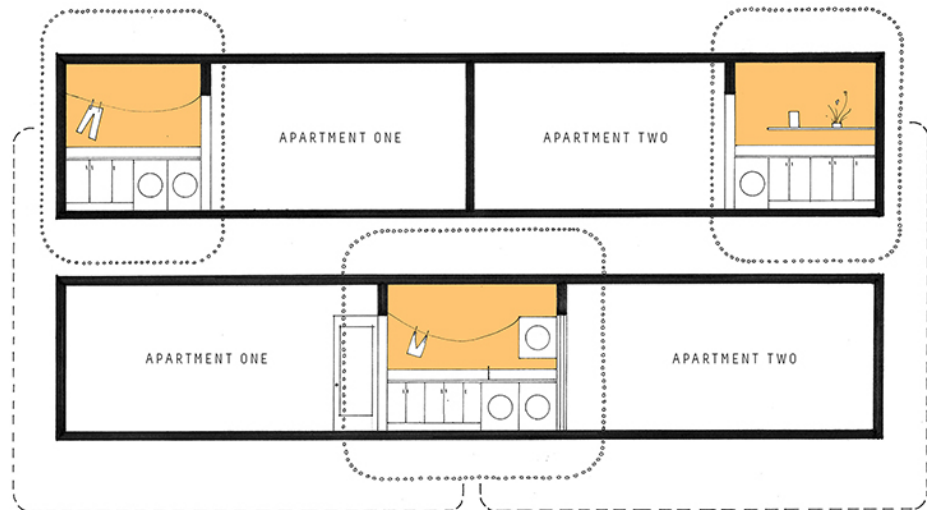
4.2 Meaningful shared space.

Common spaces within a housing development can provide spaces for hobbies that are otherwise difficult to achieve within individual dwellings. The current *House Design Guide* for apartment buildings calls for a shared space serviced by a kitchenette and bathroom in largescale mixed tenure developments, but the addition of a dining and living area converts such a space to a Common House witnessed in co-housing developments. This allows residents to come together to share meals and to socialise with neighbours, or to retreat to their own homes when desired. Such a facility can increase levels of social inclusion.



4.3 Inner sanctums.

Common space should not replace private space. An 'inner sanctum' provides private space where residents can avoid contact with others when desired. While bedrooms often fulfil this role in a multi-residential development, this is not ideal. Inner courtyards, private balconies or living spaces oriented away from public areas and into the dwelling can provide this sanctuary.



4.4 Shared utilities.

Shared utilities are often not desirable due to the effort required to keep such spaces tidy and tenants in the Co-design Workshop stated a preference for their own private laundries and drying areas. However a fully private facility is not always a trump card that beats out other concerns. Laundry facilities shared between just two dwellings, for example, enables a sharing of resources, reduced construction costs and a spatial gain for each dwelling. Given a choice of additional space over fully private utilities, residents may choose the former if convinced that the sharing is limited and sound sharing strategies can be implemented.



4.5 Active facades.

Facades that provide the resident the opportunity to tailor their balconies or windows provide a sense of ownership. Operable devices such as blinds or window shutters can signal that someone is at home, is out or does not want to be disturbed, and helps reduce the overall visual bulk of apartment buildings. This is particularly so when large buildings are composed of many repeated elements and risk presenting as undesirably monumental or institutional.

Case studies of good design ‘quick wins’

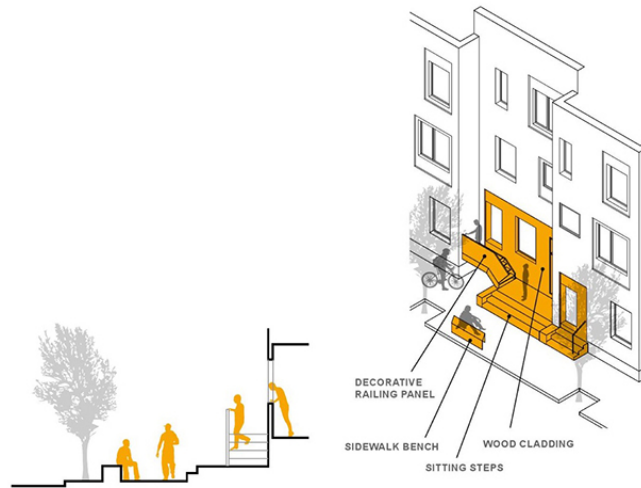
The following small collection of multiple housing case studies each present design principles that potentially offer ‘quick wins’ for our social housing for the over-50s. Not all of the projects are designed for ageing residents and not all are social housing projects, but each represents design manoeuvres that do not rely on expensive materials or complex building forms for their success; rather, they demonstrate what can be described simply as good design. Amortised across a medium- to large- scale development, these design moves offer increases in amenity for residents, the buildings’ local settings and their greater neighbourhoods.



<http://www.archdaily.com/801718/portales-dwelling-fernanda-canales>, photographer: Rafael Gamo

Portales Dwelling, Mexico City, Mexico. Architects: Fernanda Canales.

12 dwellings are arranged over three levels with four varied house types per floor. The ground level contains car parking, storage and services. The angled walls direct views across space, reducing the tunnel effect of a traditional apartment, whilst varying the facade to provide visual interest and reduce bulk. Transparent balustrades, supplemented with generous planter boxes further this effect and the minimal palette of concrete frame and face brick infill panels is cost effective and patterned to a human scale. Inside the apartment block, selective use of colour assists in wayfinding, and low maintenance landscaped courtyards soften the otherwise robust material palette.



<http://www.archdaily.com/801443/powerhouse-isa>, drawings: ISA, photographer: Sam Oberter

Powerhouse, Philadelphia, USA. Architects: ISA.

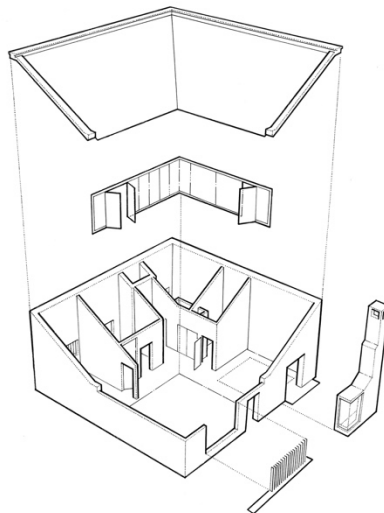
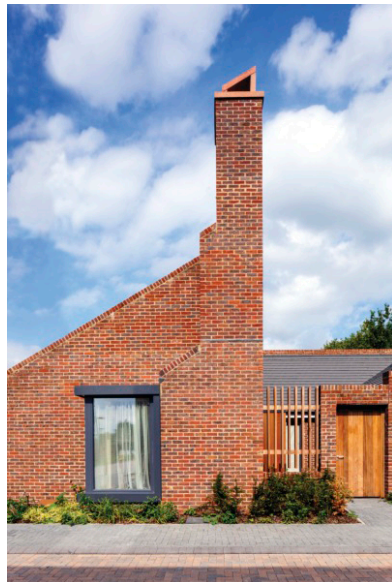
31 dwellings of varying types, mixing townhouses, duplexes and apartments, are clustered in a three storey infill development. Familiar materials of brown brick and timber cladding reference the traditional buildings of the neighbourhood and help break the buildings down into smaller visual units. Entrances are clustered to disperse the 31 front doors across the development and building setbacks are varied to stagger the depth of the footpath. These stepped spaces take on the role of traditional townhouse stoops and allow for places to sit, wait, meet and interact with others. Floor level changes are handled in manageable small rises of no more than four steps at a time, suitable for ageing in place scenarios where reduced mobility is not a concern.



<http://www.wohnmodelle.at/index.php?id=86,77,0,0,1,0>, photographer: Bewohnerinnen und Bewohner

POS Social Housing, Krapinske Toplice, Croatia. Architects: Letilovic & Vlahovic.

A social housing project reinterpreting vernacular building forms, traditional terrace houses are arranged along external corridor spines at ground and first floor levels. A public walkway along the edge of the building is bounded by a shared garden on its outside and recessed semi-private porches on the dwellings side. At the rear of the building, a timber framed balcony can be divided between tenancies, while the structure allows for shading devices to be easily and economically installed to the tenants' preferences.



<http://www.pateltaylor.co.uk/works/architecture/residential-and-mixed-use/courtyard-housing>,
photographer: Peter Cook, drawing: Patel Taylor Architects

Courtyard Housing, London, England. Architects: Patel Taylor.

Providing housing for the elderly, the project draws on the form and materials of medieval almshouses to create a courtyard housing complex that retains a domestic scale while achieving higher density. Repetition creates an economy of scale but visual legibility ensures individual entrances are easy to identify. Externally, the traditional roof form is pitched to accept solar panels and this pitch is expressed internally to create a raked ceiling which increases volume and creates vertical space. On a site level, the dwellings are organised in three linear bands around a central garden, again reflective of traditional almshouses.



<http://www.archdaily.com/786055/85-sheltered-housing-units-for-senior-and-public-facilities-grnd82>, photographer: Jordi Castellano

Can Travi Elderly Housing, Barcelona, Spain. Architects: GRND82.

A mixed-program facility, 85 small units are provided for sheltered and elderly residents, while a community centre occupies the ground floor. In order to reduce the bulk of the building and create narrow footprints, the apartments are arranged in two wings, positioned in an 'L'. To reduce overlooking to a single area and to create variance in what might otherwise be an overly repetitive facade, apartments on each level face in the opposite direction to those of the floors above and below. Structurally, the building uses a strict grid system to create individual 45m² units. Within this simple structure of four columns, all of which are set back from the building skin to free the facade, the internal walls of each unit are non-loadbearing and kept to a minimum. This enables diagonal views across the unit from the living and sleeping rooms. Usable balconies and shared facilities provide supplementary spaces to the small individual units.



<http://www.shedkm.co.uk/work/chimney-pot-park/> and <http://www.urbansplash.co.uk/residential/chimney-pot-park>
photographer uncredited

Chimney Pot Park, Manchester, England. Architects: shedkm.

A refurbishment of several rows of Victorian-era terrace houses, the Chimney Pot Park development spreads new tenancies across original party walls in order to create a new mix of housing sizes. The existing repeated terrace house pattern is thereby redistributed to create dwellings of varied layouts. At the rear of the properties, small overlooked rear yards are given over to ground level car parking and above this an elevated shared garden is provided to replace what is lost in the transfer of space. Each new dwelling faces onto this garden, where raised garden beds and window hoods reduce inter-looking between dwellings. The garden becomes a linking device for the dwellings as well as the buffer that separates them. Internally, space is used economically, with roof spaces being occupied as kitchens, bedrooms or studies.

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- Course-integrated projects linking students and industry;
- Workshops using design thinking and co-design for and with University of South Australia staff, industry and community groups; and
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