

# BEST PRACTICE DISCUSSION PAPER

A comprehensive evidence-base for innovative design methods that can improve accommodation outcomes for TBI and SCI residents



MONASH UNIVERSITY  
ART DESIGN & ARCHITECTURE

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The Monash Architecture Studio (MAS) is a architectural practice-based research unit located within the Department of Architecture at Monash University. The design explorations of MAS are based on such issues as rapid population growth, changing household demographics and supported living environments. The research focus is on the design of intensive and sustainable development models within established urban areas. Such models aim to enable cities to grow in a more sustainable and liveable way, with corresponding high amenity.

<http://www.artdes.monash.edu.au/mas/#!>

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- Residents of the Eunice Seddon Homes
- Lucas Gatt, Yooralla

# EXECUTIVE SUMMARY

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This discussion paper extends the pilot study, 'Design Contributions to Lifetime Care'<sup>1</sup> which conducted scoping research into best practice case studies of supported living models that demonstrate how architectural and urban design strategies can influence the quality and performance of dwellings that are occupied by people with disabilities.

The pilot study identified two discrete discourses: a qualitative design discourse and an accessibility/ functionality discourse that are mostly unrelated. For example, there is substantial literature about universal design and making dwellings more accessible, but little understanding about how these small design moves relate to broader ideas and ambitions of improved ways of living and interacting in quality urban environments. At the same time, there are architectural publications aimed at designers that do not analyse the impact of eloquent designs on users.

This discussion paper relates these two discourses by analysing a selection of high quality design local and international 'best practice' examples designed specifically for or highly relevant to people requiring support in their everyday living routines. In so doing, it seeks to make a bridge between best practice architecture/urban design and the user experience to create a holistic approach to supported living.

## Background

This discussion paper is part of the research project 'Effective design strategies to improve accommodation outcomes for spinal chord injury (SCI) and acquired brain injury (ABI) users. This larger project is investigating how architectural design strategies can influence the quality, performance and efficiency of new and Transport Accident Commission (TAC) clients that have been identified as having an unmet need: clients who are able to live more independently over time with reduced levels of support, but who currently lack accommodation options. This has two interconnected streams of research: one is building an evidence base and the other is applying this knowledge into the development of replicable design strategies. There are two separate discussion papers building the evidence base: this paper is concerned with best local and international practice; another discussion paper<sup>3</sup> has been developed concurrently with an analysis of the current practice of the TAC Home Modifications Unit and RIPL (Residential Independence Proprietary Limited). Although able to be read separately, these two papers inform each other and both will feed into the next stage of the research project, which will apply and extend this knowledge through the development of replicable design strategies at a range of scales relevant to TAC's accommodation needs.

## Research Approach

The key research question for this discussion paper is: What are the impacts of best practice case study innovations in retrofits and new builds for clients and carers, and how might these address the objectives of TAC?

The method for answering this question involves an analysis of a selection of local and international 'best practice' examples designed specifically for or highly relevant to people requiring support in their everyday living routines. The research methodology utilises first-hand observation and documentation of the way spaces perform in-use and includes substantial interviews with the residents, key personnel and users of each project. Drawing from this fieldwork, the discussion paper develops a collection of themes and uses original drawings, photographs and diagrams in addition to text as a way of articulating these and demonstrating the value that high quality design thinking has brought to the lives of people living with disabilities or requiring assistance, their support workers, families and friends.

One of the criteria applied for project selection is that the projects have been published in design journals and/or recognised by the design profession as being of exemplary standard. Another criteria is that the projects have been occupied for between 5-10 years, allowing us to interview users and observe how the spaces had performed over time – to see and hear what worked, what didn't, what was unexpected and how people have adjusted and responded to their environments.

These international and national best practice case studies include a range of accommodation types, including dedicated accommodation for people with disabilities, retrofits of existing homes and integrated accommodation within mixed tenure buildings:

- Small-scale retrofits (Alexander Miller homes regional Victoria)
- Medium-scale retrofit (Kaufhaus Breuer Germany)
- Purpose built accommodation (Vetlanda Group Home Sweden)
- Large urban development (Weidevogelhof)

## Key findings

In this paper we have argued that there is a need to move the discussion beyond what are known as 'universal design' principles and to recognise that whilst critical, physical accessibility and functionality are only part of the issue. This paper has sought to articulate, through the analysis of concrete examples, a set of components and qualities towards what has been termed "dignity-enabling home environments", where a concept of social dignity underpins any evaluation of what might be judged as 'adequate'. Just providing shelter and physical access is not enough. At the most fundamental level, we need to be providing the space for a dignified life to take place, recognising that people living with a disability are as complex as any other member of the community: "individuals with their own needs, abilities, ambitions and priorities ... united only by the experience of living with disability". As the examples presented in this paper show, achieving a meaningful home environment – particularly for those requiring care – is not simply a matter of physical size or cost, but involves the nuanced balance of many competing and conflicting demands.

Finding the physical form and arrangement that responds to such a nuanced balance, in a way that synthesises many different requirements into something that can be both used and understood, is the core of the design process. Design intelligence is required to find a solution that can allow for spontaneity, variety and chance while simultaneously providing a sense of safety and security. Design intelligence is also used to provide specialised fit-for-purpose solutions to complex briefs that are nevertheless able to embrace ambiguity, allowing for unprogrammed casual encounters and finding personal space within a highly controlled communal environment.

A repeated issue arising from many of the projects visited is that successful places do not get finished and delivered on 'Day 1'; in addition to high quality design they require ongoing care, flexible and responsive management and what we have termed 'creative stewardship', a condition where management and residents are jointly involved in a continual feedback loop of listening and making adjustments. When this occurs the residential environment becomes not only a place to live, but also is itself a living entity that changes and registers the personality of its occupants over time. We have argued that this is fundamental to the creation of 'home'.

We have tried to articulate, through real built examples, ways in which design intelligence and creativity is able to be applied to the provision of a meaningful and dignified home - not only in the physical form it takes but also in the way it is run and perhaps most importantly the way it becomes lived in and occupied. The findings are presented in nine sections, which are not discrete or belonging exclusively to any particular project, but have been separated out in order to more clearly show their properties: 1) My home, 2) Quality environments, 3) Design for all, 4) Spontaneity and flexibility, 5) Privacy and security, 6) Beyond inside, 7) Social relationships, 8) Rules and regulations and 9) Creative stewardship.

At the end of the paper, two appendices provide more information on the projects analysed and a list of all interviews conducted. Transcripts of the interviews have not been provided but are available on request.

# INTRODUCTION

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This discussion paper extends the pilot study, 'Design Contributions to Lifetime Care'<sup>6</sup> which conducted scoping research into best practice case studies of supported living models that demonstrate how architectural and urban design strategies can influence the quality and performance of dwellings that are occupied by people with disabilities.

The pilot study identified two discrete discourses: a qualitative design discourse and an accessibility/ functionality discourse that are mostly unrelated. For example, there is substantial literature about universal design and making dwellings more accessible, but little understanding about how these small design moves relate to broader ideas and ambitions of improved ways of living and interacting in quality urban environments. At the same time, there are architectural publications aimed at designers that do not analyse the impact of eloquent designs on users.

This discussion paper relates these two discourses by analysing a selection of high quality design local and international 'best practice' examples designed specifically for or highly relevant to people requiring support in their everyday living routines. In so doing, it seeks to make a bridge between best practice architecture/urban design and the user experience to create a holistic approach to supported living.

## Background

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This project has two inter-connected streams of research: one is building an evidence base and the other is applying this knowledge into the development of replicable design strategies. There are two separate discussion papers building the evidence base: there is this paper which is concerned with best local and international practice; another discussion paper<sup>8</sup> has been developed concurrently with an analysis of the current practice of the TAC Home Modifications Unit and RIPL (Residential Independence Proprietary Limited). Although able to be read separately, these two papers have influenced each other and both will feed into the next stage of the research project, which will apply and extend this knowledge through the development of replicable design strategies at a range of scales relevant to TAC's accommodation needs.

## Research Method

This discussion paper analyses a selection of local and international 'best practice' examples designed specifically for or highly relevant to people requiring support in their everyday living routines. The research methodology utilises first-hand observation and documentation of the way spaces perform in-use and includes substantial interviews with the residents, key personnel and users of each project. Drawing from this fieldwork, the paper develops a collection of themes and uses original drawings, photographs and diagrams in addition to text as a way of articulating these and demonstrating the value that high quality design thinking has brought to the lives of people living with disabilities or requiring assistance, their support workers, families and friends.

The projects have been selected specifically to address the gap identified in the pilot study between a high-calibre design discourse, and a discourse based around accessibility, functionality and regulatory compliance. One of the criteria applied for project selection is that they have been published in design journals and/or recognised by the design profession as being of exemplary standard. Another criteria is that the projects have been occupied for between 5-10 years, allowing us to interview users and observe how the spaces had performed over time – to see and hear what worked, what didn't, what was unexpected and how people have adjusted and responded to their environments.

We have tried to articulate, through real built examples, ways in which intelligence and creativity is able to be applied to the provision of a meaningful and dignified home - not only in the physical form it takes but also in the way it is run and perhaps most importantly the way it becomes lived in and occupied. The discussion is structured in nine sections, which are not discrete or belonging exclusively to any particular project, but have been separated out in order to more clearly show their properties: 1) My home, 2) Quality environments, 3) Design ambiguities, 4) Spontaneity and flexibility, 5) Privacy and security, 6) Beyond inside, 7) Social relationships, 8) Rules and regulations and 9) Creative stewardship. These categories relate closely to and are a development of those in the initial pilot study (2013), and have been verified by subsequent presentations to the wider multidisciplinary research group and benchmarking against the work of others.

At the end of the paper, two appendices provide more information on the projects analysed and a list of all interviews conducted. Transcripts of the interviews have not been provided but are available on request.

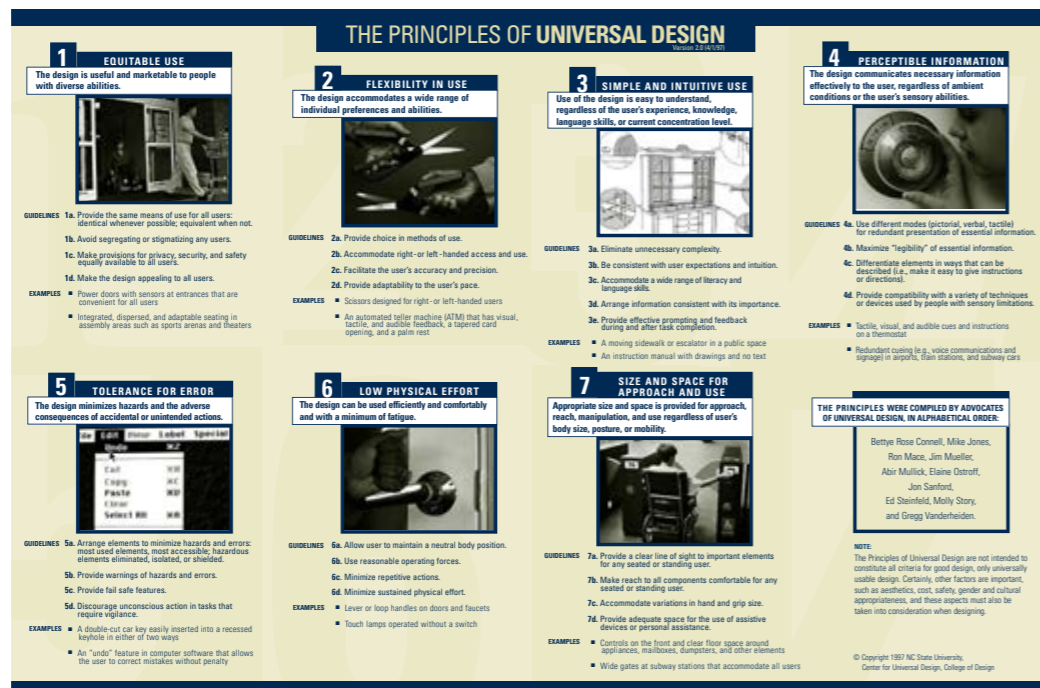
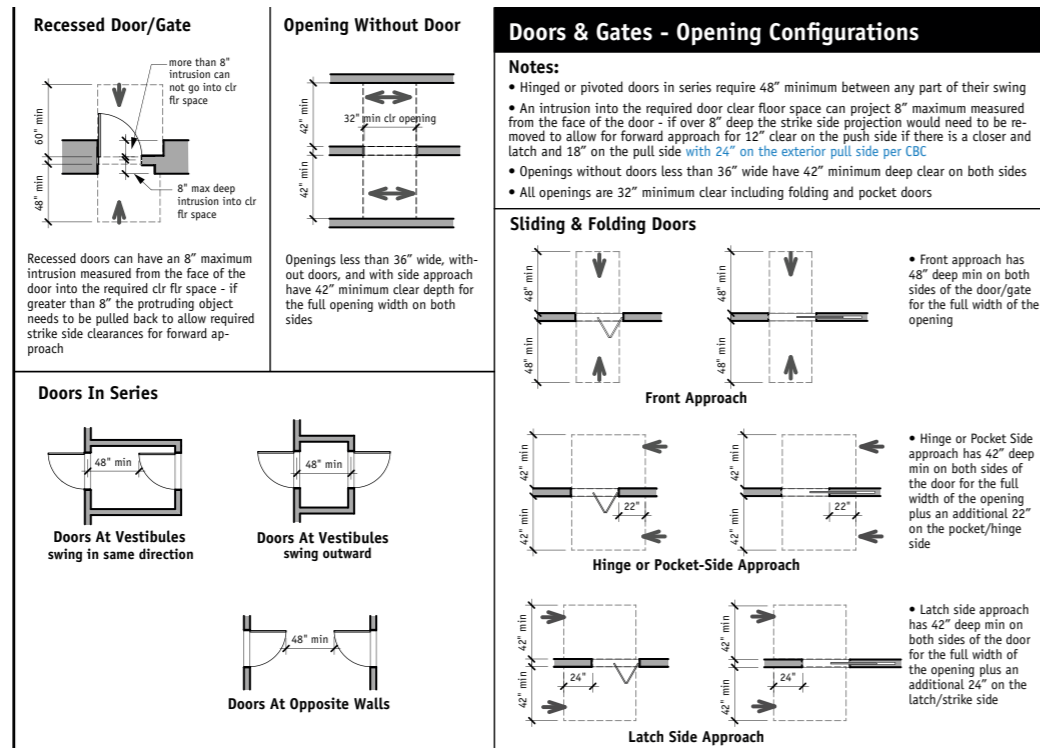
The issues, concepts and examples discussed here describe the position that we have reached after twelve months of detailed investigation. Together with the finer-grain details included in the accompanying discussion paper reviewing current TAC accommodation-related practice, this paper forms the basis of a 'design brief' for the second phase of the project.

# THE QUESTION OF HOW:

1

Top  
Sample page from  
'Stepping Thru Accessible  
Details' by Janis Kent

Bottom  
The seven principles of  
universal design, image  
courtesy of North Carolina  
State University, Center for  
Universal Design



## Evolving from prescription to inspiration

This discussion paper is concerned with the question of how: how might we go about designing environments that come closer to achieving the goals of a dignified and engaged life for those living with a disability and requiring care? How can we draw on and be inspired by best practice examples?

There is a large amount of contemporary literature on the topic of accommodating people with disabilities and those requiring assistive care within the mainstream built environment. It is hard to disagree with the fundamental aims and objectives of much of this, as articulated, for example, by the seven principles of 'universal design'<sup>9</sup> or with the sophisticated sociological and cultural understandings arising through numerous books and papers reflecting on and defining what have been called 'geographies of disability'.<sup>10,11</sup> The United Nations held a convention in 2006 around the equal rights of those with disabilities, which also addressed historical and perhaps dominant views surrounding people with disabilities as subjects of pity, and in contrast, took the position of enabling or empowering<sup>12</sup> – a person-centered and 'bottom-up' approach. Australia was one of the first nations to sign up to this protocol in 2008. There is consensus within the community on the high level questions of 'what'; maximised independence, a sense of dignity and meaningful interactions, and 'why'; to empower individuals, but the question of exactly **how** these things can occur remains more elusive.

The vast majority of literature and regulation that has arisen in response to this discourse is functionally driven, 'top-down' and prescriptive, often in the form of manuals or codes, providing instructions on such essential but prosaic issues such as how to achieve a flush threshold into a shower cubicle, or dimensioning what an adequate wheelchair turning circle clearance might be leading to a bedroom door. There is little mention of qualitative, atmospheric or participatory attributes of the built environment, nor the provision of relevant methods or techniques for achieving environmental attributes such as surprise or delight. Unfortunately, compliance with most regulations does not guarantee quality, or come close to delivering what Gibson describes as a 'dignity-enabling' environment.<sup>13</sup> Furthermore, rather than viewing accessibility as an opportunity to improve the built environment, it often comes at the expense of the quality of the design.

There are exceptions. In countries like Sweden and Denmark, 'accessibility and usability are subjected to an open interpretation on a comprehensive level, supplemented by specified requirements on a detailed level'.<sup>14</sup> Similarly they also include qualitative aspects, for example windows with good views, and good access to natural daylight.<sup>15</sup> The Victorian Building Commission's 'Build for Life' publication articulates some of the reasons behind accessibility codes and the broader lifecycle benefits of designing for adaptability and universal access. It also contains some qualitative commentary running in parallel with accessibility features, for example; 'A bedroom should be a place in which to feel relaxed, comfortable and safe ... the ambience is as important as the functionality of the room'.<sup>16</sup> By including such intangibles as atmosphere, desire, self-expression and spontaneity in the discussion of what constitutes 'adequate' housing or urban places, we seek to raise the bar of what is currently offered in Australia and take a more holistic view. The focus should include quality and dignity, but there is not necessarily a requirement to increase

Top  
 Tokyo Institute of  
 Technology deck designed  
 by Yoshiharu Tsukamoto  
 Laboratory: the raised  
 timber platform gently  
 ramps down and links in  
 with paths at the ground  
 level

Bottom  
 Tokyo Institute of  
 Technology: the platform  
 provides a seamless and  
 fully accessible entry into  
 buildings



Image : Marika Neustupny



costs to achieve these aims – rather the concern needs to focus on changing attitudes, re-evaluating priorities and hierarchies; seeking out new relationships and adjacencies: a change of mindset from singular and specialised to more diverse and mainstream.

Hence the format of this paper is set up to provide impetus for future ideas and new approaches, rather than instructions for a pattern book or 'tick-box' approach. By illustrating how successful and unusual designs work in practice, and by demonstrating through interviews and observations how they affect people's lived experience, this paper aims to establish how not just 'design', but 'design intelligence',<sup>17</sup> can make a real difference, taking the subject matter out of the realm of bureaucracy and rules and into the realm of technique – making it desirable and generative.

The following pages discuss three types of applied design intelligence and what it means in practice, taken from examples discussed in subsequent chapters::

## 1. Combining requirements to create integrated multi-functional elements.

At the Tokyo Institute of Technology, a raised timber platform provides a broad and comfortable walk from the station to the main historic admin building, passing a number of landmarks and joining into the auditorium hall used for performances and graduations. This platform provides a new place for picnics and informal events under the cherry blossom trees, it defines an outdoor foyer and gathering space for ceremonial occasions. It clearly separates pedestrian space from vehicular traffic and seamlessly provides access to two important buildings with raised floor levels. By combining this access into a new landscape element that surpasses its individual functions and is not clearly for any one purpose, a new way of occupying and inhabiting the ceremonial space of the campus has evolved for all. (At the other end of the scale, this approach of integration and combination of elements was also used in the more successful bathrooms we analysed.)

## 2. Rethinking and undoing presumed relationships between whole and parts.

In the provision of social housing in Mulhouse in France, architects Lacaton and Vassal took an unusual approach. Within the standard government housing budget, they provided almost twice the floor area for each apartment, by using low-cost construction techniques and including less in the way of finishes, fixtures and internal partitions. The result is a warehouse-like space suited to a number of different types of residents, able to be modified by occupants over time to suit their needs and reflect their personality. (There is no fixed number of bedrooms, for example.) The spaces provide high amenity in the form of natural light, generous space and ceiling heights, but also demand something of their occupants. By not providing some of what might normally be expected, residents are provoked to participate and get involved in defining their own environments. The results over ten years of inhabitation show an unusual level of ownership, customisation, engagement and pride.



Top  
*Cité Manifeste designed by Lacaton and Vassal: providing only the bare minimum of fitting and fixtures prompted residents to arrange and furnish the space to suit their individual tastes and circumstances*

Bottom  
*Wintringham Housing's Alexander Miller Homes Castlemaine designed by Allen Kong: the quality of landscape and transitional outdoor spaces play a crucial role in the 'adequacy' of the home environment*



### 3. Refocusing hierarchies and priorities through repeated observation and reflection.

Over a series of housing projects designed for the same client, Melbourne architect Allen Kong has developed a subtle but highly effective approach. To address the frequent internalisation and social isolation of elderly and unwell residents within their homes, Kong and Wintringham Specialist Aged Care have developed a philosophy that focuses on external circulation, emphasising semi-covered, semi-private spaces and landscape. The interiors of buildings are well designed but relatively straightforward. Within standard timeframes and budget, detailed attention has been spent on what they call the 'grey areas' between the individual dwelling interior and the edges of the site. These interstitial, landscape and semi-public transition spaces, such as verandahs, porches, garden walls, gates and parking, are often neglected due to perceived budget and time constraints, but play a crucial role in the effective integration of dwellings with their wider environment. They help to provide a sense of safety and an ambience of easy sociality for residents between their own home and the outside world.

This involves going beyond conventional discussions around 'minimum' accessibility standards such as getting through the front door or moving around the bathroom, as detailed in building and construction codes, or guidelines such as the Livable Housing Design Guidelines.



## MY HOME

# 2

The concept of 'home' is intrinsically linked with identity; it is 'one of the fundamental places that gives shape and meaning to people's everyday lives'.<sup>18</sup> This paper argues that a quality design approach can play a key role in creating a home that is a positive, enabling environment that fosters a sense of wellbeing.

When designing a 'home' for people with disabilities, the highly considered design moves that create a quality, home-like environment can be neglected, in favour of the substantial effort required to design housing that focuses largely on catering for the basic physical needs of residents and support workers. This can result in a place that promotes feelings of isolation, anxiety and helplessness – the opposite of homeliness. To achieve a meaningful home environment requires a subtle and nuanced balancing of often competing factors, which is amplified when a resident is disadvantaged or reliant on others. For example,

particular attention is required in situations where people receive support at home and their residence becomes a workplace for their carer in addition to being a home. Feelings of ownership, choice and control over one's own space can be quickly eroded in such an environment – even when the best intentions for the resident are driving the design solutions.

The examples analysed in this paper go beyond 'universal design' and demonstrate that while accessibility is critical, so is providing residents with a sense of belonging and control over their space. Gibson notes in the 2012 paper 'Disability and Dignity Enabling Home Environments':

"Dignity, worth and respect are conveyed in home environments (and are) threatened or diminished in settings where individuals are denied the opportunities for self-expression and agency."<sup>19</sup>

Left  
*de Plussenburgh designed by  
Arons en Gelauff: residents  
are able to freely furnish and  
decorate their apartments to  
reflect their personality*

## SELF EXPRESSION, CHOICE AND PERSONALISATION

The strong link between place and the way people feel has been well established in housing studies.<sup>20</sup> Giving residents' choices in the design of their home can promote a positive sense of identity, instil pride and encourage social inclusion. This was evident in the case of Cité Manifeste, where architects Lacaton and Vassal designed a series of townhouses with qualities similar to a warehouse space, fitted only with the absolute bare essentials including a bathroom, kitchen sink and freestanding cooker. The remainder of the townhouses consisted of a series of 'undesignated' spaces, prompting residents to choose a layout and furnish to suit their individual circumstances.

*"Our intention is to create architecture that recognises people are capable; spaces that are comprised of a lot of different and beautiful volumes that enable them to express themselves. As an architect, it's important for us to use our skills to provide people with good conditions, and of course to make it affordable, but also to know when to stop designing so there is room for residents to make the space their own. It is always very surprising and touching to see how involved people become, how they occupy the space. It's always better than we could have imagined, always."<sup>21</sup>*

Conversely, a sense of comfort can be negatively affected when people are not given the opportunity to personalise or 'leave their mark' on their home, As described by Lucy Jones who expressed her dissatisfaction with a design proposed to her parents when they required modifications, including to the bathroom in their new home:

*"The OT (occupational therapist) organised an architect to come out and have a look at their new unit, who then drew up a proposed design for the bathroom. Straight away said we said no, this is not what we wanted. It was all beige and impersonal, there was a cheap plastic shower curtain in the middle of the room, it didn't feel like home ... it was like having a hospital in the house."<sup>22</sup>*

In this instance, the daughter had some previous design training and was able to take the job on herself. Allowing her 'clients' to be involved in the design process, including choosing materials and finishes, and being able to discuss what they liked and didn't like resulted in a much more satisfactory outcome.

*"They are so proud of their new bathroom, when people come over they bring them into the bathroom just to show it off "<sup>23</sup>*

Architects Harrison and White took a similar approach when designing the 'Tully' accessible bathroom:

*The general strategy is one of making access(ible) elements such as benches, grab rail and floor surfaces into design elements. Floor and walls are tiled in a green glass mosaic that provides a sense of emersion in the wetroom as well as providing a non slip safe floor covering. An ironbark bench spans the room providing seating for the access shower, becoming a seat for the entire room. The grab rail is extruded past the shower to form a towel rail. The vanity houses laundry (and) storage in a single plywood joinery cabinet.<sup>24</sup>*

Right  
*Cite Manifeste: providing generous volumes and minimal fittings enabled and encouraged residents to personalise their spaces, as seen in these two apartments*



"For someone with a disability (the bathroom) really matters, because it is a room they have to spend a lot of time in"

Peter Jones, full time carer for wife Marie

large, openable windows provide the bathroom with lots of natural light, while opaque film on the bottom of the window ensures privacy

window style retains the character of the building

towel rail doubles as a grab rail

bench runs length of room and doubles as a shelf

plywood joinery unit

colour and style of tiles have a 'domestic' feel, rather than 'institutional' or 'hospital-style'

## CONTROL OVER THE ENVIRONMENT; A SENSE OF BELONGING

Just as critical as the ability to personalise a home is the sense of ownership and belonging to it. Spaces that people do not feel ownership of or a connection to can be neglected or even avoided altogether, such as the shared living room at the Kaufhaus Breuer in Germany. In this example, owners of the building met with BeL architects to discuss what could be done with the former historic department store, which was loved by locals but had been empty for decades. Located in the centre of town and with good access to all services and amenities, the owners and architects proposed to retrofit the existing shell as a mixed-use development comprised of ground retail, offices on the first floor and accessible apartments and rooms for the elderly over the top two floors, plus a roof deck. One of the apartment floors is comprised of five bedrooms, each with a private bathroom, clustered around a generous living and kitchen space.

The intention of the design was to create opportunities for social interactions between residents, allowing them to form a type of community; however this did not occur. Despite the very high quality of the internal spaces – good natural light, good views, quality fittings and finishes – the shared living area was completely abandoned from the beginning. This was partly because against the architect's advice, the company who managed the apartments furnished the entire space before anyone moved in. Irrespective of the manager's best intentions of making it look 'nice', the shared space was unwelcoming, and none of the residents felt they belonged there. Compounding this, the managers provided meals in an elderly home down

the street, removing any 'purpose' that the shared kitchen and dining space may have had. The architects were disappointed in this result:

*"Our intention was that each person would bring their own things; pictures of their grandchildren, paintings and so on, and this would spill out into the shared space. Instead management hung their own pictures everywhere, and supplied their own furniture and decoration. We tried to intervene and suggested they only do the kitchen, and let the residents do what they like, after all it is their home, but they insisted. They said 'no, we have to make it 'nice'. Instead it is just impersonal, worse than a hotel. It's like a hospital, and nobody uses it."*<sup>25</sup>

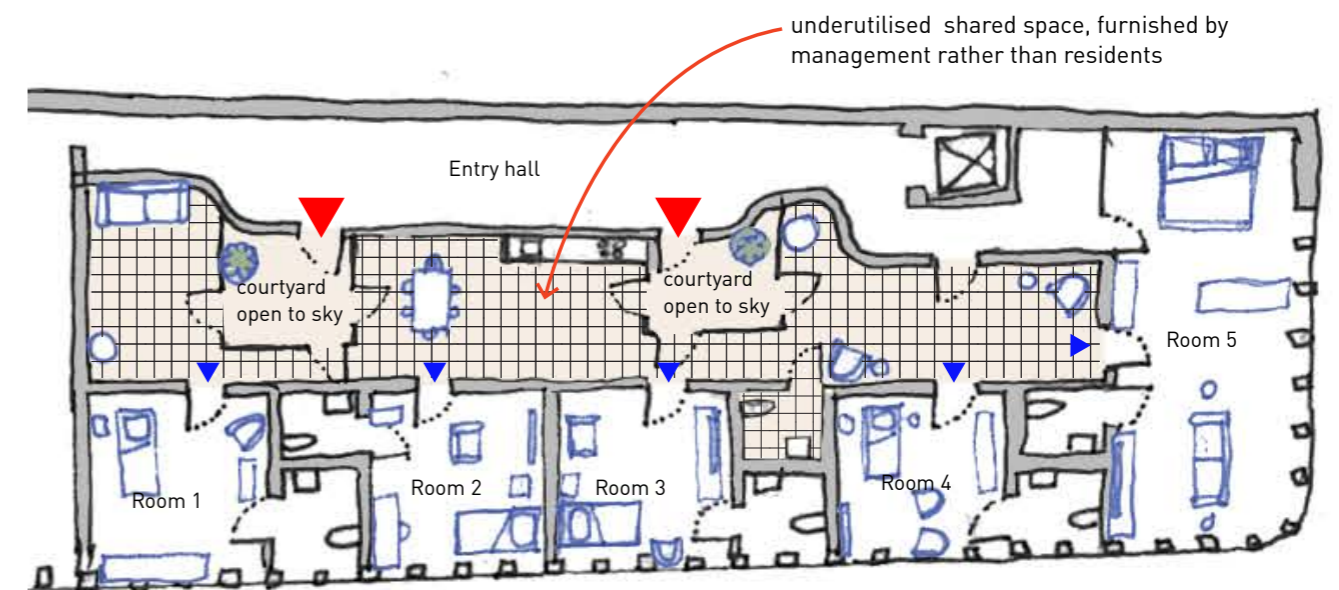
In addition to the communal living areas, the shared roof terrace was abandoned for similar reasons, again despite the good quality design and spectacular views of the town.

In contrast to the Kaufhaus Breuer, residents at the Vetlanda Group Home have a much stronger sense of ownership over their space, the design of which set out with similar intentions. This development is comprised of six fully self-contained apartments with their own front door that include a separate bedroom, a fully equipped kitchen, a living room and a patio space, all clustered around a shared kitchen and dining space. A shared corridor works as a buffer between the private and public space.

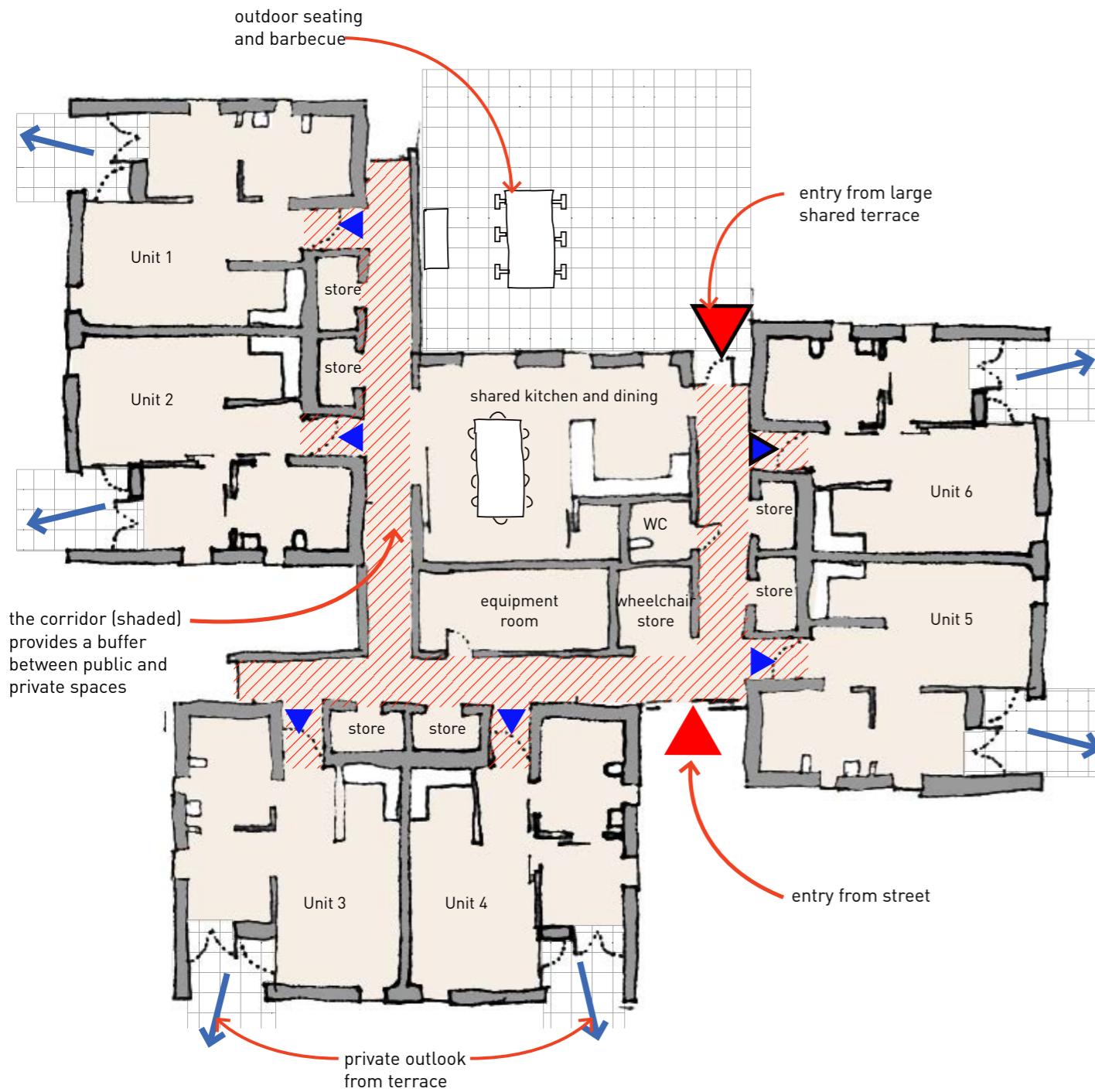


Right  
Kaufhaus Breuer designed by BeL: despite good views of the town, the shared roof deck was rarely accessed

Below  
Kaufhaus Breuer: a lack of ownership in the shared space resulted in residents spending most of their time in their small rooms



- ▶ Shared entry
- ▶ Private entry to unit



- ▶ Shared entry
- ▶ Private entry to unit

Above Vetlanda Group Home designed by KKA: The careful arrangement of fully self contained apartments that were separated from the shared space enhanced the sense of ownership of space for residents

Families of the residents, young people with a disability requiring 24 hour care, were instrumental in getting the project off the ground, lobbying the local government for almost 10 years to provide a more suitable housing option than what was available. The resulting project gave the opportunity for the residents and families to be heavily involved in the project's development and enabled them to feel a genuine sense of ownership and belonging. Each unit was personalised to suit the occupier, enabling them to express their individuality, and this extended to the communal areas. Previously all the residents were forced to remain living at home with their parents because of a lack of suitable alternatives. The experience was described by Line, mother to Mikael, 35:

*"It's not easy for anyone – parents, support workers or Mikael – to stay living at home with your parents. Although he was well cared for, nobody wants to stay living at home all their life. Support workers who came to help always felt like they were being watched, even if that's not the case, wondering 'am I doing this right? It's not easy for parents either, always having someone in your home. Now Mikael has moved into his own apartment, we have a much better relationship; he has grown as a person."*<sup>26</sup>

This sentiment was echoed by his brother, Matias, who also provided Mikael with support:

*"Since moving in here, Mikael's behaviour has changed...he is more independent, more aware of his own needs. He is both happier and expresses more anger ... just has more feelings that he did before. He knows; this is my place, my life"*<sup>27</sup>



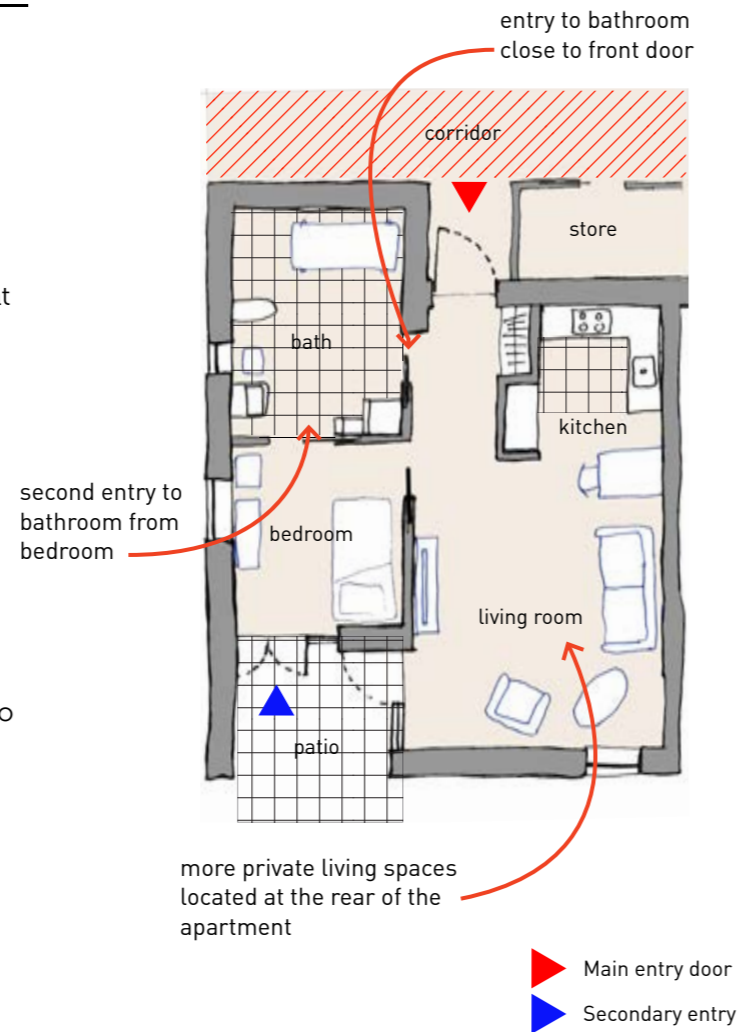
Above Vetlanda Group Home: Each apartment in was decorated by residents and their families to reflect their personalities

## BALANCING A WORK AND HOME ENVIRONMENT

Alongside good management practices, the way a home is designed can help to strike a successful balance between its function as a home and its function as a work environment. Some of the more common strategies employed by architects to achieve this include careful planning of rooms and multiple entry doors as seen in 'Koglerne' and 'Here to Eternity' designed by Vandkunsten architects. Such strategies give residents some control over the privacy of different spaces.

In the case of the Vetlanda Group Home, this was achieved by 'reversing' the plan (in comparison to a conventional layout) so that the bedroom and bathrooms – the places where residents require the most support – are located at the front of the apartment and easily accessed from the entry. The living area, typically located closer to the entry and considered a more public space, is tucked away at the rear of the apartment. The architects deliberately arranged the plan this way to provide a sanctuary for the residents, a place where support staff would need to be 'invited' before entering, and this enabled residents to retain a sense of control over their space.

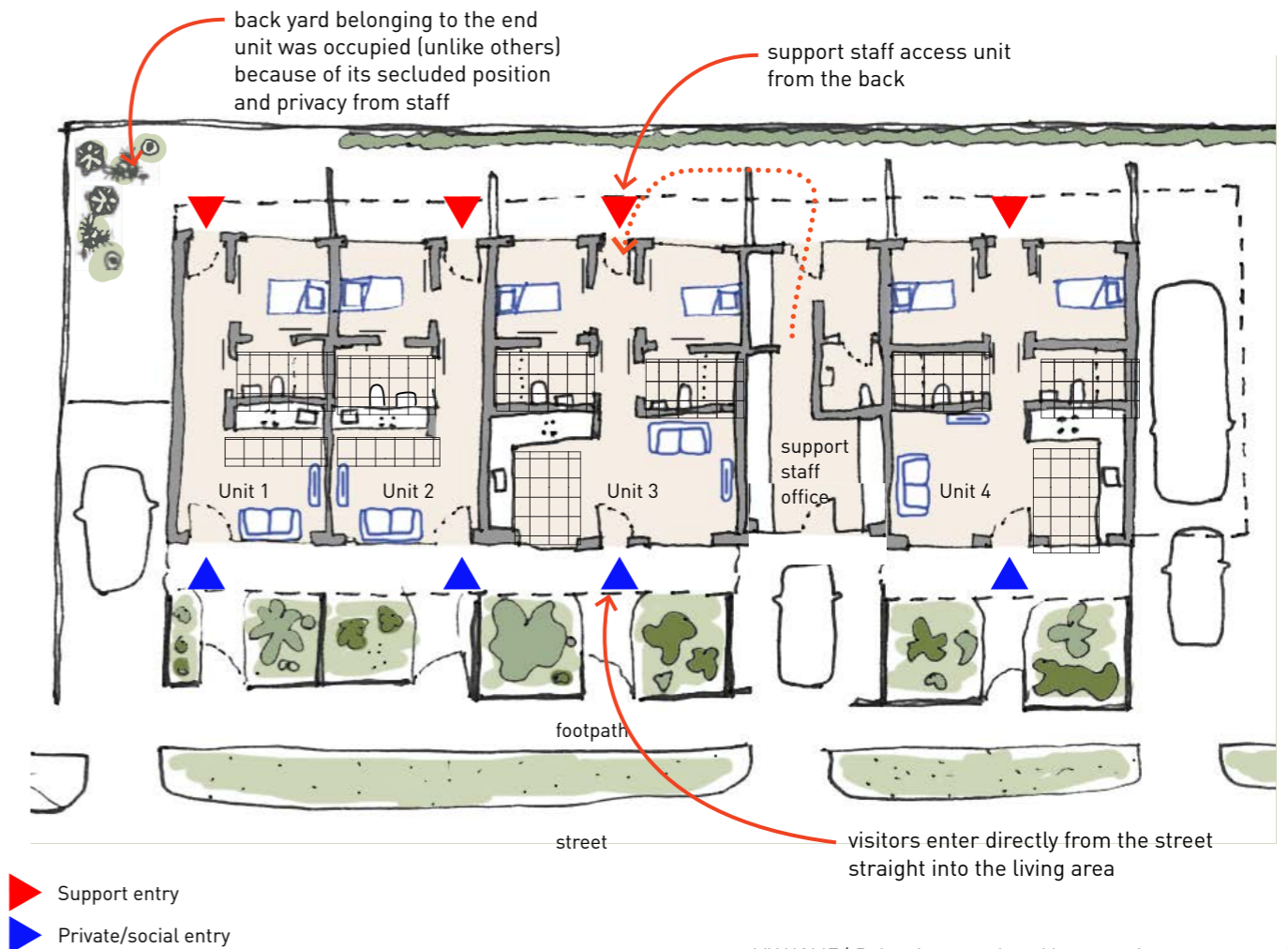
The balancing of workplace and home was also observed in Yooralla's supported living units in Altona, designed by Allen Kong Architects. Each unit was designed to include multiple entries; interestingly residents requested staff only ever use the rear entry so they could quickly and easily determine whether the knock on the door was from a support worker or a social visit.

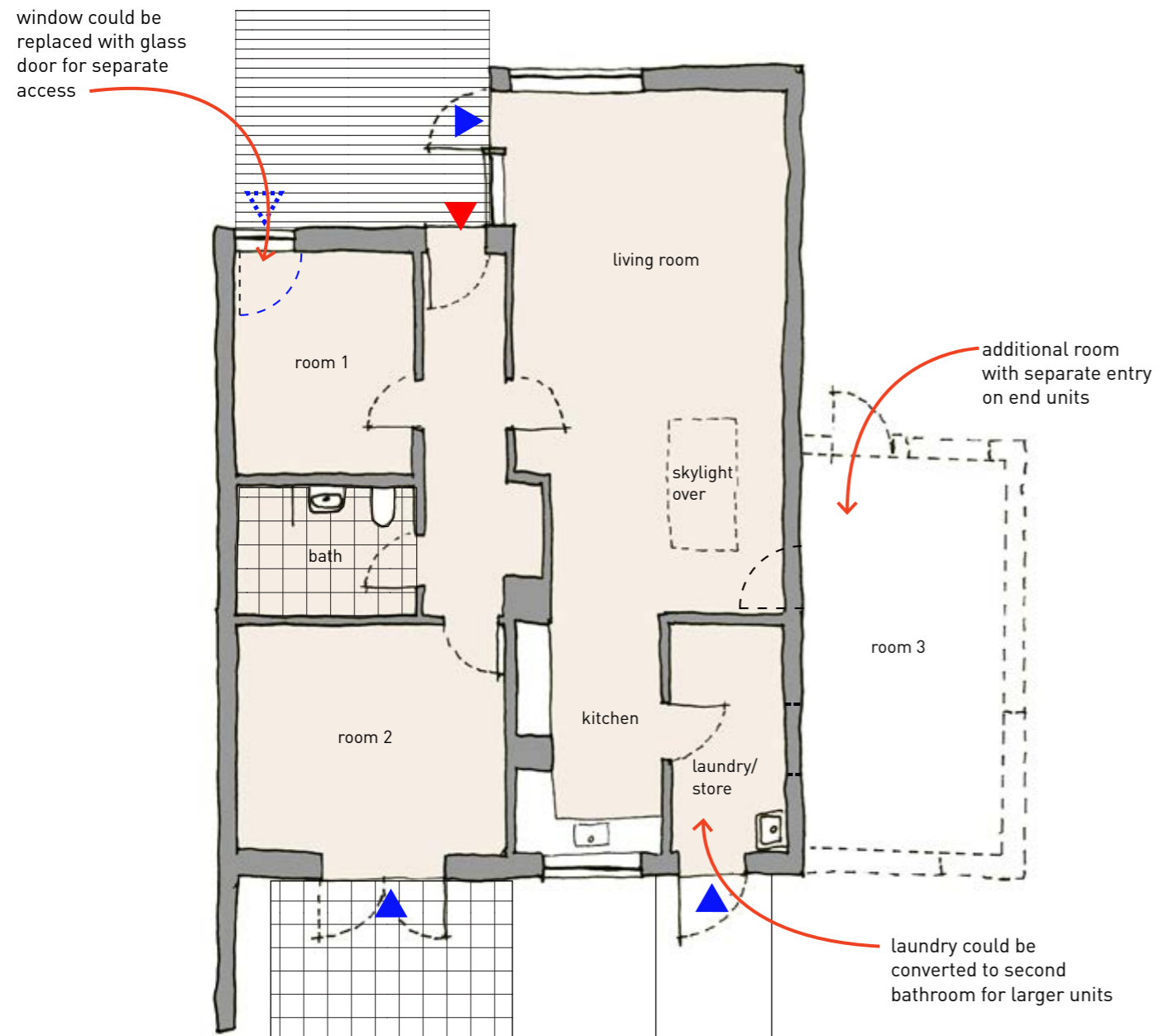


Above  
Vetlanda Group Home: spaces that require less support such as the living room are located further away from the entry to increase privacy for residents

Top  
Yooralla supported housing, Altona: entries from the street are used by visitors while staff access units from the back

Bottom  
Yooralla supported housing, Altona: using separate doors for support and social visits gives residents a sense of control over their environment





- ▲ Main entry door
- ▲ Secondary entries



Above  
*Here to Eternity: glass doors are used in place of windows to increase access without compromising on natural light*

Left  
*Here to Eternity: multiple entry doors and flexible room layouts can help balance a supported home environment*



## QUALITY ENVIRONMENTS

# 3

Providing people with a disability access to a 'satisfactory' home environment is particularly important. The 2012 census recorded people with a disability have lower incomes and lower workforce participation than the remainder of the population in Australia,<sup>28</sup> and therefore are likely to spend a lot of time at home. Though accessibility is critical, this study observed what makes a home environment 'satisfactory', is more than just ease of mobility. The quality of the design of the home also has considerable effect on a person's sense of wellbeing. Karn and Sheridan define housing quality as 'how well homes ... meet the needs and preferences of the people occupying them'.<sup>29</sup> This was reiterated by architect Joakim Kaminsky when talking about the Vetlanda Group Home:

*"The main aim for this project was of course to design a building that will work for the residents and that they will enjoy; after all they spend a lot of their time there."<sup>30</sup>*

It is important to note that providing 'good quality space' does not automatically demand high cost solutions with say expensive finishes. Rather, in this context, it is about providing well-considered environments that include access to good natural light, views to the outside, sufficient storage and space that allows for social interactions.

The health benefits of natural light and views to the outside have been well documented since the 1984 landmark study by behavioural scientist Doctor Roger Ulrich, who found patients with bedside windows overlooking a garden required less pain medication and made faster recoveries than patients who underwent identical surgeries and were placed by windows that looked at a brick wall.<sup>31</sup> Similarly, a 2014 study on the effect the residential built environment has on mental health observed 'good designs of the built environment can reduce anxiety, lower blood pressure and reduce pain (whereas) psychologically unsupportive surroundings are linked to negative effects such as high occurrence of delirium, depression and greater

need to pain medication'.<sup>32</sup> Similar observations were made in this study. For instance, tenancy worker Annie Wakeford, a worker at the Alexander Miller Memorial Homes in Highton before and after a major renovation that improved the design quality of all residences, observed the positive changes in residents' moods and the increase in social participation:

*"Before the renovation the units were awful ... tiny and cramped and dark ... you can imagine how it would depress people. The residents seemed to be quite sad, very melancholic.... (After the renovations), they're involved in more activities, or they are not home, they are out and about or entertaining. You say 'I'll get someone to come and change the light globe for you' and they say 'oh, but I have got visitors today'. Whereas (before) they would be on their own for months and months, and not engage at all."<sup>33</sup>*

A similar sentiment was expressed by Peter Jones when talking about his wife Marie, who requires full time care in their home in Elwood:

*"Sometimes people's psychological wellbeing can be overlooked when it comes to the design of their home, but it's actually very important ... feeling good about yourself in your own space makes living so much easier."<sup>34</sup>*

He went on to suggest the quality of care Marie receives is better because of the quality of the internal environment:

*"The benefits of the design have been huge, and unfortunately often overlooked when managing someone with a disability. As well as being a nice space for me to be in, we've noticed support staff enjoy coming here too. They told us they prefer it over the aged care places they also work at, and that they enjoy showering Marie, washing and drying her hair in our bathroom because it's a nice space to work, compared to the aged care facilities where they just want to get in and out. She receives better care as a result of this design."<sup>35</sup>*

Left  
*Here to Eternity: windows in this project were designed and placed to maximise the intake of natural light and good views of the surrounds*

## GOOD ACCESS TO NATURAL LIGHT

It is well documented using natural light in buildings has psychological, physiological and environmental benefits. It is associated with 'improved mood, enhanced morale, and lower fatigue ... and stimulates essential biological functions in the brain ... (that are) vital to our health'.<sup>36</sup> A Swedish study found a strong correlation between access to daylight and improved behaviour, especially around sociability and concentration.<sup>37</sup> In Denmark, building regulations stipulate that "there should be an appropriate relationship between window sizes, room proportions and surface properties" and that "all workrooms, occupiable and habitable rooms and shared access routes must have access to 'sufficient' daylight for the rooms to be well lit ... in the context of the general health aspects of daylight."<sup>38</sup> The regulations also note "the quantity of daylight ... affects the energy consumption for electric lighting".<sup>39</sup> Unfortunately, artificial lighting has become increasingly common in meeting lighting requirements for daily tasks,<sup>40</sup> arguably to the detriment of people's health and the quality of the environment. Not only do naturally lit rooms offer

potential health benefits, they can also be used to reduce energy costs and improve the quality of internal spaces in the home. As well as living spaces, this study observed the benefits of providing access to natural light in bathrooms, particularly in cases where people required assistance with personal care and spent as discussed by Peter Jones:

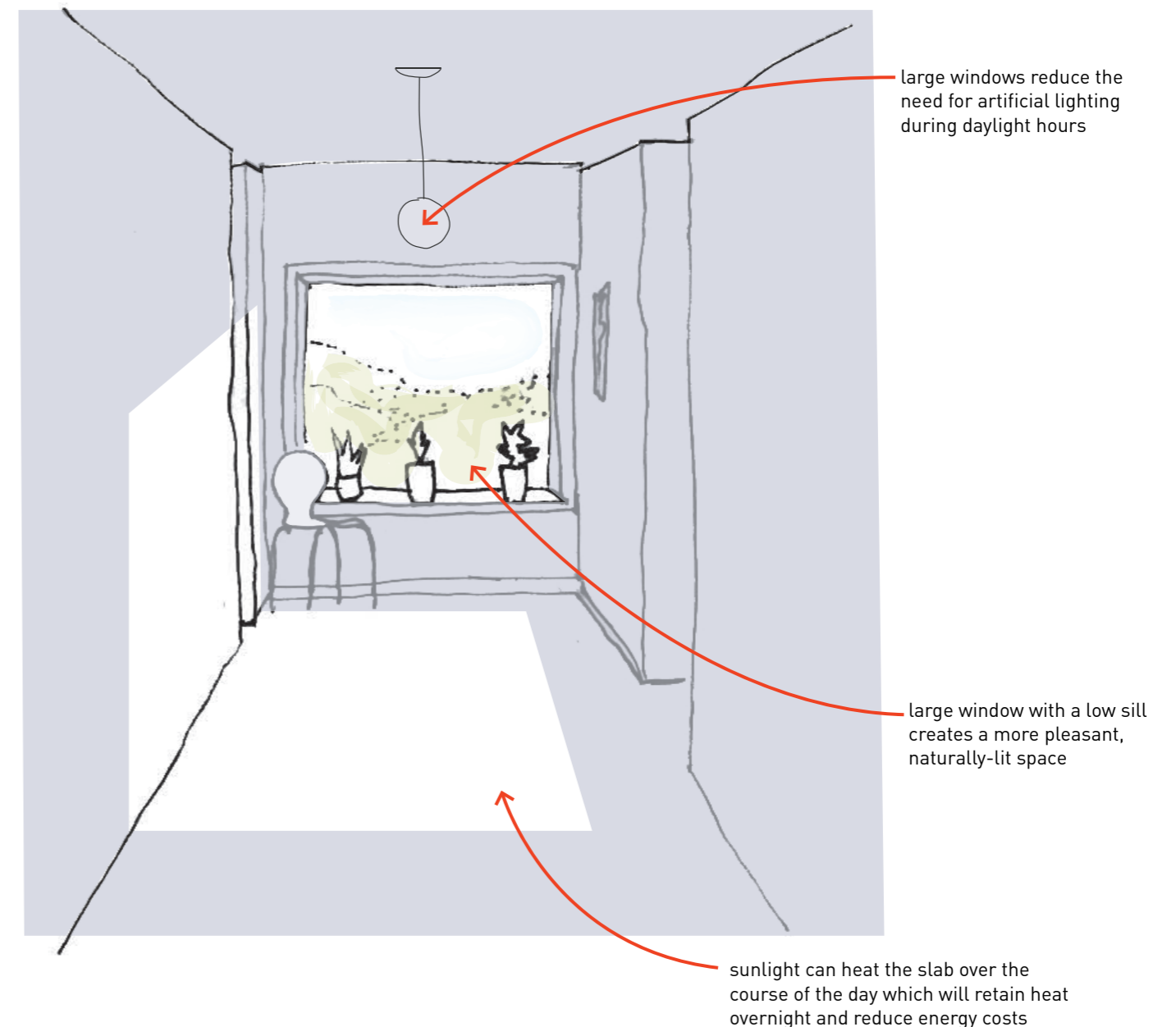
*Showering and dressing take a long time, it can take up to two and a half hours with Marie, we spend a lot of time in the bathroom. In a way it is a bit like another living room. The bathrooms in Marie's respite centre are very dark and clinical, really unpleasant to be in, whereas ours is bright and airy, if I need to quickly do something else she can sit there comfortably on her own. I was talking with someone about it and they said to me 'I get in and out of the bathroom as quickly as I can and am off to work, I don't care so much about what it looks like' and I said 'well for someone with a disability it really matters because it is a room they have to spend a lot of time in.'<sup>41</sup>*



Bottom far left  
Vetlanda Group Home:  
*Providing only a small, high window meant the bathroom needed to be artificially lit throughout the day*

Bottom Left  
(Rowe) Ringwood House:  
*Large windows with low sills and privacy louvres provided an abundance of natural light and created a more pleasant environment*

Below  
Danish building regulations take into account qualitative as well as functional considerations



large mirrors reflect light



light coloured wall tiles reflect the natural light

reflective film on glass ensures privacy

large, openable window with low windowsill maximises access to daylight and gives aspect to garden

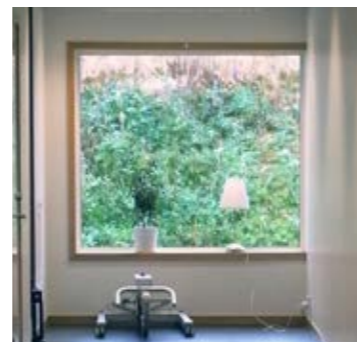
hinged shower screen reduces splashing and can be folded back to increase circulation space

## GOOD VIEWS TO THE OUTSIDE

As discussed the health benefits of good views to the outside have been well documented. In Denmark, building regulations demand rooms be fitted with windows that give a good view, stating 'the view of the surroundings is one of most important factors in the experience of the room'.<sup>42</sup> The regulations go on further to note 'there should be an appropriate relationship between window sizes, room proportions ... taking the outdoor views into account'.<sup>43</sup> These regulations and their benefits were evident in the Danish projects included in this study, Koglerne and Here to Eternity.

Architects for the Vetlanda Group Home, Cite Manifeste and Sankt Antonius also adopted the same approach, ensuring windows were carefully placed to capture good views to the outside from several rooms, and at a height that a person using a wheelchair could easily see out. This was also evident in the Ringwood house renovation, where residents Ann and Tony Rowe discussed the huge difference full height windows and sliding doors that replaced older smaller windows had on their home.

*"The bigger windows and doors have completely changed the room, everyone who comes over comments on them. It is as though the garden has been brought inside, and the room feels so much bigger and brighter."<sup>44</sup>*



Top  
Sankt Antonius: the large living room window overlooks the plaza below

Middle  
Vetlanda Group Home: windows at the end of each corridor look out to the landscape

Bottom  
Cité Manifeste: full height windows capture views of the garden and street

Top  
Here to Eternity: Windows were placed to capture good natural light and views of the garden

Bottom  
Windows that do not provide good views of the surroundings can have a negative impact on the internal space



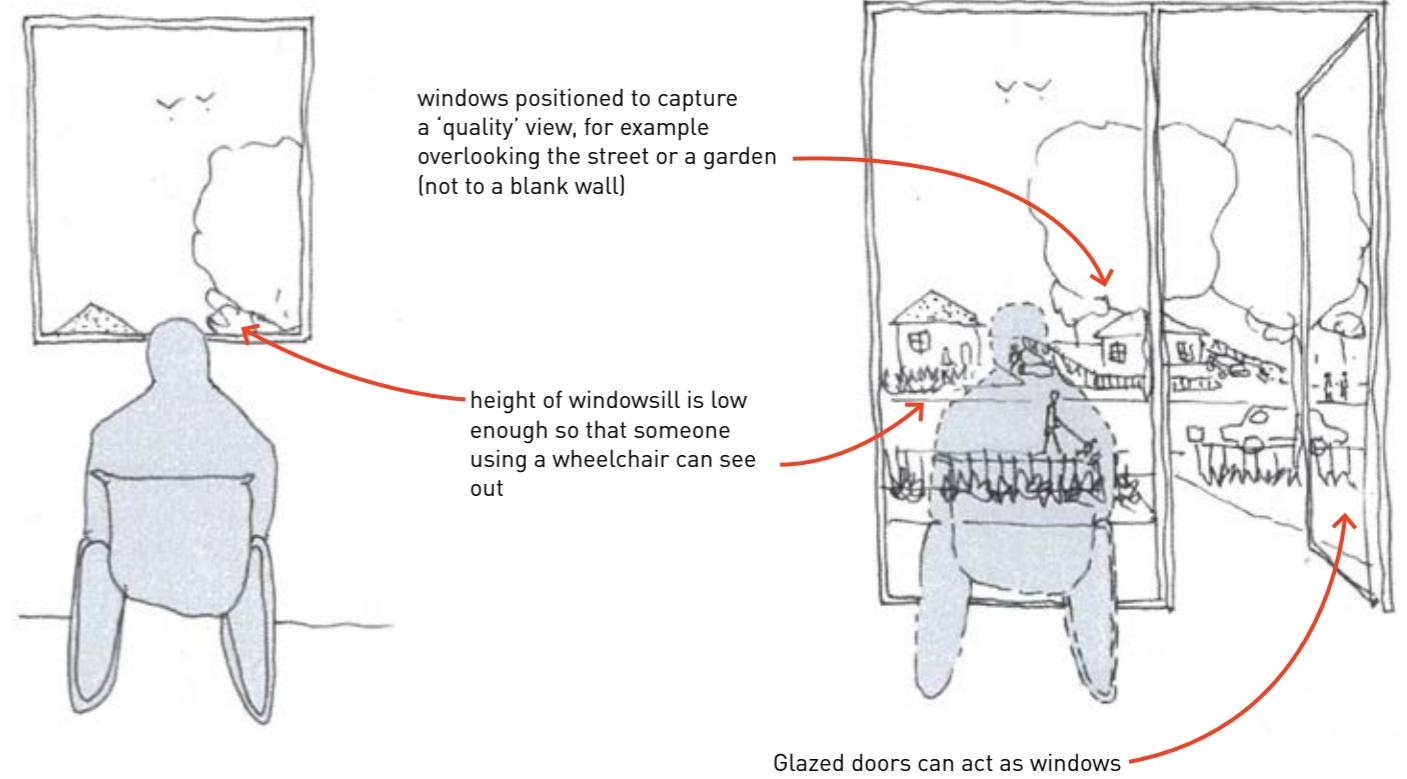


Right  
(Rowe) Ringwood House:  
Large glass doors provide  
views into the garden

Far right  
height of sill and proportions  
of windows has an impact on  
wheelchair users

“This is my favourite place in the house, because of the big window, I love looking into the garden”

Tony Rowe





large, full height windows ensure the room is well lit and provides good views to the outside

windows and doors are offset/angled from neighbours to prevent direct overlooking and retain some sense of privacy

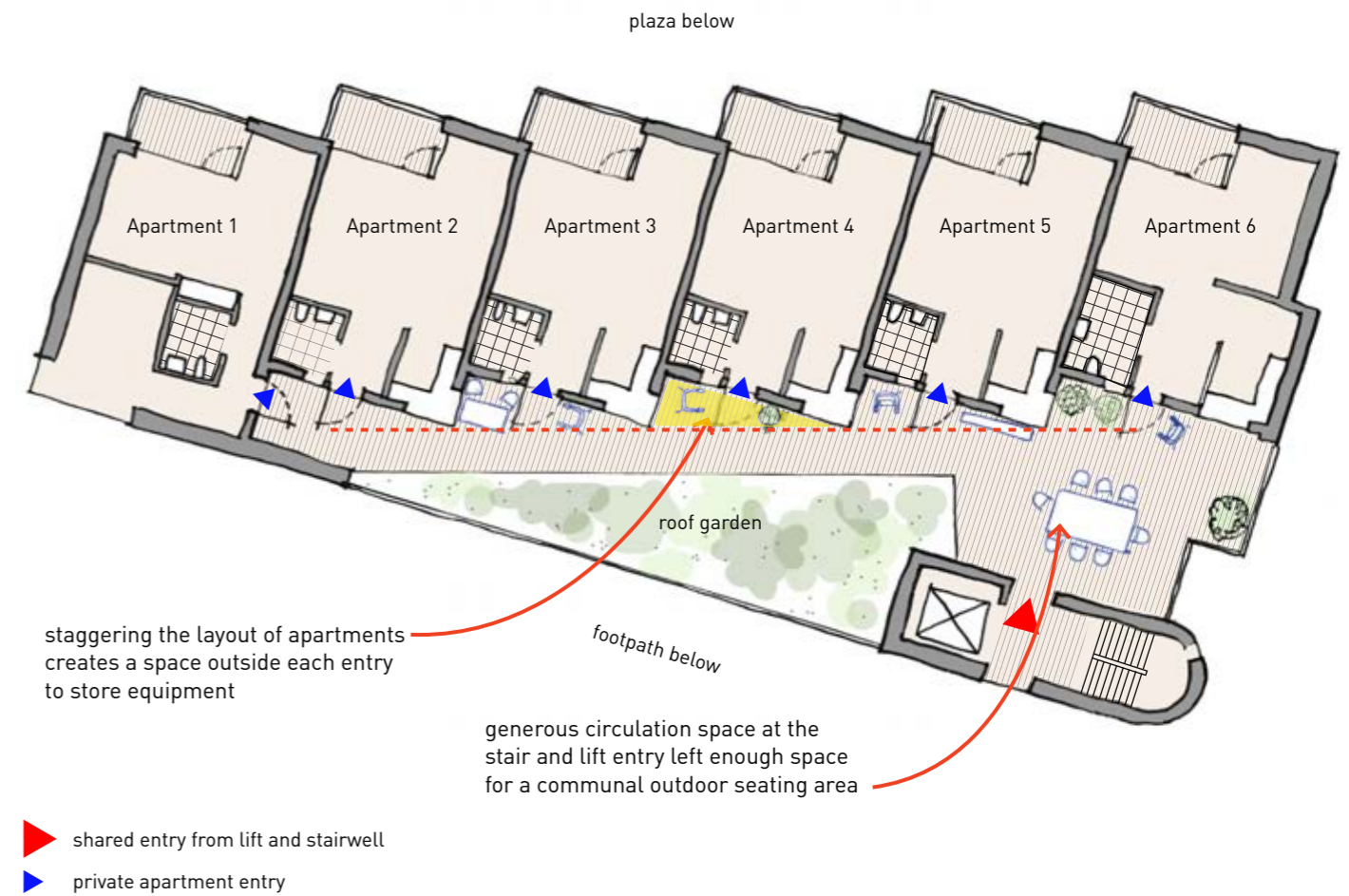
## SUFFICIENT STORAGE

Depending on individual circumstances, people with a disability often have a lot of bulky equipment. What may appear to be a generous sized space quickly fills up once hoists, commodes, wheelchairs and other equipment is moved in, sometimes at the cost of living space.

French architects Lacaton and Vassal tackled this issue by providing residents with several large, undefined volumes of space, and specifying low cost, 'off the shelf' materials and construction techniques that minimise labour to offset costs. In their project, Cité Manifeste, this lack of clear definition of each space and the generous floor areas prompt residents to arrange their apartments and store equipment to best suit their needs.

Other architects dealt with the storage issue in other ways. In the case of Koglerne and the Vetlanda Group Home, residents were provided with additional storage outside their apartments. Koglerne residents each had a small shed space for large or special equipment, such as double bicycles, whereas residents in the Vetlanda Group Home each had a small storage cupboard just outside their front door. In addition, both facilities had a shared room for outdoor wheelchairs. However in both instances residents and staff commented these were too small and could easily double in size to be more effective.

Shared spaces can also be used to store equipment. Residents of Sankt Antonius used the generously sized and secured circulation spaces to store their mobility aids, freeing up living space inside their units. The staggered-style planning was particularly effective, creating space not only for equipment but also for personalisation, including seating and pot plants.



Above  
Sankt Antonius: the plan of a typical apartment level shows the offsetting of each unit creates a space outside each entry

Left  
Cité Manifeste: large greenhouses on the upper level were designed to be flexible spaces and were used as a secondary outdoor space (top) or for additional storage (bottom)

corner windows from each apartment kitchen allows residents to passively surveil the shared circulation space

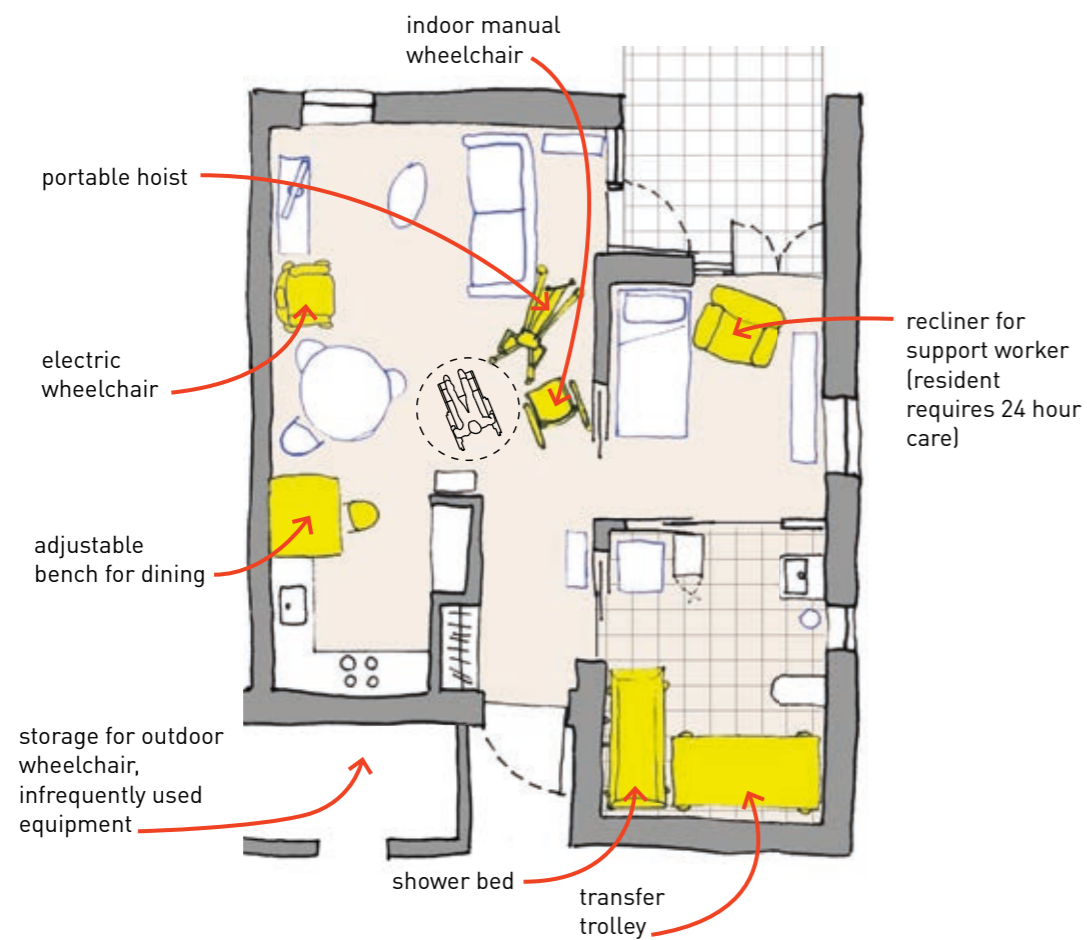
staggered units provide space for equipment that can also be personalised with furniture and decorations

roof garden





Below  
Koglerne: without sufficient storage, equipment can encroach on living spaces



Top right  
Koglerne: outdoor storage units provided space for items such as accessible tandem bicycles and outdoor wheelchairs

Top  
Vetlanda Group Home: spaces quickly fill when equipment is included in the plan

Bottom  
Koglerne: storage units were located outside the entry of the building

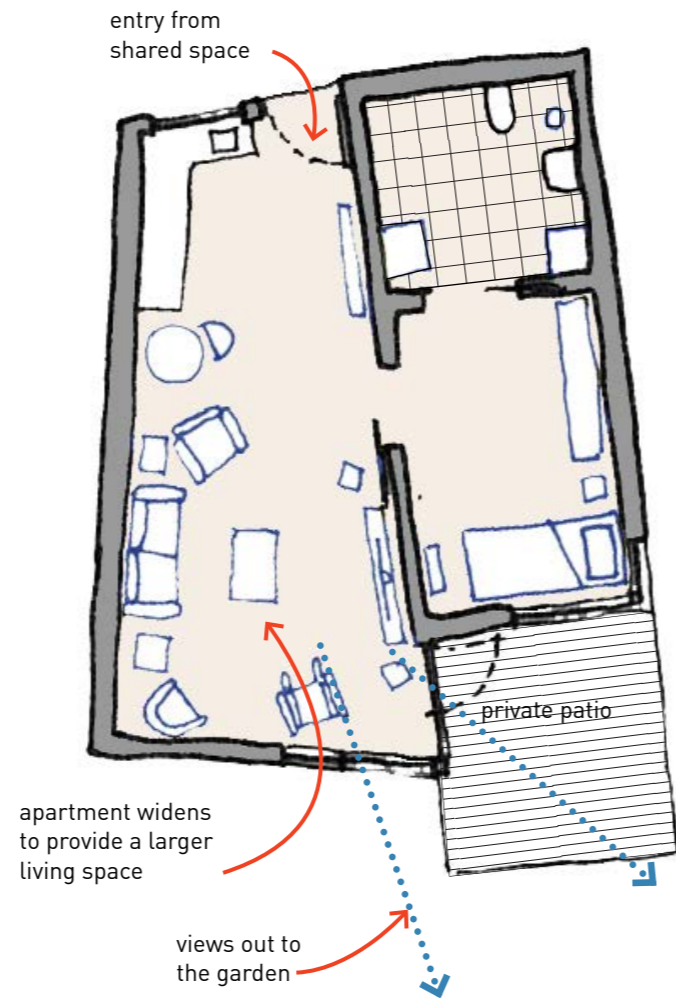
## SPACE FOR PEOPLE

Providing sufficient space for entertaining or overnight guests is particularly important for people on low incomes or with mobility issues, who both may spend a lot of time at home. Apartments such as those in Koglerne were planned to provide enough space for people's equipment and for entertaining. One of Koglerne's residents, Anders, talked about the difference between his previous accommodation at an older style institution versus his apartment in Koglerne, and how his new home allowed him to entertain:

*"At Maria Huset, we lived so close to each other, the rooms really were too small to be in on our own, let alone with guests – they felt claustrophobic. Here at Koglerne, I can easily have friends come over to my own apartment when I want and do what we like, we usually watch movies together"*<sup>45</sup>.

The generous areas in the Cité Manifeste also provide residents with increased opportunities for social interactions. One of the residents described the satisfaction this gave her:

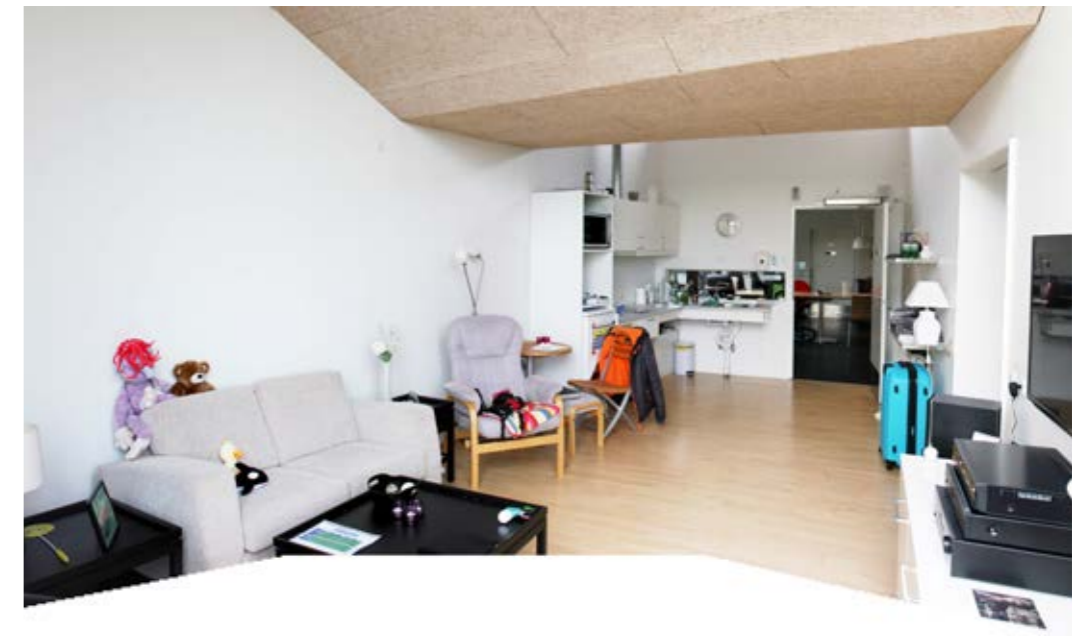
*"I live alone with my cat, but I have many visitors. I used to teach dance and I keep in touch with a lot of my old students and I have enough space here for them to come and visit all together. I also have enough room for a sofa bed – sometimes I look after my elderly mother who is 93, and other times my grandson stays with me. He loves it here so much; there is enough space for him to run around. I am very happy here."*<sup>46</sup>



Left  
Koglerne: apartments widen at one end to provide a larger living space

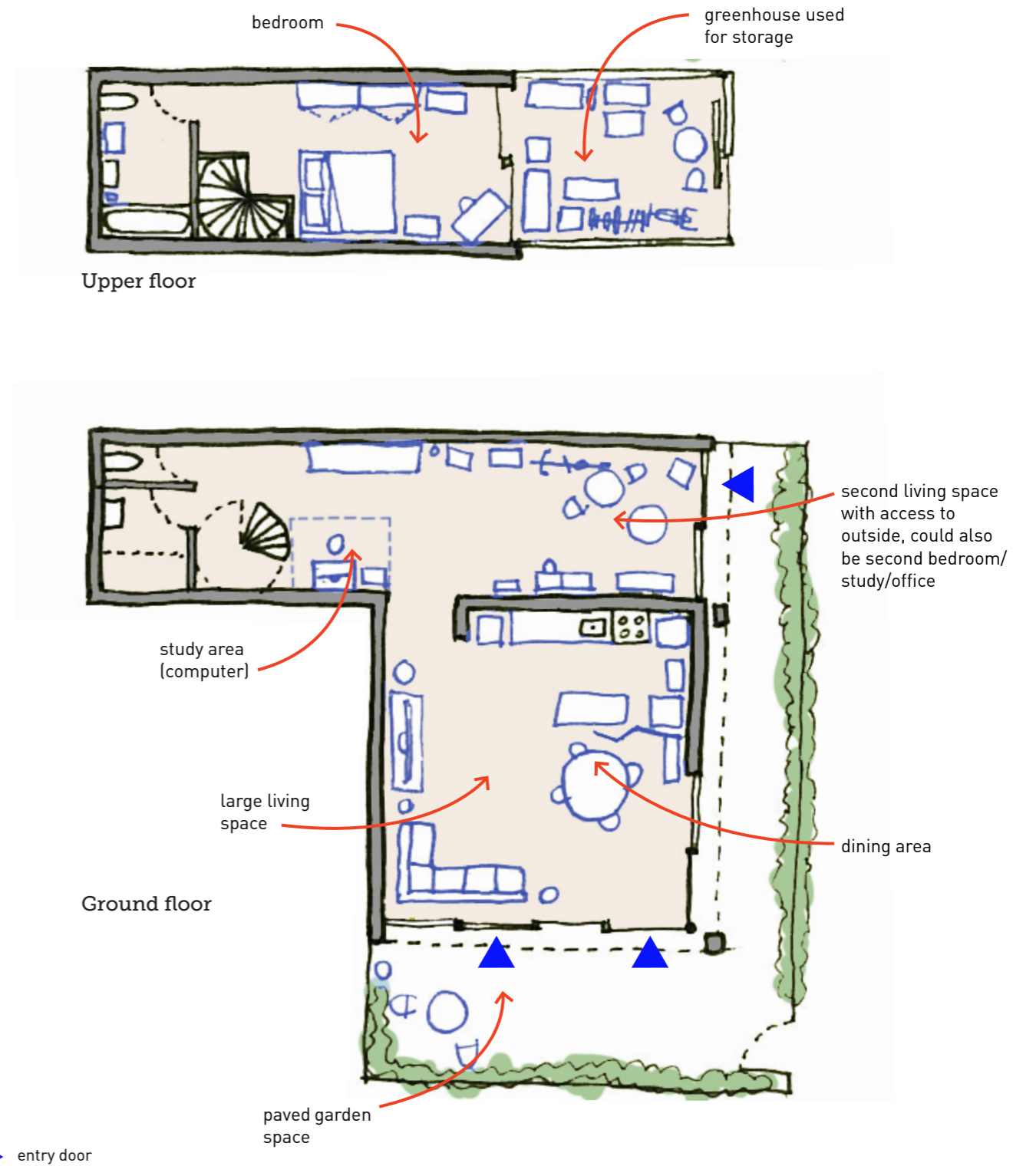
Top  
Koglerne: each apartment has a small private deck that is accessed from the living space

Bottom  
Koglerne: apartments are generously sized and allow residents to entertain





Above  
*Cité Manifeste*: low cost construction allowed the architects to provide greater floor area for residents. Pictured from top left moving clockwise; garden space at the entry; greenhouse space upstairs; main living and dining space; secondary living space



Above  
*Cité Manifeste*: spacious, flexible apartments provided residents with a variety of spaces to entertain



## DESIGNING FOR ALL

# 4

An accessible built environment does not have to always have to be a 'specialist' one. There are many instances where spaces can be designed that will be of benefit to many in the community, including those with a disability, without being labelled 'accessible'.

In the public realm such spaces can include accessible toilets that double as parent rooms, or ramps that are also used by vehicles, people pushing trolleys, prams or riding bicycles, such as the one connecting the Rhine River waterfront to a large public square, the Heinrich-Böll-Platz, in Cologne. Winding up the embankment, this landscaped ramp was used by many different groups and was preferred by most over the adjacent staircase. At the Tokyo Institute of Technology in Japan, the original stair entrance to the main building was replaced with a large decked promenade that ran for 150 metres and was constructed around established cherry trees. In addition to providing access and travel routes for wheelchairs, bikes, prams and trolleys, the elevated deck also provides a formal entry to the university and functions as the main square and meeting point.

Infrastructure for bicycles can also benefit people using wheelchairs, walkers and scooters. In countries including the Netherlands, Denmark and Sweden, people using mobility aids were frequently observed using bicycle paths. A combination of generous widths and varying ground treatments allowed paths to cater for different users and speeds. In the case of the Vetlanda Group Home, architects Kjellgren and Kaminsky linked each apartment to the existing bitumen bicycle path that led into the town. The path was wide enough so that wheelchair users and cyclists alike were able to safely share. By taking advantage of the existing infrastructure, residents' capacity for mobility was increased along with their sense of independence.

The concept of designing for all also extends into the home. In the bathroom, showers without thresholds (steps) are becoming more commonplace and even

preferred in the private market, along with floating vanities. Continuous floor levels between indoor and outdoor spaces are also becoming more commonplace and can increase the independence of wheelchair users.

Taking advantage of and embracing these commonly 'accessible' areas increases choices and independence for people with a disability. For example, rather than the value of a home being adversely affected by having an identifiable 'disabled' bathroom, value is added by having a well-designed and 'desirable' bathroom that is also accessible. This good design can also add to the pride people (with a disability or not) have in their homes. This was described by Ann Rowe when talking about her experience with modifications to her and her husband Tony's home when she became his full time carer:

*"When you acquire a severe disability during your life you already have so many changes you are forced to deal with; physical, psychological and emotional. Holding on to what you have and who you think you are becomes even more important because it feels like your identity has been taken away. Sometimes we felt the occupational therapists were so used to seeing homes that needed modifications to become functional that they forgot how difficult and overwhelming the whole process was for us. We already felt stigmatised; we didn't want our vanity thrown out, the door torn off the shower and replaced with a curtain, it was still our home. We wanted a nice bathroom, just like anybody else."<sup>47</sup>*

Consequently the Rowe's engaged a designer to deliver a bathroom that was not only fully accessible, but something they liked and felt could be used by anyone. Recognising and promoting these design commonalities can not only benefit a greater proportion of the community, but can also reduce the sense of stigma and isolation associated with disability.

Left  
Cologne: *kerbless streets and varying ground surfaces are shared by wheelchair users, cyclists and pedestrians*



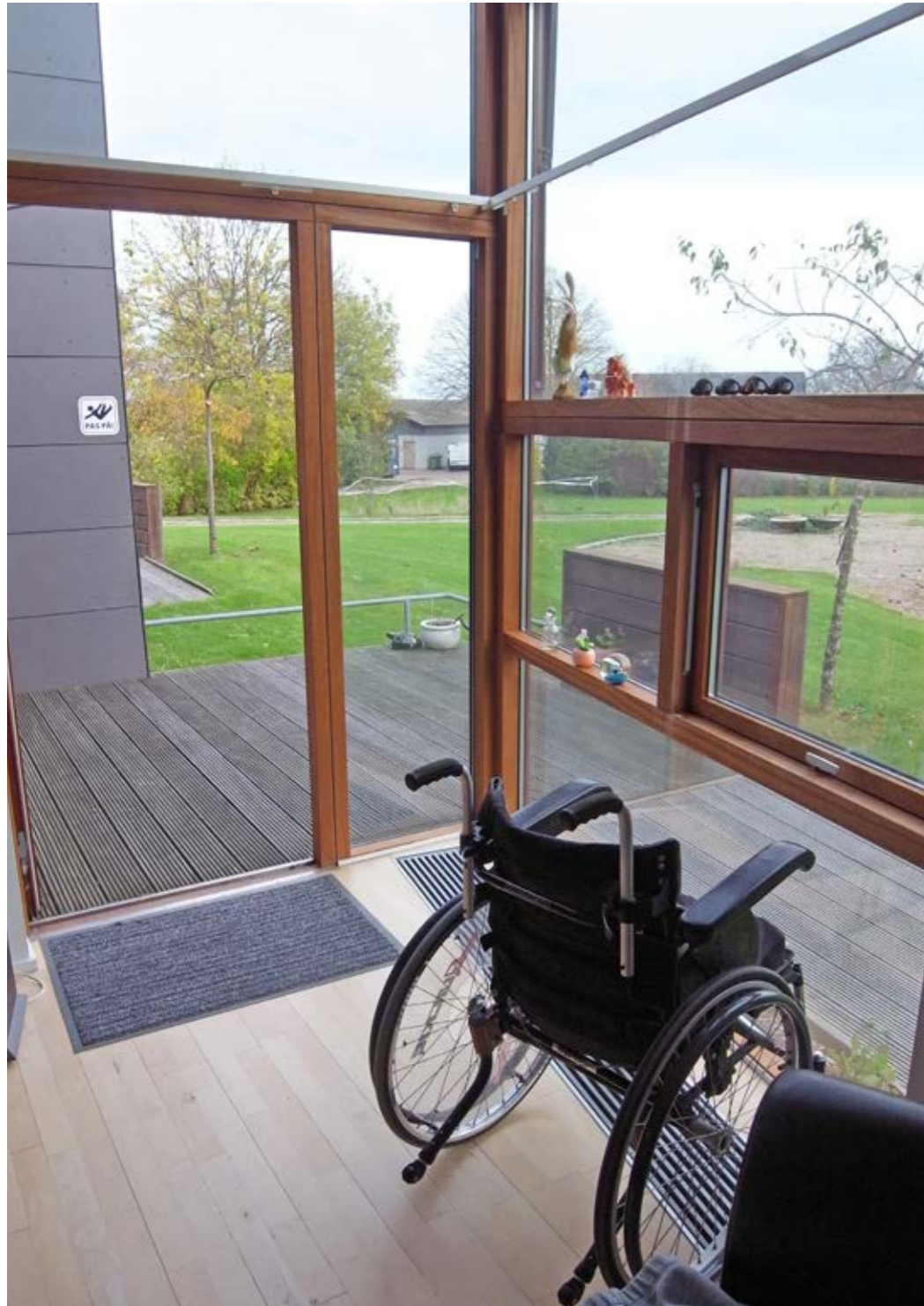
Image : Marika Neustupny



Top  
Tokyo Institute of Technology:  
stair entry replaced with deck  
that ramps up and is flush with  
the entry



Top  
Amsterdam: streets are shared  
by cyclists, mobility scooters  
and pedestrians



Left  
Koglerne: internal floor level is flush with decked patio outside

Top right  
(Rowe) Ringwood House: continuous floor level between the inside and outside spaces are accessible

Bottom right  
(Rowe) Ringwood House: the accessible 'features' of the bathroom are hidden in the design



internal floor level flush with outside

large window and door give good views and natural light, also visible for a wheelchair user



screen minimises splashing

large mirror, low enough for wheelchair user to see themselves

levered tap handles, easy to turn

floating vanity to fit wheelchair/commode underneath

easily accessed storage drawer

large windows allow for natural light and ventilation

shower rail doubles as a grab rail

accessible soap/shampoo shelf

linear drain to minimise collected water (slip hazard)

continuous floor surface into shower



prams

walker

bicycle

scooters

motorised scooter

wheelchair



## SPONTANEITY AND FLEXIBILITY

# 5

Studies show that variety, spontaneity and flexibility can reduce feelings of loneliness, helplessness and boredom.<sup>48</sup> Consciously designing for these things to occur becomes particularly important for many people with a disability who require support, as they are often restricted by routines set by others or faced with physical limitations outside the home.

Left  
*Cité Manifeste: generous floor areas and undesignated spaces provide residents with a variety of different and flexible environments that can adapt to suit their individual needs*



## VARIETY AND SPONTANEITY

When people are forced to always rely on others, the possibility for variation of spontaneous occurrences is significantly reduced. One way to avoid this situation is to maximise accessibility in the home and neighbourhood. This was raised by a Sankt Antonius resident who moved from his family home into a barrier-free apartment after his wife passed away:

*"I don't really have a routine and I like it that way. I chose this apartment because it is barrier free; although I don't receive any care at the moment, I am 83 years old and I might need a wheelchair in the future. If that happens, I can do everything on my own here, which is very important to me. Everyone who lives here wants to be free from relying on others and be as independent as possible, so we can do what we like, when we like."<sup>49</sup>*

Being completely independent when someone needs assistance however is not always possible. In Melbourne the Austin Street complex operated by Villa Maria is a good example of how an assisted living environment can still provide people with opportunities for variation and spontaneity. Designed by architect Allen Kong, Austin Street was built in 2010 to offer people who required on-going, full-time care as an alternative to an aged care facility. The complex is comprised of a series of generously sized private rooms, shared living spaces and staff rooms clustered around enclosed courtyards and surrounded by extensively landscaped gardens. The garden was a crucial part of the design, and each plant was carefully selected with the help of a horticulturist to provide residents with a sense of variation and change throughout the year as the seasons changed.

The vegetation also encourages bird life, and a second shared courtyard was covered with polycarbonate sheeting to create an aviary where residents are able to sit and watch birds throughout the day.

Providing spaces outside the home that are easy to access or give good views to the street are other ways to increase chances for spontaneous events, such as unplanned interactions with neighbours and passers-by. The positive effects can be significant, as evidenced in a 2000 study called 'Peggy's Window'. Peggy lived alone and had very limited mobility that made it difficult for her to leave home. In an effort to provide his mother with some 'variety' in her life, her son replaced a tiny window at the front of the house with a large picture window that gave a panoramic view of the street and neighbourhood. The change in Peggy was marked; family, neighbours and researchers alike observed her behaviour shifting from 'withdrawn and morose' to visibly 'involved and engaged' with life.<sup>50</sup>

In the case of the Cite Manifeste, Lacaton and Vassal used low cost construction methods to deliver greater floor areas and consequently a wider variety of spaces for residents to inhabit.

*"In Paris, housing is just getting smaller and smaller, the situation is really scandalous. If you have enough money it's not such a problem, because you can go out every night, have dinner or participate in activities outside (the home), but for those who don't, it's more difficult - whether low income or disability - it's important to provide a variety of different spaces in the home, and generous (amount of) space to (be able to) have a good quality of life."<sup>51</sup>*



Top  
Villa Maria Austin Street: Verandahs overlook the street and each other creating opportunities for unexpected interactions and are separated by a seasonal garden



Bottom  
Vetlanda Group Home: living rooms and patios of each apartment face out into the neighbourhood



VILLA MARIA AUSTIN STREET  
ARCHITECT: ALLEN KONG  
PHOTO: BYRON MEYER

## FLEXIBILITY

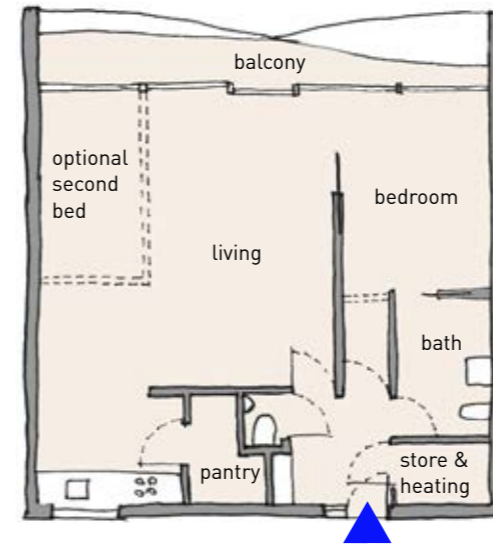
Designing for spatial flexibility gives people the option of adapting their home to suit their particular needs, wants and changing circumstances. A flexible home can enable people to 'age in place', work from home, accommodate a guest or live-in carer, take on an independent border to reduce rent, or accommodate a relative requiring care. The ability to adapt space increases independence and empowerment for people who receive care and reduces the costs of refurbishment and redesign. Simple design strategies such as multiple entrances in the Here to Eternity project, or rooms that can be divided within the dwelling such as those in the Cité Manifeste, can provide great benefits and longevity for life-long living environments.

The Plussenburgh apartment complex in Rotterdam designed by Arons en Gelauff is an example of a particularly flexible living environment that can be configured to several different layouts and uses. As well as having the capacity to be adapted from a generous and completely independent living unit to a high-care hospital room, the apartment plans also allow for smaller changes such as the impromptu study created by one of the residents.

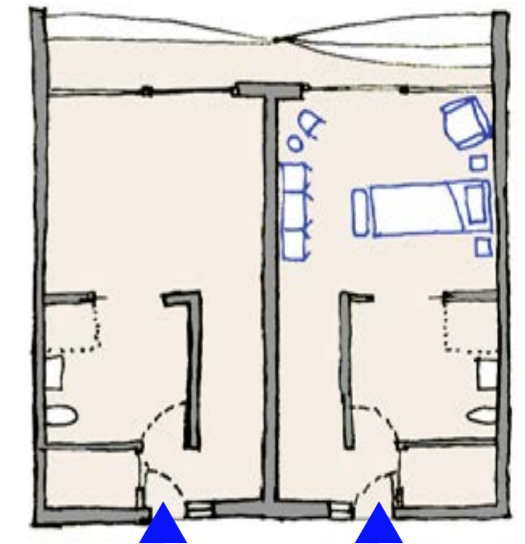


Top  
de Plussenburgh: the bedroom corridor in a in one apartment was converted by the resident into a small study

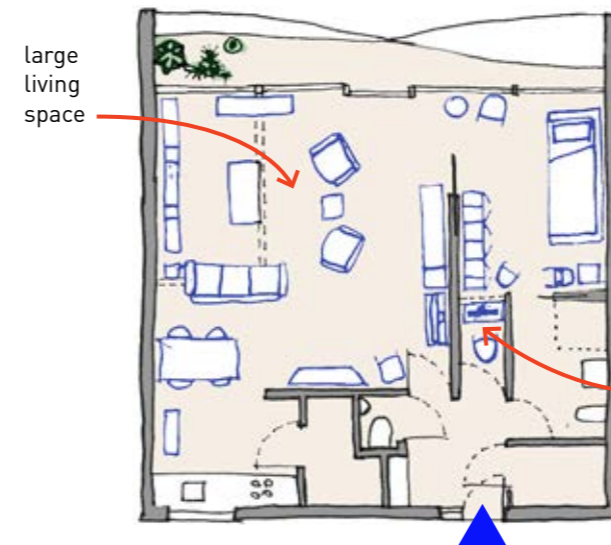
Right  
de Plussenburgh: apartments were designed and constructed so they could easily adapt to a variety of different layouts to suit the changing needs of residents



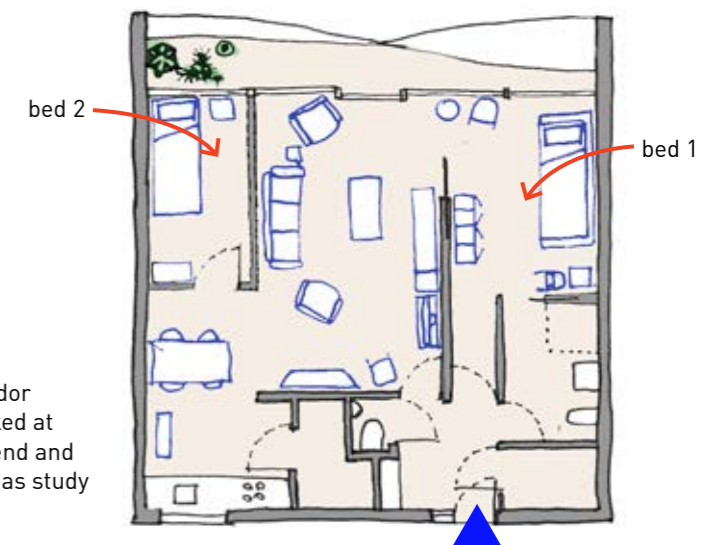
Typical apartment as built



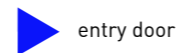
Option 1  
Conversion to 2 high care units



Option 2  
One bedroom apartment



Option 3  
Two bedroom apartment



entry door

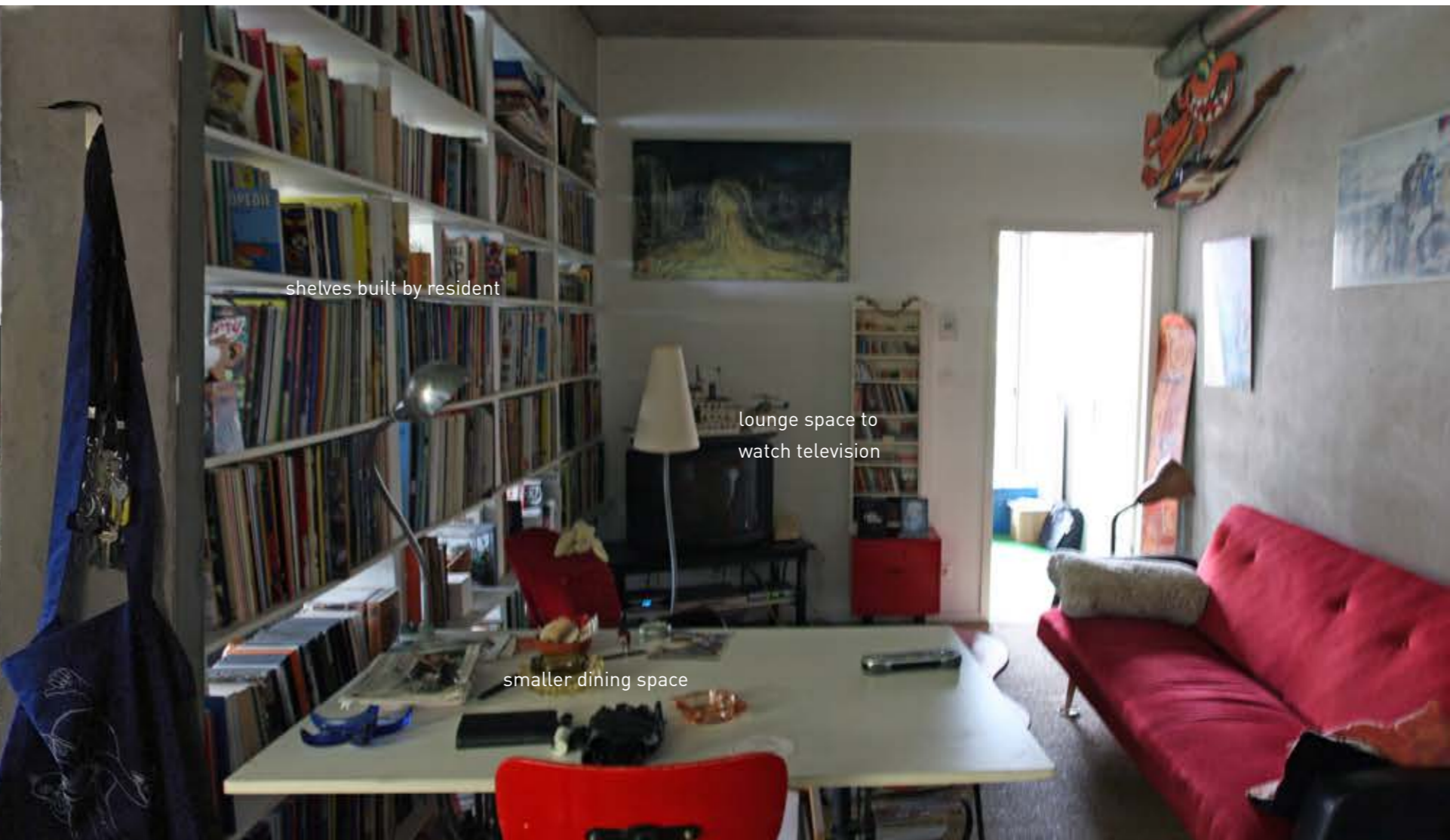


lounge space overlooking garden

work area

lounge space for listening to music

large dining space



shelves built by resident

lounge space to watch television

smaller dining space

Above  
*Cité Manifeste: flexible floorplans provide residents with variety of different spaces that they can adapt to suit their needs*

## PRIVACY AND SECURITY

The built environment can play a key role in balancing a sense of security with a desired level of privacy that can adapt to individual preferences. An important consideration concerning privacy for people in a supported environment is ensuring they have access to their own space, as noted by Koglerne resident Anders when talking about his previous accommodation Maria Huset:

*"The rooms at Maria Huset were tiny and we were so close to each other, there was no space at all for any privacy. Even though I am a social person and I like to be around others, I need time to myself too. Here, (at Koglerne) if I want, I can sit alone in my apartment and do whatever I like."<sup>52</sup>*

The architects who designed Koglerne were very conscious of providing a sense of privacy for residents in their design while still retaining a good outlook for all twenty apartments. This was achieved by breaking the building into three separate wings, each comprised of six to seven apartments that sit at a slight angle to their neighbour. The bathroom and kitchen – rooms where residents generally require most support – are located at the front of the apartment near the entry and the more private living area towards the rear. Each apartment has a low, horizontal window that sits over the kitchen bench so residents can see from their wheelchair if someone is at the front door or in the common area, or they can close a blind for privacy.

Similarly apartments at Sankt Antonius have a window from the kitchen that look out over the shared circulation balcony. These front balconies occur over both apartment levels above ground and are set back from the street. The elevated position enables residents to easily see what is happening in the neighbourhood, enhancing their sense of security through passive surveillance. As well as this front balcony shared with neighbours, each unit also a private back balcony. Providing two types of balconies gives a good balance of security and privacy, as stated by a Sankt Antonius resident:

*"It's perfect here. I can walk out my front door and know the first person I come across. The atmosphere of the neighbourhood is very familiar and I feel safe. It's like one community, but I also have enough privacy, which is important. We share the balcony at the front*

*and I have my own at the back, and sometimes after a busy day I just prefer to sit at my own private balcony where I have my small garden."<sup>53</sup>*

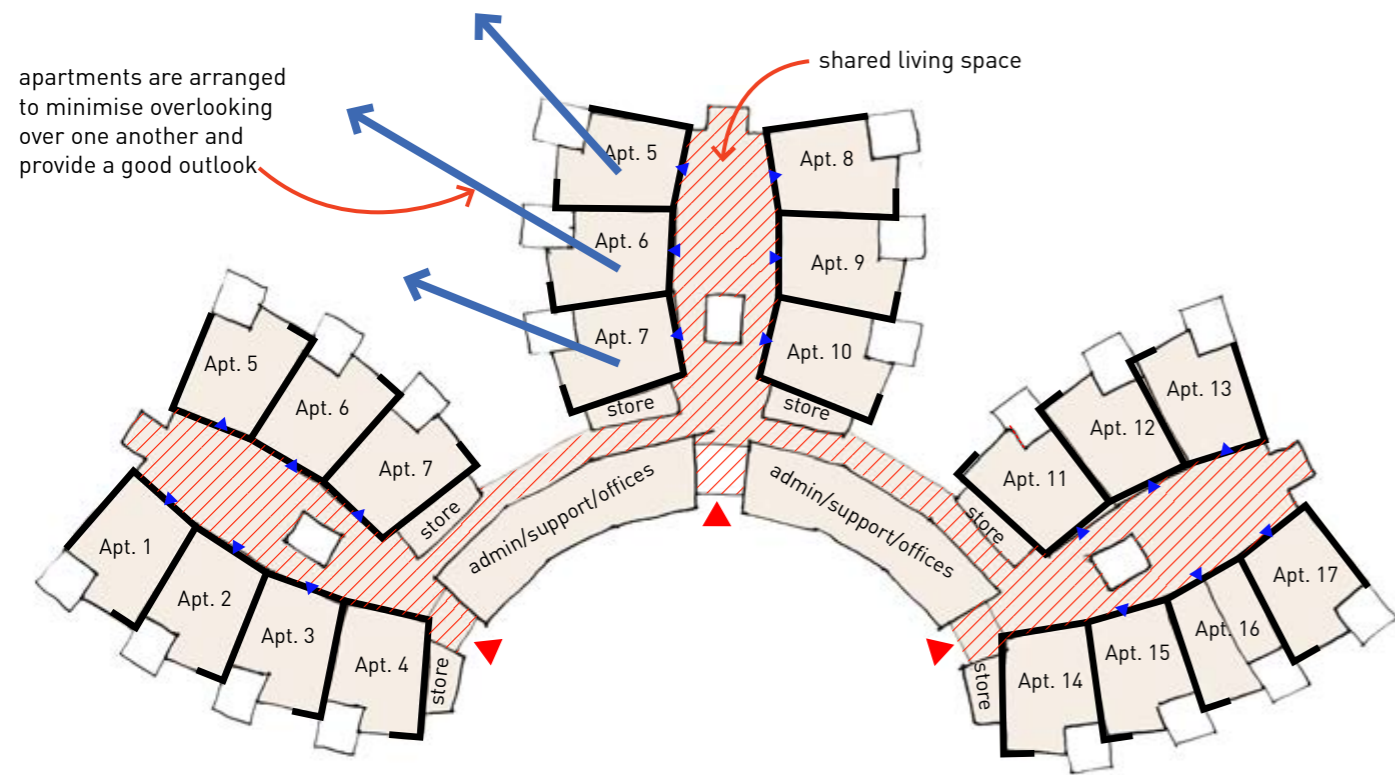
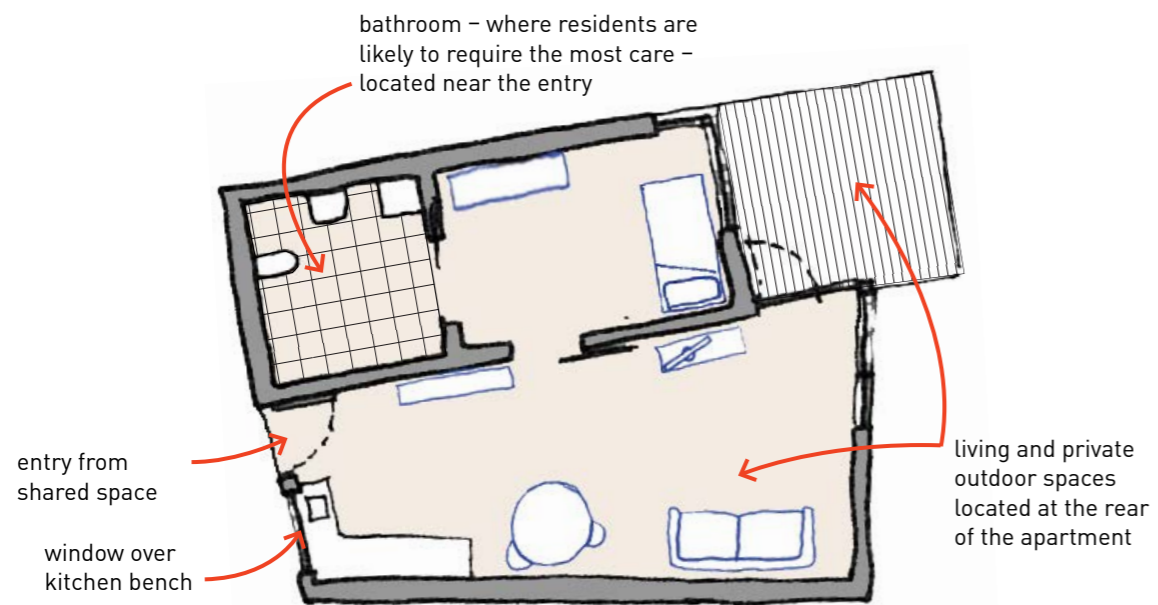
At a larger scale, the high-end supported accommodation 'Vredenbergh' designed by DAT architects, tackled issues around security in a less conventional way when compared with many 'typical' Australian examples. Often heavily gated and secured communities, Vredenbergh differed from these more traditional models by having no fences at all; rather two buildings sat in park-like grounds completely accessible to the public. This helped reduce the perception of fear for residents and promoted familiarity and integration with the surrounding community. In addition, the carefully maintained grounds became an asset that the local community could benefit from and enjoy. Keeping shared and public facilities on ground along with a reception desk at the entry with video intercoms to every apartment ensured residents felt completely secure at all times.



©2012 Google street view image capture Oct 2013

**Above**  
Supported accommodation developments in Australia are often 'gated' or separated from other communities

**Left**  
Koglerne: fully self contained apartments provide residents with a good amount of privacy and views to the outside



- ▶ Shared/public entries
- ▶ Private apartment entry



Top left  
Koglerne: Plan of a typical apartment

Bottom left  
Koglerne: apartments were arranged in order to maximise good views to the outside while retaining privacy

Top right  
Koglerne: low windows at the entry allows residents to see who is at their door, or who is in the shared space

Bottom right  
Koglerne: view of a typical entry into an apartment from the shared space

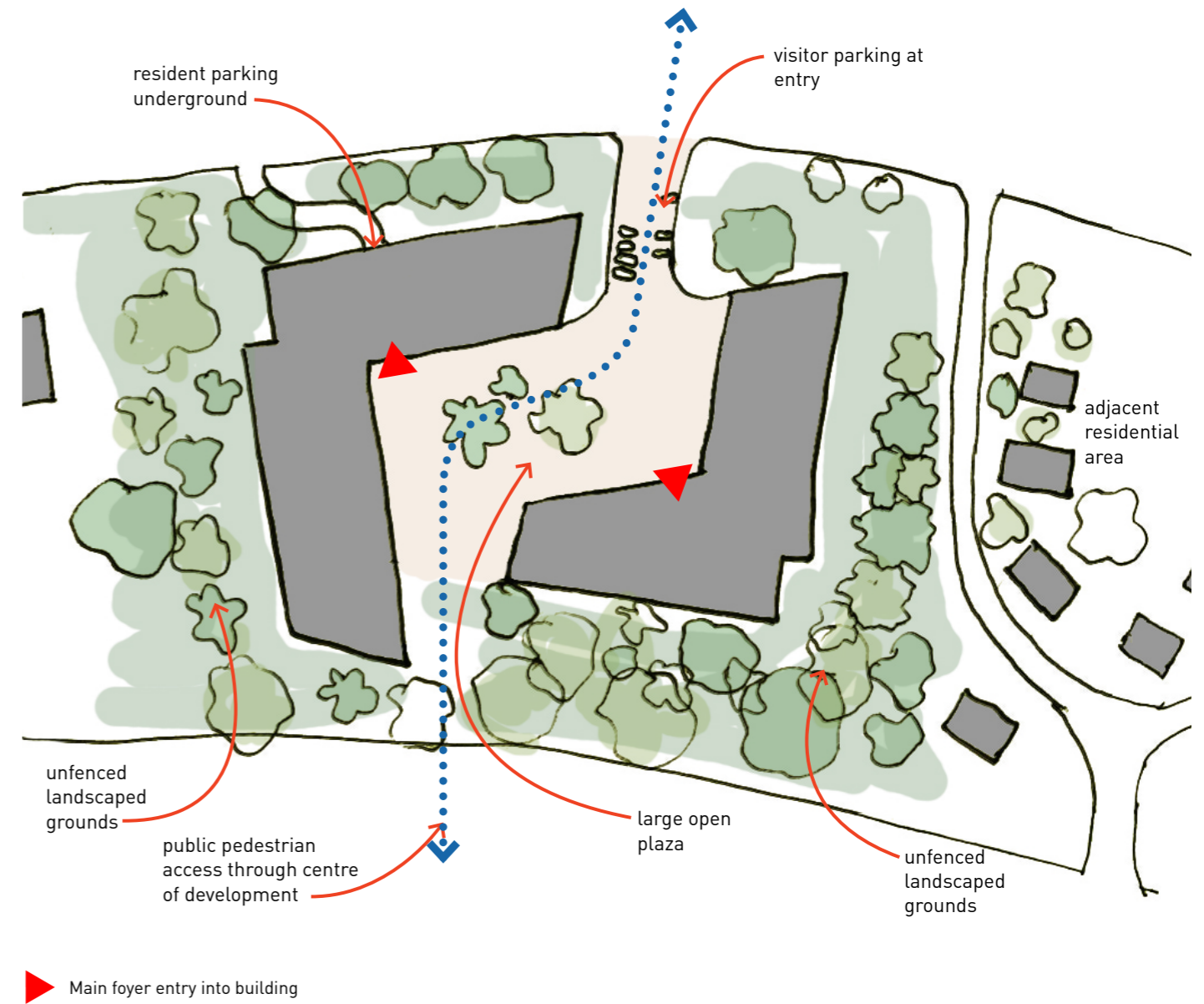


Image : © 2015 Google street view

Top left  
*Vredenbergh: unfenced, landscaped grounds surround the buildings and provide visual amenity to the local neighbourhood. Public facilities are located on the ground level and apartments overhead to enhance the sense of security for residents.*

Bottom left  
*Vredenbergh: a large public plaza sits in the centre of the development and can be used as a cut through for pedestrians*

Right  
*Vredenbergh: the entire grounds are accessible to the public, along with the cafe and medical rooms inside*





## BEYOND INSIDE

# 7

One of the critical observations made in this study is the importance of providing access to good quality outdoor spaces. The focus of accessible home design is often concentrated on entry points and the interior of the building; however accessible outdoor spaces are just as important. Confining people to the inside of their homes can lead to feelings of restlessness, boredom, irritability and a sense of dissatisfaction.<sup>54</sup>

Helen Small, General Manager of Operations at Wintringham Housing, described her observations of people becoming 'fearful' of the environment when their ability to access it became more difficult in care environments:

*"Initially when people moved in, they would be more than happy to go out with their kids, or even just outside. Then, after living for a while in this completely internalised environment, they would say "no I don't want to, it's too hard". They weren't like that when they moved in so I wonder if the lack of contact with the environment actually made them fearful of the environment."*<sup>55</sup>

Residents from Sankt Antonius and Kogleme also talked about the importance of having access to a good quality outdoor space, and how it enriched their lives. The benefits of having the ability to interact with nature have also been shown to be very positive in several studies, with improved cognition and overall well-being.<sup>56</sup>

Left  
Alexander Miller Home  
Highton: Victorian Housing  
Association Wintringham  
Housing and architect Allen  
Kong promote quality garden  
spaces in their developments



“Access to external areas that promote a sense of normality through pleasant outdoor views, balconies and courtyard areas are conducive to a healthy mental state”

Ochodo, C (2014) External Built Residential Environment Characteristics That Affect Mental Health of Adults



## OUTDOOR SPACES

Architect Allen Kong works closely with Victorian Housing Association Wintringham Housing to deliver completely accessible homes, describing his holistic approach as:

*"When we say we design accessible units, we mean everything, including the outside and right up to the boundary, sometimes we even modify the footpath."<sup>57</sup>*

Kong has worked on many Wintringham Housing properties, including the Alexander Miller Memorial Homes located throughout regional Victoria. Comprised of a mix of new builds and modifications to existing stock, units always have access to a private outdoor space as well as shared, landscaped gardens maintained by Wintringham Housing. Aligning with Wintringham Housing's core values, he ensures money set aside for landscape works – often the first thing to go, particularly for projects with tight budgets – is always preserved, believing the landscape is of equal priority to the building works. Wintringham Housing's General Manager of Housing, Elizabeth Perez, described her observation of the new design at the Alexander Miller Homes in Belmont:

*"The architect redesigned the site to be completely accessible. Now that people have a place to sit and the gardens have been landscaped, we find residents chatting away outside, whereas before they would tend to sit alone inside their units. The gardens are one of the hallmark features of Wintringham Housing; it goes back to the CEO Bryan Lipmann. He is strong on the idea of beautiful gardens in the design and that a sense of connection to nature is important. If there are big trees on a site they stay, despite the fact they may create on-going maintenance, because they look so beautiful and attract birds, and most of all, they stop the homes feeling institutional."<sup>58</sup>*

In conjunction with well-maintained gardens, Wintringham Housing also promotes the use of verandahs in all its properties. The verandah operates as an important interstitial space between the inside and outside, where residents retain a sense of ownership and increased opportunities for engagement. In addition they provide some extra space as well as increasing the sense of security around the home by enabling passive surveillance. Concrete paths are located throughout all sites with a maximum gradient of 1:20 to maximise the independence of people with mobility issues who rely on walkers or wheelchairs. In existing sites, old paths were replaced and gently raised from the ground so they sit flush at the entry level of all units. In the case of the Castlemaine and Manifold Heights Miller Homes, these paths continue from the site out to the street to link in with existing footpaths.

Another example of encouraging residents to go outside is where architects LRO, on the advice of the housing managers, deliberately placed letterboxes outside the apartment building at the Sankt Antonius apartment building. The managers had observed residents who lived in internalised facilities described by them as 'giving up', some even staying in their robes all day. They said something as simple as putting individual letterboxes out the front of the building gave residents:

*"A purpose to get up and out of their homes each day, even in the cold winter, they have to get up, get dressed and stay alive."<sup>59</sup>*

Right  
Alexander Miller Home,  
Castlemaine: private back  
gardens were landscaped by  
residents with some assistance  
by Wintringham Housing

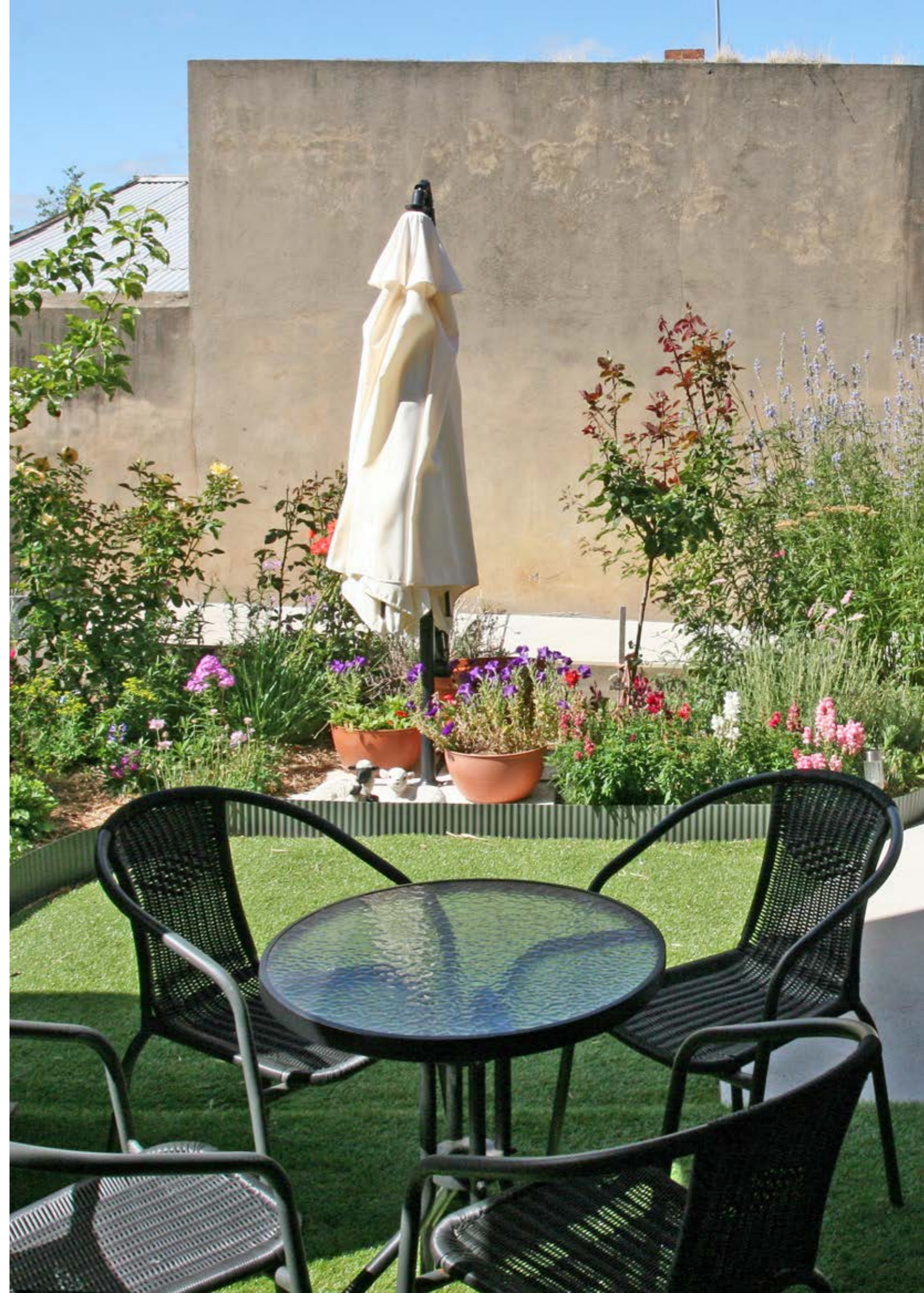




Image : Allen Kong



Image: Charlie Kinross, supplied Allen Kong Architects

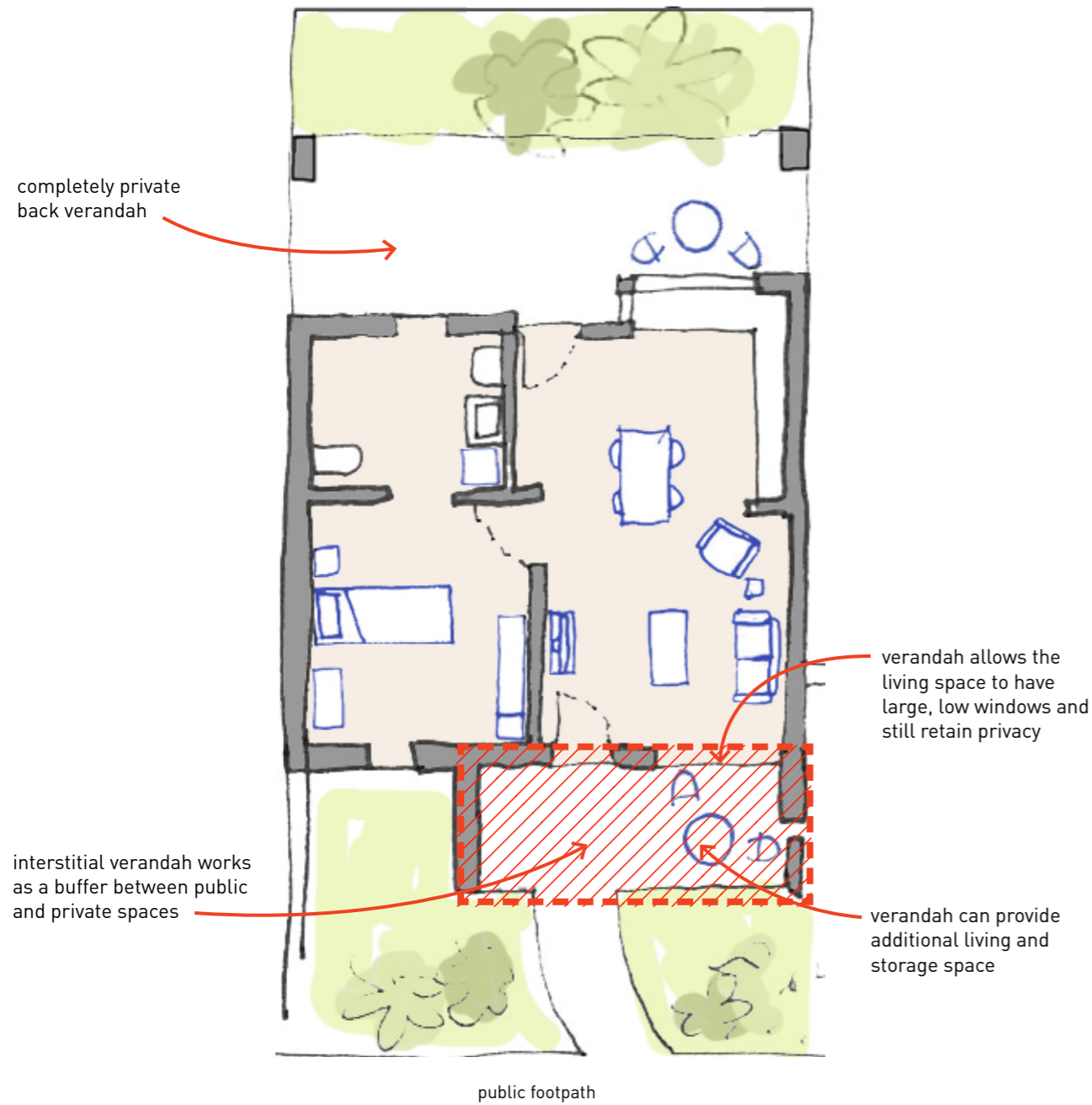
Top  
Alexander Miller Homes,  
Euroa: *original paths and  
entry steps (top) were  
replaced with new concrete  
paths that are flush with the  
unit floor level (bottom)*



Top  
Sankt Antonius: *letterboxes  
were placed at the front door  
to encourage residents out  
to the street while still being  
easily accessible*

"I like to sit out on the front verandah a lot, read the paper and maybe have a drink. It's good air out there, and a great spot to see what's going on!"

Alexander Miller Home Highton resident



Left  
Alexander Miller Home,  
Castlemaine: each unit had  
a front, public balcony and a  
private, back balcony

Top right  
Alexander Miller Home,  
Castlemaine: all the front  
verandahs were furnished and  
provided good views of the  
street as well as each other  
through small openings

Bottom right  
Alexander Miller Home,  
Castlemaine: verandahs and  
gardens create a buffer space  
between private living space  
and the communal path



## BEYOND THE BOUNDARY

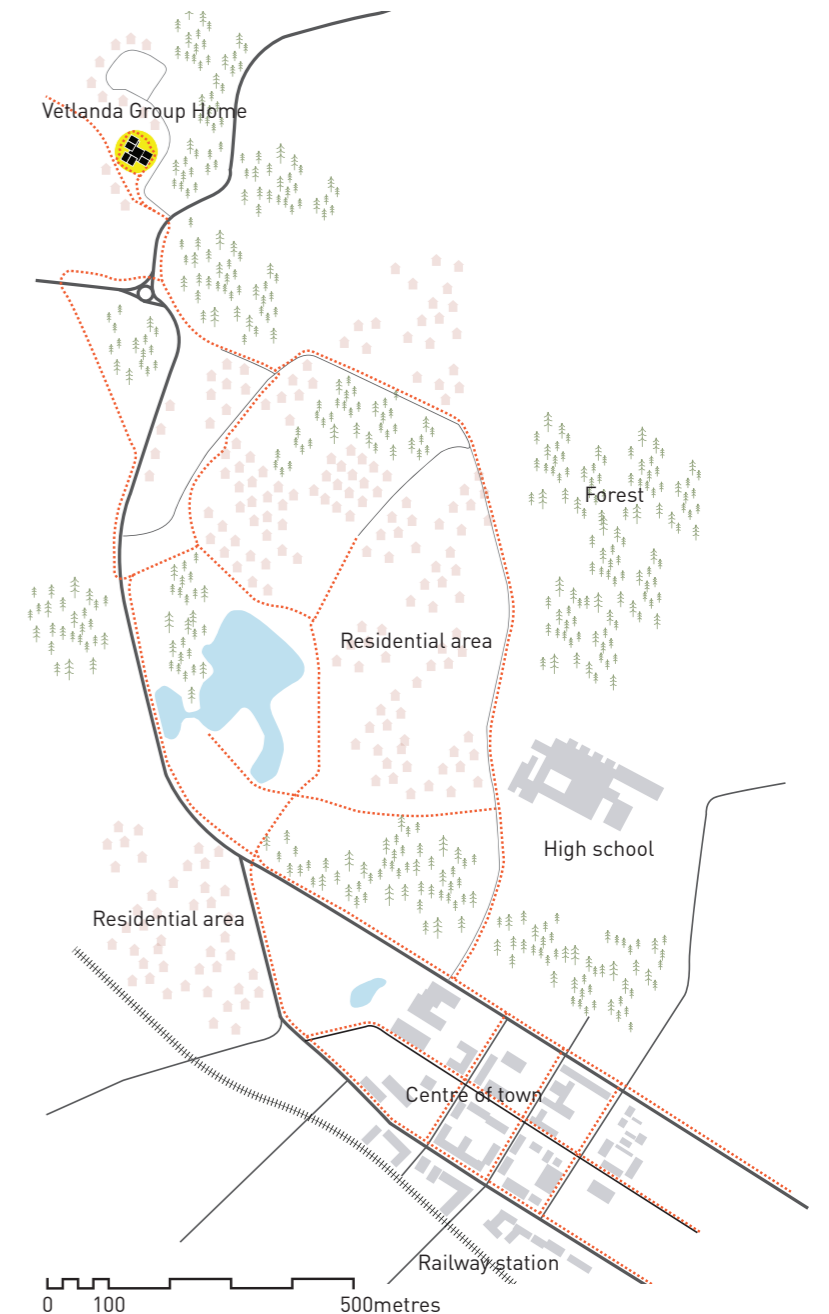
In addition to outdoor spaces around the home, people also want to be able to freely move beyond the boundary of their property, as identified by a Sankt Antonius resident:

*"Living here means I am still part of the city life. I'm not stuck on some corner of the city where I would need someone to drive me to get groceries, I can do it by myself and that's really important. I am free to plan my own day. I don't need to depend on anybody to help me do anything. It's about quality of life."*<sup>60</sup>

For those with mobility issues, easy access to amenity in the local area becomes an even greater consideration, as wheelchair transit often requires extra planning and time. This was described by Peter Jones when talking about the differences between their old home in Vermont South compared with their new home in Elwood:

*"It's so easy to take Marie out in the wheelchair now and down the street or to the beach. When we lived in Vermont South we needed the car to do anything, there was a lot more rigmarole involved. Now if we feel like just going for a walk, it's easy; it's good for Marie and for me."*<sup>61</sup>

As discussed in 'Design for All', each unit at the Vetlanda Group Home had a bitumen path that linked in with existing bike path infrastructure built by the local council. This path enabled residents to more easily access the local neighbourhood and the town without the use of a vehicle, also making them more visible to and familiar with the local community. It is important to note the paths were bitumen and could be used by both manual and much heavier electric wheelchairs, in contrast to the gravel paths built at Koglerne. Despite good intentions, the paths surrounding Koglerne were unusable, especially during wet weather; the electric wheelchairs in particular would become bogged in the gravel and people would require assistance to get out, making much of the landscaped site completely inaccessible.



Top  
Vetlanda Group Home: paths from each private patio space and the main entry connect with existing bike paths

Left  
Koglerne: grass and gravel paths were not suitable for wheelchairs and made it difficult for residents to access the grounds

Right  
Vetlanda Group Home: map of the town showing the shared bicycle/wheelchair/pedestrian path network



low or no fences increase opportunities for social interactions

bitumen path links into existing bicycle paths into town

private patio connects with shared path but is differentiated by using a different material



## SOCIAL RELATIONSHIPS

Many people with a disability experience high levels of social exclusion or marginalisation, despite the general acceptance and efforts by society and government policy to support deinstitutionalisation and integrated community living.<sup>62</sup> The Australian Bureau of Statistics estimates approximately 15 per cent or 287,500 Australians with a disability aged 15 to 59 live alone, compared to 6.8 per cent of people without disabilities.<sup>63</sup> Alongside social and attitudinal factors, the built environment can play a key role in facilitating meaningful social interactions.

Left  
Wintringham Housing Port  
Melbourne, designed by Allen  
Kong: Verandahs face the  
street creating opportunities  
for social interactions

## IN THE COMMUNITY

The lack of accessible amenities in the community that others may take for granted, such as cafes, public buildings, swimming pools, libraries, sporting facilities and movie theatres, can limit a person with a disability's independence and compromise their quality of life.<sup>64</sup>

This study on the experiences of people with disabilities in Australia observed the positive impact that being able to 'get out' and being visible in the community had on participants, versus being confined to their home. Peter Jones outlined this when speaking about his wife Marie's experiences between two scenarios:

*"Socially, the first place we moved to after Marie contracted MSA was terrible. We moved there to try and make our life easier, but OH&S meant the driveway was too steep for carers to take her out, so she was bound to the unit when I wasn't there. Also it was on the Burwood Highway so we couldn't just go out, I couldn't take her out for a walk. Marie didn't like it, she wasn't happy at all. She felt trapped, stuck there, out in the middle of nowhere. Since moving to our new unit in Elwood, we are able to get out more. The people in the community know us, the little cafes know Marie. We come along and they have got the iced coffee already made up, they just put it in front of her. Our kids feel comfortable taking their Mum out too, whereas at the old place the road surface was rough, the pedestrian lights to get across the highway were too short, it was scary. Marie is so much happier here, and we see a positive effect on her health. We will go for a walk and she says 'I'm really inspired'; that's a massive thing."*<sup>65</sup>

Mixed-use buildings that include apartments and facilities open to the public such as Vredenberg and

the Sankt Antonius Community Centre are another way of introducing increased opportunities for social interactions in the community. As mentioned in 'Beyond outside', Vredenberg was comprised of two buildings that sat in a landscaped park setting in the centre of the town. On the ground floor were medical rooms that were also open to the public, and a large restaurant-café also open to the public with views through the park. Careful attention was paid to the design of the restaurant-café including finishes and furniture choices so that it would mimic that of a high-end hotel. The architect Walter van der Hamsvoord and facility manager say this was a deliberate consideration when designing the entire facility, avoiding the type of environment offered in more traditional care institutions. Along with the maintained, landscaped grounds, this made Vredenberg a more accessible and more attractive place for the local community to engage with, increasing residents' opportunities for social interactions. The Sankt Antonius Community Centre operated similarly to Vredenberg but on a much smaller scale. Built by the adjacent church, the centre was comprised of a small shop; several hireable community rooms and medical rooms open to the public. At the rear of the building was a large public square that often held public events for the local community that residents could choose to participate in. The building was also located one block back from the main street of the town, making it easier for residents to remain part of their community.

On a much larger scale, the Weidevogelhof development by Dutch architect DAT also used the built environment to address issues of community engagement. Initiated by care organisation Peter van

Forest, the Weidevogelhof development is located in the centre of a new suburb comprised of over 300 dwellings on the train line between Rotterdam and The Hague. Popular with young families, the development responded in part to rising demands of the growing area and delivered a suite of new amenities and medical facilities as well as almost 400 new accessible dwellings with access to support if required. Spread over eight buildings the apartments include a mix of assisted living and high care options for older people as well as sixteen fully self-contained apartments with access to on-demand, round-the-clock support scattered throughout the suburb for people with a disability controlled from an office on site. The overall intent of the development was to truly integrate people of all ages and abilities throughout the neighbourhood, where everyone can share the same facilities and amenities and together form a new community. The architects cleverly located the buildings around a new town square that sits adjacent to the train station with shared facilities at the ground level and apartments overhead. The layout encourages the community to travel through the Weidevogelhof rather than around it, maximising opportunities for social interactions. Similarly key bicycle and pedestrian paths travel throughout the development to foster a sense of community and interaction between different groups.

Top  
Weidevogelhof: cafe/  
restaurant on the ground level  
of an apartment building,  
adjacent to the main public  
square in the town

Bottom  
Weidevogelhof: medical  
rooms below apartments in  
the Weidevogelhof are shared  
with the entire community



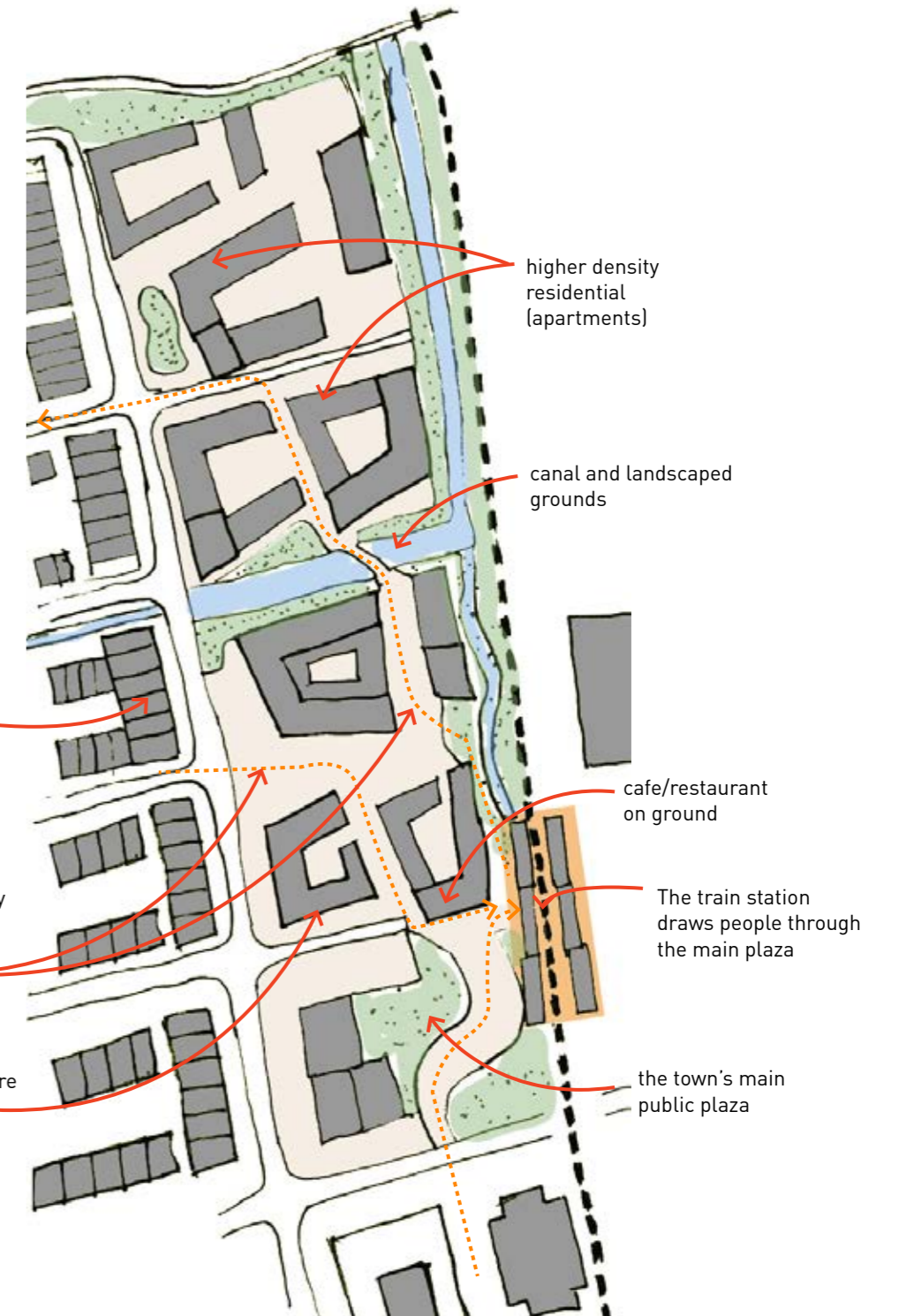




Left top  
Weidevogelhof: general services and amenities are located on the ground level of apartment buildings and are shared by the entire community

Left bottom Weidevogelhof: public pedestrian and bike paths weave through the Weidevogelhof

Above Weidevogelhof: the new development sits between a lower density residential area and train line



## IN THE HOME

As well as neighbourhood, the home itself can enable more positive social interactions by ensuring it is accessible, visitable and adaptable for change. Simple design moves such as the secondary entries in 'Here To Eternity', can improve relations between residents and support workers or even other family members by giving people more control of their space and encouraging their sense of independence.

Though the move to integrated community living is a positive step forward, access to peer support networks also needs to be considered. A 2009 report compiled by the National People with Disabilities and Carer Council identified the importance of providing opportunities for people with disabilities to come together and share their experiences. Often labelled as 'different' or 'lacking', the report noted the difficulties people with a disability can experience in developing and maintaining a positive sense of self, which has an adverse effect on sustaining meaningful social relationships.<sup>66</sup>

The benefits of peer support were clear in the case of the Vetlanda Group Home. The six residents at Vetlanda had been friends from a young age but had previously been forced to stay living at home with their parents because of a lack of suitable accommodation options. After years of lobbying by families, the Vetlanda Group Home was built by the local government and residents were finally able to move into their own apartments. Importantly each apartment is fully self-contained, providing residents with some autonomy and the opportunity to retreat to their own space if they want. Similarly, each resident chooses his or her own individual support staff. As described by family members and support workers, this deliberate 'deinstitutionalisation' of the design has a positive

effect on the ability for residents to have better quality social interactions with each other, friends, families and neighbours:

*"A lot of homes for people with disabilities like everyone at Vetlanda are very institutional. This feels more like a home, the apartment is like any other apartment in town that you could rent, and actually it's probably even nicer! It makes it a more pleasant place to visit, Mikael's friends come over now and then, and everyone who lives here have been friends since they were young so they often visit each other in the evening."<sup>67</sup>*

As well as benefitting residents, providing opportunities for social interactions can also create positive changes for families. Matias observed big changes in his brother and his family when Mikael left home:

*"The biggest difference we've all noticed since Mikael left home and into his own apartment here is the social side, not only is he more free from us and lives with his friends, our responsibility is also not as big, it is a win-win situation for everyone."<sup>68</sup>*

Each apartment at Vetlanda also has a private patio space that looks faces out to neighbouring properties. The arrangement of the building, combined with low fences, has allowed residents to get to know some of their neighbours. A lucky coincidence meant Mikael – an avid speedway fan – moved into the apartment across from a local motorcycle club. Unable to see, he enjoys the smell, sound and vibration of motorcycles and cars. Once the club learned of his interest they began to accelerate their engines for him, and invited him and other residents to some of their parties.



Right  
Vetlanda Group Home:  
resident Mikael can hear the  
motorcycles at the club next  
door from his patio



apartments  
overlook plaza

through to street

community rooms  
open onto plaza

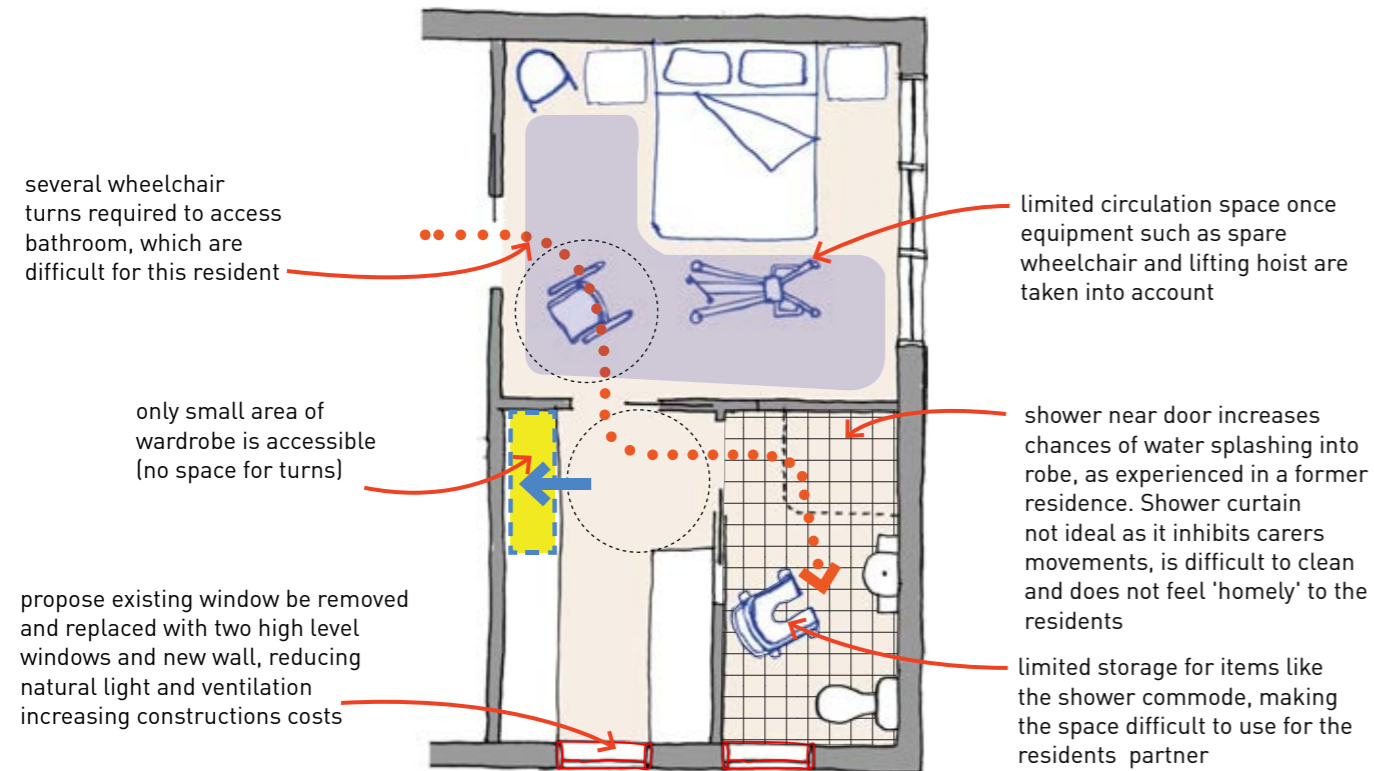
shared plaza

kindergarten

Sankt Antonius Church

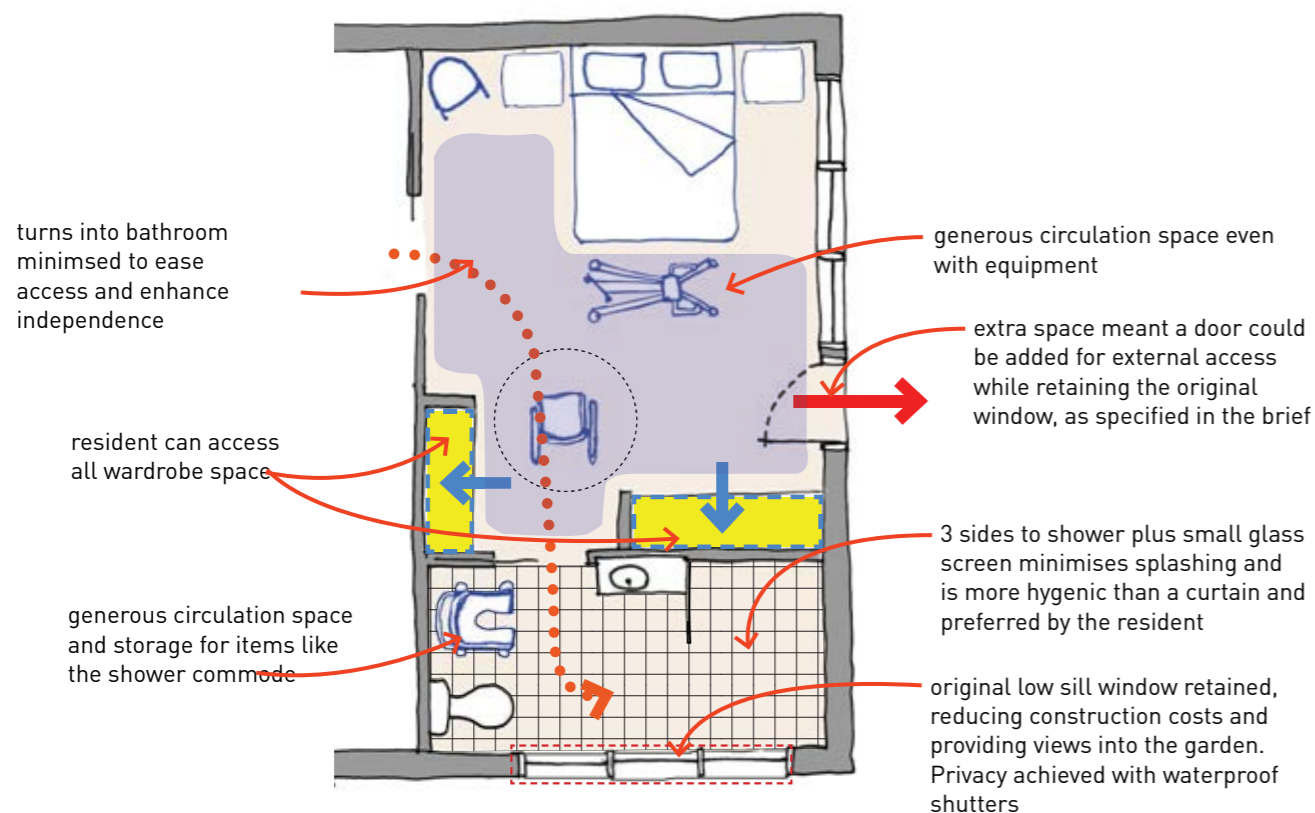
## INITIAL DESIGN PROPOSAL:

Compliant/ meets regulations, but did not satisfy resident's requirements



## FINAL BUILT OUTCOME USING A DIFFERENT DESIGNER:

Also compliant, cost neutral to initial proposal, but delivered a higher quality result that maximised access and independence and better met the client's brief



# RULES AND REGULATIONS

Construction codes, standards and guidelines relating to accessibility are fundamental to ensuring a more inclusive society for people with a disability. However a too literal translation of these regulations can result in their original intent being lost. The Liveable Housing Design Guidelines, for example, set good functional benchmarks for threshold details, light switch locations, circulation widths and so on, but do not give any specific directions on how to ensure the spaces of the dwelling also perform well qualitatively or socially. In order to achieve such good outcomes, complex design problems need to be solved by skilled designers or architects who have a thorough understanding of the regulations, as well as the skills to interpret them creatively and deliver good outcomes, as discussed by architect Allen Kong:

*"Of course the standards are important; if they didn't exist accessibility would be largely ignored. Things must meet the code, and if it is not regulated all hell breaks loose. What is sometimes overlooked though, is that you can be clever about it, but to integrate the code into your design, you first have to have a good understanding of it. The problem isn't always the code, it is that some designers and architects come up with an idea without considering accessibility first, and then the code is plugged in by a consultant at the end, the result being just a stamped copy of the standard that usually isn't the best solution."*<sup>69</sup>

Kong, also an accredited accessibility consultant, goes on further to suggest that rather than see the code as an obstacle, his approach is to include accessibility as part of the design brief that is incorporated from the start of the process:

Left  
*Ringwood House: although the initial design proposal (top) was compliant, it did not satisfy the resident's requirements. Conversely the final design (bottom) delivered an outcome that was also compliant, but delivered a better access and a high quality space that 'added value' to the home*

*"We try and make it look like it doesn't happen, although it can be more challenging, it also delivers a much better outcome."*<sup>70</sup>

This is evident in much of his work with Wintringham Housing, such as the handrails integrated into balustrades on outdoor verandahs, or the gently sloping outdoor paths sit flush with the indoor floor levels in the Alexander Miller properties.

Anne Lacaton spoke of her concerns about what she perceived to be poorly understood, over-zealous regulations and the negative impact it was having on the quality of final outcomes:

*"There are so many regulations we have to comply with now and they just keep on increasing, thermal, fire, environmental ... though these considerations are of course important, I think some of the regulations put in place don't take into account some of the most important things in housing, and that is the quality of the space, the location and behaviour of its inhabitants."*<sup>71</sup>

The qualitative aspects discussed by Lacaton may at first seem to be more difficult to regulate than the functional ones, however this study observed several countries including Sweden, Denmark and Germany integrated these into their codes with success. Rather than provide purely prescriptive solutions, the regulations' focus is on achieving high quality outcomes. For example, the Danish building code stipulates that 'windows must provide a view of the surroundings ... (they are) ... one of most important factors in the experience of the room', but does not provide a drawing or 'how to' guide. This style of

“Architects and industrial designers are an untapped resource in the context of accessibility; that much became clear during the course of the work, as they contributed vital insights and approaches ... we (also) learned how much better it was to invite different user groups to participate in the role of experts rather than setting specifications.”<sup>72</sup>

Rasmus Renglin, architect and former Project Manager of Vårdig entré program



Image : White Arkitekter, from the 2014 paper 'Dignified Entrance' by the National Property Board Sweden



regulating appeared to create greater opportunities for designers and architects to come up with innovative solutions that were not just accessible and functional, but also desirable living environments, such as those covered in this report. In addition to the qualitative considerations are social and environmental requirements such as the need for meaningful social interactions, feelings of dignity and a sense of belonging and connection with community. Though these considerations are arguably just as complex to capture in a prescriptive code or regulation, this study revealed they were just as important to the success of a project, and the quality of the designer or architect employed played a key role in their delivery. The most successful projects occurred when the design team not only had a good understanding of the regulations, but also possessed the skills and experience to creatively respond to them, along with a genuine interest in maximising residents' quality of life. Just holding the title of architect or designer was not enough.

The 'Vårdig entré' program in Sweden is a good example of ambitious regulating that delivered accessibility, improved function and design quality. A collaboration between the National Property Board Sweden, the City of Stockholm and the non-profit organisation Design for All Sweden, the program – which translates to 'dignified entries' – was initiated to ensure everyone could access any public building through the same entry, regardless of ability, while simultaneously championing innovative design. This resulted in some very successful, well-integrated solutions such as the Stockholm City Hall, where

the existing stairs were replaced with a 'stramp' – a combination of a ramp and stairs – that created a fully accessible, dignified entrance that also retained the original design intent. Lennart Klaesson, architect for the City of Stockholm during the program, explained how they achieved successful outcomes, and how it was possible to provide innovative, high quality designs that were also compliant:

*"I can't stress enough the importance of involving users, architects, designers and manufacturers in the process from an early stage. It was only together that we were able to procure something that didn't exist. Otherwise, innovation procurement becomes an extremely tricky business."*<sup>73</sup>

Left top  
*Stockholm City Hall: the entry staircase was removed and replaced with a stair-ramp combination that made the building accessible while retaining the original design intent*

Left bottom  
*Alexander Miller Home, Manifold Heights: regulated accessible elements such as handrails and flush entry thresholds are cleverly integrated into the design*

“You can do the best design in the world but if you have the wrong model of care, it won't work”

Helen Small, General Operations Manager, Wintringham and Wintringham Housing



## CREATIVE STEWARDSHIP

# 10

This paper demonstrates the positive contributions that design plays in enhancing supported living environments, but this does not happen in isolation. Successful projects also rely on ambitious, 'enlightened' management styles and support models that are put in place from the beginning. These models adapt and respond to a person's needs throughout their life.

Helen Small, General Operations Manager of Wintringham and Wintringham Housing, discussed the positive changes she observed at Gilgunya, when a new management approach was adopted that responded to the residents and their situations. Designed by architect Allen Kong, Gilgunya is a residential facility for people over 50 on low incomes, and is comprised of a mix of supported hostel and independent living accommodation arranged around extensively landscaped gardens. Despite the carefully considered and high quality design, a management style had been in place that was not suited to the needs of residents. This led to a high turnover of management staff and financial losses that impacted significantly on operational staff and residents. Small noted that,

*“in the 14 years of operation, no one was able to operate it in a cost effective way.”<sup>74</sup>*

Wintringham took on the management of Gilgunya in 2011, and through close engagement with long-serving support staff was able to restructure the operations of the project, resulting in a far more successful organisational model.

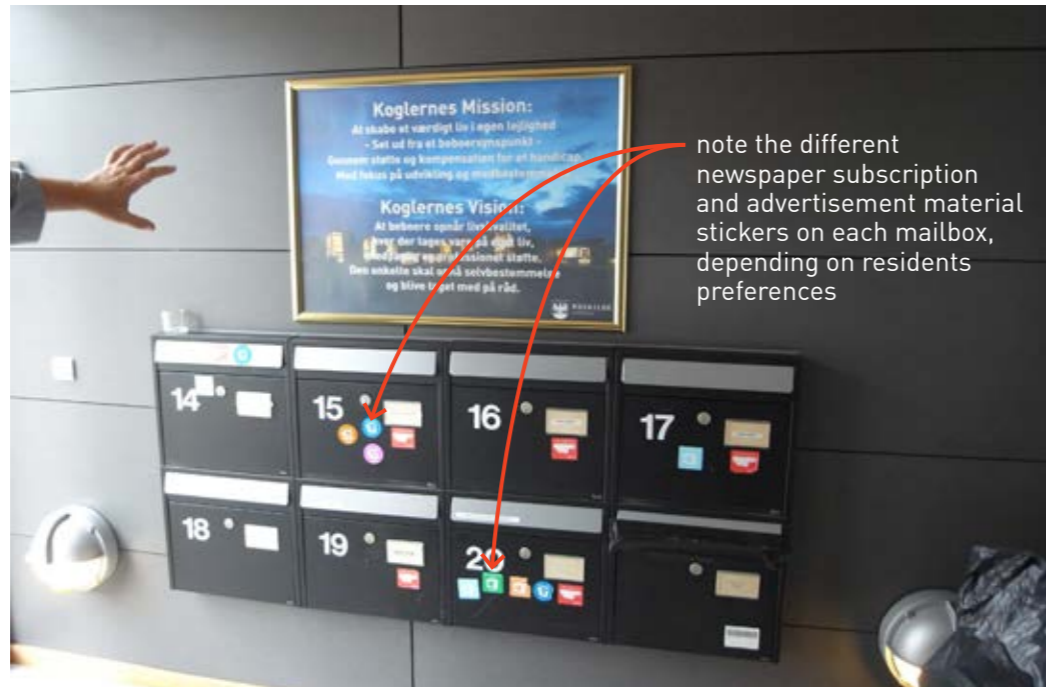
*“We are already making a surplus and the residents are happier. If you know the right model to put into a design it all works, but clearly for 14 years they tried to do something there that it was never designed to do.”<sup>75</sup>*

Conversely, the research team visited another case study that was also designed to a very high standard,

but without appropriate procedures or operations to support it. Although the quality and scale of the project were very good, patterns had developed where support staff did not respect the thresholds between public and private spaces established in the design, which compromised the dignity and independence of the residents. For example, when our research team was given a tour of a resident's home, the guiding staff member walked into their private unit without knocking, taking the resident by surprise while they were trying to take a nap. Similarly, the carefully landscaped gardens, that were observed to bring so much enjoyment to residents in similar projects, were neglected, becoming a problem instead of something that added value.

As circumstances and people change over time, modifications to housing are often required. It is important that management is in-tune with how a building was intended to operate in order to realise its qualities and maximise the benefits. The semi-open, sky-lit common areas of Eunice Seddon designed by Allen Kong Architects provided residents with pleasant spaces to socialise and experience the outside. Kong recognised during the design phase that these spaces may have needed fine-tuning, and having established a good working relationship with Wintringham Housing, he was able to easily address these issues as they arose. For instance, as the weather warmed up it became clear some of the common spaces were too hot; consequently they were retrofitted with shade cloth and evaporative cooling fans that were low cost and low energy, and also retained the benefits of the design. Conversely the response to the same issue in another project with different management was to completely enclose the space with walls and a suspended plasterboard ceiling. Although the space was cooled, this approach also overlooked the original design intent and negatively impacted the quality of the space.

Left *Kogleme*: resident Anders with manager Lars Holmgren



note the different newspaper subscription and advertisement material stickers on each mailbox, depending on residents preferences

**Koglerne's mission:**

*To create a dignified life for people in their own apartment - from a resident's point of view - through support, and with a focus on development and participation*

**Koglerne's vision:**

*The residents achieve maximum quality of life, taking care and ownership of their own lives, with technical and professional support that will assist them with reaching self determined goals*

Organisations and managements that listened to residents and front line staff, and 'test' new ideas were also observed to play a major role in the success of a project. In the case of Danish project Koglerne, management actively engaged and encouraged a dialogue with all of the residents, and were very open to evolving processes based on new observations, research and feedback.

Villa Maria's Austin Street, designed by Allen Kong Architects, took a similar approach by providing opportunities for residents to creatively modify and refine the architecture and support model in response to changing needs. Since opening, the flexible building design allowed for several adjustments such as the inclusion of an accessible washing machine and laundry area to help residents acquire skills that would assist them achieving the long term goal of moving out on their own. Support staff recognised the shared 'spa' room was barely used, so they raised money to redecorate the space and improve the view out to the garden, which quickly resulted in back-to-back bookings by residents. Management also provided an on-going suggestion box, enabling residents to express that they were not happy with the design and layout of the existing shared lounge. As a result, they were invited to direct the room's redecoration and refurbishing that resulted in a more open and usable space used more frequently. These types of works were often funded by small fundraising activities that were initiated by management but also provided opportunities for residents to participate, such as family dinner parties and 'tuckshop' lunches for support staff.

In the instances of both Koglerne and Austin street, the built design and the support model were viewed together as an evolving living environment where management and staff listened to and learned from clients, always with the goal of maximising the quality of life, as opposed to working around fixed outcomes. Importantly this approach allowed residents to feel invested in and able to make decisions about their home.

Villa Maria's Project Design Manager Angela Roennfeldt explained the importance of carefully monitoring the use and performance of projects so that the knowledge gained could be utilised to continue to improve and create better outcomes in the future:

*"The way we do our briefing is that we learn from projects, with a high level of interaction with people working on the ground. There has been a constant evolution from the first one we did through to the last."*<sup>76</sup>

In addition to developing nuanced design models, this research observed strong and ongoing relations between the design, clinical, support, management and housing provider teams were key to the success of a project, recognising that all spaces will require modifications as the needs and circumstances of the people who live there change.

Left  
*Koglerne: Management installed individual letterboxes in the entry foyer so that residents could have control over their private mail, and also hung their mission statement and vision for the project to reinforce their key values and goals (translation under the image)*

## CONCLUSION

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In this paper we have argued that there is a need to move the discussion beyond what are known as 'universal design' principles and to recognise that whilst critical, physical accessibility and functionality are only part of the issue. This paper has sought to articulate, through the analysis of concrete examples, a set of components and qualities towards what has been termed "dignity-enabling home environments",<sup>77</sup> where a concept of social dignity underpins any evaluation of what might be judged as 'adequate'. Just providing shelter and physical access is not enough. At the most fundamental level, we need to be providing the space for a dignified life to take place, recognising that people living with a disability are as complex as any other member of the community: "individuals with their own needs, abilities, ambitions and priorities ... united only by the experience of living with disability".<sup>78</sup> As the examples presented in this paper show, achieving a meaningful home environment – particularly for those requiring care – is not simply a matter of physical size or cost, but involves the nuanced balance of many competing and conflicting demands.

Finding the physical form and arrangement that responds to such a nuanced balance, in a way that synthesises many different requirements into something that can be both used and understood, is the core of the design process. Design intelligence is required to find a solution that can allow for spontaneity, variety and chance while simultaneously providing a sense of safety and security (as demonstrated by the Sankt Antonius project in Stuttgart, for example). Design intelligence is also used to provide specialised fit-for-purpose solutions to complex briefs that are nevertheless able to embrace ambiguity, allowing for unprogrammed casual encounters and finding personal space within a highly controlled communal environment (as shown in the Villa Maria project in Alphington).

A repeated issue arising from many of the projects visited is that successful places do not get finished and delivered on 'Day 1'; in addition to high quality design they require ongoing care, flexible and responsive management and what we have termed 'creative stewardship', a condition where management and residents are jointly involved in a continual feedback loop of listening and making adjustments. When this occurs the residential environment becomes not only a place to live, but also is itself a living entity that changes and registers the personality of its occupants over time. We have argued that this is fundamental to the creation of 'home'.

Hence we have not advocated a proscriptive or 'pattern book' approach but tried to demonstrate a way of thinking through examples that show what creative thinking can achieve when applied intelligently to real-world situations. 'Design thinking' is understood here as a process and design quality is not the property of any one aesthetic style or construction cost bracket. It is not accidental that many of the concepts discussed in this paper, such as ambiguity of expression, achieving double or multiple-benefits, seamless integration of regulatory requirements, and making spaces that allow for and foster social relationships, are somewhat vague and difficult to provide strict criteria for. The nature of design is that many variables are dealt with simultaneously and subtly, and many unknowns remain even at the time of a project's completion.

The next phase of the research will apply and expand the issues raised in this discussion paper and apply them to the development of replicable design strategies for improvements in retrofits and new builds, relevant to TAC's accommodation needs.



## ILLUSTRATION CREDITS

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\* name changed to protect the privacy of individuals

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# APPENDIX

The following pages present data on 23 local and international case studies that were identified as having best practice elements. All of these were visited by the research team, allowing feedback from residents and support providers to be collected, and independent observation of the design features and performance.

Case studies listed in alphabetical order:

1.	Alexander Miller Memorial Homes Belmont	Belmont AUS
2.	Alexander Miller Memorial Homes Castlemaine	Castlemaine AUS
3.	Alexander Miller Memorial Homes Euroa	Euroa AUS
4.	Alexander Miller Memorial Homes Highton	Highton AUS
5.	Alexander Miller Memorial Homes Manifold Heights	Manifold Heights AUS
6.	Austin Street	Alphington AUS
7.	Cité Manifeste	Mulhouse FRA
8.	Drill Hall	Melbourne AUS
9.	Elwood Bathroom	Elwood AUS
10.	Eunice Seddon Home / Potter Street	Dandenong AUS
11.	Former Kaufhaus Breuer	Eschweiler GER
12.	From Here to Eternity	Roskilde DEN
13.	Koglerne	Jyllinge DEN
14.	Plussenburgh	Rotterdam NED
15.	Port Melbourne Hostel	Port Melbourne AUS
16.	Ringwood House	Ringwood AUS
17.	Sankt Antonius Community Centre	Stuttgart GER
18.	Tokyo Institute of Technology Platform	Ookayama JPN
19.	Tour Bois-le-Prêtre	Paris FRA
20.	Tully Bathroom	Fitzroy AUS
21.	Vetlanda Group Home	Vetlanda, SWE
22.	Vredenbergh	Breda NED
23.	Weidevogelhof	Pijnacker NED
24.	Yooralla Supported Housing Altona	Altona AUS

## INTERVIEWS - PROCUREMENT DESIGN OPERATION AND MANAGEMENT

Person	Role/Title	Organisation	Interview date
Allen Kong	Architect	Allen Kong Architect	22 Jan 2015
Arons en Gelauff	Architect	Arons en Gelauff Architecten	7 Nov 2014
Anne-Julchen Bernhart	Architect	BeL Architects	31 Oct 2014
Walter van der Hamsvoord	Architect	DAT Architecten	30 Oct 2014
Laurel Ceff	Housing Officer	Housing Choices Australia	29 Jan 2015
Joakim Kaminsky	Architect	KKA Architecture	24 Oct 2014
Anne Lacaton	Architect	Lacaton & Vassal Architects	6 Nov 2014
Arno Lederer	Architect	LRO Architects	3 Nov 2014
Arne Swank	Housing Operator	Random Wonen	30 Oct 2014
Thomas Rasmussen	Architect	Vandkunsten Architects	27 Oct 2014
Angela Roennfeldt	Design Manager	Villa Maria	29 Jan 2015
Donna Claridge	Manager, Austin Street	Villa Maria	29 Jan 2015
Phil Hayes Brown	Chief Executive	Wallara Australia	27 Jan 2015
Helen Small	General Manager Operations	Wintringham Housing	8 Jan 2015
Elizabeth Perez	General Manager Housing	Wintringham Housing	3 Feb 2015
Donna	Tenancy Manager	Wintringham Housing	3 Feb 2015
Annie Wakeford	Tenancy Manager Geelong	Wintringham Housing	22 Jan 2015
David Tilson	Acting Regional Community Housing & Support Manager	Wintringham Housing	22 Jan 2015
Lucy Jones	Architect	-	19 Jan 2015
Peter Jones	Client / Carer	-	19 Jan 2015

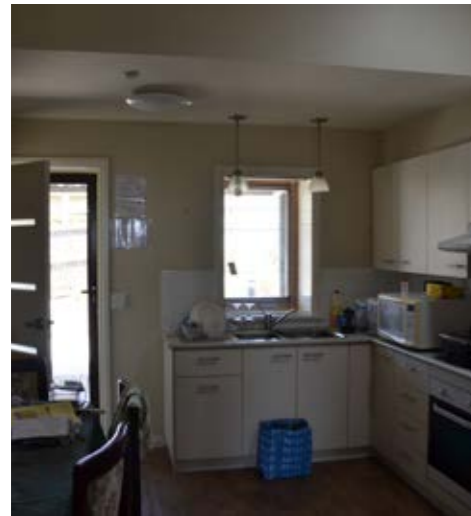
## INTERVIEWS - RESIDENTS AND SUPPORT STAFF

Case Study	# Residents interviewed	# Support Staff interviewed	Interview date
Alexander Miller Memorial Homes Belmont	1	1	22 Jan 2015
Alexander Miller Memorial Homes Castlemaine	1	1	2 Feb 2015
Alexander Miller Memorial Homes Highton	2	1	22 Jan 2015
Alexander Miller Memorial Homes Manifold Heights	2	1	27 Jan 2015
Austin Street		2	24 Feb 2014
Cité Manifeste	2	1	4 Nov 2014
Drill Hall	1	1	29 Jan 2015
Eunice Seddon Home / Potter Street	2	2	27 Jan 2015
From Here to Eternity	1		28 Oct 2014
Koglerne	1	1	27 Oct 2014
Plussenburgh	1		7 Nov 2014
Port Melbourne Hostel	1	2	29 Jan 2015
Sankt Antonius Community Centre	2	2	3 Nov 2014
Vetlanda Group Home		3	24 Oct 2014
Yooralla Supported Housing Altona		1	6 Mar 2015

# Alexander Miller Memorial Homes Belmont



Data	
Location:	Belmont, Australia
Client:	Wintringham for the Trustees of Alexander Miller
Architect	Allen Kong Architect
Number of units:	12
Year of completion:	2011
Description	Independent Living Units for the elderly. Redevelopment of semi-detached units built in the 1920s. Retention of period features while improving natural ventilation, wheelchair access to bring the up to contemporary standards of aged care. The units overlook the Barwon River, enjoying some of the best views in Geelong.
Features	<ul style="list-style-type: none"> <li>› Sloping site initially presented access issues. Resolved through creating continuous raised concourse linking to new verandahs - promoting access and opportunities for casual interaction with neighbours.</li> <li>› Generous landscaping (maintained by Wintringham)</li> </ul>



# Alexander Miller Memorial Homes Castlemaine



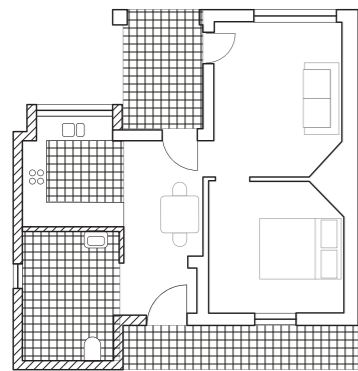
Data	
Location:	Castlemaine, Victoria, Australia
Client:	Wintringham for the Trustees of Alexander Miller
Architect	Allen Kong Architect
Number of units:	10
Year of completion:	2011
Description	Knock-down rebuild project providing new independent living units for the elderly in the centre of town.
Features	<ul style="list-style-type: none"> <li>› North facing verandahs at the front of dwellings offer residents an external space with a good balance of neighbourly interaction and separation/ control. Generous, attractively landscaped front gardens (maintained by Wintringham), supporting the integration of the housing into the area.</li> <li>› Pathways link up to existing sidewalks, ensuring ease of access</li> </ul>



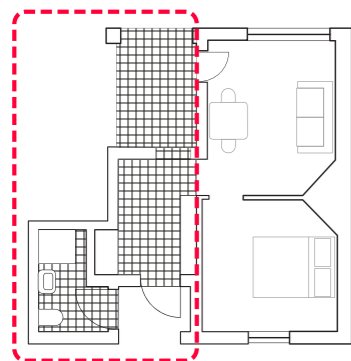
# Alexander Miller Memorial Homes Euroa



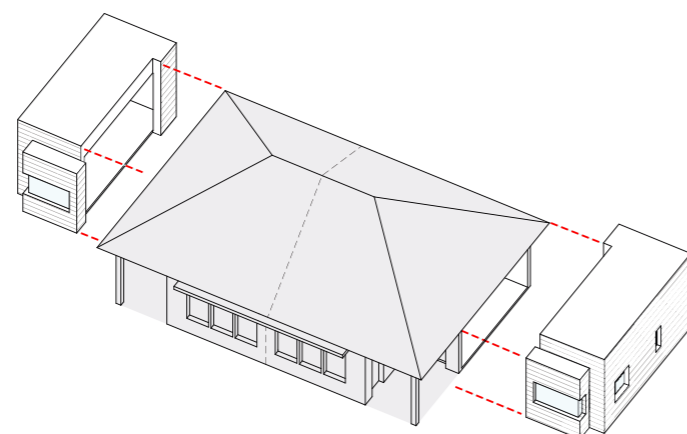
Data	
Location:	Euroa, Australia
Client:	Wintringham for the Trustees of Alexander Miller
Architect	Allen Kong Architect
Number of units:	8
Year of completion:	2011
Description	A modest extension to the Alexander Miller Homes in Euroa enabled a significant internal transformation that increased floor area and is fully accessible while retaining the heritage character of the buildings.
Features	<ul style="list-style-type: none"> <li>› Removing the side wall and bathroom lean-tos and replacing them with small extensions 'opened up' the units and increased access to natural light and ventilation, as well as creating a more generous living space.</li> <li>› Original entry step threshold discreetly resolved by raising level of external paths to be flush with interior - as opposed to employing ramps.</li> </ul>



Post-renovation floor plan



Pre-renovation floor plan 111 (demolished part circled in red)

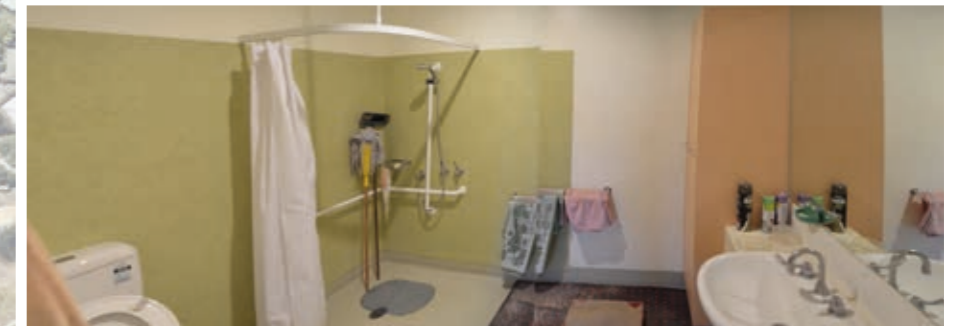


Axonometric

# Alexander Miller Memorial Homes Highton



Data	
Location:	Highton, Victoria, Australia
Client:	Wintringham for the Trustees of Alexander Miller
Architect	Allen Kong Architect
Number of units:	34
Year of completion:	2011
Description	New development of a large 'semi-land-locked' parcel, strategically acquired due to its close proximity to a new major shopping and leisure centre. Includes a community room and a men's shed.
Features	<ul style="list-style-type: none"> <li>› A varied mini-neighbourhood for residents to interact in</li> <li>› Generous landscaping &amp; circular one-way drive creates sense of being in community rather than an institution</li> <li>› Pedestrian link through the site to nearby shops</li> <li>› Outlook from front porches prioritised</li> <li>› Parking dispersed (not taking up front of each dwelling, nor clustered in car park)</li> <li>› Unit design maximises natural light and ventilation</li> <li>› Kitchens overlook street; passive surveillance, interaction</li> </ul>



# Alexander Miller Memorial Homes Manifold Heights

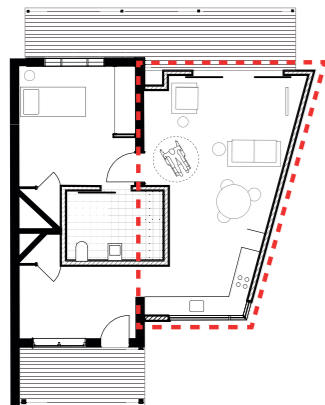


Data	
Location:	Manifold Heights, Victoria, Australia
Client:	Wintringham for the Trustees of Alexander Miller
Architect	Allen Kong Architect
Number of units:	14
Year of completion:	2011
Description	Renovation of eight existing units, and construction of six new units on site.
Features	<ul style="list-style-type: none"> <li>› New housing cleverly excavated in to existing sloping site, forming a horse-shoe shaped sunken courtyard around existing palm tree. Sight lines of existing dwellings preserved through tiering, looking out onto rooftop gardens over new units.</li> <li>› Renovation of existing units (while physically modest) completely reconfigures distribution of uses to maximise liveability and access.</li> </ul>

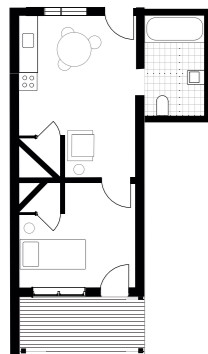
# Austin Street



Data	
Location:	Alphington, Victoria, Australia
Client:	Villa Maria
Architect	Allen Kong Architect
Number of units:	10
Year of completion:	2010
Description	Community Residential Home for young people (18 to 50) with high-level complex care needs (including ABI). Designed for a new model of care that blends nursing care with rehabilitation and community inclusion.
Features	<ul style="list-style-type: none"> <li>› Low-rise domestic appearance at street front blends in with context, with institutional support discreetly provided behind</li> <li>› Units have external porches over-looking the street, with privacy provided by planting</li> <li>› Shared internal courtyard brings light, air and space into middle of development, garden incorporates a variety of plants carefully selected to change with the seasons</li> <li>› Small aviary for bird-life provides animation/ stimulation</li> </ul>



Post-renovation floor plan  
(new part circled in red)



113 Pre-renovation floor plan



# Cité Manifeste



## Data

Location:	Mulhouse, France
Client:	Société Mulhousienne des Cités Ouvrières (SOMCO)
Architect	Lacaton & Vassal
Number of units:	14
Year of completion:	2005

Description	A series of terrace houses built as part of an 'experimental' housing precinct. The architects sought to provide quality housing that, for the same price, is considerably larger than contemporary norms.
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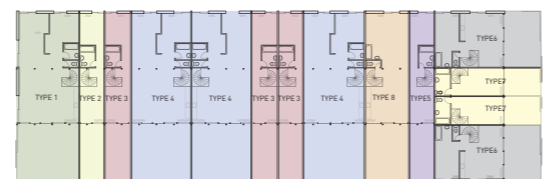
Features	<ul style="list-style-type: none"> <li>› Generous space and natural light (low per m<sup>2</sup> cost achieved through concrete warehouse construction system, surmounted by horticultural style greenhouses)</li> <li>› Large 'unfinished' interior spaces with minimal partitioning enables adaptation and personalisation to suit the occupants' needs and preferences.</li> <li>› Layers of indoor/ outdoor space - variety of choice depending on mood and season</li> </ul>
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Ground Floor Plan



First Floor Plan



# Drill Hall



## Data

Location:	Melbourne, Victoria, Australia
Client:	Housing Choices Australia
Architect	McGauran Giannini Soon
Number of units:	59
Year of completion:	2011

Description	Medium rise residential tower built above the existing heritage listed Drill Hall which contains a variety of community facilities including a medical centre.
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Features	<ul style="list-style-type: none"> <li>› Located near Queen Victoria Market, residents have direct access to public transport, services, education and employment in the central city</li> <li>› Common circulation areas naturally lit and ventilated</li> <li>› Large floor to ceiling windows make modest city apartment sizes feel more generous</li> </ul>
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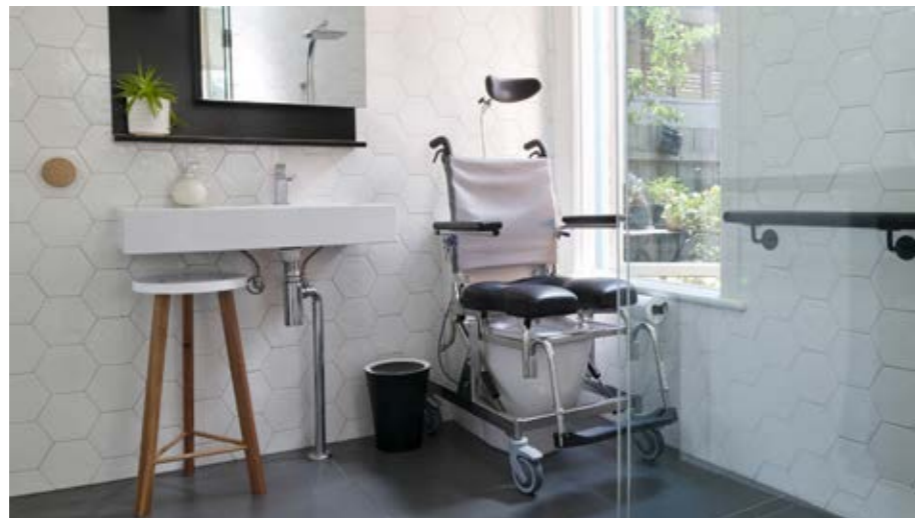
# Elwood Bathroom



Data	
Location:	Elwood, Victoria, Australia
Client:	Peter and Marie Jones
Architect	Lucy Jones
Number of units:	1
Year of completion:	2013
Description	Renovation of existing bathroom to enable full access for resident who uses a wheelchair and their carer
Features	<ul style="list-style-type: none"> <li>› Quality of internal space reflects the amount of time it is occupied by the user - attractive, bright, airy</li> <li>› Ample daylight and views to external gardens through careful planning to retain existing windows (reflective film provides privacy)</li> <li>› Brightness and spaciousness enhanced through large mirrors on vanity and cupboard doors and light coloured gloss finish tiles</li> <li>› Fixtures and fittings carefully selected for a contemporary, non-institutional look</li> </ul>



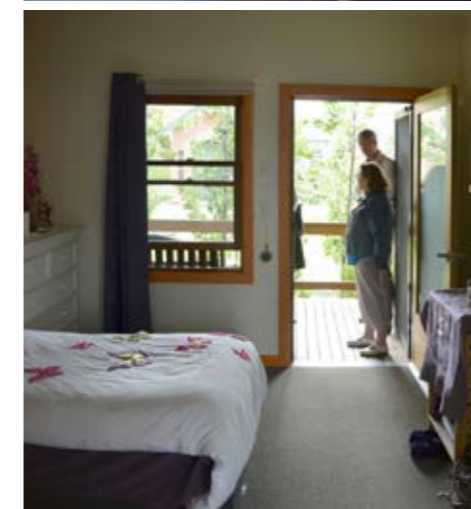
Photos: Jonathan Butler



# Eunice Seddon Home / Potter Street



Data	
Location:	Dandenong, Victoria, Australia
Client:	Wintringham and Wallara Australia Ltd
Architect	Allen Kong Architect
Number of units:	2 Assist. Liv. Res., 3 Ind. Liv. Unit, 60 Res. Aged Care
Year of completion:	2011
Description	Co-development between disability support organisation Wallara & aged care specialist Wintringham. Creates an environment where older people and their disabled children can continue to live in close contact while providing accommodation, care and support to both parent(s) and children.
Features	<ul style="list-style-type: none"> <li>› Open-style planning encourages residents to have daily contact with the outdoors</li> <li>› Careful design of circulation spaces to integrate opportunities for social interaction</li> <li>› Architectural language that is familiar and comfortable while still providing variety and vitality</li> </ul>





# Former Kaufhaus Breuer



## Data

Location:	Eschweiler, Germany
Client:	Breuer Family
Architect:	BeL, Cologne
Number of units:	14
Year of completion:	2006

**Description** Conversion of a former department store in high amenity area into housing for elderly

## Features

- › New internal light-courts cut through existing concrete floors to create entry patios for each dwelling
- › The apartments' layout is organised around a 'island' service core (bathrooms, kitchens, storage), allowing flexibility in how spaces around the core are partitioned and used
- › Rooftop terrace provides large accessible outdoor space



# From Here to Eternity



## Data

Location:	Roskilde, Denmark
Client:	Ejerforeningen Herfra til Evigheden Owners' Association
Architect:	Vandkunsten Architects
Number of units:	26
Year of completion:	2009

**Description** From Here to Eternity is a Danish housing cooperative initiated and funded by residents who want to 'future-proof' their life, ensuring they are able to comfortably remain in their home as they age and their needs change. The project includes a communal building.

## Features

- › Unified expression without feeling institutional/communist. Gardens are very different
- › No fences, carefully designed landscaping
- › Connection to external landscape: easy to wander through
- › Good balance of privacy and interaction, social opportunities if you want them
- › Good internal planning offering access to natural light.



# Koglerne



## Data

Location:	Jyllinge, Denmark
Client:	Roskilde county social and psychiatric management
Architect	Vandkunsten Architects
Number of units:	20
Year of completion:	2005

Description	A commune development for young people with high levels of physical disability. Housing is arranged around 3 common areas around which are clustered 6-7 self-contained dwellings. External storage for each unit.
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Features	<ul style="list-style-type: none"> <li>› Retains residential/ non-institutional character</li> <li>› Common area (including communal kitchen) designated for staff and resident use, allowing all to easily mingle</li> <li>› No reception, residents come and go as they please</li> <li>› Apartments have natural light from both ends, and good connection to outdoors while maintaining privacy through careful planning. There are entries from both the common room side and external garden side.</li> </ul>
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# Plussenburgh



## Data

Location:	Ijsselmonde, Rotterdam, The Netherlands
Client:	Stichting Ouderenhuisvesting Rotterdam
Architect	Arons & Gelauff architects
Number of units:	104
Year of completion:	2006

Description	Housing for seniors aged 55 and older. Designed to appeal to 'the retiring hippie generation', the housing takes the form of a playful, coloured apartment block, configured as a tower and an elevated slab.
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Features	<ul style="list-style-type: none"> <li>› Inconspicuous elevator shaft connecting the new building to adjacent hospital, where medical personnel, cooks and other assistance is available</li> <li>› Broad range of facilities contained within complex</li> <li>› Apartments have uninterrupted floor span of 9.6m, allowing for multiple layouts and future adaptability. Structural party walls between units include built in opening to enable joining units if needed</li> </ul>
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# Port Melbourne Hostel



Data	
Location:	Port Melbourne, Victoria, Australia
Client:	Wintringham
Architect	Allen Kong Architect
Number of units:	35
Year of completion:	1990s
Description	Aged care accommodation, specifically seeking to provide support to disadvantaged elderly women and men who have experienced housing stress/homelessness. Arranged as six group houses shared by 5-7 residents with their own self-contained bed-sit
Features	<ul style="list-style-type: none"> <li>&gt; Interface to park &amp; street designed as a variegated series of town-houses - doesn't appear to be an institution</li> <li>&gt; Internal circulation areas attractively landscaped and designed to enable casual social interaction</li> <li>&gt; All private rooms face onto a verandah, often overlooking the street or adjacent park, providing a break-out space and a sense of connection with the neighbourhood. The corner site maximises this</li> </ul>

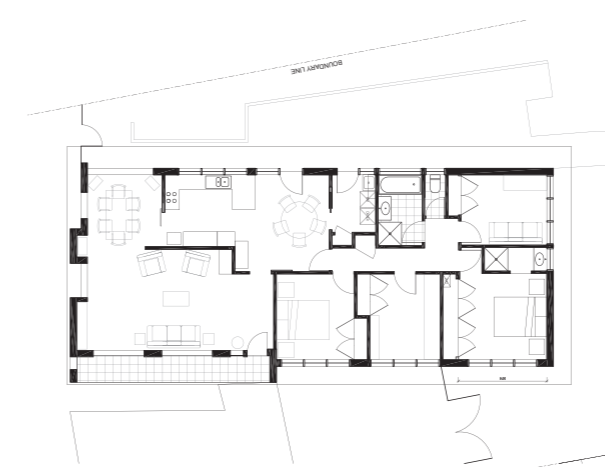
Image below: [nearmaps.com.au](http://nearmaps.com.au)



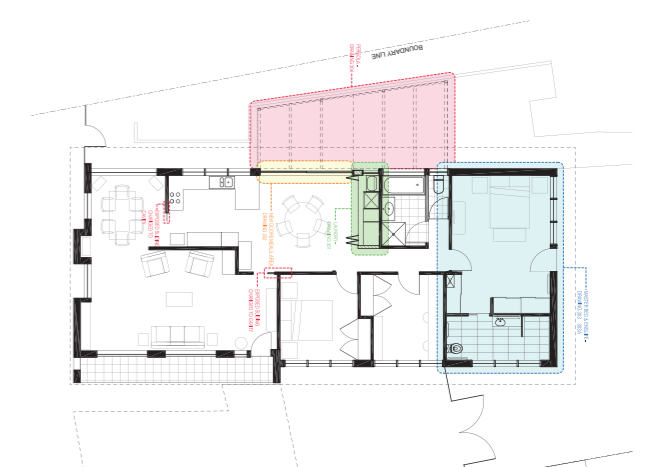
# Ringwood House



Data	
Location:	Ringwood, Victoria, Australia
Client:	Rowe family
Architect	Deborah Rowe
Number of units:	1
Year of completion:	2013
Description	Modifications to existing suburban home to overcome spatial constraints and improve amenity for a primarily home-based occupant, in a manner that seeks to enhance the liveability of the house generally (for any potential occupant) and promote resale value.
Features	<ul style="list-style-type: none"> <li>&gt; Conversion to European style laundry (with attractive bi-fold doors) to enhance access/ usability and increase space in dining room</li> <li>&gt; Installation of large, easy-sliding glass doors maximise connection to garden</li> <li>&gt; Fully tiled bathroom with step-less shower and glass partition enable access while preserving a desirable appearance</li> </ul>



Pre-renovation floor plan



Post-renovation floor plan

# Sankt Antonius Community Centre



## Data

Location:	Zuffenhausen, Stuttgart, Germany
Client:	Catholic church of St. Antonius
Architect	Lederer, Ragnarsdottir + Oei
Number of units:	14
Year of completion:	2001

**Description** Initiated, funded and run by the neighbouring church, the Sankt Antonius Church Community Centre is comprised of community hall, fair trade shop and social welfare offices at plaza ground level and assisted living apartments above.

**Features**

- › Entry sequence: secure door from street into foyer, then into shared external courtyard with verandah overlooking street, then into private apartments
- › Apartments open onto two outdoor spaces: semi-public social verandah at front, private balcony at rear
- › Community room managed by church - open hire policy



# Tokyo Institute of Technology Platform



## Data

Location:	Ookayama, Tokyo, Japan
Client:	Tokyo Institute of Technology
Architect	Tsukamoto Lab TIT
Number of units:	-
Year of completion:	-

**Description** Large timber platform/ramp replacing stepped entries and separating pedestrian and vehicular traffic. It provides access to and from multiple existing buildings, paths and urban destinations on and around a university campus

**Features**

- › The scale of the platform and its combination of access requirements with positive landscape elements results in a seamless integration
- › It appears primarily as a civic gesture to enhance everyone's experience of navigating the campus, rather than a band-aid solution for one specific group
- › It provides a new place for annual picnics, ceremonial occasions, and informal student events
- › The open-ended nature of the design invites new and spontaneous uses



# Tour Bois-le-Prêtre



## Data

Location:	Paris, France
Client:	Paris Habitat
Architect	Lacaton & Vassal
Number of units:	96
Year of completion:	2011

**Description** Initially slated for demolition, the Tour Bois le Prêtre is a 1960s Parisian apartment block that underwent a simple but completely transformative retrofit. This extended the existing 8,900 m<sup>2</sup> gross floor area by an additional 3,560 m<sup>2</sup>.

**Features**

- › Replacement of existing facade (with small windows) by sliding glass doors and insulated curtains, opening apartments up and allowing more natural light
- › Addition of close-able terraces and balconies, generously extending apartments and adding a variety of interior/ exterior settings
- › Prefabricated construction to allow residents to remain in occupation continuously



# Tully Bathroom



## Data

Location:	Fitzroy, Victoria, Australia
Client:	Tully Family
Architect	Harrison & White Sustainable Urban Design + Architecture
Number of units:	1
Year of completion:	2010

**Description** Renovation of existing bathroom and laundry area to provide an accessible bathroom at total cost of \$35,000.

**Features**

- › Removal of partitions (laundry wall, shower sides) to make room as open and flexible as possible.
- › Access elements such as benches, grab rail and floor surfaces recast as design elements: e.g. Iron-bark bench for accessible shower spans the room, grab rail extends past shower to serve as towel rail
- › Green glass mosaic tile a characterful alternative to conventional wet area finishes.
- › Large existing window with Victorian detailing retained

Photos:  
Ben Hosking, care of Harrison & White



# Vetlanda Group Home



Data	
Location:	Vetlanda, Sweden
Client:	Vetlanda Kommune (local council)
Architect:	Kjellgren Kaminsky Architecture
Number of units:	6
Year of completion:	2011
Description	Small housing development in a rural Swedish town that was self-initiated by a group of families. Residents go to out for work/ vocational activities every day
Features	<ul style="list-style-type: none"> <li>› Self-contained apartments with independent addresses, but also functions as a share-house with communal kitchen</li> <li>› Homely architectural expression and scale (only 6)</li> <li>› Contact with outside via private patios and shared spaces</li> <li>› Dedicated space for wheelchair at each front door</li> <li>› Flat terrain, paths linking to town</li> </ul>



# Vredenbergh



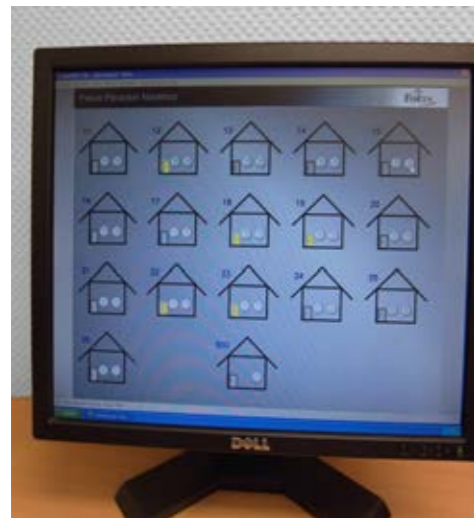
Data	
Location:	Breda, The Netherlands
Client:	Vesteda, Surplus Comfort
Architect:	DAT architecten
Number of units:	124
Year of completion:	2009
Description	Supported and unsupported housing for elderly with care available on demand. Two buildings arranged around a plaza within park-like setting, including a multitude of services/ amenities, near town-centre.
Features	<ul style="list-style-type: none"> <li>› Attractive type and standard of accommodation - akin to country club or 5-star hotel - design language avoids institutional feeling</li> <li>› Technological solutions to security enables openness with surrounding community - links to adjacent park and no fences</li> <li>› Medical services, restaurant/ cafe and conference facilities at ground level open to general public use</li> <li>› 'Stealth care' - health services provided discreetly</li> </ul>



# Weidevogelhof



Data	
Location:	Pijnacker, The Netherlands
Client:	Rondom Wonen Pijnacker, Mooiland Maasland, Peter van Foreest
Architect	DAT architecten
Number of units:	105 supported units, 249 unsupported
Year of completion:	2011
Description	A large urban development of eight buildings, part of a newly built suburb in a small town between Rotterdam and Den Haag. The housing mix includes some high and low care units for people with disabilities, and includes care providers, medical professionals and local council services scattered throughout the precinct.
Features	<ul style="list-style-type: none"> <li>› Salt and pepper distribution of supported housing</li> <li>› Community services and amenities available to all</li> <li>› Support system utilises technology to deliver support 24/7 on user requested basis (no routines) aiding independence</li> </ul>



# Yooralla Supported Housing Altona



Data	
Location:	Altona, Victoria, Australia
Client:	Yooralla
Architect	Allen Kong Architect
Number of units:	4
Year of completion:	2010's
Description	Community based supported housing for residents under 60.
Features	<ul style="list-style-type: none"> <li>› Units are designed with living spaces and front doors towards the street, and more supported rooms (bathrooms) separately accessible to carers from a rear entry. This offers residents greater privacy in living spaces and certainty about whether it was staff or guest knocking to enter</li> <li>› Front verandah and landscaped gardens shelter the units from the street and offer an outside space to connect with neighbours/ street-life</li> <li>› Located near a train station and shops, in an area with relatively flat topography</li> </ul>

