



# Designing *with* downsizers

The next generation of 'downsizer homes'  
for an active third age



The  
University  
Of  
Sheffield.

*dwell*  
designing for wellbeing  
in environments  
for later life







## Foreword

Downsizing – rather like much else to do with the great achievement of extending longevity – has had a bad press.

By working with people at or approaching the ‘third age’, the team behind the DWELL report have set out a roadmap that industry, local authorities and others can use to co-design and deliver the downsizer (or right-sizer) homes that people want.

As the report notes, many third agers have seen their parents or other elderly relatives forced into an emergency move after a sudden deterioration in their health. That is one reason research consistently shows that many healthy, confident people consider relocating from their family home once they reach their mid-50s. Unfortunately, the research also shows the market has failed to provide the range of attractive homes that better meet their evolving needs in places they would like to live. Members of a generation used to choice and high quality design, many unsurprisingly opt to stay put.

Clearly we need a range of downsizer homes available through a range of tenure options to meet the wide range of aspirations and means of people who want to take a sensible step that puts them in charge of their lifestyle but also located to enable active engagement in the communities they live in.

Having drafted the recent parliamentary reports aimed at improving the design and accessibility of housing for our ageing population (HAPPI), I feel this excellent document is effectively the fourth chapter in that series, or HAPPI 4!

It should help people in the noble pursuit of one of the ‘themes’ the authors identified in the ‘ideal’ downsizer home:

*“A home that continues to allow people to pursue the pleasures of life today, while feeling secure that their home can adapt to their future needs.”*

In other words: peace of mind and security in a well-designed home in a place and community that suits their taste and lifestyle.

**Jeremy Porteus**  
**Director, Housing LIN**  
October 2016



**Housing LIN**

*Connecting people, ideas and resources*



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The research was carried out with the participation of members of the DWELL 'Citywide' co-design group, Sheffield City Council, and other contributors to the DWELL Project.

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# Designing *with* downsizers

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*Note: Cross references between sections are indicated using the following shorthand [-> Typologies].*



*Refurbished apartments at Park Hill, Sheffield have been popular with both downsizer and younger buyers. Designed by Hawkins\Brown and Studio Egret West, and developed by Urban Splash.*

## Key findings

It is well known that the UK population is growing older and more diverse. There are now almost 20 million households in the over 55 bracket, and the number of people aged 85+ is set to double over the next 20 years. In this context, the term 'older person' (and the concept of 'older persons' housing') has become inadequate to describe the breadth of expectations and aspirations for later life.

This report responds to the growing number of 'third-agers' whose future housing aspirations are not being met by either specialist retirement developments or mass-market housing products. Much of the existing and new housing stock in the UK is designed with younger families and first-time buyers in mind, which has resulted in a chronic shortage of accessible and age-friendly housing options, particularly outside of the higher value housing areas of London and the South of England. This market failure is due to a combination of factors: entrenched attitudes around older people (and what they are looking for); a lack of innovation in the private housing market; wider development constraints in the housing industry; and government policy that has failed to address the grey area between specialist provision (e.g. extra-care) and 'general-needs' housing.

The available evidence suggests that many households would be keen to downsize in later life *if* there were attractive options available in the right locations. Our research has also found strong demand amongst third-agers for better quality and more accessible homes - located in 'normal' streets and neighbourhoods, where they can continue to participate in mixed-age communities.

The DWELL research project has worked with a range of stakeholders and local residents in Sheffield and represents a new approach to age-friendly general-needs housing. Building upon the *HAPPI design* principles,<sup>1</sup> we have developed a working definition for *downsizer homes*, and proposed a series of co-designed typologies that respond to third-agers' aspirations. While it is apparent that there is no one 'ideal' downsizer home, a number of common themes have emerged from this co-design process:

- Demand for accessible single storey or two storey typologies, with a continuing appetite for bungalow typologies (despite their apparent unpopularity with planners and developers).
- A willingness to consider apartment living, as long as the offer feels secure, spacious and is in a good location, and potentially provides extra facilities such as allotments and shared space to host social events.
- Demand for fewer (bed) rooms but more space and adaptability to accommodate separate living, visiting friends and family, and grandchildren.
- Provision of manageable outdoor space for gardening and relaxation, such as courtyard gardens, roof terraces or generous balconies.
- The need for dedicated resident and visitor car parking provision in all but the most centrally-located sites.
- Above all, a home that continues to allow people to pursue the pleasures of life today, while feeling secure that their home can adapt to their future needs.

1. Housing Our Ageing Population: Panel for Innovation, HAPPI (2009) [http://www.housinglin.org.uk/\\_library/Resources/Housing/Support\\_materials/Other\\_reports\\_and\\_guidance/Happi\\_Final\\_Report.pdf](http://www.housinglin.org.uk/_library/Resources/Housing/Support_materials/Other_reports_and_guidance/Happi_Final_Report.pdf)





*Low-energy homes at Derwenthorpe, York.  
Designed by Richards Partington Architects and  
developed by Joseph Rowntree Housing Trust.*

# Introduction

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*The case for  
downsizer homes*



No care / domicillary care

Warden / alarm systems

**GENERAL NEEDS HOUSING** Planning use class C3 - dwelling houses



**Existing housing**  
'staying put'



**Adapted housing**  
mobility adaptations




**General needs housing**  
downsizing/ relocating,  
lower maintenance




**'Lifetime' Homes**  
downsizing/ relocating,  
more adaptable to future  
requirements




**Wheelchair Homes**  
designed to meet current/  
future mobility requirements



**Self-build / custom  
build housing**  
custom-built to meet current/  
future requirements



**Cohousing**  
custom-built to meet future  
requirements,  
socialability + mutual support



**Age-banded housing**  
downsizing/ relocating,  
lower maintenance  
'care ready'



**Sheltered housing**  
downsizing,  
lower maintenance  
additional care/ support needs  
socialability + mutual support

**Downsizer homes**

INCREASING SPECIALISATION



On-site personal care / support

Nursing care

Palliative care

**SPECIALIST HOUSING**

Use class C3 / C2

**CARE HOMES**

Use class C3 - residential institution




**Extra-care housing**




**Retirement Village**

downsizing, lower maintenance  
additional care/ support needs,  
socialibility + mutual support



**Close care**




**Residential home**

complex care/ support needs,  
dementia




**Nursing home**

complex care/ support needs,  
dementia  
on-site medical care



**Hospital**

complex medical care /  
emergency care



**Hospice**

end of life care

INCREASING SPECIALISATION

## The changing nature of 'older' age

A major shift is taking place in the way that we perceive older age - as the UK approaches the status of a 'super aged' society and healthy life expectancy continues to rise. At the same time, a socially, economically and ethnically diverse 'baby boomer' generation are challenging expectations of what being 'old' means - now and in the future<sup>1</sup>

The next cohort of 'older' people are markedly different from their parents' generation in terms of social attitudes to work, travel, health, fitness, food and entertaining, and they are increasingly likely to be digitally connected. A large majority (72%) own their homes outright, with many having built up substantial asset wealth from housing inflation and home-ownership policies.<sup>2</sup> However, persistent inequalities remain in housing and asset wealth, income, health, and wellbeing.<sup>3</sup> A significant minority of have few or no assets, suffer long-term or chronic health conditions earlier in life, or are effectively trapped in owner-occupation in poor quality housing. The combination of widening inequalities, increasing life expectancies, and new definitions of leisure, work, and retirement mean that the term 'older' person is now inadequate. Many people in their 70s do not consider themselves to be 'older', while others may feel 'old' in their 50s and early 60s. Over the course of DWELL research, the terms *third age* and *fourth age* have been more useful for understanding and explaining the way the health and mobility might impact on well-being in later life (see right).

Third-agers are often stereotyped in the media as enjoying the time of their lives, with the health and wealth to enjoy holidays, with fewer responsibilities, and more financial security. In reality, the situation is often far more complex, and third age households are often balancing ongoing paid and voluntary work alongside caring commitments for grandchildren and elderly parents.

## Third Age & Fourth Age

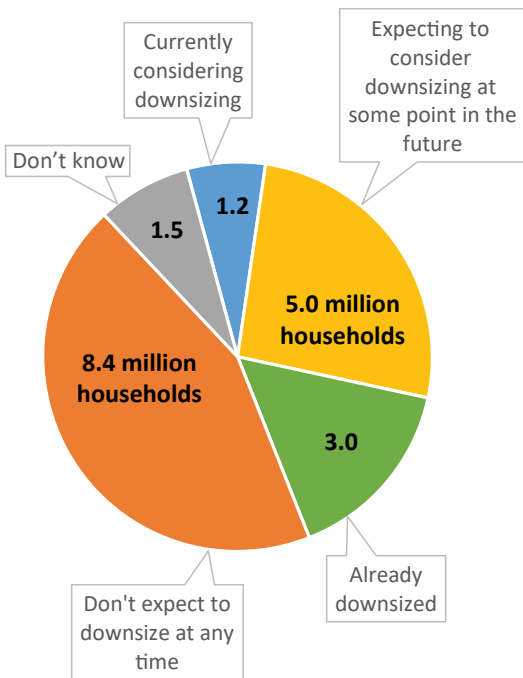
Although these categories are subject to considerable debate in gerontology they are often used to describe two (overlapping) phases of later life.

*Third age* is used to describe people who are either retired or approaching retirement age and remain broadly unaffected by health or mobility problems. This has also been described in terms of an 'extended middle age'.<sup>4</sup>

*Fourth age* describes a period of life where health and mobility significantly impact on an older person's well-being or quality of life.

It is important to note that these are broad categories and are not easily described by chronological age, as health and mobility problems impact on different people at different stages of the lifecycle.

**For the purposes of this report, downsizer homes are broadly defined as general-needs housing (i.e not age-exclusive or specialist retirement accommodation) that is more suited to the requirements and aspirations of third-agers.**



*Expectations of downsizing amongst households aged 55+. Adapted from Beach + ILC (2016) and extrapolated across 2015 UK population estimates.<sup>8</sup>*

## What are downsizer homes?

Just as the term 'older person' has become inadequate, the traditional view of people wanting to remain in their family home as they grow older is also changing. Many third-agers have experienced health or housing crises through their elderly parents or relatives, and often frame their own housing aspirations in terms of avoiding a similar situation themselves. Recent survey data indicates that around half of households over 65 have shown an interest in 'downsizing' (see chart below).<sup>5</sup> The proportion of households considering a such a move will potentially increase further in coming years, as future generations are often less tied to one particular place, and may expect to 'downsize' more than once as their needs and aspirations change.

Downsizing can mean very different things depending on a household's income levels, social background and current housing situation. 'Downsizer homes' are therefore not limited to one specific housing type or model, but share a number of common characteristics that meet the needs and aspirations of third and fourth-agers. This includes being easily accessible, conveniently located, energy efficient, or easier to maintain. Although the term has an automatic association with smaller homes, research suggests that many would-be downsizers don't envisage reducing their overall area of living accommodation.<sup>5</sup> This type of housing move has also been referred to as 'right-sizing', although this term is not as well-established or understood as downsizing.

## The case for downsizing

Economic arguments in support of downsizing have been made on the basis that there are quantifiable benefits of freeing up more 'family-sized' housing assets currently owned or rented by older households. It has been suggested that encouraging more downsizing moves also benefit families and first-time buyers further down the housing ladder by



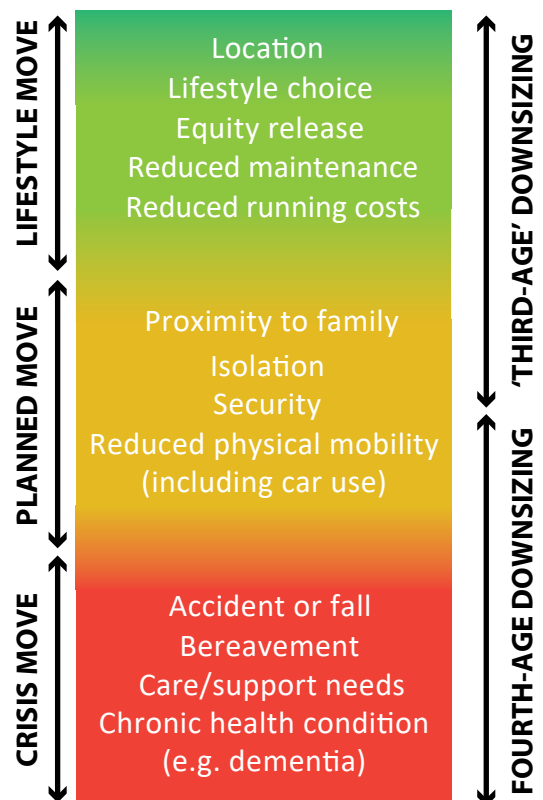
increasing liquidity in the housing market.<sup>5</sup> From a public health perspective, downsizing has been put forward as way of mitigating future health risks, particularly those associated with cold and damp properties or trips and falls caused by inaccessible homes. However, future or long-term savings linked to housing and health prevention can be difficult to quantify, and policy-makers have tended to prioritise strategies that offer more easily measurable benefits and reduced care costs - such as the widespread expansion of independent living (e.g. extra-care housing). The case for independent living is typically constructed with a more vulnerable fourth age in mind, which can have the negative impact of reinforcing stereotypes around ageing and 'inevitable' support needs.

Closer to home, an increase in the supply of downsizer homes could be of significant benefit for local and neighbourhood economies, and help to support a vision for sustainable, mixed-age town and city centres. The conversion of older civic buildings to create town centre apartments has already been shown to be another win-win for local regeneration and heritage. Alongside the local and wider societal interests, the benefits of downsizing have been promoted at the scale of individual households. Benefits will vary depending on individual circumstances but may include reduced outgoings, improved lifestyle and well-being, lower risk of social isolation, and the potential for equity release. The extent to which any of these benefits can be realised are linked to timing of a downsizing move, and the supply of homes of sufficient quality and affordability that will attract potential downsizers to take the leap.<sup>6</sup>

### Generation stuck?

One's home can come represents whole range of feelings about identity, security, belonging, pride, and esteem. In that sense, a downsizing move can be thought of as an significant threshold within the lifecourse: part of a process of reappraising our past and future

**Downsizing is almost always framed in terms of a win-win-win scenario; improving the quality of life of those choosing to downsize, reducing future costs to health and social care services, and producing a positive impact on the housing market and the wider economy.**



Common push and pull factors at different stages of the lifecourse.

**Whatever the potential pros and cons of moving, staying put can easily become the path of least resistance, largely due to a shortage of attractive alternative options on top of the inertia and cost of making a decision and acting upon it.**

sense of place in the world. Deep-rooted attachment to home may also be responsible for skewing data around demand for downsizing. People may indicate they are keen to move in principle but then struggle to reach a decision in the face of strong emotional and family ties. This type of 'irrational' economic thinking is difficult to capture within housing demand models, but came across as a strong theme in DWELL research.

The housing market has been slow to respond to the changing aspirations of downsizers, and previous research has highlighted a particular shortage of general-needs housing for downsizing (i.e. homes that are not purpose-built or age-exclusive).<sup>7</sup> This is backed up by findings from the DWELL research, which suggests that most third-agers imagine themselves continuing to living in 'normal' homes in and amongst other age groups. Although some private sector providers have begun to develop age-friendly products specifically marketed at third age downsizers, these developments tend to be located in the most desirable market town or urban locations, and priced at the very upper end of the market. In contrast, those in the lower-to-middle market (i.e. without high-value assets), and those living outside the higher value areas of southern England face the most acute shortages of choice.<sup>7</sup>

Previous studies have portrayed third-agers as being effectively trapped in their existing housing situation due to a shortage of alternatives.<sup>8</sup> While this may be true for some households, many in this position feel that they do have a choice - in the sense that they can afford to be more discerning and avoid the need to compromise on future aspirations. Those who have owned or rented a home for 30+ years are likely to have had many more years of housing experience than younger buyers, and have a clearer picture about the features of a home that work well for them and aspects which are less desirable. Others are simply happy to 'muddle along' until something better comes up.

## Research questions & methods

The DWELL research project has been carried out over a three-year period alongside Sheffield residents, communities, and professional stakeholders. The downsizing strand of the research had two main aims: to explore third-agers' housing aspirations; and to use this knowledge to generate a series of speculative design proposals using a participatory co-design process.

The research process began with a series of open questions for participants and stakeholders:

- What type(s) of housing would attract you to downsize?
- Why do you think the market has been slow to react to demand from downsizers?
- How can a home support or enhance your current and future lifestyle, or adapt to unexpected changes in health and mobility?
- How can a home adapt to diverse and multi-generational household types?
- How can a home contribute to the creation of vibrant, sustainable, and mixed-age urban neighbourhoods?
- What is the role and contribution of design in this process?

These questions were addressed through a mixed-methods approach to draw out different forms of knowledge and practice:

- A review of existing housing design guidance and standards,
- Home visits, interviews, and focus groups with around 150 Sheffield residents to better understand the everyday experience of third and fourth-agers,
- Interviews with 20 housing professionals and developers from the social and private sector.



*DWELL participants visited existing general-needs and specialist housing schemes to inform the brief-writing and design work.*

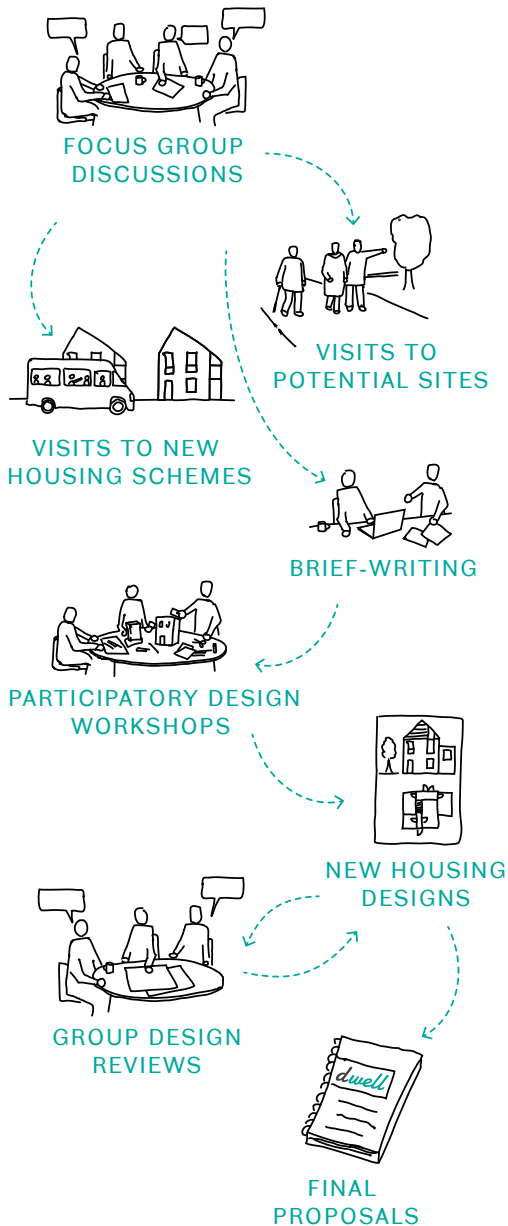


*Third-agers' involvement in brief-writing and design helped to foreground considerations of both pleasure and utility, and prevented the process becoming dominated by technical and regulatory concerns.*



## Co-design

The design elements of the DWELL research were carried out alongside core group of participants who either had personal experience of downsizing or a future aspiration to downsize. This included participants in their 50s, 60s, 70s and 80s, from a range of different tenures and backgrounds. Participants were involved in a regular series of focus group discussions, design workshops, and study visits over a period of 6 months to develop a brief for downsizer homes, followed by hands-on involvement in the design and review of downsizer typologies (see left). The aim of this process was to go further than a guidance or 'checklist' approach, and to demonstrate the value of design as a research tool to both produce and represent new knowledge.



Outline of the DWELL co-design process with third age participants.

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*Open-plan apartment interior designed by  
Architecture Workshop. Image © Robert Garneau.*

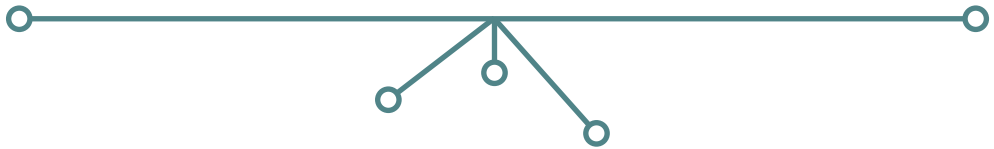
# Part 1

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## *Aspirations*



# CONNECTED



Downsizing is often associated with a move into the heart of a town or neighbourhood - within easy reach of bustling local streets with cafés, shops, and social amenities, as well as transport connections to get away from it all. While a sense of 'being connected' will always be rooted in physical location and amenities, digital technologies continue to transform the way that we relate to each other across physical and virtual networks - with implications for the design of homes, neighbourhoods, and local services.



*A popular downsizing development with a busy café underneath. This town centre project was the outcome of a partnership between a local developer and a local architectural practice, with positive encouragement from the local planning authority. Parkside, Matlock - designed by Evans Vettori Architects and developed by Barncroft Homes.*

**Evidence gathered by the DWELL project indicates that today's third-agers are more likely to be drawn to the cultural and social amenities offered by town and city centre locations than previous generations.**

### Location, location, location

Behind every choice to downsize is a complex personal decision-making process involving associations with a particular place, family ties, and the practical considerations of amenities, transport, and affordability. Desirable coastal and market town locations are still popular choices for retirement living, but the proximity of family is also important, with many third-agers seeking to relocate to play a role in caring for grandchildren.

As people anticipate the transition from third to fourth age, the local neighbourhood becomes an increasingly important place to shop, socialise, and access amenities and services. Demand for downsizer housing within easy walking distance from a local neighbourhood, town or urban centre came across as a strong theme in the DWELL findings. In terms of proximity, this typically translated as the ability to access shops and social activities within a 5-10 minute walk. However, proximity alone does not guarantee that use of local amenities, and distance can be a poor indicator of connectivity. For example, a nearby local centre will feel much further away if the walking route is severed by a busy road,<sup>1</sup> and residents may choose to drive rather than face an unpleasant walk.

The implications for housing design are often framed in terms of 'knitting in' new developments into existing streets and strengthening pedestrian connections from and across development sites. At a broader scale, planners, designers and developers need to find ways to deliver higher-density, well-connected housing for downsizers as near as possible to the heart of local and urban centres, prioritising infill, brownfield sites and conversion of existing buildings.

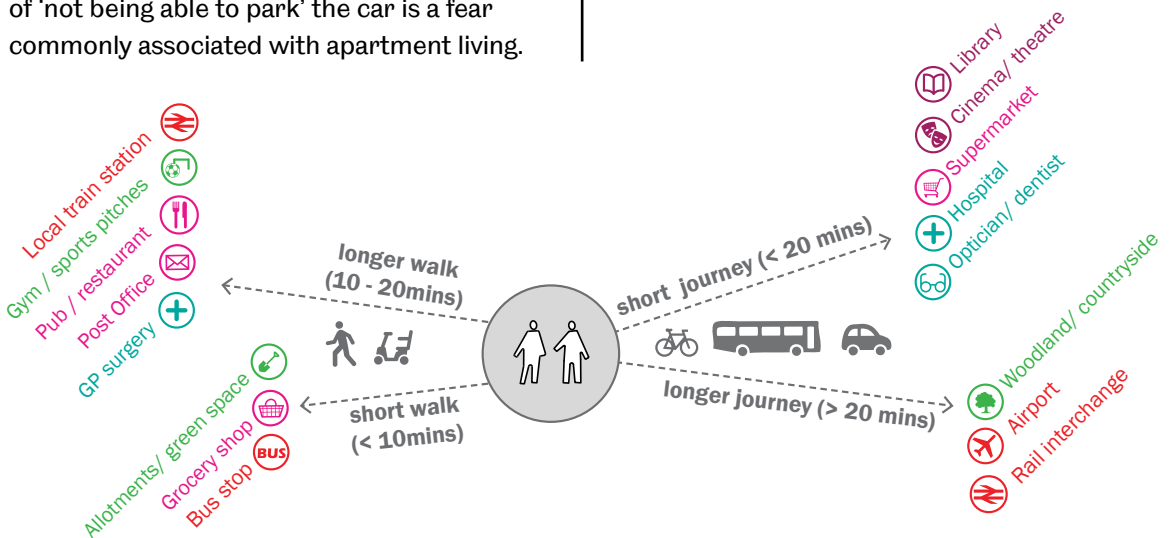


## Further afield

Despite the provision of free bus passes for those aged 60+, there is evidence that existing public transport networks are not meeting the mobility needs of third and fourth-agers.<sup>2</sup> This is partly due to the dispersal of amenities across towns and cities, with banking facilities, hospitals, supermarkets and other out-of-town shopping centres often difficult to access via public transport alone. In this context, third-agers are typically seeking the best of both worlds, with a car (and car parking) for independent travel, but local shops and services on hand for everyday access. Even for those who cannot or no longer wish to drive, visitor car parking remains important to allow guests and family members to visit easily.

Looking ahead, car sharing schemes, self-driving technologies and online shopping may significantly change future demand for private cars (and car parking) in towns and cities. For the time being, the car remains a 'must-have' for many potential downsizers, and the idea of 'not being able to park' the car is a fear commonly associated with apartment living.

**Creating sustainable, pedestrian-friendly neighbourhoods is a long-term goal of many local authorities, but this requires fine-grained collaboration in the locality with local residents and community groups to understand both the psychological and physical barriers that discourage people from walking or cycling.**



A generalised ideal map of third-agers' mobility and travel as described by DWELL participants.

**Recent digital and mobile innovations point to a future where online platforms and local amenities not only coexist but complement one another - enhancing social opportunities and making more efficient use of local resources.**



## Digital connectivity

A high-speed internet connection has already become a vital home utility, and a growing number of third-agers now rely on digital interfaces to keep in touch with relatives and friends across the world. In coming years online platforms and mobile applications will continue to transform the way that we use our homes. This includes the adoption of 'smart' home controls for energy use and security, online shopping and banking, and the expansion of online medical consultations (telehealth).

At the scale of the local neighbourhood, online platforms offer opportunities for individuals and communities to connect and share resources. Emerging examples include online platforms for organising car and lift sharing (BlaBlaCar), home sharing and short-term letting (AirBnb), organising carers (Jointly), asking for help from neighbours (GoNeighbour) and discussing local community issues (StreetLife). With this type of 'sharing economy' continuing to expand and develop, new platforms designed specifically for third and fourth-agers are likely to expand. While these will offer great benefits to those who are connected, it is important to consider that those without the will, skills, or opportunity to get online are at risk of further isolation and disadvantage.

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# SPACIOUS



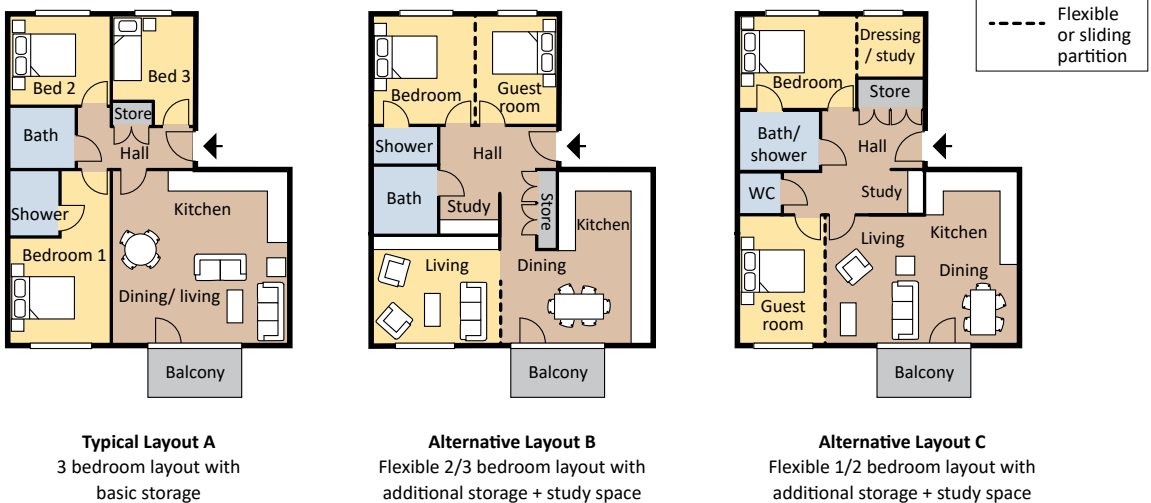
Despite the common preconception of ‘downsizing’ meaning smaller homes, the lack of space within new-build houses and apartments is one of the most common complaints amongst potential downsizers. Many third-agers perceive new-build homes as ‘rabbit hutches’ or ‘tiny boxes’, particularly when compared to older or converted properties. This perception is backed up by the numbers: the average new-build home in the UK is smaller than anywhere else in Western Europe, and that the amount of space provided in new homes has been shrinking over recent decades.<sup>1</sup>

## A sense of space

A feeling of 'spaciousness' is not just a question of the number of rooms or the overall floor area of a home. Factors such as levels of daylight and vertical connections between different internal spaces can make a huge difference to the perception of space.<sup>1</sup> Also important is the internal floor to ceiling height - an often overlooked dimension that also tends to be much reduced in newer properties.

The input of DWELL participants has helped us to better understand how perceptions and usage of space changes in the third age. One of the recurrent issues encountered on the project is the tendency for new homes to be categorised and marketed in terms of the number of bedrooms rather than the overall amount of space. Dividing up houses or apartments into 3 or 4 smaller bedrooms makes less sense for the downsizer market, and a focus on the number of bedrooms (and bedspaces) often results in inflexible rooms designed to the minimum space required for bedroom furniture [-> ADAPTABLE].

The increasing prevalence of 'semi-retirement', home-working, and multi-generational living all impact on the perceptions and use of space in the third age.



A comparison of different apartment layouts for the same 80m² footprint. The more flexible layouts (B + C) incorporate functions such as a study space into the circulation.

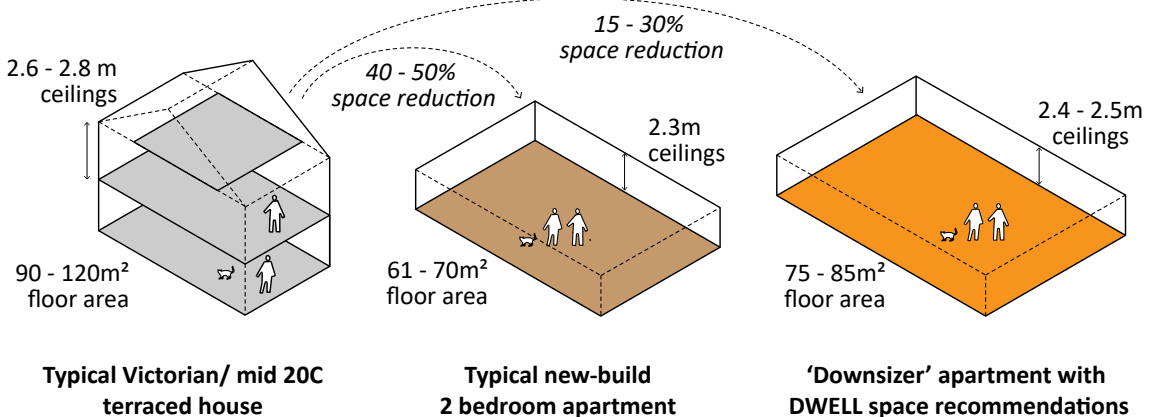


## Space standards

The 2010 London Housing Design Guide<sup>2</sup> and the 2015 Nationally Described Space Standard<sup>3</sup> are industry benchmarks for internal space provision in new general-needs housing. However, new national standards can only be applied where a local authority has a Local Plan policy in place and where the viability of a development is not compromised by the space standards. This means that there is still likely to be areas of the UK (particularly those with lower house values) where the standards are difficult to apply in practice. In this context, planners, designers and developers need to embrace more creative and flexible approaches to housing density and new procurement models in order to provide the required space in new downsizer homes while maintaining viability.

The London Housing Design Guide provides additional detail on minimum spatial requirements for the typical household formations, including a schedule of the minimum furniture requirements for each room type.

**The aspiration for space is not necessarily about having more rooms, but a variety of flexible living, study, storage, and guest spaces that are large enough to be used in different ways at different times.**



*The majority of new-build apartments offer substantially reduced living space compared to older houses, and many would-be downsizers are put off by the idea of reducing their living space by 40 - 50%.*

*'Space to entertain friends or to host guests for the weekend without feeling too cramped.'*

*'Space to properly put away tools, household stuff and toys for the grandchildren.'*

*'Messy' space to paint or do crafts.'*

*'Separate space to practice on the piano.'*

*'Space to live separately but also as a couple - so we don't end up tripping over one another.'*

*DWELL participants' views on what spaciousness means in the third age.*

Findings from the DWELL research project indicate that third-agers are often looking for new properties that provide more space than the requirements of the national standards: at least one guest or spare bedroom, dedicated office space, utility space for pets or DIY, and additional built-in storage space.

A further consideration that appears to be overlooked in policy and practice is the number of older couples who continue to cohabit but require separate rooms for health or lifestyle reasons, or to pursue different interests. This highlights the difficulty of using a space standard or dwelling classification (e.g. 2 double bedrooms = 4 person dwelling) to describe diverse lifestyles and aspirations. This is particularly the case with potential downsizers, most of whom are owner occupiers who are more used to the generosity of space provided in older homes or properties that they have extended.

Building on the format of the London Housing Design Guide, DWELL research has highlighted a number of specific considerations raised by downsizers as either 'must-have' (priority 1) or 'desirable' (priority 2). This roughly equates to 78m<sup>2</sup> for a two bedroom home tailored to the requirements of third-age downsizers, including space for guests, pets, and additional storage. A detailed breakdown of these requirements is set out in [Appendix 1](#).

## References

1. RIBA, The Case for Space: The Size of England's New Homes (2011) <https://www.architecture.com/files/ribaholdings/policyandinternationalrelations/homewise/caseforspace.pdf>
2. Design for London, London Housing Design Guide (2010), <https://www.london.gov.uk/sites/default/files/Interim%20London%20Housing%20Design%20Guide.pdf>
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# ACCESSIBLE



Homes with wider doors, larger circulation space or level access are often described or marketed as a specialist product, but have clear benefits for people and families of all ages. This includes people at the transition between the third and fourth age - when mobility difficulties can result in an accident or crisis move. When considering the benefits over the life-span of a new home (and the lifecourse of the people living there), accessible housing can be seen as part of a wider vision for a more inclusive built environment.

**Although they may currently enjoy good health themselves, DWELL participants have described their first-hand experience of housing creating or exacerbating a health crisis, with their own elderly parents forced to move from an inaccessible home after an accident, fall or stroke.**

## Access standards

The shortage of supply in the downsizer market means that accessibility is often outweighed by other priorities. Despite this, evidence from the DWELL project suggests that third-agers are generally aware of the need to plan ahead. Increasing difficulty with physical mobility often marks the transition from third to fourth age, and at this point, the accessibility of the home can make all the difference between being able to remain living independently and a crisis move to a residential setting.

There is a significant shortage of accessible homes in the UK compared to the number of people that want or need them.<sup>1</sup> This reflects the wider failure of the private market to meet the needs of older people and people with disabilities. Demand for bungalows, ground floor and lift-serviced apartments is likely to continue to grow in line with a large predicted increase in the number of people finding it more difficult to get around the home. The shortfall in accessible homes has a knock-on impact on demand for housing adaptations, which local authorities may struggle to deliver in the context of growing demand. In this context, there are compelling arguments in favour of raising the minimum requirements for all new dwellings above the minimum 'Category 1' standard (see descriptions below).

Category 1	Category 2	Category 3a	Category 3b
<i>Visitable dwellings.</i>	<i>Accessible and adaptable dwellings.</i>	<i>Wheelchair adaptable dwellings.</i>	<i>Wheelchair accessible dwellings.</i>
Minimum requirement for all new dwellings.  A WC on the entrance level is required, but stepped access up to the front door of the dwelling is permitted.	Level (or gently sloping) or lift access is required to the front door.  Wider doors and more space in bathrooms and bedrooms required than Category 1 dwellings.	Additional manoeuvring space in habitable rooms, kitchens and bathrooms.  Potential to install a through-lift to access upper floors of dwelling (if more than 1 storey).	Space requirements as Category 3a dwellings.  All wheelchair accessible fittings and fixtures installed and operational.

Key features of Category 1/ 2/ 3 dwellings as defined by the Building Regulations Part M (2015).<sup>2</sup>  
See further details at <http://dwell.group.shef.ac.uk/access-standards>



## Accessibility & viability

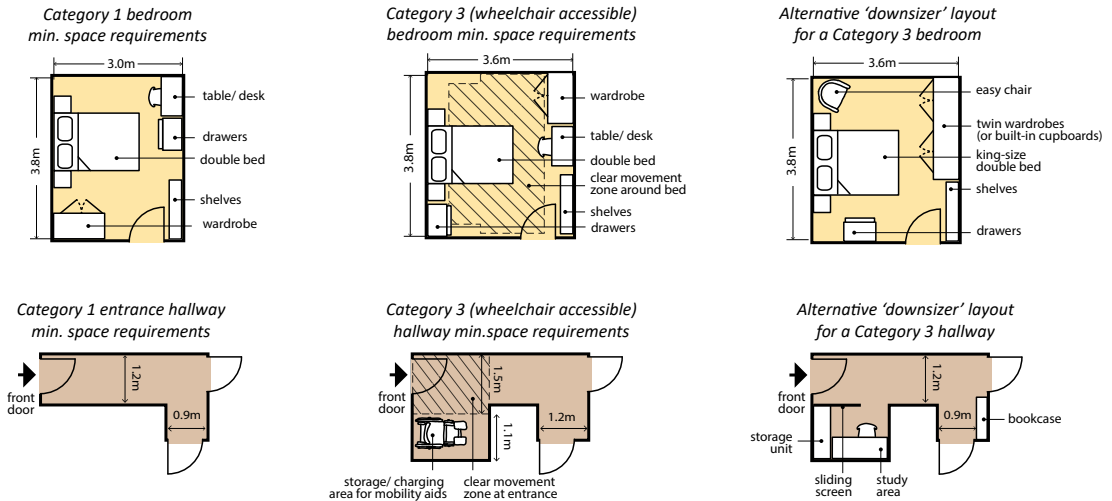
Despite the strong case for policies to increase the supply of accessible housing, Category 2 and 3 standards remain optional and subject to local viability challenges. This raises questions around disparity in supply, as accessible standards are more likely to be considered 'unviable' in areas of the country with lower house values (and smaller profit margins) [-> [Delivery](#)]. Other issues can arise where Part M requirements are bolted-on to standard developer house types, which can result in peculiar layouts (particularly in terms of internal circulation) and higher build costs. It is also generally more costly to achieve level access to individual dwellings (houses or bungalows) on sloping sites, where manipulation of the site or innovative design solutions are required to create level access to individual front doors. Apartment blocks with a communal entrance and lift access are therefore generally the most cost-effective way of delivering Category 2 and 3 homes (compared to Category 1).

Of course, not all people who want or need accessible dwellings want to live in apartments, and innovative or site-specific solutions to housing may be required (particularly on steeper sites) to deliver viable level-access dwellings through the planning and design process [-> [Typologies](#)].

Dwelling type (2 bed/ 4 bedspace)	Category 1 (NSS applied)	Category 2 extra area	Indicative additional construction cost per dwelling	Category 3a extra area	Indicative additional construction cost per dwelling
Two storey house	Footprint: 39.3m <sup>2</sup> GIA: 78.6m <sup>2</sup>	+3m <sup>2</sup> +5.6m <sup>2</sup>	£4500	+16.2m <sup>2</sup> +32.5m <sup>2</sup>	£51,750
Single storey bungalow	Footprint: 70.0m <sup>2</sup> GIA: 70.0m <sup>2</sup>	0m <sup>2</sup> 0m <sup>2</sup>	£500	+ 17.6m <sup>2</sup> + 17.6m <sup>2</sup>	£29,400
Lift-accessed apartment *	GIA: 70.0m <sup>2</sup>	0m <sup>2</sup>	£500	+ 17.6m <sup>2</sup>	£29,400

Comparison of minimum floor areas and indicative construction costs for different categories and types of 2 bedroom dwelling. Note: Apartment assumed to be part of a larger block, construction costs calculated using a nominal £1500 / m<sup>2</sup> rate plus additional cost of accessible fittings: hoist + grab rail installations, wheelchair charging point etc.

## ACCESSIBLE



A comparison of Category 1 & Category 3 space requirements and alternative downsizer layouts.

## Planning ahead

Accessibility standards are an important benchmark for improving the accessibility of the UK housing stock, and a step-change in the number of accessible homes should help future generations with the transition from third to fourth age.<sup>3</sup> Findings from the DWELL project have also indicated that the additional space provided by the Category 3 standard is very attractive to non-wheelchair users seeking that bit more flexibility within the home (see diagrams above). However, as the rest of this report aims to demonstrate, access standards alone are not enough to ensure that new housing is attractive for downsizers and multi-generational households.

## References

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2. DCLG, 'Approved Document M - Access to and Use of Buildings' (2015) <http://www.planningportal.gov.uk/buildingregulations/approveddocuments/part1/approved>
3. BS 9266:2013, *Design of Accessible and Adaptable General Needs Housing – Code of Practice* (2013).



*A home that's...*

# ADAPTABLE



The idea that a home should be able to adapt or flex to the needs of its occupants is not a new idea, but adaptability and 'future-proofing' has gradually begun to attract more attention as the number of third-age households continues to grow and 'multi-generational' becomes a new normal. Demand for homes that offer flexible, 'semi-independent' accommodation is likely to increase, requiring an attitude shift in the professional frameworks that oversee the planning, development and sale of new homes.

**Traditional developer house types overlook changing lifestyles and the rapid of multi-generational households. Flexible and innovative approaches to housing design are required to mitigate the pressure of two or three generations of adults sharing the same home for extended or indefinite stays.**

## **Multi-generational: A new normal**

Multi-generational households are on the rise and are likely to become far more common in coming years, driven by a number of different demographic and economic trends:<sup>1</sup>

- A large increase in the number of third and fourth age households.
- Greater diversity of older people (in terms of ethnicity and cultural heritage).
- Acute shortages in the supply of housing with care.
- The increasing cost of care (meaning more informal care and support being provided by younger family members).
- Rising house prices, and a significant rise in the number of younger adults living at home with their parents.

The day-to-day impact of sharing a kitchen, living space, or bathroom with adult children or elderly parents can be a strain [-> SPACIOUS]. However, research indicates that a majority of multi-generational households view the situation as a positive, with benefits of company and reduced living costs.<sup>2</sup> Many third-agers are actively looking to accommodate older or younger family members in semi-independent accommodation attached to the main home (the 'granny annexe') - additional space that could also be rented out or used as office space when no longer required.

A further trend to be taken into consideration is the increase in single-person households, many of whom are third-agers who have separated or been widowed. While this could be viewed as driving demand for more smaller homes, evidence gathered by the DWELL project suggests that many people in this situation are embarking on new relationships and are looking for extra space to be able to spend time as a couple whilst retaining a degree of independence.

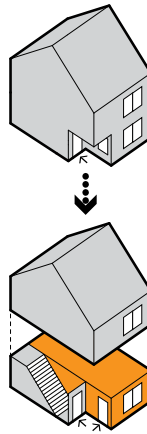


## Flexible design strategies

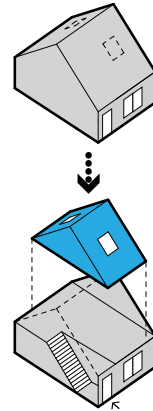
The idea that a home should be reconfigurable over time for different types of households is not new, and designers and researchers have been testing different approaches to flexibility for many years. These approaches can be divided into three broad design strategies:<sup>3</sup>

- Construction** - how easy it is to add to or change the structure of the building. The most common example is the design of the structure to reduce the need for internal loadbearing partitions. This gives future occupants more scope to 'knock-through' or open up the internal space when the need arises. An alternative design approach is provide a smaller internal footprint initially but with additional structure in place to enable expansion as a household grows over time. The most simple version of this is the potential for future loft conversion (see right).
- Plan** - the size, connectivity, and definition of internal spaces. Creating spaces that are well-proportioned, 'loose-fit' and not overly-prescriptive. This approach enables different spaces to be used in different ways over the life-span of a home [-> SPACIOUS, -> ACCESSIBLE]. In low-rise development this also means not over-developing a plot of land so that future rear or side extensions are possible.
- Services** - the ease of changing or replacing building services in the life-span of the building. This strategy recognises that the building services (e.g. heating, ventilation) tend to need upgrading much sooner than the building fabric, and the ease of accessing and changing service routes is therefore important. A flexible services strategy will become even more important as the climate changes and energy demand shifts towards cooling [-> GREEN].

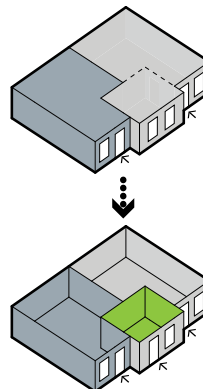
**Dividing up**  
 Creating a ground floor annexe with an independent entrance (e.g. for an adult child or elderly parent).



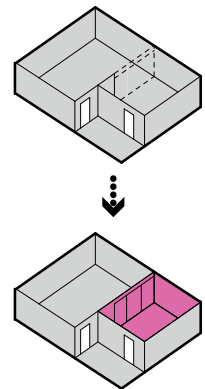
**Extending up**  
 Designing the roof structure in a way that it can be easily converted in future into additional accommodation.



**Shared room**  
 A shared family room (e.g. living space) between two self-contained dwellings. Could also be used as office, guest suite, or rented out.

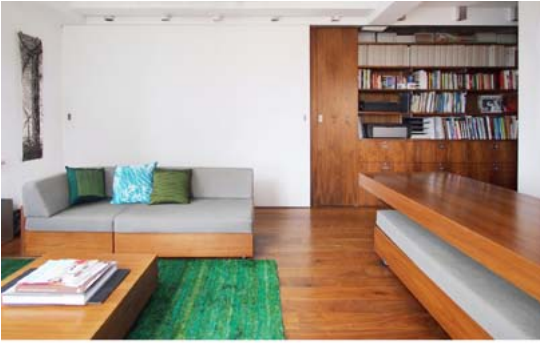


**Sliding wall**  
 A way of dividing up a large/ open-plan living space to create separate living room, quiet study or guest accommodation.



Alternative approaches to adaptability in different types of housing.

## ADAPTABLE



*A sliding partition system between a living space and study. This type of system is most economic when used across a whole development, and with a building contractor familiar with the hardware mechanisms and structural requirements. Photo © Robert Garneau / Architecture Workshop.*

## Value systems

Despite these identifiable demographic trends, the UK house-building industry has been slow to respond to demand for adaptable and multi-generational homes. In towns and cities across the UK, much of the development of new housing is segregated into traditional household formations: smaller (studio, 1, or 2 bedroom) apartments designed for students and young professionals, and suburban (3 or 4 bedroom) houses designed around the 'typical' family unit, and purpose-built apartments for retirees.

The barriers to improving adaptability are embedded within the systems that deliver new housing. Speculative private development typically rests on marketing and selling a home to the first purchaser. This means that developers have little or no incentive to invest in adaptability for the benefit of future owners when the extra costs of adapting an inflexible product will be borne by someone else later down the line. Changing this situation will require a fundamental rethink of value systems - from capital (construction/ land) cost to a lifetime value of homes and housing. Cohousing and self-build are one example of this in practice - as the self-builder has a stake in investing in long term sustainability of their home. However, other types of innovation in delivery are needed to bring adaptable housing into the mainstream [-> [Delivery](#)].

## References

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2. Aviva, Changing Households (2016), [https://www.aviva.com/media/upload/Aviva\\_Changing\\_Households\\_report\\_2016\\_Final.pdf](https://www.aviva.com/media/upload/Aviva_Changing_Households_report_2016_Final.pdf)
3. Tatjana Schneider and Jeremy Till, Flexible Housing (Oxford: Architectural Press, 2007).

# PLEASURABLE



The home environment plays a vital role in our sense of psychological well-being throughout the lifecourse. Home not only contributes to feelings of pleasure, comfort, and security, but helps to shape our sense of identity. Despite this, the relationship between the home and well-being is often marginalised in the highly professionalised practices of planning, design and development. The use of technical specifications and performance standards tends to promote a functional relationship between space and use, with the end-user (and their individual desires and needs) reduced to an average or typical occupant.

**Evidence suggests that as people get older and spend more time in the home, they tend to become more susceptible to uncomfortable, poorly designed spaces.<sup>1</sup>**

## Comfort and pleasure

Design guidance and standards aimed at improving internal living environments tend to rely on metrics of physical 'comfort': be that thermal, visual, acoustic, or ergonomic. The comfort of an average or typical occupant is used as a benchmark for performance requirements, and the resulting designed or built spaces tested through measurement and calculation. An example of this is the average daylight factor for habitable rooms (often used to infer visual comfort), which until recently formed part of the Code for Sustainable Homes assessment.<sup>2</sup> Although comfort is assumed to be common to all, there is some evidence that the 'typical' occupant used by designers and engineers has tended to mirror professionals typically involved in design and construction: younger males who are typically stronger, fitter, and taller. This can produce poorly designed domestic features such as:

- under-lit rooms,
- noisy or echoey rooms,
- over-heated or under-heated living spaces,
- fittings and fixtures that are either too high or too low to reach, and,
- doors or windows that require too much strength to open

Meanwhile, specific guidance on designing homes for older people has tended to focus on aspects of the home that relate to physical mobility and self-care tasks (e.g. cooking, getting to the toilet, etc.). The ability to carry out these tasks of independent daily living (IDL) is used as a way of determining whether a home can support older people to live independently and, by inference, can keep the older person 'well'. This somewhat narrow understanding of well-being is a legacy of health-based models, which were originally designed to quantify the health risks amongst the older population and prevent injury and illness (particularly falls).

## Designing for pleasure

Although the pleasurable dimensions of the home were central in DWELL discussions with third-agers, they tend to be overlooked within most housing guidance and standards. This is partly because pleasure is subjective (and therefore more difficult to quantify and benchmark), but also because 'nice-to-have' features or services are often thought to be outside the realm of regulatory and policy frameworks primarily designed to keep us physically safe and healthy. In recent years, more holistic models have been developed in order to expand our understanding of well-being - with pleasure recognised (alongside control, autonomy and self-realisation) as a fundamental component of well-being.<sup>3</sup>

To illustrate what a 'pleasure-centred design process' might look like, participants involved in the DWELL project have proposed a range of aspirations that could be included:

- Creating spaces that can be furnished and used in different ways, such as space for an armchair by a bedroom window. This requires a more 'loose-fit' approach to design that doesn't squeeze out every last square metre of space from the plan [-> [SPACIOUS, ADAPTABLE](#)].
- Designing home with pets (particularly cats or dogs) in mind, as pet ownership is associated with pleasure and psychological well-being. [-> [MANAGEABLE](#)]
- Considering the quality of light, aspect, and different views at different times of day and year – for example to allow occupants to catch the morning and afternoon light in dual aspect living spaces.
- Specifying floor and wall finishes with their tactility, smell, and material quality in mind (and not just for their hardwearing or anti-slip properties).





**A pleasure-centred design process can be thought of as both an extension of the comfort model and a core component of designing for well-being. This approach requires an attitude shift in the design process, including a much deeper understanding of the relationship between space and the end-user (e.g. 'how might this space make you feel?').**

- Acknowledging that external sounds and smells can be pleasurable (e.g. water, planting) as well as unwanted (e.g. traffic, refuse) and that these should be considered within the design process.<sup>4</sup>
- Considering the variety and character of different spaces throughout the home. For example, cosy and snug spaces as well as bright and open spaces (rather than a targeting a uniform daylight factor).
- Appreciating the added pleasure that features such as a central hearth or wood burning stove can provide (over and above their functional value as a heat source).
- Appreciating that pleasure can be found in seeing others or being seen [-> SOCIABLE], but also in being able to escape to more private or quiet space (including escape from others in the household).

## References

1. Simon Guy and others, Building Comfort for Older Age: Designing and Managing Thermal Comfort in Low Carbon Housing for Older People (2013), <http://www.sed.manchester.ac.uk/research/marc/conditioningdemand>
2. DCLG, Code for Sustainable Homes: Technical Guide (2010), [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/5976/code\\_for\\_sustainable\\_homes\\_techguide.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/5976/code_for_sustainable_homes_techguide.pdf)
3. M. Hyde and others, 'A Measure of Quality of Life in Early Old Age: The Theory, Development and Properties of a Needs Satisfaction Model (CASP-19)', *Aging & Mental Health*, 7.3 (2003), 186–94, <http://dx.doi.org/10.1080/1360786031000101157>
4. Victoria Henshaw, *Urban Smellscapes: Understanding and Designing City Smell Environments* (Routledge, 2013).

# MANAGEABLE



Reducing the cost and stress of keeping a larger home and garden is the most commonly reason cited by people who are considering a downsizing move.<sup>1</sup> 'Low maintenance' living means different things to different households depending on their future housing aspirations, and a range of retirement housing products now offer to make life easier for third-agers by taking care of home management and maintenance. However, the idea of 'manageability' is closely tied to identity and self-determination, and potential downsizers are generally sceptical of relinquishing control over the management of their home environment.

**Findings from the DWELL project indicate that most would-be downsizers imagine their future in an apartment, house or bungalow where they retain at least some responsibility for (and input into) the building management and maintenance.**



## Keeping control

What constitutes 'lower maintenance' living will depend on the individual and their housing aspirations. At one end of the spectrum, privately managed apartment schemes can offer downsizers a hotel-like lifestyle, with everything from utility bills to rubbish disposal taken care of. A future 'members club' version this model has been envisaged that would offer short-term flexible rentals as an alternative to home ownership: instead of home being a fixed location, members would be free to move locations and cities throughout the seasons.<sup>2</sup>

While this flexible lifestyle may appeal to some, the majority of third-agers are owner-occupiers and view home ownership as an investment that provides security (and a legacy to pass on to their family). For a generation who have grown up with this mentality, there is understandable concern around the idea of entering into leasehold contracts, particularly in retirement developments that may include punitive re-sale clauses. A common concern from potential downsizers is the transparency and certainty over service charges, management fees, and other ongoing property costs that may rise in future beyond the control of the leaseholder.<sup>3</sup> The combination of these factors makes it difficult to plan finances effectively and can be enough to discourage potential downsizers, who are keen to reduce outgoings and retain control.

Alternative mutual management arrangements that enable residents to retain greater responsibility and control for the maintenance and servicing apartment developments have begun to emerge.<sup>4</sup> This includes examples where a high proportion of dwellings in a development have been purchased by downsizers. This type of 'naturally occurring retirement community' can enable residents to not only directly commission a collective maintenance contract, but potentially commission future care and support services to enable ageing in place.

## Management rules and regulations

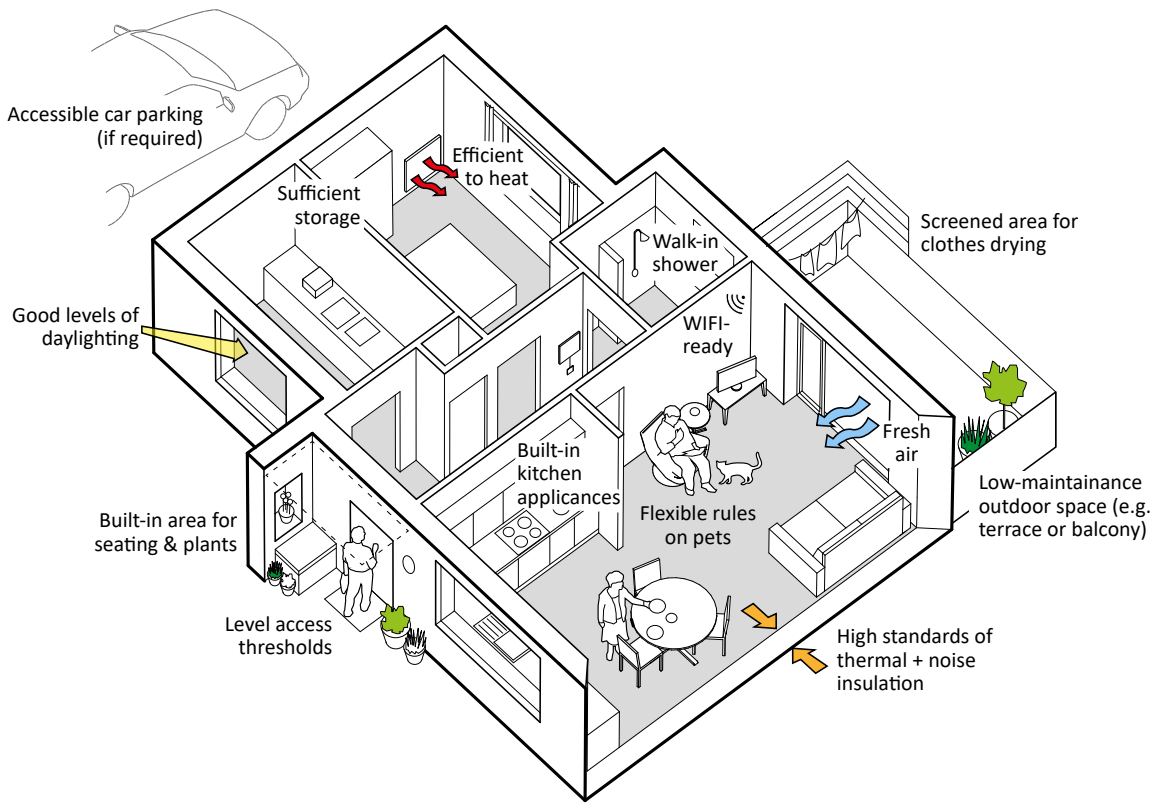
The type and tenure of housing determines the degree of responsibility residents can have over management and maintenance decisions, but the desire to feel in control was a common finding of the DWELL project across all tenures. An often overlooked aspect of this is the ability to make changes within and outside the dwelling, which can promote feelings of ownership and identity. This came across as particularly significant where participants had downsized from a house to an apartment, as it was easy to feel 'anonymous' when your front door is the same as everyone else's.

Top-down management rules designed with good intentions can also erode the feeling of being in control of your own home. Examples of more onerous rules in apartment developments include restrictions on decorating, keeping pets, on hanging out washing on balconies, and even a ban on putting down a mat outside one's front door - policies that may counter other efforts to improve residents' well-being.

Many of these issues could be addressed by considering building management at the design stage and allowing for flexibility in changes to management strategies. Common problems might be mitigated by designing solutions into the fabric of the building (e.g. a screened area of a balcony for outdoor clothes drying, or a built-in seat within a communal circulation space (where fire safety does not allow for furniture). Other design features might enable residents to take ownership of their home, such as window boxes, specifying different paint colours to front doors, and allowing space for pot plants and seating outside front doors. Being able to make these kind of changes to our home (and not being restricted by design) is more than just a reflection of one's taste, but forms part of the process of establishing ourself within a new community [-> [CONNECTED](#)].

**Whilst rules and regulations are necessary for the management of apartment blocks and shared spaces, a degree of flexibility can often be introduced by interpreting rules using common sense.**

## MANAGEABLE



*Common 'low-maintenance' design features or specification in a typical downsizer home*

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# SOCIABLE



Current third-agers are markedly different from previous generations in how they connect, socialise, and meet new people. Despite this, the feeling of knowing your immediate neighbours remains a core component of well-being: strengthening trust and a sense of belonging. The design of thresholds and shared spaces plays an important role in building and sustaining these immediate relationships, and good design of thresholds is particularly important to attract those used to the sense of neighbourliness associated with suburban contexts as they consider a move to higher-density housing.

**Front doors and front gardens can help to transform the street into an informal social space, making it easier for neighbours to 'drop by', 'look in', or arrange a social event with their neighbours.**



*Front yard gardens and shared growing spaces give residents an excuse to be outside and be seen. Malings development in Ouseburn - designed by Ash Sakula and developed by Carillion Igloo.*

## Threshold conditions

Evidence suggests that informal social interactions become increasingly important as people make the transition from third to fourth age and become at greater risk of isolation and loneliness.<sup>1</sup> Threshold spaces are particularly important to help mediate between the privacy of the home, adjoining neighbours, the street and public realm. While positive social relationships are unlikely to be produced by bricks and mortar alone, it is clear that the form, layout, scale, and management of housing can play a role in supporting (or inhibiting) neighbourly interaction.

Front doors and front gardens facing onto a residential street or mews can encourage certain domestic activities to spill into the public realm, giving residents an excuse to be out and be seen by others. Likewise, the design of rear access and backyard spaces can encourage semi-private ('over the garden wall') encounters where they are desired by adjoining neighbours.<sup>2</sup>

Within larger apartment blocks these forms of incidental interaction can be constrained by the presence of artificially lit corridors, lifts and stairwells, which discourage lingering or pausing to talk. Unfamiliarity with other residents in the same block can result in feelings of insecurity and distrust, even in developments with 'secure' (e.g. gated access) arrangements.

In contrast, some of the most successful examples of apartment design are those where circulation spaces can be appropriated by residents as a shared social space. These arrangements offer the potential for informal socialising and 'doorstep encounters' beyond the private threshold of the dwelling.<sup>1</sup> Examples of this can be seen in the more successful deck access schemes or in schemes where attractive shared social space (or outdoor space) has been incorporated into the design of the internal circulation.

## Shared spaces

It is clear that third-agers place a high value on space within the home to entertain visitors and host family and guests [-> SPACIOUS]. Beyond the dwelling, additional residents' rooms have commonly been attached to specialist schemes and larger social housing developments to host meetings or larger social events. The success of these rooms largely depends on the level of investment and maintenance, and how 'institutional' the space looks and feels [-> MANAGEABLE].

A renewed interest in more informal types of shared space has been initiated by the cohousing movement. Cohousing schemes come in all shapes and sizes, but are based around the idea of an intentional community of self-contained private homes with a shared common house - where residents can come together to manage their community and participate in shared activities (and sometime shared meals). Other shared facilities might include gardens or allotments, tool banks, laundry facilities, workshops, and other 'messy' spaces.<sup>4</sup>

Setting up and developing a cohousing project is a complex and lengthy process, and requires a commitment to shared living principles and (typically) an interest in self-building. Evidence from the DWELL project indicates that downsizers are often seeking an alternative type of cohousing product - one that offers some of the convivial aspects of shared space without the commitment required to form a group, and to procure or develop a scheme from scratch. Whether a housing scheme is 'true' cohousing or an alternative 'cohousing lite' model,<sup>5</sup> it is crucial that shared spaces are sustainably managed and maintained - to ensure that shared facilities are well used and looked after, and feel equally 'owned' by both new and long-standing residents [-> MANAGEABLE].





*A shared sunny balcony or terrace can be a low-maintenance and low-cost way of providing attractive residents' shared space. Pearce Street Housing, Govan - designed by Austin-Smith; Lord and developed by Bield Housing Association. Photo © Keith Hunter.*

## Designing successful shared space

The design of shared spaces will depend on the precise nature and type of facilities provided, the form and scale of a development, and the intended management of the facilities. However the following general learning points have been identified from the DWELL research and study visits:

- Fewer flexible spaces are generally more successful than multiple purpose-built spaces, which also reduces the ongoing service costs for residents.
- Storage is essential in shared space for putting away furniture etc.
- Shared space should be located to allow residents to socialise on their own terms (i.e. you aren't compelled to participate if you don't want to).
- The most successful shared spaces are those that open onto an outdoor terrace or BBQ area to take advantage of good weather.
- Shared outdoor space works best where it is overlooked by private dwellings - but not to the extent that it feels like a goldfish bowl.

## References

1. Susan Davidson and Phil Rossall, Evidence Review: Loneliness in Later Life (Age UK, 2014), <http://www.ageuk.org.uk/Documents/EN-GB/For-professionals/Research/Age%20UK%20Evidence%20Review%20on%20Loneliness%20July%202014.pdf>
2. Jan Gehl, Life Between Buildings: Using Public Space, (Washington D.C.: Island Press, 2011).
3. Clare Cooper Marcus and Wendy Sarkissian, Housing As If People Mattered: Site Design Guidelines for the Planning of Medium-Density Family Housing (University of California Press, 1988).
4. UK Cohousing Network, What is Cohousing?, <http://cohousing.org.uk/what-cohousing>
5. Cohousing lite, <http://www.oururbanvillage.ca/home>

# GREEN



The case for improving the energy performance of new housing has become firmly established by researchers and policy-makers, with growing awareness of green issues amongst housing developers and consumers. Reducing the energy emissions associated with new housing is a key plank of environmental policy, and ensuring that new homes are easy to keep warm also forms a key part of the public health agenda. While there is still an ongoing debate about the role of housing (and housing regulation) in encouraging a more sustainable lifestyle, it is clear that third-agers place a high value on housing that looks and feels 'green', with access to outdoor space, views of green space and a connection to nature.



**Lower bills for heating and lighting can be a significant factor in encouraging third-agers to downsizer, as it potentially frees up money for other priorities. Energy efficient dwellings also provide greater financial certainty in a future scenario where fuel prices become more unpredictable.**



*A new passive house development close to Sheffield City Centre has appealed to both downsizers and younger families. Little Kelham, Sheffield - designed by Cal Architects and developed by Citu.*

## Low energy design standards

Findings from the DWELL project indicate that third-agers are generally conscious of the benefits of low-energy or 'green' housing. As is perhaps to be expected, the level of knowledge varies between individuals and groups and tends to be skewed towards specific renewable technologies (e.g. photovoltaics) or construction techniques (e.g. straw bale houses) rather than housing industry standards.

The mainstreaming of sustainable housing design can appear at odds with recent government policy. A recent example was the scrapping of the Code for Sustainable Homes ('the Code') standard as part of the 2015 Technical Standards review.<sup>1</sup> This resulted in a range of sustainable design considerations being removed from the housing regulatory framework, including the environmental impact and pollution associated with construction materials; daylighting levels within the home; and the provision of features such as cycle storage, clothes drying space, or a home office. Government policy is now primarily focussed on reducing the energy demands of new homes (implemented via the Building Regulations Part L) with local planning authorities retaining responsibility for planning and managing sustainable development at a more strategic scale.

For designers, developers, and self-builders seeking to produce higher-performing low-energy or 'green' homes, the German Passivhaus standard has become an alternative design, construction, and accreditation methodology.<sup>2</sup> This approach aims to effectively eliminate the need for a conventional domestic heating or cooling system while maintaining good internal air quality. However, unlike 'the Code', the Passivhaus approach focuses almost exclusively on energy use - which includes building form, insulation, air-tight construction, and a whole-building heat recovery ventilation system.

## Health-promoting housing

A case for greener homes has been made on the basis of the positive health benefits they provide, although the relationship between housing and health is complex and often difficult to quantify.<sup>3</sup>

The most frequently cited health benefit is the contribution of new homes in keeping people warm, which is linked to preventing respiratory conditions and premature winter deaths.<sup>4</sup> While it has been argued that all homes built to the current Building Regulations should be easy and affordable to heat, new concerns have emerged about the health impacts of poor ventilation. As the climate changes, summertime cooling strategies will become increasingly important to reduce energy demand and prevent dangerous overheating. With many new homes (particularly apartments) well-insulated but poorly ventilated, there is a danger that overheating will be the next big health issue.<sup>5</sup>

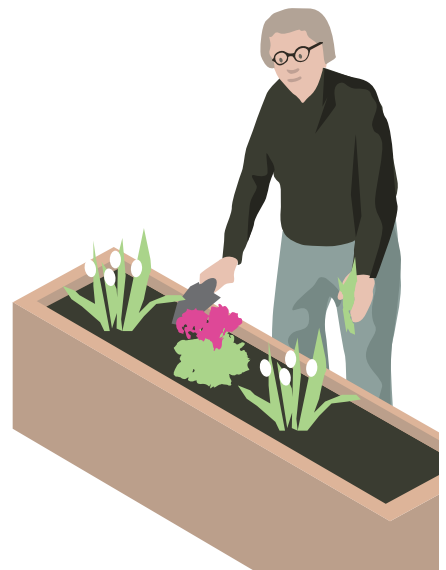
Other sections of this report have already highlighted aspects of housing design that might impact on health, for example:

- Reducing the negative health effects of social isolation by enabling people to feel part of a community [-> [SOCIALABLE](#)].
- Encouraging active travel by locating housing centrally with good connections to a local centre [-> [CONNECTED](#)].
- Providing good levels and quality of daylight to improve mental health [-> [PLEASURABLE](#)].

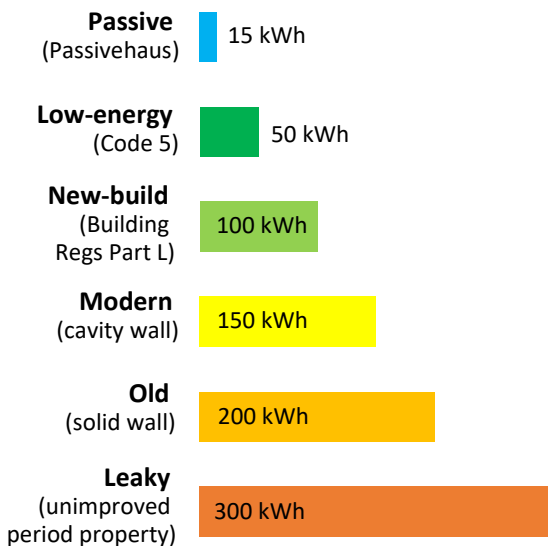
## Green living

Even participants who didn't consider sustainable homes and neighbourhoods to be a particular priority were still drawn to the idea of 'green' living. This was often conceived in terms of the use of natural materials and

**There were strong associations between 'green living' and the use of natural materials and access to natural and green spaces in DWELL research. Many of the negative connotations associated with downsizing were linked to the fear of losing a view over a garden or a space to sit out on a nice day - as both of these features were felt to be very important to people's health and psychological well-being.**



## How much energy does it take to keep a home warm?



*Indicative heating use per m<sup>2</sup> per year for different types of home based on data from Ovo Energy*  
<https://www.ovoenergy.com/guides/energy-guides/how-much-heating-energy-do-you-use.html>

access to natural, green, and outdoor spaces. Many of the negative connotations associated with downsizing were linked to the fear of losing a view over a garden or a space to sit out on a nice day - as both of these features were felt to be very important to people's health and psychological well-being.

In evaluating existing housing, DWELL participants tended to make a strong association between the 'green-ness' of a development (and its setting) and whether it felt like an attractive and healthy place to live. Participants were immediately drawn to the schemes with lush and varied planting, window boxes, roof gardens and trees planting (which also can provide important cooling or shading effects in summer). In contrast, schemes dominated by grey colours, 'boxy' forms, hard/ concrete surfaces, and roads were generally associated with unsustainable and unhealthy design. While these findings are also perhaps not unexpected, they highlight the importance of first impressions and preconceptions about how a place *feels* - above and beyond the technical considerations of energy performance.

## References

1. DCLG, Housing- Optional Technical Standards, (2015), <http://planningguidance.communities.gov.uk/blog/guidance/housing-optional-technical-standards/introduction>
2. Passivehaus Trust [http://www.passivhaustrust.org.uk/what\\_is\\_passivhaus.php](http://www.passivhaustrust.org.uk/what_is_passivhaus.php)
3. Agne Prochorskaite and Vida Maliene, 'Health, Well-Being and Sustainable Housing', International Journal of Strategic Property Management, (2013), <http://dx.doi.org/10.3846/1648715X.2012.762949>
4. Mike Roys and Building Research Establishment, Assessing the Health Benefits of Lifetime Homes (2012), [http://www.housinglin.org.uk/\\_library/Resources/Housing/OtherOrganisation/Health\\_benefits\\_of\\_Lifetime\\_Home\\_Standards.pdf](http://www.housinglin.org.uk/_library/Resources/Housing/OtherOrganisation/Health_benefits_of_Lifetime_Home_Standards.pdf)
5. Simon Guy and others, Building Comfort for Older Age: Designing and Managing Thermal Comfort in Low Carbon Housing for Older People (2013) <http://www.sed.manchester.ac.uk/research/marc/conditioningdemand>





*The Malings development in Newcastle is a high-density scheme with a mix of innovative housetypes. Designed by Ash Sakula and developed by Carillion Igloo.*

# Part 2

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## *Typologies*

### **Low-rise typologies**

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### **High-rise typologies**

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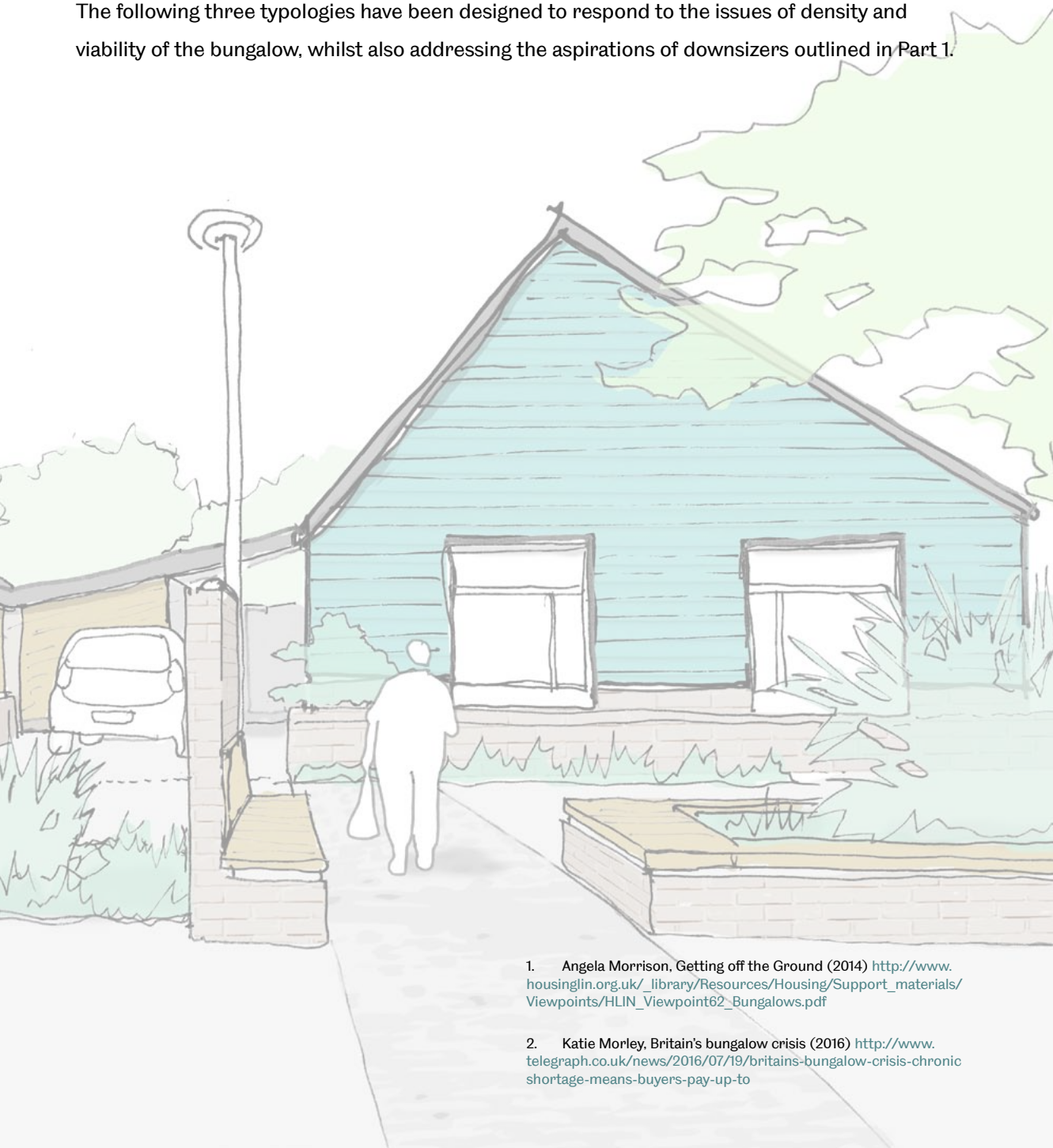
# Low-rise typologies



## Redesigning the bungalow

The bungalow is an enduringly popular typology amongst current third and fourth-agers.<sup>1</sup> Despite this, bungalows are often considered too 'land-hungry' by planners and developers - and therefore too inefficient or unprofitable to build. As a result, demand for bungalows outstrips supply in most areas of England and Wales, resulting in significant premiums compared to similar-sized houses.<sup>2</sup>

The following three typologies have been designed to respond to the issues of density and viability of the bungalow, whilst also addressing the aspirations of downsizers outlined in Part 1.



1. Angela Morrison, *Getting off the Ground* (2014) [http://www.housinglin.org.uk/\\_library/Resources/Housing/Support\\_materials/Viewpoints/HLIN\\_Viewpoint62\\_Bungalows.pdf](http://www.housinglin.org.uk/_library/Resources/Housing/Support_materials/Viewpoints/HLIN_Viewpoint62_Bungalows.pdf)

2. Katie Morley, *Britain's bungalow crisis* (2016) <http://www.telegraph.co.uk/news/2016/07/19/britains-bungalow-crisis-chronic-shortage-means-buyers-pay-up-to>

# Courtyard bungalow

The courtyard bungalow was the result of work with DWELL participants and is designed around the principles of flexible accommodation, manageable private outdoor space, and good levels of daylighting, whilst keeping the site footprint as efficient as possible to maximise the overall density of development.

The overall density of development has been maximised by arranging bungalows back-to-back and side-to-side. This takes advantage of the L-shaped courtyard arrangement to maximise the use of the plot, whilst at the same time providing sheltered courtyard gardens and opportunities for interaction between neighbours over the garden wall.

The hallway, utility space, accessible bathroom, and two downstairs rooms are all housed in the larger 1.5 storey high section of the bungalow with asymmetric pitched roof. Above this, an attic space can be converted for future requirements such as a guest suite or office space. The green-roofed section to the rear of the bungalow houses an open-plan kitchen/ dining/ living space, which faces out onto the courtyard garden. A covered link block provides a covered porch and outdoor storage, as well as providing secure access to the garden via a gate.

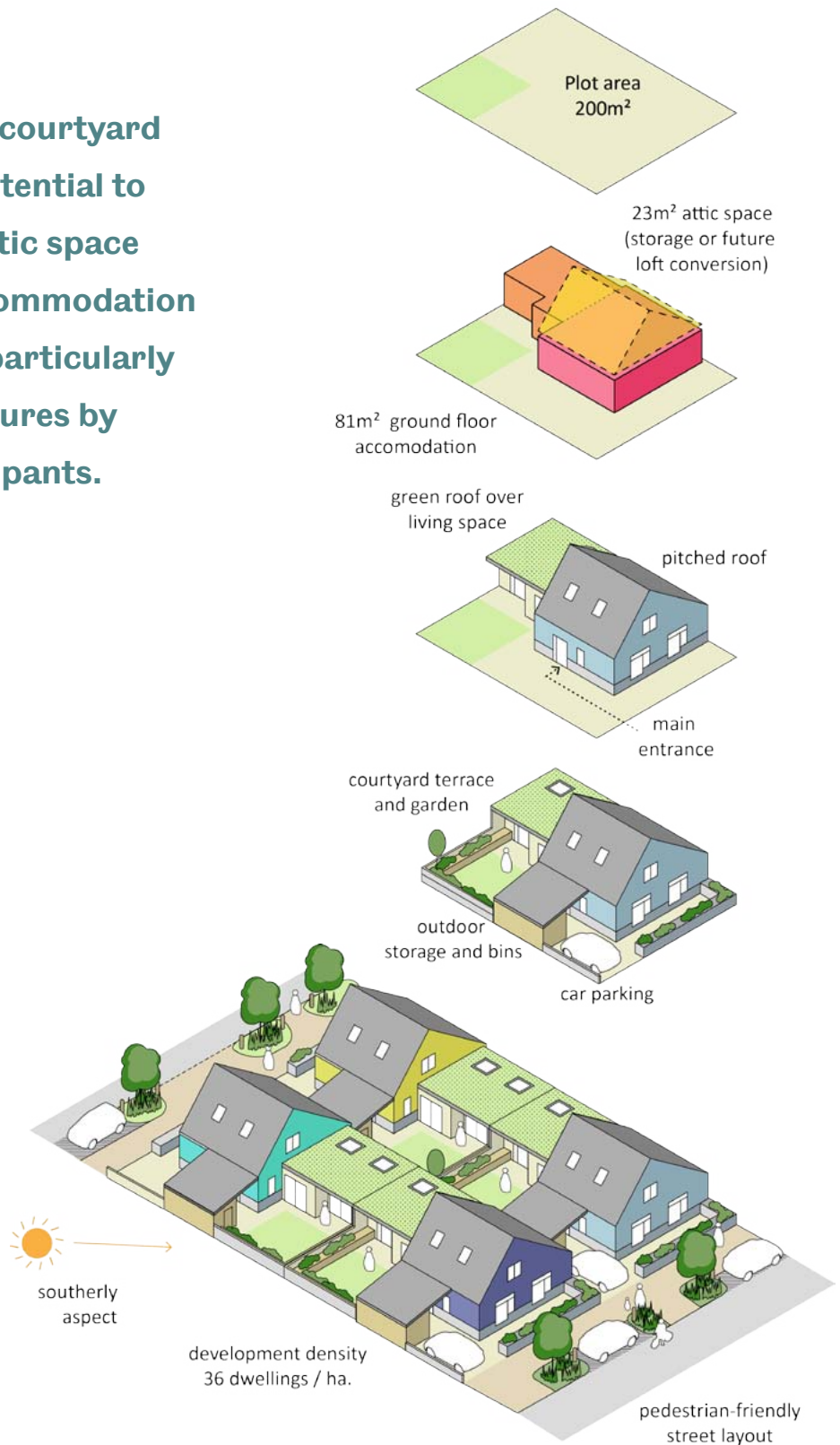
With colourful cladding, small front gardens, and landscaping, clusters of courtyard bungalows are designed to create an attractive and accessible streetscape that promotes walking and interaction in the public realm.



*Internal view showing the connection between the living spaces and the courtyard garden*

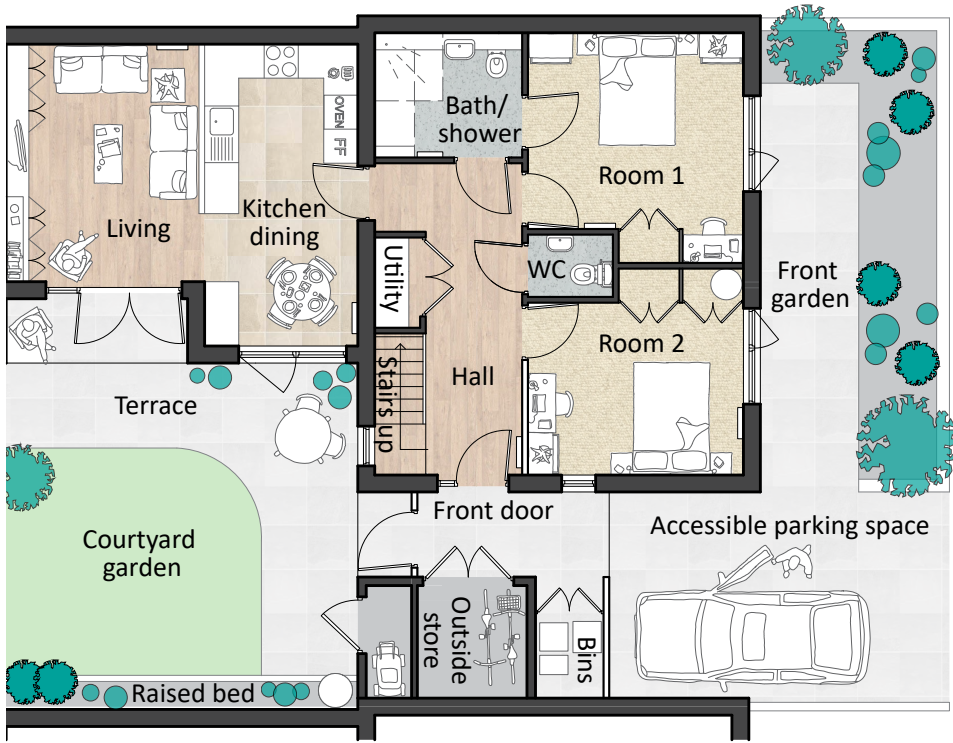
## Courtyard bungalow

The sheltered courtyard garden and potential to convert the attic space into extra accommodation were seen as particularly attractive features by DWELL participants.

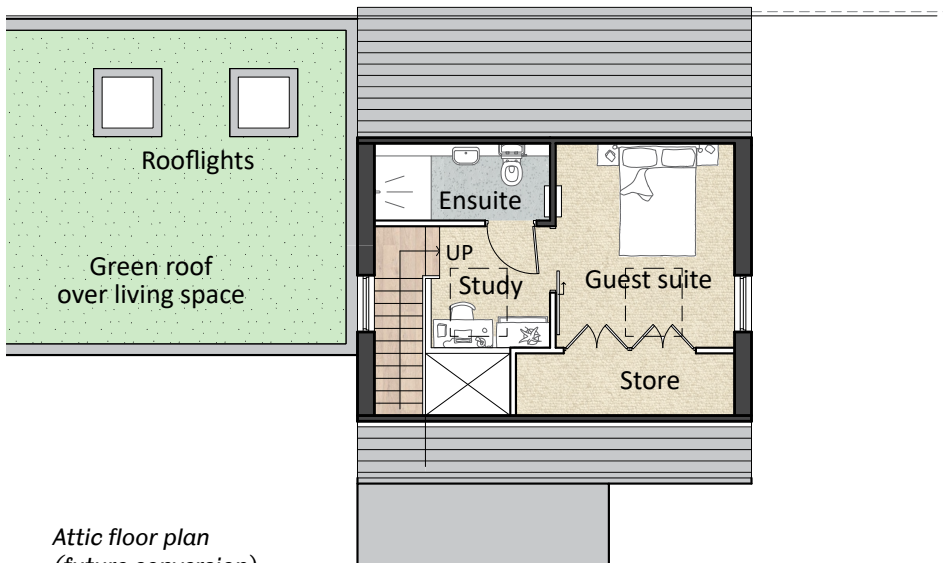




# Courtyard bungalow layouts

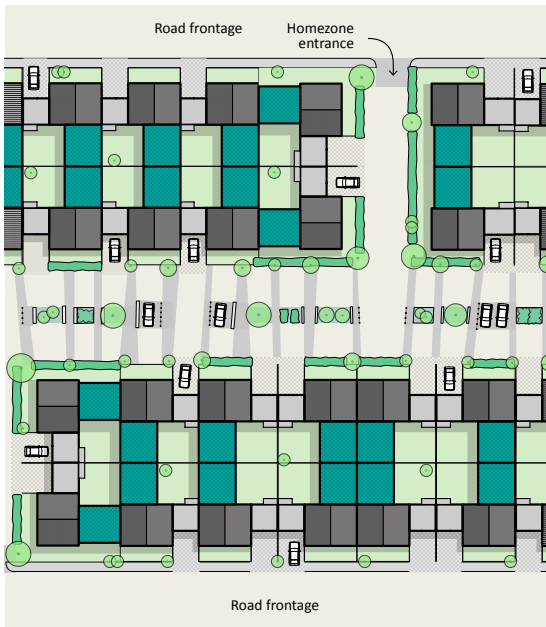


Ground floor plan



Attic floor plan  
(future conversion)

## Courtyard bungalow



Indicative site layout.



Early sketch view showing the connection between back-to-back gardens in the courtyard bungalow layout.

## Courtyard bungalow specification

<i>Accommodation schedule</i>	2 x downstairs rooms, accessible bath/ shower room, 2nd WC, utility cupboard, open-plan kitchen/ dining/ living space,
<i>External space</i>	Rear secure courtyard garden/ terrace, front garden, outside store.
<i>Adaptable features</i>	Attic space for future conversion.
<i>Gross internal area</i>	79 m <sup>2</sup> (excluding attic) 103 m <sup>2</sup> (with attic conversion)
<i>Indicative density</i>	36 dwellings / ha. (including access roads)
<i>Car parking ratio</i>	1 no. accessible parking space per dwelling, plus additional on-street spaces for visitors.
<i>Typical plot area</i>	213 m <sup>2</sup> (includes accessible parking bay)
<i>Accessibility standard (Building Regs Part M)</i>	Category 3 (without attic + 2nd WC) or Category 2 (with attic + 2nd WC)
<i>Indicative construction cost for comparison*</i>	£1680 / m <sup>2</sup>

\* Cost estimates provided by Faithful + Gould based on design information + specification produced by DWELL. For more info see <http://dwell.group.shef.ac.uk/typologies/cost-data>



# Chequerboard house & bungalow

The chequerboard arrangement has been designed with multi-generational living and extended families in mind. By pairing together a 3 storey house and bungalow, this arrangement takes advantage of the possibilities of the chequerboard arrangement to maximise the overall density of development whilst avoiding direct overlooking.

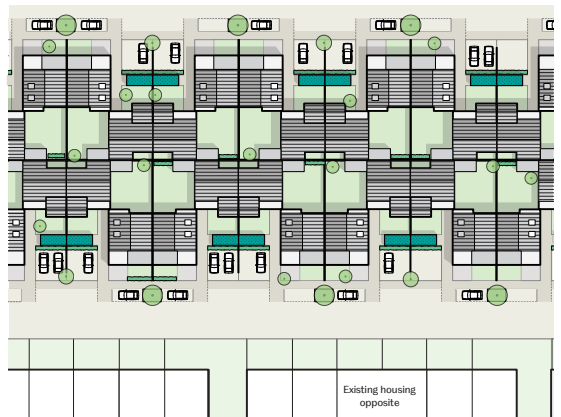
The two dwellings are linked by a shared pathway and gate, which provides access to the front of the bungalow and rear of the house. This arrangement echoes the shared passageway of the Victorian terraced house, and suggests the potential for an interdependent relationship between the two dwellings, where neighbouring households might be related or just keep an eye on one another. The paired arrangement also allows the possibility for the two dwellings to be marketed together as a 'house-plus-annexe', enabling a family to live adjacent to an older (or younger) family member.

The bungalow is designed as a fully accessible wheelchair property with its own secure garden and rear lightwell/ terrace to bring daylight into the back of the dwelling.

The 3-bedroom house features open-plan living to the rear plus a downstairs sitting room that could be converted into a bedroom (or self-contained apartment) if required. The first floor provides two double rooms plus a private roof terrace, while the attic suite with ensuite is designed with guests or adult children in mind.



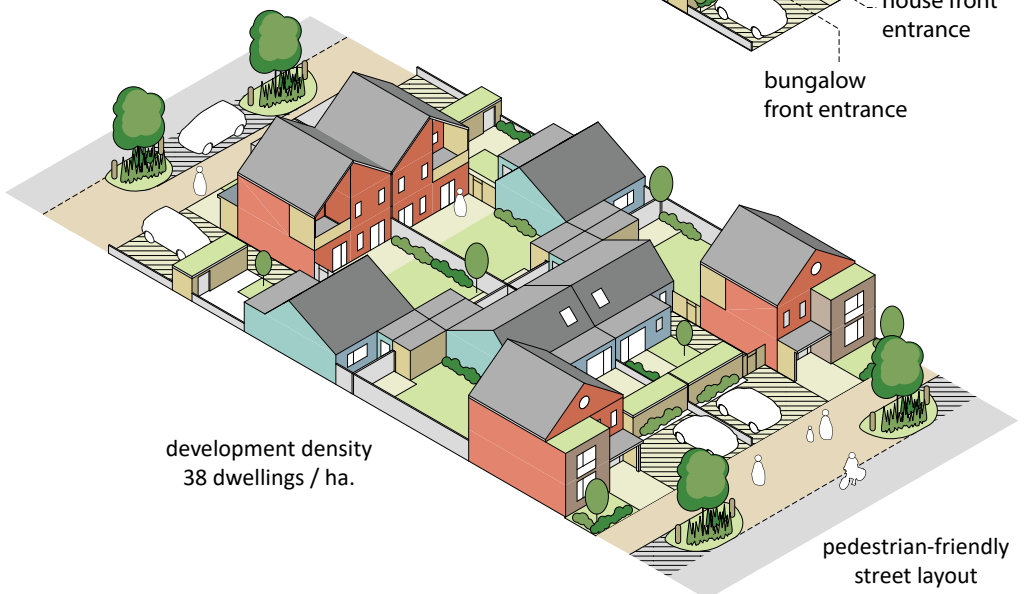
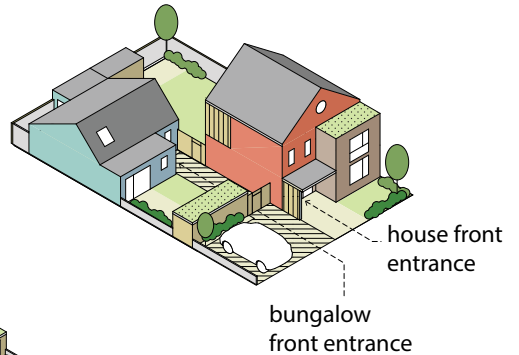
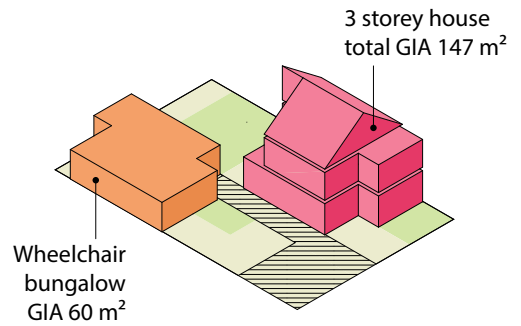
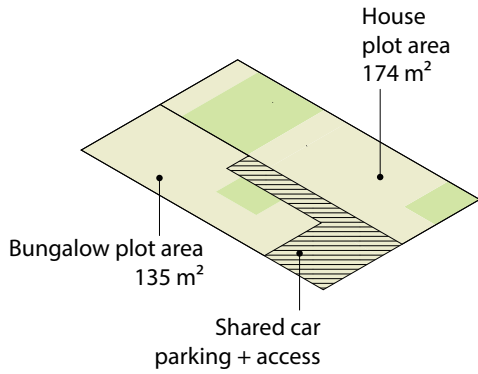
*External view showing the chequerboard house, parking area, and gated entrance to the bungalow behind.*



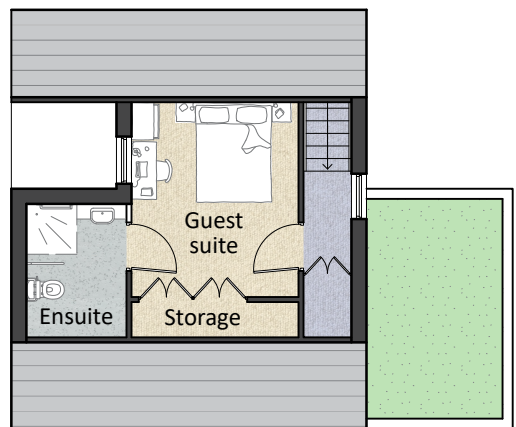
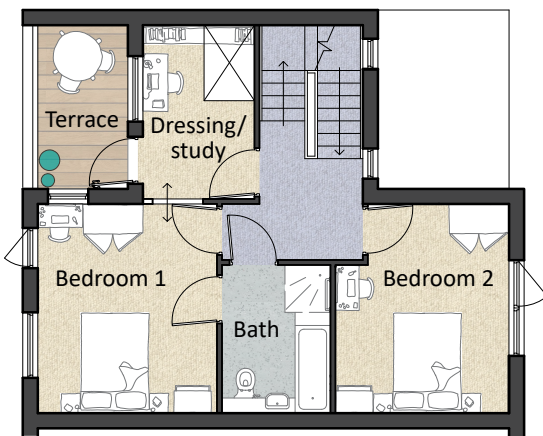
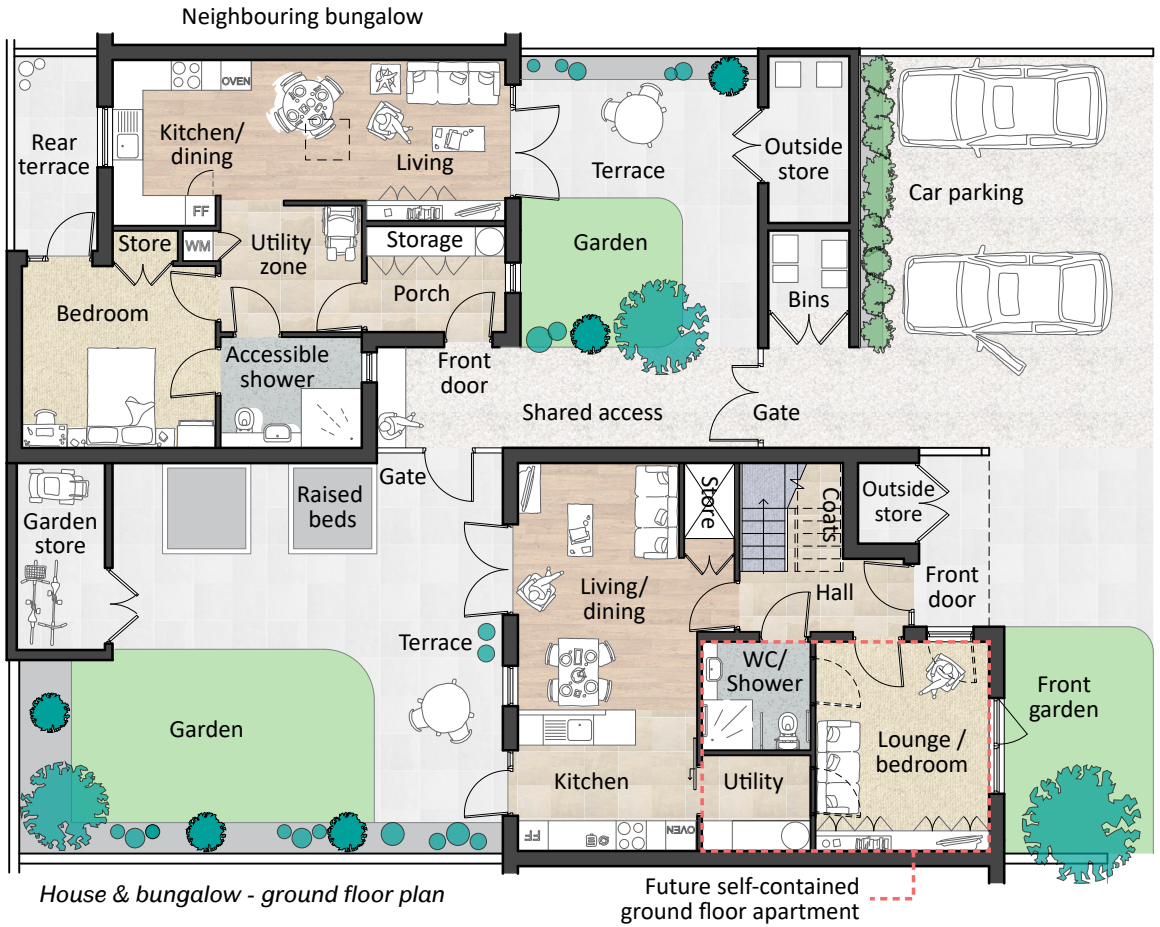
*Indicative site layout*

## Chequerboard house & bungalow

Participants liked the idea that an elderly relative could be accommodated next door and still maintain their own home and garden.



## Chequerboard house & bungalow layouts



## Chequerboard house & bungalow

### Chequerboard house specification

<i>Accommodation schedule</i>	GROUND: 1 x downstairs sitting room , shower room, utility room, open-plan kitchen/ dining / living. FIRST: 2 x bedrooms, study, family bathroom SECOND: Guest suite with ensuite shower room
<i>External space</i>	Secure courtyard garden/ terrace, front garden outside store.
<i>Shared amenities</i>	Bin store, shared car parking area
<i>Adaptable features</i>	Downstairs sitting room/ shower/ utility can be portioned off into a self-contained unit.
<i>Gross internal area</i>	146.8 m <sup>2</sup>
<i>Indicative density</i>	38 dwellings / ha. (paired with bungalow)
<i>Car parking ratio</i>	1 no. accessible parking space per dwelling, plus additional on-street spaces for visitors.
<i>Typical plot area</i>	135 m <sup>2</sup> (includes accessible parking bay)
<i>Accessibility standard</i>	Building Regs Part M Category 2
<i>Indicative construction cost for comparison*</i>	£1620/ m <sup>2</sup>

### Chequerboard bungalow specification

<i>Accommodation schedule</i>	1 x downstairs bedroom, accessible bath/ shower room, utility cupboard, open-plan kitchen/ dining / living,
<i>External space</i>	Secure courtyard garden/ terrace, outside store.
<i>Shared amenities</i>	Bin store, shared car parking area
<i>Gross internal area</i>	60 m <sup>2</sup>
<i>Indicative density</i>	38 dwellings / ha. (paired with house)
<i>Car parking ratio</i>	1 no. accessible parking space per dwelling, plus additional on-street spaces for visitors.
<i>Typical plot area</i>	135 m <sup>2</sup> (includes accessible parking bay)
<i>Accessibility standard</i>	Building Regs Part M Category 3
<i>Indicative construction cost for comparison*</i>	£2080 / m <sup>2</sup>

\* Cost estimates provided by Faithful + Gould based on design information + specification produced by DWELL.  
For more info see <http://dwell.group.shef.ac.uk/typologies/cost-data>

# Hillside bungalow

Steeply sloping topography can present a challenge in the design and delivery of wheelchair accessible housing. Steeper sites are generally more difficult and costly to develop, with significant earthworks and retaining walls often required to achieve level (or gently sloping) approaches to individual front doors. However, such sites also offer potential opportunities to provide access to the same block or house at different levels.

The hillside bungalow typology is designed to exploit steeper sites (over 1:12 gradient) and is actually two accessible, self-contained dwellings stacked on top of one another. This approach has the potential to provide accessible dwellings at much greater density than traditional low-rise developments.

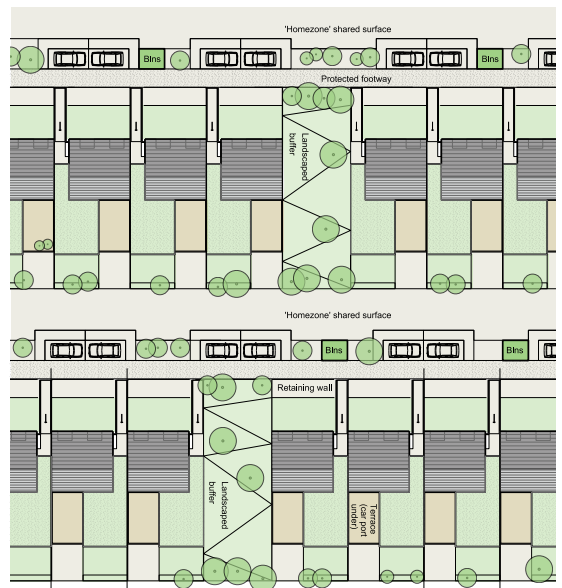
The hillside bungalow uses the slope to gain access to the lower floor bungalow from the front and the upper floor bungalow from the rear (via a ramp). Terraces of dwellings are separated by access roads that follow the contours of the site.

Both upper and lower floor bungalows use the same L-shaped plan. This is divided in two, with a large open-plan living/ kitchen/ dining space to the front and two rooms to the rear. An oversized hallway provides space to welcome guests, store mobility aids, or for others utility uses such as pets or laundry.

The lower floor bungalow provides a front garden directly off the living space, plus a rear courtyard enclosed by a gabion retaining wall. The upper floor bungalow provides a private roof terrace over the car port, which is recessed into the plan to avoid overlooking of the lower floor garden.



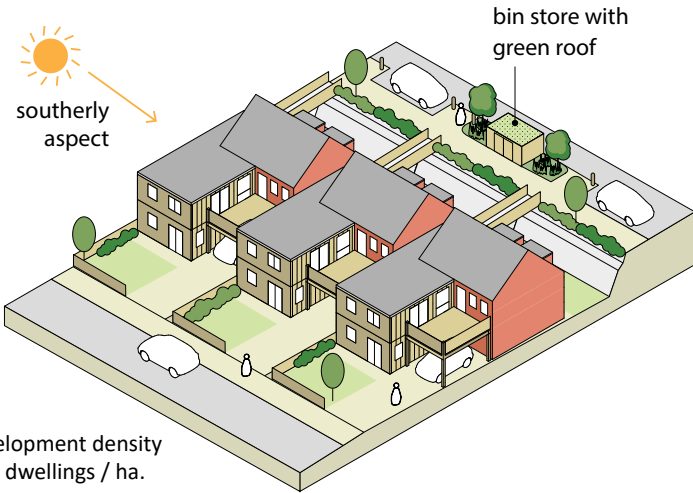
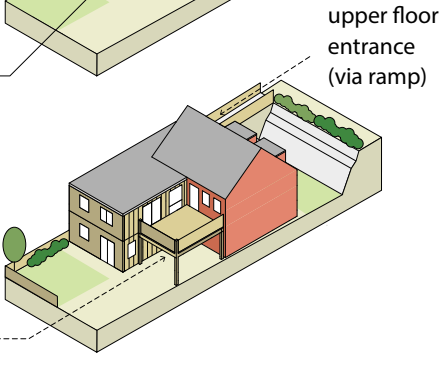
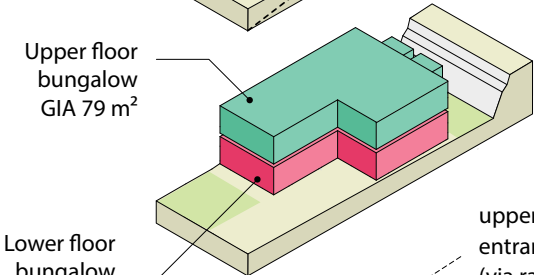
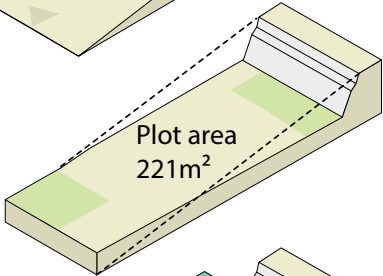
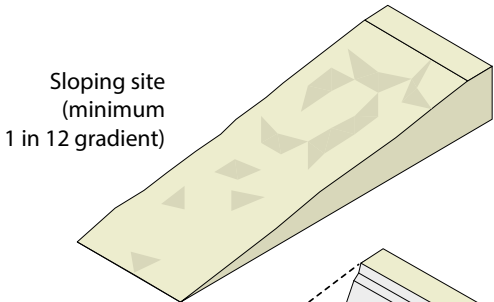
*Internal view showing the connection between the upper floor living space and roof terrace.*



*Indicative site layout*

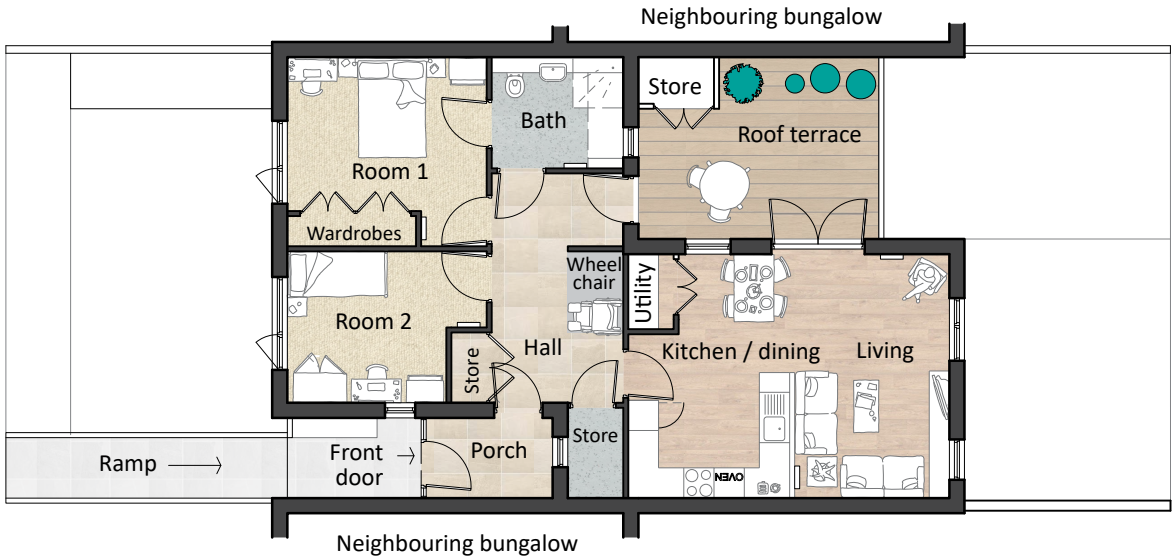
# Hillside bungalow

The hillside bungalow typology was developed out of an idea put forward by DWELL participants, and responds to the local topography (and difficult housing sites) found in Sheffield.

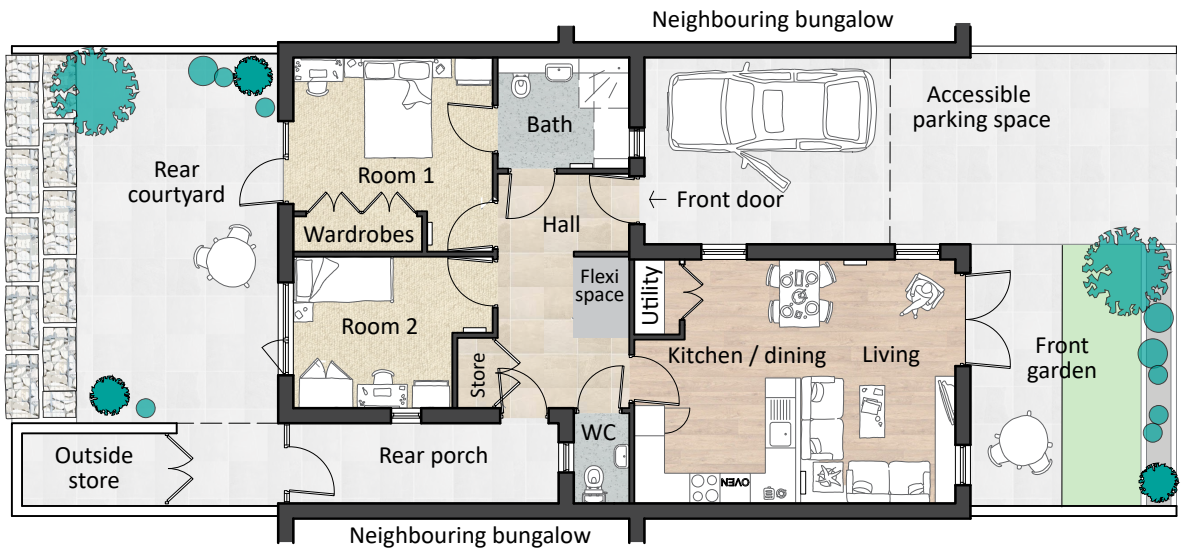




## Hillside bungalow layouts



Upper floor plan (Category 3 layout)



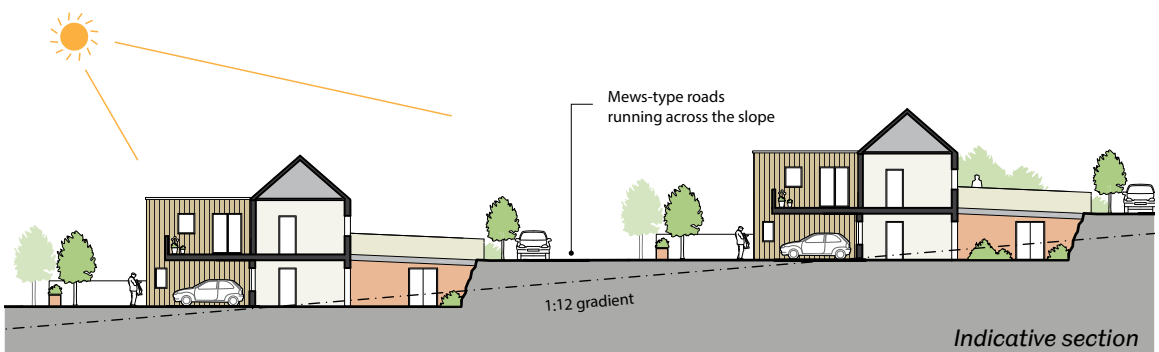
Lower floor plan (Category 2 layout)

## Hillside bungalow

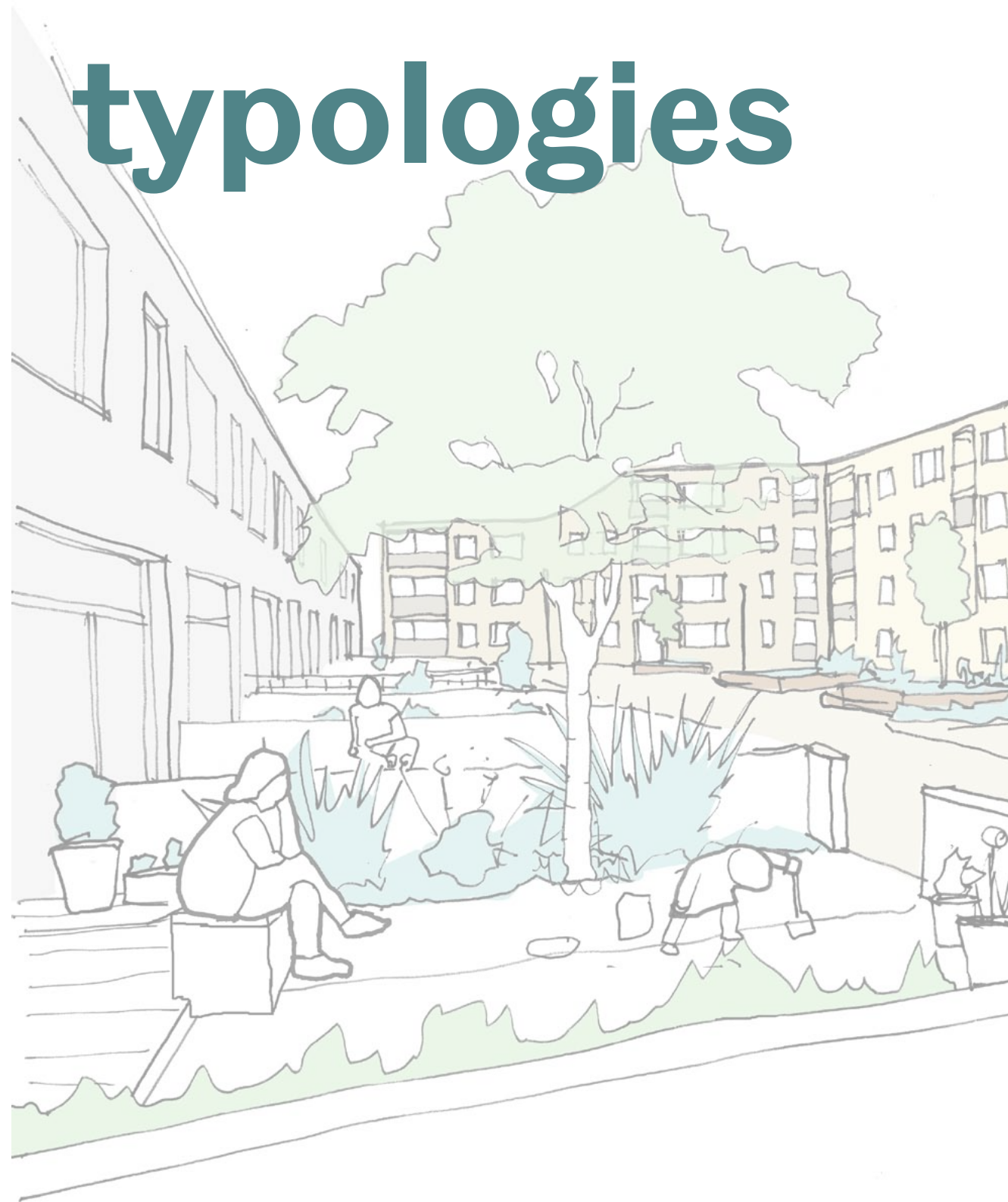
### Hillside bungalow specification

<i>Accommodation schedule</i>	2 x rooms, accessible bath/ shower room, 2nd WC, utility cupboard, open-plan kitchen/ dining / living.
<i>External space</i>	Rear secure courtyard garden/ terrace, front garden, outside store.
<i>Gross internal area</i>	79 m <sup>2</sup>
<i>Indicative density</i>	55 dwellings / ha.
<i>Car parking ratio</i>	1 no. accessible parking space per dwelling, plus additional on-street spaces for visitors.
<i>Typical plot area</i>	221 m <sup>2</sup> (2 dwellings)
<i>Accessibility standard</i>	Building Regs Part M Category 2 or Category 3 (converting 2nd WC to a store)
<i>Indicative construction cost for comparison*</i>	£1875 / m <sup>2</sup> (includes allowance for site cut and fill and retaining structures)

\* Cost estimates provided by Faithful + Gould based on design information + specification produced by DWELL. For more info see <http://dwell.group.shef.ac.uk/typologies/cost-data>

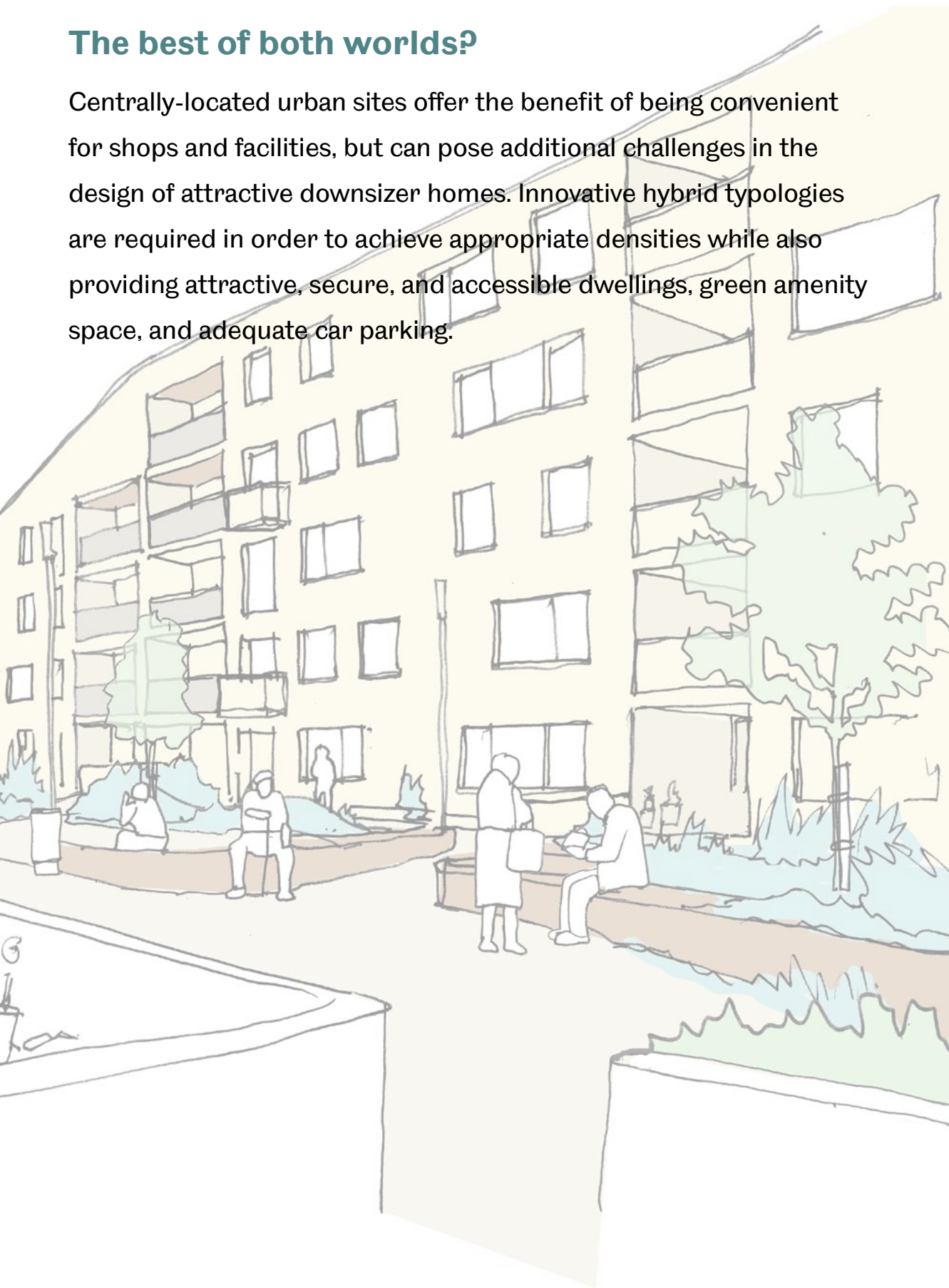


# Mid-rise typologies



## The best of both worlds?

Centrally-located urban sites offer the benefit of being convenient for shops and facilities, but can pose additional challenges in the design of attractive downsizer homes. Innovative hybrid typologies are required in order to achieve appropriate densities while also providing attractive, secure, and accessible dwellings, green amenity space, and adequate car parking.





# Garden block

The key design move of the 'garden block' typology is to elevate the residential apartments and communal outdoor space onto a deck, leaving the ground floor for commercial, community, or retail uses and a large undercroft car park. While the design of a suspended deck (and intensive green roof) is likely to add to the cost of construction, this can be offset by increasing the density of development, with the added benefit that all apartments have an aspect out onto the gardens (instead of car parking).

A U-shape of apartments and duplexes is arranged around a generous communal courtyard garden with space for small allotments and outdoor events. The variety of apartment types and sizes also suggests the potential for intergenerational encounters across the communal gardens.

Access from the street or car park is provided via two lift cores that take residents up and onto a series of secure external access decks. The majority of the apartments are designed for the main living space to face onto the communal courtyard. Private gardens act as buffer between the shared courtyard space and the wheelchair accessible apartments on the first floor.

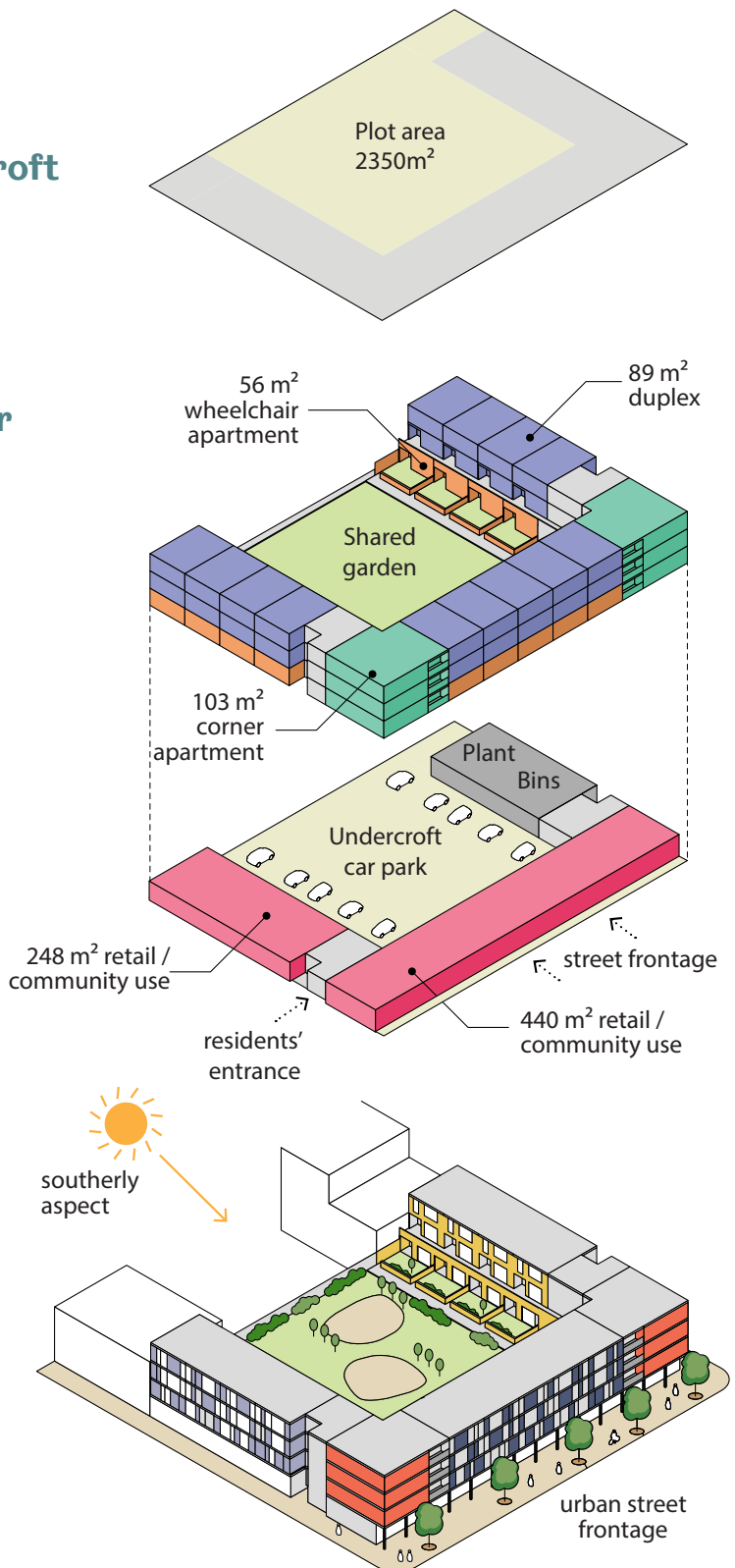
At second floor level, duplex apartments are accessed from an access deck which is stepped back into the plan. The duplex apartments are designed as 'upside down' dwellings, with bedrooms on the lower floor, and living spaces and a private roof terrace to the upper floor.



*External view showing the wheelchair apartments fronting onto the shared courtyard garden.*

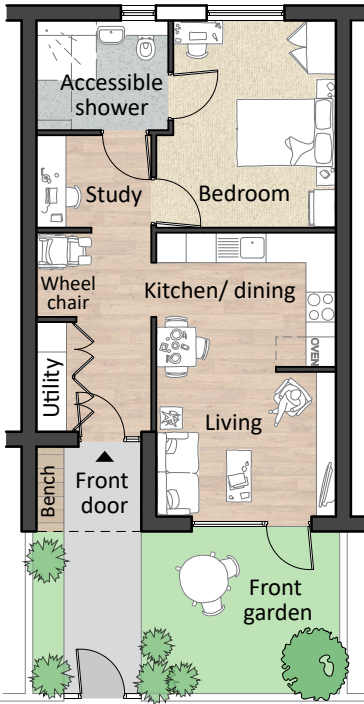
## Garden block

The deck with undercroft parking resolves the difficult interface between residential apartments and busier urban streets and is a solution commonly seen in other parts of northern Europe.



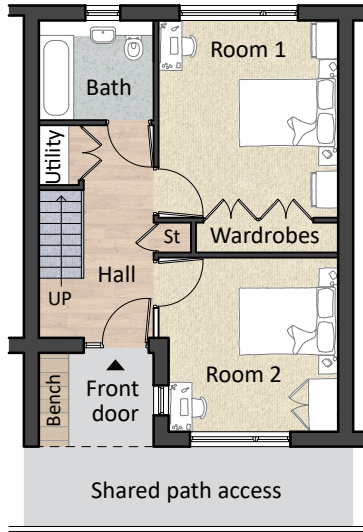


## Garden block layouts

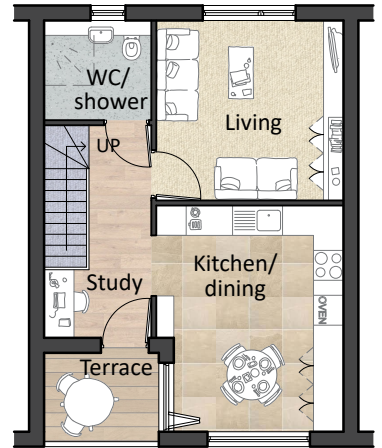


Shared path access

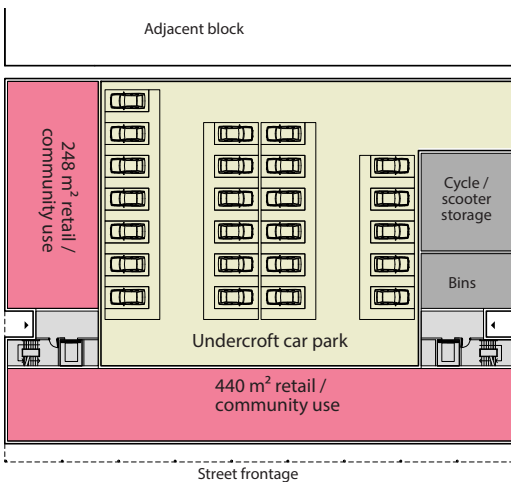
Wheelchair apartment plan



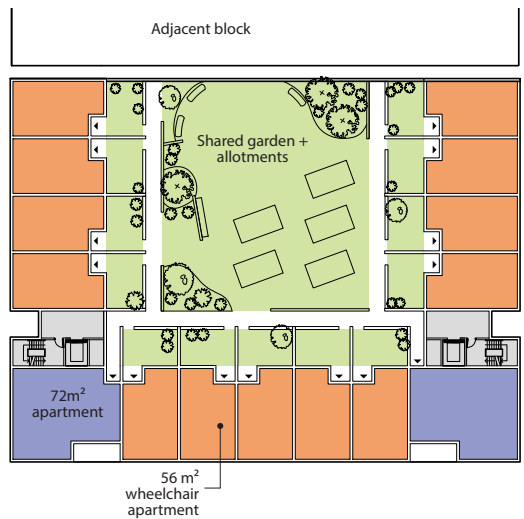
Duplex apartment - lower floor plan



Duplex apartment - upper floor plan



Garden block - ground floor (street-level) plan



Garden block - first floor (deck-level) plan

## Garden block

### Garden block specification

<i>Accommodation schedule</i>	32 apartments: 13 x wheelchair type 13 x duplex 6 x corner type
<i>Shared amenities</i>	Courtyard garden and growing area, undercroft car parking, bin store, cycle + scooter storage.
<i>Typical plot area (including car parking)</i>	2350 m <sup>2</sup>
<i>Gross internal area</i>	Retail / commercial: 687 m <sup>2</sup> Residential: 2495 m <sup>2</sup> Circulation /services: 300 m <sup>2</sup> Shared facilities: N/A
<i>Indicative density</i>	127 dwellings / ha. (excluding access roads)
<i>Car parking ratio</i>	0.81 accessible parking spaces per dwelling.
<i>Indicative construction cost for comparison*</i>	£1860 / m <sup>2</sup>

### Wheelchair apartment specification

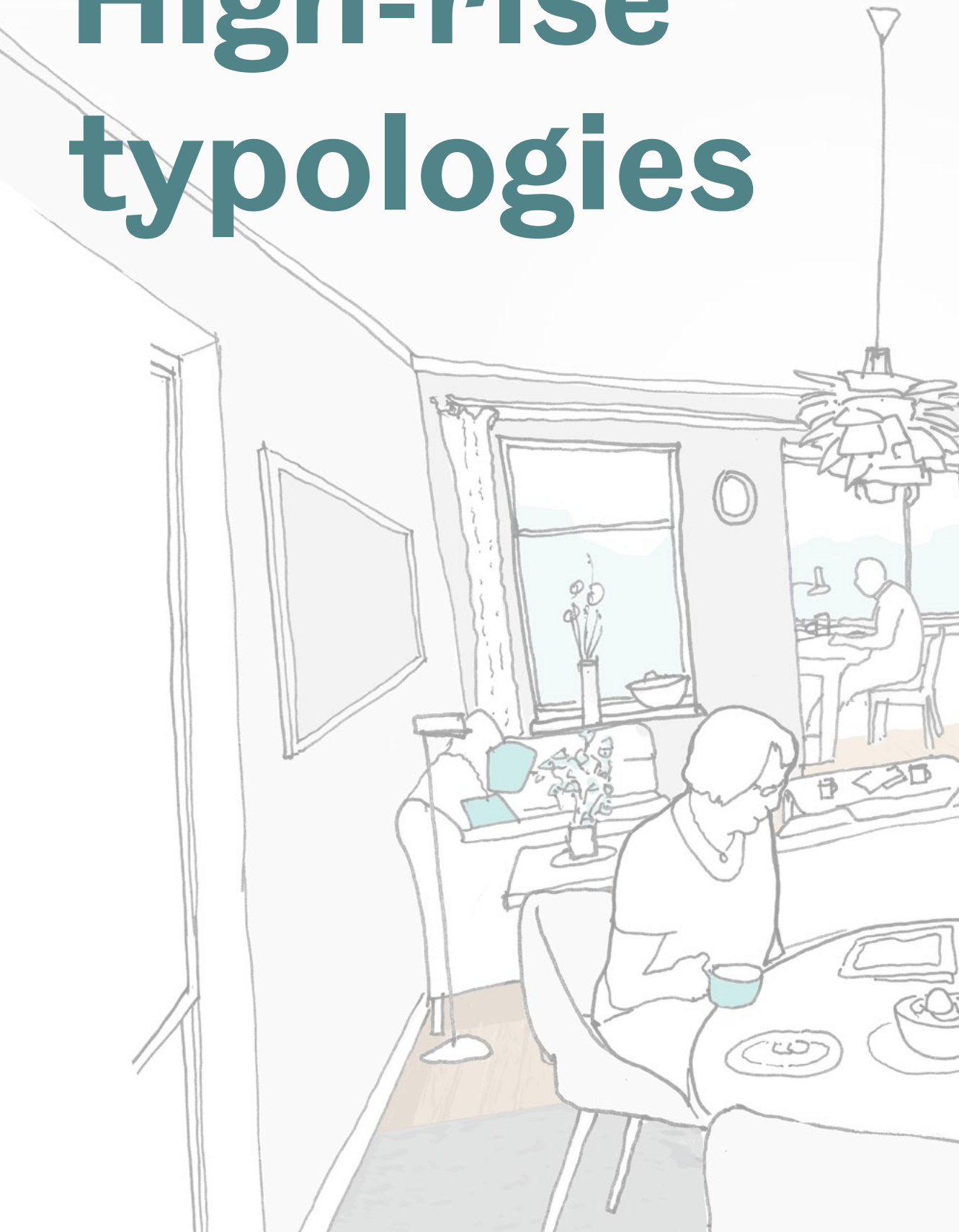
<i>Accommodation schedule</i>	1 x downstairs bedroom, accessible bath/ shower room, utility cupboard, open-plan kitchen/ dining / living,
<i>External space</i>	Front garden
<i>Adaptable features</i>	N/A
<i>Gross internal area</i>	56 m <sup>2</sup>
<i>Accessibility standard</i>	Building Regs Part M Category 3

### Duplex apartment specification

<i>Accommodation schedule</i>	ENTRANCE LEVEL: 2 x bedroom, accessible bath/ shower room, utility cupboard, UPPER LEVEL: open-plan kitchen/ dining, living room, cloakroom / WC, study area.
<i>External space</i>	Roof terrace
<i>Adaptable features</i>	N/A
<i>Gross internal area</i>	89 m <sup>2</sup>
<i>Accessibility standard</i>	Building Regs Part M Category 2

\* Cost estimates provided by Faithful + Gould based on design information + specification produced by DWELL.  
For more info see <http://dwell.group.shef.ac.uk/typologies/cost-data>

# High-rise typologies



## Co-housing lite

High-rise development within urban centres offers downsizers the opportunity to take advantage of all of that the city has to offer in terms of social opportunities, culture and transport links.

However, attracting downsizers into these types of settings requires the right type of product - a place that feels well-managed and secure, with an added 'wow' factor to win over those uncertain about the benefits of apartment living.



# Slender block

On urban infill sites it is often more difficult to provide good levels of outdoor amenity space. The slender block is designed to address this issue by providing a combination of generous balconies, a shared rooftop allotment garden, and planted roofs over the covered rear car parking. The block is also designed to address the common issues of poor daylighting in new-build apartments, with a slender plan to maximise daylighting within all apartments and to enable each living space to face the same sunny aspect.

The block layout provides two apartment types: a larger (88m<sup>2</sup>) L-shaped apartment and smaller (72m<sup>2</sup>) linear apartment type. Both apartment types provides two rooms plus an open-plan kitchen/ living/ dining space, built-in storage and a utility space. The residential accommodation sits above retail or commercial space at ground floor, lifting the apartments away from the busy street.

Shared facilities are provided in the form of a flexible 'event space' at roof level to provide the best aspect and views. Shared space is provided in the form of one large open-plan room with a kitchenette and furniture storage that gives onto a shared terrace and a sheltered growing space at roof level. The event space is designed to use the same footprint as an apartment - allowing potential conversion back to residential use if and when it is no longer desired by residents.

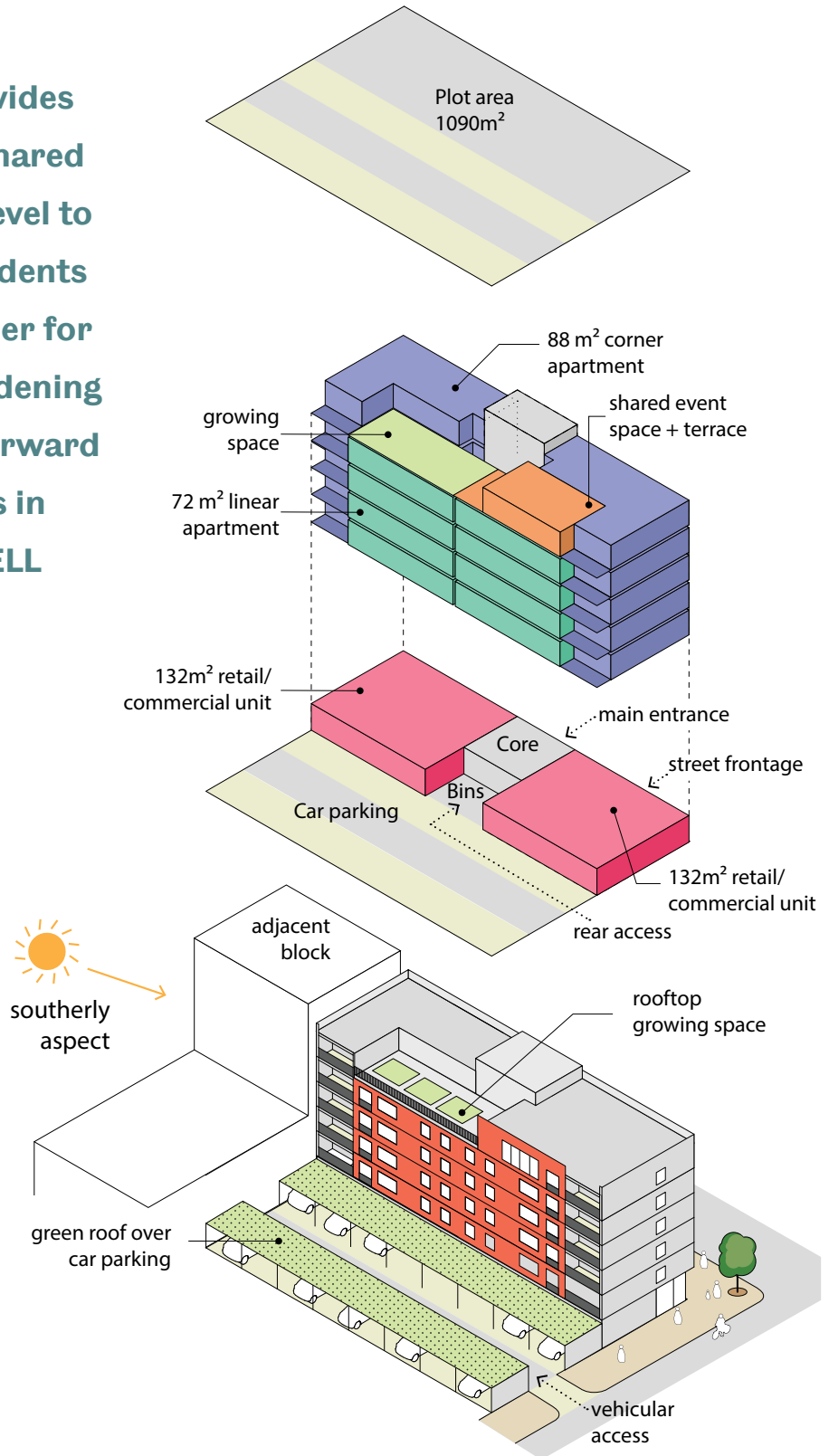
A single lift and stair core provides access from the front (street) or the rear (residents' car park and cycle/scooter store). The design of the core is such that horizontal escape distances are kept to a minimum (< 4.5m) to design out the need for additional smoke control. Private rear access is available from the residents' car parking and scooter and cycle stores.



*External view showing the shared roof terrace and allotments.*

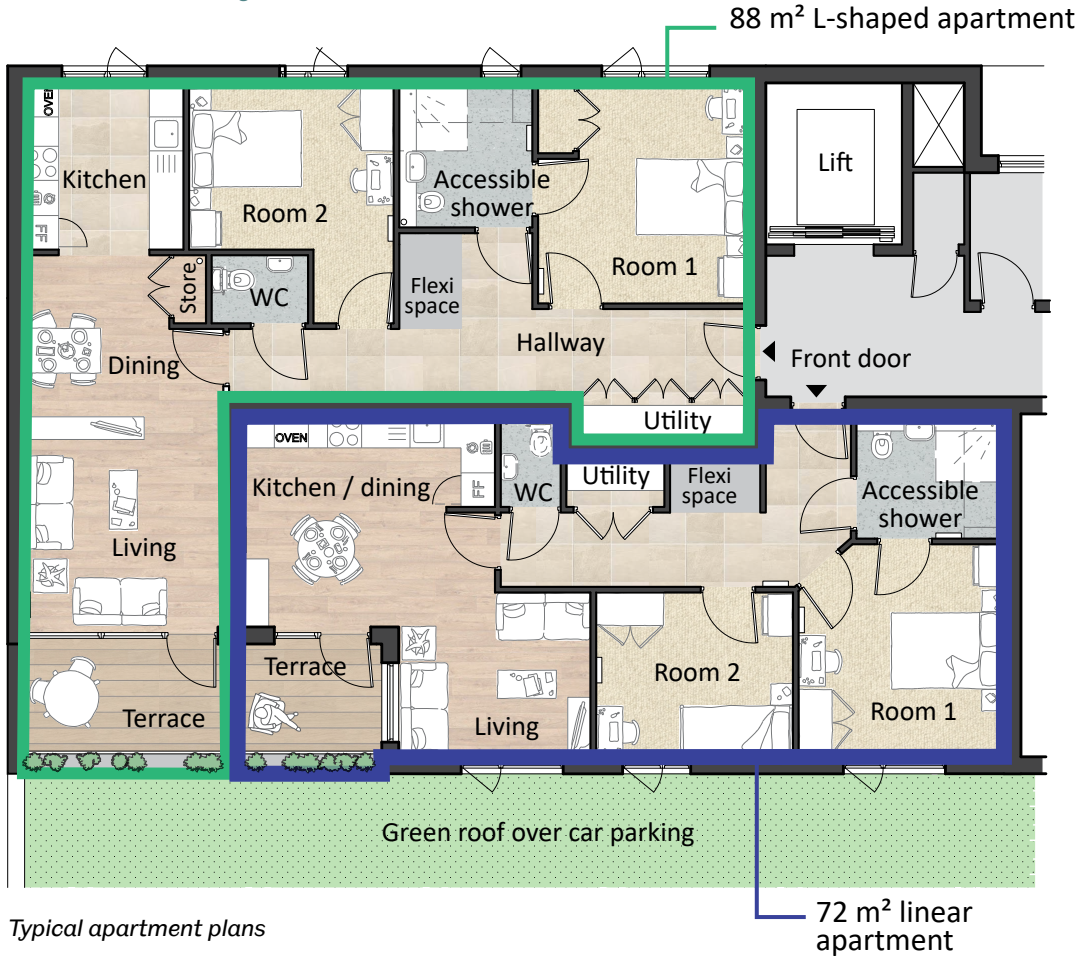
## Slender block

This block provides an attractive shared space at roof level to encourage residents to come together for events and gardening - an idea put forward by participants in one of the DWELL workshops.

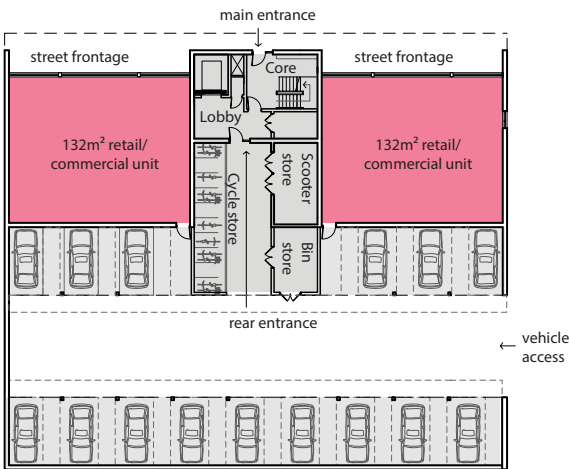




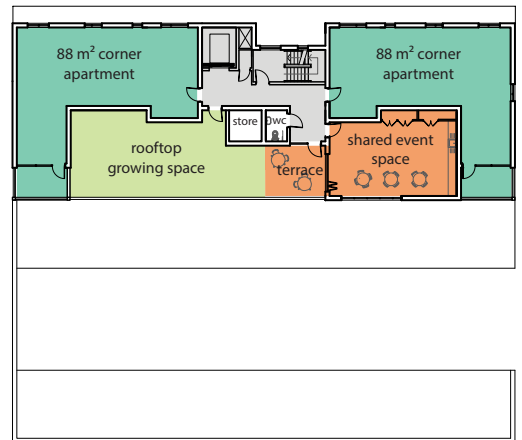
Slender block layouts



Typical apartment plans



Slender block - ground floor (street level) plan



Slender block - top floor (roof level) plan

## Slender block

### Slender block specification

<i>Accommodation schedule</i>	18 apartments: 10 x L-shaped type 8 x linear type
<i>Shared amenities</i>	Event space and roof terrace, rooftop allotments, bin store, cycle + scooter storage.
<i>Typical plot area (including car parking)</i>	1090 m <sup>2</sup>
<i>Gross internal area</i>	Retail / commercial: 263m <sup>2</sup> Residential: 1452m <sup>2</sup> Circulation /services: 200m <sup>2</sup> Shared facilities: 45m <sup>2</sup>
<i>Indicative density</i>	165 dwellings / ha. (excluding access roads)
<i>Car parking ratio</i>	1 no. accessible parking space per dwelling.
<i>Indicative construction cost for comparison*</i>	£1860 / m <sup>2</sup>

### L-shaped apartment specification

<i>Accommodation schedule</i>	2 x bedroom, accessible bath/ shower room, separate WC, large utility cupboard, open-plan kitchen/ dining / living,
<i>External space</i>	Terrace
<i>Adaptable features</i>	N/A
<i>Gross internal area</i>	88 m <sup>2</sup>
<i>Accessibility standard</i>	Building Regs Part M Category 2 or Category 3 (depending on WC provision)

### Linear apartment specification

<i>Accommodation schedule</i>	2 x bedroom, accessible bath/ shower room, separate WC, utility cupboard, open-plan kitchen/ dining / living,
<i>External space</i>	Terrace
<i>Adaptable features</i>	N/A
<i>Gross internal area</i>	72 m <sup>2</sup>
<i>Accessibility standard</i>	Building Regs Part M Category 2 or Category 3 (depending on WC provision)

\* Cost estimates provided by Faithful + Gould based on design information + specification produced by DWELL.  
For more info see <http://dwell.group.shef.ac.uk/typologies/cost-data>

# Tower block

The tower apartment block has been designed to make high-rise living more attractive to potential downsizers and to promote neighbourly and social interaction within circulation and shared spaces.

The key design move is to provide shared winter gardens (double-height, with mezzanine balconies above) on alternate levels of the block. The dispersal of shared space throughout the tower (as opposed to one larger space at the top or bottom) aims to bring residents together in smaller clusters and enhance a sense of ownership over the shared winter garden spaces. Each winter garden is located next to a shared room for the storage of tools and furniture.

The tower block form enables every apartment to benefit from dual aspect living spaces, providing good levels of daylighting and ventilation to all apartments, as well as great views. The block layout provides three sizes of apartment: a smaller (71m<sup>2</sup>) 'linear' type, a larger (81m<sup>2</sup>) 'corner' type, and an extra large (93m<sup>2</sup>) corner apartment type. Each apartment provides at least two rooms plus an open-plan kitchen/ living/ dining space, built-in storage and a utility space.

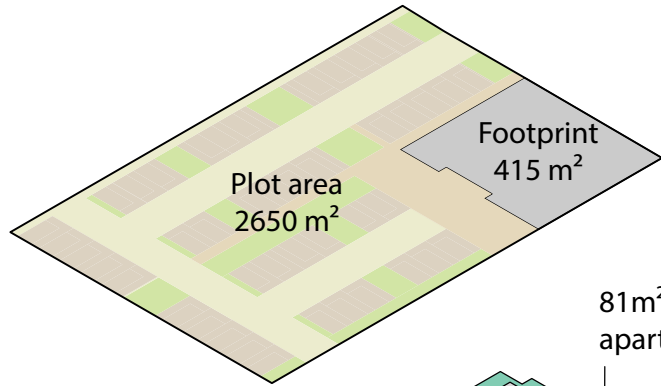
The residential accommodation starts at first floor level above retail or commercial use at ground floor. The secure main entrance is located to the side of the block, alongside residents' bike and scooter storage and office space for a concierge service if required.

Depending on the location of this type of block, it is likely that a certain proportion of car parking would be required. In the example overleaf, the visual impact of this car parking has been softened through landscaping including planting, trees, and trellis.

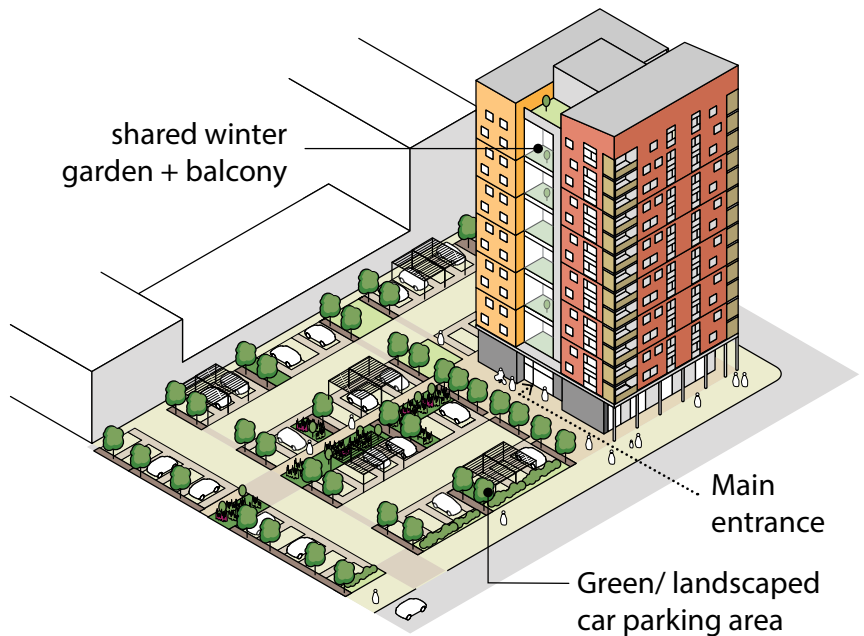
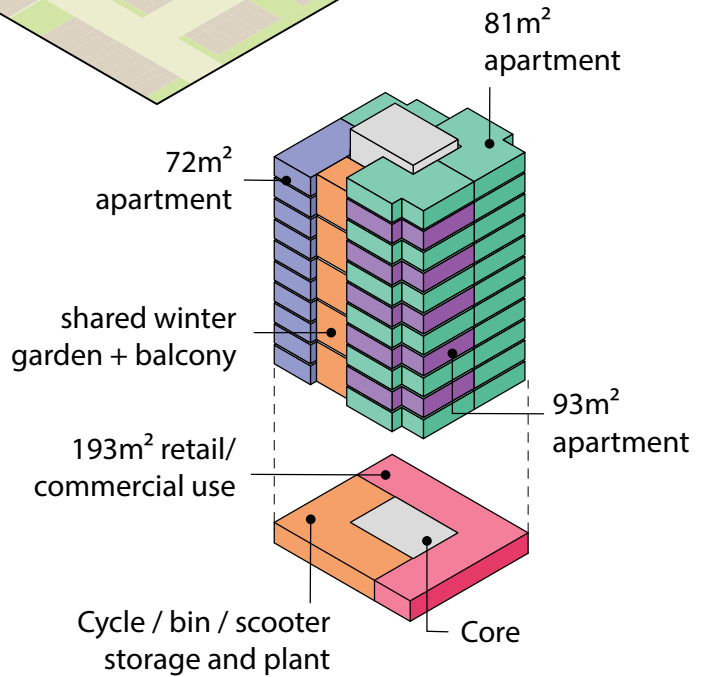


*Internal view of a winter garden showing potential for small group activities.*

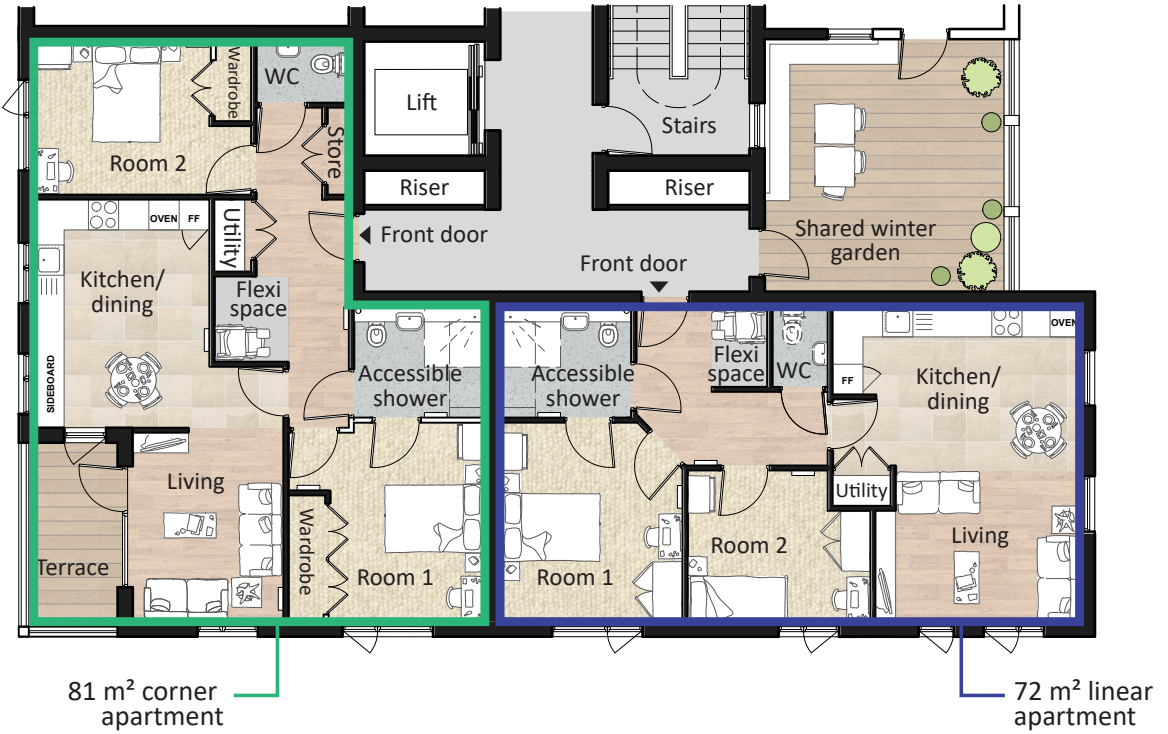
## Tower block



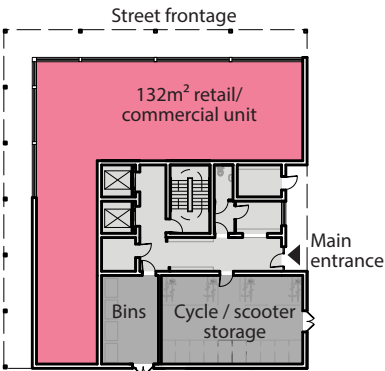
**Shared winter gardens are designed to be multi-purpose, low-maintenance, and usable throughout the year, with the ability to host small social events and organised activities.**



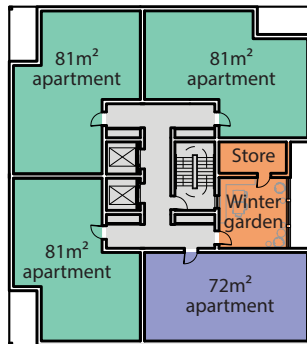
## Tower block layouts



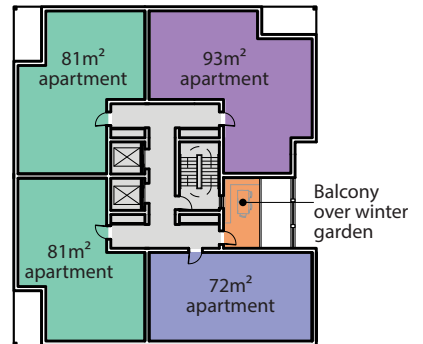
Typical apartment plans



Tower block - ground floor plan



Tower block - upper floor plan (odd floor numbers)



Tower block - upper floor plan (even floor numbers)



## Tower block

### Tower block specification

<i>Accommodation schedule</i>	50 apartments: 2 x linear type 32 x corner type 6 x large corner type
<i>Shared amenities</i>	Winter garden + store (one per two floors), bin store, cycle + scooter storage.
<i>Total plot area</i>	3500 m <sup>2</sup>
<i>Gross internal area</i>	Retail / commercial: 193 m <sup>2</sup> Residential: 4043 m <sup>2</sup> Circulation /services: 1090 m <sup>2</sup> Shared facilities: 284 m <sup>2</sup>
<i>Indicative density</i>	143 dwellings / ha.
<i>Car parking ratio</i>	0.9 no. accessible parking spaces per dwelling..
<i>Indicative construction cost for comparison*</i>	£1760 / m <sup>2</sup>

### Corner apartment specification

<i>Accommodation schedule</i>	2 x bedroom, accessible bath/ shower room, utility cupboard, open-plan kitchen/ dining / living,
<i>External space</i>	Terrace
<i>Adaptable features</i>	N/A
<i>Gross internal area</i>	81 m <sup>2</sup>
<i>Accessibility standard</i>	Building Regs Part M Category 2 or Category 3 (depending on WC provision)

### Linear apartment specification

<i>Accommodation schedule</i>	2 x bedroom, accessible bath/ shower room, utility cupboard, open-plan kitchen/ dining / living,
<i>External space</i>	Terrace
<i>Adaptable features</i>	N/A
<i>Gross internal area</i>	72 m <sup>2</sup>
<i>Accessibility standard</i>	Building Regs Part M Category 2 or Category 3 (depending on WC provision)

\* Cost estimates provided by Faithful + Gould based on design information + specification produced by DWELL.  
For more info see <http://dwell.group.shef.ac.uk/typologies/cost-data>



*Little Kelham in Sheffield has regenerated a former industrial site with a mix of low-energy houses and apartments. Designed by Cal Architects and developed by Citu.*

# Part 3

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## *Delivery*

## Introduction

The primary focus of this research has been to work with a range of third-age participants to better understand the relationship between housing design and well-being in later life. The research has employed a range of participatory and qualitative methods to explore third-agers' aspirations and the barriers facing those wishing to downsize. By using design as a research tool, we have been able to translate these ideas into a series of typologies for downsizer homes, which have been designed and tested with third age participants.

As researchers and designers we recognise that any architectural design process is contingent on real-world social, economic and political conditions, and the delivery of the next generation of downsizer homes will require the commitment of a range of stakeholders, including politicians, planners, and developers. Based on interviews and participant observation with Local Government officers, private developers and other housing providers, this final section provides an overview of the current policy and delivery issues that are impacting on the supply of downsizer homes, with links to further reading and research.

## National government policy

DWELL research has been carried out in the context of a national housing crisis. Growing unmet demand for housing impacts across a range of individuals and households - whether a family is priced out of owner-occupation or struggling to access affordable social-rented housing. What is perhaps still lacking is a more nuanced understanding about the different types of housing required, the potential role of new homes in creating vibrant, sustainable, and interdependent mixed-age neighbourhoods, and the specific delivery and viability issues preventing this from happening in different areas of the UK.

**Although the profile of housing as a political priority has undoubtedly increased over the course of the DWELL research, the response from national government has primarily focused on interventions to increase the supply of new homes for first-time buyers.**

National policy interventions on housing have focused on two main strategies to boost supply: streamlining regulation ('red tape') within the housing industry and offering financial assistance to those wanting to buy in the form of Help-to-Buy and Starter Homes policies. These initiatives have served to focus the attention of major housebuilders on products for first-time buyers and young families, arguably at the expense of promoting more accessible or adaptable typologies for other age groups.<sup>1</sup> Alternative 'help-to-downsize' policies have been put forward to address the affordability gap for owner-occupiers at the middle and lower end of the market who cannot afford to buy new-build downsizer or retirement properties,<sup>2</sup> while others have called for a removal of stamp duty for those who choose to downsize.<sup>3</sup> However, these policy recommendations that focus on the demands of downsizers have yet to be recognised as priorities by central government.

Government intervention aimed at improving the supply and quality of housing for older people has primarily taken the form of capital investment programmes to subsidise the delivery of specialist independent living (i.e. extra-care schemes or retirement villages).<sup>4</sup> Specialist forms of independent living have been seen as a key priority for meeting the needs of an ageing population at national and local level, and an economic case for investment has been made on the basis that these settings can help to keep people living independently and avoid or delay the need for residential care.

While specialist independent living plays a role in promoting independence (particularly in the fourth age), it currently only makes up a very small proportion (less than 10%) of homes for people aged 65+.<sup>5</sup> Despite the best intentions of policy-makers and providers of specialist housing, the emphasis on these types of settings has limitations: (1) It segregates older people and overlooks the fact that the vast majority of third and fourth-agers want to (and will continue to) live in



'normal housing, and (2) it risks reinforcing the 'deficit' model of ageing, whereby housing is viewed as a solution to the 'problem' of unsustainable health and social care costs created by a burdensome old age.

## Local strategy & policy

At local level, a key responsibility of government is to identify housing need and land supply, and plan accordingly for future housing development in the local area. Housing need is regularly reviewed using the Strategic Housing Market Assessment (SHMA), but critics have argued that this exercise is also geared towards assessing the housing needs of first-time buyers and those in the social sector, rather than older owner-occupiers.<sup>6</sup> Tools such as the SHMA also tend to be somewhat backwards-looking, as they ask households about what types of housing they are looking for and these extrapolate these aspirations to predict future demand. DWELL research has demonstrated that many people don't necessarily know what options might be available without information on new and emerging products, and the SHMA can therefore become a chicken-and-egg process where innovative models may lack support due to lack of perceived demand.

The national focus on housing supply has put pressure on local authorities to demonstrate a sufficient land supply to meet the 5-year local housing need in their Local Plan. Where the existing land supply is insufficient or deemed to be unviable, local planning authorities may come under increased pressure to grant permissions (or face refusals being overturned at planning appeal). This type of development-by-appeal can have the effect of weakening the power of local planning authorities to impose local policies, for example, by driving down quality of new homes or producing development on the outer fringes of towns or neighbourhoods rather than on infill or brownfield sites nearer to urban centres.

**The majority of developers interviewed as part of DWELL research recognised the need for local government to be an active force in supporting development, particularly in order to respond to the local housing needs of an ageing population.**

**Developers emphasised the need for local authorities to adopt a flexible, and a multi-faceted approach in order to service a range of sites and markets and allow for a corresponding variety of housing products.**

Where the market is clearly not meeting housing need, local authorities are able to stimulate the delivery of certain types of housing through the planning process. An example of this is specialist housing, which may be encouraged by exempting developers from affordable housing contributions and the Community Infrastructure Levy, or by allocating specific sites for specialist housing to limit the competition from other types of development.<sup>7</sup> Each of these planning levers is, in theory, also available to stimulate the development of other types of housing (including 'downsizer' homes), although this may be more difficult to achieve politically due to negative perceptions of allowing private developers to avoid affordable housing contributions.

Another barrier within the planning process is the lack of ability to distinguish between different types of general-needs housing in the planning process. For example, the concept of age-friendly or 'downsizer homes' remains something of a grey area between general-needs and specialist provision. Following the Housing Standards Review, local planning authorities are able to require developers to deliver a certain proportion of accessible homes through their Local Plan, subject to local requirements and viability testing.<sup>8</sup> While there is some overlap between Category 2 or 3 homes and downsizer homes, this policy alone is unlikely to result in the step-change in design and delivery required to meet the aspirations of third and fourth-agers.

Previous reports have highlighted the potential role of local authorities in directly delivering homes to meet unmet housing need using local authority-owned land and resources,<sup>9</sup> although this role is predicated on the lifting of the cap on local government borrowing.<sup>10</sup> One alternative solution available to local authorities is to deliver age-friendly housing in partnership with private developers - for example by investing local authority-owned land at reduced or nil value.

These types of public-private partnership mechanisms have proved successful in improving the quality and level of design ambition for new homes, and could potentially be used to promote innovative or exemplar downsizer homes to demonstrate demand and raise the ambitions of other developers. In practice, these delivery mechanisms require clear leadership and prioritisation of housing for third and fourth-agers. The delivery of new housing may face competition from other local government priorities such as include the need to maximise the capital receipts from local authority-owned land, particularly where land is located in more desirable areas (i.e. where downsizers might want to live).

In this context it is also important to recognise the reduced number of staff and associated capacity in local government as a result of wider budget cuts, and planning officers have regularly reported being over stretched. This can have an impact on the types of homes delivered in an area - for example if officers are not able to gather additional evidence about housing need to change planning policy, or are unable to dedicate time to proactive working with developers to improve the local housing offer.

## **Existing delivery mechanisms**

The ongoing under-supply of housing options for downsizers can be viewed as an example of how the UK housing market continues to be dominated by a relatively small group of volume housebuilders delivering a fairly limited range of housing options (typically 3-4 bedroom houses).<sup>11</sup> Recent government initiatives have served to further focus the attention of housebuilders on building homes for the first-time buyer market. By refining their products and cost models over a number of years, using conventional construction processes and a dedicated supply chain, volume housebuilders are able to guarantee profit margins at minimal risk to investors. This model puts them in a much

*'We have developed a downsizer range, but it creates such low densities that if we were to plot these house types on a lower value site there would have to be huge planning incentives...*

*The downsizer range works in higher value areas clearly because you get a much higher value, which is why we see it a lot more down South than we do in the North.'*

A Planning Manager at a major UK housebuilder

stronger position to access cheaper finance, and to acquire and bank land for future development - perpetuating the cycle.

In response to clear demand from third-agers, some volume housebuilders have begun to promote existing products to a downsizer market, with marketing materials highlighting aspects that might appeal to downsizers such as the reduced upkeep of a new-build home, reduced energy bills, or the added 'flexibility' of having an upstairs spare room to use as a study.<sup>12</sup> In addition to these rebranding efforts, new products targeting the downsizer market have slowly emerged. These products are still limited to the higher-value areas of the UK (London and the South of England) and at the higher end of the private market, and tend to take the form of mid-rise serviced apartments and low-rise houses and bungalows.<sup>13</sup>

## Innovations

For developers and small builders seeking to deliver more innovative forms of housing, the two greatest barriers remain access to suitable and attractive sites and access to private finance. Access to development finance is primarily about proof of concept, profit margin and risk. On paper, downsizer homes should attract a lower risk than other types of housing development because there is evidence of strong demand and many third-agers are not dependent on mortgages to buy a new home. Exemplar case study developments from around the UK have demonstrated that the highest-quality general-needs developments – those designed to more generous internal space standards [-> SPACIOUS], outdoor space [-> GREEN], and shared facilities [-> SOCIABLE] - are attracting downsizers. However, with a shortage of tried and tested products on the market and other types of development receiving government backing, DWELL evidence suggests that developers and investors may decide that there is lower risk elsewhere.

Another common feature of downsizer homes is the need to be located near shops, services and transport links, where residents wish to live [-> CONNECTED]. This makes good sites difficult to secure, particularly in urban areas with competition from other commercial, retail, and hotel developments. Apartment developments have sprung up across towns and city centres in the past two decades, but these are predominately developed by the private rented sector (PRS), with smaller single-aspect units purpose-built for students and younger professionals who spend less time in the home and rent properties on short-term leases. Cities such as Manchester and Bristol have been successful at attracting people back to the city centre to live, work and socialise, but this progress has not necessarily extended to attracting those in their third-age to the extent that is commonly seen in other parts of Europe. Meanwhile developers, who are looking to provide an alternative mix of uses, tenures and typologies, often find it difficult to compete with the PRS sector and student housing providers who can build at higher densities with fewer requirements for outdoor amenity space and car parking. Planning policies are needed that can promote mixed use, and mixed typology schemes targeted at owner-occupiers who want to live at higher densities.

Of course, not all third-agers wish to live in apartment developments in town and city centres. At the other end of the spectrum, new ideas to promote higher-density suburban development have been proposed to prioritise accessible or downsizer development on smaller infill sites. This approach may require a re-think of planning policies around so-called 'garden grabbing' in order to support the 'gentle densification' of existing low-density suburban neighbourhoods.<sup>14</sup>

For a small but growing section of the market (currently 7 - 10% of new-build homes), self-build and custom-build procurement routes potentially offer much greater choice

*'The only way you're going to encourage people to downsize is to provide that wow factor...'*

*'It's about promoting a certain lifestyle, so someone can see themselves living in a place for the rest of their life.'*

Retirement Housing Director at a national UK housebuilder



and control, as self-builders are incentivised to invest in the sustainability, accessibility or adaptability of their home. There is evidence of unmet demand for self-build, custom-build and cohousing, but finding and buying a suitable site remain significant barriers for many would-be downsizers who wish to pursue this route.<sup>1</sup> Whether 'true' co-housing or 'co-housing lite', challenges remain for local planning authorities to support groups of potential downsizers to work together in order to achieve the higher densities needed to unlock more desirable sites.

## Summary

DWELL research indicates that we may soon reach a tipping point in terms of attitudes towards downsizing. There is clearly strong demand amongst a substantial proportion of third-agers, but the supply and choice of downsizer homes is being stymied by a lack of innovation and a failure to deliver joined-up housing policy.

The key priority for policy-makers and planners is to widen the focus beyond first-time buyers to expand delivery and choice. This also requires a shift in mentality: rather than seeing our ageing population as a 'problem' to be solved through solutions such as specialist housing, the aspirations and knowledge (and spending power) of third-agers should be viewed as an opportunity to deliver the next generation of high quality and sustainable homes - to regenerate and densify our neighbourhood and urban centres.

Downsizing in later life has an important role to play in supporting people to make the positive choices to improve their quality of life and future wellbeing. A dramatic expansion of this form of housing could also play a vital role in creating and sustaining age-friendly mixed-age neighbourhoods and communities that support people to remain active and engaged throughout their third and fourth age.

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# Appendix 1

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*Downsizer homes - breakdown  
of spatial requirements*

## Designing with Downsizers

LHDG REF	Additional requirement for downsizer homes	Reason	Priority	
			1	2
1.1	<i>Defining Places</i>			
	Demonstrate how the scheme contributes to creating an accessible, age-friendly local environment.	Promoting attractive/ accessible walking routes and reduce barriers to movement.	√	
2.2	<i>Residential Mix</i>			
	Acknowledge the diversity of older households and the need to provide a mix of different sizes and types of dwellings for older people.	Avoiding ageism, attracting downsizers, increasing flexibility.	√	
3.1	<i>Entrance and Approach</i>			
	Provision for semi-private/ external seating area outside private entrance to dwelling.	Space to rest or put down bags before entering the dwelling.		√
3.3	<i>Car Parking</i>			
	Consider ratios of resident + visitor parking, particularly in apartment developments.	Increasing numbers of older drivers and downsizers looking for developments with private car parking.		√
3.4	<i>Cycle and Scooter Storage</i>			
	Cycle storage areas designed in a way that they can accommodate the storing and charging of mobility scooters. Storage spaces should be secure, sheltered and adequately lit, with charging points and convenient/ level access to the street. Where cycle/ scooter storage is provided within the home, it should be in addition to the minimum GIA/ storage requirements.	Increasing ownership of electric mobility scooters.	√	
4.4	<i>Living, Dining and Kitchen Areas</i>			
	Allow for 2 no. additional 600mm wide units and 1 no. additional full height larder cupboard in kitchens for accessible storage. Additional 2.0 sq m to min. GIA.	High/ low cupboard spaces are less usable by people with reduced physical mobility.	√	
4.6	<i>Bathrooms and WCs</i>			
	Provide at least one accessible shower on the same floor as the main bedroom (this can be provided in place of a bath).	Reduces the future cost of converting a bathroom to a wetroom.	√	
	Provide a second WC to dwellings designed for more than one person.	Separate access to WC for convenience (particularly important for people with reduced mobility/ bladder capacity).	√	
4.7	<i>Storage and Utility</i>			
	Allow for more storage space (as freestanding or built-in cupboards) than the LHDG min. requirements. This may be provided within bedrooms as additional wardrobe space. Additional 0.5 sq m for a 1 bed dwelling and 1 sq m for 2-3 bed dwellings.	Older households have typically built up more possessions and are likely to be discouraged from downsizing due to a lack of storage.	√	
	Allow for storage/ charging space for mobility aid within circulation space (also usable as flexible storage space/ pets). Additional 2.0 sq m to min. GIA.	Additional flexibility for current and future mobility requirements.	√	
5.5	<i>Daylight and Sunlight</i>			
	Target average daylight factor of 2% in kitchens and 1.5% in living rooms/ dining rooms. See BS-8206-2: 2008 for technical guidance.	Daylight increasingly important for wellbeing including people with visual impairment/ dementia	√	

## Appendix 1

Table opposite - recommended additional considerations for the design of downsizer homes in the format of the London Housing Design Guide (2010) <https://www.london.gov.uk/sites/default/files/Interim%20London%20Housing%20Design%20Guide.pdf>

Dwelling type	Living/ dining/ kitchen	Bedrooms	Bathrooms	Storage/ Utility	Circ	Partition walls	Outdoor private amenity (not inc in GIA)	Total recommended GIA. for downsizer homes
Single storey								
1 bed (1-2 person)	23 + 2	12	4.5	1.5 + 2.5	6.5	2.5	(5)	55
2 bed (1-3 person)	25 + 2	12 + 8	4.5 + 2.5	2 + 3	6.5	3	(6)	69
2 bed (1-4 person)	27 + 2	12 + 12	4.5 + 2.5	2.5 + 3	8.5	3.5	(7)	78
3 bed (2-5 person)	29 + 2	12 + 12 + 8	4.5 + 2.5	3.5 + 3	10.5	4.5	(8)	93
Two storey								
2 bed (1-4 person)	27 + 2	12 + 12	4.5 + 2.5	2.5 + 3	19	3.5	(7)	88
3 bed (2-5 person)	29 + 2	12 + 12 + 8	4.5 + 2.5	3.5 + 3	19	4.5	(8)	100

DWELL recommended additions to the London Housing Design Guide - gross internal areas (GIA).

Note - DWELL additions are highlighted in blue.

Dwelling type	LHDG/NSS essential GIA.	Cat 2 typical GIA.	Category 3 typical GIA.	DWELL recommended GIA. for downsizer homes
Single storey				
1 bed (1-2 person)	50	50	60	55
2 bed (1-3 person)	61	62	73	69
2 bed (1-4 person)	70	70	88	78
3 bed (2-5 person)	86	87	104	93
Two storey				
2 bed (1-4 person)	77-79	85	111	88
3 bed (2-5 person)	83-86	100	116	100

Summary of differences between existing housing standards and recommendations for downsizer homes - gross internal areas (GIA). DWELL additions are highlighted in blue.

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All images & photos by Adam Park/ DWELL  
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