Design and Cost Considerations in Extra Care Housing.

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RLB Rider Levett Bucknall

Image: Village 135, Wythenshawe

Image: Mariners Park, Wallasey

Contents.

Introduction.

There is an ageing population in the UK and the Office for National Statistics forecasts that the number of people over the age of 60 is to increase by 7 million over the next 25 years with nearly 60 percent of the projected increase in the number of households from 2008–2033 headed by someone aged 65 years of age or over. With this in mind and as set out in the Government's Home of 2030 competition[1]:

"making new homes desirable to all demographics is a key to the Home of 2030 challenge, ensuring that homes can adapt to changing needs and in particular working for an ageing society allowing people to live at home longer. Our homes also need to support our health and social care services, helping them become more proactive than reactive."

However, there are the effects of financial pressures affecting the provision of housing for older people through reductions in both revenue funding for local authority commissioned planned care and uncertainty over capital funding and grant rates to meet build costs, amongst other issues. Therefore, planning, designing and developing viable specialist housing for an ageing population requires careful consideration. Schemes can stack up, they should not simply be put into the "too difficult box!".

Whatever the tenure status in developing affordable or private housing for older people, developers need to better identify housing solutions that meet the expectations and demands of the challenge of housing an ageing population including extra care housing.

Indeed, it has been an increasingly popular 'care ready' housing choice to address this need, as the Local Government Association highlighted in its 2017 report[2], **"we need a 'residential revolution' to meet the growing housing needs and aspirations of an ageing population".**

Moreover, in meeting this demand, a 2019 Urban Land institute UK Later Living guide: Housing with Care explained:

"Successful developments need to be characterful and homely with features required to deliver care being invisible or unobtrusive. They must balance privacy and sociability and enable independence without loneliness. Through skillful design, every development can achieve the aspiration that a resident's last home is their best home, an exciting move, not merely a necessary one."

This cost modelling document updates the 2015 report. A lot has happened in the intervening five years that has impacted our modelling, including fire safety post Grenfell and infection control due to Covid-19, most recently. However, the pace of change in the way we design and build housing for our ageing population is unabated. There have been significant advances in the deployment of technology, the utilisation of materials and the adoption of innovative and sustainable construction techniques. This document provides an overview of these with particular attention to issues associated with the design and procurement of extra care housing and factors that can influence construction costs. A typical cost model is included at the end of this document.

[1] https://www.homeof2030.com/
[2] https://www.local.gov.uk/sites/default/files/documents/5.17%20-%20Housing%20our%20ageing%20population_07_0.pdf

Image: Hare Hill, Rochdale

"We need a 'residential revolution' to meet the growing housing needs and aspirations of an ageing population."

Image: Hare Hill, Rochdale

What is Extra Care Housing?

As outlined in the Housing LIN factsheet and a series of videos[4], extra care housing is also known as Assisted Living, Housing with Flexi-care and Supported Housing. It is self-contained homes with design and support features to enable independent living. Extra care housing developments are most often built in the form of apartments accessed from a corridor in a single building but they can also be bungalows or houses.

Extra care housing schemes aim to create a 'home for life' where care is brought directly to the residents as needed. Residents should not have to move because their care needs change, the building design and construction is flexible and adaptable to accommodate an individual's changing needs and circumstances, this is widely recognised as 'ageing in place.'

Extra care developments also have shared communal facilities - the key factor that differentiates them from sheltered housing or retirement housing is the provision of 24-hour care staff on site, care is not brought in on a visiting basis.

The size and scale of extra care schemes can vary from circa 40 apartments with modest communal areas to large extra care 'villages' of 200-300 apartments, creating an economy of scale to support extensive communal facilities.

There are several developments around the UK that have an extra care housing facility within a larger campus or 'village' that also contains a care home and retirement housing.

With land and construction costs increasing, there is pressure for higher density developments that cater for a wide range of needs including to support people with a long-term condition and/or dementia (see below). There is also a growing interest in how extra care housing can become more intergenerational and offer 'age inclusive' independent accommodation with care and support. For example, for people with a learning disability.

[4] https://www.housinglin.org.uk/Topics/browse/HousingExtraCare/what-is-extra-care/

HAPPI

The influential HAPPI reports (Housing our Ageing Population Panel for Innovation) examine a range of issues with the provision of age-appropriate housing:

- HAPPI 1: Focus on design and makes 10 recommendations for good design
- HAPPI 2: Concentrates on the delivery of housing for an ageing population
- HAPPI 3: Examines the access for older people to a range of housing plus the delivery and management of services
- HAPPI 4: Issues for older people in rural communities
- HAPPI 5: Explores issues for older people living in rented housing

The HAPPI reports can be downloaded from https: https://www.housinglin.org.uk/Topics/browse/Design-building/HAPPI/

"Extra care schemes aim to create a 'home for life' where care is brought directly to the residents as needed."

Image: Hare Hill, Rochdale

Design Considerations for Extra Care Housing.

The design of the built environment can have a significant impact on older people. Design should create an enabling environment that gives people independence, choice, maintain their lifestyle and contact with the wider community. The National Design Guide[5] recognises this and states:

“Well-designed places include a variety of homes to meet the needs of older people including retirement villages, care homes, extra-care housing, sheltered housing, independent living and age-restricted general market housing. They are integrated into new settlements with good access to public transport and local facilities.”

With regard to extra care housing, well-designed developments can:
• Create ergonomic homes and spaces for a multitude of lifestyles and needs
• Provide services and solutions that help to compensate for the impairments of old age such as reduced mobility, vision, hearing and cognitive decline (including dementia). Older people can also be more sensitive to changes in temperature so careful consideration to the environmental design is important
• Create an environment that is comforting, that people can be proud of and which enhances the quality of life
• Facilitate the efficient delivery of care and support for the residents as well as enabling staff to manage the buildings efficiently and respond to changing needs
• To create opportunities for residents to have privacy, comfort, support and companionship, both in their own private spaces and as part of a vibrant community
• Act as a comforting community hub and resource base without compromising the privacy and security of the people who live there
• Provide a mix of tenure options and the flexibility to adapt to care needs and market conditions
• Balance the commercial issues of construction and operating costs with creating a domestic lifestyle

For more about designing extra care housing, check out the Housing LIN factsheet no.6 (updated 2020) available at: https://www.housinglin.org.uk/News/Design-Principles-for-Extra-Care-Housing/

[5] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/843468/National_Design_Guide.pdf

Image: Cable Drive, Helsby

There are several challenges that extra care housing faces and that influence the design and layout of extra care developments.

Communal areas - Extra Care Housing ‘Lite’

Underused communal spaces are costly to build and do not tend to be revenue earning. There is anecdotal evidence from many extra care schemes that fewer but flexible/multi-use communal spaces work best.

Extensive communal facilities are reflected in a costly service charge which can put the cost of living at the development out of reach for potential residents. Consequently, there is pressure to reduce the extent of communal spaces and to have a multi-use of these spaces.

There has been a trend in recent years for extra care ‘lite’ developments of a modest provision of communal spaces. However, it is important that the scale and proportion of internal spaces creates a feeling of spaciousness without feeling empty.

Public Access

Many extra care housing schemes open their communal facilities to the wider public, creating a community ‘hub’ with varying degrees of success.

An analysis of local community amenities is essential to identify a need and influence the provision of suitable communal facilities within an extra care scheme. Likewise, communal facilities should complement, not compete with amenities and facilities in the neighbourhood.

Safety and security are key considerations with secure doors to separate public areas from resident only areas, with the building layout facilitating natural surveillance of public areas to avoid any blind spots.

To address security issues some extra care schemes are only open to the public during office hours i.e. when a reception desk or office is staffed. Out of hours access is often via an intercom to the night staff or direct to a resident’s apartment although the latter can create security issues.

Image: Mariners Park, Wallasey

Location

Prime residential sites, with proximity to local amenities and transport links are expensive to acquire which is then reflected in the cost/rent to the end user.

Consequently, if residents are paying a financial premium to live at the development, they will expect high quality finishes, fixtures and fittings, spaciousness and a high quality of service.

All this influences the build cost of the extra care scheme, putting pressure to squeeze as much out of a site as possible. A fundamental briefing issue is the decision to either:

- Have more apartments by making them smaller
- Or, a fewer number of apartments that can command a higher rent/sale because of their size or quality

Local demand and location are a major influence in the decision-making process.

To include more homes, extra care developments either have to increase their height – with associated planning consent challenges - and/or reduce communal spaces to a minimum.

For extra care developments with a financial model based on social/affordable rent, there is potentially a lower capital receipt than if the site were sold on the open market to a developer. Therefore, there must be a justification to the local authority for receiving a lower capital receipt for the land. Addressing a proven need for extra care housing in the area is essential.

Less expensive sites are often found in less desirable areas with poorer local amenities and transport links, though it can be the case that extra care developments become a catalyst for the regeneration of a neighbourhood.

Image: Village 135, Wythenshawe

"Extra care developments can be a catalyst for the regeneration of a neighbourhood."

Image: Village 135, Wythenshawe

Two-bedroom apartments vs. One-bedroom apartments

Two-bedroom apartments can be more flexible in use but also take up more space on site, resulting in less homes overall.

Two-bedroom apartments can also be too large for people used to living in a small flat or house. One-bedroom apartments are less flexible but there are extra care schemes that have 'one-bed plus' apartments which allow a large living space to be reduced in size to create a second bedroom.

Future Proofing - design and planning

A fundamental concept of extra care housing is that the building adapts to an individual's changing needs.

In terms of design standards, extra care housing should be designed and built to Approved Document M4 Category 2 (accessible and adaptable dwellings) of the Building Regulations as a minimum. These equate to Lifetime Home Standards. Consideration should also be given to the HAPPI design principles. Housing providers may also require several units to be designed and built to Approved Document M4 Category 3 (Wheelchair User dwellings) should there be a local need.

The construction of walls and ceilings should be robust enough to easily install hoists, grabrails etc in the future, if required.

Achieving a planning consent for Planning Use Class C3: Dwellinghouses is preferred by many developers/ financiers as this allows for resale or conversion of the scheme to general residential use should the extra care use not be sustainable. For example, the withdrawal of local authority commissioned care and support.

Technology also has a role to play in future proofing, as explained in further detail below.

For more about accessible housing and homes built to HAPPI design principles, visit the Housing LIN 'design hub' at: https://www.housinglin.org.uk/Topics/browse/Design-building/HAPPI/

Technology

Assistive technology has a key role to play in helping people to maintain their independence. The pace of technological change is increasing all the time.

Until recently, many technology systems have been stand-alone, resulting in separate infrastructure for staff calls, fire alarms, etc. Co-ordination between technology suppliers is now resulting in compatible systems such as fire alarms linked to staff calls (should a fire alarm be activated, staff can investigate if this is a false alarm or not).

Existing ISDN and PSTN telecom networks will be turned off between 2020 to 2025 and while switching to VoIP is recommended, ensuring enough bandwidth availability is essential. Many extra care developments also hard wire CAT5 cabling as a back-up system but this adds to the build cost.

For more about technology enabled care and housing, visit the Housing LIN's Going Digital/Telecare pages at: https://www.housinglin.org.uk/going-digital/

Circulation spaces

The first HAPPI report recommends single bank circulation for ideal natural light and ventilation. However, economic viability often requires double bank corridors to achieve the required number of homes on a site.

Creating breaks/alcoves/recesses in corridors can allow daylight and ventilation into the circulation spaces. Building Regulation requirements for high levels of thermal insulation can cause issues of overheating with double bank corridors, so an effective ventilation strategy is essential.

Corridor widths are a key consideration. Wider corridors can allow two mobility scooters to pass each other but this can take up space and add to costs. 1800mm wide corridors are usually the most common solution with alcoves for scooter passing and seating areas as a resting place.

Image: Belong, Warrington

Image: Pencric, Staffordshire

Image: Pickmere Court, Crewe

Image: Pencric, Staffordshire

Off-site Manufacturing / Modern Methods of Construction (MMC)

There is a significant shortage of purpose-built housing for older people of all types from sheltered housing to extra care. There is also a shortage of skilled construction trades in the UK and the cost of building materials is rising. Therefore, off-site manufacturing will play an increasingly important role in the construction industry, in delivering both cost-effectively at scale and qualitatively

There is a definition framework of Modern Methods of Construction (MMC)[6] which includes volumetric whole building modules, bathroom pods, wall and floor panels, roof trusses and prefabricated stairs.

Economy of scale and access to the site from the factory are two key considerations. A greater degree of repetition leads to more cost-effectiveness but this must be balanced against avoiding a monotonous appearance. Access to the site, from the factory for vehicle delivery of the off-site units and for use of a crane is critical, and low bridges and narrow lanes en route may rule out transporting large modular unit construction.

Timber frame extra care schemes have been tried but experience has shown robustness, acoustic and vibration transmission can be issues. Steel frame construction is more common with commercial buildings but is beginning to be used for extra care housing schemes because of the increased speed of construction they allow.

Bathroom ‘pods’ can be efficient and accelerate site construction though timing of site delivery and sequencing is critical as delay can mean floors above cannot be finished until the pod is installed.

6 http://www.cast-consultancy.com/wp-content/uploads/2019/03/MMC-I-Pad-base_GOVUK-FINAL_SECURE.pdf

Fire Safety

Post-Grenfell, established ‘stay put’ and ‘stay safe’ fire strategies and conventional fire protection measures are being reviewed with a great degree of scrutiny. Fire strategies for extra care developments will inevitably become more detailed and complicated. Fire suppression systems such as sprinklers and water mist systems are being fitted and retrofitted into extra care schemes. Facilities management processes to ensure fire doors, smoke seals etc. are properly maintained and in good working order will also become increasingly important.

The management of the building is just as important because how the building is staffed will influence the fire strategy and design. However, as the housing provider and care provider can be two separate organisations – and the care provider can change - there is a risk that staff may not understand the fire strategy and the rationale behind it. Continuity is essential with an easily accessible and understood fire management plan and inductions at handover to new staff.

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For more about current fire safety and fire prevention in extra care housing, visit the Housing LIN’s asset management pages at: https://www.nationalfirechiefs.org.uk/write/MediaUploads/NFCC%20Guidance%20publications/NFCC_Specialised_Housing_Guidance_-_Copy.pdf

Building Management

The design and layout of an extra care scheme can enable staff efficiency through reduced circulation spaces, multi-use of spaces and taking advantage of natural surveillance.

The specification of low or zero maintenance materials, systems and robustness of materials and finishes can reduce the maintenance burden on the housing provider.

Complex technology can be confusing, therefore easyto-use systems are essential. Even with a thorough handover and commissioning process, this will only be successful if there is continuity of staff.

“Off-site manufacturing will play an increasingly important role in the construction industry.”

Image: Mariners Park, Wallasey

Trends in the development of Extra Care Housing.

Current trends in the design and development of extra care housing include:

Community hubs:

As previously mentioned, many extra care schemes are open to their wider neighbourhood, allowing them to function as valuable community hubs. Public access to communal facilities brings life and activity within the scheme and gives residents the chance to still be part of the wider community.

Of course, extensive communal facilities that are underused can be wasteful and therefore flexible multi-use of spaces is becoming increasingly important particularly where space is at a premium.

There are extra care schemes that have become a focus for integrated working to meet housing, health and social care needs, acting as a base for local homecare, health and social services.

Other schemes have links with local colleges that can use the commercial kitchen, hair salon and care services to provide practical training for catering, hairdressing and social care students.

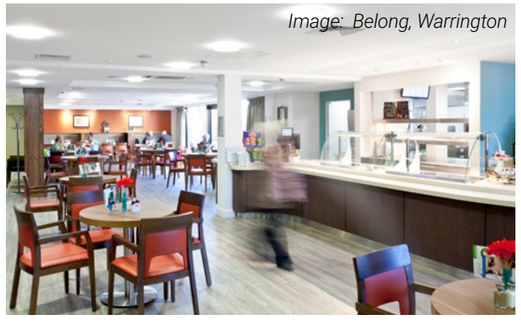


Image: Belong, Warrington

Image: Kingsway, Chester

Health and Care Partnerships

Extra care housing is becoming recognised as an essential component of joint commissioning by local authority health and social care departments. It has a role for intermediate care / step-down / rehabilitation care - helping to overcome bed-blocking - that is generating a growing interest amongst NHS Acute Hospital Trusts, Clinical Commissioning Groups and Primary Care Networks.

The care provider in an extra care housing scheme may be unknown at the design stage and therefore unable to input into the design process. This brings the risk of having to alter the completed building to suit a care provider's requirements. Care packages may also be re-tendered after two - four years so a new care provider may have a different set of requirements.

Some local authorities have seen extra care as a replacement for residential care and have closed care homes and relocated residents with high dependency needs into extra care schemes. Whilst the financial motives for this are obvious, anecdotal evidence indicates that for people with advanced dementia, severe mobility issues or nursing care, extra care is not always suitable and specialised residential care is more appropriate.

To view more resources that make the connection between health and housing, visit the Housing LIN's Health Intel at: https://www.housinglin.org.uk/Topics/browse/HealthandHousing/

Intergenerational Housing / Regeneration

Extra care housing is also seen as integral to creating sustainable mixed communities alongside starter homes and family homes. There are housing estate regeneration schemes that have extra care housing at their heart and as a community hub.

Extra care housing is more frequently seen as the 'affordable housing' contribution in Section 106 agreements attached to planning consents, creating the opportunity to provide extra care housing within a larger residential or regeneration development. Providing attractive, suitable homes for older people to move can release much needed family houses onto the market.

Providing extra care developments within existing residential communities allows people to remain in their community, not having to move elsewhere. The concept of intergenerational housing applies to a wider neighbourhood, not just to a single building.

For more on intergenerational living, visit the dedicated Housing LIN pages at: https://www.housinglin.org.uk/Topics/browse/Housing/HousingforOlderPeople/intergenerational-housing/

Dementia

There are differing views regarding the suitability of extra care housing for people with dementia. Extra care housing can be suitable for people with early onset dementia and as their dementia increases, their neighbours can help look after them. However, problems arise when people with advanced dementia move into an extra care scheme and cannot settle into their new environment.

The Alzheimer's Society and others have worked to produce the Dementia-Friendly Housing Charter[7] and, more recently, a dementia-friendly housing guide[8]. These documents are aimed at housing providers to enable them to become a dementia-friendly organisation at all levels.

The Housing LIN also has a range of other extensive materials relating to housing and dementia and dementia-friendly communities at:

https://www.housinglin.org.uk/Topics/browse/HousingandDementia/

[7] https://www.housinglin.org.uk/_assets/Resources/Housing/OtherOrganisation/AlzheimersSociety_HousingCharter.pdf

[8] https://www.alzheimers.org.uk/sites/default/files/2020-06/Dementia%20Friendly%20Housing_Guide.pdf

Image: Westhorpe Gardens, London

Image: Pickmere Court, Crewe (new build)

Climate Change / Sustainability

The impact of climate change will influence the design of extra care housing in the future especially as older people can be more sensitive to changes in temperature.

Whilst Building Regulations have an emphasis on energy efficiency, warmer summers can lead to overheating especially with double banked corridors. An effective ventilation strategy is essential.

The Government's proposed Future Homes Standard[9] mandates the end of fossil-fuel heating in new homes from 2025, thus placing an emphasis on renewable energy.

Whilst the UK electricity grid has been de-carbonising, electricity is still more expensive than gas or renewable energy. Potentially, ongoing energy costs for extra care schemes could rise if thermal insulation and ventilation are not considered from the outset.

The Climate Change Act requires all new buildings to be net zero carbon by 2050. Several local authorities have set their own targets for net zero carbon. (Net zero carbon buildings do not require any carbon sourced energy to be imported).

Achieving net zero carbon requires high levels of thermal insulation with all requirements for energy (e.g. lighting) coming from renewable sources. Again, there is a cost implication with achieving this, although market demand has seen the cost of on-site renewable energy (e.g. PV cells, air-source heat pumps, etc) falling in recent years.

[9] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/852605/Future_Homes_Standard_2019_Consultation.pdf

Considerations when converting sheltered housing to Extra Care Housing.

Many registered providers have outdated sheltered housing and are considering converting (also known as remodelling) these properties to extra care housing. In principle, this should be a sensible approach as part of a stock condition appraisal or sheltered housing review. However, practicalities often prevent successful conversions.

Typically, sheltered housing flats are under-sized, sometimes only bedsits. Their corridors may be narrow, creating problems for wheelchair users, flat layouts often provide poor mobility access, requiring internal replanning and lifts may be undersized for wheelchair or bed / stretcher use.

Additionally, value added tax is payable on conversions which, when taken with other costs, may make a new build solution a more attractive option.

Another factor to consider is that sheltered housing has care on a visiting basis with no staff facilities. As extra care provides care on-site 24/7, there may be the need to convert an existing residential unit to staff facilities, which can further affect the financial viability of the redevelopment.

Engaging with residents is essential. The disruption and relocation can be too much for some people who would prefer to move to a different location altogether rather than face the stress of construction work around them.

For more on the Housing LIN website on remodelling or converting sheltered housing, visit: https://www.housinglin.org.uk/Topics/browse/HousingExtraCare/Commissioning/Remodelling/

Image: Pickmere Court, Crewe (conversion of sheltered housing)

Planning Policy.

Planning Use Class

The Planning Use Class definitions for residential developments include:

- **C2 Residential Institutional: "Use for the provision of residential accommodation and care to people in need of care (other than a use within class C3 (dwelling houses). Use as a hospital or nursing home. Use as a residential school, college or training centre."**
- **C3 Dwellinghouse: "Use as a dwellinghouse (whether or not as a sole or main residence) (a) by a single person or by people living together as a family, or (b) by not more than 6 residents living together as a single household (including a household where care is provided for residents)."**

Generally speaking, C2 Residential Institutional planning use usually requires a care provision on site. Anecdotally, a minimum of two hours of domiciliary care per week per person appears to be a minimum threshold to achieve a C2 classification.

If care is provided on a visiting basis, then a development may be classed as C3 Dwelling houses – requiring CIL, Open Space contributions, affordable housing, etc, which can affect the scheme's viability.

C3 planning applications are common for extra care schemes but with planning conditions or covenants restricting use (e.g. residents must have a recognised care need or over the age of 55).

There have been instances when an extra care scheme is defined as 'sui generis' in planning terms. The definition of sui generis by local authorities is open to interpretation, which in turn creates confusion and inconsistency across planning authorities. This can involve protracted planning applications with an increase in time and costs to the client.

Planning Space Standards

The Housing LIN design factsheet recommends a generous floor area. The Nationally Described Space Standards (NDSS)[10] and the London Housing Design guide[11] are less generous in their floor areas for one-bed two-person apartments. However, note not all Local Authorities have adopted the NDSS.

	Min. gross internal floor area	Including built in storage	HLIN Design factsheet
One-Bed two-person apartment	50.0m2	1.5m2	54.0m2
Two-Bed Three-person apartment	61.0m2	2.0m2	68.0m2

Current Planning Policies require local authorities to determine the provision of Wheelchair Category 2 (accessible and adaptable dwellings) and Wheelchair Accessible Class 3 (wheelchair user) dwellings. Anecdotally, this need tends to be driven by the local authority Adult Social services department.

Further guidance on wheelchair housing design can be found in the updated RIBA guide (3rd edition)[12].

For more about national and local planning guidance and resources to inform planning decisions, visit the Housing LIN's planning portal at: https://www.housinglin.org.uk/Topics/browse/Planning/

[10] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/524531/160519_Nationally_Described_Space_Standard____Final_Web_version.pdf

[11] https://www.london.gov.uk/what-we-do/housing-and-land/improving-quality/housing-design

[12] https://www.architecture.com/riba-books/books/residential-and-domestic-buildings/houses-flats/product/wheelchair-housing-design-guide.html

Considerations for Infection Control.

Covid-19 has impacted on every aspect of our lives and has caused registered providers and their consultant teams to reassess their building management protocols and the design and cost implications to mitigate the spread of Covid 19, NovoVirus, flu and other transmittable infections and viruses.

Many issues concerning managing the spread of infection can be addressed by careful building management and with the Covid-19 pandemic, most registered providers are providing care and support by adapting their practices rather than needing to change their buildings.

However, there are elements to the design of extra care housing to be considered which may reduce transmission risk of infection and reduce pressure on building management. These design elements could include:

- Social distancing:
    - Circulation spaces of wider corridors and passing places in corridors
    - Larger common areas
    - A one-way system for stairs and/or circulation areas
- Apartments grouped in clusters or wings, which could be isolated in the event of illness
- Avoiding pinch points in circulation e.g. providing alternative access routes to gardens and common areas
- Balconies for everyone to have access to outdoor space
- Larger garden areas with wide paths, one-way routes, distance seating, etc.
- Better use of natural ventilation
- Gallery access or single banked corridors to reduce the number of people using a corridor
- Adaptable and flexible use of spaces
- Separate staff/visitor and resident entrance and exits to reduce the risk of infections being introduced into the scheme
- Staff changing and visitor screening near entrances
- PPE storage, hand wash/hand sanitising stations
- Technology to restrict the number of people in a lift
- Technology to enable social contact between residents/staff/relatives

Many of these design decisions such as wider corridors and larger common areas will have cost implications. Others may not be practical for people with mobility impairments or dementia. Assessment of the practicality, cost and programme implications of such design decisions is an essential part of the briefing process for both new-build and adaptations to existing extra care schemes.

The construction and property sectors have been affected by the Covid-19 crisis with the potential for rising costs and longer delivery programmes of extra care schemes (and other building developments) due to:

- Delays in the supply of construction materials, within the UK and abroad
- Reduced workforce on building sites due to social distancing, leading to longer construction programmes
- Insolvency of building contractors, specialist sub-contractors and suppliers
- Public-sector resources earmarked for construction investment may be diverted to deal with the Covid-19 crisis

However, once the Covid19 crisis is over there may be new guidance for new-build and the refurbishment of extra care facilities. If this leads to an increase in construction projects then the increased demand should then lead to a stabilisation of construction costs generally.

The Covid-19 crisis has also highlighted how transmittable viruses can rapidly spread in a care home environment. Anecdotally, there are reports of families are taking their relatives from a care home environment and seeking alternatives. Extra care housing is seen as an alternative which can increase demand. however, extra care housing may not be suitable for people living with dementia or with complex needs so there will always be a place for residential care accommodation.

Cost Model.

The cost models below are based on a 57nr apartment supported living facility located in the West Midlands tendered in Q3 2017; a 104nr unit care and extra care facility located in Birkdale, in the North West (Southport) tendered in Q3 2017; and a 36nr extra care apartment scheme located in Fallowfield, South Manchester tendered in Q1 2018. The costs have been adjusted to reflect 2nd Quarter 2020 costs.

	Scheme 1					Scheme 2				
Description	**Sub-total**	**Total**	**% of total**	**Adjusted Total**	**Adjusted £/m2**	**Sub-total**	**Total**	**% of total**	**Adjusted Total**	**Adjusted £/m2**
Enabling Works		**£163,386.10**	**2.06%**	**£178,819.97**	**£32.86**		**£61,913.00**	**0.55%**	**£67,761.46**	**£9.63**
Demolition and Site Clearance	£163,386.10					£61,913.00				
Substructures		**£623,696.63**	**7.85%**	**£682,612.60**	**£125.43**		**£538,381.00**	**4.79%**	**£589,237.84**	**£83.76**
Substructures	£305,018.01									
Standard Foundations						£315,174.00				
Piled foundations	£72,293.38					£80,869.00				
Substructure masonry	£76,429.50									
Ground floor slab	£169,955.74									
Lowest Floor Construction						£142,338.00				
Superstructures		**£1,101,666.90**	**13.86%**	**£1,205,733.15**	**£221.56**		**£2,736,343.00**	**24.34%**	**£2,994,824.91**	**£425.70**
Frame	£110,466.82					£795,925.00				
Upper Floors	£222,892.42					£379,956.00				
Balconies	£106,348.01					£29,382.00				
Roof coverings	£224,932.64					£296,554.00				
Roof drainage	£10,714.64					£24,693.00				
Roof structure						£59,171.00				
Rooflights, Skylights, and Openings						£13,020.00				
Stair structures	£22,800.00					£37,759.00				
Stair balustrades	£34,562.00					£33,753.00				
External walls	£361,468.37					£1,066,130.00				
External wall lintels	£7,482.00									
Windows and Doors		**£341,932.74**	**4.30%**	**£374,232.58**	**£68.77**		**£475,976.00**	**4.23%**	**£520,937.90**	**£74.05**
External Windows and Doors	£341,932.74					£475,976.00				
Internal Walls, Partitions, Windows and Doors		**£537,292.42**	**6.76%**	**£588,046.43**	**£108.06**		**£900,047.00**	**8.01%**	**£985,067.73**	**£140.02**
Internal walls	£198,166.05					£475,435.00				
Internal wall lintels	£3,805.00									
Internal walls and partitions (blockwork)	£170,239.89									
Internal doors	£165,081.48					£305,648.00				
Balustrades and Handrails						£32,606.00				
Cubicles						£86,358.00				
Internal Finishes		**£865,129.32**	**10.88%**	**£946,851.63**	**£173.99**		**£1,229,207.00**	**10.93%**	**£1,345,321.02**	**£191.23**
Wall finishes	£223,233.59					£300,227.00				
Floor finishes	£269,832.57					£201,104.00				
Ceiling finishes	£138,080.66					£245,432.00				
Fittings, Furnishings & Equipment	£213,982.50					£482,444.00				
Client wayfinding signage	£20,000.00									
Decoration										
M&E Service Costs		**£1,698,540.97**	**21.37%**	**£1,858,989.47**	**£341.60**		**£2,587,718.00**	**23.02%**	**£2,832,160.42**	**£402.58**
Sanitary fittings and	£69,528.03					£64,102.00				
Heat source	£768,439.20									
Electrical system	£776,612.50					£1,027,714.00				
Sprinkler system	inc									
Lifts	£66,590.30					£67,676.00				

continued below

	Scheme 3					Average			
Description	**Sub-total**	**Total**	**% of total**	**Adjusted Total**	**Adjusted £/m2**	**Total**	**% of total**	**Adjusted Total**	**Adjusted £/m2**
Enabling Works		**£35,631.29**	**0.73%**	**£36,724.27**	**£11.48**	**£86,976.80**	**1.11%**	**£94,435.23**	**£17.99**
Demolition and Site Clearance	£35,631.29								
Substructures		**£225,763.83**	**4.60%**	**£232,689.10**	**£72.74**	**£462,613.82**	**5.74%**	**£501,513.18**	**£93.98**
Substructures	£225,763.83								
Standard Foundations									
Piled foundations									
Substructure masonry									
Ground floor slab									
Lowest Floor Construction									
Superstructures		**£1,177,172.68**	**23.97%**	**£1,213,282.27**	**£379.27**	**£1,671,727.53**	**20.72%**	**£1,804,613.45**	**£342.18**
Frame	£89,688.10								
Upper Floors	£229,439.01								
Balconies									
Roof coverings									
Roof drainage									
Roof structure	£221,391.57								
Rooflights, Skylights, and Openings									
Stair structures									
Stair balustrades									
External walls	£636,654.00								
External wall lintels									
Windows and Doors		**£237,963.61**	**4.85%**	**£245,263.11**	**£76.67**	**£351,957.45**	**4.46%**	**£380,144.53**	**£73.16**
External Windows and Doors	£237,963.61								
Internal Walls, Partitions, Windows and Doors		**£264,596.55**	**5.39%**	**£272,713.01**	**£85.25**	**£567,311.99**	**6.72%**	**£615,275.72**	**£111.11**
Internal walls	£136,296.15								
Internal wall lintels									
Internal walls and partitions (blockwork)									
Internal doors	£128,300.40								
Balustrades and Handrails									
Cubicles									
Internal Finishes		**£458,928.58**	**9.34%**	**£473,006.14**	**£147.86**	**£851,088.30**	**10.39%**	**£921,726.26**	**£171.03**
Wall finishes	£90,914.09								
Floor finishes	£84,735.02								
Ceiling finishes	£72,906.21								
Fittings, Furnishings & Equipment	£127,450.35								
Client wayfinding signage									
Decoration	£82,922.91								
M&E Service Costs		**£1,424,702.84**	**29.01%**	**£1,468,405.38**	**£459.02**	**£1,903,653.94**	**24.46%**	**£2,053,185.09**	**£401.07**
Sanitary fittings and									
Heat source									
Electrical system	£549,761.99								
Sprinkler system	£62,291.25								
Lifts	£66,155.00								

continued below

Cost Model.

	Scheme 1					Scheme 2				
Description	**Sub-total**	**Total**	**% of total**	**Adjusted Total**	**Adjusted £/m2**	**Sub-total**	**Total**	**% of total**	**Adjusted Total**	**Adjusted £/m2**
Mechanical installations	£7,185.47									
BWIC Electrical	£7,185.47									
Communal buggy scooter	£3,000.00									
Mains water supply						£1,428,226.00				
Builders work in connection with services										
External Works		**£384,684.69**	**4.84%**	**£421,022.98**	**£77.37**		**£590,107.00**	**5.25%**	**£645,850.01**	**£91.81**
Roads and pavings	£256,353.95					£165,122.00				
Offsite roads and pavings	£2,079.26									
Soft Landscaping	£42,743.00					£21,023.00				
Walls	£22,882.25					£94,397.00				
Fencing	£16,690.23					£27,475.00				
External Fixtures	£41,436.00					£4,316.00				
External Services	£2,000.00					£59,564.00				
Street lighting and signage	£500.00									
Preparatory Groundworks						£218,210.00				
Drainage		**£200,564.79**	**2.52%**	**£219,510.65**	**£40.34**		**£189,337.00**	**1.68%**	**£207,222.25**	**£29.46**
Storm drainage	£52,723.00									
Foul drainage	£51,203.32									
Attenuated drainage	£16,500.00									
Diverted drainage	£80,138.47									
Surface water						£181,030.00				
ancillary drainage						£3,976.00				
land drainage						£4,331.00				
Specialist Installations							**£38,240.00**	**0.34%**	**£41,852.25**	**£5.95**
Builders work in connection with services						£38,240.00				
Minor Building works and ancillary buildings							**£74,928.00**	**0.67%**	**£82,005.89**	**£11.66**
Ancillary Buildings						£74,928.00				
Prov Sums							**£31,000.00**			
External Services		**£243,262.90**	**3.06%**	**£266,242.13**	**£48.92**		**£169,037.00**	**1.50%**	**£185,004.66**	**£26.30**
Fees		**£265,702.00**	**3.34%**	**£290,800.89**	**£53.44**		**£229,621.00**	**2.04%**	**£251,311.58**	**£35.72**
Insurances		**£73,900.72**	**0.93%**	**£80,881.57**	**£14.86**		**£36,500.00**	**0.32%**	**£39,947.88**	**£5.68**
Preliminaries		**£994,891.20**	**12.52%**	**£1,088,871.15**	**£200.09**		**£1,354,161.00**	**12.04%**	**£1,482,078.49**	**£210.67**
OH&P		**£454,521.00**	**5.72%**	**£497,456.21**	**£91.41**		**£0.00**	**0.00%**	**£0.00**	**£0.00**
Total:		**£7,949,172.38**		**£8,700,071.40**	**£1,598.69**		**£11,242,516.00**		**£12,304,512.63**	**£1,749.04**
Total Excluding Abnormals (highlighted in red):		**£7,616,854.43**		**£8,336,361.85**	**£1,531.86**		**£11,161,647.00**		**£12,216,004.53**	**£1,736.46**

	Scheme 3					Average			
Description	**Sub-total**	**Total**	**% of total**	**Adjusted Total**	**Adjusted £/m2**	**Total**	**% of total**	**Adjusted Total**	**Adjusted £/m2**
Mechanical installations	£734,204.00								
BWIC Electrical	£12,290.60								
Communal buggy scooter									
Mains water supply									
Builders work in connection with services									
External Works		**£127,795.37**	**2.60%**	**£131,715.47**	**£41.17**	**£367,529.02**	**4.23%**	**£184,276.75**	**£70.11**
Roads and pavings									
Offsite roads and pavings									
Soft Landscaping									
Walls									
Fencing									
External Fixtures									
External Services									
Street lighting and signage									
Preparatory Groundworks									
Drainage		**£110,931.19**	**2.26%**	**£114,333.99**	**£35.74**	**£166,944.33**	**2.16%**	**£180,355.63**	**£35.18**
Storm drainage									
Foul drainage									
Attenuated drainage									
Diverted drainage									
Surface water									
ancillary drainage									
land drainage									
Specialist Installations						**£12,746.67**	**0.11%**		**£1.98**
Builders work in connection with services									
Minor Building works and ancillary buildings						**£24,976.00**	**0.22%**		**£3.89**
Ancillary Buildings									
Prov Sums		**£56,875.00**				**£29,291.67**			
External Services		**£26,953.04**	**0.55%**	**£27,779.82**	**£8.68**	**£146,417.65**	**1.70%**	**£159,675.54**	**£27.97**
Fees		**£117,359.00**	**2.39%**	**£120,958.97**	**£37.81**	**£204,227.33**	**2.59%**	**£221,023.81**	**£42.32**
Insurances		**£8,049.00**	**0.16%**	**£8,295.90**	**£2.59**	**£39,483.24**	**0.47%**	**£43,041.78**	**£7.71**
Preliminaries		**£622,363.04**	**12.67%**	**£641,453.93**	**£200.52**	**£990,471.75**	**12.41%**	**£1,070,801.19**	**£203.76**
OH&P		**£16,428.31**	**0.33%**	**£16,932.25**	**£5.29**	**£156,983.10**	**2.02%**	**£171,462.82**	**£32.23**
Total:		**£4,911,513.33**		**£5,062,173.25**	**£1,582.42**	**£8,034,400.57**		**£8,688,919.09**	**£1,643.39**
Total Excluding Abnormals (highlighted in red):		**£4,911,513.33**		**£5,062,173.25**	**£1,582.42**	**£7,896,671.59**		**£8,538,179.88**	**£1,616.91**

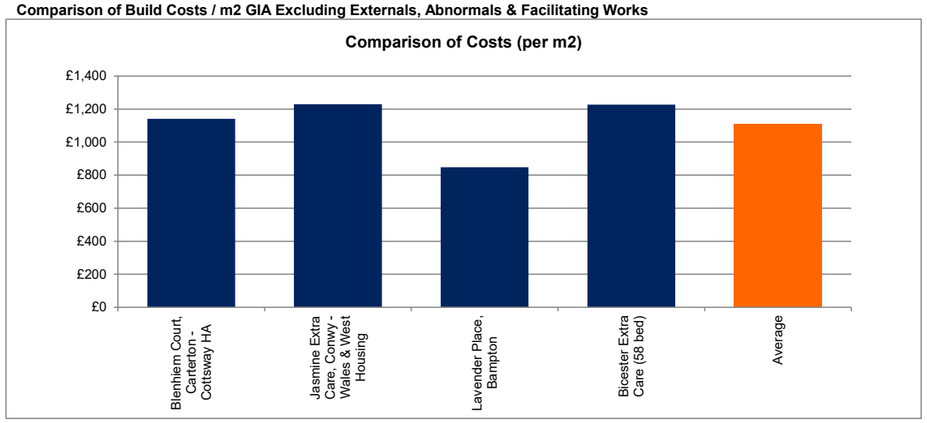
Benchmarking.

Benchmarking Review

Project details for comparison
'Project benchmark comparisons have been made based upon Rider Levett Bucknall's database of costs together with external cost data from relevant projects. Examples of other projects have been used. The below projects have also been adjusted to the Bristol area and rebased to 1Q2020. All the projects listed are new build.

1.1 BUILD COST BENCHMARKING

Comparison of Build Costs / m2 GIA Excluding Externals, Abnormals & Facilitating Works



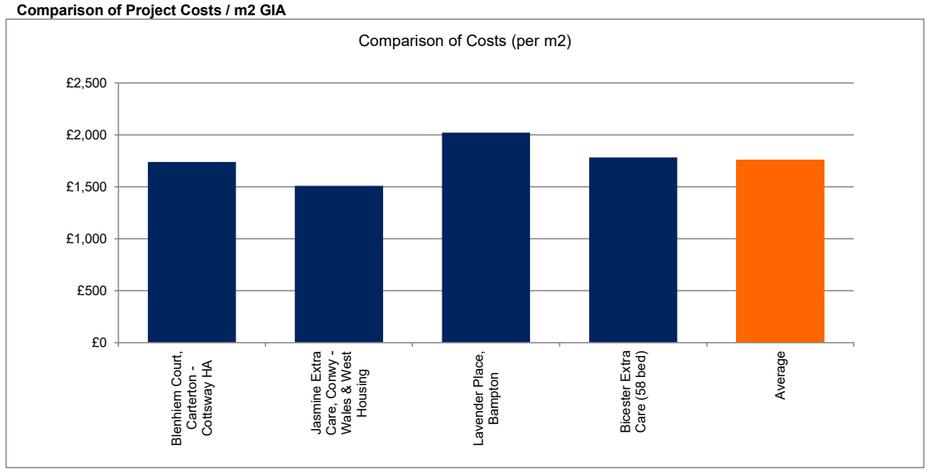
Review and interpretation of findings to generate normalised assessment

To understand the true benchmark position of the data, consideration of project specific factors affecting the cost/m² e.g. Abnormals, needs to be undertaken.

Project	£ Cost / m²	Locations	Date
Blenhiem Court, Carterton - Cottsway HA	1,141.40	Carterton, Oxon	Mar-20
Jasmine Extra Care, Conwy - Wales & West Housing	1,229.22	Conwy, North Wales	Jun-15
Lavender Place, Bampton	848.25	Bampton, Oxon	Mar-20
Bicester Extra Care (58 bed)	1,227.04	Oxford	TBC
Average	**1,111.48**		

1.2 PROJECT COST BENCHMARKING

Comparison of Project Costs / m2 GIA



Review and interpretation of findings to generate normalised assessment

To understand the true benchmark position of the data, consideration of project specific factors affecting the cost/m² e.g. Abnormals, needs to be undertaken.

Project	£ Cost / m²	Locations	Date
Blenhiem Court, Carterton - Cottsway HA	1,739.19	Carterton, Oxon	Mar-20
Jasmine Extra Care, Conwy - Wales & West Housing	1,509.28	Conwy, North Wales	Jun-15
Lavender Place, Bampton	2,021.30	Bampton, Oxon	Mar-20
Bicester Extra Care (58 bed)	1,782.53	Oxford	TBC
Average	**1,763.07**		

2.0 ELEMENTAL BENCHMARKING

	Blenhiem Court (31 bed)		Jasmine Extra Care (63 bed)		Lavender Place (18 bed)		Biecester Extra Care (58 bed)		Average
	£	£/m2	£	£/m2	£	£/m2	£	£/m2	£/m2
GIFA	**2,406 m²**		**6,944 m²**		**1,233 m²**		**2,852 m²**		**3,359 m²**
SUBSTRUCTURE									**81.92**
Substructure / Basement	342,503.00	142.35	395,684.64	56.98	98,493.00	79.88	138,208.00	48.46	81.92
SUPERSTRUCTURE									**649.37**
Frame / Structural Alterations		-	995,670.00	143.39	367,995.00	298.45	239,568.00	84.00	131.46
Upper Floors	164,580.00	68.40	645,629.40	92.98	38,289.00	31.05	123,648.00	43.35	58.95
Roof	159,248.00	66.19	382,806.45	55.13	90,120.00	73.09	141,120.00	49.48	60.97
Stairs		-	129,870.00	18.70	33,674.00	27.31	100,800.00	35.34	20.34
External Walls	715,297.00	297.30	850,999.50	122.55	26,284.00	21.32	878,416.00	308.00	187.29
Windows & External Doors	66,045.00	27.45	212,589.00	30.61		-		-	14.52
Internal Walls	275,156.00	114.36	863,500.95	124.35	108,727.00	88.18	303,452.80	106.40	108.32
Internal Doors	356,082.00	148.00	175,540.95	25.28	43,095.00	34.95	176,400.00	61.85	67.52
FINISHES									**90.33**
Wall Finishes	72,087.60	29.96	397,151.82	57.19	39,717.00	32.21	92,090.88	32.29	37.91
Floor Finishes	110,857.00	46.08	314,446.86	45.28	4,286.00	3.48	122,528.00	42.96	34.45
Ceiling Finishes	- 2,846.60	- 1.18	252,398.25	36.35		-	104,647.20	36.69	17.96
FITTINGS AND FURNISHINGS									**19.75**
Fittings & Furnishings		-	255,060.00	36.73	24,300.00	19.71	64,377.60	22.57	19.75
SERVICES									**270.11**
Sanitary Installations		-	201,754.80	29.05		-		-	7.26
Services Equipment		-		-		-		-	-
Disposal Installations		-	35,275.50	5.08		-		-	1.27
Water Installations		-		-		-		-	-
Heat Source		-		-		-		-	-
Space Heating & Air Conditioning	284,114.00	118.09	2,151,747.00	309.87	123,723.00	100.34	558,992.00	196.00	181.08
Ventilating Systems		-		-		-		-	-
Electrical Installations	169,100.00	70.28		-	47,190.00	38.27	455,280.00	159.64	67.05
Fuel Installations		-		-		-		-	-
Lift and Conveyor Installations	27,000.00	11.22	81,900.00	11.79		-		-	5.75
Fire and Lighting Protection		-	128,700.00	18.53		-		-	4.63
Communication & Security Installations		-		-		-		-	-
Special Installations		-		-		-		-	-
Builders Work	6,975.00	2.90	64,984.14	9.36		-		-	3.06
Building Sub-Total	**£2,746,198.00**	**£1,141.40**	**£8,535,709.26**	**£1,229.22**	**£1,045,893.00**	**£848.25**	**£3,499,528.48**	**£1,227.04**	**£1,111.48**
Facilitating Works		-		-		-		-	-
Site Works	73,879.00	30.71	333,918.00	48.09	121,838.00	98.81	252,000.00	88.36	66.49
Drainage	2,000.00	0.83	229,371.48	33.03	54,018.00	43.81		-	19.42
External Services	92,000.00	38.24	152,100.00	21.90	63,004.00	51.10		-	27.81
Minor Building Works		-		-		-		-	-
Demolition & Works Outside the Site		-		-		-		-	-
Preliminaries	688,150.00	286.01	1,014,390.00	146.08	462,569.00	375.16	629,120.00	220.59	256.96
Contingencies	202,569.00	84.19		-		-		-	21.05
Total (less Design Fees)	**£3,804,796.00**	**£1,581.38**	**£10,265,488.74**	**£1,478.32**	**£1,747,322.00**	**£1,417.13**	**£4,380,648.48**	**£1,535.99**	**£1,503.21**
Design Fees	176,802.00	73.48		-	100,306.00	81.35	350,451.88	122.88	69.43
Total	**£3,981,598.00**	**£1,654.86**	**£10,265,488.74**	**£1,478.32**	**£1,847,628.00**	**£1,498.48**	**£4,731,100.36**	**£1,658.87**	**£1,572.63**
Abnormal Costs	202,889.00	84.33	214,939.20	30.95	644,631.00	522.82	352,688.00	123.66	190.44
Total	**£4,184,487.00**	**£1,739.19**	**£10,480,427.94**	**£1,509.28**	**£2,492,259.00**	**£2,021.30**	**£5,083,788.36**	**£1,782.53**	**£1,763.07**

Conclusion.

Design quality is about creating positive outcomes for the people who live, work and interact with the built environment. With the Prime Minister announcing a ‘New Deal’ of capital investment to “build back better” in the wake of Covid-19, the value of good design in the way we plan our future homes and communities must become more understood across society and will be driven further by several Government-backed initiatives are already leading the way. They include:

- The Building Better, Building Beautiful Commission is an independent body set up to advise the Government on how to promote and increase the use of high-quality design for new homes and neighbourhoods. The RIBA has responded by outlining that high quality design is achieved by improving the planning and development process, not by being prescriptive about architectural style
- The National Design Guide has a focus on characteristics of well-designed places and demonstrates what good design means in practice
- Homes for 2030 Challenge: this Government sponsored design competition is seeking practical ideas for affordable homes for all age groups which are resilient to climate change and sustainable in the long term
- The Future Homes Standard will require new build homes to be future proofed with low carbon heating and high levels of energy efficiency. At the time of writing, this proposal is still at the consultation stage with a view to introduction by 2025
- The Climate Change Act requires all buildings to be net zero carbon by 2050. Many local authorities have brought this date forward. It is estimated that 80% of buildings built today will still be in use in 2050

The key challenge for all concerned with extra care housing is to create attractive, affordable housing that enables people to make the positive choice to move into specialised housing, rather than being admitted at a point of crisis.

The physical design of an extra care development is only part of the jigsaw, whether meeting a lifestyle choice or a need for planned care and/or support to live independently, the social architecture - the people and community - is just as important.

Image: Deva Point, Chester

Image: Deva Point, Chester

Acknowledgements

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About the Housing LIN

The Housing LIN is a sophisticated network bringing together over 25,000 housing, health and social care professionals in England, Wales and Scotland to exemplify innovative housing solutions for an ageing population. It connects people, ideas and resources to inform and improve the range of housing that enables older and disabled people live independently in a home of their choice.

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RLB Rider Levett Bucknall

Image: Village 135, Wythenshawe.