

Hope Rise

Post Occupancy Evaluation • Year 1 (2020/21)

August 2022



BRISTOL
HOUSING
FESTIVAL



FOREWORD



By Councillor
Tom Renhard

Bristol City Council's Perspective:

We are a city with big ambition and delivering affordable homes is at the heart of this. Bristol is committed to seeking out and enabling innovative housing solutions that collectively help the region address the challenges it faces, including the housing, climate and ecological crises.

We need to pull all the levers we can to ensure we secure more housing at rates that are truly affordable for Bristol's citizens. Hope Rise was the first of its kind in the UK, including the first ZED POD project utilising air-rights to deliver affordable housing for young people in housing need. Innovation is

not easy, but essential as we seek to deliver homes fit for the future, today.

We need to work with partners across the city, engage with registered providers and developers, to ensure the needs of the city and our citizens are fully understood and better met. This development was also innovative being the result of a public-private-third sector collaboration and demonstrates the value of a multi-sector approach to place-making and place-keeping.

The funding provided by Commonweal for this post-occupancy evaluation enabled us to really reflect on and drill into what went well and opportunities to improve. This learning is uniquely valuable in the case of modular construction, where it can enhance the design and delivery of hundreds if not thousands of future homes.

As well as having enabled the formation of a new community in Bristol, the delivery of Hope Rise has increased the capability and confidence of the whole supply and demand ecosystem, and it is great to see this translating into new projects and new homes that are meeting housing need.

Cllr Tom Renhard - Cabinet Member for
Housing Delivery and Homes,
Bristol City Council
May 2022

FOREWORD



By Ashley Horsey -
Chief Executive,
Commonweal
Housing

Commonweal Housing's Perspective: Why is Commonweal interested?

Commonweal is an independent charity working to pilot and champion housing-based solutions to social injustices.

Using our charitable funding, we provide experts and partner organisations with the space and opportunity to trial and test new approaches designed to enhance housing equality and justice. In addition, as in this case, we use more of our resources to support independent evaluation of models and ideas already being trialled by others; helping to capture lessons learnt and ensure

those lessons are shared as widely as possible.

We try to focus our resources on supporting and working in partnership with organisations seeking to find solutions to those at the margins, often overlooked, ignored or undervalued by mainstream policy. Those that are failed by the system. The lack of good quality move-on housing, at a genuinely affordable price for young people making their way in the world in the UK today is a major social injustice. However, it is too often perceived as one that is almost *accepted* by society. Perhaps this is because too many in positions of power and influence can remember their own youthful housing travails and may see it as some sort of rite of passage – never a helpful view to take.

Options today are far bleaker. Reduced access to mainstream social housing as new supply fails to meet demand decade after decade has dampened hope and opportunity. Meanwhile, rent in the private rented sector continues to rise much faster than incomes, coupled with an explosion in zero hours contracts for too many entering the world of work, meaning many find themselves part of the 'financial precariat,' unable to plan long-term. When these systemic housing market issues are being navigated by those with early, and what can become a life-dictating experience of periods of homelessness, the need for new imaginative solutions is clear.

That is why Commonweal was pleased to be able to support the team at Bristol City Council, Bristol Housing Festival, YMCA Bristol, ZED PODs and all the other partners involved in making Hope Rise a reality.

The form of housing, the location, and the imaginative use of airspace above car parks is important and may be the key learning from this pilot, helping to encourage others to consider different opportunities to increase housing supply in this way. However, for Commonwealth it is the people that are most important: what is the impact for the young people living here? Has this high-quality affordable accommodation had a positive impact on their lives? How can others adopt and adapt the idea of Community Builders? What lessons have been learnt to help others replicate this approach elsewhere?

We are delighted with the commitment from all concerned to capture this learning and especially to colleagues from Bristol Housing Festival for leading this research. The lessons that have been drawn out for how others can address this issue across the country - reflecting the different local circumstances - now need to be promoted, adopted, adapted and delivered elsewhere.

Running a pilot project and this evaluation report is not the end. If you are interested in helping us do get in touch:

info@commonweal.org.uk

Ashley Horsey - Chief Executive,
Commonweal Housing
April 2022



EXECUTIVE SUMMARY

Hope Rise is an innovative mixed community of young adults living in an award-winning development of eleven newly built modular starter homes, constructed on stilts above an operational public car park in Bristol. This project was brought about through a unique partnership between Bristol City Council, the Bristol Housing Festival, ZED PODS and charity YMCA Bristol, to provide much needed move-on accommodation for young adults, identified as being at risk of homelessness. The thirteen residents moved in between the 20th Dec 2020 - 5th January 2021, amid national Covid-19 Tier 4 lockdown restrictions.

Utilising air-rights over an operational council owned car park, and thus eliminating land costs, made this 100% affordable development of high-quality, energy efficient new Council homes viable. With rental figures of £370pcm for the 1-bed units, and energy bills averaging £46pcm, these energy efficient homes have been demonstrated to be affordable to residents in receipt of the Local Housing Allowance. The total build time was 23.5 weeks. This was ZED PODS first project and delivery times are likely to be further condensed as the supply system matures.

In recognition that young adults moving into their first homes need more than just a roof over their heads, this development also piloted an innovative peer-to-peer support model, in which a team of four 'Community Builders' were expressly recruited to live alongside and be proactive in building community with the other residents. Around two thirds of the young adults chose to engage with the Community Builders, who supported individuals with a range of practical, emotional and social needs, including finding work or training opportunities. Other residents preferred to be less engaged, but all the residents know each other's names, help one another with basic practical tasks, such as taking parcels, carrying shopping up the stairs and share a vacuum cleaner. The Covid-19 pandemic had a detrimental impact on the community building process, as national lockdown restrictions prevented the residents gathering for the first three months. All four Community Builders have recommended this model to be replicable, subject to learning from this pilot.

The nine young adults moved-on from a range of housing situations including low support shared housing, sofa surfing and a safe house. At the time of moving in, four of these young adults were working, four were Not in Education, Employment or Training (NEET) and one was in college. One year on six were working, one was Not in Employment Education of Training (NEET), one was in college and one was doing an apprenticeship.

Energy usage analysis has shown 104% of the annual energy requirement being generated on-site by the PV array, making this development net zero carbon in operation. Furthermore, the total energy usage across the development is expected to decrease in years not impacted by Covid-19 restrictions. After one year none of the young adults formerly at risk of homelessness, are understood to be benefitting financially from the Solar Export Guarantee (SEG), due to the complexity, and or lack of required motivation/support in registering for a suitable tariff. This is estimated could save each resident £40-£60 per year.



The construct of utilising air-rights over an operational car park to 'increase' land-supply has proved highly successful at Chalks Road. The residents have found that once in their homes they are entirely unaware of the car park. Instances of anti-social behaviour have been infrequent and minor. Installation of the proposed gates at the bottom of each flight of stairs to the development were decided to be unnecessary. The car park continued to provide public car-parking for the park adjacent park and local shops. The lack of parking is problematic for some residents, who have received parking tickets for parking in the car park, and one resident is applying for Priority Move On Status (PMOS) expressly citing their desire to find somewhere with better parking.

Feedback on the new ZED PODS homes was generally very positive, with residents appreciating the levels of natural light, furniture provided and quiet. Residents did suggest improvements to the internal fit out to improve their functionality, which included larger kitchens with additional storage, four hobs and additional work top. The kitchen was discussed as a key space around which everything revolved. This feedback has been reflected in ZED PODS new homes going through the factory.

The cutting-edge low-carbon technology in these homes did prove challenging for the residents to familiarise themselves with and manage. The importance of providing in-person inductions and a consistent point of contact for subsequent advice was demonstrated. This was perhaps compounded by the passive heating and ventilation systems and 'hands-off' approach to managing the units, which caused all the residents a degree of uncertainty as to the best operation of these home in the most extreme weather conditions. A second year of occupation is needed to evaluate the success of improved guidance and familiarisation of residents with their new homes, as well as retrofitted infrared panels in the main downstairs living space of the 2-beds homes.

This pilot project has been extraordinarily successful in unlocking subsequent development schemes. Off the back of this multi-award-winning development of 11 homes, ZED PODS now have a pipeline of around 1200 homes.

Report outline

Part I

Part I of this report sets out key information about the project including the design intent for Hope Rise, the extent to which this new housing development is innovative, and the 'status' of the in-coming occupants, for whom this project has been conceived and delivered. Enhancing the wellbeing, outlook and prospects of these young adults was a key driver and underpinned the outcomes against which the success of this housing development was then assessed.

In addition, Part I of this report provides a detailed record of the collaborative process by which the first cohort of residents were identified and selected and how the move-in process was



conducted. It outlines the wealth of measures taken from the outset of the project to give these residents, and the community as a whole, the best possible chance of thriving in this unique new development.

Part II

Part II describes the inquiry undertaken during the first 12-months of occupancy, discussing what was learnt and the implications for others replicating one or more innovative aspects of this UK housing first. Specifically, it explores the positive impacts on the young adults, the beneficial role of the Community Builders, the implications of the Covid-19 lockdown and the experience of living in a brand-new modular home, full of cutting-edge green technology.



Part I: Project Overview



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INTRODUCTION

Hope Rise is an innovative mixed community of young adults in a development of 11 ZED PODS (zero carbon, modular starter homes), constructed **above** the Chalks Road public car park in St George, Bristol. It came about through a unique partnership between Bristol City Council, the Bristol Housing Festival, ZED PODS and the YMCA Bristol, who share a vision for building affordable, quality and energy-efficient accommodation for young adults in the city.

This environmental and socially focused development has delivered much needed council housing in St George for young adults in need of affordable housing and those at risk of housing crisis. By creating a new community in partnership with YMCA Bristol, the development aims to ensure that support networks are in place for the tenants and is designed to increase tenant interaction and neighbourliness.

The scheme offers something truly innovative, a first for the city and of its kind in the UK. By rethinking existing land use in central Bristol, this development demonstrates how innovation can help solve the housing crisis while providing beautiful, low carbon homes.

The key project partners are:

Bristol City Council	Landowner, developer, lettings agent, landlord (client) & Post-Occupancy Evaluation (POE) partner
ZED PODS	MMC designer, supplier, installer & POE partner (funded the building performance monitoring as part of an Innovate UK research programme)
YMCA Bristol	Charity supporting young adults who are homeless, or at risk of homelessness, wrap around support, & POE partner
Bristol Housing Festival	MMC champion and enabler, POE lead

Partners additionally involved in the Post Occupancy Evaluation of this development are:

Commonweal Housing	An action learning charity working to investigate, test and share housing solutions to social injustice, primary POE funder
Centre for Thriving Places	Wellbeing economics consultancy, developer of the Happiness Pulse Survey: a tool to measure, understand and improve wellbeing



University of West of England	Academic expertise in sustainability evaluation in architecture and building performance monitoring comfort analysis, additional Grant for Growth funding.
Arbnwell	Building performance technology company

RESPONSE TO THE NEED

There are currently more than 15,000 households registered on HomeChoice, with less than 2000 properties becoming available a year¹. There is a crisis in the availability of affordable housing across the UK. In Bristol the latest data available (2017) indicates that the cheapest Bristol home is over nine times the annual earnings of the poorest households (up from 3.5 times in 1999)². The average rental sector rents in Bristol are amongst the highest in UK and increasing at rates above the UK average. The difference between Local Housing Allowance (LHA) rates and actual market rents across the city, are deepening the affordability crisis. Loss of rented or tied accommodation (Assured Shorthold private rented sector tenancy) has been the biggest reason for citizen's presenting homeless, followed by parents/relatives being unwilling/unable to accommodate family members and then the violent breakdown of relationships. Outside London, Bristol has been second only to Brighton in reporting the highest level of Households in Temporary Accommodation. Specifically, Bristol City Council's (BCC's) lettings team were acutely aware of the shortage of housing for single young adults, which could help plug the gap between supported and independent housing.

This housing need was a daily reality for YMCA Bristol who were struggling to identify move-on housing for individuals living in 'short-term' emergency accommodation that they had created, for young adults in crisis, in the Bristol Wing backpackers' hostel. They recognised the need to move away from just thinking about units of accommodation, to thinking about creating communities, in which young adults could 'belong, contribute and thrive'. Conscious that it was the land-value that was making housing unaffordable for young adults, they were actively looking at solutions that made creative use of land.

Creative-land use is the central feature of the modular ZED POD housing product, which is designed to be built on a platform over an operational carpark. These high-quality, low-carbon modular homes had been well received at the Bristol Housing Festival Expo in October 2018, with Bristol City Council committing to buying a number of units to increase their supply of move-on accommodation in the city.

¹ HomeChoice website. <https://www.homechoicebristol.co.uk/content/Information>

² Housing Crisis - Bristol Housing market and trends (2018). <https://democracy.bristol.gov.uk/documents/s26782/Housing%20Crisis%20-%20Scrutiny%20Report.pdf>



Bristol has a strong history of collaborative, multi-agency working to tackle homelessness and rough sleeping. The Bristol Housing Festival played an active role in joining up these two stories and YMCA Bristol was brought on board as part of the multi-organisational core team delivering the new ZED POD housing development.

ZED PODS and YMCA Bristol were lent the support of Councillors and were given a number of possible sites to look at. ZED PODS were keen to deliver a car-free, affordable housing development, so wanted a site with really good transport links and easy access to a supermarket. Similarly, YMCA Bristol wanted a site with strong local community and good access to amenities, jobs and training opportunities for young adults. The Council owned and operated Chalks Road Car Park was identified as an excellent site.

THE HOPE RISE MODEL

Hope Rise comprises 11 new Council Homes, designed and delivered specifically as move-on accommodation for young adults. This scheme was delivered by Bristol City Council by their Housing Revenue Account (HRA) development team.

YMCA Bristol were brought on board as a partner to 'curate' the new community through the allocations process and to provide ongoing support to nine young adults affected by homelessness, and four live-in 'Community Builders' whom they recruited.

The development aims to enable young adults to afford a home and live as part of a nurturing mixed community. The development is intended to be self-managing, with support from YMCA Bristol.

Helping to guide the vision for this project YMCA Bristol stressed the benefits for young adults of living in affordable, self-contained one bed houses.

'The impact that this environment will have on young adult's wellbeing should not be underestimated. It may be unrealistic for all young people, but that model is really important, particularly for young people, being part of a community - so not isolated somewhere in a block of flats on their own, but having their own front door, [that] does something very different for a young person' – YMCA Bristol



Figure 1: Hope Rise copyright ZED PODS Ltd.

HOPE RISE, BRISTOL

The project was established specifically to meet the immediate needs of young adults in the city, who were homeless or at risk of homelessness. It was recognised that the need of these young adults was not just for a roof over their heads, but for a safe, stable, sustainable, sociable & satisfying home³ and supportive, neighbourly community to which they could belong.

For Bristol City Council, as well as increasing their stock of move-on accommodation in the City, this innovative scheme (and its Post Occupancy Evaluation), is an opportunity to investigate the potential of this precision engineered MMC housing solution as a way of providing quality new homes at pace.

Although conceived as transitional housing, there was no mechanism, or no mechanism found, to reflect this in individual's tenancies. The young adults are typically on [assured shorthold tenancy agreements](#), the first twelve months of which is probationary. The expectation is that these residents will be offered alternative options and prioritised through the HomeChoice system for other properties in the future. The four 'Community Builders' (see p12 for details) are on license

³ Coming Home Report: A review of the Archbishop of Canterbury's Commission on Housing (2021)



agreements and do not have a priority move-on option. They all moved from the private rented sector and had the option to move back into privately rented accommodation.

HOUSING INNOVATION AND EVALUATION

This development is the first for the city and of its kind in the UK. This makes a rigorous evaluation of the development highly important and a huge opportunity. Understanding what works, what doesn't, what needs to be improved and critically why, is recognised to be essential in determining the success and replicability of this model, in whole or in part.

Highly innovative this pilot project provides the opportunity for the project stakeholders to assess the success, and ultimately the replicability, of a number of firsts.

- It is the first scheme of ZED PODS to have been built above a carpark (as per the design intent for this modular housing product).
- It is the first UK housing development to have been built over an operational carpark.
- It is the first time that Bristol City Council had allocated new-build Housing Revenue Account (HRA) Council homes in partnership with a charitable organisation, who would have a long-term support role.
- It is the first-time young adults had been recruited as Community Builders to play a place-shaping and place-keeping role in a new development.
- It is the first zero carbon modular housing to have been delivered by Bristol City Council as part of their Housing Revenue Account.
- It is the first-time young adults had signed up to a set of 'community values' as part of the housing nominations process.
- It is the first development to have been delivered as a direct result of the Bristol Housing Festival.
- It is the first time Bristol City Council; Bristol Housing Festival and the University of West of England had partnered to provide a detailed Post Occupancy Evaluation of housing in the city.
- It is the first time YMCA Bristol had provided pastoral support to young adults living in their own homes, as opposed to in their hostel.



There were five key aspects of this project that the POE set out to explore:

- The impact of these homes and the Hope Rise community on the wellbeing, outlook and life-chances of the young adults
- The impact of live-alongside Community Builders
- The through-life value (specifically cost and carbon) of the ZED POD modular homes
- The construct of utilising air-rights over an operational car park to 'increase' land-supply
- A collaborative, multi-agency approach to community-motivated place-making and place-keeping

This evaluation and review of the replicability of this development, will include identification of things to be avoided and improved, as well as key success factors, which would need be ensured to replicate this development in whole, or in part, elsewhere.

CURATING THE COMMUNITY

This was the first time BCC has partnered with an external organisation to reimagine, and shape the allocations process itself. To draw on YMCA Bristol's experience of 'curating' and supporting a mixed community of young adults at the *Bristol Wing* (YMCA Bristol's commercial backpackers' hostel which also provides emergency accommodation for young adults), they were brought on board as a key partner from the outset of the project. They played an active role in shaping the allocations as well as having an ongoing role facilitating the community development within the ZED POD development over its lifetime.

The ambition was for the one-bedroom homes to be allocated to mix of young adults (18-35), either moving on from YMCA Bristol's *Bristol Wing* or from Bristol City Council's HomeChoice register. Due to temporary closure of the Bristol Wing in 2020 (due to Covid-19), the young adults nominated by YMCA Bristol came through the Youth Housing Pathway.

In collaboration with the Commissioning Manager for Youth Homelessness Services YMCA Bristol contacted various referral agencies giving them a brief of the project and referral route. These agencies were those part of BCC's Youth Housing Pathway and partner agencies that YMCA Bristol worked alongside at The Wing.

These agencies identified and nominated those specific young adults who they thought would benefit from and suit the project. Young adults interested in the project were supported to complete and submit YMCA Bristol's Hope Rise Resident-Expressions of Interest (EOI) form (see Appendix A), which included a Personal Statement and a Referral Reference from a supporting



agency. The application included a description of the community expectations and values, that individuals were asked to make reference to in their application. In their personal statements the young adults were asked to describe examples of living with other people, what they expected to enjoy about it and why they thought it was important to be part of a community. The questions asked of each of the young adult's referees are included in Appendix B.

YMCA Bristol worked with the Commissioning Manager for Youth Homelessness Services to identify twelve applicants to meet for a house viewing and an informal interview. Following the interviews six individual applicants were then nominated by YMCA Bristol to Bristol City Council. Those young adults not already on the Council Housing Support Register has to complete a BCC 16+ Risk Assessment (see Appendix C) and be registered on HomeChoice (Bristol City Council's Housing Options Platform) as part of the allocations process. All the homes, including those let to the Community Builders, were ultimately allocated through this online Social Housing platform.

For the three homes allocated directly through HomeChoice the process was similar. An advert for the homes was placed on the HomeChoice site by Bristol City Council's Lettings Manager. The advert included an overview of the proposed Post-Occupancy Evaluation of the scheme, so they knew the 'ask' of residents (see Appendix D) from the outset. Bristol City Council then worked directly with YMCA Bristol to review the covering letters of applicants, selecting three individuals for interview. These three individuals were then invited to a house viewing and an informal interview just as those nominated by YMCA Bristol. A support worker's reference was required as part of the process for accessing the suitability of applicants, prior to the final housing allocations.

THE YOUNG RESIDENTS

Of the initial thirteen residents aged between 20 and 35, four were young adults recruited by YMCA Bristol as 'Community Builders', six were nominated by YMCA Bristol having been identified as being at risk of homeless and three applied directly through HomeChoice.

Of the nine young adults four were working, four were Not in Education, Employment or Training (NEET) and one was in college. The young people previous housing situations included low support shared housing, sofa surfing and a safe house.

All the agency's involved in referring individual residents to Hope Rise are outlined in Table 1.

Referral pathway	Description
1625ip	A charity supporting young adults aged 16-25 who are at risk of becoming homeless or already homeless.
FutureBuilders (1625ip)	A move-on programme supported by the OVO Foundation, providing 15 bed spaces in Bristol for young adults to Build, Learn and Thrive.



Bristol Youth MAPS (1625ip)	A multi-agency programme acting as the first port of call for young adults aged 16-21 who are homeless or at risk of homelessness.
Live West (Homeless Link)	A housing programme providing 153 bed spaces providing Single Homeless Supported Housing, for 6-18months, for young adults referred from Bristol City Council's Housing Support Register.
St Mungo's RSPS	A charity working to prevent homelessness through Rough Sleeping Prevention services (RSPs).
Next Link	Part of Missing Link Mental Health Services providing domestic abuse support services.

Table 1: Referral agencies

Of these nine individuals three were care-leavers, two of whom were refugees. Support needs that were identified as part of the process included attending appointments, help retaining information, ESOL, immigration status, work experience, budgeting and returning to education. A number of the young adults had support workers, who were to provide ongoing support in addition to the wrap-around support that was to be provided by YMCA Bristol.

YMCA Bristol wrote 'pen portraits' with two of the nine young adults, which they have consented to being shared. **Their names have been replaced to protect their anonymity.**

Fleur is a 20-year-old female, she has worked since leaving school at 16 and in her current workplace has recently been promoted to supervisor. Fleur managed to maintain her work despite her instable housing situation. She used to live with her mum and 2 siblings. Sharing a room with a sibling who due to their high support needs didn't sleep at night making it difficult for Fleur to get up for work. Fleur's mum was carer to her younger siblings and as there wasn't room in the home for all of them, Fleur, as the eldest left to sofa surf at her friend's home, before moving to Hope Rise.

Fleur enjoys cooking and is looking forward to sharing food with her neighbours at Hope Rise when lockdown lifts!

Jamal came to the UK as an unaccompanied minor from Syria and was under the care of Social Services until having just turned 21. He has most recently lived in a shared house with support which was coming to an end, meaning he needed to move on. His support worker referred to him as a model tenant and thought he would be ideal for Hope Rise. Jamal himself was keen as he was used to living as part of a community when growing up and wants to be part of something where he can make friends.

Jamal has studied ESOL at College and going forward would like to learn carpentry. He likes to ride his bike so is pleased to be next to St George's Park.



THE COMMUNITY BUILDERS

YMCA Bristol advertised for four Community Builders to live as part of the Hope Rise community and actively encouraged community building activities (internally and externally), to help build a sense of belonging, purpose and interdependence.

The role of a 'Community Builders' was described as '*a unique opportunity to volunteer to be part of an innovative, community-based approach to providing affordable, excellent quality homes for young people.*'

These individuals needed to be young adults (<35) who love building community, want to make Bristol a better place for young adults and are up for a challenge, as part of a small team.

"building homes is one thing, but building community takes people with vision and commitment to make this happen." Community Builder advert

The role description for the Community Builders is included in Appendix E, with a list of Frequently Asked Questions in Appendix F.

The application included submission of an Expression of Interest (EOI) Form, Eligibility Form, two referees and a 1-page personal statement.

The four Community Builders were recruited to live in two pairs in the two 2-bed properties, one at each end of the development.

One of the Community Builders has shared this 'pen portrait.' **Their name has been replaced to protect their anonymity.**

Saf has a lot of experience of living in intentional community where fun, food and vulnerability are key components. Saf hopes in the future to create her own community in the countryside, which vulnerable young people can be part of. As a singer/songwriter work is flexible for Saf giving her time to be present at Hope Rise and she hopes to bring music and creativity to the community there.

Saf heard about the role of community builder through her church and wanted to apply as it addresses many of the issues, she feels passionate about: the housing crisis, mental health and climate change.

HOPE RISE VALUES

This was the first time that Council housing in Bristol has been allocated to individuals committed to the values of the development. The values of Hope Rise are outlined below:

"We are together":



- *We take an active interest in the people living alongside us.*
- *We take part in regular community activities including meetings and social activities.*
- *We offer support to our neighbours when it is needed.*
- *We accept support from our neighbours when we need it.*

“We have a purpose”:

- *We take opportunities for meaningful work, training and volunteering.*
- *We look for ways to benefit the community around Chalks Rd.*
- *We take our responsibility to the planet seriously by reducing any negative impact we have.*

The values were expressly communicated and reflected upon as part of the allocations process.

THE MOVE-IN PROCESS

The thirteen residents moved into the development between the 21st Dec 2020 and 4th January 2021, after a period of delay. Covid-19 restrictions and the Christmas period made it necessary to stagger the move in dates of the residents. The residents were met at the properties by a representative of BCC and YMCA Bristol, who gave them their keys, completed the final letting forms and gave each individual their welcome information, which included a copy of their Tenancy Agreement, Home User Guide and a copy of the document outlining the Post Occupancy Evaluation.

A YMCA Bristol chaplain worked with local churches in the St. George area and other individual donors to organise each resident a welcome pack. This contained some festive food, a framed print and kitchen essentials, to make each new resident feel welcome in their new home.

In recognition of the unique nature of this development, and the likely material needs of the young adults these modular starter homes were designed for, Bristol City Council, as the Landlord, opted to part-furnish the one-bedroom ZED PODS. The furniture, which was procured through ZED PODS, included a bed, desk, sofa, table, lamps and cushions. This was provided in addition to the in-built kitchen, ensuite bathroom and built-in wardrobe, which was integral to the ZED POD and completed in the factory before delivery to the site.



Part 2:

End of Year 1 Review



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DATA COLLECTION METHODOLOGY

One-to-one interviews (UWE)

One-to-one interviews conducted by Dr Sonja Oliveira, Associate Professor in Architecture and Design Innovation at UWE, exploring perceptions of resident comfort.

Physical monitoring (UWE)

Five of the properties were installed with sensors continuously measuring temperature (°C), relative humidity (%), light-levels (lux), CO₂-levels (ppm), Total Volatile Organic Compounds (TVOC) and other Particulate Matter (PM1, PM2.5 & PM10), with data transmitted to a cloud-based platform (Arbnwell) for analysis by UWE. See 'Detailed Resident-ask' document for full details of the monitoring (Appendix H).

Happiness Pulse Survey

The Happiness Pulse Survey is a tool developed by the Centre for Thriving Places. In the case of this evaluation, both the primary survey and an extension module specifically designed for housing occupants were used.

To enable a longitudinal study a Self-Generated Identification Code (SGID) was designed and introduced into the survey so individual resident's responses could be linked together over a period of time, whilst remaining anonymous.

The residents were asked to complete the survey three times over the first year of their tenancy, including once prior to moving in.

Additional emergent sources of data evaluated by Bristol Housing Festival

- Bristol City Council post-completion project review survey (Community Builder responses).
- Bristol City Council and project team, post-completion project review (report)
- One-to-one Community Builder interviews
- Feedback from a Bristol City Council Housing Officer following 6-month tenancy reviews
- Project email correspondence
- ZED POD energy metering and analysis



IMPACT ON THE YOUNG ADULTS

This section explores the impact of these homes and the Hope Rise community on the wellbeing, outlook and life-chances of the young adults.

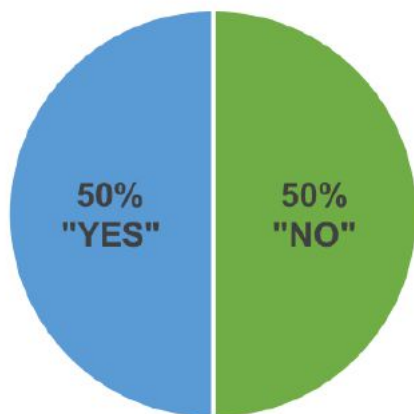
Analysis of the 'housing module' of the Happiness Pulse survey

The direct impact of the residents change in housing situation, can be seen thorough the analysis of the [Happiness Pulse survey](#) data.

As part of this longitudinal study the residents were asked to answer a fixed set of questions about their home. In December 2020, prior to moving into their new ZED POD homes, all the residents were asked to answer the questions thinking about the accommodation they were moving **from**. Subsequently, they answered the same questions thinking about their ZED POD homes, enabling the change in their housing circumstances to be assessed.

Is your home kept in a comfortable state?

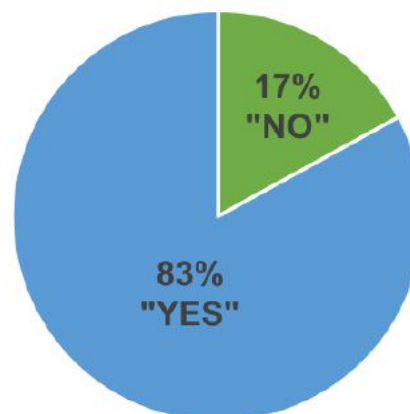
FORMER ACCOMODATION (PRE-MOVE IN)



"No" reasons ticked:

- Too noisy outside
- Without nice views
- Could not control the inside environment (e.g. keep it warm in winter/cool in summer, prevent drafts, damp, etc.)
- Could not influence the conditions in their homes
- Could not customise their homes to reflect their taste and personality

HOPE RISE (POST-MOVE IN)



"No" reasons ticked:

- Without nice views
- Could not control the inside environment (e.g. keep it warm in winter/cool in summer, prevent drafts, damp, etc.)
- Could not influence the conditions in their homes



These were the other optional responses offered by the Happiness Pulse survey, but which no one ticked, suggesting none of these factors were an issue at Hope Rise: *"too far from their current employment," "too large," "too far from family or relatives," "too far from care givers or to give care" or "unsuitable for their physical needs"*.

It is recognised that the impact of these new homes, far surpasses their physical needs for shelter and comfort. The impact of these homes on the lives of the young residents is perhaps better understood by their own reflections on their lived-experience. The Community Builders and YMCA Support Workers were really valuable in capturing qualitative data around the impact of the project on the young adults.

The majority of the young adults are understood to love living at Hope Rise, as indicated by the following anonymous quotes captured by a YMCA Support Worker:

"Knew it was a good place to be - its where I belong!" Hope Rise resident

"This place has done such a good job of making me feel you have support around you. Sometimes there's an activity or sometimes its food nights. The people here are so nice, you feel like you are being welcomed with open arms every time they see you. Each person I've met has helped me come out of my shell a little bit more." Hope Rise resident

In conversation with the academic researcher from UWE, one resident shared:

'It was really exciting; I moved house 5 times last year - to know I was coming into a place that I don't have to move out very soon was really exciting' Hope Rise resident

Further quotes were recorded and shared by the Community Builders:

'This has definitely been my best year yet' Hope Rise resident

'I've been inspired to want to learn again and experience new things in life' Hope Rise resident.

Some young adults are thriving on it. One of the young adults aspires to become a Community Builder themselves. Their quote, ***"Hope Rise for Life"*** communicates a feeling of belonging and evidences the positive impact of being mentored by the Community Builders.

Writing about one of the young adults, a mentor from charity 1625ip, commented:



'It was inconceivable a year ago [before moving to Hope Rise] that [this young person] would be in the position they are in now, of integrating in social situations, being confident to make new friends AND getting their first job. It's amazing.'

The excerpt reproduced in Figure 1 is a radio interview conducted with two of the Hope Rise residents in July. It evidences the positive impact of being in a safe and stable home.

Transcription of interview with Hope Rise residents on BBC Sounds (15/07/2021 - John Darvall 2:25:50)

Amelia (name changed for anonymity): "I think before I became some form of homeless, I was so scared of being homeless that I stayed in a toxic environment for way too long, and even just the time when I was brought...the whole transition of being brought to a refuge, I was scared the whole time as I thought that...I couldn't see...living independently I didn't know how to do it, I didn't know what was going to happen, I didn't have any resources of help,...in that time I couldn't speak to most of my family members and I felt like I had lost most of my family members. The time living on my own now... I don't talk to a lot of my family members so I think that just Sam in herself has helped me a lot with dealing with certain things and coming to terms with how I move on and creating a support system where I can feel heard."

Sam: "I think given that opportunity for their own front door people can start to heal and fulfil their potential and their ambitions."

Interviewer: What are the dreams...what's the hope?

Amelia: "My hope is to learn languages, I am trying to write a graphic novel at the moment...and just to keep going, I am a very creative person and I like to learn about different things and I just want to keep leaning, and I feel that now I am in an environment where I can actually learn and not be so distracted,...and I have come back to myself and it is not because I am not ambitious, it because I was ambitious it was so hard for me to see me fail so much, because I was working and going to school at the same time and dealing with a lot, I feel like when I became homeless everyone viewed me as if I had nothing to give - which was not the case."

You can hear one of the residents speaking about his experience of Hope Rise in a short film, commissioned by Bristol City Council as part of their State of the City celebration [here](#) (3:42 minutes in for Hope Rise). This film closes with one of the residents of Hope Rise being asked what 'home' means to him, to which he responds:

"having a home?"

...well for me it means smiling...like being able to be in your own space and being able to be however weird and however happy you feel like you want to be." – Hope Rise resident



Impact on Employment, Education and Training

After eleven months of living at Hope Rise, of the nine young adults, six were working, one was Not in Employment Education or Training (NEET), one was in college and one was doing an apprenticeship.

Additionally, talking about the resident's engagement in education, employment and training one of the Community Builders shared the following insights:

"Now they are out of chaotic housing, two residents have secured promotions at work, one found their first ever job and one started an online course in graphic novel writing this year." – Community Builder

"One of the Community Builders is a carpenter and was able to secure labouring work for a Hope Rise resident who wants to get into carpentry work themselves." – Community Builder

Residents moving-on from Hope Rise

At the time of writing two of the young adults are being supported with Priority Move On Status (PMOS) applications, the reasons cited being "internet not good enough," "too many problems with heating," "nowhere to park or our friends and family to park for more than 3 hours," and "I want to live with my partner and this place is too small for us both." For a further review of the resident's feedback on the homes see page 39.

Resident pen-portraits

Having written 'pen portraits' with two of the residents when they first moved in, YMCA has written the next chapter for these individuals, as well as with one additional resident 12-months on. **The residents have consented to their stories (in Figure 3) being shared and their names have been replaced to protect their anonymity.**

Jamal has worked with a Community Builder and the YMCA to access paid work experience as a labourer on a site alongside the Community Builder. This is enabling him to gain invaluable skills which he can transfer across when he moves on to his carpentry apprenticeship due to start in the new year. Jamal feels very much at Home at Hope Rise, he is extremely grateful and happy for the help he has received from the Community Builder's and other residents and looks forward to integrating more within the community over the next few months. He recently passed his driving test and can borrow his brother's car to access work further afield. He is also keen to obtain his CSCS card.



Gemma found Hope Rise after bidding on Home choice- thinking she would never get chosen, she was delighted to have been offered a property there. Spending time at a safe house prior to settling down at Hope rise she never knew the comfort and security of having your 'own home' until now. Gemma accessed support through the YCMA support worker to register with the local GP and access mental health support. Gemma at first found it difficult to let people into her home but was soon happy to invite fellow residents over and offer support to others in times of need. She also takes it in turns with another resident to help each other clean their homes. Gemma enjoys tending to her tomatoes in the summer and feels extremely lucky to have some outside space to do so and is even more thrilled at the prospect of the Hope Rise garden and is keen to get 'dug in'! Thanks to the Princes Trust, Gemma takes part in weekly sessions that they offer and seeks opportunities to progress with their guidance and support.

Gemma is a valuable neighbour within the Hope Rise community, attending residents' meetings and making a positive contribution to ideas in how they can develop and thrive as a community.

Fleur has thrived at Hope Rise - after an initial blip with her health earlier this year, she has accessed support from YMCA and is now ready to re-enter employment.

Fleur has used her time at Hope Rise as a year of stability, and an opportunity to develop her independent living skills Fleur has learned the concept of belonging and community whilst developing her confidence. Fleur feels ready to fly the nest and is being supported to access Homechoice to look for accommodation with her partner in a larger property.

Figure 3: Resident pen-portraits (around 1 year in)

Analysis of the Happiness Pulse Survey responses

The Happiness Pulse survey asked the residents a series of reflective questions about themselves, as a tool for assessing the subjective wellbeing of the residents over the course of their first year living at Hope Rise.

Although the sample size was small and engagement with the Happiness Pulse Survey was low, analysis of the limited data captured by this tool served as a valuable reminder that all the residents experiences were very different, both prior to moving in and over the first year. The survey responses indicated a very substantial variation in the *overall life satisfaction* of the residents' pre-move in, with responses ranging from 2 to 9, where 1 is 'not at all' and 10 is 'completely'.

Given the small number of residents the graphical representation of the results has been omitted to protect the anonymity of the respondents. Looking at the change in responses pre- and post-move-in, it was observed that the majority of survey respondents experienced an increase in *overall life satisfaction* over the first three months of moving into their new homes. Although the majority of respondents were seen to have a higher overall life satisfaction after 10 months of living in their new homes than before they moved in, this is not universally the case on the basis of this survey data.



The Centre for Thriving Places' assessment of *general wellbeing* through the Happiness Pulse survey, is based on wellbeing questions in three main domains – emotional wellbeing (Be), behavioural wellbeing (Do) and social wellbeing (Connect). More information about the development and academic validation of this approach can be found [here](#).

Figure 5 shows the pre-move in domain averages and Figure 6 the domain averages after around ten months of occupation.

GENERAL WELLBEING	BE	DO	CONNECT
6.61 /10	3.18 /5	4.11 /5	4.23 /5

Figure 5: Pre-move in domain averages (9 respondents)

GENERAL WELLBEING	BE	DO	CONNECT
6.93 /10	3.08 /5	3.79 /5	4.60 /5

Figure 6: Domain averages after 10-11 months (7 respondents)

Note this analysis is based on a very limited sample size, with the 7 respondents after 10 months not being a sub-set of the 9 respondents who answered the survey pre-move in.

Limitations noted, this analysis suggests a modest increase in the average general wellbeing of the occupants. The data shows the residents feeling generally better connected after ten months living at Hope Rise, than they did prior to moving in. (Note this subjective assessment of *connectivity* is general and does not refer solely to their relationships with one another a community of neighbours, which would increase from a baseline of zero as strangers moving into the development). There is an observable decrease in the average Be and Do domains over this period.

It is worth noting that the observed changes in well-being and life-satisfaction during the year of this study need to be considered against a backdrop of a sharp national decline in well-being across the UK as a result of the Covid-19 pandemic, as reported by the Office for National Statistics. Average ratings of personal well-being in the City of Bristol fell from 7.5 in 2019/20 to 7.2 in 2020/21, having peaked at 7.6 in 2016/17. Any increase in well-being over this period was thus bucking the national trend observed in the general population at this time (see [here](#) for further details of the national picture).

Limitations of the Happiness Pulse Survey

It was clearly important for this survey to be anonymous. Use of a URL link to the survey, proved to be challenging in monitoring levels of engagement and led to higher levels of blanket 'asking' and 'reminding' than desirable. An alternative engagement platform, that a) enables individual respondents to 'opt out' and b) targets limited reminders only to those that haven't yet completed the survey and haven't opted out, needs to be implemented in future.



IMPACT OF LIVE-ALONGSIDE COMMUNITY BUILDERS

Hope Rise was the first time that council houses in Bristol had been allocated to Community Builders. These Community Builders were individuals expressly recruited by YMCA Bristol to live alongside Bristol City Council tenants, in a voluntary community-cohesion role.

This section explores the role of the Hope Rise Community Builders as it evolved, and the impact of the live-alongside Community Builder model on the Hope Rise community as a whole.

Evolution of the Community Builders Role

There is little doubt that the four Community Builders played an essential part in the success of the Hope Rise project over its first year. A first of its kind, the four young adults recruited into these roles, and those involved in supporting them, were treading a new path. The Community Builder role was necessarily ill-defined at the outset, with individuals selected who were comfortable shaping this through the first year or two of the development, a process that is ongoing.

In April 2021, having lived in their new homes for four months, the four Community Builders were interviewed one-to-one about their expectations and aspirations for their role. Their responses are summarised in Appendix I. This data collectively demonstrates the breadth of their understanding of what would be needed and what they expected they might offer to the community.

The Community Builders later reflected that starting out they had expected ‘community building’ to look like an organised series of events or activities they could invite the young adults to join, for example a weekly community-wide meet up or regular opportunities to cook and eat together. With Covid-19 restrictions preventing gathering in each other’s homes and limiting numbers of people getting together they had to be hugely creative.

“In the first few months of the year, over lockdown, we were able to organise badminton in the floodlights of the car park; homemade skittle alley on the walkway (with water bottles!); games over zoom to get to know each other and a quiz using our porch lights as buzzers, all building social interaction, connection and wellbeing.”
Community Builder

They found that engagement in such activities quickly waned and came to appreciate that planned events were not what these young adults needed or wanted. Initially frustrated by the lack of engagement, the Community Builders discovered that a much more organic and impromptu approach was vastly better, and more fun all round. It was not making plans but being available and enthusiastic about joining them that was found to be required to build relationships with their neighbours. Whether that was working with the front door open, so that people could



say hi on their way past or being prepared to stop mid-way through a quiet film if or when a more sociable plan emerged.

An added benefit of this more responsive approach is that one of the young adults became **'the initiator.'** This individual who has described himself as being *'the happiest he has ever been'* has become, in one of the Community Builder's words, *'the beating heart of Hope Rise.'*

It is acknowledged that all the individual Community Builders bring a different aspect of community to the project. Speaking in an interview for the Big Issue (published 15th November 2021, 11-months after moving in), one of the Community Builders described her role:

"Our role is to build a sense of community, belonging, create a sense of home and build relationships so we arrange community events, we cook with people and we're proactively community minded..."

...Loneliness is the biggest problem among the age group of people at Hope Rise and lots of people are isolated and don't have the family networks that others do. So having someone to do the things that sometimes you rely on your family to do is the type of thing that improves your quality of life and the feeling that someone has got your back. It increases that sense of having a home."

Hope Rise, Community Builder

Engagement of the residents

Of the nine young adults, three are described as being really highly engaged with the Community Builders, three are engaged on the periphery and three tend to keep themselves to themselves.

'The role (as it played out) was brilliant for some of the young people, but others wanted to feel more in control. They just wanted to get on with their lives.' Bristol City Council Housing Officer

For the Community Builders there was a tension to manage between recognising it was okay for some of the residents to choose not to engage, and carrying the vision for the project, in which these new homes had been delivered for individuals wanting or needing more than just a house. The Community Builders also had to help other residents process this too, for they too experienced the disappointment of absent or dis-engaged neighbours. An important lesson for future projects would be that a group of Community Builders needs the support and mentoring of an external party to both champion the vision and encourage participation, as well as manage individual expectations around variable levels of engagement within the community, and ward off any sense of failure on the part of the Community Builders.

The lack of engagement the Community Builders experienced over the first year, clearly demonstrates that the strong sense of community, increasingly seen at Hope Rise, was highly



unlikely to have just grown organically. The positive outcomes captured in this evaluation, are rather testament to the intentional and innovative approach to community building pioneered at Hope Rise.

Afterall, a development of eleven homes where everybody knows each other's names, is on a joint WhatsApp group and shares a single vacuum cleaner is uniquely neighbourly! Henry the hoover is reported to be one of the best Community Builders, swapped continually between residents!

Value added by the Community Builders

The value added by the Community Builders in helping to bring about a host of positive outcomes for the community at Hope Rise is best understood anecdotally through their personal highlights. These individual highlights have been grouped to evidence a number of emergent themes.

Sharing friends, relationships and experiences (within and beyond Hope Rise):

- One of the Hope Rise young adults joining one of the Community Builders in attending a dance class that they had been doing for years. As well as helping them bond over their shared heritage, the resident was able to create new social connections & participate in activity with health and wellbeing benefits.
- The birthday party of one of the Community Builders at which their friends and a number of their neighbours attended, and all hung out and did karaoke together.

"A highlight would be...walking into {a fellow Community Builder's} birthday party to find {two of the most previously socially isolated residents} singing 'Gangster's Paradise' together on the karaoke surrounded by new friends and thriving in a social setting." Hope Rise Community Builder

Making shared memories:

- People popping in and spontaneous chats in the kitchen evolving into evenings with cake, wine and dancing, or doing one another's hair and nails.
- Watching the Euros on a big projector screen with the other Community Builders, some of the other Hope Rise residents and several family and friends, sharing food, drinks and genuinely having a great time together.
- Sitting chatting and laughing around a fire on fireworks night, with bread, soup and sparklers. Then subsequently, teaching one of the Hope Rise residents to make the soup for themselves.



"...also, celebrating firework night in the park with sparklers, a fire pit, homemade soup, baked rolls and toffee apples, noticing several residents, previously young carers and care leavers, really enjoying the quite simple child-like fun of sparklers."
Community Builder

Helping one another emotionally:

- Encouraging, supporting and being there for individuals in the face of difficult circumstances, not least having the opportunity to defend them to themselves. Increasing self-worth and enhancing the resilience of individual residents.
- Giving one of the Hope Rise residents the confidence to host a meal and a movie night in their own flat for others for the first time in their life.
- Seeing and enabling one of the Hope Rise residents to learn to work through broken relationships and restore friendships.
- Giving the young adults confidence and re-shaping ideas of what is possible. Being able to brag about the young adults' gifts and talents in front of each other and others, to help build them up.

"One Hope Rise resident suffers from PTSD and had a difficult period with mental health during the summer when they barely left their flat and cut off contact with the rest of the community. Once they felt better and able to re-engage, the community was able to welcome them back and work through and positively resolve the conflict that had occurred during that time." Community Builder

Helping each other practically:

- Setting and reviewing practice papers ahead of an exam. Helping individuals with CV's and job applications.
- Hanging shelves and pictures.
- Taking parcels.

"Two of the Community Builders have teaching experience and have been able to offer revision help to one of the Hope Rise residents who is taking their Functional Skills in Maths and English."- Community Builder

"Hope Rise residents regularly collect parcels for each other if someone is not in and communicate pick-ups on the WhatsApp group. There have also been numerous times



that someone has helped someone else carry their shopping home following a call for help on the WhatsApp group." Community Builder

"One Hope Rise resident noticed a neighbour's post was piling up and that the census man was trying to get hold of him. She managed to get hold of the neighbour, who was away, saving him from a £1K fine for missing the census." Community Builder

Engaging with the wider community:

- Community Builders and other Hope Rise residents have been playing basketball with local young people who regularly hang out in the park and have got to know each other's names.
- Volunteering with the Friends of St George Park group.
- Community Builders encouraged all residents to vote in the mayoral and local elections in May and were able to go to the polling station with a number of other Hope Rise residents.
- Two residents helped one of the Community Builders to plant wildflowers in the car park.
- The Community Builders have secured keys to a derelict yard next to Hope Rise in order to turn it into an allotment. Many residents have expressed a desire to get involved with the gardening.

"Bristol City Council Parks team met with me today to sign an agreement and hand me keys to the gated area at the end of Hope Rise so that we can begin our own communal garden!" - Community Builder

Decarbonising

- One Hope Rise resident was inspired by plastic free food storage in one of the Community Builder's homes and wanted to replicate it. Another Community Builder took them to a zero-waste shop and since then they have started sourcing more healthy and sustainable food.
- One Hope Rise resident expressed a desire to set up an eco-group to share ideas to decarbonise.
- One Hope Rise resident has chosen to eat less meat after eating regularly with the Community Builders and talking about the impact that meat eating has on the planet.



Seeing genuine friendships between the Community Builders and other Hope Rise residents, and between the Hope Rise residents grow and flourish:

- One Hope Rise resident helped another resident who was struggling to keep her house tidy - she said that was the moment they decided they would like to stay living at Hope Rise.
- Genuine and appreciated friendships, irrespective of backgrounds or class, based on shared experiences, laughs and banter.

***'The Hope Rise community has people of racial, religious, cognitive, class, educational and sexual orientation diversity who genuinely get on, respect and live alongside each other. A brilliant example for Bristol and beyond.'* Community Builder**

***'We just love it. It's just fun. Our friends are a bit boring now.'* Community Builder**

Although just a handful of moments and connections, it is easy to see how this growing list of shared experiences, enabled by this hyper-local network of supportive friends and neighbours, could result in a host of beneficial outcomes for the residents. Whether this season living as part of a neighbourly community is just a helpful step, or a formational life experience for individual residents, it has the potential to positively impact numerous lives, beyond any period of time living as part of this new neighbourhood.

Supporting the Community Builders

As part of the support for the Hope Rise community, a YMCA Chaplain (who had been involved in the allocation of the residents) met with the community periodically when they met online and organised some training for all the residents on relevant topics such as Active Listening. This training and support was reported to be extremely helpful in the development of the community. One of the Community Builders commented:

***'Pastoral support from YMCA has been invaluable in supporting young adults and Community Builders through bumpy lockdown start. Really good to have an external person that is connected to everyone and we have appreciated training and inductions'* – Community Builder**

Following a merger between YMCA Bristol and YMCA Brunel there was a change of personnel. The YMCA Bristol chaplain role was replaced by the YMCA Brunel Group Deputy Head of Housing who continued to support the Community Builders, and a YMCA Brunel Group Support Worker was additionally brought in to support the other residents (see section on YMCA's role, p43 for further details). Handing over the support for this highly innovative and relational project was challenging, and hard for the Community Builders seeking to uphold the original vision.



Outcomes enabled by the community

In summary the positive outcomes, as identified by the Community Builders, are:

- **Integration of a genuinely diverse community:** encountering and understanding different backgrounds.
- **Sharing of social capital:** opportunities for inclusion and experience of new environments
- **Increased engagement in education and employment:** raising aspirations.
- **Increased health and wellbeing of individuals through connection:** chances for creativity and fun.
- **Engagement in wider community:** expanding horizons.
- **Increased life skills and relational resilience:** supportive and stable environment.
- **Decarbonisation:** changing attitudes towards environmental impact.

Although there is clearly much to celebrate, and for individual young adults the support and friendship of the Community Builders has clearly been invaluable, there was generally a lower level of engagement in community meals and meet ups initiated by the Community Builders than might have been anticipated, which is explored further below.

Context specific challenges for Building Community at Hope Rise

Like all stories the one of community building at Hope Rise, was hugely context specific.

It was a very unusual time with a national lockdown due to the coronavirus pandemic coinciding with the Hope Rise residents moving into their new homes. The full lockdown restrictions prevented both the professional services needing to address snagging issues, and the Hope Rise community itself gathering together in person. Early engagement with the Community Builders was recognised to have been detrimentally impacted by the Covid-19 restrictions.

***'The project started at the beginning of another lockdown and this proved challenging for both the young adults and the Community Builders. Despite the training and support given, the law was to stay home and not integrate, which was the exact opposite of what this project sought to achieve.'* – YMCA Brunel Group**

***'The residents had become accustomed to living in isolation and efforts to create community activities were hindered by the slow start.'* – YMCA Brunel Group**

The Community Builders reported that they were involved in sorting out significantly more practical and snagging problems than they had expected.



“When we moved in us Community Builders did not sign up to any site management but at times it felt like we were suddenly thrown into (unpaid) labour to manage defects, keys, bins, waste clean-up, communications with other tenants etc.” - Community Builder

The Community Builders at Hope Rise are not paid, rather their rent is subsidised. The strength of the language chosen to describe their part in managing the defects, implies they felt this was beyond their remit. Rightly or wrongly, it was hugely beneficial to Bristol City Council, and to the Post Occupancy Evaluation team, to have had the Community Builders to help them resolve a number of teething issues during the lockdown restrictions.

Leaning on the Community Builders to liaise between Bristol City Council, ZED PODS, individual building contractors and the wider community of residents to enable the snagging was thought to have created an unhelpful power dynamic.

The Community Builders found it difficult to be on an equal standing with the young people as they felt they were utilised as "teachers" and a "go to" point of contact for the young people.” – YMCA Brunel Group

A meeting with all the project stakeholders was needed and effective in restating and resetting expectations about the Community Builders role and lines of communication.

‘In June 2021 a meeting was held with the Community Builders, Bristol City Council, Impact Modular, Zed Pods and YMCA Brunel Group. At that meeting it was agreed that all communications would go through YMCA Brunel Group who would feedback to the young people in an accessible format to increase understanding and engagement. Since then, all parties report smoother communications and Community Builders can focus on building a community.’ - YMCA Brunel

These negative experiences are shared here, both to acknowledge the hard-won learning and efforts of the four Hope Rise Community Builders pioneering this new model, and to flag avoidable pitfalls for the benefit of those looking to replicate this model elsewhere. Despite the challenges the Community Builders were eager to speak about why and how this model should be replicated.

Replication and recommendations

The model of neighbourly community being piloted at Hope Rise is championed by the Community Builders from their lived-experience, which they have found to be highly valuable and replicable.



Speaking about the Community Builders, Bristol City Council's Housing Officer similarly reflected:

***"I think the Community Builders has worked really well. I love going down there. I love seeing everybody. Everybody is happy. I would love to see us doing more things like that, with the young people having that support. {The Community Builder model} could be explored for other people coming out of supported housing (care leavers, street homeless and people with mental health). People who can deal with some of the practical details, hanging curtain rails, booking training courses. That side of it I can't praise enough."* – Bristol City Council Housing Officer**

The experience of the Community Builders over the last year has demonstrated the importance of designing and putting in place the structures to enable this novel model to work effectively. A strategic approach to recruiting and nurturing Community Builders needs to be considered, allowed for, and maintained. This is thought should include:

- A vision/purpose, bought into and upheld by all stakeholders
- A clear understanding of the scope of the Community Builders roles
- A rigorous recruitment process to identify individuals with the right skills, desire to support young adults and ability to work as a team, to create a healthy culture
- A support structure able to provide the necessary pastoral and/or professional support
- A communication plan that does not inadvertently lead to a hierarchy
- A tenancy/license agreement that is linked with commitment to the role
- A transparent process for regularly reviewing, and where appropriate ending the arrangement

Recruiting a group of Community Builders, to be of mutual inspiration and support to one another is strongly recommended. In this instance the ratio of four Community Builders to nine young adults, was shown to be a good balance. The high ratio of Community Builders to residents is said to have been vital, providing a 'critical mass' of people who are intentionally setting a healthy culture within the community. Living as two pairs, the Community Builders also opted to buddy up with one of the individuals from the other house, in order to share the experience as a group. They found this to be helpful practice.

Where the community builder model is replicated, it is recommended that Community Builders living together are recruited as a pair or group, already knowing one another.

It is noteworthy that YMCA Bristol didn't get the scores of people apply for these roles as they thought they would get. They emphasised the importance of finding the right people and suggested that it would be beneficial to capture the stories of Hope Rise Community Builders, so there are stories to tell to support future marketing of similar roles. This document touches on some of these stories.



THROUGH LIFE VALUE

This section of the evaluation reflects on the through-life value (including cost and carbon), of the ZED POD modular homes at Hope Rise.

Viability

This project was procured by Bristol City Council through their Housing Revenue Account, having passed their internal viability assessment for new build Council Housing, based on a 30-year return period. 100% of the homes were made affordable at Social Rent levels. The build cost for the ZED POD solution was around £2,925/m², which included an uplift for the full net zero specification, which was £400/m² more than a baseline Building Regulations: Part L specification (see [Benefits of Modern Methods of Construction: Performance Data and Case Studies](#) for further information). At 39m² the 1-bed dwellings cost around £114,000 (inc. net zero spec), and the 2-bed-dwellings at 70m² around £205,000 (inc. net zero spec). Use of air-rights to eliminate the cost of land, was vital in making this high-quality solution viable in the case of this small-scale development. Project delivery costs will vary from scheme to scheme and great care is needed when comparing project, or housing product, costs, see discussion below.

Costs of approx. £3,000 per m² are not atypical for highly energy efficient and fully equipped MMC solutions based on small volumes/short pipelines for manufacturers. Typical costs are expected to fall to approx. £2,000 per m² as manufacturers scale up, and pipelines lengthen. Procurement clubs (bringing together several local authorities and MMC solutions) are a potential means to achieve this. The cost of this solution on another site or project will vary and information should be sought from ZED PODS when considering future developments.

In this case of Hope Rise the total build time was 23.5 weeks. This was ZED PODS first project and delivery times are likely to be further condensed as the supply system matures. The value of such a condensed delivery programme may be substantial. For further discussion of why MMC is currently more expensive in terms of capital outlay but may still be better value when considering whole life costs, see our blog entitled 'Not all value is created equal' available [here](#).

Given Hope Rise was intended to provide move-on accommodation for young adults, the viability assessment for the project made allowance for £5,000 per year for thirty years (plus an allowance for inflation), to cover the cost of wrap around support for the residents. Independent of any viability statement care needs to be taken about the funding mechanism, as in this instance it was not straight forward for the HRA to fund such support costs. See discussion of the YMCA's support role on page 47.

Resident affordability

For this model to be sustainable the homes needed to be affordable to young adults, whether they were earning or claiming benefits, such as the Local Housing Allowance (LHA). The rental



figures for the ZED POD units were £85.37pw for the 1-bed units and £98.96pw for the 2-bed units.

The ZED PODS are thought to be affordable for all the residents with rents not being an issue. A few individuals are in arrears but have agreements in place to pay. Some level of rental arrears is to be expected with move-on accommodation, where residents have likely experienced recent instability, including unemployment, job insecurity or low-paid work. Arrears are expected to decline as the residents receive support to secure more stable forms of employment and/or income. Following a review of arrears after 12-months of occupation, two individuals had a repayment plan in place to reduce rent in arrears, one had been supported with rent debt and six were of no concern making regular monthly or weekly payments.

The cost of the electricity was reported to be higher than the residents had been expecting. Further research is needed to fully understand this, because the estimated mean cost per bed space (after Smart Energy Guarantee Export) was £26.84/month, based on meter readings taken on 22 Dec (move-in), 14th April and 25th May (ZED PODS analysis, May 2021). Individual electricity charges would need to be explored on a case-by-case basis to further comment on the cost and affordability of the utilities. In reality, few of the residents are thought to be benefitting from the Smart Energy Guarantee Export, 12 months in (see commentary below).

Solar PV and the Smart Energy Guarantee Export

The intention was that the residents would be paid for electricity generated by their solar panels and exported back to the grid, effectively helping subsidise their electricity costs and increasing the overall affordability of their new housing.



Figure 8: Hope Rise solar PV array copyright ZED PODS



Although all the solar panels are generating renewal electricity, which is being exported to the national grid, one year in, only two of the eleven homes are understood to be deriving any direct financial benefit from their installed solar panels at present. This is due to the reported complexity of the process for registering for a Smart Export Guarantee (SEG) tariff. On moving in all the residents were set up with British Gas as their initial electricity supplier (which in itself caused some confusion as there is no gas to these properties). To join British Gas' SEG tariff the residents found they needed to prove they owned their solar PV panels, which as Bristol City Council tenants they did not. To be able to benefit from a SEG tariff they first needed to switch energy supplier. Octopus was found to be one supplier who could enable tenants to join their SEG tariff. The Community Builders who did succeed in switching supplier and joining an SEG tariff, found the process ([described here](#)) to be complicated, but did receive the necessary support from ZED PODS to sign up and would have made it easier for their neighbours to follow suit.

Details of this story are included as a reminder of the intricacies of doing something that hadn't been done before. At the time of writing Octopus's SEG tariff is 3p/kWh for every unit of electricity exported. It is anticipated that registering for such a tariff would save residents between £40 and £60 per annum, depending on their usage. It is evident that all the residents need support with this task.

Although few residents are currently benefitting financially from their solar panels, this onsite electricity generation is making the whole development carbon negative in operation.

Carbon and Energy

Electricity usage between the dwellings varied substantially. The average annual usage for the 2-bed, end of terrace ZED PODS was 2767kWh. The annual usage for the 1-bed, mid-terrace ZED PODS was typically around 2560kWh, although two of the properties used energy in excess of 3,700kWh (33% higher than the average usage of the two-bedroom properties, and 45% higher than their neighbouring 1-beds). For identical factory manufactured units, this can be attributed to the use and occupancy of the homes.

By way of a benchmark, according to [UK Power](#) the average energy consumption of a 1-2 bedroom house in the UK is circa 2,000 kWh of electricity and 8,000 kWh gas so total energy consumption of circa 10,000 kWh, with an average dual fuel bill of around £795 per year (£66/month). The flats are using on average 2600 kWh in total (they are all electric), so were well below average UK energy consumption. Based on a cost of £0.195/ kWh (average electricity price data for the South West over this period), the residents bills were on average of £45/month for the 2-bed homes and £46/month for the 1-bed homes, excluding any seasonal variation.

The Total Energy Use Intensity (EUI) in kWh/m²/yr (GIA) of the one bed-homes was 66 kWh/m²/yr (excluding the two anomalously high energy users), and the two bed homes was 40kWh/m²/yr. The 2030 target recommended by [LEIT](#) is 35kWh/m².yr for small residential homes, but it is notable that this analysis was not typical as a result of the Covid-19 lockdown and working from



home guidance. Domestic energy use has been [estimated at being about 20% higher](#) in the UK over the analysis period. In a typical year the Total Energy Use Intensity (EUI) of the two bed-homes is thus expected to be circa. 32kWh/m².yr (below the recommended target), and the one bed-homes was 52.8 kWh/m²/yr. Although above LEITI's future target this can be attributed to the small Gross Internal Area (GIA) of the 1-bed ZED PODs (39m²), raising the question as to whether this target is achievable or appropriate for micro-homes. It is worth noting this analysis and LEITI's future target are based on actual monitored data. Based on design data the energy performance of both the 1- and 2- bed ZED PODS are above the Future Homes Standard, with a SAP score of 109 (A rated).

Despite the additional Covid-19 related energy usage during this analysis period, the site-wide energy metering showed that the total energy consumption for the whole development was 31,084kWh per annum. The total (modelled) site wide energy generation is 32,224kWh per annum. The resulting net energy consumption is -1,140kWh per year, with 104% of the annual energy requirement being generated on-site.

The Operational Carbon Footprint of the development is -0.17tonnes CO₂eq, based on an emissions factor of 0.151kgCO₂eq/kWh, the UK Grid Average (domestic consumption based) electricity emission factor (2021).

The actual energy generated by the solar panels over the course of the first year is not presently known as the export meters are located in individual homes and not accessible to be read. It is recommended that local authority landlords allow for smart sub-metering, so that energy performance can be monitored remotely.

THE AIR RIGHTS CONSTRUCT

This section of the evaluation considers the construct of utilising air-rights over an operational car park to 'increase' land-supply. This has to a large extent proved highly successful at Chalks Road.

Noise

The residents have found that once in their homes they are entirely unaware of the car park. This shows the effectiveness of the sound insulation, as the carpark has been described as being 'very noisy' as a result of moving or queuing traffic on Chalks Road, which runs adjacent to the car park.

'No noise inside the flat, once they shut down the windows/doors - they never felt they ever live on top of car parks. Great endorsement for our specs.' (ZED PODS informal reporting of key positive points, email to Bristol Housing Festival in November 2021).

Antisocial behaviour



- UWE and Bristol City Council reported that none of the residents raised antisocial behaviour (ASB) as a particular issue in any of their feedback. In the twelve months there was some graffiti that was overpainted, and the bike storage facility did get minimally damaged, although it wasn't known if this was deliberate or accidental. There were some occasional instances of young people with Nitrous Oxide (NOS) balloons in the car park in the evening, but the fact that the Hope Rise residents opted against the installation of a second gate at the bottom of each staircase up to the homes, is thought to suggest that there was no particular issue or concern.
- Off the back of an impromptu basketball match the residents of Hope Rise created sufficient rapport with enough of the local young people to limit instances of anti-social behaviour in the carpark. With one the Community Builders able to casually name-check one or more individuals caught tagging the undercroft, the young people instead negotiated for a re-match of their earlier game against the residents of Hope Rise.
- In the last few weeks some young people have been gathering under the accommodation and banging the metal columns supporting the housing above. This creates a noise nuisance. Residents with cars parked in the car park (see discussion below) are less inclined to challenge individuals, concerned their cars could be vandalised.

Asked to comment on the impact of the properties on the car park, Bristol City Council's Senior Infrastructure Officers commented

***'As far as I'm aware, there haven't been any issues raised as a direct consequence of the properties or their occupants. The main issue seems to be the height barrier being left open after waste collections.'* – Bristol City Council Parking Infrastructure team**

Resident car parking

The intention was that this development would be car-free, but a number of the residents do own private cars or vans, which they have been parking in the car park. The residents were said to be under the impression they would be allocated, or could apply for a parking permit, but this is not the case at Chalks Road.

Some residents have received parking tickets and one or two residents signalling that they want to move on from Hope Rise have suggested that they want to find homes with designated parking.

RESIDENT'S FEEDBACK ON THE HOMES

It was recognised that as a brand-new model and innovative housing product, that the views of the residents on the Hope Rise development, were hugely important both to those



commissioning and those designing and supplying these modular homes. Collectively these residents had a unique insight based on their lived-experience and were encouraged to share their views. Any specific reference to 'user-testing' was avoided in recognition that these were people's homes, but rather opportunities to solicit and capture feedback was taken where they arose, for example through the 'comfort' interviews conducted by UWE, and on-site reviews undertaken by BCC and ZED PODS.

"All feedback received from the Community Builders & tenants was very positive at the time of the on-site review" Bristol City Council

"When discussing their arrival and expectation of the development as well as how comfortable or not their home 'felt,' most participants conveyed a sense of welcome and warmth based on their initial impressions of the site" – UWE researcher

Additionally, the four Community Builders were invited to add their feedback to a survey designed to solicit the feedback of the multi-agency design team, ahead of an internal post-completion project review. Comments on this survey from these residents included:

'There is a good amount of natural light in each property which is great' – Resident

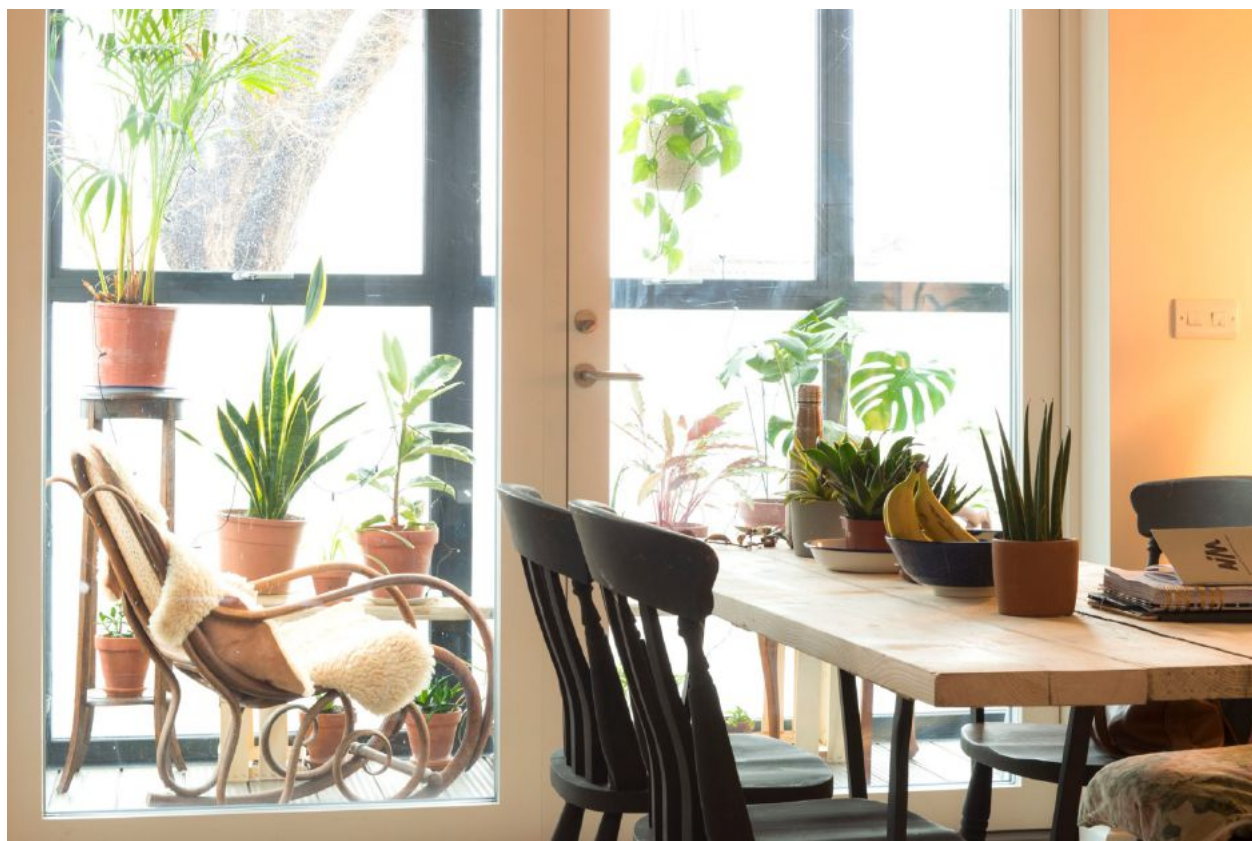


Figure 9: ZED POD interior copyright AJ Electrical Services



'General quality and design of homes - great use of space and light and super quiet. They feel peaceful and promote well-being. People are always so impressed looking at it!' – Resident



Figure 10: Hope Rise interior copyright ZED PODS Ltd.

'I really like the furniture provided - bed and sofa lovely quality and fits the modern & tasteful style of the build. We are really grateful for those choices. Thank you so much' – Resident

Asked what wasn't quite right, the residents suggested minor improvements to the internal fit out of the ZED PODS:

- The inclusion of drawers in the kitchen
- Need for additional worktop in the kitchen for more items e.g. a microwave
- Desire for four hobs, as opposed to two, in the 1-beds
- Built in storage in the downstairs toilet in the 2-beds, which they felt was oversized
- Repositioning of the washing machine in the 1-beds (currently upstairs, where flooding in one case had damaged the carpet)
- Provision of broadband/fibre internet as opposed to 4G (which was deemed not to be fast and/or reliable enough, particularly with people working at home)



They also recommended the inclusion of a communal space in future similar developments. This provides evidence of a desire for connection and community.

“Feedback from Hope Rise residents has been invaluable as we look to develop and refine our ZED POD product. We have increased the size of the kitchens and are installing four hobs in our 1-bed properties going through the factory now” – Rehan Khodabuccus, ZED PODS

Meeting the tenants needs

The Happiness Pulse survey also gave some insights into the extent to which the residents felt the homes met their needs over the period of the first year of their tenancy. Asked if their ZED POD homes did not meet their households needs, the majority of responses (61%) throughout the 11-month survey period were, “Does not apply”, implying the majority of residents felt their needs were being met.

Thermal performance of the homes

There were some specific instances of individuals reporting finding their homes either too hot, or too cold, in discrete periods of extreme weather. Review of all the evidence is thought to suggest that this was likely a result of insufficient induction and training regarding the best use of the modern technologies installed in these homes, and appropriate use of the openable windows.

The message given to the tenants regarding use of their heating and ventilation systems was very ‘hands off,’ for example describing the smart ventilation system the Home User Guide read, ‘There is no need to touch it or do anything to it, just let it do its thing in the background.’ This approach was deliberately taken to make the homes easy for the residents to manage and enable the smart technologies to operate within predefined optimal parameters. This hands-off approach is thought may have compounded the issues some individuals faced in periods of extreme weather, when action was then required to manage the internal conditions.

There was no one point of contact for advice regarding the best operation of these homes, and the advice the residents received tended to be piecemeal, and sometimes contradictory or confusing. Advice written in the Home User Guide regarding use of their windows was agreed to be confusing, and this was latterly revised, to clearly differentiate between use of the windows for ventilation and use of the windows for cooling the homes (see Appendix J for the final guidance).

In the heat wave of July 2021 some residents were unsure whether to, or reluctant to, open the windows and/or skylights, reportedly concerned that this might result in rain ingress or insects entering the bedroom. In one individual case this resulted in uncomfortable internal temperatures. On visiting the development Bristol City Council’s housing officer agreed that one home had got ‘unbearably hot’ (around 36°C), but neighbouring homes were found to be



'substantially cooler'. In version two of the Home User Guide the residents were expressly encouraged to use their windows to purge the warm air from their homes during periods of extreme hot weather.

Although the residents were talked through the heating controls on the day they moved in, this was not by someone from ZED POD who would have been fully aware of the detailed functionality of these high-tech and unfamiliar systems. It was recommended it would have been better to have had a one-to-one induction on these systems a few days after moving in, to allow time for the residents to settle and formulate some questions about the control of their homes.

Following a year of thermal performance monitoring the two 2-bedroom ZED PODS were retrofitted with infrared heaters in the main downstairs living space, to booster the heating in extreme cold weather.

A second year of occupation is needed to evaluate the success of the retrofitted technology, improved guidance and familiarisation of residents with their new homes.

Resident comfort

A summary of UWE's study entitled '*Perceptions of comfort in MMC homes - a window into the life of residents*' can be found in Appendix K. This paper provides an overview of their research findings. The study sought to understand residents' experiences of comfort on the one hand and the environmental performance of their homes on the other hand. This covers details of the physical performance of building and also explores how 'comfort' is experienced at a range of scales, from the macro scale (Circumstances /Family /Site overall /First impressions /Life experiences /Welcome) to the micro-scale (Spatial arrangements/ Connectivity/ Views out/ Control /Adaptability/Inner self).

This paper provides evidence that occupant comfort is not predicated on the physical performance of homes alone.

The data collected by the sensors was limited by the monitoring platform and internet connectivity at the site, which was not sufficiently stable to keep all the sensors online and transmitting data. It was not feasible, nor fair, to ask the residents in homes with monitoring sensors to reset these as often as proved necessary to prevent significant gaps in the data. See Appendix K for UWE's analysis of the monitoring data.

Additional feedback on the ZED POD homes, offered by residents as part of UWE's comfort interviews included:



Kitchen

For all participants the kitchen was discussed as a key space around which everything revolved. The residents in the 1-bedroom homes reported wanting four hobs, the same as the 2-bed ZED PODS. This possibly suggests a desire to host in these homes.

The open plan arrangement

For some the lack of separation between the living and bedroom area was seen as problematic – whilst separated by different levels the lack of doors separating the spaces was in some cases viewed as difficult to manage. For at least one resident the lack of noise separation as a result of the open plan arrangement was seen as problematic, especially when working from home. It is noted that the 1-bedroom pods with the bedroom located on a mezzanine, were designed for a single occupant.

Décor

For many being able to decorate their home and paint the walls was found to be important. Having white walls was found by some to be uncomfortable and a constant reminder of their lack of control over decorating their home. Bristol City Council's policy only prevented the residents from redecorating their homes in the first 12 months (the defect period), so the residents have since been advised they can redecorate should they choose to.

The bedroom(s)

The bedroom was described by one resident as their most comfortable space - as one to retreat to and be 'nourished.'



Figure 11: Bedroom copyright ZED PODs



Windows

The placement of this project development close to a park was seen by many residents as a place of retreat and safety, however, the lack of windows opening up to the park was difficult to appreciate, leading in some instances to feelings of 'not belonging' and 'not being considered.'

***'I would have preferred it if the actual view we had was on the other side; it makes no sense to me- we just look at the main road is not very nice. A view makes a difference because they could do it - you could switch it around and see the park because it nice, greener and more entertaining.'* Hope Rise resident**

The lack of windows also led to feelings of loss of control, being unable to adapt their home environment when feeling too hot or stuffy.

MULTI-AGENCY COLLABORATION

This section reflects on the collaborative, multi-agency approach to this community-motivated housing development. A project team post-completion review demonstrated considerable pride in what had been achieved, especially given the constraints imposed by the Covid-19 pandemic and lockdowns.

***"In my view this project has been a great success and something that should be replicated for move-on accommodation for all homeless young people, adults and families currently struggling in temporary accommodation or sofa surfing in Bristol. I really enjoyed working with the YMCA on this project"* Bristol City Council**

'The collaborative working is one of the aspects on this project I am most proud of' – Bristol City Council Innovate UK Lead

'We found working with the Council to be really positive. People were behind the vision for this and wanted to make a difference for young adults. There was a great cultural attitude in the organisation' – YMCA Bristol

YMCA's ongoing support and place keeping role

YMCA Bristol's ongoing place-keeping role in this development was to include:

- Managing referrals as per the Local Letting Policy
- Providing training and support to the Community Builders
- Pastoral support for the young adults they had referred to live in the ZED PODS; and



- Working with the Community Builders to establish regular opportunities for community activities including meetings, social events and volunteering

At the outset of the project YMCA Bristol secured £10k of funding from Bristol City Council (5k per year for two years), based on it requiring less than one day per week to provide pastoral support to the Community Builders. This low sum recognised this wasn't supported housing and that Bristol City Council would be providing their usual tenant support through a Housing Officer. Additionally, YMCA Bristol were awarded grant funding of £15k per year for two years, from [The Nisbet Trust](#) as a start-up grant for Hope Rise, which enabled them to provide the additional input and support they found to be necessary.

YMCA Brunel found that the young adult's support needs were not 'low,' with many of the young adults not being fully prepared for independent living, specifically having little understanding about utilities, maintenance reporting and rent management. Many of the young adults needed flexible support to help build their independence and fully benefit from this move-on accommodation. Tailored professional support was found to be appropriate and necessary to give the residents the skills and confidence they needed to manage their new homes.

The ongoing support requirements and funding arrangements are currently under review, with Bristol City Council working to closely align the Community Builder role with their broader community development and estate management functions. This will better enable the Council to take a strategic role in shaping and monitoring the ongoing outcomes of this innovative place-keeping strategy.

The ongoing place-keeping and evaluation

This project has been unique in the emphasis placed on the place-keeping role of the Community Builders, and the YMCA, as well as Bristol City Council as the landlord, but also in terms of the opportunity created to evaluate so many aspects of the project.

"This approach to this pilot project has been so unique and so valuable to us starting out. It has not only allowed us to demonstrate the delivery of our ZED POD housing product, but to really explore what it is like to live in and how these homes perform when lived as opposed to on paper. We have learnt a huge amount that has enabled us to improve our product and processes. Off the back of this award-winning project in Bristol, we have experienced a big increase in demand with a current pipeline of around 1200 homes. We have relocated our factory to be able to scale our operation, and manufacture homes for larger developments across the country. This is a testament to the value and success of the pilot and evaluate model, championed by the Bristol Housing Festival and supported by Bristol City Council.

The intentional community aspect, efforts of the Community Builders, pastoral support provided by the YMCA and this evaluation have enabled and drawn out some



great stories, of young people's lives being improved, which is what we're striving for when developing our modular homes. It has shown that if you have the right people, and the right narrative, you can build an ethos, such as the importance living sustainably or in community, that translates and beneficially overflows into other aspects of residents lives." - Rehan Khodabuccus, ZED PODS

CONCLUDING COMMENTS

It has been a unique opportunity and a great privilege to conduct such a broad meta-analysis of this UK housing first, with the input and reflections of so many partnering stakeholders, most significantly the residents themselves. Contributors are thanked for their willingness to share publicly what worked well and what worked less well, as well as what could be improved, in the context of the specific challenges imposed by the Coronavirus pandemic.

The success and value of this pilot housing development has been experienced, and should be understood, at a range of levels. **Hope Rise been successful because thirteen young adults, nine of whom were formerly at risk of homelessness, now have comfortable, energy-efficient homes in an enviable location, and are part of a networked and supportive community.** These homes and this community have shown to be effective in helping many of the residents hold down jobs and or embrace new opportunities for work, education, health, wellbeing and community engagement. At the other end of the spectrum, **Hope Rise has been successful because 'in going first' it has already helped unlock a further 1200 ZED POD modular homes, and all the economic and social value associated with that house-building activity and those new homes.** In meeting the needs of both individual residents and housing commissioners engaging with new modular technologies, this pilot was extraordinarily successful.

There was plenty in this small development project that was agreed to have been successful and done well, as well as identifiable opportunities to improve both the product and process. This evaluation report endeavours to capture both for the benefit of others. Although every housing development project will vary, there are insights in this Post Occupancy Evaluation (POE) that would be highly beneficial to those replicating, one or more aspects of the innovative model pioneered at Hope Rise, Bristol. It is recommended that this POE report is read in conjunction with the Hope Rise Lessons Learnt Report, available [here](#) on the Bristol Housing Festival website, which focuses on the project learning through the design and delivery phases.

On the strength of the positive impacts for the young adults living at Hope Rise, a form of the 'Community Builder' (live-in, peer-to-peer) support model is commended to other local authorities and Housing Associations, as part of a community engagement/place-keeping strategy for move-on accommodation for young adults. A host of the critical success factors and learning points have identified at Hope Rise.



A detailed evaluation of the Community Builder model is outside the scope of this report, but discussed at length in a separate report that will be made available from the Bristol Housing Festival.

Undertaking and making publicly available a Post Occupancy Evaluation, specifically focusing on the success of the development in delivering the desired outcomes, is strongly recommended as a platform for supporting a learning culture in the delivery of new housing. Committing to a learning approach from the outset is necessary to design-in features enabling data collection (for example remote energy metering and resident permissions to collect energy data), as well as to establish the necessary cultural approach needed for all parties to be willing to share, listen to and adapt in response to feedback.

Completion of this one-year POE will not in itself conclude the learning from this project, as the community will continue to evolve, and the climate, the city and the socio-economic context will invariably change. It is recommended that organisations championing or considering a similar project are in touch with the Bristol Housing Festival (as an initial point of contact), to assess if there are any further updates or insights (hello@bristolhousingfestival.org.uk).



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Appendix K: UWE perceptions of comfort: research summary

Appendix A

YMCA's Hope Rise Resident-Expressions of Interest (EOI) form

Hope Rise Resident – Expression of Interest

Full name:		
Date of Birth:		
Email address:		
Phone number:		
Current Address:		
Are you currently a tenant of Bristol City Council?		
If YES, what date did you become their tenant?		
Would you be able to move in on the 23 rd November?		
If not, when would you be able to move in?		
How did you hear about Hope Rise?		

Please provide the details for another reference, this should be someone that you are not related to you and has known you for two years)

We will let you know before we get in touch with them.

Reference	
Name:	
Email Address:	
Phone Number:	
Organisation:	
How long have you known them?	
How do you know them?	

YMCA enables people to develop their full potential in mind, body and spirit. Inspired by, and faithful to, our Christian values, we create supportive, inclusive and energising communities, where young people can truly belong, contribute and thrive.

SUPPORT & ADVICE

ACCOMMODATION

FAMILY WORK

HEALTH & WELLBEING

TRAINING & EDUCATION

YMCA Brunel Group, is a charity (1074660 England & Wales) and a company limited by guarantee (3719773 England & Wales). Registered Office: International House, Broad Street Place, Bath, BA1 5LH. **T** 01225 325900 **E** admin@ymca-bq.org

Personal Statement:

Please read through description and tell us why you would like to live at Hope Rise. Think of examples you can use of living with other people, what you would enjoy about it and why you think it's important to be part of a community.



Referral reference

To be filled out by worker making the referral:

Reference	
Name:	
Email Address:	
Phone Number:	
Organisation:	
How long have you known them?	
How do you know them?	

Please state why you are nominating this person to live at Hope Rise, referencing the attached description of community expectations and values.



Appendix B

The questions asked of each of the young people's referees

Hope Rise – Referee Questions

- How would you describe ...? What are her/his strengths and weaknesses?
- In your knowledge of ..., can you describe her/his level of independent living skills in areas such as managing finances, self care, cooking and cleaning?
- How has ... shown a commitment to education, training or employment?
- How would you describe ...'s decision making skills? Taking into account her/his consideration of others, risk taking behaviour, ability to seek help and advice and weigh up information etc
- As Hope Rise housing is wanting create a sense of community, how do you think ... would engage with ther/his? Would you have any concerns?
- Can you think of examples of how ... has dealt with conflict and/or difficulties?

Appendix C

BCC's 16+ Risk Assessment Form

Risk Assessment

High Risk

Where a risk of serious harm has been identified: the potential event could happen at any time and its impact would be serious.

Medium Risk

Where a risk of serious harm has been identified the impact would be serious but the event is not thought to be likely at the moment unless a change in circumstances occurs. Circumstances which could promote such a change could be:

- Emotional / Mental instability / Failure to take prescribed medication / measurable increase in substance misuse / Loss of accommodation / Relationship breakdown

The important difference between Intermediate Risk and High Risk classifications involves the likelihood, the imminence and the impact of the anticipated harmful event.

Low Risk

Where there is no identified evidence to suggest at the time of the Risk Assessment, that any individual is likely to be seriously harmed.

		High	Medium	Low	N / A
1	Violence towards others	☐	☐	☐	☐
Details					
2	Incidents involving the police	☐	☐	☐	☐
Details					
3	Harm caused to self (self-neglect, self harming, carelessness etc)?	☐	☐	☐	☐
Details					
4	Harm caused to others	☐	☐	☐	☐
Details					
5	Arson	☐	☐	☐	☐
Details					
6	Suicide attempts	☐	☐	☐	☐
Details					
7	Damaging property	☐	☐	☐	☐
Details					
8	Anti-social behaviour / Nuisance (including noise)	☐	☐	☐	☐

Details

9	Sexual assaults or sexually inappropriate behaviour	☐	☐	☐	☐
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Details

10	Being abused by others (including exploitation)	☐	☐	☐	☐
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Details

11	Being a risk to children	☐	☐	☐	☐
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Details

12	Non-engagement with services	☐	☐	☐	☐
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Details

13	A medical condition or illness (inc dementia) which suggests a risk to others	☐	☐	☐	☐
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Details

14	Drug and/or alcohol misuse	☐	☐	☐	☐
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Details

15	Please indicate if any friends or visitors are likely to pose a risk to professionals visiting applicants	☐	☐	☐	☐
----	---	--------------------------	--------------------------	--------------------------	--------------------------

Details

16	Are there any other risks you have identified not listed above	☐	☐	☐	☐
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Details

If any of the risks above are determined as High or Medium then you must supply additional details below:

Further information

Appendix D

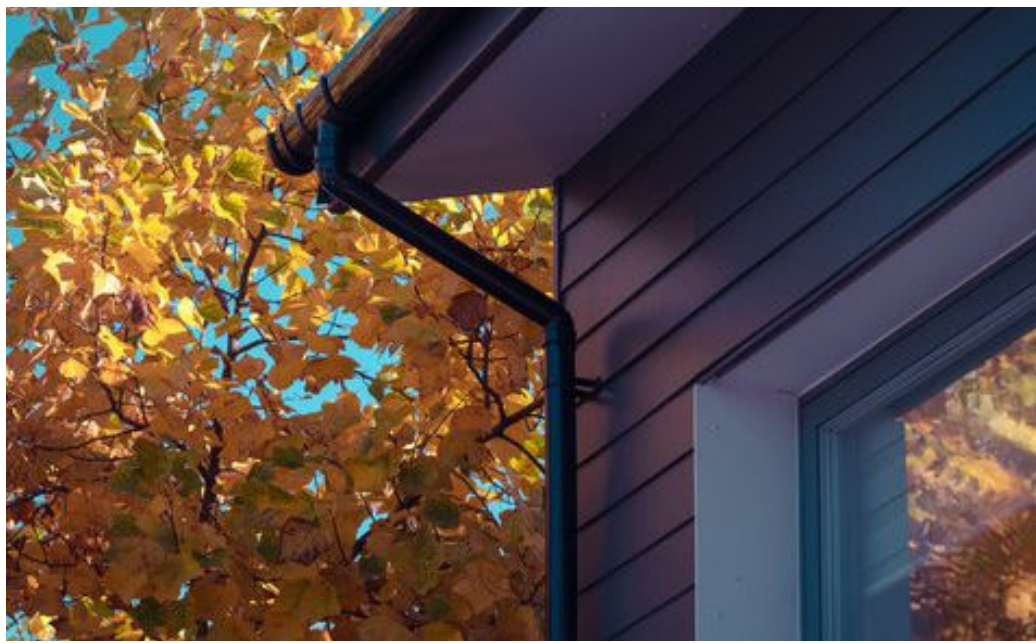
Outline POE resident 'ask' document

Bristol Housing Festival
December 2020 - Rev 3



ZEDpods

Post Occupancy Evaluation
(outline ask of residents)



POST OCCUPANCY EVALUATION

The ZEDpods development has been championed by the Bristol Housing Festival. The Bristol Housing Festival is a five-year project looking to identify innovative and better ways to live in our cities. As a resident of the ZEDpod scheme, you will be encouraged to take part in research aiming to understand if this type of housing is beneficial, how it might be improved and whether similar projects should be replicated in Bristol and elsewhere. As a resident of the ZEDpod development in St. George, your experience and insights, will be massively important in informing the design and delivery of future housing schemes.

Before you decide whether you want to live in this unique development and/or to take part in the research aspect, it is important for you to understand what it will involve.

- In order to assess the impact of your new home on your general 'happiness' and 'wellbeing', you will be asked to complete a short, anonymous survey called the 'Happiness Pulse' designed by Bristol's Centre for Thriving Places. You should anticipate being asked to complete this survey once before you move in, and up to three further times during the first year of living in your new home.
- You will be invited to chat informally with a member of the research team from the Department of Architecture and the Built Environment at the University of the West of England (UWE), about what it's like to live in your home (this could be individually or as part of a group, and could be in person, over the phone or online as preferred). These conversations will be around Jan-Feb 2021 and then again in July-August 2021, to explore your experience in different seasons.
- You will be encouraged to use a mobile-phone app (where possible) to provide feedback on the comfort of your home (details to follow as soon as this is live). You'll be able to flag anytime you are too hot, or too cold for example. In periods of extreme weather, you may be specifically asked to provide feedback as to how comfortable your home is. Having a smartphone is not a requirement.
- In order to confirm that these new homes are carbon-zero as they're designed to be, we would ask you to consent to the amount of electricity generated by the solar PV on your roof being monitored and compared with the electricity used in your home.
- We have identified 5 residents who are happy for the internal temperature, humidity, daylight levels and air quality in their downstairs space, to be continually monitored for at least the first year of occupation. There are three unobtrusive sensors, without cameras, installed in the downstairs areas of nos. 1, 2, 6, 10 and 11, to measure and report this data to the research team.

All information that you provide as part of the evaluation will be completely anonymous. You will not be asked any personal details that would allow you to be identified. The information that you give will be stored securely and available only to the researchers. If you do decide to take part, you will be given a copy of an information sheet to keep and will be asked to sign a consent form

(January 2021). If you do decide to take part, you are also able to withdraw from the research without giving a reason.

We trust this is overview helpful and that you might be willing to take part in this important research during the first year of your tenancy,

In the meantime welcome to your new home!

Dr Ellen Grist,

Research and Evaluation Lead

Bristol Housing Festival

Appendix E

Community Builders role description

ROLE DESCRIPTION

Role Title: Community Builder

This role is a unique opportunity to **volunteer** to be part of an innovative, community based approach to providing affordable and excellent quality homes for young people.

Role Purpose:

- To live as part of the Hope Rise community on Chalks Road, St George, Bristol.
- To be part of a mixed community of young people.
- To actively encourage community building activities (internally and externally) to help build a sense of belonging, purpose and interdependence.

Responsibilities:

Working as part of a team alongside the other three Community Builders you will:

- Make your home in the Hope Rise community, as a tenant of Bristol City Council.
- Available to move into Hope Rise on **November 11th 2020** (Date maybe subject to change).
- Invest in building positive, appropriate relationships with the other people living in the Hope Rise community.
- To commit, on average, to two sessions per week of community based activity, and to take responsibility for developing these.
- To develop and participate in a wider community based activity (e.g. volunteering in the park, GoodGym, RedFest etc) at least once a month.
- Be a point of liaison between the YMCA team and the Hope Rise community – helping to identify any challenges or issues (e.g. maintenance issues, young people that may be struggling, wider community factors like anti-social behavior near the Hope Rise community).
- Participate in the evaluation of the project.

YMCA enables people to develop their full potential in mind, body and spirit. Inspired by, and faithful to, our Christian values, we create supportive, inclusive and energising communities, where young people can truly belong, contribute and thrive.

SUPPORT & ADVICE

ACCOMMODATION

FAMILY WORK

HEALTH & WELLBEING

TRAINING & EDUCATION

What can you expect in return?

- An excellent quality, brand new two bedroom home shared with one other person.
- Genuinely affordable rent.
- An opportunity to learn valuable transferrable skills in community development.
- A super insulated low carbon home powered by solar panels and batteries with water heated by efficient heat pump, and plenty of natural light.
- Helping to lead a brand new approach to building homes and communities in Bristol.
- The chance to live in an excellent location within walking distance of the city centre, with fantastic transport links within Bristol and beyond, a vibrant high street on the door step and overlooking a 37 acre Victorian park.
- Support in your role as a Community Builder from YMCA Bristol including regular opportunities for training and reflection.

Who are we looking for?

The YMCA is looking for people who love people and community and are motivated to be part of positive change for young people in the city. As the Hope Rise community is aimed at young people the Community Builders will be under 35 years old.

Below is a guide to the kind of qualities and experience we are looking for. They are not all required, but we think they will stand you in good stead in the role of Community Builder.

We think the following **qualities** will be important in the role:

- Excellent at building relationships with other people
- Time and headspace available to invest in the Hope Rise community
- An initiator – able to start relationships and activities
- Emotionally mature and resilient
- Self-aware, aware of own limitations and able to ask for help when needed
- Flexible and adaptable
- Willing to be accountable to other people
- Able to manage appropriate boundaries
- Naturally hospitable and comfortable opening your home to your neighbours
- A good sense of humour and not taking yourself too seriously
- Interested in a new challenge, and prepared to commit for at least two years (with an initial one year trial period).
- Able to deal positively with conflict

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We think the following **experience** will be useful in this role:

- Living alongside other people as part of an intentional community.
- Experience of starting or growing a community (this could be in your neighbourhood, as part of a paid job, as a volunteer etc).
- Experience of working with young people or communities (not necessarily in a paid role).
- Volunteering in the community.
- Lived experience of housing difficulty.

We will also require Community Builders to undertake an enhanced DBS check and provide two references.

The above role description should be read alongside any tenancy agreement with Bristol City Council. Community Builders will need to fulfil the basic Homechoice Bristol criteria – try the online eligibility checker for more details – and feel free to get in touch if you aren't sure:

<https://www.bristol.gov.uk/housing/check-if-you-can-apply-to-home-choice-bristol>

ABOUT YMCA Bristol and the Hope Rise Community

YMCA Bristol

YMCA Bristol vision to be an inclusive Christian organisation transforming communities so that all young people can belong, contribute and thrive.

Our values

The way we act at YMCA is characterised by five strong and distinctive values that flow from our Christian ethos.

We seek out

We actively look for opportunities to make a transformative impact on young lives in the communities where we work, and believe that every person is of equal value.

We welcome

We offer people the space they need to feel secure, respected, heard and valued; and we always protect, trust, hope and persevere.

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We inspire

We strive to inspire each person we meet to nurture their body, mind and spirit, and to realise their full potential in all they do.

We speak out

We stand up for young people, speak out on issues that affect their lives, and help them to find confidence in their own voice.

We serve others

We are committed to the wellbeing of the communities we serve and believe in the positive benefit of participation, locally and in the wider world.

YMCA Bristol is a growing local charity, which is part of the YMCA Brunel Group. It was established in the city in 1853. As well as the Hope Rise Community, we also run a hostel called The Bristol Wing, which provides accommodation for young people who are in crisis alongside commercial backpacking accommodation.

YMCA Brunel Group is active in communities across Bristol, Bath, Wiltshire, the Mendips and South Somerset. Our work includes nine early years centres, three after school clubs, a holiday club, a gym, youth and community work, supported housing and hostels. You can find more information about us here www.ymca-bg.org.

Hope Rise Community

The Hope Rise Community on Chalks Road, St George, Bristol is a brand new development being built to provide good quality, genuinely affordable, community based homes for young people. It is a partnership between Bristol City Council, Bristol Housing Festival, Bristol & Bath Regional Capital, ZEDpods and YMCA Bristol. Below describes the part each partner plays in the project:

Bristol City Council (BCC)

BCC are funding the scheme and will be the landlord. They will manage the scheme, collect all rents and be responsible for maintenance.

Bristol Housing Festival (BHF)

ZEDpods were brought to Bristol as part of the first BHF Expo in October 2018. Since then BHF have been acting as the project managers and catalysts behind getting this development built.

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Bristol and Bath Regional Capital (BBRC)

BBRC have acted as advisors to the project – helping to look at options for financing the scheme.

ZEDpods

ZEDpods are pioneers of building sustainable modular homes, with a focus on enabling the use of underused sites. ZEDpods are manufacturing and installing the homes that will make up the Hope Rise Community.

YMCA Bristol

YMCA Bristol has a mission to transform communities so that young people can belong, contribute and thrive. We will provide the expertise in developing the Hope Rise Community and supporting young people who live there.

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Appendix F

Community Builder FAQs

Hope Rise Community Builders - Frequently Asked Questions

How long will I be a Community Builder?

We are asking for a commitment of around two years initially.

How much will I get paid?

This is a voluntary role, so you won't get paid. But you will have a high quality affordable home to live in, and gain valuable skills and experience. Hope Rise is in a fantastic location, overlooking a 37 acre park, within walking distance of shopping, cafes and bars, and within easy walking distance of Bristol City Centre.

Who will my landlord be?

Bristol City Council will be your landlord

How much is the rent?

This will be in the region of £80 per week for a room in a two bed ZEDpod.

What about bills?

As usual utilities will be on top of the rent, but ZEDpods are very efficient eco homes, so utility costs will be lower than in a standard home.

Will I have to share?

Community Builders will share a two bed ZEDpod with another Community Builder.

I want to share a house with my friend who also wants to be a Community Builder, can we apply together?

We will consider joint applications, but it may be that we only want to offer a place to one of you. If you want to apply with someone else, please both submit separate expressions of interest, but tell us at the top that you would like to be considered to share with someone you know – giving their full name. Please also tell us whether you would be happy to be appointed without your friend – or if it is both of you or neither of you.

Why is the Community Builder role only available for 18 - 35 year olds?

Hope Rise is a scheme which is focussed on providing affordable housing for younger people as this reflects the need in the city.

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YMCA Brunel Group, is a charity (1074660 England & Wales) and a company limited by guarantee (3719773 England & Wales).
Registered Office: International House, Broad Street Place, Bath, BA1 5LH. **T** 01225 325900 **E** admin@ymca-bg.org

Am I eligible to be a Bristol City Council Tenant?

You may be surprised. The best way of checking this is on the Bristol Homechoice website (<https://www.homechoicebristol.co.uk/content/Information/FrequentlyAskedQuestions#Who%20can%20apply>)

How many hours a week will I be expected to commit to the role?

There is no expectation on a number of hours that you will commit to the role. We're more interested in working with you to get the job done of building a community at Hope Rise. There will be some specific expectations like organising a regular opportunity for the residents to meet together, or actively looking for opportunities to get involved in. But other than that, we will be more interested in how the community is developing and how the young people are benefiting from living as part of Hope Rise - than the number of hours anyone is putting in.

What support will I get as a Community Builder?

The YMCA will provide you with support in your role. This will include initial and ongoing training, regular one to one meeting and regular team meetings with the Community Builders. We will also be on hand if there is anything you aren't sure about. In the early days we will be around a lot more, but our aim is that the community becomes self-managing, and our input will reduce. But we will work with you on that time line. Also as a council tenant, the houses will be looked after by Bristol City Council maintenance team. All the residents will also have a housing officer from Bristol City Council who can help resolve any housing related issues.

What will the young people be like who live at Hope Rise?

There will be nine young people. Initially this will be nine young people who have applied through the Bristol City Council Homechoice system. When the YMCA hostel, The Bristol Wing, re-opens we will make four houses available for young people moving on from there. The young people that live at Hope Rise will be expected to want to take an active part in the community, will be in employment, education or volunteering for at least three days per week and will be on a low income. The young people will be aged 18-35 years old.

What do you mean by "participate in the evaluation of the project"?

This project is the first of its kind in Bristol. It is innovative in a number of ways:

- The resident Community Builders are a first.
- The off site construction, with very high environmental standards (both in construction and in how the houses are lived in).
- Making use of space above a car park.

The partnership will be working with academics from the University of the West of England to work out whether this approach works, and to make sure we are able to record the benefits of this approach. Of course, the evaluation will also help us work out what isn't working well and make changes to improve things.

The people doing the evaluation will need you to answer some questions on a regular basis (either on questionnaires, but also sometimes in person), and there will also be some sensors in the house that will monitor the physical environment (e.g. temperature, air quality, humidity etc). Don't worry - these sensors won't have cameras or microphones (so they are less intrusive than Siri, Alexa or Google Home!). Any data or information collected will be anonymised.



Appendix G

Visual overview of the Post Occupancy Evaluation

Appendix H

Detailed POE resident 'ask' document, inc. monitoring



ZEDpods

Post Occupancy Evaluation
(detailed* ask of residents)



**** With details
of the monitoring
sensors***

POST OCCUPANCY EVALUATION

The ZEDpods development has been championed by the Bristol Housing Festival. The Bristol Housing Festival is a five-year project looking to identify innovative and better ways to live in our cities. As a resident of the ZEDpod scheme, you will be encouraged to take part in research aiming to understand if this type of housing is beneficial, how it might be improved and whether similar projects should be replicated in Bristol and elsewhere. As a resident of the ZEDpod development in St. George, your experience and insights, will be massively important in informing the design and delivery of future housing schemes.

Before you decide whether you want to live in this unique development and/or to take part in the research aspect, it is important for you to understand what it will involve.

- In order to assess the impact of your new home on your general 'happiness' and 'wellbeing', you will be asked to complete a short, anonymous survey called the 'Happiness Pulse' designed by Bristol's Centre for Thriving Places. You should anticipate being asked to complete this survey once before you move in, and up to three further times during the first year of living in your new home.
- You will be invited to chat informally with a member of the research team from the Department of Architecture and the Built Environment at the University of the West of England (UWE), about what it's like to live in your home (this could be individually or as part of a group, and could be in person, over the phone or online as preferred). These conversations will be around Jan-Feb 2021 and July-Aug 2021, to explore your experience in different seasons.
- You will be encouraged to use a mobile-phone app (where possible) to provide feedback on the comfort of your home (we will send you details as soon as this is live). You'll be able to flag anytime you are too hot, or too cold for example. In periods of extreme weather, you may be specifically asked to provide feedback as to how comfortable your home is. Having a smartphone is not a requirement.
- In order to confirm that these new homes are carbon-zero as they're designed to be, we would ask you to consent to the amount of electricity generated by the solar PV on your roof being monitored and compared with the electricity used in your home.
- You are one of five residents who are happy for the internal temperature, humidity, daylight levels and air quality in the downstairs space of your home, to be continually monitored for at least the first year of occupation. You'll find there are three unobtrusive sensors, without cameras, installed in the downstairs area, to measure and report this data to the research team. See photos of the sensors overleaf.

All information that you provide will be completely anonymous. You will not be asked any personal details that would allow you to be identified. The information that you give will be stored securely and available only to the researchers. If you do decide to take part, you will be given a copy of an information sheet to keep and will be asked to sign a consent form (January

2021). If you do decide to take part, you are also able to withdraw from the research without giving a reason.

Here is some further information about the three monitoring sensors in the downstairs of your home - what the sensors look like, what they are measuring and why this information is important.



(I) THE COMFORT SENSOR

The Comfort sensor monitors the **temperature (°C)**, **relative humidity (%)** and **light-levels (lux)**. Internal room temperature and relative humidity together affect how comfortable/sticky you feel, in the same way that the weather does. Measuring light levels is away of assessing how much daylight your home gets and how often/when you need to put the lights on to have sufficient light. You should find this sensor is mounted out of your way on a wall.



(II) THE AIR QUALITY (AQ) SENSOR

The Air Quality (AQ) sensor monitors the **temperature (°C)**, **relative humidity (%)** and **CO₂-levels (ppm)**. This sensor will be double-checking the internal room temperature and relative

humidity being measured by the Comfort sensor. Additionally it will measure the level of CO₂ in the room, which is a measure of how fresh the air is. You should find this sensor is also mounted out of your way on a wall.



(III) THE AIR QUALITY PLUS (AQ+) SENSOR

The Air Quality Plus (AQ+) sensor also monitors the **temperature (°C), relative humidity (%)** as well as measuring the following air quality parameters **CO₂, TVOC, PM1, PM2.5 & PM10**.

This sensor will measure the internal room temperature and relative humidity and double-check the level of CO₂ in the room. Additionally it will measure level of **Total Volatile Organic Compounds** (TVOC) and a range of **Particulates** (PM1, PM2.5 & PM10). VOC's are compounds which can come off new furniture, upholstery and paints, generally associated with things you might describe as smelling 'brand new'. Particulates (or particulate matter) is any collection of solid/liquid particles in the air for example from dust, aerosols, pollutants and or traffic fumes. Collectively, these factors will be used to describe the Indoor Air Quality (IAQ) of your new home.

Unlike the other two sensors this sensor you'll notice has its own power supply. If the AQ+ accidentally gets unplugged and stops reporting data, the system will alert us and we'll be in touch.

The exact same sensors are installed in 5 of the new ZEDpod homes (nos. 1, 2, 6, 10 & 11). You will not need to do anything to them, and we expect you'd quickly forget they were even there. All the data they collect will be transmitted remotely to the research team, and will be completely anonymous. We will of course share the findings of this monitoring with you when the evaluation is completed in around Oct 2021.

We hope this is helpful and thank you for being willing to take part. Welcome to your new home!

Dr Ellen Grist,
Research and Evaluation Lead
Bristol Housing Festival

Appendix I

In Conversation with the Community Builders

APPENDIX I: In conversation with the Community Builders (3-months in)

This document was prepared in conversation with the first four Community Builders recruited for Hope Rise development, and draws on their lived-experience of the first 3 months of their voluntary community-cohesion role.

The Community Builder role was advertised as being: ***'a catalyst in bringing together all of the residents - and encouraging them to get involved in wider community life in St George. You will enable the young people who live at Hope Rise to belong, contribute and thrive.'***

The aim of this document is to act as a resource for those who are exploring recruiting or becoming Community Builders. It outlines key values that have been found to underpin the character and actions of someone looking to intentionally build community. It is recognised that role will look different depending on the community, the people involved and the resources available, but this list has been compiled as a guide.

It is acknowledged that no single individual is likely to display all the attributes identified below, which supports the case for a group of Community Builders working as a team to provide this team role.

It has been found to be hugely valuable for a further outside party to provide a pastoral role to support a Community Building team. At Hope Rise this role was provided by a YMCA chaplain.

A Community Builder values:

- LIVING and BEING alongside others
- Fostering a sense of place and belonging
- Being part of something bigger than themselves
- Knowing and being known amongst their neighbours
- Giving value to other people's differences
- Being intentional about connecting whilst knowing this will move and evolve as people and situations change
- Loving and serving others unconditionally and with healthy boundaries

A Community Builder is someone who is:

- Trustworthy, stable and dependable
- Respectful and consciously inclusive
- Genuinely interested in and caring for other people
- Flexible and organized with experience of initiating projects or events
- Not seeing being a Community Builder as a job, but as a way of life, being alongside others

- Fun, imaginative and creative
- Intuitive and a good listener
- Willing to give out without acknowledgement, the reward coming through the impact, not the affirmation of others
- Looking to find shared values for the community to orbit around
- Generous and willing to share resources
- Available and willing to be a role-model for others
- Open and inclusive, aware of unconscious bias
- Not afraid of conflict and has experience of handling tricky situations
- Hopeful, persistent and resilient, not taking it personally if others withdraw
- Non-judgemental, understanding that people's actions are influenced by factors aside from the immediate situation
- Compassionate with boundaries, able to be clear about the values of a place and what is acceptable in a community

Appendix J

Welcome to your new ZED POD: extract from the Home User Guide



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Welcome to your new ZED PODS home

Your new home is something special, not just for you but for the environment and helping to tackle the climate emergency as well. Don't worry about having to change how you live, the home does most of it for you.... but if you want to help the planet out a bit more we have given you some tips at the end. To help you settle in, here is a quick introduction to your new home.

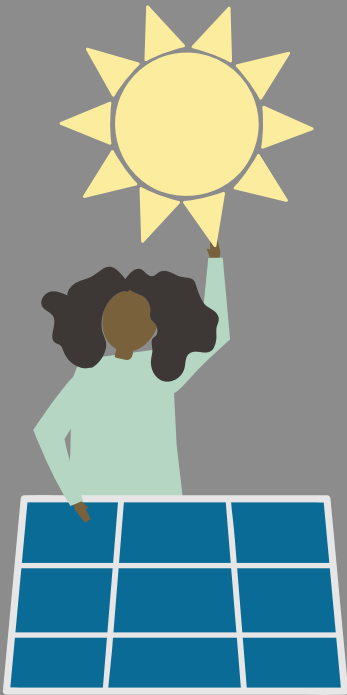


NO GAS. FULLY ELECTRIC & SMART



GENERATES ITS OWN ENERGY.

The electricity generated by solar panels on the roof is carbon free and over the year will generate more energy than it will have used.

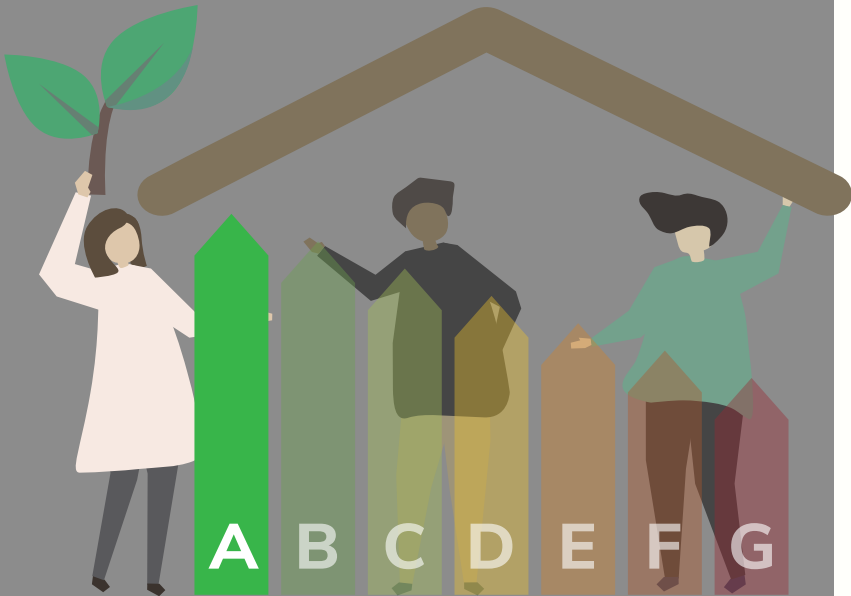


You won't run out of energy because your home is still grid connected!

LOWEST HEATING BILLS.

Your home has a nice big, warm blanket of insulation wrapped all around it so your heating bills will be as low as possible. Your windows are also noise canceling, triple-glazed windows that **cut of energy loss** in the winter and are positioned to stop the sun overheating your home in the summer.

When you do need the heating on, the **solar heat pump** will do all the work for you in the lowest energy way possible. Just turn your radiator values up or down to adjust your heating.



SMART VENTILATION SYSTEM.



You don't need to open your windows for fresh air, the smart ventilation system does this, recovering heat in the winter. In the summer, the best way to cool your home is to open the rooflight using the pole provided. If you open your patio door, the hot air will rise out from the rooflight and cooler air will circulate in your home.

There is no need to touch it or do anything to it, just let it do its thing in the background.

LOW FLOW, SAVE WATER.

Your hot water system looks after itself. Shorter showers are far better for the environment, but you have plenty of stored hot water in the tank for when you need it. Your shower and taps are low flow to save water but use air pressure to give you the same feeling as a power shower. We think you have the best taps and showers on the market, both for you and the environment.



FIRE RESISTANCE.

All the building materials are naturally based products and offer the best in fire resistance.

Your new home is not just protecting the environment but also designed to protect you in an emergency. As well as your **fire alarm system** you have a sprinkler head by the front door.



HOW YOU CAN HELP OUT THE PLANET?

A BIT MORE



If the sun is shining, try to do higher energy tasks then, like putting your washing on or baking a cake.



Use the natural daylight from the big windows and use your lighting less.

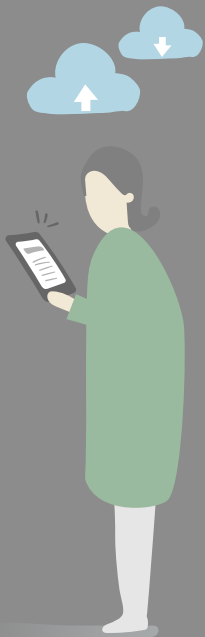


But when you do turn the lights on they are the most efficient LED lights you'll find, saving energy, money and the environment at the same time.



Your home is in a fabulous location so walk, run, cycle, skate. Cars are overrated and your local shops are great!

To help you out we have a phone app that you can download and let us know if you feel too hot, cold or stuffy.



The building can send anonymous data on these things to the cloud and we can give you some advice if you want to participate



Don't mess about with the heating settings. The system is design to look after itself.

Want to get more **technical**? As we know some of you do.

Sustainable Design

- All homes provide dual aspect dwellings for cross ventilation.
- Smart low carbon heating / cooling / lighting system
- Lots of daylighting for health living, healthy sleep patterns, and to minimise the use of artificial lights.
- Solar panels combined with the DER improvements should result into 100% offset of regulated carbon emission — creating a net zero carbon development.

Sustainable Construction

- Rapid factory built & installation with minimal on-site disruption and environmental impact
- Precision-engineered Building System made out of CLT or Steel frame
- Built in a factory to a high specification with exceptional quality control
- Using locally sourced, non-toxic, non-combustible, best in class materials
- Energy efficient technologies to reduce regulated CO2 emissions over the Building Regulations baseline to achieve its 105+ ‘A’ rating
- Easy to run & easy to maintain

External Envelope Specification

- Roof U-value: 0.12; Walls U-value: 0.15; Floor U-value: 0.11
- Triple-glazed low-‘E’ alu-clad windows & doors: 0.91 U-value with low maintenance aluminum cills & flashings.
- Super-insulated, airtightness construction with less than 2.0 m³/m²/hr per hour @ 50 PA infiltration
- Mechanical Ventilation Heat Recovery (MVHR) — Part L & F compliant system will remove stale air from wet areas whilst providing at least 80% heat recovery & summer bypass
- Cooling provision when hot water is being generated from integrated MVHR / heat pump / HW
- Solar electric roof — BRE MCS Approved
- 50 year + design life cementitious cladding; powder-coated flashings and long-life standing seam roofing reduce maintenance
- Party walls: Robust details with no structural connection between homes and non-combustible stone wool insulated acoustic and vibration isolation cavity.
- Fireproof cement board soffit finish above parking bays
- Minimum 60-minute fire ratings
- All elements combined to achieve exceptional acoustic attenuation

M&E Specification

- PV: Circa 2.6kW peak grid connected solar electric system
- Affordable space heating & hot water system: supplied by an evaporator plate solar assisted heat pump and integrated water cylinder with high performance averaging COP of 3.5
- Low power ‘A’-rated appliances fixtures and fittings with high lumen LED lights reduce energy demand
- Eliminated gas bills
- Water saving tap & shower



If you have any questions
please feel free to contact us

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Appendix K

UWE Perceptions of Comfort in MMC Homes – Research Paper

APPENDIX J

University of the West of England

Perceptions of comfort in MMC homes – a window into the life of residents

PREPARED FOR

UWE, Bristol Housing Festival

PREPARED BY

Assoc.Prof Sonja Oliveira
Owen Gray

Oct 2021

Acknowledgments

The authors wish to thank the support of UWE G4G Grant as well as Bristol Housing Festival, Zedpods and all the participants for engaging in the study and supporting the aim and overall approach of the research.

Summary

This summary presents a narrative overview of key insights and areas for future research drawn out of a pilot study on residents' perceptions of comfort and environmental performance in modern methods of construction (MMC) housing drawing on a case study project in Bristol. The premise of the initially planned study (pre Covid 19) was to include in person visits and conversations in residents' homes. Due to Covid19 restrictions including lockdown, social distancing and delays on case study project delivery, the data collection methods of the study were adapted.

In total 8 residents participated in the study with 5 homes (pods) being monitored for temperature, humidity, CO₂ levels and electricity usage (the monitoring data, however, was intermittent). In terms of the energy use monitoring, pods 3, 4, and 5 have a potentially unusually high usage of energy during the periods monitored (December 2020-May 2021). It is unusual in the sense that the two properties that semidetached and larger (pod 1 and 11), come mid ranking in terms of energy use during the reported period. Except for pod 7, energy usage patterns (high users, low users) remain consistent across winter and spring. With reference to humidity, readings within the pods appears to be within limits, with the range experienced not rising above 70% or dropping below 30% for the period monitored. Pods 1 and 11 fared better than the single bedroom pod counterparts in terms of maintaining a consistent environment during occupied hours¹ across temperature, humidity, and in particular - air quality. For clarity, this was expected to occur due to the reliance of the one bed pods on mechanical extract ventilation (MEV) and natural ventilation compared to the mechanical ventilation and heat recovery (MVHR) present within pods 1 and 2. The tighter banding on temperature was as expected within pods 1 and 11 compared to 2 and 10. Temperature readings within both the one- and two-bedroom pods appears to be on the colder side during occupied hours, notably in a cold snap in April the indoor temperatures were dropping to ~ 17 degrees Celsius. Given the energy expenditure in the dwellings, it seems unlikely that internal temperatures were low because the heating being off during these periods. Cross referencing the indoor temperatures during occupied hours against the external temperatures over the monitoring period shows that there is a relationship between the two. Pods 1, 2 and possibly 11 also see a continual average internal temperature increase over the analysis period. Pod 1 sees a 2-degree rise, pod 2 a 4-5 degree rise and 11 looks to be like pod 1. Again, this is another indicator that the external temperatures are quite heavily impacting on the internal comfort temperatures of the dwellings. On looking at the reading from the CO₂ sensing, there was notably high peaks in the one bed pods alongside some consistently greater than 800ppm average presence in pod 2 over the course of the analysis period. This would contribute to feelings of stuffiness within the properties. The ranges experienced within the properties did exceed 1000 ppm at numerous points and this would associate with lethargy/drowsiness or poor air quality. Of interest, highest periods of CO₂ concentration in pod 2 and 10 occurred on Saturday, indicating prolonged time spent within the properties, potential with the windows shut or multiple occupants.

Additionally, the trend of both CO₂ concentrations in single occupancy pods over the duration of the monitoring was reducing over the duration (pod 10 more than 2) which could be indicating the reliance of these pods on the occupants using window to ventilate. Colder the outdoor temperature, the less likely individuals are to open windows.

In addition to environmental performance monitoring, a key aspect of the project was to understand residents' perceptions of comfort. This was carried out using interviews online or over the phone. Overall, two key themes emerged including:

¹ Note on method – occupied hours were inferred from the CO₂ levels being greater than 450ppm within the dwellings.

Macro scale factors: Circumstances/Family/Site overall/First impressions/Life experiences/Welcome
Micro scale factors: Spatial arrangements/Connectivity/Views out/Control/Adaptability/Inner self

When discussing their arrival and expectation of the development as well as how comfortable or not their home 'felt', most participants conveyed a sense of welcome and warmth based on their initial impressions of the site. Despite delays in their 'moving in' and much building work remaining onsite, first impressions of the wider site characteristics contributed to participants' sense of comfort – this included the visibility and accessibility of the park, being able to be close to nature and see trees, the colours and warm impression of the mural as well as overall 'newness' of the development. For many these 'first' impressions of the wider development were discussed within broader life experiences, memories of other homes and family. However, when discussing what was important to them in their home, how they adapted it and what they found most or least comfortable, residents tended to discuss particular spatial arrangements, issues of control and adaptation as well as how connected or not their home was in relation to the outside and other homes.

For most participants, the design and layout of the kitchen in particular was viewed as uncomfortable, with little work space or preparation area to cook and enjoy food- some viewed this as 'being treated differently' from others in society. The lack of storage and preparation space in the kitchen tended to occupy a lot of the conversation -often obscuring other enjoyable parts of their home. In addition, many observed the lack of windows as having little control of their indoor environment- often reported as stuffy – often leaving their bathroom window open throughout the year. Whilst there were differences reported in feeling too hot or too cold with residents in the 2beds reporting needing to leave the oven on to feel warm and residents in 1beds needing to leave window open in order to not feel too warm- overall, comfort was experienced and discussed through two scales with the micro one (within the home) being mainly one of adaptation, connection and control (or lack of) and the macro one as one of (circumstance, life experience and family). Future studies are needed to better explore the mediation between the scales and how connection to and feeling as part of a place emerges through that.

The findings open up need for future exploration into the different spatial scales that shape residents' perceptions of comfort in MMC housing and housing more generally. Whilst prior research already identified the need for looking at this process more holistically (Yarker 2017), the characteristics of multidimensional meanings associated with comfort, remain poorly understood, are underexamined and rarely documented especially in the context of MMC housing development and operation.

The placement of this project development close to a park was seen by many residents as a place of retreat and safety, however, the lack of windows opening up to the park was problematic and difficult to appreciate leading in some instances to feelings of 'not belonging' and 'not being considered'. The lack of windows also led to feelings of loss of control, being unable to adapt their home environment when feeling too hot or stuffy. At the scale of the development, past experiences and circumstances tended to shape expectations of arrival and welcome with many participants conveying excitement and hope. At the scale of their home, a micro level of reflections tended to occupy the discussion with much focus placed on the kitchen lack of storage, or sink placement or number of hobs.

The study sought to understand residents' experiences of comfort on the one hand and the environmental performance of their homes on the other hand. These are not mutually exclusive- where some residents report feeling too hot – temperature data rarely reported higher than average temperatures. Reports of stuffiness were picked up though - as discussed in section above. Also, periods of cold were reflected in the monitoring data. Importantly, perceptions of comfort are overlayed with many social and structural factors, rarely explained by temperature or humidity data. This study whilst limited in sample size (both with interview and monitoring data), present important insights of the social and structural factors mediating how approaches to 'commit to a place' was experienced differently whilst residing in homes that were identical in spatial arrangements, décor and construction. Future studies could further explore understanding of the scale of the local at both the site boundaries and within the home itself as one of circumstance, adaptability and connectivity at scales within in which people feel 'at home'.

Hope Rise

Post Occupancy Evaluation • Year 1 (2020/21)



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