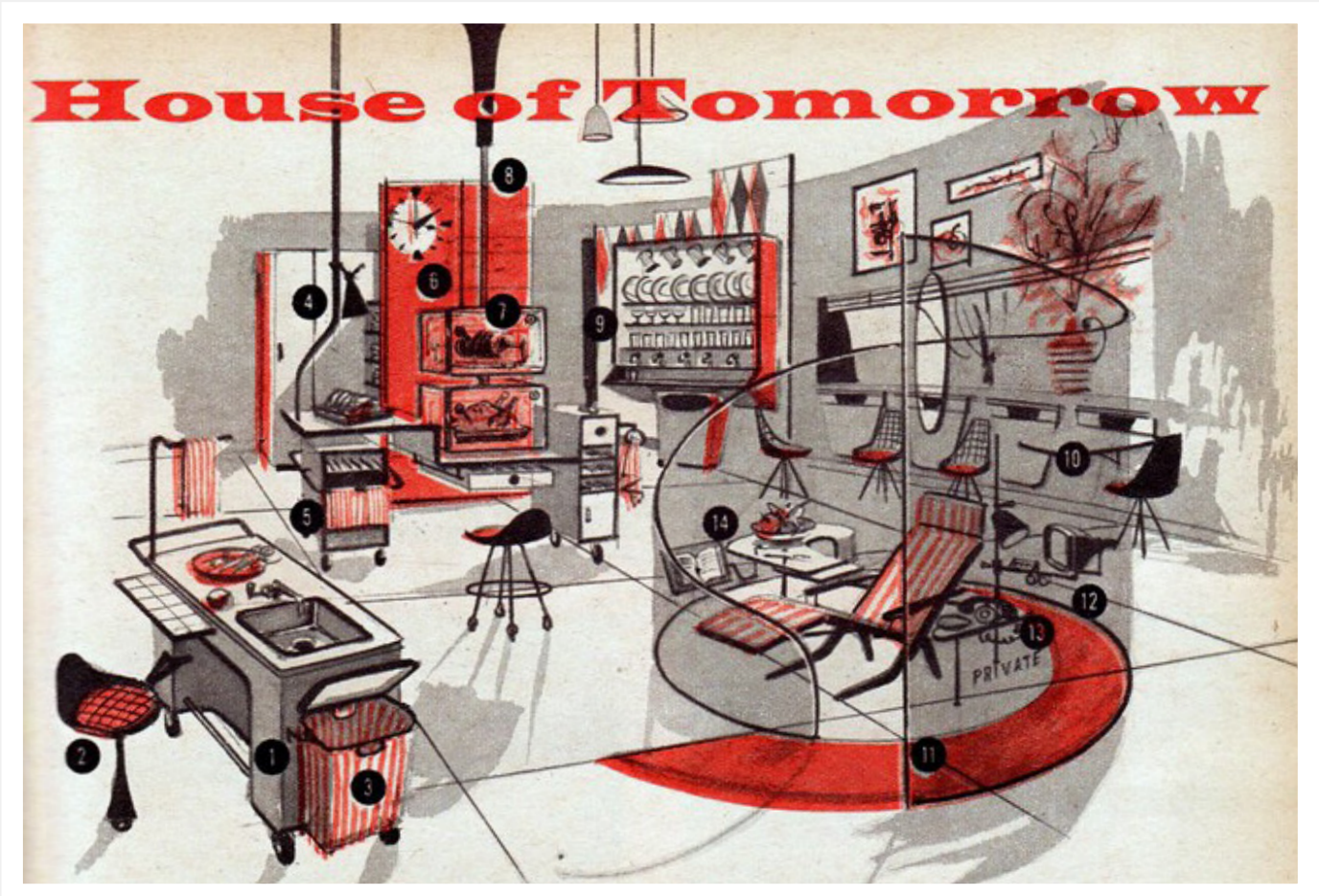
From where I live...



the house of tomorrow

Home

(noun)

A place where one lives; an environment affording security and happiness; a valued place considered a refuge or place of origin.

The house of tomorrow:

The COVID-19 pandemic has created many challenges – and not only the obvious issues of health and wellbeing. Phrases like *social distancing, self-isolation* and *lockdown* have become part of the pandemic lexicon, and they reflect new spatial, physical and psychological relationships that we need to consider and design for.

One of the impacts of lockdown is that people have spent significantly more time in their homes, and reconsidered what they need from them. This has placed a greater focus on health and wellbeing.

A recent residential global market survey – prepared by Savills – identified that an increase in homeworking after COVID-19 would be likely to impact the residential market as buyers shift priorities:

86% **Expect an increase in working from home after coronavirus.**

73% **Feel that green space will become a priority for urban buyers.**

61% **Anticipate a rise in the demand for rural areas.**

Images:

Cover: *How does the "future" home of the 1950s stack up to today's amenities? (Brick Underground)*

Left: *Elmsbrook Local Centre, ADP*

Challenge + Opportunity

CHALLENGE

"Battery Hen Britain": The decline in average home size.

The 'Technical housing standards – nationally described space standard' set a benchmark for internal areas for new dwellings when it was introduced in March 2015 and updated in May 2016. This is not a building regulation, and remains within the planning system – but does it go far enough?

The United Kingdom has the smallest average home size in Europe of c. 76m² / 818ft², and homes are around 10% smaller than 30 years ago. A new one-bed flat (50m² / 538ft²) is typically little bigger than a London Tube carriage (46m² / 495ft²).

In addition to floor space, storage is often limited, and with no requirement for private amenity space, apartments can be delivered without balconies if these are not required by Local Plans. This shouldn't be acceptable.

The economics of development are understandable, with costs and values to be balanced against the limited space available on this "island". But the standards are based on minimums, and need to be challenged moving forward.

Health and wellbeing

Many homes are cramped, dark and artificially lit. A lack of space – whether to store possessions or to entertain – clearly impacts the basic lifestyle needs that many people take for granted. For those living in a home between two and ten years old, a lack of space is often the main motivation to move out, and we all instinctively respond to the opportunity for a view: a connection with the outdoors, fresh air, light and space.

In extreme cases, our home environments can impact health, education & family relationships. Lack of natural light can lead to a diminished immune system, diabetes and premature ageing, and access to natural light has been shown to decrease the risk of insomnia, depression and obesity.

AVERAGE GLOBAL HOUSE SIZES m²

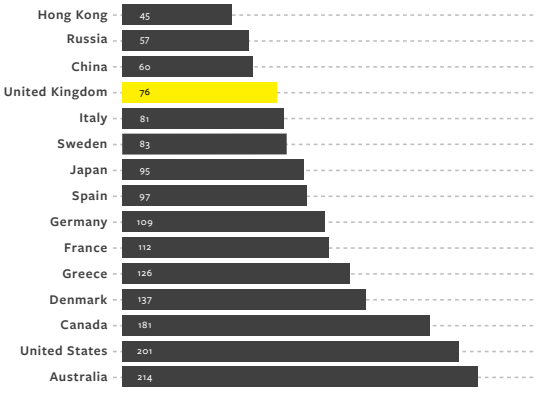
Source: https://sinlokyan.wordpress.com/

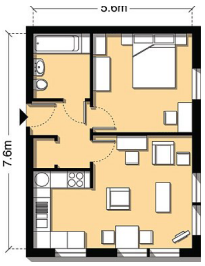
UNITED KINGDOM
New average home 76m²

IRELAND
15% BIGGGER
New average home 87.8m²

NETHERLANDS
53% BIGGGER
New average home 115.5m²

DENMARK
80% BIGGGER
New average home 137m²





Images: *Top: Typical Victorian terraced street, HM Land Registry. Above: Typical one bed flat, tube carriage interior, TfL.*

OPPORTUNITY

Residential specialist Adrian Bower joined ADP in the midst of lockdown, with the ambition to lead growth in this sector for the practice. Working together across ADP, we created a working group to consider the potential impacts of coronavirus on residential design. Referencing homes of the 1950s – themselves inspired by post-war optimism and the "Atomic Age" – our thinking focused on health and wellbeing. We wanted to explore how our own core principles of **sustainability**, **belonging** and **engagement** could be used to develop ideas for better homes.

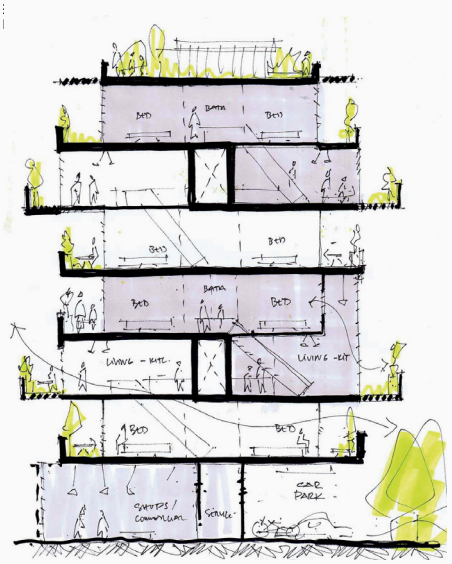
Our research focused on five key themes:

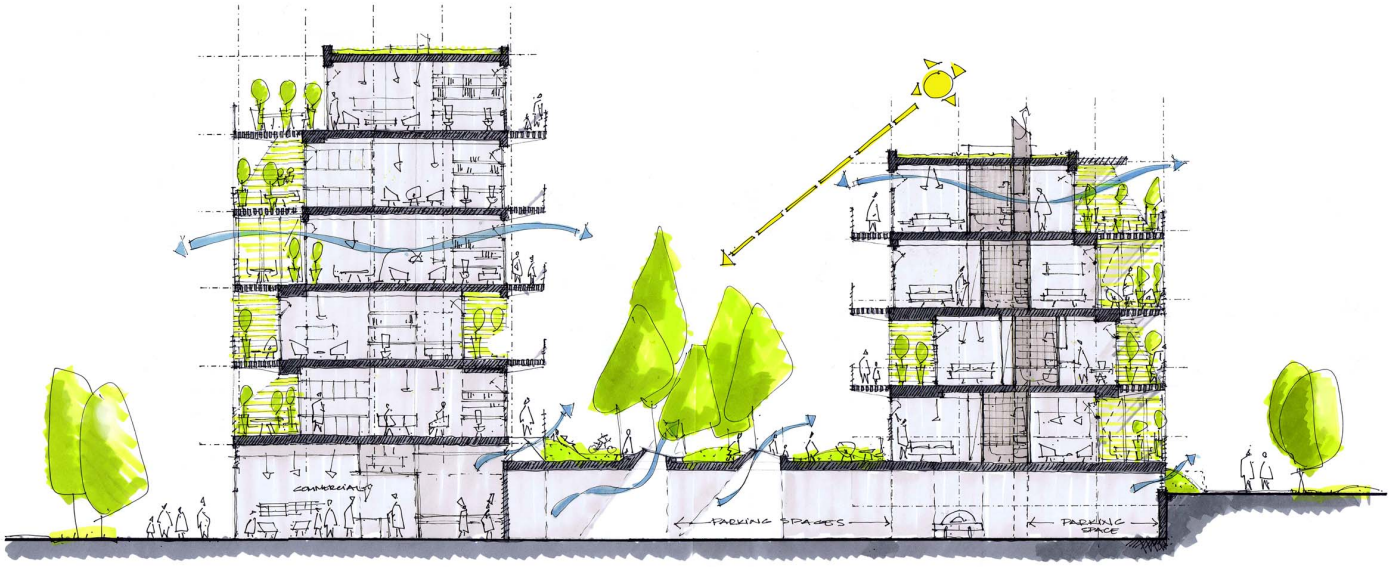
1. **Aspect and amenity**
2. **Ability to customise**
3. **Home-working as part of "the new commute"**
4. **Environmental strategies**
5. **Social value**

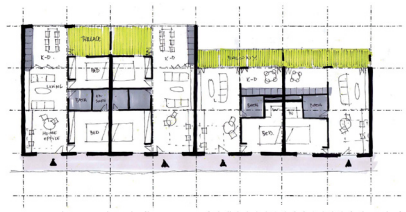
Members of the task group explored each aspect, combining this with collective discussions from their own perspectives ("From where I live...").

1. FROM WHERE I LIVE:

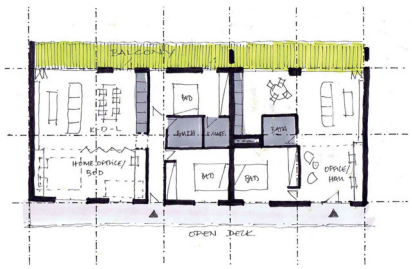
Improved aspect and amenity







Typical one bed flats with deeper plan two bed fats



Typical one and two bed flats

Duplex flats

Dual-aspect flats (i.e. with views on two sides) are increasingly desirable, and single-aspect, north-facing homes should be avoided.

Dual-aspect living provides many benefits, including better and longer daylight, an alternative view, cross-ventilation, protection from overheating and reduced noise and air pollution. It also allows for greater flexibility in how rooms are used, and the potential to adapt layouts in the future.

The group developed a concept for a linear residential block which provides 100% dual-aspect apartments, which are deck-accessed and benefit from a central communal space. The central corridor is opened up to provide a deeper plan and a central shared amenity, overlooked by the deck access to the flats.

All flats benefit from cross-ventilation, with living rooms facing outwards from the building. The bedrooms are located on the internal elevations (facing the communal space), with clerestory windows or similar to ensure privacy. Balconies and winter gardens ensure private amenity space and are located on the external (street) elevations.

It isn't always possible to provide dual aspect, due to the increased numbers of cores, impacts on efficiency and economics – and it can be difficult to achieve with linear blocks and central corridors. However, there are narrower sites where it isn't possible to provide two linear blocks, and these would suit this approach.

Images:

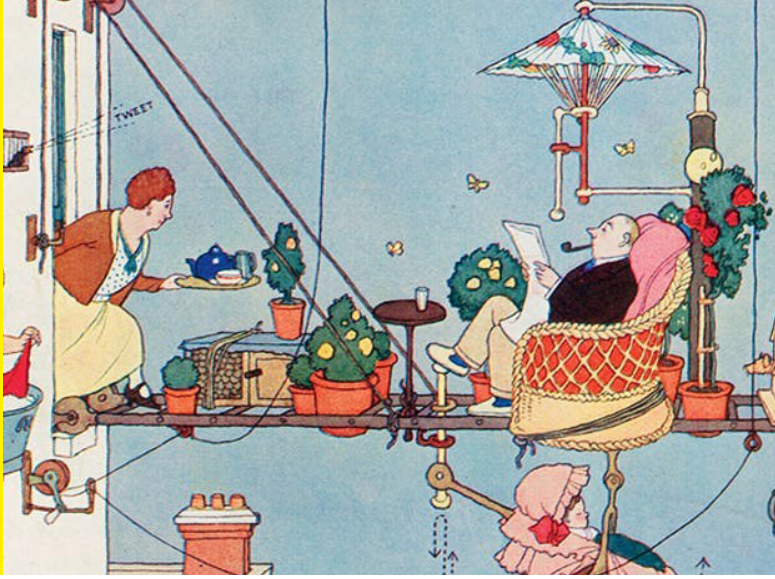
Top: Duplex apartments
Inspired by Le Corbusier's Unité d'Habitation, duplexes are accessed via a central corridor (six-storey block with corridors on two levels only). Based around a 3.6m x 3.6m grid, all apartments are dual-aspect, and feature recessed balconies and opportunities for double-height living.

Middle: Dual-aspect living
Typical section through dual-aspect flats, with opportunities for covered/undercroft parking depending on section and commercial/retail to the street.

Left: Dual-aspect living – typical flats
The typical plans are developed around a 3.6m x 3.6m grid for flexibility. There is open-deck access, with dual aspect and cross-ventilation to all flats. There is also a continuous balcony on the external elevation, and a deeper plan allows for winter gardens or recessed balconies.

2. FROM WHERE I LIVE:

Ability to customise



Responding to modern life and drawing inspiration from Heath Robinson and IKEA flat-packed furniture, we developed ideas for an adaptable, dual-aspect, two-bed apartment (based on the previous theme's concept), which would be highly flexible and able to respond to different lifestyle needs.

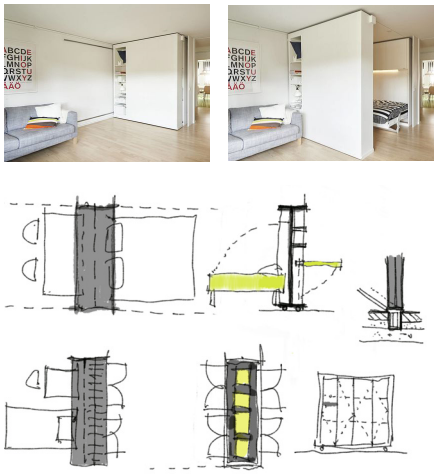
Modular homes have been available for over a century, and even before that, pattern books carried out a similar role. Factory-built and pre-made houses date back to the early 1900s, with companies such as Sears Roebuck selling prefabricated homes through catalogues and delivered on trains (e.g. the "Sherburne" prefabricated home from 1923).

The technology for modular homes has improved significantly, but many lack flexibility. They give limited opportunity for customisation in response to changing needs and environments – such as increased working from home due to the lockdown.

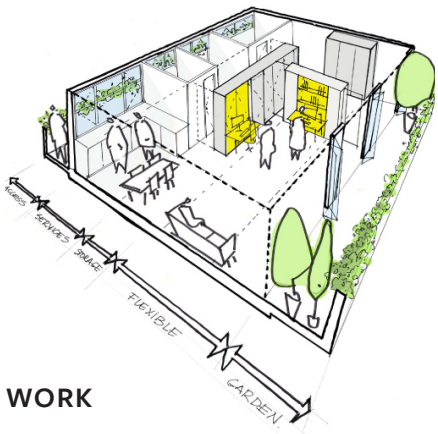
But cost-effective solutions are available. Using moveable walls, folding beds and drop-down desks, we designed a layout for a typical c. 70m² two-bed flat, which can be transformed to suit the differing needs of **work**, **rest** and **play**.

During the day, beds are folded up, and drop-down desks turn the master bedroom into home office space. The second bedroom then becomes part of the living space by pushing the wall back.

At the end of the working day, the living room can increase in size by 20–25m² by pushing back walls, creating a fantastic family or entertainment space. This can then connect to the outside by folding back sliding/bi-fold doors to the balcony.

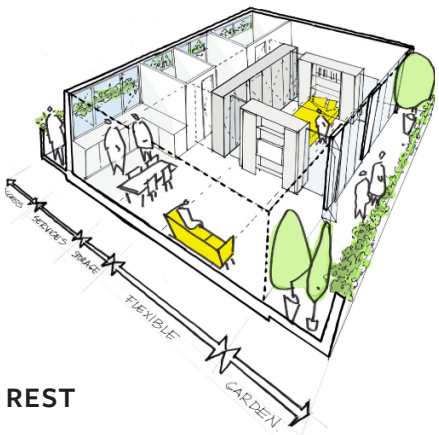


Images: *Top: Contraptions by Heath Robinson. Above: Ikea moveable walls prototype and concept sketches.*



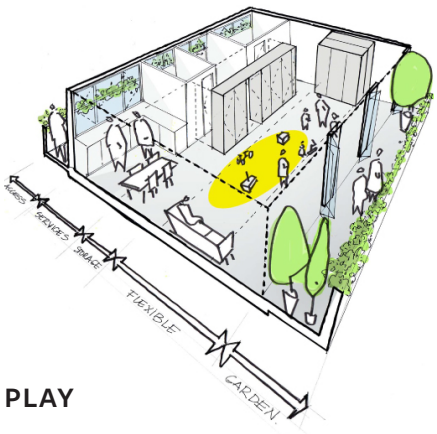
WORK

This layout for a typical c. 70m² two-bed apartment can be transformed with moveable walls, allowing the dwelling to be customised to various needs. Componentry includes fold-down desks and beds, adjustable shelving and rails for storage, and recessed areas for TV screens. During the day, the beds are folded up and the master bedroom becomes home office space. The second bedroom becomes part of the living space, with additional drop-down work stations.



REST

Work stations are folded away and the moveable walls reconfigured to provide two double bedrooms for rest. Beds are folded down from the flexible storage walls, and the flexible living area provides potential for a third bedroom.

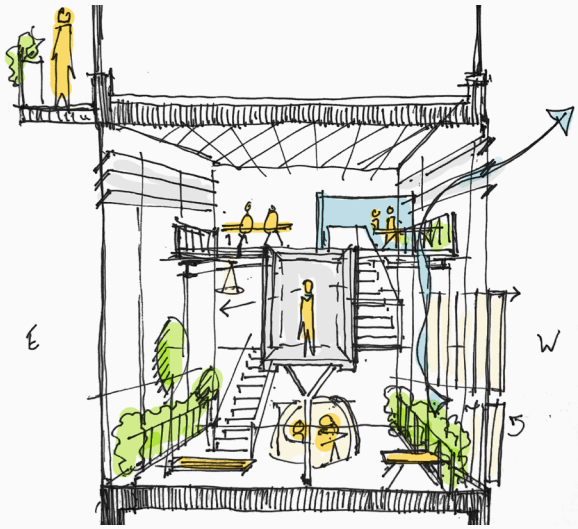


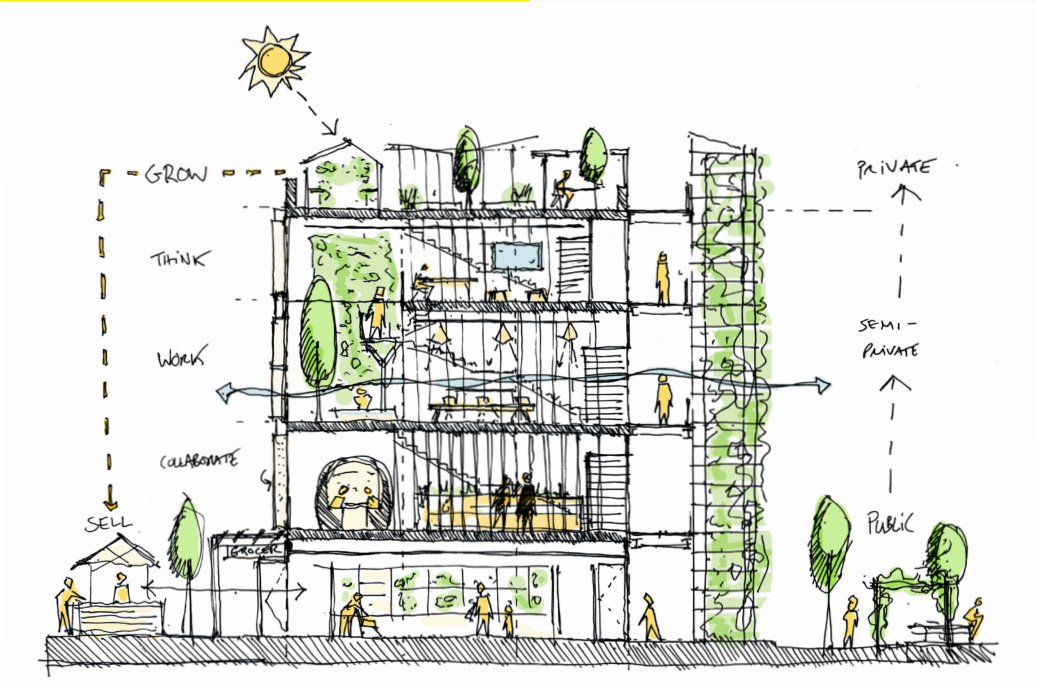
PLAY

Once the working day is complete, workstations and beds are folded away. The moveable walls are pushed back to increase the living area by c. 20–25m², providing a large space to bring families together or to entertain. Sliding bi-fold doors open up the space to the balcony, and connect to the outdoors.

3. FROM WHERE I LIVE:

Home-working as part of the “new commute”





The national lockdown has shrunk the scale of our daily commutes – often to the spaces within our homes. Commuting provides “time for self” and separation between home and work life, while home-working ensures more time in the day without the commute and with access to home comforts and family. But it can result in home and work blending, isolation, increased mental pressure, a loss of passive learning, family distractions and a lack of variety.

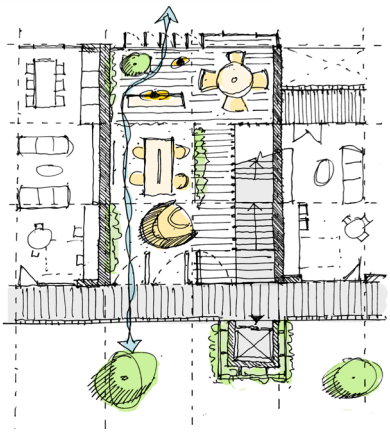
We explored the “new commute” at the micro, meso and macro scales in the home, local community and city. This culminated in proposals for dual-aspect communal work spaces in apartment buildings, which could foster collaboration and community, while addressing the need for a work space away from the home.

The proposals use circulation areas and the core to create a sense of community through shared communal space. We provided a mix of semi-private and private spaces, and used vertical circulation to create some joy in the “commute”, and opportunities to interact with others.

Planting – including green walls – enriches the circulation spaces, and encourages wildlife and biodiversity. Set between the apartments described earlier, the communal areas benefit from a dual aspect and cross-ventilation.

Roof gardens provide further opportunities for communal space, with growing areas and shared allotments, which could create a circular economy as residents sell their produce locally. Private work areas on the roof add further variety to the roofscape.

Shared workspaces through the building foster community and engender ownership, belonging and wellbeing.



Images:

Top: Concept section of the “new commute” as part of dual-aspect living.

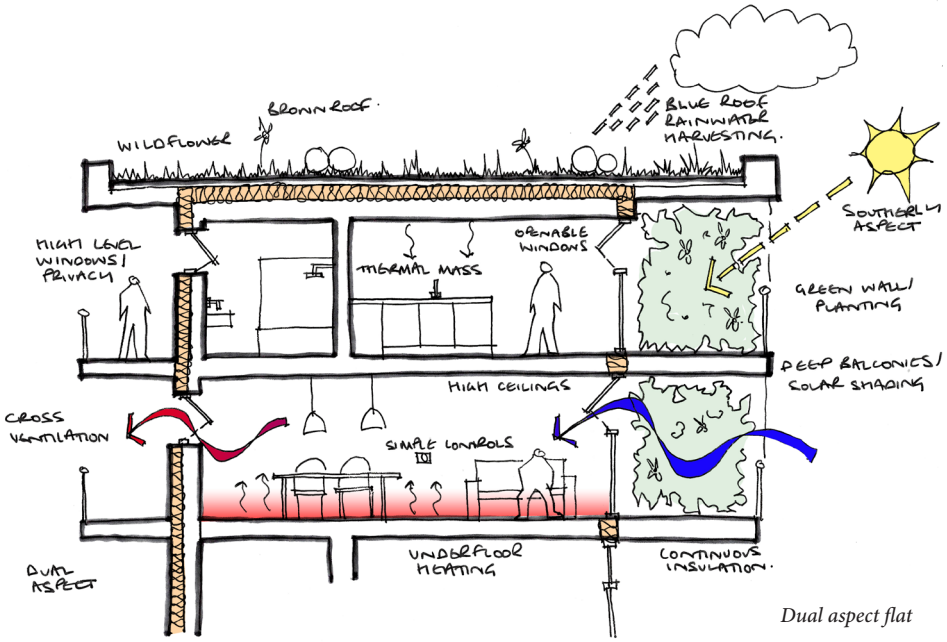
Middle: Section showing vertical circulation elements which create joy in the “commute”, with cross-ventilation to all areas.

A variety of uses for work and community and the potential for a circular economy engender ownership, belonging and wellbeing.

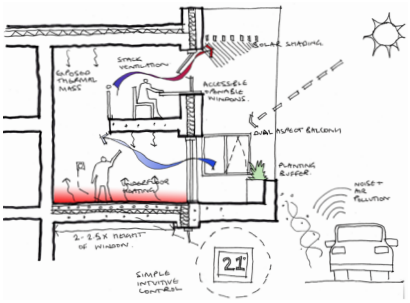
Bottom: Plan showing community work spaces located between dual-aspect apartments, which establish connections to others and the outdoors.

4. FROM WHERE I LIVE:

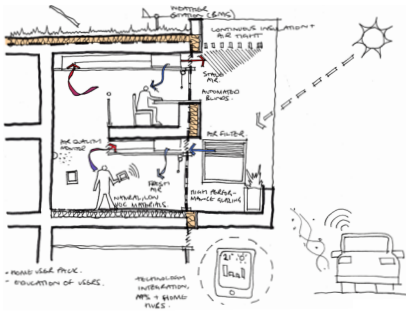
Environmental strategies



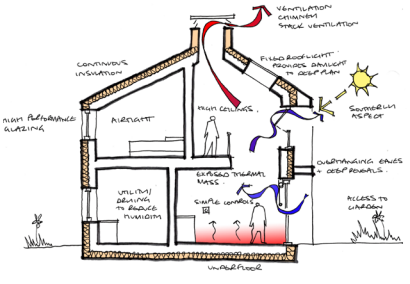
Dual aspect flat



Duplex apartment – low tech



Duplex apartment – high tech



Terraced house

A strong environmental strategy is key to delivering high-quality, sustainable buildings.

It's important to consider environmental factors at the earliest stage of a design, response to site constraints and opportunities, aspect and orientation, solar shading, sunlight and daylight impacts, natural or mechanical ventilation, thermal mass, continuous insulation, and high-performance glazing etc.

The environmental strategy clearly affects the quality of a building's internal environment. Natural ventilation via openable windows provides a direct connection to the outside, with obvious physical and psychological benefits. However, this can be difficult to achieve in city centre locations, where there can be issues with noise and air pollution, and stack or cross-ventilation is clearly reliant on residents opening their windows.

Mechanical ventilation (e.g. MVHR units) provides fresh, filtered air and ventilation without heat loss and draughts, and can reduce noise and air pollution in urban locations; however, it requires regular maintenance (e.g. air filters) and user education to avoid misuse.

We also considered natural and low-polluting materials, as well as biophilia (bringing the natural world into spaces to boost wellbeing), smart home hubs, apps and building management systems. You can see some of the environmental strategies we considered for houses, duplexes and dual-aspect flats as illustrated.

Images: *Top: Ecolab, Right: Google Nest*

4. FROM WHERE I LIVE:

Social value

As a practice, we define good architecture – and measure our success – in terms of sustainability, belonging and engagement.

Sustainability is our starting point: designing for the long-term benefit of the people, communities and environments impacted by a space.

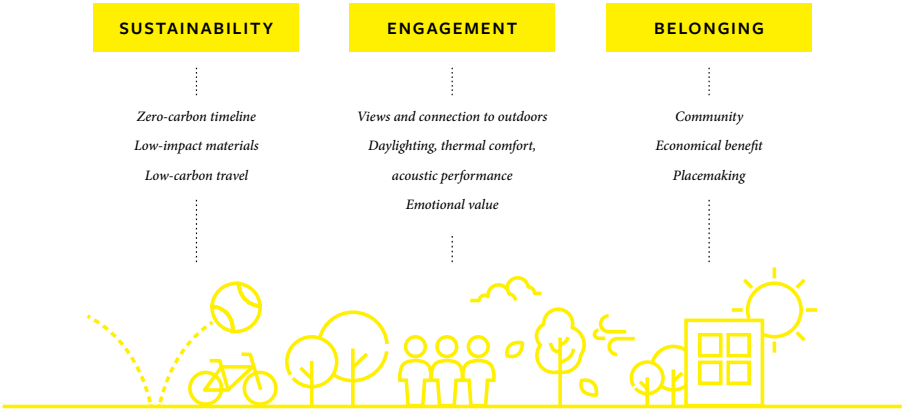
We create places with a true sense of belonging for the people who will use them, giving opportunities to connect meaningfully with the place and with others who share it. We also design spaces that engage with people's learning, creativity and optimism – enhancing the everyday.

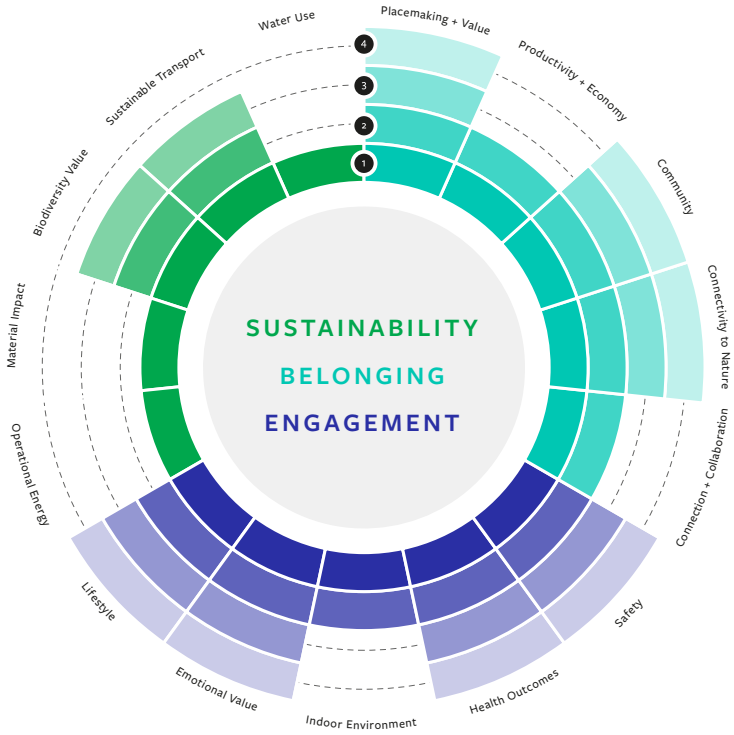
To evidence the social value – and social return on investment – our projects deliver, we've created a bespoke "Sustainability, Belonging and Engagement" (SBE) assessment tool, which we applied to the concepts above . This gave a fuller picture of how each concept might work in the real world, and helped us to hone our ideas.

The tool helps our teams to plan and measure the social and environmental impact of projects. We identify appropriate project targets in three key areas: **sustainability**, **belonging** and **engagement**.

We can then measure success through a series of checklists that align with the RIBA 2020 Plan of Work, the RIBA 2030 Climate Challenge, and the newly released RIBA Social Value Toolkit.

By agreeing at the outset what we will measure – and when we will measure it – we can chart our progress against these three criteria. This enables us to focus on and value what matters most – a key principle of social value, and critically important to ensuring accountability.





Images: *Top: Elmsbrook Local Centre, ADP.*
Above: Summary analysis of Oakwood Primary School, ADP

adp | INSIGHT

ADP's experienced team has a strong national presence, with seven studios across the UK.

We are able to draw on experience across multiple sectors, including healthcare, hospitality, leisure, schools, higher education, science and research, and workplaces.

The team would be delighted to discuss these ideas further, and to advise on any sites or projects moving forward.

Contact

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WITH THANKS TO:

+ Leo Bourke
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+ Melanie Jacobsen Cox
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+ Neil Lister
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+ Keir McNeil
+ Joe Morgan
+ Glen Moses
+ John Newman
+ Katie Thompson
+ Natalie Stylianou
+ Tristan Rabaeijs

Improved aspect and amenity: Natalia Lopez

Ability to customise: Leo Bourke, Natalia Lopez, Katie Thompson

Home working as part of the "new commute": Glen Moses

Environmental strategies: Keir McNeil

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