



Multi Generation House

CHOBHAM MANOR, QUEEN ELIZABETH OLYMPIC PARK, STRATFORD, LONDON, E20

NLA AWARDS

CATEGORY: HOMES - BUILT

PROJECT OVERVIEW

FINAL DRAFT V2 - 27-03-2018

PROJECT INFORMATION

Value: £900K - £1m

Size: 182 - 192 sqm gross

Project Status: Built and occupied during 2017 and early 2018

Tenure: Private Sale

Client: Chobham Manor LLP (Taylor Wimpey + L&Q)

Architect: PRP Architecture

Delivery Architect: PRP Architecture

Sustainability Consultant: PRP Sustainability

Structural Engineer: Stephen Wilson Partnership

M&E Consultant: Kaizenge

Planning Consultant: Quod

Project Manager / Cost Consultant: Taylor Wimpey

Developer/Contractor: Chobham Manor LLP (Taylor Wimpey + L&Q)

Landowner: London Legacy Development Corporation (LLDC)

WHY IS THIS HOUSE TYPOLOGY BEING SUBMITTED IN THIS NLA CATEGORY?

Many families want to live together over several generations or next door to relatives. Focussed around a shared courtyard the home is inclusive, facilitating family longevity to establish its roots in the community.

This house, drawing on historical London references for inspiration, is embedded as an integral component of the Chobham Manor masterplan; the first neighbourhood for the LLDC at the Queen Elizabeth Olympic Park.

The challenge of designing an innovative home started as a idea seeking to address modern family needs through promotion of social interaction and wellbeing.

We are proud that this has been realised at Chobham Manor.





Legacy Communities Scheme Illustrative Masterplan

Chobham Manor is located to the north section of the Queen Elizabeth Olympic Park. It is located between the Velo Park and the East Village. Chobham Academy school is to the east of the site.



Chobham Manor Illustrative Masterplan

The typology sits within the wider masterplan that delivers 75% family housing, not only as apartments, but via a variety of house typologies. The Multi Generation House is part of a suite house types from Mews to Maisonettes, Duplexes and Townhouses.

- KEY:**
-  Open space
 -  Overlooking the Greens
 -  Pedestrian connections



Historical references of materiality

The facade articulation takes cues from historical London precedents, such as the buildings at Bedford Square, which provided inspiration for the contemporary interpretation of the façades fronting The Greens at Chobham Manor. The material palette provides an excellent backdrop for the expression of the green open spaces proposed.



Phase 1 Layout

Typically the house is located at street corners and in close proximity to, and overlooking, green open space; where children can be overseen whilst playing with friends in the neighbourhood.

KEY:

- Multi Generation House
- Phase 1 boundary



Storey Heights

The LLDC were keen to see how traditional London housing typologies could be re-interpreted within Chobham and specifically asked for higher standards, in terms of, inclusive design and sustainability. Lower densities and associated storey heights frame The Greens to Chobham Manor. Low rise apartment buildings and terraces of townhouses create the setting with for these green open spaces, with the Multi Generation home acting as the transition device at street corners.

- Multi Generation House
- 1 storey
- 2 storeys
- 3 storeys
- 4 storeys
- 5 storeys
- 6 storeys
- 7 storeys

Typology Mix

PRP and Chobham Manor LLP welcomed the LLDC challenge to deliver housing diversity; the 'Multi-Gen' compliments a varied suite of repeatable typologies in order to meet the needs of different types of family. Repeatable typologies on Phase 1 are used across the remaining phases for consistency in construction methodology and delivery as well as funding certainty; in turn this repetition aides the cohesion of the wider masterplan.

- Multi Generation House
- Apartments
- Maisonettes
- Houses

Non residential uses

Non residential premises are proposed in three key locations on Chobham Manor to supplement the needs of residents. The layout of the masterplan reinforces key linkage to other facilities locally at the East Village and notably Timber Lodge and the Tumbling Play area that is directly adjacent to the site on the Queen Elizabeth Olympic Park.

- Multi Generation House
- Non-residential premises

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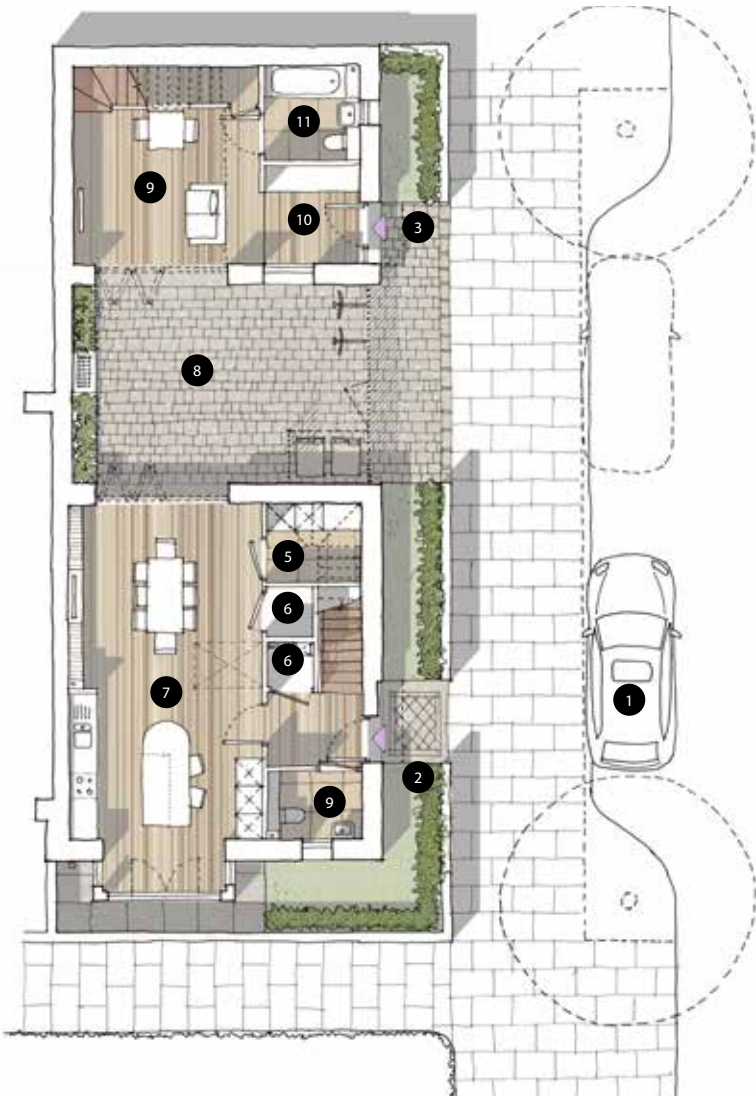
HOW THE HOME IS ORGANISED

The Multi Generation House, or 'Multi-Gen', is split into three separate elements; the main 3 bedroom house a shared courtyard and a 1 bedroom annexe.

The layout has been sensitively designed with families in mind. Shared gathering and spaces for interaction are located at the ground plane. Utility and storage spaces, which are an important component of any home, are neatly contained as not to impede the operation and flow of the main living spaces.

The living rooms provide spaces to relax, with the main family living room having an outlook to The Green. The master or parents bedroom, at second floor level, is right next door to a bedroom for young children; with a bedroom for an older sibling at the first floor.

The annexe, with its own living spaces, kitchenette and bathroom and can therefore accommodate the possibility of the occupants having mutual independence from the main house whilst being in close proximity when assistance or support is required.



Ground Floor Plan

- | | | |
|--------------------------------------|---|-------------------------------|
| 1. Allocated on-street parking space | 5. Utility room | 9. Double-height living space |
| 2. Entrance to house | 6. Storage | 10. Kitchenette |
| 3. Entrance to annexe | 7. Open-plan family kitchen | 11. Bathroom |
| 4. WC | 8. Shared courtyard garden (inc. refuse and cycles) | |



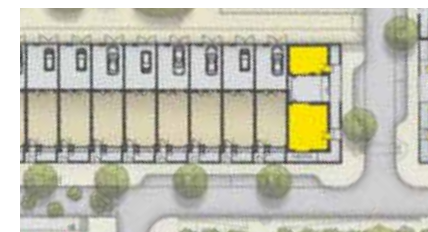
First Floor / Mezzanine Plan

- | |
|---------------------------------------|
| 12. Living room overlooking The Green |
| 13. Double Bedroom |
| 14. Family Bathroom |
| 15. Mezzanine Bedroom |



Second Floor Plan

- | |
|--|
| 16. Master bedroom overlooking the Green |
| 17. En-suite |
| 18. Twin Bedroom |



Location Plan

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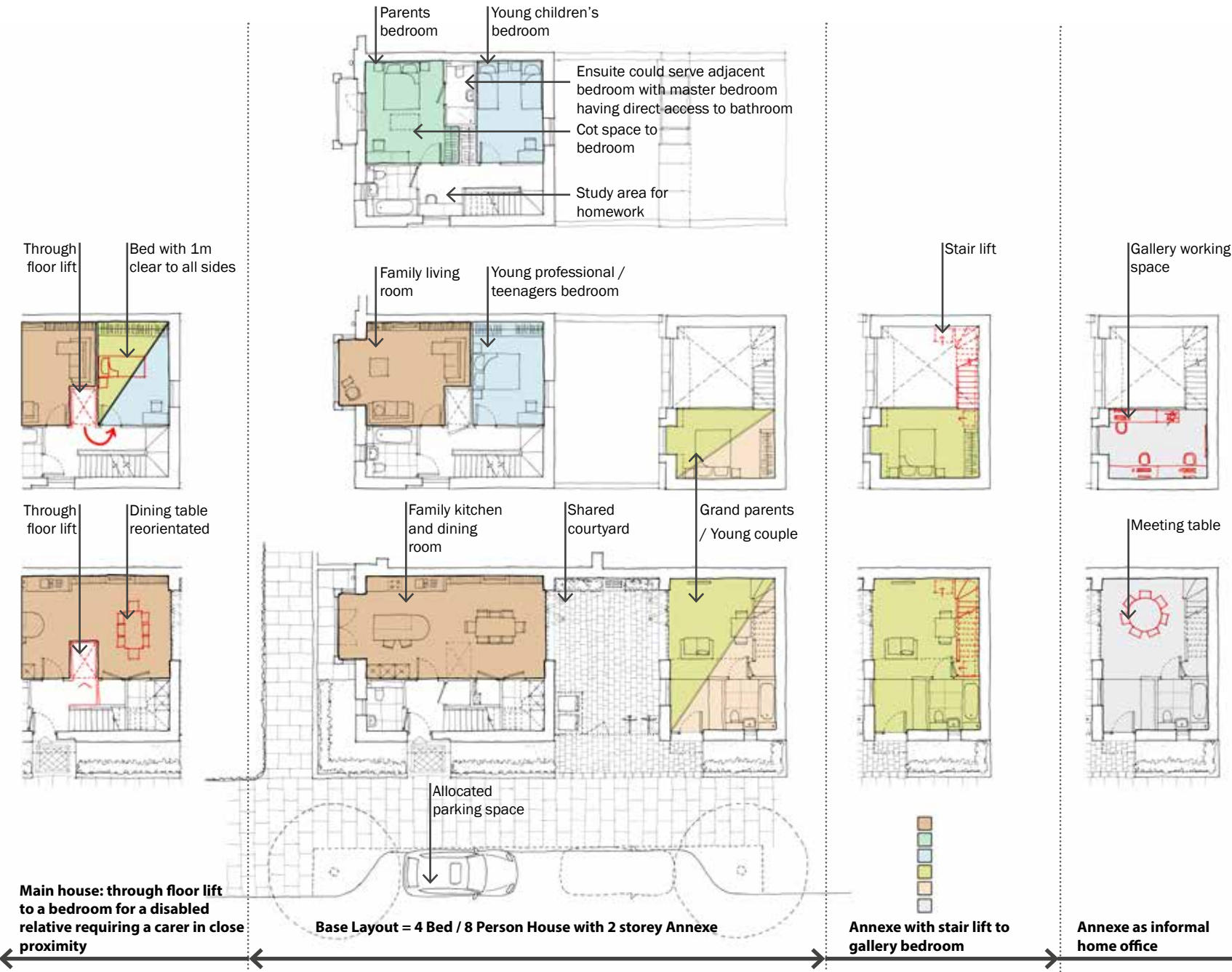
LAYOUT ADAPTION AND FLEXIBILITY OF THE HOME

The layout has been developed with simple internal flexibility and adaptability at its core.

The independent nature of the annexe provides accommodation for a grand parent, a student returning to live with their family, a young couple saving to get on the housing ladder or a relative requiring a carer whilst wanting to retain a degree of independence and privacy.

There is also flexibility for the annexe to be used as an informal office space offering opportunities for working from home.

The main house can be easily adapted to enhance circulation for a relative who is a wheelchair user whilst maintaining visual connectivity at ground level between the main house and the annexe.



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Cross Section Key:

1. The Green
2. Allocated on-street parking space
3. Open-plan family kitchen
4. Shared courtyard garden
5. Double-height living space
6. Living room overlooking The Green
7. Double Bedroom
8. Mezzanine Bedroom
9. Master bedroom overlooking the Green
10. Twin Bedroom





Sketch view from the family kitchen to the annexe across the shared courtyard



Sketch view from the annexe across the shared courtyard to the main house

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THE ROLE OF THE TYPOLOGY IN THE MASTERPLAN

The Multi Generation Home performs an important role in the masterplan as the arrangement results in a typology which is very successful at turning street corners. Corner configuration in terraced housing is a common problem, yet the multi-generational home turns this design challenge into a success.

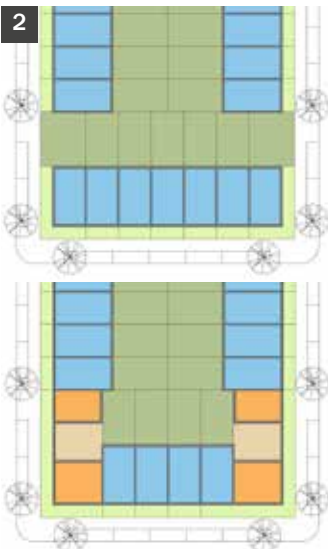
The location of the front entrance doors draws on cue's from historical Georgian London precedents to activate and provide interest to the street scene.

1: Street elevation fronting onto 'The Green'. The Multi Generation House is located at the end of the terrace of houses to the far right and far right of each urban block.

2: Urban block diagrams explaining the masterplan benefits of the Multi Generation House

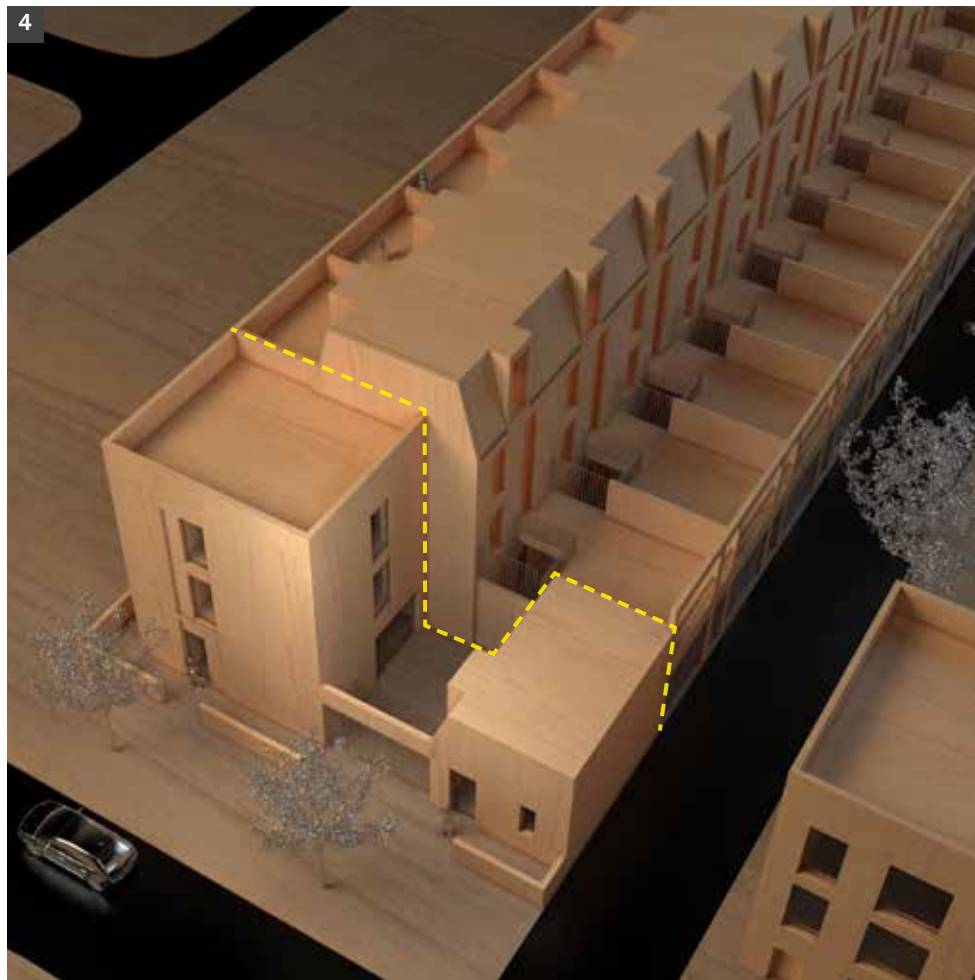
3: Historical precedent image at the corner of Guildford Street / Doughty Street, London illustrating the activation of the street. Note that the front door is located off the secondary route.

4: Early 3D massing study demonstrating the corner turning qualities of the massing. In this instance the form manages the transition from 'The Green', around the corner into the street and the gateway to the mews.



Typical urban block arrangement with Townhouses results in limited activation of the street and awkward arrangement of defensible space and rear gardens at street corners

Smoother transition at street corners and activation of the street on all sides of the plot facilitated by the Multi Generation House typology



1

2

3

4



Glimpsed views of the Velodrome, along routes which take a cue from the traditional London street typology, are announced and framed by a pair of Multi Generation Homes.



View of the emerging street scene at Chobham Manor. The Multi Generation Homes complete and bookend the run of townhouses to The Green. Full height openable windows at ground level and oriel windows above provide panoramic views from the family kitchen, living space and master bedroom across The Green which is the heart of the development.



The form of the building manages the transition at the junction of street with The Green. Defensible space is clearly defined by simple brick walls, with a simple materials palette, front doors, fenestration with feature surrounds and oriel windows providing activation and interest to the street scene.



Two separately distinguished front doors are provided to the home; one to the main house which is emphasised by bold architectural expression, whilst the annexe entrance is subsidiary and has less prominence. Access to the courtyard is also provided directly off the street for ease when removing refuse bins and bicycles.

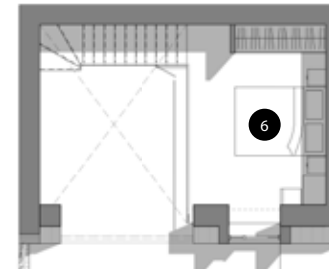
THE ANNEXE



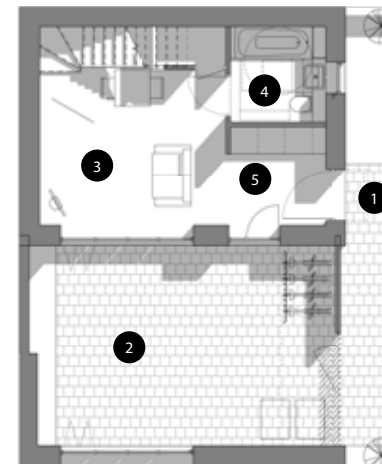
Expression of annexe

The typical annexe comprises a two storey element whose connection the main house is linked by it's primary materiality at ground floor level. Its separateness is subtle and announced to the street through the materiality and form used to the upper level.

Access to the annexe is entrance is level and unhindered. Delineation of the plot is signified to passers by a surface continuation of the brick wall materiality which forms the defensible space.

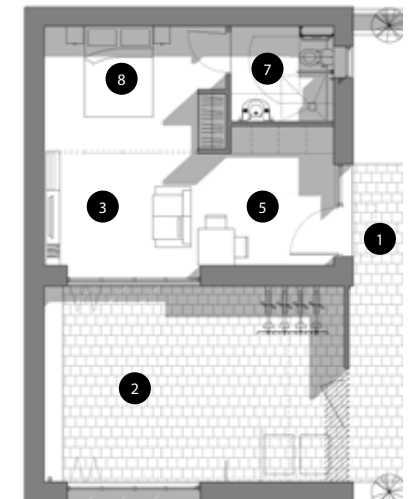


Mezzanine level (with two storey annexe)



Ground level (with two storey annexe)

1. Entrance to annexe
2. Shared courtyard
3. Living space
4. Bathroom
5. Kitchenette
6. Mezzanine bedroom
7. Accessible bathroom
8. Bedroom (with separation)



Ground level (single storey annexe)

Variants of the annexe at Chobham Manor

The typical base home as a two storey annexe with a bedroom located at mezzanine level.

At Chobham Manor, the layout of the masterplan allowed for a variant of the annexe to be developed which is wheelchair accessibility to an extra care level of provision.



The shared courtyard with transparency yet privacy to the street. The courtyard creates an outdoor room extension to the open plan kitchen dining space providing a blank canvass where plants can be grown and children can play.



Connectivity of the main house, the shared courtyard and the annexe. The annexe has the benefit of being independently separated from the main house should the occupant so wish.



The generous open plan living/dining space links to the main courtyard and is the hub of family activity and interaction of the home.



Internal view from the family living space at first floor level. The oriel window provides a view of the green space outside. This room is a place to relax and enjoy down time with the family and visitors.

ARTICLES IN PUBLICATIONS AND THOUGHT LEADERSHIP WRITING (CONTINUED)

RSA Essays, Co-Living and the Common Good, Essay by Manisha Patel (PRP), March 2018



The fundamentals of a home and how we can design for wellbeing

Manisha Patel
Manisha Patel looks at co-living in major metropolitan areas like London from the perspective of design, drawing on her experience in urban design, masterplanning and regeneration. Similarly to other essays, she shares how our family structures, technology and patterns of work and living are shifting. She shares her essay as the concept of wellbeing, examining how the ways in which we design homes and cities influences the quality of our communal interactions and our success in achieving social, economic and environmental outcomes.

Humans have evolved as the most social of all mammals. Our communication skills as a species. Social interaction and the search for a sense of wellbeing is hardwired into all of us. The desire for communal interaction is balanced with the need for each individual to have the ability to choose their degree of separation or privacy.

Wellbeing is defined as the state of being comfortable, healthy or happy. It is one of the most popular buzzwords in the design of living and working environments and is fast becoming an essential consideration of fine-grained design, influencing everything from individual homes and single family units to wide-area masterplanning accommodating multiple homes in various typologies and contexts.

In this essay I consider what it means to design homes and develop built environments that promote wellbeing, with a focus on big cities such as London in particular. I explore:

- What impact does a proper consideration of wellbeing have on our built environment and our changing needs through time?
- What are the essential ingredients required for a true sense of wellbeing to exist?
- What is the potential for co-living and new housing models to promote wellbeing and sustainability?
- What impacts are advancements in technology having for the way we live?

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"There is a growing cultural imperative to adapt to an accelerating digital age and changing patterns of (and attitudes to) work and leisure"

Household and family structures are changing dramatically
To answer these questions, we must first understand how our family structures have altered and continue to evolve in a world of accelerated change (on the latter, see Rohan Silva's essay in this collection). With the advent of the 'global village', the conventional nuclear family structure has declined. Society is increasingly shaped by the expression of individual choice and lifestyle preferences. Household and families face ever greater challenges through the course of their lives, especially as financial insecurity sharpens and society ages. And there is a growing cultural imperative to adapt to an accelerating digital age and changing patterns of (and attitudes to) work and leisure.

These issues are encouraging policy-makers, planners and designers to increasingly examine what the contemporary family needs in terms of living environment in order to be comfortable, healthy and happy.

Inclusive design and the imperative for balanced typologies of housing
A key part of this has been to recognize how more balanced housing provision and inclusive approaches to design can influence wellbeing.

An ideal built environment and urban fabric, caters for all types of families. This can help to create mixed communities and support wellbeing through the different stages and changing circumstances of people's lives. Housing provision has traditionally responded to local need through the creation of a range of small and larger homes in a variety of tenures. This has been complemented by specialist housing, such as homes for later living and most recently developments within the Build to Rent sector.

Despite this, there remains a fundamental lack of choice in our housing markets for accommodating changing family structures. As government policy on dwelling size evolves, it is important that we pursue a mixed economy of housing that includes smaller dwellings but also options that enable families to live together longer should they wish to do so. Without this there is a risk that London's housing offer could portend a sea of one and two bedroom typologies being spread across the city's vibrant, multicultural landscape. Will this meet the needs of our Londoners as well as attract a much sought after homogeneous culture that Londoners currently enjoy?

Some more thoughtful recent masterplanning in the capital has promoted balanced communities and encouraged the development of places for all ages, genders and degrees of disability. London is ahead of the global field in terms of inclusive design, but the priority has only just commenced.

Demand for co-living is growing in response to changing patterns of work and living
Changing patterns of work, leisure and social participation are rekindling an interest in co-living, taking an approach to housing with roots in historic Danish co-housing co-operatives and adapting it to meet the pressures and opportunities of modern day living.

Co-living typologies are emerging through a need and desire to live affordably, but also to share and interact with others. Co-living implies an intentional community of individual living spaces clustered around shared

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space. This form of housing, currently a tiny proportion of the housing supply, has the potential to represent a key ingredient of London's housing offer, if designed appropriately.

It can support migratory patterns of work and provides renters with short-term, low-cost solutions while looking for their permanent situation. Smaller sleeping and living quarters within individual residents' apartments are supplemented by generous communal facilities such as shared kitchens and lounges, laundry, storage and storage. These facilities are further enhanced by place-specific lifestyle offers such as gyms, libraries, reusable events space and cinema rooms.

A broader application of co-living is inherent in other housing forms, some of which are not specifically reflected in current policy and yet are proving to be successful in meeting the needs of certain groups in society.

A form of co-living has existed for many years in our methods for housing the elderly. Traditionally this has involved over-allocating largely unutilized groups of older people into individual units with degrees of care and nutritional shared facilities. This model, perhaps fortuitously, is becoming a thing of the past, largely because of funding cutbacks. In recent years we have seen more empowering alternatives emerge (albeit very small in number), including co-housing communities for older residents. One such example is New Ground Co-housing in north London, which includes 15 private apartments placed around shared facilities. The design process was co-created by members of the Older Women's Co-housing (OWCH) group, with a strong focus on creating a sense of community and shared ownership.

The multi-generation house: a new typology for a changing society?
Co-living isn't restricted to single professionals or older residents. It can also be designed to enable different generations of families to live together longer in order to better respond to growing social and economic challenges.

The multi-generation house on the Queen Elizabeth Olympic Park is borne out of a specific need to co-exist. Its starting point is that a home should be a place of nurture and support and should also reflect the evolving nature of family life. Sufficient physical space is only one part of this.

The model comprises a residential plot which holds three or four bedroom family dwellings with a separate self-contained annex in the form of a one bedroom house which could be used by grandparents, young couples, a recently qualified graduate or student, or a family member with a disability who wants to live independently but wishes to remain in close proximity. The two buildings are served by separate front doors and linked by a shared courtyard garden. In addition, roof and upper floor terraces can provide access to amenity, sunshine and views.

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"The multi-generation house and similar schemes are part of a wider effort to embed social interaction and wellbeing into our development of city communities"

The multi-generation house responds to a changing societal context. The delay in starting families, the increased cost of housing, longer life expectancy, working from home and ever changing relationships to technology are all aspects of modern living that contribute to the need for greater choice, flexibility and adaptability in how we live. Added to this are increasing pressures on families at different points of their lives. Many modern families consist of working parents, young children and aging members with increasingly complex health needs. Targeted support like growing living costs, reduced social services, increasing childcare costs, increasing costs of caring for older relatives, higher education costs and the difficulties of getting onto the housing ladder.

These challenges have sparked interest in new forms of housing that allow families to live together in different ways, especially as the need for more intergenerational interaction grows. In larger social units, the degree of separation and the degree of integration of services requires fine-tuning to avoid tensions. But the successful blend achieved within the multi-generation house and its ability to integrate different generations within the wider community can inform other models for co-living, which all grapple with the central challenge of striking the right balance between privacy and interaction.

Co-living can support a broader agenda to help cities build community
The multi-generation house and similar schemes are part of a wider effort to embed social interaction and wellbeing into our development of city communities.

The Mayor's Draft London Plan is encouraging high density developments along transport nodes and around London and its town centres which have more mixed use components within the developments and much greater degrees of communal interaction. More advanced Build to Rent schemes currently under construction in London are closely following the North American model. This is a mature model honed within the metropolitan areas of New York, Chicago and Boston and now implemented by national agencies with specific brands across the United States. The model can range from blocks of 100 to 1,000 dwellings designed with a greater built sense of community than conventional blocks for rent or sale, with shared communal, leisure and work spaces and interconnectivity amenity incorporating highly regarded technological specifications.

Interiors could be part of the answer to creating flexibility to meet the changing needs of society and maintain wellbeing throughout life. The Build to Rent sector is currently leading on this with the North American model requiring robust fire maintenance but high specification and high design interiors which attract and retain would-be renters. Communal amenities are ultra-modern, complemented by high-quality services and the development of a identifiable community culture, supported by a building facilitator. This approach has already begun to seep into the mainstream housing market for all but affordable tenures (which is



Chobham Multi Generation House



Chobham Multi Generation House - Interiors

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a notable limitation). Co-living schemes are matching this approach to interior design and communal amenities and the Pocket Living product, a discounted sale model in London, is a prime example of this kind of idea in practice.

More conventional forms of housing also need to evolve with the creation of a popular typology with an interior flexible enough to be a lifetime home without looking like one. This greater flexibility would allow evolving families to adapt and stay together longer, rather than moving home multiple times to slightly larger (or smaller) accommodation in response to changing circumstances. It would also enable the ability to 'flex' 'up home' from atypical other members of the family, creating some of the opportunities for intergenerational living mentioned earlier in the paper.

Technology and the imperatives of sustainability are enabling new forms of communal living
Imperatives for greater environmental sustainability and social capital are opening up opportunities for new approaches to housing, including co-living, which is being supported by advancements in technology.

Modularisation is opening up new possibilities for achieving energy efficiency at scale. High density developments are ideal for modular construction and factory assembled components such as kitchens and bathrooms, integrated energy intake interface units or wholly volumetric living units. Mainstream housing developers such as Berkeley Homes are embracing opportunities to use digital and green and building and operating high-tech factories to enable the speedy production and delivery of new homes.

Such initiatives will have the effect of dramatically increasing the productivity of factory assembled dwellings that currently roll off the production line in the UK. Modularisation requires a highly rational approach to design, with repeated cells of accommodation set within a grid of structure and services which have uniform templates throughout for kitchens and bathrooms.

Modularisation is particularly suited to co-living, where identical living modules can be assembled around more amenity-rich and specifically designed shared living spaces in a high density living matrix. We need to be aware however, that such cellular structures could be essentially inward looking and unresponsive to integration and wellbeing. They should therefore be informed by social contact design principles, which encourage interaction.

Advancements in technology can enable new forms of sustainable living and encourage social contact. The increasing imperative of sustainability in new residential development is gradually shifting housing towards an imperative that promotes health and wellbeing.

Twenty years ago, the concept of the Smart Home was being brought to reality by Brenda and Robert Vale when they completed their own four-bedroom home in Southwell. Their design-promoted health

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based sustainability values through a low-tech approach to fabric energy efficiency, a traditional and locally supported technique for construction, and a concentration on internal finishes that create a restful and clean. Today, these values can be achieved and enhanced through technology for ultra-efficient heating and ventilation within super-insulated dwellings. This includes greater visibility and data gathering on energy consumption, indoor air quality, outdoor air quality as well as personal health data. The introduction of autonomous vehicles will eventually see a huge change in how we move around our neighbourhood and the ground plane of residential buildings.

Co-living is a highly curated offer that provides residents with support to manage their lifestyle and connect to others. Technological development has enabled the management office of these buildings to improve significantly by providing a more seamless connection to their facilities. Building systems and mobile-based app-enabled platforms are increasingly used. These technologies have the potential to allow co-living residents to share resources more efficiently, to make opportunities for social interaction more visible or hidden, and to connect residents to services and civic opportunities within the wider area in which they live.

Conclusion
Residents of cities will need to adapt to higher density residential development. We will need to adapt to rapid technological change. And we will need to plan for a greater variety of age groups living in close proximity as life spans continue to increase. There is a link between these two challenges of adaptation to these concurrent phenomena, provided that we appreciate the key components for wellbeing. These are the twin drivers for interaction: more privacy and the choice and freedom to connect to each other which we wish to live our lives. A major strength of co-living is that it seeks to strike a balance between the two, instead of privileging one over the other.

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3. On sites of these challenges, see for example McNeil, C. and Hunter, J. (2014) 'The Generation Divide: Collective Solutions to Care in an Aging Society', PRP, Available at: www.prp.com

4. See for example Williams, J. (2012) 'Designing Neighbourhoods for Social Interaction: The Case of Colchester, Virginia', *Urban Design* 17(1), pp. 100-110.