



WORK HOME

HOUSING SPACE USE
IN THE PANDEMIC
AND AFTER:
THE CASE FOR NEW
DESIGN GUIDANCE

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PREFACE

The perennial policy theme of housing space standards naturally attracts debate because housing is both a cornerstone of UK public policy and also a powerful, often divisive, political football. Covid-19 has put the question of how we use our domestic environment back at the top of a broad policy agenda, pointing to the need for better understanding of our homes in regard to the nation's health, productivity, cultural life and spending. With all the cards thrown up in the air by the pandemic, these social and economic questions indicate a need to think differently about our urban future.

We at the School of Art, Architecture and Design have a head start in this debate as Dr Frances Holliss, Emeritus Reader in Architecture, is a leader in the field of the architecture of working from home. Her research on this topic, supported initially by the ESRC (2003-2007) and thereafter by an AHRC Knowledge Transfer Fellowship (2009-11), led to the 2011 establishment of an open-access design, practice and research resource (www.theworkhome.com) as well as numerous publications.

Following the University's allocation of funding to extend the reach of research with a focus on policy-maker engagement under Research England's SPF: Strategic Priorities Fund, we began a study to capitalise on this inhouse expertise. "Housing Space Use in the Pandemic and After" builds on fieldwork data collected over the past 15 years by Holliss, to generate a series of home-working case studies that underpin the case for new design guidance. In the project, this data is brought to life in newly drafted scenarios that frame discussion with industry experts, and offer a basis on which we make recommendations for space standards to address home-based working.

COVID-19

Covid-19 has shone a spotlight on UK housing injustice. The fortunate have long been able to accommodate home-based work through under-occupation – in a disused garage, a 'spare room', or a studio at the bottom of the garden – whereas others, including the poor and the young, have not had this option.¹ And as a result, by May 2020 during lockdown restrictions that came into force two months earlier,² "many more middle-class workers were working from home than working class workers" by a factor of one to five.³ This contributed to disproportionate illness and death in deprived groups, including in communities of colour.⁴ Inadequate housing is one of the factors driving this inequality. The smallest in western Europe, UK housing is increasingly built, tight-fit, to minimum space standards that make inadequate provision for home-based work.

Building on two decades of research into the architecture of home-based work, this report acknowledges that the pandemic has changed our spatial requirements and expectations of what constitutes an effective domestic environment.⁵ Now more than ever, there is a need to make provision for home-based work, particularly in homes that are neither adaptable nor have space to spare. With the aim of supporting the case for housing that better fits our needs today, this study is focussed on space standards.⁶

1 Holliss, F. (2015) *Beyond Live/Work: The Architecture of Home-based Work*. London, Routledge.

2 The Health Protection. (2020) Coronavirus, Restrictions (England) Regulations 2020. Available from: <https://tinyurl.com/4kb67rmh>

3 Smith, M. (2020) Many more middle class workers able to work from home than working class workers. *YouGov*. Available from: <https://tinyurl.com/nkkm6r3s>

4 Platt, L., & Warwick, R. (2020) Are some ethnic groups more vulnerable to COVID-19 than others? *Inequality: The Institute for Fiscal Studies Deaton Review*. Available from: <https://tinyurl.com/fe834rcr>

5 The Workhome online resource: <http://www.theworkhome.com>.

6 Park, J. (2017) *One Hundred Years of Housing Space Standards: What Now?* Available from: <https://tinyurl.com/5558y7fj>

SPACE IN THE HOME FOR WORK

Until the end of the nineteenth century home-based work was common, and many buildings – from pubs and fire-stations to weavers’ and artists’ houses – were designed for dual-use. Functional zoning, however, first introduced as the primary spatial strategy of the Garden City idea (1898)⁷ and then adopted and adapted in urban design and planning systems worldwide, led to the systematic separation of dwelling and workplace. Homes have since been designed as settings for purely domestic activity: for cooking, eating, sleeping, watching TV and bringing up children. In such purpose-built accommodation, finding space for home-based work can present a challenge.⁸

Of course, planning history is not the only driver of these shifting patterns; social changes associated with the transition to a service economy, new information and communication technologies, more women working than ever before, and structural unemployment mean that we now need what we don’t have: a ‘home work city’.⁹ In 2007, this report’s lead author coined the term ‘workhome’ to identify and account for the building type that combines dwelling and workplace.¹⁰ The concept was developed, through an exploration of the architecture of home-based work, into an open-access Design Guide, Pattern Book and Precedent Database.¹¹ Building on this, preliminary recommendations concerning space for home-based work have been generated through a secondary analysis of data from more than 125 case-studies of home-based workers and their premises in the

UK, Netherlands, Japan and USA (2005-17).¹²

A central finding of the underlying research is that, where home-based work is concerned, one-size-does-not-fit-all. People work from home in a wide variety of jobs, from childminder to curtain-maker, from architect to academic, and some occupations require more space than others.¹³ Further variables include the nature of the household, the extent of interaction with members of the public (employers, employees, customers or clients), and the home-worker’s personality.¹⁴ Several constants are, however, discernible.

Some 63% of participants had a separate workspace on which they could ‘close the door’ at the end of the working day. In some instances, this was prioritised over other space in the home at a personal cost – as with the childminder who gave up her own bedroom to make a playroom for children in her care. In another case, a building surveyor with a sick wife craned a Portakabin into the tiny garden of his terraced house so he could work from home while minding the children. Around 20% of the sample was content without a dedicated space. However, the same proportion reported that insufficient space to work and inadequate spatial and acoustic separation from domestic activity resulted in a range of hardships. These include: negative impacts on efficiency, stress and mental health problems, difficulty concentrating, a struggle to ‘switch off’ from work at the end of the day, and concerns regarding the safety of small children in a working home.¹⁵

7 Howard, E. (1898) *To-morrow: A Peaceful Path to Real Reform*, republished in 1902 as *Garden Cities of To-Morrow*. London, S. Sonnenschein & Co., Ltd.

8 Kellett, P. & Tiple, A.G. (2000) The Home as Workplace. *Environment & Urbanization*, 12 (1): 203-214.

9 Schreurs, E. et al, eds (2019) Home Work City: Living and Working in the Urban Block, *DASH*. Delft, Delft University of Technology, Chair of Architecture and Dwelling.

10 Holliss, F. (2019) The Workhome: An Architecture of Dual Use. *DASH* 15: 4-13; see also (2007) ‘The Workhome... a new building type?’ PhD dissertation, London Metropolitan University repository.

11 Available online: <http://www.theworkhome.com/>

12 Primary research, involving home-based workers from across the socio-economic spectrum, led to a typological series for buildings combining dwelling and workplace.

13 Hakim, C. (1998) *Social Change and Innovation in the Labour Market*. Oxford, Oxford University Press.

14 Holliss, F. (2017) Designing for Home-Based Work – Lessons from Two English Villages. *Architecture and Culture*. 5 (1): 21-39.

15 Holliss (2015) Op. cit.



SCENARIOS

The twelve scenarios developed for and shared in this report therefore feature dedicated workspaces (small, medium and large) in the homes of knowledge workers, craftworkers, service-workers and creative practitioners, amongst others. Detailed drawings explore the inhabitation of these workspaces and their use in a range of situations and occupations, providing an evidence base on which to test how much space is needed for homeworking. In the terminology of the participants, workspaces include two studies, three offices, one playroom, one shed, one hair-room, one workshop and three studios.

SMALL

1. Study/academic (1P/6m²)
2. Playroom/chil minder (1P+3 kids/6m²)
3. Office/BT engineer (1P/7m²)
4. Shed/soft furnishings (1P/9m²)
5. Hair-room/hairdresser (4P/9m²)

MEDIUM

6. Workshop/curtain maker (1P/12m²)
7. Office/translators (2P/14m²)
8. Studio/photographer (1P/15m²)
9. Study/rector (3P/16m²)

LARGE

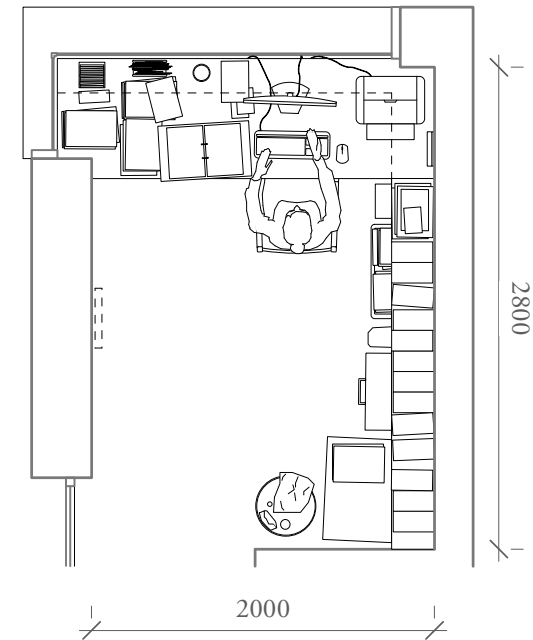
10. Office/architects (3P/22m²)
11. Studio/graphic designers (3P/23m²)
12. Studio/artist (1P/33m²)

1. SMALL: STUDY/ACADEMIC (1P/6M²)



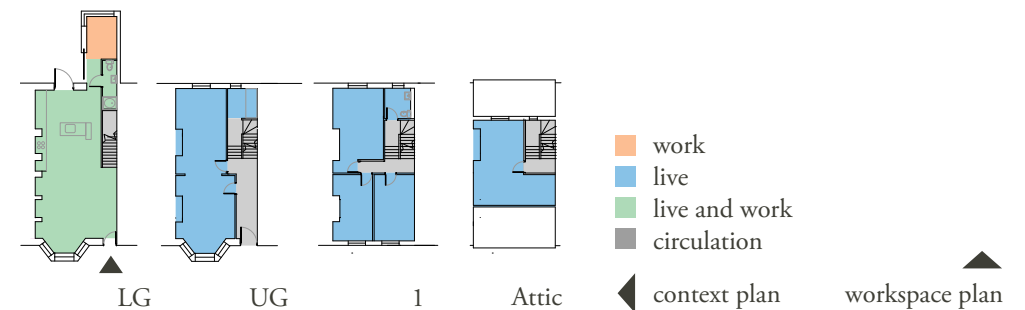
Scenario 1 features an academic, who has a criminal lawyer partner and children aged 15, 13 and 7, living and working in an urban four-bedroom Victorian mid-terraced house. Travelling to work three days a fortnight, she works the rest of her time in a 6m² purpose-built study contiguous with the kitchen because she likes to cook and work simultaneously, moving between cooker and computer.

She says she has *exactly the amount of space [she] needs*. A built-in desk under the window maximises natural light and view. She loves working in this workspace, but is clear she does all serious work when the children are out of the house. It is a private space that transforms to public at night. Her partner, who works outside the home, has an even smaller (3.5m²) study on a stair landing for evening and weekend work.



Case study no: 4/LW06
Worker: Academic/knowledge worker
Type: Works in home

Building age: C19
Workspace area (sqm): 6
Floor to ceiling (m): 2.5



2. SMALL: PLAYROOM/CHILDMINDER (1P+3KIDS 6M²)

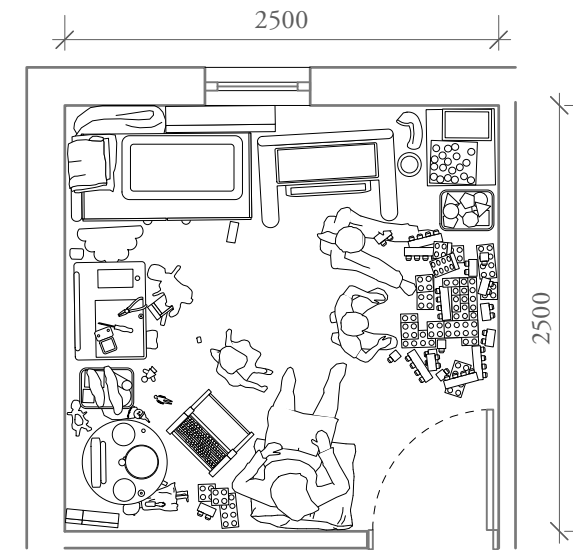


Scenario 2 features a registered childminder, single parent of children aged 14, 12 and 10, who looks after five children between 1 and 8 years old in her urban three-bedroom 1940s terraced council maisonette. The only rooms she does not work in are two bedrooms that she keeps locked, one of which she shares with her youngest daughter.

She converted her own bedroom into a 6m² dedicated playroom, where her

charges can have a change of scene, and a different set of toys and games to play with, after lunch each day, saying *...when it's time to go upstairs, they run up the stairs – they like going up there for the activities.*

She would like the place to be bigger, but manages ok, has no complaints. However, she considers having a dedicated first floor playroom separate from her ground floor living space to be crucial.



Case study no: 107/LW47
Worker: Childminder/miscellaneous
Type: Works in home

Building age: C20
Workspace area (sqm): 6
Floor to ceiling (m): 2.3



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work
live
live and work
circulation

context plan

workspace plan

3. SMALL: OFFICE/BT MANAGER (1P/7M²)

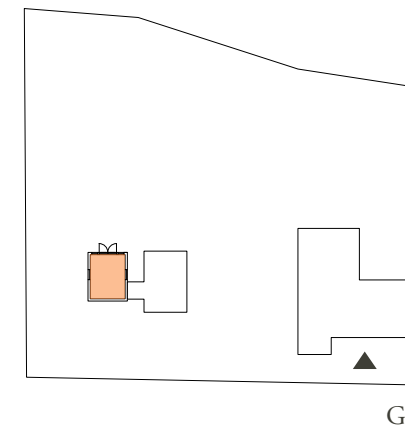
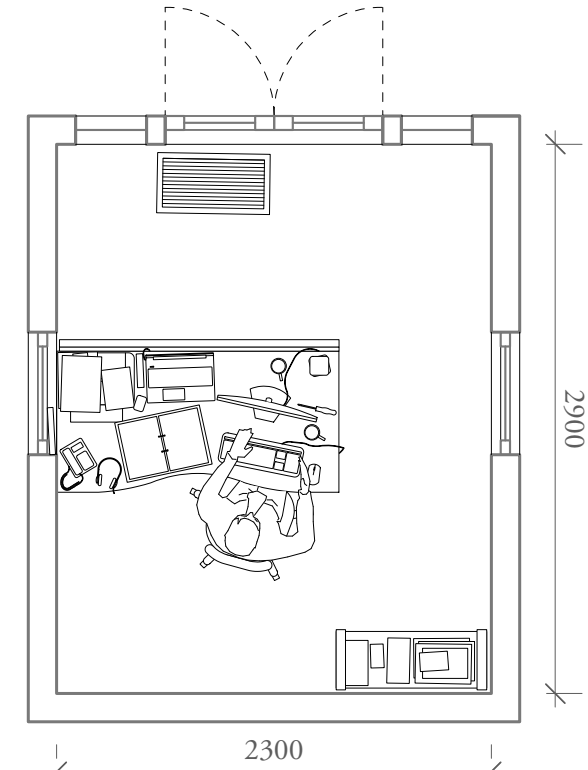


Scenario 3 features a telecoms manager who shares a rural three-bedroom period house with his partner who works outside the home, and children aged 18 and 16. Travelling to a central office one day a quarter, he works full-time in a summerhouse in his garden, 25m from the house ... *it takes me about 15 seconds to get into work.*

His company provides fast broadband, a phone line and a standard kit for homeworkers, which they keep up-to-date, that includes a desk, chair, photocopier/printer, bin, pedestal set of drawers, filing cabinet, laptop, screen, keyboard and mouse, all of which fit neatly in his 7m² workspace. *So long as I have a phone, a computer and somewhere to sit, I can be anywhere. Working from home means I can earn London wages while living in the West Country where pay rates are much lower.*

Case study no: 18/LWG09
Worker: BT Manager/professional
Type: Works in home

Building age: C18
Workspace area (sqm): 7
Floor to ceiling (m): 2.3



- work
- live
- live and work
- circulation

context plan

workspace plan

4. SMALL: SHED/SOFT-FURNISHINGS (1P/9M²)

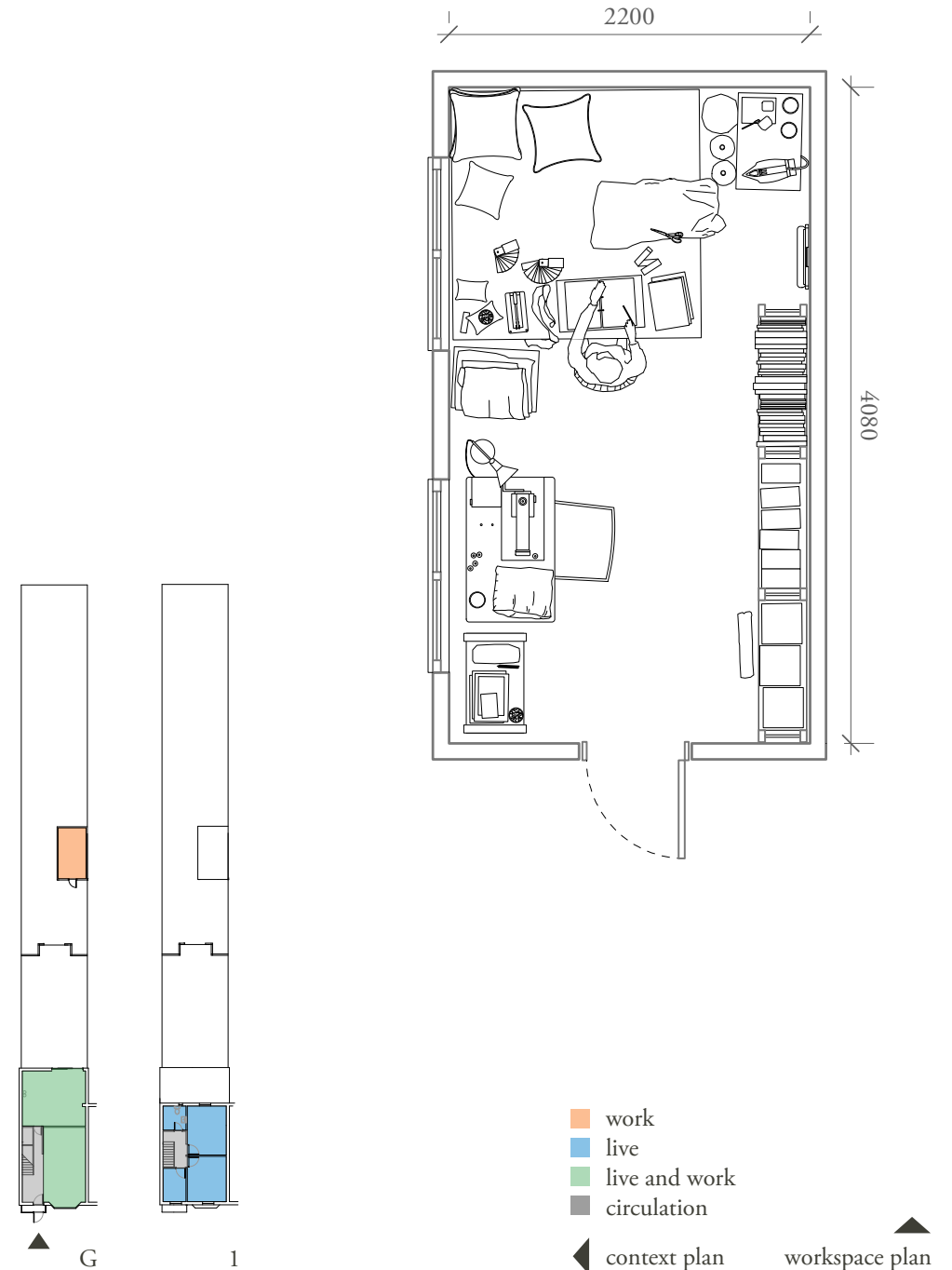


Scenario 4 features a soft-furnishings designer-maker, who works in a 9m² shed half way down the garden of the suburban post-war semi-detached house she shares with her builder husband and children aged 19, 18 and 8. Previously working in the house *where it took over*, she moved into the shed to help create some separation between ‘work’ and ‘life’, and also because *dust got everywhere* and she has an asthmatic child.

She has moved from making everything to using outworkers particularly as making curtains took up too much space. Her shed workspace has good natural light, a view of the garden, and space for equipment including sewing machines, ironing board and a cutting table, as well as rolls of fabric and a substantial range of fabric samples and accessories.

Case study no: 30/LWS02
Worker: Soft furnishings/craft worker
Type: Works in home

Building age: C20/21
Workspace area (sqm): 9
Floor to ceiling (m): 2.3

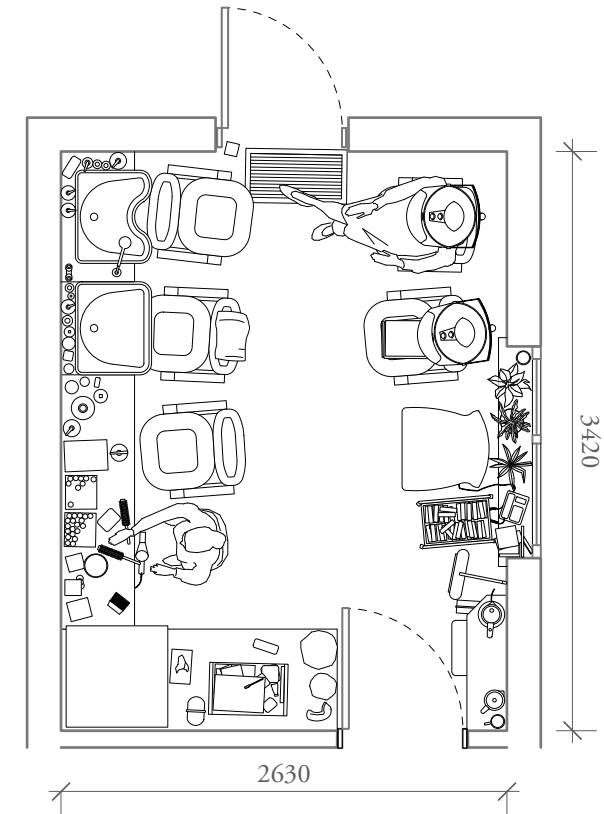


5. SMALL: HAIR-ROOM/HAIRDRESSER (4P/9M²)



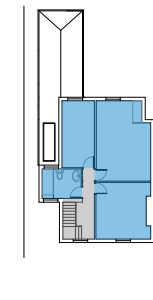
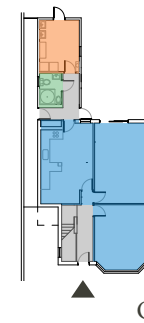
Scenario 5 features a hairdresser who works in her purpose-built 9m² hair-room rear extension to the suburban post-war semi-detached house she shares with her second husband. When she became a single parent, she *...did hair from home to support myself and my child*, but hated the mess of the hair that got everywhere, and the smell of the chemicals.

The hair-room she built (with planning consent for a utility room, as she did not think she would get permission for a salon) has a separate side-entrance, waiting lobby and WC for customers to use, to separate it from the rest of the house. Compact, it has two hair-washing, one hair-cutting and two hair-drying, stations. Although there is space for three customers, with just one employee she rarely has more than two at a time.



Case study no: 112/LWS04
Worker: Hairdresser/miscellaneous
Type: Works in home

Building age: C20
Workspace area (sqm): 9
Floor to ceiling (m): 2.5



work
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live and work
circulation

context plan

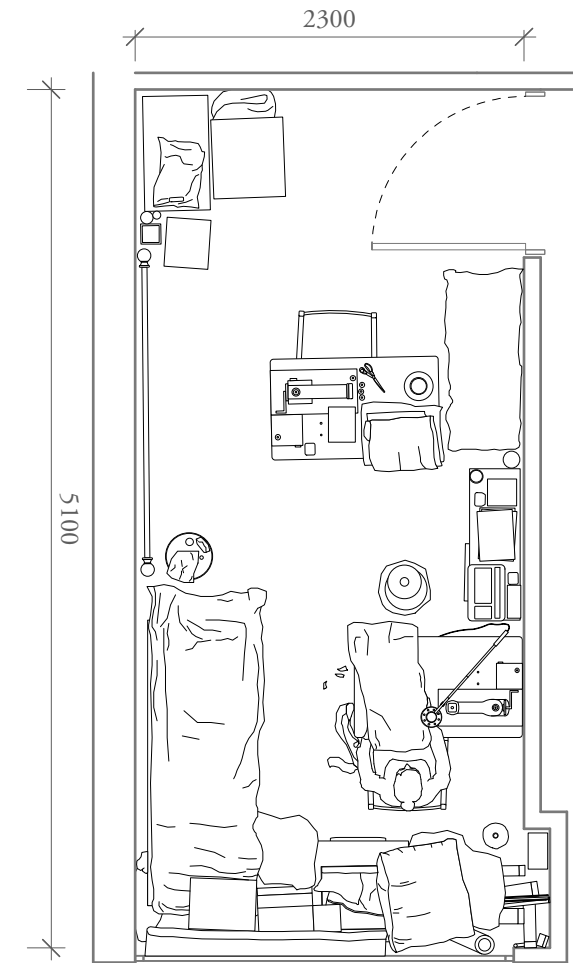
workspace plan

6. MEDIUM: WORKSHOP/CURTAIN-MAKER (1P/12M²)



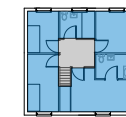
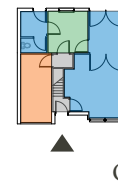
Scenario 6 features a curtain-maker working in the 12m² garage of her contemporary detached suburban home. She works from home because *... I worked 27 years... in part time employment, then realised I could do it for myself instead of earning the minimum wage for others.* Often working with wide fabrics on large curtains, she needs a spacious workshop, and in this 12m² garage considers she has enough space.

The garage is windowless, however, in part because she is uncertain that she would be allowed to work from home if it was visible and the authorities knew. Working, as a result, under fluorescent lights, she says *...the worst problem is that I can't see when it is raining to get the washing in off the line.* The work is *... dirty, dusty* so the spatial separation from the rest of the house is important.



Case study no: 31/LWS05
Worker: Curtain maker/craft worker
Type: Works in home

Building age: C20
Workspace area (sqm): 12
Floor to ceiling (m): 2.3



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live
live and work
circulation

context plan

workspace plan

7. MEDIUM: OFFICE/TRANSLATORS (2P/14M²)



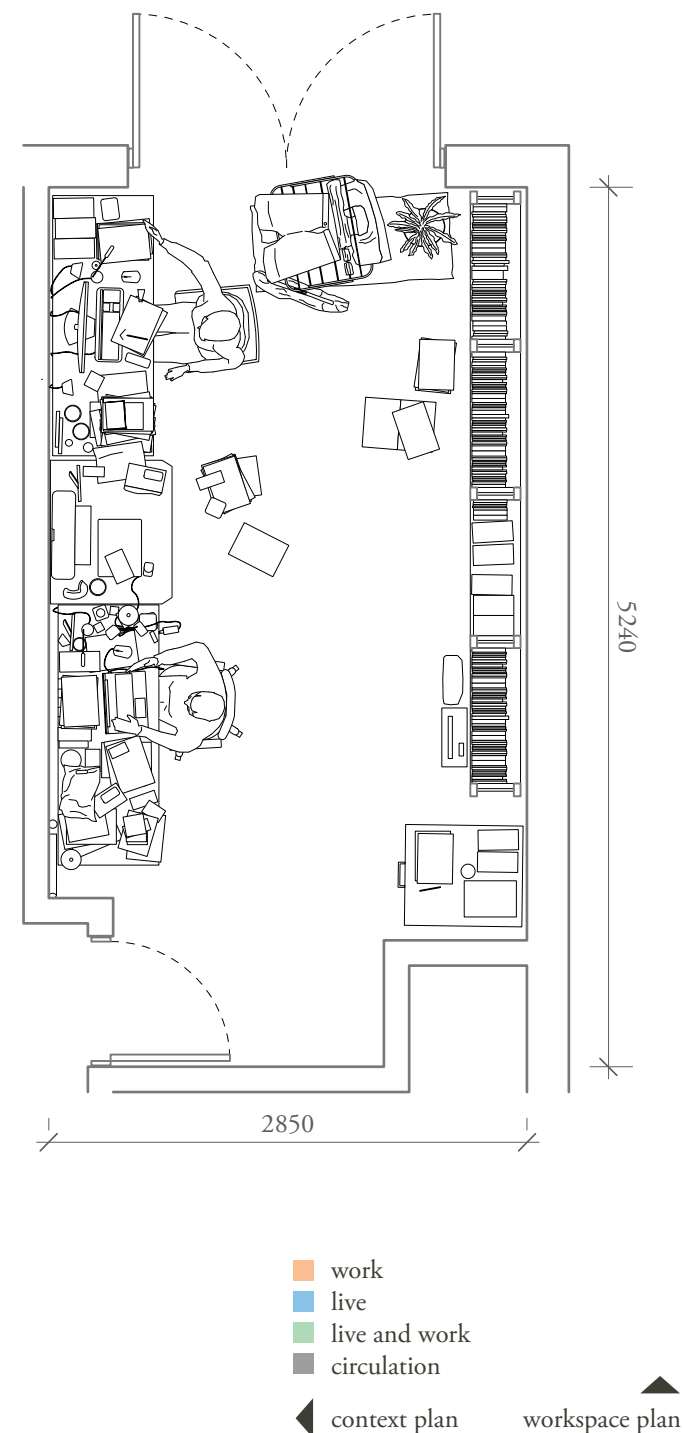
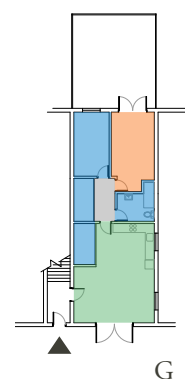
Scenario 7 features a pair of translators, both domestic and business partners, who work in the 14m² spare bedroom of their privately-rented, purpose-built, two-bedroom ground floor flat in an urban 1970s block. One said *When we looked for flats to rent, we were aware we had to have a separate room to work in. If we had an office in the living-room we would have hell, it would be disastrous. If you see how messy, especially my desk is - that in your social area would just make things terrible. We contain all the work mess in one room, it doesn't impinge on anything else.*



They initially worked in the smaller bedroom, concerned about security and their computers, working on the ground floor in a room with french windows onto the garden, but swapped (...we now have bags of space) as they love having the doors open while they work in the summer.

Case study no: 13/LW39
Worker: Translators/knowledge worker
Type: Works in home

Building age: C20
Workspace area (sqm): 14
Floor to ceiling (m): 2.7

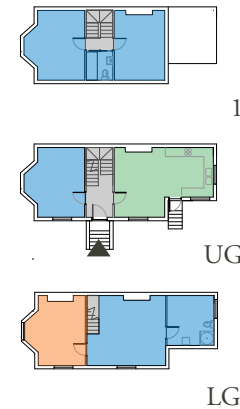
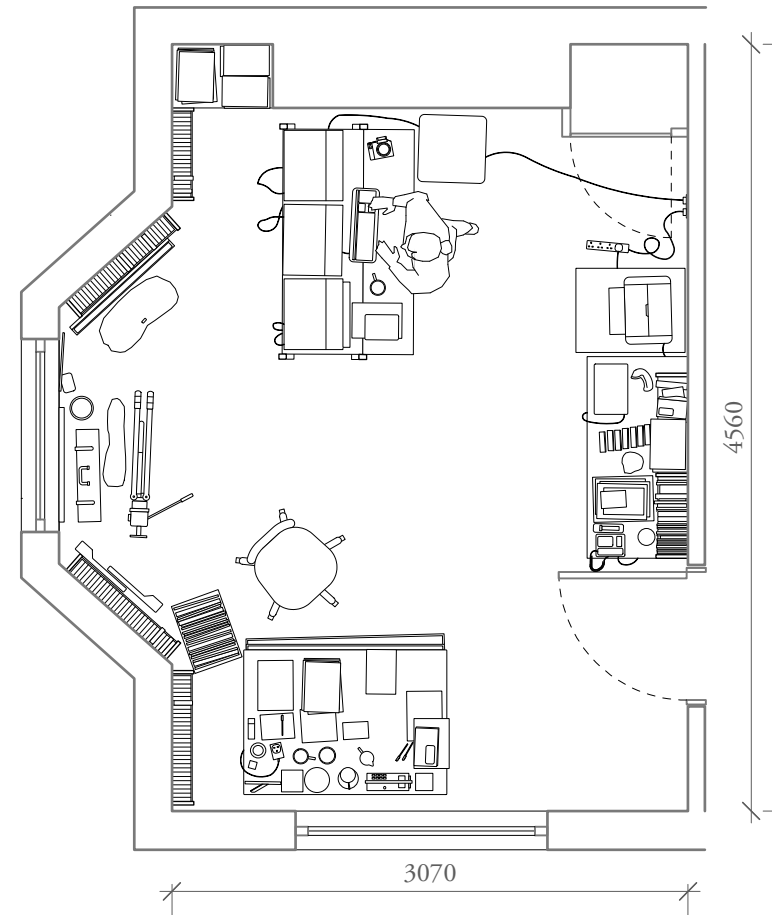


8. MEDIUM: STUDIO/PHOTOGRAPHER (1P/15M²)



Scenario 8 features an internationally renowned photographer, working in a 15m² studio in the lower-ground floor of the urban three-bedroom Victorian end-of-terrace house he shares with his wife, who also works at home - on the kitchen table – and his sons aged 14 and 6. He has not *dipped chemicals for 10 years and is not at all tempted to go back*.

An expert in computer use, keen to embrace new technology, he says *this is another reason I can work from home - I don't need a 1000 sq.ft daylight studio any more... I don't need all that room anymore*. Standing to work as a result of a back injury, on a self-designed workstation, his studio includes a large plan chest and light box, and a fire-proof safe in which he keeps his photographic archive.



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context plan

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Case study no: 60/LW29

Worker: Photographer/creative practitioner

Type: Works in home

Building age: C19

Workspace area (sqm): 15

Floor to ceiling (m): 3

9. MEDIUM: STUDY/RECTOR (3P/16M²)



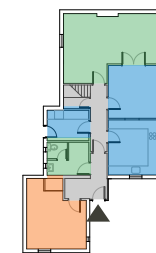
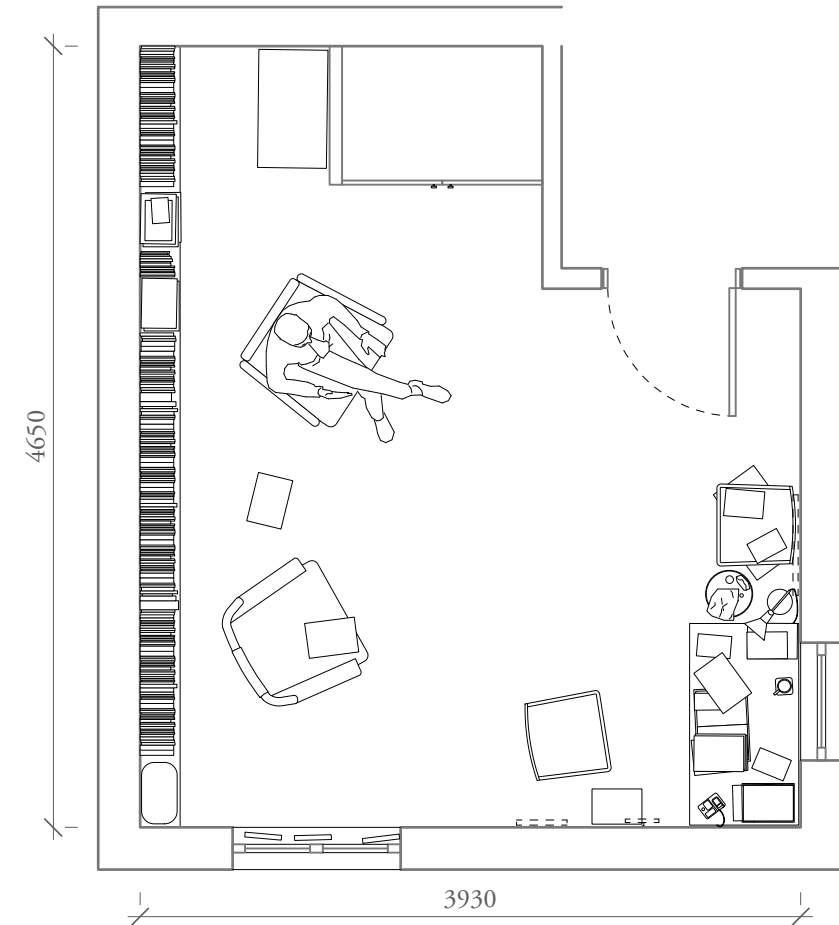
Scenario 9 features a C of E rector who has a 16m² ground floor study in the detached 1960s purpose-built rectory he shares with his head-teacher wife, adjacent to his church - one of the few contemporary building types that continues to be designed to combine dwelling and workplace

Every parsonage must include a separate study. This must meet the parson's need for a place of work and quieter activities, both pastoral and administrative, and to hold private interviews and meetings undisturbed. Space in the study... will prevent their encroaching on family life elsewhere in the parsonage. For new houses... we recommend a study floor area of not less than 18m² (200 sq.ft) if separate storage space is provided for equipment and robes or 20m² (220 sq.ft) if no separate storage space is provided.

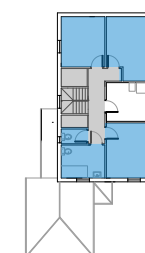
Formally distinct, the study is positioned by the rectory's entrance, with a panic button and lockable door between it and the domestic parts of the building.

Case study no: 85/LWR19
Worker: Rector/knowledge worker
Type: Lives at workplace

Building age: C20
Workspace area (sqm): 16
Floor to ceiling (m): 2.5



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workspace plan

10. LARGE: OFFICE/ARCHITECTS (3P/22M²)

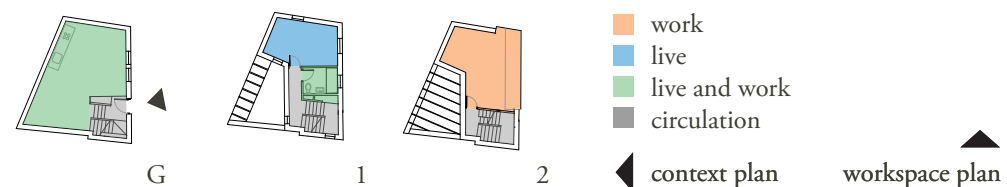
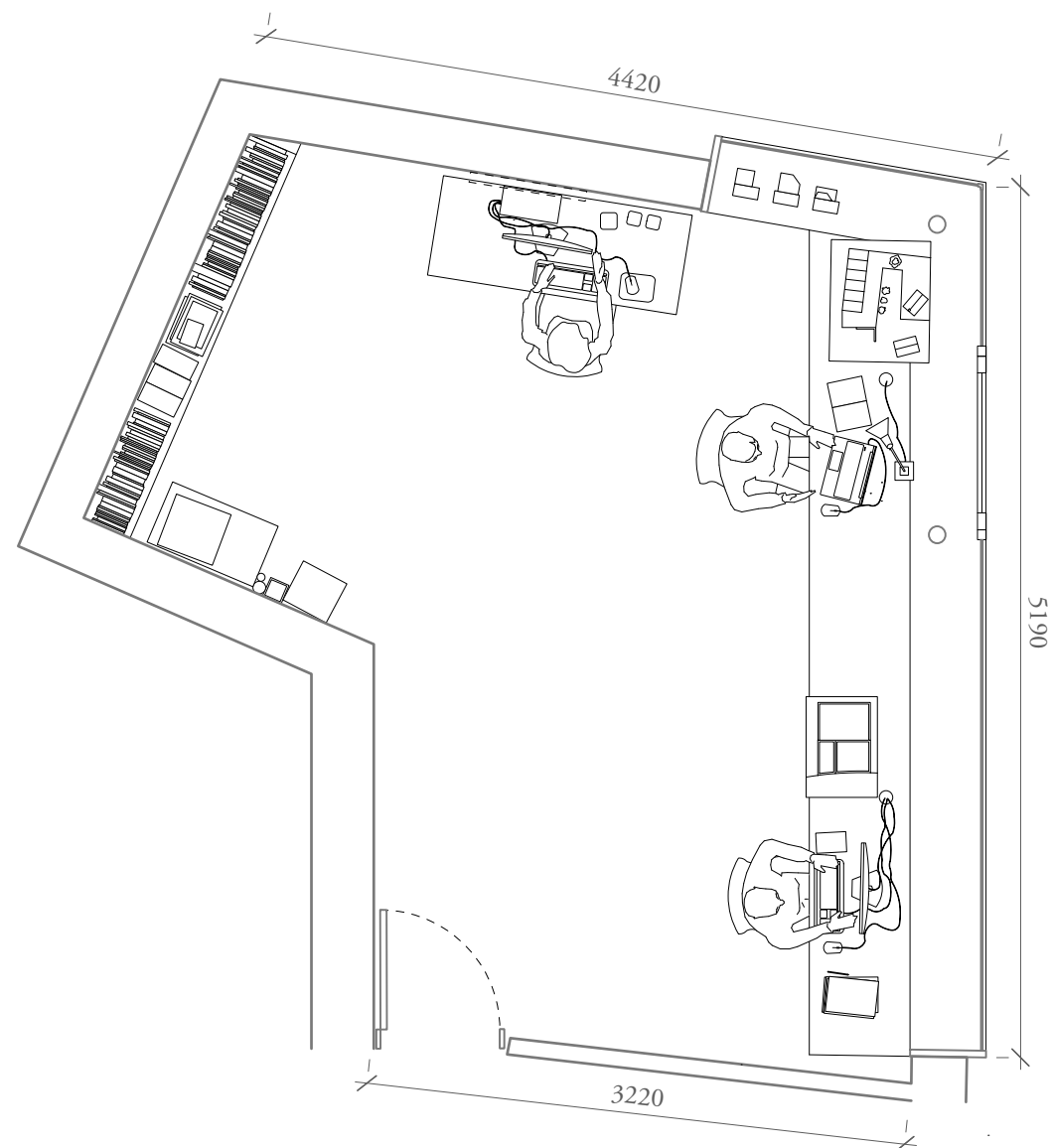


Scenario 10 features an architect, who runs his small practice from a 22m² second-floor office in the 2005 purpose-designed detached urban workhome that he shares with his interior designer wife, who also works from home two days a week. A worksurface with two workstations sits under a full-width window, maximising light and giving a view over the street below - deliberately designed so can they see and be seen.

He says: *actually if you sit around at home all day you want a bit of contact with the street... I've never felt so much a part of the community as I do here, and it is partly because I am so aware of everything going on.* The architect's business partner comes to work in the office each day; they had an employee for a few months, but it wasn't successful. While his business partner is more like a member of the family, the employee was an outsider - it was *an uncomfortable overlapping of things.*

Case study no: 83/LW43
Worker: Architect/professional
Type: Works in home

Building age: C21
Workspace area (sqm): 22
Floor to ceiling (m): 2.6



11. LARGE: STUDIO/GRAPHIC DESIGNERS (3P/23M²)

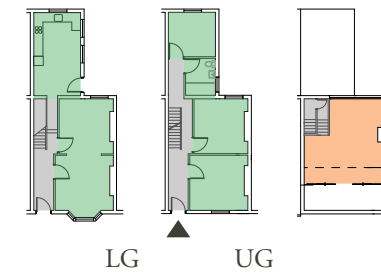
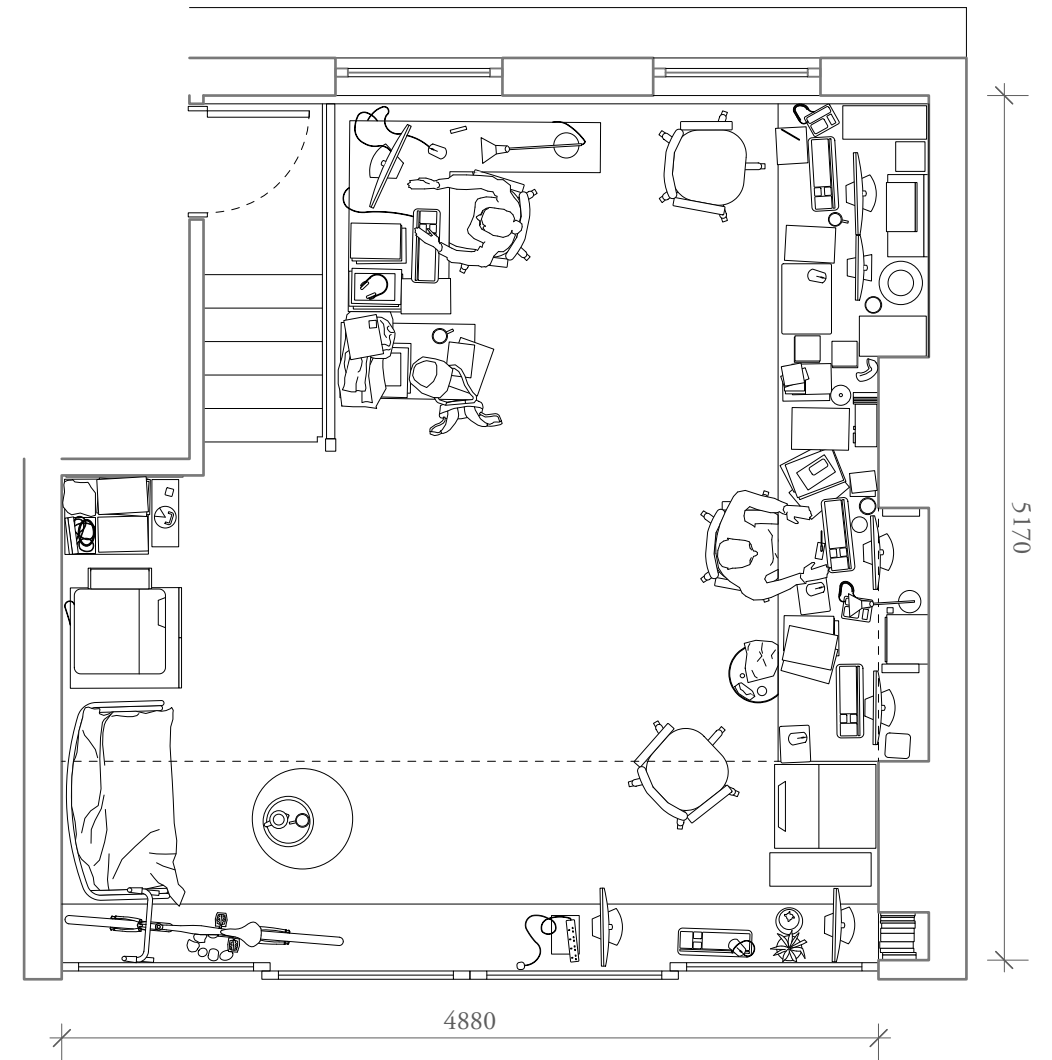


Scenario 11 features a pair of graphic designers, with children aged 12 and 8, who built a modern, fully-glazed 23m² studio attic-extension to their two-storey urban Victorian mid-terraced house. Soundproofed to prevent clatter in the two bedrooms below, the fact that it's an attic studio means *we can close the door and forget it exists... it's a whole separate space. We often don't come up at all during the weekend to work.*

However, for the female partner, bringing a new male client upstairs past her bedroom doesn't feel right, although it is fine once they enter workspace. She says *It's too intimate walking through the house. I get very anxious about keeping bedroom doors shut and protecting our privacy. A new client comes in about once a fortnight... we do a big clear-up before they come, make sure the bathroom's clean etc. If we've had lots of kids in over the weekend, we'll have to work hard, to make an effort to make sure it looks presentable.*

Case study no: 55/LW04
Worker: Graphic designer/creative practitioner
Type: Works in home

Building age: C19/21
Workspace area (sqm): 23
Floor to ceiling (m): 2.8



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live
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context plan

workspace plan

12. LARGE: STUDIO/ARTIST (1P/33M²)



Scenario 12 features an artist, a painter, who lives alone. Often painting large canvasses, he works in a 33m² double-height top-lit studio with mezzanine living accommodation above. The lack of spatial and acoustic separation means that if people come and stay, they have to go out when he is working. If his girlfriend stays and wants to watch TV while he's working at night, it disturbs him.

However, he says *I'm prepared to put up with compromises in my domestic and social life in order to get the freedom to work at will.* The space is a bit narrow for his way of working - he says *I use the end wall a lot, so I can stand back as far as I can from the work and look at it. The side walls are ok for looking at the work, but I can't work on them. I run backwards and forwards and change things as I go.*

Case study no: 66/LW42
Worker: Artist/creative practitioner
Type: Lives at workplace

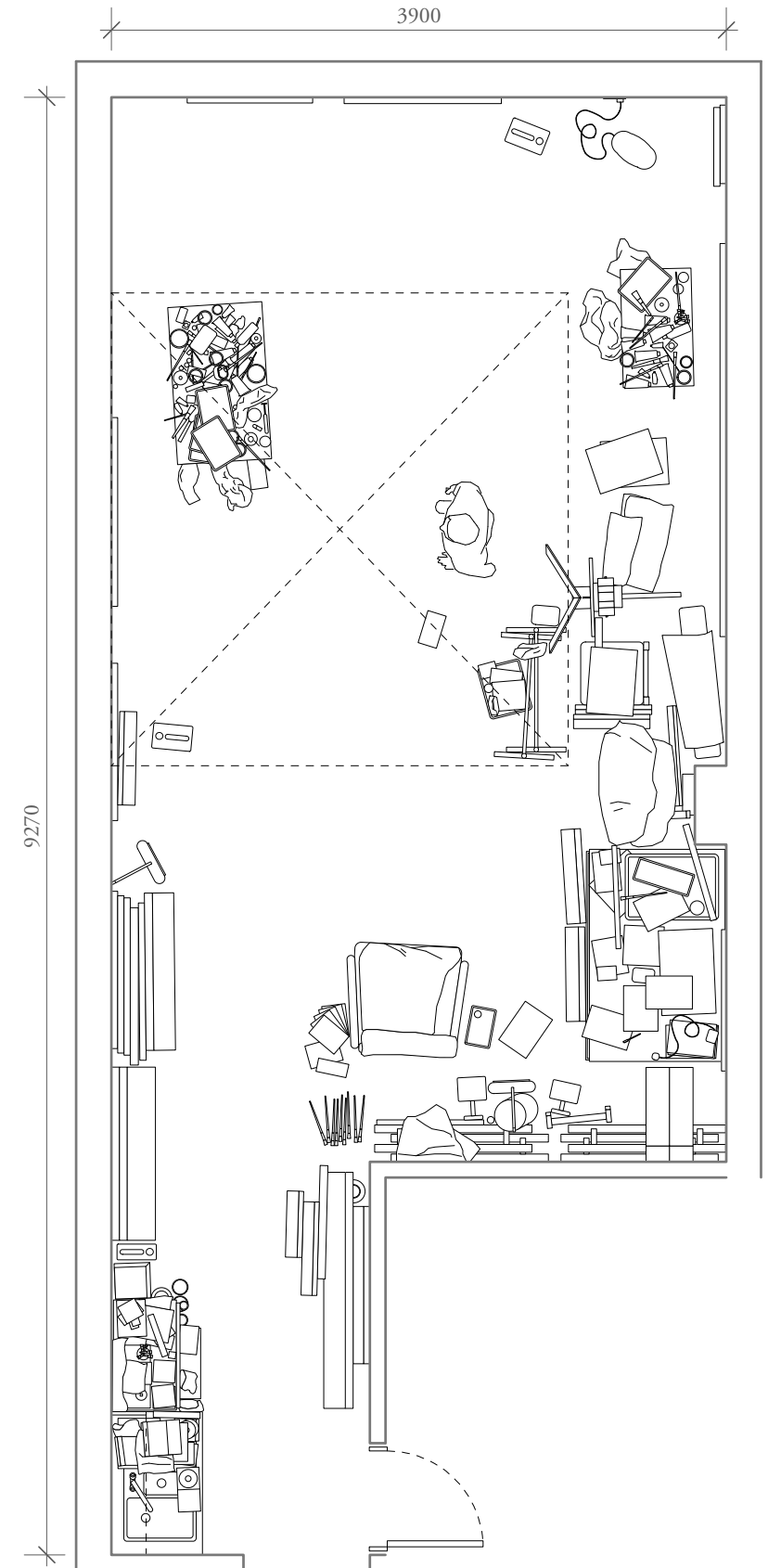
Building age: C20
Workspace area (sqm): 33
Floor to ceiling (m): 4



▲ context plan

workspace plan ►

work
live
live and work
circulation



ROUNDTABLE EVENT

These twelve scenarios represent the workhome type that has a space or room dedicated to work. Once quantified, drawn to scale, captured by key facts and summarised in brief descriptions, different but related contexts for working became amenable to comparison. Our next step was to invite well-placed industry experts to join a roundtable conversation in which questions could be raised, priorities identified, and concerns discussed. This event took place on Friday 26 March 2021 around a virtual table with professional colleagues from four architectural practices known as housing specialists (Levitt Bernstein, Pollard Thomas & Edwards, Mae Architects, and Karakusevic Carson) joining us from their own home-working desks in London, Gloucestershire, and Dorset.

Following introductions, a project overview characterised the topic of design for working from home against a background of relevant issues including the pandemic, thereby contextualising the study. We went on to look at the twelve scenarios in turn, in each case anchored to a personal profile of the occupier. This naturally steered us towards the question of standards in terms of spatial accommodation and narrative fit; we wanted to ask how space for work factors in a real-life context rather than the abstraction of numbers. Discussion, which built on feedback from the panel, developed around several themes with four emerging as key observations. These are: hybrid homes versus spatial separation; quantifying workspace needs and wants; mapping inequality in regard to home-working; the usefulness of a workhome vocabulary in the housing standards debate. The last of these emerged as a driver for some next steps. All agreed on the need for better definition of the terms of debate in relation to housing design and policy; space standards emerge as a key consideration.

“Space standards are an ideological choice rather than a scientifically-proven imperative, but I think COVID has shown that we need them, and that it is probably time for them to be increased.”

Julia Park, Head of Housing Research, Levitt Bernstein;
author ‘One Hundred Years of Housing Space Standards: What now?’



JULIA PARK

Head of Housing Research, Levitt Bernstein; author (2017) *One Hundred Years of Housing Space Standards: What Now?*

The key to getting the Nationally Described Space Standards (NDSS) off the ground was getting it to public consultation. I was confident it would be supported and sure enough, 80% of the people who answered the question 'do we need a nationally described space standard', ticked 'Yes'. A mandate that ministers couldn't ignore.

Under the NDSS single bedrooms have to be at least 7.5m²; doubles, 11.5m². Designed to ensure that in addition to 'normal' items of bedroom furniture, every bedroom has space for a desk, it means that even without a spare room, computer-based homeworking is manageable – especially on a part-time basis. As we tend to spend about two hours a day awake in our bedrooms, they are not

overworked spaces, though a dedicated 'work room' is clearly preferable. I've worked mostly from home for 30 years. Initially in a small spare bedroom and then in a purpose-built, home-office. The spare room was perfectly manageable, but the act of crossing the courtyard to a dedicated workplace was transformative.

Given that the NDSS is still not mandatory, and overcrowding is rife, it feels ambitious to push for 'spare room' in every home. But things have changed: reducing embodied carbon dictates that every home should last at least 200 years and COVID has changed how, and where, we work. Looking ahead, flexibility will be a key factor, so while I would settle for the NDSS becoming mandatory - don't give up, Frances!



PATRICK DEVLIN

Partner, Pollard Thomas Edwards

The original HAPPI report (Housing our Ageing Population Panel for Innovation) that Matthew, Julia and I contributed to, deliberately chose guidance over standards, but has nevertheless been taken as a tick-box checklist ever since. It still changed the culture, and sector, because it gave a vocabulary to design quality for the Third Age of life. This enabled less tangible quality-based ideas to be brought into policy discussions and client design guides. Daylight was a recurring theme - and perhaps this influenced its prominence in the London's Housing SPG and the London Plan.

It is possible that this work [on space standards for home-based work] will have a similar function - to give names to these concepts of design for home-

based work, so that they become part of every housing discussion. Further thought is needed on how the idea of spatial generosity in housing fits into the cost/ value equation, and on the public interfaces of work as opposed to the private domestic sphere.

The Lifetime Neighbourhoods aspect of Lifetime Homes has not really yet been developed in this country, although its benefits have been amply demonstrated in Sweden and various other places. This is the missing link in all our endeavours in making places, homes and neighbourhoods.

IRENE VITORICA

Architect, Mae Architects



Working from home has brought lots of positive things in relation to well-being, especially in big cities like London where commuting is stressful and time consuming.

We should therefore start from the main goal of trying to implement a dedicated space in the home [for home-based work]. But there is the question of whether the city can afford [this], from a density and viability point of view. If adding a separate dedicated space proves not to be viable, we should perhaps consider adding this into the living/dining room.

I would also raise the question of the impact if there are two [or more people] working from [a single] home. Then one can work from a dedicated space like an extra bedroom, but the other will have to find space somewhere

else in the home. And in an even more extreme scenario like where, say, three or four people have to share - which is really common - how do we find that space? Could we also have an in-between scenario where, for example, an office could have different hubs for each area of London, in this case, [which] would contribute to the 15-Minute City idea and to a more environmentally sustainable city.

ABIGAIL BATCHELOR

Associate, Karakusevic Carson Architects



Retreating into our homes in response to the pandemic has both emphasised the central place that homes have in people's lives, and also highlighted their failings. The encroachment of work on the home often merges public and private spheres: we meet our bosses, clients and even strangers from desks in our bedrooms. The tension of the public world being enacted in our homes has led to people wanting more cellular living environments. Open plan living was desirable when homes were sanctuaries, but becomes problematic when they have to be both public and private.

Whilst not wanting to design for a permanent pandemic, many are asking whether the improvised ways of life we have experienced over the last year will form the impetus for future changes in our homes and cities. This creates challenges in terms of regulation, as workspaces and homes are built to separate

sets of standards. Homes now need to be designed and regulated with work in mind, incorporating spaces where it is possible work in peace and comfort. This raises questions of both acoustic and spatial separation.

The need to share and care has been accentuated over the last year and it must be recognised that incorporating workspace into the home will impact on many people's sense of wellbeing. It may be hard to successfully adapt many existing homes - and work may be better accommodated at the communal scale of the housing block or street.

A shift to home working as a result of the pandemic has also exacerbated socio-economic inequalities - consider the digitally excluded and those living in overcrowded housing. Any new emphasis on the spatial relationship between home and work should address these issues.

RECOMMENDATIONS

At the heart of this project is the bold contention that the time has come – as it did when the ‘outhouse’ became the indoor WC in 1918 – for all housing in the future to have a dedicated space for home-based work. The mainstreaming of home-based work during the Covid-19 pandemic provides a real-time case study larger than anyone could hope for. As a result, we now have more than enough evidence on which to build a case for reappraising the performance of the home as a place for work, and plenty of shared experience that can be used to test options going forward.

The roundtable discussion that informed this study, enriching its understanding and broadening the basis of its outlook, reached consensus on some points but acknowledged the need for further consultation, a more detailed contextual study and wider discussion. A key outcome was agreement on the task for enhanced debate aimed at understanding needs and raising aspirations with regard to design for home-based work. Like other nations around the world, we in the UK were ambushed by the pandemic; we had to ‘make do’ – many of us setting up home-working environments on the hoof. While weaknesses in our systems and strategies were exposed, we didn’t do badly. In fact, many have taken to working from home and, in certain sectors, employers’ initial apprehension about their employees working at arm’s length has been allayed, most reporting equal or increased productivity.

This has led to new directions in research and practice, especially regarding future patterns of hybrid work. Also of interest is the wealth of commentary that has considered the consequences of this ‘massive rupture to office work’ in terms of changes to managerial practice and the logic of the workplace economy. This wider debate contextualises the need to reconsider what we expect from the homes we are building today, for life tomorrow and the day after that. In order to drive next steps, this report identifies six recommendations:

RECOMMENDATION 1 Regular work at the kitchen table or in the bedroom can contribute to hardships including stress, inefficiency, and mental health problems. This observation should be acknowledged as a design factor in the delivery of new homes.

RECOMMENDATION 2 A separate dedicated space is necessary, for most people, to work effectively in their home; this is recommended as a normative aspiration.

RECOMMENDATION 3 A floor area allocation of 6m² provides adequate space for a single person carrying out a range of activities, especially computer-based work, but also as a playroom for a child-minder.

RECOMMENDATION 4 Most homes used to have a 6m² ‘box-room’; it is recommended that this is reintroduced as a home-based workspace. As it is smaller than the minimum size (7.5m²) for a single bedroom, it would not confuse occupancy calculations or contribute to overcrowding.

RECOMMENDATION 5 As well as providing space during the day for home-based work, this room can also provide a defined space for school children to do their homework.

RECOMMENDATION 6 Some forms of work, particularly craft-based occupations and creative sector practices, require more than 6m² and have different access or servicing requirements. To avoid clashes in terms of allocations policies, it is recommended that larger collective studio and workshop spaces should be provided in housing schemes for the use of home-working residents in these sectors.

AFTERWORD

This project has piloted policy-related debate concerning the introduction of dedicated home-working space into housing space standards. Its vision is that in future all homes may be workhomes. Wider debate and industry trends acknowledge the changes brought about by the context of the pandemic. Framing discussion around a dozen homeworking scenarios has enabled the development of priorities, and established scope for a series of recommendations. The intention is that this will impact on policy, in terms of the Nationally Described Space Standards, and practice in terms of housing delivery. And also that it will stimulate three-way Knowledge Transfer between researchers, practitioners and policy-makers. The next step is to consolidate this agenda through further research.

PROJECT TEAM

Dr Frances Holliss is an architect and Emeritus Reader in Architecture at London Metropolitan University. Researching the architecture of home-based work since 2001, her work has resulted in numerous publications, including 'Beyond Live/Work: the architecture of home-based work' Routledge 2015. Most recently she has launched the Workhome Project collaboration to address glaring social and spatial inequalities highlighted by the pandemic.

Dr Matthew Barac is an architect and Reader in Architecture at London Metropolitan University. His research addressing the interface of formal and informal orders of urban change in the global south has won the RIBA President's Award for Research and the International Bauhaus Award. Matthew's interest in architectural implications of our aging society resulted in a number of publications, including co-authoring the influential HAPPI report.

Nicola Blake is an architect at 5th Studio and a researcher, interested in creating high-quality housing that brings delight to its users, enriches the city, and is socially and environmentally sustainable. She recently presented her research on 'Representations of the Home during Covid-19 Lockdown' at conferences at Kingston University and London Metropolitan University.

Marianna Janowicz is an architect, researcher and member of feminist design collective Edit. Her writing on a range of subjects revolving around issues of social justice and the built environment has appeared on Open City blog, Eyesore Magazine and BUM Editions journal. She is currently studying part-time for an MA in Architectural History at the Bartlett, UCL.



WORKHOME PROJECT

