# WHAT IS THE FUTURE OF HIGH-RISE HOUSING? EXAMINING THE LONG-TERM SOCIAL AND FINANCIAL IMPACTS OF RESIDENTIAL TOWERS

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# FOREWORD —HOME TRUTHS ABOUT HIGH-RISE RESIDENTIAL

**NIGEL HUGILL, CHIEF EXECUTIVE OFFICER, URBAN AND CIVIC AND CHAIR, CENTRE FOR CITIES.**

## WHAT IS THE FUTURE OF HIGH-RISE HOUSING?

The design of high-rise housing is inextricably linked with city living and urban expansion. Towers speak to the confidence of place, while also promising satisfyingly compact living and efficient land use. Politicians and developers are attracted to height for its perceived purposefulness and commanding positivity, charged with the imperative of accommodating an ever-growing population. Grand gestures become multi-reinforced. The best instances add flavour through the ingredient of good architecture: a constructed legacy to call one's own, forever imprinted on the skyline.

Shaping cities in an urban age ought rightfully to involve recognising the potential for collisions, just as much as advancement. That is not necessarily straightforward. Architectural histories provide no real consensus on the appropriate context for a critical discussion of housing design. The combined modern preoccupations around density and urban regeneration are correspondingly hard to resist. Lessons learned from the failures of post-war council housing towers are dismissed on account of subsequent progress in modern methods of construction.  What is not liveable about a city where the views are great and the walks are short?

But we should pause for reflection. Towers are expensive, slow to build and mostly come with built-in obsolescence. The progress of technology brings an accelerated redundancy of built fabric. There is little advantage to developers of housing for sale in attempting to forecast full life costs. Resolute opacity, along with some well-meant public policy initiatives, have led to an under-appreciation of the real costs of high-rise residential. Successive London mayors have supported stacking up apartment modules to meet politically driven housing targets.

Tower living is attractive to some households, but cannot be done on the cheap. A young family whose household budget can hardly stretch to full-time childcare will be unable to afford major renewal and maintenance. Meanwhile, post-Grenfell cladding apprehensions have brought into sharp relief the perils of unknown and unprovided future spend amongst disaggregated and lower income ownerships. Some of the most concerning recent examples are where housing associations have developed high-rise buildings on their own account and sold off shared equity participation. Balance sheet provisions running into three- figure millions give stark testimony to required rectifications.



The following set of essays seeks to address the experienced realities of high-rise housing. Underpinning a series of practical suggestions and recommendations is a conviction that quality architecture is more than skin deep. Even with peer-acclaimed architecture (and many tall buildings fall short of that) and the best intentions, the industry risks creating a legacy of unsustainable and unaffordable housing. Good design, grounded in reliable information, must include planning for a building's lifetime performance and whole-life costs.

One reality about building tall shouts out loud and clear - buyers have to know what they are letting themselves in for: the cost of proper maintenance will be unavoidably high and they have to be able to afford future costs. The expectation of owners and occupiers of commercial towers alike is that new office buildings will be replaced eventually. It is only a matter of time and prudent accounting requires depreciation. Contrast that with residential, where the connotations of home imply a permanence that modern towers will struggle to deliver. Steel frames may be built to last, but good luck with an apartment on the fortieth floor with a glorious outlook lasting the full 999-year lease term.

*Caveat emptor* is all very well, but limiting future conflicts around the management of residential towers needs to start with realistic expectations, with purchasers being provided with the tools to become properly informed.

**Nigel Hugill**
**Chief Executive Officer, Urban and Civic and Chair, Centre for Cities**



# PREFACE —BACKGROUND TO THE ESSAYS

**JUNE BARNES EXPLAINS THE CONTEXT TO THE PROJECT**

These essays came out of a shared concern over whether the many new residential towers we are seeing in London and other urban areas are going to be good places to live in the long term. Andrew Beharrell, Dickon Robinson and I, who promoted the essays, have spent many years developing new homes in London for people on low incomes. We witnessed the rise of high-density housing in London from 2000 onwards. Initially this was with what now look like modest increases, with buildings up to around 10 storeys, and then the rise of the residential tower with new buildings exceeding 20 storeys and then 30 and more.

We have also dealt with the legacy of the first significant wave of residential towers built in the 1960s and 70s as a 'quick way' of providing council housing at scale for people on lower incomes. Many of these blocks failed as a result of poor construction, poor maintenance and because they did not prove to be good places for low income families to live. Most of the blocks were under 20 storeys. Many of them were demolished and replaced with more suitable housing, and we were involved in some of this redevelopment.

The new towers are different – they are mainly being developed by the private sector for sale and more recently as Build to Rent. Initially development was in central London aimed at the higher end of the market, but this changed rapidly as building at height became a solution to meet growing housing demand and land prices rose making taller building more viable. Towers started to be developed in outer London aimed at people on moderate incomes supported in part by the government's 'Help to Buy' programme and including affordable housing for rent and shared ownership. Alongside this was growing anecdotal evidence of dissatisfaction with the quality of management and maintenance services in high-rise housing and a concern amongst leaseholders about the rising costs of service charges.

It was at this point that we identified the need to understand better what we were building, what safeguards there were for leaseholders and how new towers could be designed and constructed taking full account of the long-term costs of maintenance. The tragedy at Grenfell and the subsequent revelations around built standards only reinforced our concerns.



We therefore approached Kath Scanlon at the LSE, who has led research on living in high-density housing in London and who was keen to participate. We also felt it was very important to involve architects with a good understanding of housing issues. We approached Pollard Thomas Edwards and Levitt Bernstein – both practices had been involved in publications on high-density housing – and Allies and Morrison, well regarded for designing good quality, tall residential buildings and with an enthusiasm for this form of development.

This group had a number of interesting discussions and debates with particular points of view aired on the key issues. We all agreed that we wanted to promote a discussion on our experiences of high-rise housing, our concerns and our suggestions for making it work better. We felt the best way to do this was to publish a range of essays covering the various issues we had identified to prompt further debate and research. We invited two further contributors, Douglas Rhodes, the lead Partner on leasehold matters at solicitors Trowers & Hamlins, and David Salvi, Director of Hurford Salvi Carr estate agents with experience of the high-rise residential market.

We hope that these essays go some way to informing a much needed and timely debate on the future of high-rise residential development.



# INTRODUCTION —TIME TO TAKE STOCK

**HIGH-RISE RESIDENTIAL DEVELOPMENT HAS HELPED MEET HOUSING TARGETS, BUT HOW CAN TALL BUILDINGS SERVE RESIDENTS AND LEASEHOLDERS BETTER IN THE LONGER TERM? JUNE BARNES INTRODUCES THE DEBATE.**

## THE ONLY WAY IS UP – OR IS IT?

The skyline of London has altered significantly in the last decade as many residential towers have been built in both inner and more recently outer London. This growth in residential towers has also extended to other cities – notably Manchester – and to other areas of high housing demand.

But as London and other major cities have grown upwards, driven by the need to respond to population growth, and buoyed by overseas investment and rising land prices, the outcomes of buying and living in this type of housing have not always been favourable.

This set of essays looks at the likely financial and social impact of the move to build upwards on the people who live in the towers, with a particular focus on leaseholders, as well as the impact on access to open space as our urban areas become denser. The essays are not concerned about aesthetics. They focus instead on the practical issues which will affect whether this new housing is going to serve the long-term interests of its residents and society more generally.

**Here are some of the key questions we need to address**

- Do we have the statutory framework for leasehold housing on this scale and do leaseholders fully understand their legal obligations at purchase? Are leaseholders provided with sufficient information to appreciate their financial responsibilities over the life of their new home?
- Is purchasing a home in a residential tower a good long-term investment?
- Could the approach to construction of high-rise housing be improved to make buildings easier and more effective to maintain, repair and retrofit?
- What will be the wider impact of high-rise towers on their residents and on local communities?

The essays examine these issues and suggest steps that government might take, firstly to ensure leaseholders' rights and responsibilities are protected and understood; secondly, that high-rise homes are built as good quality housing for the long term; and thirdly, that high-density living comes with good access to public open space.



Although many of our observations and conclusions can apply to high-density housing at any height, and the LSE survey in Chapter 7 covers leaseholders of all kinds of new flats, often they are amplified when building upwards. This is because higher equates to more complex structures and component parts like lifts and cladding, and access for maintenance and replacement at height is very costly. In Chapter 5 a group of architects from Pollard Thomas Edwards, Allies and Morrison and Levitt Bernstein, highlight the need to build to reduce lifetime costs.

The authors of these essays believe that such a stock taking exercise is vital. There is growing evidence that many leaseholders in new high-density housing are unhappy, as Kath Scanlon details in her essays. Additionally, service charges are growing at levels above inflation and there is discontent with the services provided, a topic explored by Dickon Robinson in Chapter 2.

**THE ESSAYS FOCUS ON THE PRACTICAL ISSUES WHICH WILL AFFECT WHETHER THIS NEW HOUSING IS GOING TO SERVE THE LONG-TERM INTERESTS OF ITS RESIDENTS, AND SOCIETY MORE GENERALLY.**

Issues of poor quality and lack of leaseholder protection have come to the fore since the Grenfell Tower tragedy highlighted serious issues around cladding – not just that being used to retrofit older residential blocks, but also installed on many new buildings. Thousands of leaseholders are stuck in buildings with dangerous cladding or where cladding has been removed, and are unable to sell their homes while funding is sorted out from government to reclad them. Service charges have risen to reflect increased insurance costs and 'waking watches' and when cladding is stripped from buildings other issues are being found such as lack of fire breaks. The law and regulation of service charges and sinking funds is itself a highly complex area, as Douglas Rhodes, a Partner at lawyers Trowers & Hamlins, explains in Chapter 3.

It is clear from the analysis of the London market by David Salvi in Chapter 4 that developers need to pause and reflect on what they offer to attract a wider demographic of buyers.





A business model rethink will no doubt be encouraged anyway by the cooling housing market and the new and stark economic realities we are facing. Developers may well find this report's findings and suggestions very pertinent.

### *WHAT WE MEAN BY HIGH-RISE HOUSING*

*For the purpose of this report, we are considering a high-rise building one that is 30m or 10 storeys or more, which equates to the definition of 30m which the GLA used to use in the London Plan. We specially are focusing on those buildings of 30m or over, because in our view that is where issues to do with cost of maintenance and density of people begin to ramp up. However, we acknowledge that many of our observations and recommendations can also apply to mid- and low-rise high-density blocks.*

*However, there is some understandable confusion about what constitutes a tall building.*

*The London Plan 2021 revised the potential threshold for a tall building down to six storeys, and it delegated to the boroughs context-specific definitions for each sub-area. Six storeys roughly corresponds to the definition adopted by Building Regulations and the Fire Safety Act of 18m to the highest floor level. Given that modern apartment blocks typically have floor-to-floor heights of at least 3m (and often a taller ground storey), this usually means that anything over six storeys is a tall building, although seven storeys can scrape under the limit.*

*There is also confusion around the definition 'mid-rise', with some architects describing buildings as high as 15 storeys as mid-rise. This essay adopts a lower threshold of four storeys (11m to highest floor level) and an upper limit of nine storeys (the old London Plan overall height limit). Most members of the public certainly regard 10 storeys as a tall building.*

*Recent changes to Building Regulations extend down to 11m some of the incombustibility requirements for external walls currently applying above the 18m threshold.*

*Meanwhile, industry commentators, including New London Architecture (NLA), has defined tall residential buildings as 20 storeys and above. Grenfell Tower was 24 storeys (67m).*

### *HOW THE NUMBERS STACK UP —HIGH-RISE HOMES IN LONDON SINCE 2012*

*Using the database behind NLA's tall buildings survey  Knight Frank, which coordinated and sponsored the latest research, has estimated that in the last 10 years, 192 residential towers have been completed in this period in the capital. Of these, 137 were in inner London and 55 in outer London, although recent surveys show a shift towards outer London. The average number of flats per block is estimated (but not precisely recorded) at 165, giving a total of around 32,000 homes, or 3,200 on average per year, though it is worth noting that 80% of outer London high-rise buildings have been delivered in the last five years.*

*Taking the 3,200 figure, this is 6% of London's current annual housing target of 52,000 homes. However, if the same sites had been developed at mid-rise (less than 10 storeys), they would still have delivered (conservatively) around 8,000 homes. So, the effect of building tall has been to add around 24,000 homes to London's stock or 4.6% of the target.*

*Although this is a meaningful contribution, it is much lower than many people might expect, given the transformational impact of tall towers on London's neighbourhoods and wider skyline. Also, this figure is likely to be lower once the number of apartments owned by overseas investors and not rented out are taken into consideration. There are no figures however to know how many there are.*

*Unfortunately, we have no comparable data for residential buildings in the 10-19 storey range. It would be of great value if the GLA created a database to cover these, enabling a proper assessment of their contribution to meeting London's housing needs.*



# CONTEXT —THE RISE OF HIGH-RISE AND THE ROLE OF PLANNING POLICY

**JUNE BARNES, ANDREW BEHARRELL AND PAUL EATON LOOK AT THE DRIVERS FOR HIGH-RISE OVER THE PAST DECADE AND ASK WHETHER PLANNING POLICY CAN HELP AVOID THE MISTAKES OF THE PAST.**

## THE NEED FOR HIGH-DENSITY HOUSING

The population in the UK has grown from just under 60 million in 2000 to over 67 million in 2022[1] with much of the growth in urban areas, particularly in London and the South-east. And although slowing, the UK's population is expected to grow by 2.1 million by 2030. National and regional planning policy is predicated on accommodating population growth, and its impact is most clearly seen in London, where the population has increased from 6.8 million in 1981 to 9 million today and is predicted to reach 10 million by 2031.[2]

The rapid increase in London's population and the density of London's housing developments over the past 40 years is well documented by successive London Plans and independent reports like Superdensity the Sequel published in 2015.[3]

Naturally, this has led to increased demand for housing, particularly in and around cities.

Demand for housing in the UK still significantly outstrips supply, with 340,000 new homes[4] required nationally. The revised London Plan of March 2021 set a target figure for the capital of 52,000 new homes per annum. Meeting this supply has been constrained by land availability and by the constraints of a planning system which aims to protect land around cities from future development through greenbelt designation. Remarkably, only 6% of the land in the UK has been built on.[5] To keep within these limits and so preserve our natural and productive landscapes, we need to build more compactly – to live and work more closely together.


1 NLA Tall Buildings Survey, April 2022 https://nlalondoninsights/london-tall-buildingssurvey-2022

2 Office of National Statistics, https://www.london.gov.uk/programmes-strategies/research-and-analysis/people-and-communities/population-projections

3 Superdensity the Sequel, published by Pollard Thomas Edwards, PRP, Levitt Bernstein, HTA Design http://www.superdensity.co.uk

4 Tackling the undersupply of homes, House of Commons Library, February 2022, https://commonslibrary.parliament.uk/researchbriefings/cbp-7671/

5 Land cover atlas UK, University of Sheffield, https://www.sheffield.ac.uk/news/nr/land-cover-atlas-uk-1.744440

With most of the land in cities dedicated to housing, high-density housing has a critical role to play in this, including tall buildings. Designed and built properly with the right amenities, high-density housing has the potential to make both towns and cities, and the countryside, better, by helping to preserve open space, minimising transport costs and making cities more compact, vital and socially, economically and environmentally sustainable.

But this way of living does not come without some potential disadvantages. Lack of privacy, reduced amenity space, close proximity to neighbours, restricted sunlight and daylight, shortage of storage, overshadowing and overlooking are all problems that may result from high-density development, and questions will always be raised as to its appropriateness for families – particularly high-rise as a setting in which to bring up children. And, while building densely in areas of high public transport connectivity has a clear environmental benefit, tall buildings carry a greater amount of embodied carbon than lower forms of development.

Housing planning policy, particularly in London, has over the last decade been progressively strengthened to try to eliminate, reduce and mitigate the disadvantages of high-density housing while at the same time maximise its benefits. However, this has not necessarily been implemented in practice. As more and more people live in high-density housing, it is clear more consideration is needed towards the future of these buildings, particularly high-rise, as to how they are managed and maintained over time, and how the costs of this are met.

## HOW LONDON HAS GROWN UP

### The post-war building boom

The large-scale municipal housing programmes following the Second World War introduced taller buildings to support slum clearance areas, creating new local authority housing estates across Britain, including towers up to around 20 storeys and slab blocks up to around 10 storeys.

Politicians, planners and architects experimented with new forms of city-making, deliberately departing from the traditional city block with new housing typologies such as 'streets in the sky',





scissor-section flats and maisonettes – attempting to reproduce at height the social life of the street and introduced new techniques of pre-fabricated construction. Although they appear much bigger than what they replaced, the density of these schemes is often only slightly higher than traditional low-rise neighbourhoods, featuring narrow streets and terraced houses with small yards: the new utopias featured large areas of open space and surface car parking.

The failings which led many of these estates to need major remodelling or comprehensive redevelopment, within a couple of decades of their completion, are well understood. Technical defects including structural and fire safety, water ingress and damp were rife. Social failures including anti-social behaviour, crime and generally poor life chances for residents became common place. Housing management failures including inadequate maintenance and daily service provision compounded the problems, and housing policies resulted in the concentration of the most vulnerable and disadvantaged people into unsuitable accommodation, including housing families at high level.

Whether estates could have been turned around by incremental improvements rather than wholesale demolition remains a controversial issue. For the purposes of this report, we need to encourage planners, designers and developers of high-rise housing to ask themselves: how do we ensure that we do not repeat the mistakes of the past?

## TODAY'S HIGH-RISE

A more relaxed approach to density followed in 2010 and onwards, with new buildings exceeding 20 storeys and then 30 and more. For the past 10 years the NLA's Tall Buildings Survey has specifically focused on the number of towers of 20 storeys and more in London's pipeline: many people were astonished by the 236 total for 2013, and the figure for 2021 is 583.

Britain's largest cities have strategic policies which encourage high-density development and provide a framework for tall buildings: *The London Plan* (2021); *Manchester's Residential Quality Guidance* (2017); and Birmingham's *Design Guide: Healthy Living and Working Places City Manual* (September 2022). These explore

the potential to intensify land use to support additional homes and workspace, promoting higher-density development, particularly in locations that are well-connected to jobs, services and amenities by public transport, walking and cycling.

However, the current London Plan is arguably more cautious around high-rise than the previous version. It sets out rigorous tests for tall buildings and it empowers the local boroughs to make judgements about what constitutes a tall building in a particular neighbourhood context, with a potential threshold definition of only six storeys.

Partly because developers and local authorities were ignoring it, the London Plan 2021 dropped the density matrix, which had provided important guidance in previous editions, and which still provides a useful tool for understanding and comparing the implications of density.

Mid-rise development can comfortably deliver around 250 homes per hectare, and its upper limit is around 350 homes per hectare, which coincides with the upper limit of the retired GLA matrix (290 -405 homes per hectare). Above this level, a development will inevitably involve tall buildings.

**MORE RECENTLY, WHOLE BLOCKS ARE BEING BUILT FOR THE GROWING PRIVATE RENTAL MARKET AND SOME ARE BEING BUILT BY HOUSING ASSOCIATIONS FOR MIXED-TENURE INCLUDING AFFORDABLE RENT.**

### WHAT IS DIFFERENT FROM THE PAST?

The contemporary growth in high-rise housing is different from past experiences. The first significant development of high-rise housing in UK in the 1960s and 70s was a quick way of providing council housing at scale for people on lower incomes. This was supported by capital housing subsidies that favoured tall buildings and new pre-fabricated building systems, which allowed housing to be built in great numbers relatively quickly.

As mentioned earlier, most of these towers were under 20 storeys and many of them were later demolished and replaced





with more suitable housing. This change of heart was prompted by the explosion in and then collapse of Ronan Point in the London Borough of Newham and by growing concern about the quality of build of many of the blocks and their unsuitability as housing for families.

The redevelopment or major refurbishment of these towers was aided by their being all in one ownership – a local authority. It made them easier to vacate and redevelop or radically improve, with the aid of supportive funding programmes from central government.

This mono-ownership pattern is not the case with the towers that we are building currently. They are mostly being developed by the private sector with a mixture of tenures, mainly as flats for sale but with the inclusion of small numbers of homes as affordable housing for rent and shared ownership. More recently, whole blocks are being built for the growing private rental market and some are being built by housing associations for mixed-tenure including affordable rent.

In London, most of the towers built in the early 2000s were in the centre, built as high-end housing, with some flats being bought either to rent or to keep empty in the expectation of growth in value exceeding alternative investments. Many of the flats were bought by overseas buyers attracted by the London property market's buoyancy, but there was also investment from UK individuals and small institutions and funds.

These early developments had other supporters. The GLA under mayors Ken Livingstone and then Boris Johnson nursed aspirations for the capital to be universally recognised as a world city. Other world cities – New York, Singapore, Hong Kong and Beijing – were cities of towers, and a skyline with new towers punctuating it became a symbol of a city's success. Success was linked to population growth and in London, where development was significantly constrained by the green belt, building higher was seen as critical to meeting demand.

Recently the growth of residential towers has become most marked in the outer London suburbs, with housing developers being supported on new schemes by sales off-plan topped up by the availability of the government's 'Help to Buy' programme. The scheme has provided would-be purchasers with a soft loan on part of the purchase price for properties valued at under £600,000.

This has created a target price point for many new homes in outer London. Leasehold interests sold on individual flats are generally over 100 years, with 250 years and 999 year leases being preferred.

Private leasehold flats are not new to the UK, with purpose-built mansion blocks being developed in the late 19th century and early 20th century, initially for rent and gradually sold for home ownership. Most of these blocks were relatively modest in scale – well under 100 homes and typically three to six storeys, although remarkably high densities of around 200 homes per hectare could be achieved. Further blocks of flats were developed interwar for rent and sale by the private sector and from the 1960s onwards large numbers of Victorian and Edwardian street properties were converted into flats for sale.

Even though this was low-scale development, there were a number of well documented tensions between leaseholders and freeholders about the performance of the freeholder in managing the properties, with poor and expensive maintenance being a major concern. This led to legislation in 1993 giving leaseholders the right to buy their freehold collectively and manage their own blocks.

What is different today is the scale of the blocks of new housing being built for sale. House conversions generally provide two, three or four flats in a property and purpose-built blocks, which seldom exceeded five storeys, were generally fewer than 50 units and more usually 20 to 30.

We are now building blocks typically with four to eight flats per floor and of 30 or more storeys.

**The scale of this type of development requires:**

- A more sophisticated, knowledgeable and professional management and maintenance service.
- Leaseholders who fully understand their obligations as a leaseholder and can afford and understand the market risks/rewards of buying their home.
- Developers, architects, contractors, the construction supply chain and other consultants who are competent to design and construct residential towers with clarity about their respective responsibilities to the end user.

- Building Regulations and other statute and regulation relating to new buildings which are comprehensive and focused on the needs of the consumer.
- Clarity about the impact of this type of housing on the wellbeing of their occupants and society more generally.

**WE NEED TO ENCOURAGE PLANNERS, DESIGNERS AND DEVELOPERS OF HIGH-RISE HOUSING TO ASK THEMSELVES: HOW DO WE ENSURE THAT WE DO NOT REPEAT THE MISTAKES OF THE PAST?**

Today's residential towers are very different from the previous generation of high-rise blocks, which delivered municipal homes for social rent, but we risk repeating some of the mistakes of the past: inadequate management; poor understanding of lifetime performance and cost; and unsuitable allocation for affordable housing.

The pandemic has triggered much discussion around what we want from our homes and neighbourhoods: the value of private and shared open space; the importance of casual social interaction; the need for adequate space in the home to enable people to work and study; the potential revival of local centres with more people working from home and less commuting into city centres.

These issues are likely to remain live in the post-pandemic world, but they have yet to feed through into planning policy, which has not yet caught up with this post-pandemic reappraisal. Future planning policy needs to respond to these changes as does the design of any new high-rise homes.



# HIGH-RISE ASPIRATIONS FACE SERVICE CHARGE REALITY CHECK

**IN GENERAL, THE HIGHER THE BUILDING, THE MORE COMPLEX IT IS AND THE HIGHER THE MAINTENANCE CHARGES BECOME OVER ITS LIFETIME. THE ISSUE OF WHO WILL PAY FOR THESE BURGEONING COSTS AND HOW WE AVOID STORING UP PROBLEMS FOR THE FUTURE NEEDS TO BE ADDRESSED URGENTLY, SAYS DICKON ROBINSON.**

Keeping one's home in good repair and upgraded, let alone responding to the need to reduce carbon, is an expensive business, even for a modest detached house. We are all familiar with the idea of replacing kitchens and bathrooms every decade or so. But many homes built before 1970 will have had new roofs, new windows and external doors, rewiring and new heating systems, not to mention new extensions and re-planning of internal rooms. Now we are also all under great pressure to increase insulation and replace fossil fuel heating systems.

The typical home owner accepts that this is their responsibility. They engage tradespeople and small builders to carry out repairs and improvements to their home and they have the flexibility to schedule work according to their financial circumstances. For the flat dweller things are rather different. They are freed from the responsibility for organising work to their block, but they have little control over the timing, extent or cost of any work outside their home and quite often inside as well.

This applies to all apartments, but with scale and density comes complexity, and with height more external fabric becomes more exposed to the weather and more complex services are required. Theoretically these greater costs are offset by the economies that come with scale – thus the cost of maintaining a lift for example, is born by all the apartments in the building resulting in modest cost per capita. In practice it's hard to tell if these economies are realised, and the feedback from our survey suggests that many leaseholders are unconvinced that this works to their benefit. (See survey results in Chapter 7.)

## THE BASIS OF LEASEHOLDS

Developing a high-rise residential building is a complex proposition which requires the input of a wide range of skills. Prior to occupation the principal players will include the landowner, the development company, lawyers, architects, engineers, specialist designers and cost consultants, contractor (including material suppliers and sub-contractors), funders, and marketing consultants as well as the local planning authorities and building control.

As a rule, the developer sells apartments off plan on long leases (anything between 125 and 999 years) until sufficient capital has

MORE COMMONLY, ONCE CONSTRUCTION IS COMPLETE THE DEVELOPER WILL SEEK TO SELL ANY REMAINING UNSOLD APARTMENTS, AND ONCE THAT HAS BEEN ACHIEVED TO SELL THE FREEHOLD OF THE BUILDING.

been raised to release the balance of development finance allowing construction to commence. The larger and taller the building, the more homes need to be sold off plan to manage the risks involved during construction and in recognition of inevitable market volatility during the construction period.

A number of developers, such as housing associations and Build to Rent companies, retain freeholds as part of their property portfolios. More commonly, once construction is complete the developer will seek to sell any remaining unsold apartments, and once that has been achieved to sell the freehold of the building. Before doing so they will appoint a managing agent whose role is to manage the building on a day-to-day basis including calculating and levying the service charge on leaseholders on behalf of the freeholder. Many developers actively encourage leaseholders to form a residents' group to liaise with the managing agent to ensure their input into daily management issues.

Until recently, most leaseholds were sold subject to a ground rent charges, and it was this modest, but reliable, income stream that property investment companies were acquiring by purchasing the freehold. Ground rent charges were abolished in June 2022 and consequently there is now no incentive for commercial property companies to acquire the freeholds of new apartment buildings. So that development companies can continue to dispose of their freehold interest, emerging practice is for them to form a leaseholders' group to purchase the freehold and take collective responsibility for their building. The implications of this innovation are discussed more fully in the briefing by Douglas Rhodes, which contains a full explanation of this complex and potentially challenging area.

At this point all the players involved in creating the project step away from responsibility for the building apart from their residual liabilities, which are those enshrined in statute and by contractual warranties covering design, workmanship, and product quality. These are intended to provide protection for the freeholder





– generally not leaseholders or others with an interest in the building – against sub-standard work or poor advice by the parties above. However, enforcing these guarantees can be an expensive and time-consuming exercise, as has been illustrated by the on-going fall-out from the Grenfell Tower tragedy.

## SETTING SERVICES CHARGES AND STORING UP PROBLEMS

In purchasing a lease, leaseholders agree to bear their share of the running costs of the building, otherwise known as the service charge. This includes all day-to-day costs such as cleaning common parts, grounds maintenance, building insurance, routine inspection of lifts and fire alarms. It is good practice for the service charge to include a contribution to a so-called sinking fund. This is designed to set aside money to meet liabilities for significant building work anticipated to take place in the future to repair or renew the building fabric or common services. In the absence of a sinking fund all such expenditure, which by its nature is often substantial, must be recovered via the service charge. (Interestingly there is generally no provision to fund improvements to the building via the service charge and this could become a serious issue in working towards zero carbon goals.)

At the point of sale these costs are estimated, and, to ensure that prospective purchasers are not deterred, every effort is made to ensure that these estimates are as low as possible and in line with the proposed service charges of any competing new build properties on the market. If a sinking fund is to be set up, a five-year sinking fund holiday is often adopted to further reduce the immediate impact of the service charge at the point of sale. This is justified by an assumption that the various costs of running the building in the early years will not include any significant expenditure on the services and fabric.

In practice it is hard to see how this is justified. As the building gradually ages, this category of expenditure will inevitably increase, and if an adequate sinking fund has not been accumulated this expenditure will find its way into the service charge. Arguably a sinking fund holiday is likely to lead to the profile of service charge costs increasing at a faster rate than CPI inflation in due course.

## LIFETIME COSTS OVERLOOKED

The projected lifetime costs of a new market sale residential development are not usually included in the development company's financial viability calculations, as they have no bearing on their profit margin. They are, however, an important element of any Build to Rent viability assessment since in this case the developer and or freeholder will pick up the liability for this future expenditure.

As buildings age, services become worn and obsolete, and the building fabric decays. Each generation of buildings is more sophisticated than their predecessors, with higher performance external fabric and ever more elaborate services inside – underfloor heating, heat recovery, smart security systems and multiple effect lighting systems for example.

Over time, Building Regulations and related industry standards become more demanding, and some services require upgrading even if they are still functional. Each component has its own lifecycle and, with the exception of the basic structure of the building, all will need repair or replacement at some point in the life of the building. It should be no surprise that each generation of buildings costs more to maintain than earlier ones, and in due course, when major component replacement is needed, that costs more as well because the new components must meet the more stringent regulations by then in force.

This cycle of continuous repair and replacement is well known to local authorities and housing associations with large portfolios of older housing as it is a considerable financial burden and a continuing challenge to keep their housing stock fit for occupation. This fact of life of property ownership is perhaps less well understood by leaseholders who cannot be expected to appreciate how significant these costs are likely to be or when they will occur.

The current trend to ever taller market sale residential towers is of relatively recent origin in the UK, although other parts of the world have a longer experience of this building type. There is therefore less than 20 years of experience to draw on to establish if these economies of scale are sufficient to outweigh the greater costs of building repair and maintenance at height.





However, we have recent experience of the costs of replacing the cladding on multi-storey apartment buildings as a consequence of the need to deal with the problems revealed by Grenfell Tower, and they are not reassuring. The original decision to re-clad Grenfell Tower was an example of the need to improve the thermal performance – and incidentally the appearance – of a typical 1960s local authority tower, and it is both an example of the kind of upgrading which high-rise buildings need over their lifetime and of the intense cost pressures which come into play in carrying out this kind of work at scale and at height.

## WHY HIGH-RISE IS COSTLY TO MAINTAIN

Failure of any element in even a small building can sometimes be difficult to trace and isolate and this challenge is greatly aggravated in multi-occupancy properties and as the number of floors increases. While some apartments (particularly cheaper products aimed at the Help to Buy market) are purchased by owner occupiers, many upmarket apartments are purchased by overseas foreign investors who may keep them empty or occupy them for only part of the year, as well as by UK investors for rental. This mixed occupancy brings conflicting priorities and its own communication challenges when trying to coordinate work or agreement to expenditure which will fall on leaseholders but not tenants.

Many of these issues apply to any large multiple occupancy development. However, the cost per square metre of tall buildings increases with height because it adds complexity, which then makes maintenance more expensive as well. As buildings become taller, it is harder and more complex to access their facades for maintenance, and exposure to higher wind pressures necessitates more specialised fabric. Internally there are stages at which more lifts are required, water supplies need to be pumped to upper floors and fire escape provisions become more demanding.

Arguably the cladding which is currently being replaced on many buildings would have needed to be replaced at some point in the future anyway and probably long before the expiry of leaseholder's leases, and that liability would have been included in any long-term modelling of the running costs of the building.

There is little evidence that such long-term modelling is undertaken to inform freeholders and leaseholders as it not usually made available as part of the sales package offered to purchasers. Indeed, it is not clear if any detailed assessment of lifetime costs is routinely carried out for this type of residential development, although there is increasing academic interest in lifecycle analysis as a mechanism to understand embodied carbon. This is an important omission. If insufficient thought is being given by the promoters of residential buildings or their professional advisors to this issue then the long-term viability of the homes cannot be assured.

This should be an issue of great interest to local authorities, and not only their planning departments, who are often amongst the strongest advocates for high-rise and high-rise housing, actively supported by housing departments conscious of the need to meet housing targets.

Local authorities take considerable interest in a developer's viability calculations so that they can maximise the benefit to local communities by way of contributions to the provision of affordable housing and local infrastructure. However, there is little evidence of their interrogating lifecycle modelling to ensure life-long economic sustainability. Any serious failure in this regard is likely to result in local authority intervention with all the attendant costs. If leaseholders are unable or unwilling to meet their obligations to fund essential expenditure there is the spectre of creeping disrepair and ultimately a danger to health and safety.

## SHORT-TERM THINKING PREVAILS

It is surprising that mortgage lenders are not more interested in this issue as excess cost liabilities down the road, or disrepair, will have an impact on property values and therefore their underlying

**EACH GENERATION OF BUILDINGS IS MORE SOPHISTICATED THAN THEIR PREDECESSORS, WITH HIGHER PERFORMANCE EXTERNAL FABRIC AND EVER MORE ELABORATE SERVICES INSIDE.**





security. This has been illustrated recently for leaseholders impacted by the fallout from Grenfell Tower, who have found the value of their homes greatly reduced, and in some instances, rendered effectively unsaleable.

It is of course the case in London that many of today's more valuable properties have enjoyed a chequered career, starting out as desirable single family homes, only to decline and decay over many decades into multiple occupancy and slum status before being restored, phoenixlike, in the latter half of the twentieth century, as the middle classes rediscovered the taste for living in the city.

This cycle has been so pronounced that it might be considered a normal way for a city to evolve. But what is often unrecognised was the crucial role of local authorities in the 1960/70s in pump priming this process via grants to small housing associations, providing mortgages to aspiring home owners in areas red lined by building societies and banks, and by their direct intervention in buying up failing private rented houses and improving them. Only once this intervention had achieved a critical mass did so called gentrification really take off.

Reflecting on the inherent challenges posed by high-rise development it is questionable if we could expect to see this scenario repeated today if the demand for high-rise living wanes and the cycle of decline repeats itself. We may already be seeing some early signs of this. The market for apartments has been slower than that for houses over recent years, and it is clear that apartments have not performed as well as houses as an investment, as described by David Salvi in Chapter 4.

## PLANNING FOR LIFECYCLE COSTS ESSENTIAL

Other essays in this report deal in greater detail with planning and Building Regulations and the complex servicing and sophisticated structure and external fabric assemblies that make up a modern residential tower. Architects, designers and cost consultants need to become adept at preparing fully costed (at current cost levels) component lifecycle schedules. Without this, expenditure on a building over time cannot be planned and there is an inadequate basis on which to calculate a sinking fund.

**IT IS NOT CLEAR IF ANY DETAILED ASSESSMENT OF LIFETIME COSTS IS ROUTINELY CARRIED OUT BY BUILDING PROMOTERS OF THIS TYPE OF RESIDENTIAL DEVELOPMENT, ALTHOUGH THERE IS INCREASING ACADEMIC INTEREST IN LIFECYCLE ANALYSIS AS A MECHANISM TO UNDERSTAND EMBODIED CARBON.**

This essential information is of course what we are used to receiving when we buy a car, which comes with a service manual indicating when critical components should be replaced. Arguably a lifecycle cost plan should be good practice for any new build home. However, the stakes are higher the taller we build, and for leaseholders of apartments rather than individual house freeholders, as they are beholden to others to protect their interests. Reflecting on the recent generation of residential towers it is difficult to be confident that the long-term costs of keeping them in a good state of repair and generally fit for purpose has been effectively assessed, and until rigorous lifecycle costing becomes normal practice buying into these developments could be considered something of a shot in the dark. For leaseholders the fear must be that the long-term costs of owning their home will prove to be substantially greater than they bargained for.

## CONCLUSIONS

Leaseholders purchasing a new apartment are acquiring both an asset and a liability, and the liability is shared with other leaseholders. Arguably leaseholders need to be much better informed about the longer-term liabilities that they are taking on, and developers should have a greater responsibility to inform them.

In addition to the usual sales information details, a costed lifetime expenditure model – or lifetime utility – for all the key elements in the building should be included so that leaseholders are fully aware of the financial implications of purchase, and can make informed comparisons between otherwise comparable apartments in high-density and high-rise developments.



# LEGAL BRIEFING —HOW SERVICE CHARGES AND SINKING FUNDS ARE REGULATED

**IT IS CRUCIAL TO PLAN ACCURATELY FOR FUTURE MAINTENANCE AND CAPITAL COSTS WHEN SETTING THE SINKING FUND AT THE OUTSET OF A DEVELOPMENT TO STOP IT FALLING INTO DISREPAIR. DOUGLAS RHODES EXPLAINS THE COMPLEX LAW AND REGULATION INVOLVED.**

As the law stands, almost all high-rise residential buildings are sold on a leasehold basis. It is therefore important first to understand the meaning of common terminology used in this area.

**Freehold**
Freehold ownership of land means the absolute ownership of a piece of land or property for an unlimited time period.

**Leasehold**
Leasehold ownership is where land (or a flat) is owned for a fixed period of time pursuant to a lease.

**Lease**
The lease is the contract that sets out the basis upon which the leaseholder owns the land for a fixed period of time. In high-rise residential buildings the lease of a flat is usually granted for 125 years, 250 years, or 999 years. The lease will permit the leaseholder to occupy the flat on certain terms and may require permissions to be sought from the landlord, for example in relation to making alterations to the flat.

**Landlord**
The landlord of a lease is often the freehold owner, or freeholder, of the land. However, it is possible for multiple leases of the same land to be granted, so the landlord of an individual flat might itself hold the land under a lease, known as a head lease or intermediate lease.

**Leaseholder**
The leaseholder is the person that owns the flat for a fixed number of years pursuant to the lease.

**Management company**
Management company leases are usually made between a landlord and a leaseholder. However, some leases include a third party, known as a management company. The management company is usually responsible for undertaking the maintenance and delivering services to the building, in return for payment of a service charge.

**Resident management company**
A Resident management company is a management company where the shares in the company are owned by the leaseholders. This means that the leaseholders collectively run the management company which maintains the building, usually by a board of directors who each own a flat or flats within the building.

**Commonhold**
Commonhold is an alternative type of ownership of flats where the commonhold owner acquires the freehold of the flat, as well as becoming a member of the commonhold association, which owns and manages the common parts of the building. The main advantage of commonhold over the leasehold system is that the person buying a flat acquires it for an unlimited period of time. Despite this, commonhold has not been widely adopted and there are currently less than 20 commonhold blocks of flats in England and Wales.

**Service charge**
A service charge is a sum payable by a leaseholder as part of or in addition to the rent, which is payable directly or indirectly for services, repairs, maintenance, improvements, insurance and the landlord's costs of management. Typically, this will cover the ongoing costs of maintaining the building and any estate common parts, including repairs, grounds maintenance costs, utilities costs, as well as concierge and other security staff.

**Sinking/reserve fund**
A sinking fund is a fund that is maintained by the landlord from annual service charge contributions by leaseholders to cover major capital costs and repairs, such as works to mechanical and electrical plant (eg, lifts and air conditioning) or roof repairs. The term reserve fund is often used interchangeably with sinking fund. Technically, a sinking fund is the appropriate term for a fund that is held to meet the cost of future capital works, whereas reserve fund is a fund that is held and applied to balance out fluctuations in the cost of regular recurring expenditure. For the purposes of this article the writer has used the term sinking fund, unless the relevant publication or best practice being referred to uses reserve fund.

**The importance of the lease**
The starting point when considering any service charge is the lease, as a service charge or sinking fund contribution is only payable if it is provided for by the terms of the lease. A sinking fund can therefore only be maintained by the landlord if the lease provides for one. Although most modern leases contain widely drafted service charge provisions and provide for a sinking fund, this is not always the case with older leases.

The question as to whether costs are recoverable as a service charge depends on what services or works are being undertaken, why those works are necessary or desirable, as well as a review of the relevant lease provisions, set against the background facts and circumstances known to the parties when the lease was granted.

Where leases do provide for a sinking fund, they usually simply provide that the landlord can put aside such sums as are considered reasonably necessary to cover the cost of future expenditure. It is rare for the lease to be prescriptive or to require specific information to be provided to leaseholders as to how the sinking fund is to be calculated.

**Statutory regulation of service charges and sinking funds**
The statutory regulation of residential service charges is set out primarily in the Landlord and Tenant Act 1985 (LTA 1985) as amended by the Commonhold and Leasehold Reform Act 2002.

The LTA 1985 applies only to variable service charges, which are defined as (a) sum payable by a leaseholder as part of or in addition to the rent, which is payable directly or indirectly for services, repairs, maintenance, improvements, insurance, or the landlord's costs of management; and (b) the whole or part of which varies or may vary according to the costs incurred by or on behalf of the landlord.

Section 19 of the LTA 1985 provides that a service charge is only payable to the extent that the cost is reasonably incurred and only where the works are carried out to a reasonable standard. In the event of a dispute, either party can apply to the First-tier Tribunal (Property Chamber) for a determination as to the reasonableness and payability of the service charge.

Section 20 of the LTA 1985 requires landlords to formally consult with leaseholders if:

- Works are to be undertaken with a cost of more than £250 per property, or
- A qualifying long-term agreement (meaning a contract for works or services for a term of more than 12 months) is to be entered into where the cost per property will be more than £100 per year.

The consultation requirements lay down a strict process that a landlord needs to follow, which differs depending on whether the landlord is undertaking a one-off set of qualifying works, or entering into a qualifying long-term agreement, or undertaking qualifying works under a qualifying long-term agreement.

In broad terms the consultation process involves two stages:

- First, the landlord is required to serve a notice of intention to carry out qualifying works (or enter into a qualifying long-term agreement), allowing at least 30 days for tenants to make any observations
- Second, the landlord must serve a notice of proposals or estimates, based on the estimates which the landlord obtains from contractors, allowing a further 30 days for tenants to make observations.

The underlying statutory purpose of consultation is to ensure that leaseholders are not prejudiced as to the extent, quality and cost of the works or services to be provided.

Section 42 of the Landlord and Tenant Act 1987 requires that service charge monies paid by leaseholders be held on trust by the landlord and must be separately identified (although non-profit registered providers of social housing are exempt from this requirement).

Other than these statutory requirements and the requirements of the lease, there is no compulsory method for presenting service charge information or for estimating service charges or sinking funds, other than that it



should be reasonable. The Housing and Regeneration Act 2008 did make amendments to section 21 of the LTA 1985, which empowered the Secretary of State to make regulations about the provision by landlords of information about service charges, but this power to make regulations has never been exercised to date.

Extensive case law has developed as to what is a reasonable service charge in various contexts, although the majority of reported cases in relation to sinking funds concern the landlord's ability to hold a sinking fund, rather than the reasonableness of the level of sinking fund contributions demanded.

**Statutory guidance and best practice**

The RICS Service Charge Residential Management Code (3rd edition, 2016) is a statutory Code of Practice applying to private residential managing agents in England. The Code does not presently apply to local authority landlords or non-profit registered providers of social housing, other than where they are acting as managing agents for privately owned leasehold blocks. The Code does not create civil liability but it can be used for evidential purposes before courts and tribunals and was made to promote best practice in the management of residential leasehold property.

Paragraph 7.5 of the Code provides guidance on the setting of sinking funds including the following key points:

- Ensuring that landlords have a costed, long-term maintenance plan that reflects stock condition information and projected income streams.
- For simple schemes, assessing required sinking fund contributions with reference to the age and condition of the building and likely future cost estimates.
- For more complicated schemes (eg high-rise), employing appropriate professionals to undertake a comprehensive stock condition survey and a lifecycle costing exercise.
- Calculating how much is to go into the fund each year (assuming the lease is not prescriptive) by taking the expected cost of future works (including VAT and fees) and dividing it by the estimated life span in years of the item.
- Reviewing the level of contribution annually.

In 2011 the Institute of Chartered Accountants in England and Wales produced joint technical guidance on the preparation of residential service charge accounts (ICAEW Tech 03/11, Residential Service Charge Accounts). The guidance sets out further detailed best practice on the preparation of service charge accounts, including an illustrative example of a service charge account showing movements on reserve fund monies, the level of the reserve fund on a balance sheet basis and explanatory notes setting out the purpose of the reserve fund.



**Remedies available to leaseholders**

The primary remedy open to leaseholders in a service charge dispute is to apply to the First-tier Tribunal (Property Chamber) for a determination as to the reasonableness and payability of the service charge.

Although the FTT is technically a no costs forum (meaning that costs orders are not made unless there has been unreasonable behaviour), leaseholders who challenge service charges are subject to the risk of the landlord seeking to recover the legal costs of Tribunal proceedings either by way of a further service charge demand or an administration charge if the lease provides for such costs to be paid by the leaseholder. The FTT has jurisdiction to make an order pursuant to section 20C LTA 1985 preventing the landlord from demanding a service charge for the costs of FTT proceedings, if it considers it just and equitable in the circumstances, but this power does not extend to an administration charge demand.

If an administration charge demand is served on an individual leaseholder in order to recover the legal costs incurred during FTT proceedings (eg on the basis of a covenant whereby the leaseholder indemnifies the landlord against costs incurred as a result of a breach of covenant) then the leaseholder's only option to challenge those costs is a further FTT application as to the reasonableness of those costs. Whether or not such a challenge would be successful would depend on the precise wording of the lease and the level and overall reasonableness of the costs demanded.

In the context of sinking funds, a leaseholder is entitled to challenge the reasonableness of the sinking fund contributions demanded, but in practice it is very difficult for a leaseholder to know whether the sinking fund contributions are sufficient unless the landlord is transparent about how the contributions have been calculated. Where major works are required, it is relatively difficult for those costs to be successfully challenged on the basis that the landlord should previously have provided for those costs in the sinking fund.

In respect of how sinking fund monies are held, if service charge monies are misapplied by the landlord this would represent a breach of trust and a leaseholder could apply to court for an order requiring the landlord or managing agent to replenish the trust fund, although this is a rare occurrence in practice.

**Remedies available to landlords**

If a leaseholder does not pay the service charges as demanded by the landlord, then the most commonly used remedy is for the landlord to issue a court claim for the unpaid service charges. Procedurally this is treated by the courts in the same way as any other debt claim, meaning that if the leaseholder does not defend the claim, then the landlord can request a judgment in default. If there is a genuine dispute as to the level of the service charges, the landlord issuing a Court claim may prompt the leaseholder to defend the claim on the basis that the service charges are not reasonable or payable. The court claim is usually then transferred to the FTT to determine whether the service charge is due.

If a court order for repayment of the service charge arrears is obtained by the landlord, then the judgment can be enforced in the same way as any other money judgment. Enforcement options include obtaining a charging order against the flat, which is registered against the property at the Land Registry as security for the debt, or an attachment of earnings order, which requires the leaseholder's employer to deduct earnings and pay them to the landlord.

An alternative and more draconian remedy is forfeiture of the lease, which is an available remedy where the service charge arrears are at least £350 or the sum outstanding is more than three years old. Forfeiture terminates the lease, subject to the leaseholder's right to apply to court for relief from forfeiture. There are significant statutory protections in place for residential leaseholders, meaning that a landlord cannot forfeit the lease of a flat in which someone is lawfully residing for non-payment of service charge unless:

- A court or tribunal has first determined that the service charge is payable by the leaseholder (eg, a money judgment has been obtained), or it has been admitted by the leaseholder to be due
- A section 146 notice has been served upon the leaseholder, requiring the leaseholder to pay the sum within a reasonable time; and
- Court proceedings for forfeiture have been issued and determined by the Court, during the course of which the leaseholder would have the opportunity to apply for relief from forfeiture on such terms as the court thinks fit.

In practice, it is unusual for the process of forfeiture of the lease to reach a conclusion whereby the lease is terminated. However,, the existence of the remedy is controversial as it can lead to a windfall for the landlord where they regain the capital value of the flat, which can be resold for a profit.

**Common disputes**

Service charges are one of the most disputed issues between landlords and leaseholders, largely because they relate to decisions being taken by the landlord to spend money that is ultimately being paid for by the leaseholder. It is this absence of control and a commonly perceived lack of transparency in the landlord's decision-making process that results in mistrust between landlord and leaseholder, which leads to disputes. Such disputes are not unique to situations where the freehold is owned by an arms-length commercial investor.

Even where the freehold of the block is owned by a resident management company (meaning that the leaseholders all own a share of the company that owns the block), disputes are as common between the directors taking decisions on behalf of the landlord company, and leaseholders who may be just as likely to disagree with their neighbouring leaseholders, as they are with an arms-length commercial landlord.

Perhaps the most common source of disputes relates to major works, where capital works are required to the building, for example the replacement of a lift or other mechanical and electrical works, or structural works such as roof or window replacements. Where a sinking fund has been properly budgeted and the condition of the building and its components deteriorates at the expected rate, major works disputes are less likely, as sufficient funds should be available in the sinking fund to avoid leaseholders having to pay very large one-off service charge demands.

However, it is often the case that either unexpected expenditure needs to be incurred, or insufficient funds are available in the sinking fund, meaning that service charge demands for tens of thousands of pounds per property need to be issued.

Disputes about these demands usually revolve around the necessity and extent of the works (eg, whether patch repairs could be undertaken instead of capital works), or allegations of historic neglect by the landlord of its obligation to repair the common parts, which may be alleged to have led to increased repair costs. A further area of dispute is whether the major works amounts to an improvement rather than a repair, or whether the works are being undertaken to remedy an inherent defect.

Since the Grenfell Tower fire in 2017, a highly topical and emotive aspect of major works disputes has related to cladding replacement and other repairs to external wall systems in high-rise residential blocks of flats. The cladding crisis has been an exceptional and widespread problem in high-rise residential buildings, leading to the Government announcing in 2020 a Building Safety Fund to contribute towards the estimated £5.1 billion cost of remediating high-rise residential buildings.

### Law reform

In recent years there has been a significant amount of negative press coverage relating to the leasehold system of home ownership (predominantly around the post-Grenfell cladding scandal and the use of exorbitant doubling ground rent clauses in long leases), which prompted the Government and the Law Commission to make various law reform proposals.

In July 2020 the Law Commission (which is an independent body that recommends law reform where needed) published reports recommending reforms to the law on leasehold enfranchisement, the statutory right to manage and commonhold.





On 30 June 2022 the Leasehold Reform (Ground Rent) Act 2022 came into force, which has largely abolished ground rents for new residential long leases. One effect of this reform, alongside proposals to reduce the sums needing to be paid to extend leases, is likely to be the increased use of resident management companies to maintain high-rise residential buildings and to take ownership of the freehold of such buildings, as commercial investors are less likely to consider freehold ownership of newly constructed buildings to be a viable investment.

In the Queen's Speech in May 2022, it was announced that the Government would be taking forward a comprehensive programme of reform to improve fairness and transparency in the leasehold market, but no specific details of the proposed reforms were provided.

Finally, the Building Safety Act 2022 has made very significant reforms to the law on service charge recovery for building safety related defects. The Act has introduced significant protections for leaseholders against service charge demands for building safety related remediation costs in respect of residential buildings of at least 11 m or 5 storeys in height. Further provisions of the Act will come into force next year requiring landlords to transparently take reasonable steps to recover remediation costs from third parties (eg, by pursuing grant funding, insurance, guarantees and third-party claims against developers), to keep leaseholders informed on the progress of such action, and to deduct any funds received from the service charges demanded.

The general direction of travel in the reform of leasehold law is in favour of greater protections for leaseholders and enhanced restrictions on landlords seeking to recover ground rents or service charges. Given the likely increase in the prevalence of resident management companies acting as landlords on blocks of flats, one likely consequence of law reforms of this nature will be an increased risk of insolvency of landlords and an increased risk of repairs not being undertaken due to lack of funds. This is because the only funds available to resident management companies are those arising from service charge income or from any additional funds that the leaseholders are willing to contribute.

If the landlord is faced with a very large repair bill due to unexpected building defects, it might not be able to raise sufficient funds to undertake the repairs due to legal restrictions on service charge demands, and it might not be cost effective or possible to pursue a claim against the original developer of the building. Such an issue is perhaps most likely to affect high-rise residential buildings, where the scale and complexity of the building means that unexpected issues are more likely to arise.

**Conclusions**

While there is a significant volume of statutory regulation of residential service charges, in relation to sinking funds the only qualitative level of regulation is, first, whether the lease entitles or requires one to be held; and secondly, whether the contributions (or eventual service charge demands) are reasonable.

The RICS Service Charge Residential Management Code and ICAEW joint guidance both provide further detail on the setting of reserve funds and presentation of service charge accounts, but these examples of best practice are not always followed. In practice, there is a divergent range in approach and quality when it comes to setting sinking funds and planning for future capital costs.

Given the recently introduced restrictions on landlords in relation to demanding service charges for remediation costs, it is a foreseeable risk that large capital costs might arise in the future, leading to either the insolvency of the landlord or management company, or to buildings falling into disrepair owing to the unavailability of funds to undertake repairs.

This risk highlights the crucial importance of accurately planning for future maintenance and capital costs when setting the sinking fund at the outset of a development.



# MARKET ANALYSIS —WHY TOWERS ARE A HARD SELL

**IT IS PRIVATE RENTERS RATHER THAN HOMEOWNERS WHO ARE OPTING TO LIVE IN TOWERS. TO MAKE THEM MORE ATTRACTIVE TO HOMEBUYERS, DEVELOPERS NEED TO WORK HARDER TO MAKE SERVICE CHARGES MORE AFFORDABLE, SAYS DAVID SALVI IN HIS ANALYSIS OF HOW THE MARKET IS PERFORMING.**

## WHAT IS THE FUTURE OF HIGH-RISE HOUSING?

High-rise buildings over 20 storeys make a significant contribution to the delivery of new homes in London with more consents and completions now being delivered in the outer boroughs than the inner ones.

At the end of 2020, London had around 450 tall buildings of roughly 10 or more storeys, the vast majority of which were built since the 1950s. According to the annual New London Architecture survey of April 2022[1] there are a further 583 tall buildings of 20 or more storeys in the planning pipeline of which 89% are for residential use. To date, the central and eastern inner London boroughs have the largest number of high-rise buildings. But 22 out of the 33 London boroughs now have high-rise buildings with most being between 20 and 30 storeys. Tower Hamlets, which includes Canary Wharf and the Isle of Dogs, has by far the highest number at 82.

The location of high-rise residential towers has followed the Greater London Authority (GLA) planning frameworks for clustering development opportunities around the capital at Canary Wharf, King's Cross, Aldgate, Vauxhall/Nine Elms, Stratford, Croydon, Wembley and Old Oak Common.

The Mayor of London's office emphasises that the potential for increased densities should be explored on large sites and the London Plan recognises the scope for higher-density residential and mixed-use developments in appropriate locations, such as town centres and surplus industrial land. But the GLA also recognises that high-rise buildings can be costly to build, operate and maintain and are not best suited for family housing.

While high-rise buildings make a significant contribution to London's housing supply, a large percentage of occupiers have been private renters rather than homeowners. And as more high-rise buildings are constructed in outer London many these buildings are earmarked for the Build to Rent sector where demand for homes is high.

The pandemic and lockdowns have highlighted the importance of access to greenspace, private outdoor space and adaptability for working from home. And with on-site facilities being forced to close during lockdowns, it has made traditional houses more popular with occupiers than homes in high-rise buildings.

1 **NLA Tall Buildings Survey 2022 https://nla.london/insights/london-tall-buildings-survey-2022**



## MARKET TRENDS IN LONDON PROPERTY

While falls in house prices are being widely predicted following the steep rise in interest rates in the Autumn of 2022, the start of the decade tells an altogether different story. During 2021, over 1.45 million home sales were agreed in the UK, an increase of 13% on 2020 and 25% greater than 2019 according to the data and consumer insights agency, Twentyci. This level of transactions was last seen prior to the 2008 global financial crisis.

Since the housing market reopened following the first lockdown in spring 2020 the UK's average house price has risen by nearly 16%, reports mortgage provider Nationwide. Larger homes with gardens and spare bedrooms that can double as home offices saw the greatest increase while apartments were the least in demand.

Double-digit price rises have been seen in outer London, but this has not been the case in central London where residential property prices have experienced little if any price movements since Stamp Duty Land Tax (SDLT) rates were increased in December 2014. This is discussed in more detail below.

In 2021, 18,500 new homes were sold in London, of which 69% were in outer London and 31% in inner London, a fall of 7% overall on 2020. However, the 10,500 sales during the second half of 2021 form the highest half-yearly sales in three years. A third of these new home sales were for the Build to Rent sector. Build to Rent now accounts for a significant portion of new homes built in London, including high-rise blocks above 20 storeys.

The Help to Buy scheme, where the government lends homebuyers up to 20% (40% in London) of the cost of a newly built home, plays a major part in new homes sales in outer London but has had little impact on new homes sales in central London, due to a maximum purchase price being restricted to £600,000.

## PRICE PREMIUMS FOR HIGH-RISE

Pricing of new homes comes loaded with a 'new homes premium'. This reflects the high land costs, planning, construction costs and usually high-quality fixtures and finishes.





**THE PANDEMIC AND LOCKDOWNS HAVE HIGHLIGHTED THE IMPORTANCE OF ACCESS TO GREENSPACE, PRIVATE OUTDOOR SPACE AND ADAPTABILITY FOR WORKING FROM HOME.**

There is no doubt that the views over London's historic landmarks afforded by buildings above 20 floors offer occupiers a spectacular skyline of one of the world's great cities. Accordingly, there is an additional 'height premium' that is applied by developers when selling high-rise apartments.

The higher the floor, the better the view and the further away from background street noise. As in any development, the penthouse floor attracts the highest price per square foot. Combined, the new homes and height premiums make high-rise living one of the most expensive options for UK home buyers.

Private balconies and terraces add between 25% and 50% of the internal rate per sq ft to apartment prices. The provision of on-site underground car parking space is typically priced at between £30,000 and £60,000 and is sold as a separate option where available.

Lease lengths in new developments are usually offered at either 250 or 999 years that make homes attractive to buyers and mortgage lenders. In February 2022 the new Leasehold Reform (Ground Rent) Act outlawed escalating ground rents for new leasehold properties. This has removed the opportunity for housebuilders and developers to include aggressive ground rents that escalated every 10 to 20 years and which have increasingly been used as a mechanism to inflate the freehold investment value on completed developments for the developer.

It should be recognised that buyers of high-rise apartments are interested in the same issues as buyers of low-rise apartments and conversions. Lease lengths, annual service charges, ground rent structures, planned maintenance programmes, reserve funds, local amenities, and transport links are all areas of concern to buyers. Today's buyers have access to readily available data published on the local and national housing markets and are now better informed on the price performance within each individual building.

## WHERE DEMAND FOR HIGH-RISE LIVING IS COMING FROM FOR HIGH-RISE LIVING

The external architecture and the design of a residential tower are important considerations for buyers, alongside location. Residential towers are generally accepted as aspirational by occupiers, and buyers appreciate striking high- quality buildings with well-planned public spaces and inviting building entrances. Bringing life to the ground floor of residential buildings with the introduction of retail and leisure uses, including restaurants, would be a welcome addition to the many new towers now planned across London, and can help to enhance the feeling of place and community.

Notwithstanding these amenities, UK purchasers have shown a reluctance to purchase homes at premium prices in high-rise residential buildings. The high level of service charges associated with concierge and leisure facilities within these luxury apartment blocks are often quoted by buyers as a major consideration in the decision-making process. A further concern expressed by buyers is not being able to open windows in some blocks and so having to live with pumped air filtration systems 24/7. Balconies at high levels can be problematic and uncomfortable given wind and heat.

Private apartments in tall buildings mostly attract professional singles and couples who are looking for rental accommodation. This is partly explained by a desire for modern accommodation with the latest design, lifestyle trends and fittings, but also by the fact that tenants are not burdened with the responsibility for paying the annual service charges associated with running high-rise private apartment blocks. In the UK, landlords pay the service charges and tenants pay for cost of utilities.

Overseas buyers have an affinity for luxury high-rise developments and are the main purchasers of new high-rise apartments in central London. Overseas buyers have a range of reasons for investing in London property and are targeted by housebuilders, developers and agents at off plan marketing exhibitions. Overseas buyers are more accepting of higher service charges at high-rise buildings than UK buyers and they value the hotel standard services which are often provided at many of the luxury residential towers. Overseas buyers purchasing for their children who are studying or working in London are also





enthusiastic purchasers of high-rise apartments, while overseas investors are also more accepting of lower returns resulting from higher service charges which reduce net returns.

There is little evidence of families living in central London's high-rise private apartment blocks, even where three or more bedrooms are provided. Occupiers of high-rise apartments in central London are typically professional singles and couples, younger professionals and students, all of whom look to move out when they have families.

One exception where families have bought into high-rise apartment living is at the three 42-storey towers at the Barbican. The 335 high-rise apartments were completed in the late 1960s and form part of a 2,000 unit complex. Parents, many working in architecture and design along with city professionals, have embraced high-rise city living at the Barbican, and their children are growing up sharing on-site communal amenities including play areas, sports, arts, and cultural facilities while making friends and forging community bonds with other families living in the development.

## SERVICE CHARGES

There is a significant differential between service charges in smaller blocks without on-site services and in the full range of security and leisure facilities available in many of London's latest high-rise residential towers. Where buyers can expect to pay an annual service charge of between £3.50 and £4 per sq ft for traditional low rise residential apartments to include building insurance, this annual charge is often between £7.50 and £8 per sq ft for modern high-rise buildings.

Service charges cover the costs of day-to-day management and maintenance and then, longer term, the more major repairs and replacements. Some of these costs are straightforward; for instance, over a five to ten year period the entrances and common areas of all buildings will require redecoration. Residential leases typically prescribe for internal redecoration of the common areas every four years and exterior redecoration every seven years. Less is known, or at least published, on the life of fixture and fittings in high-rise buildings including heating and air conditioning units, lifts and

communal amenities including swimming pools. To date, meeting these costs has not been an issue for buyers but it is likely to come to the fore in the next decade.

Managing agents play a crucial role in the maintenance and running of completed apartment blocks. The appointment of a managing agent is initially by the developer, but in many buildings there is a residents' management company which appoints the managing agent.

There is a general lack of appreciation of the role and functions undertaken by a managing agent, but the role can be made easier and more efficient with on-site staff including a concierge team. The level of service charges including the insurance premiums and sinking fund contributions are often mistaken for the managing agent's fee. The reality is that the fees paid per annum per flat to the managing agent are often insufficient to provide the level of service that leaseholders expect. Dissatisfaction amongst leaseholders leads to regular changes in the appointment of managing agents as leaseholders look for lower fees rather than providing additional investment in good property and estate management.

## THE RESALE MARKET

The price of apartments across central London remains close to their 2014 levels, so there is little incentive for homeowners to sell until they see the potential to profit from a sale. The market has failed to recover from successive rises to Stamp Duty Land Tax targeting purchasers, especially second homeowners, investors and overseas buyers, made by the government in December 2014, April 2016 and April 2021. It is now a distinct possibility that by 2023 residential prices in central London will reach the unprecedented milestone of a decade of no price growth.

The situation is even less favourable for investors and homeowners who purchased in the new towers where a new homes premium and height premiums are part of the original purchase price. Resale prices of private apartments in residential towers that had completed since 2014 were in Q4 2022 still trading at less than the original sales prices.





Buyers are less enthusiastic about buying a high apartment when they have already been lived in, unless prices are discounted from the original sale price. While many apartments are regularly relisted for sale, the evidence is that few attract buyers at above the original sale prices. In a market where there is a shortage of homes for sale it is perhaps telling that there is no shortage of apartments listed for sale in high-rise private blocks.

## CHANGES SINCE GRENFELL

The consequences for apartment owners have been dramatic across the whole of the UK since the Grenfell fire in 2017. All buildings above 18 m have had to have intrusive fire safety surveys to establish if they contain flammable cladding and even buildings below 18 m have been affected. The investigations have revealed many problems other than dangerous cladding: combustible insulation that needs to be replaced and missing fire stopping that needs to be inserted.

Additionally timber decking on balconies and even timber handrails are now being condemned, with lenders unwilling to lend on any building which does not have a compliant EWS1 (External Wall Survey) certificate.

While residential buildings of all heights completed since the 1980s have been found to require fire safety remedial works, high-rise buildings completing since 2018/2019 have benefited from additional checks during construction and are sold with compliant EWS1 certificates that enable banks to lend.

## LONGER-TERM CONSIDERATIONS

We believe that the sales and rental market in high-rise buildings will continue to reflect general housing market conditions with individual buildings experiencing a range of maintenance issues and planned maintenance programmes.

The majority of apartment buildings are managed with a sinking fund that helps mitigate against planned and unplanned maintenance items in buildings. This is clearly beneficial to all

parties but does not guarantee that leaseholders will not be expected to fund shortfalls where sinking funds are exhausted or insufficient to cover essential or unexpected works.

The life of the latest intelligent electrical fittings, air conditioning and heating equipment being fitted in to high-rise private apartments and the anticipated costs of replacement is covered elsewhere in this report, but fire safety issues now being identified post-Grenfell illustrate the potential cost implications and practical implications of arranging remedial works on high-rise buildings.

It is surprising that developers in the London boroughs are on course to deliver up to 526 additional high-rise apartment blocks with a range of on-site facilities including, concierge services, gyms, cinema rooms, residents' lounges, treatment rooms, swimming pools, storage, and parking. The annual cost of providing these facilities is often way beyond most first-time buyers and families.

We see an opportunity for developers of high-rise buildings to attract new domestic purchasers by repackaging what they offer and include additional services such as dental, optician and nursing care specifically focused on older downsizers. These services could be charged separately from the annual service charges but could prove popular with retired homeowners looking to enjoy city centre living. This would free up much needed family housing at the same time as providing new lifestyle choices for older homeowners, who wish to retain independence at a time when they are mortgage free and are able to afford to pay for the convenience of having such services available in the same building they live in.

The expansion of the Build to Rent Sector in the outer London boroughs is increasingly offering a solution to developers including of high-rise towers where private sales have stalled. This growing sector is in many ways better positioned to manage onsite amenities and maintain buildings while being able to offer tenants attractive facilities including security.



# CUTTING THROUGH THE COMPLEXITY —CAN DESIGN, CONSTRUCTION AND MAINTENANCE OF HIGH-RISE HOUSING WORK BETTER FOR THE CONSUMER?

## WHAT IS THE FUTURE OF HIGH-RISE HOUSING?

*This essay sets out the regulatory environment and explores how emerging construction methods can make tall buildings easier, and less costly, to maintain and improve leaseholder satisfaction. By Andrew Beharrell, Paul Eaton, Roger Holdsworth and Gary Tidmarsh.*

### THE OVERARCHING PROBLEMS

The dramatic growth of tall towers for mainstream market housing is very recent and regulation has not always kept pace with the special challenges of building tall.

Building Regulations were originally drafted around low-rise masonry construction, and they have evolved incrementally to cover the much more complex construction techniques and materials used in mid- and high-rise housing. This has resulted in confusion and ambiguity as more is added and little is taken away.

Furthermore, Building Regulations are concerned with the performance of a building at the point of completion. They do not regulate its long-term performance or durability.

There is also often a disconnect between the expectation of leaseholders (buying minimum 125-year leases and often 999-year leases), the expectations of developer clients (very different for those who build to sell and those who build to hold), the actual longevity of building products and the formal guarantees.

The simple materials used in traditional low-rise buildings have been replaced in high-rise housing by alternative materials and components with unproven life spans. This is likely to result in increased maintenance costs over the period of the lease compared to lower buildings of traditional construction.

Fast-changing regulation around environmental sustainability has created a complex set of single-issue performance targets which tend to overlap and contradict one another: for example, thermal efficiency, daylighting and overheating standards all pull in different directions.

Embodied carbon poses a special challenge to high-rise buildings, which require stronger foundations and superstructures, and operational carbon is also a challenge, with taller buildings being more reliant on lifts to move people, pumps to move water and mechanical ventilation and cooling.



High-rise housing may continue to be a sustainable solution in well-serviced central locations – where the wider environmental advantages of urban clustering come into play – but it will be increasingly difficult to meet specific building regulation aiming to achieve net zero, unless by trading off emissions elsewhere.

Regulations to improve safety following the Grenfell disaster have not yet delivered a practical consensus about building design, construction technique, procurement process or emergency procedures. All buildings require regular maintenance and planned replacement of ageing components and materials, several times within the lifetime of a typical lease. The cost of this, and especially the cost of access in high-rise buildings, is poorly understood by leaseholders and building managers.

These issues apply to all new apartment blocks, but they become more acute with greater height, for reasons of access for construction, maintenance and evacuation; increased structural loadings; more extensive mechanical installations; and exposure to weathering.

## HOW BUILDING REGULATIONS FELL OUT OF STEP WITH PRACTICE

From the mid-1970s to the late 1990s a typical UK housing project consisted of low-rise terraced houses and apartment blocks of three and four storeys, generally with a single stair serving two to four flats per floor. Both were generally built using loadbearing masonry cavity walls with brick facings. This modest scale and traditional form of development was partly a reaction to the emerging technical and social failings of higher density post-war mass housing programmes. (Beyond the urban centres and experimental council estates most homes were, and continue to be, terraced and semi-detached houses.)

Building Regulations were written, and periodically updated, to reflect the nature of this kind of development: low-rise, generally made with traditional materials and building methods, with only a small number of households sharing communal spaces. The Regulations were simple to follow and apply, particularly with respect to fire safety and thermal efficiency requirements. To prove compliance with the regulations it was sufficient to use one of the prescribed building systems included in the Approved Documents. Planning requirements for these kinds of developments were also relatively straightforward to navigate – concerned with housing mix, context, amenity and overlooking.





In the following years, more ambitious housing targets to accommodate expanding urban populations coupled with a scarcity of land led to more intensification of sites – building higher and achieving greater density. This chimed with a new cultural narrative expressed by the Urban Task Force and a more liberal planning context. Increased height required alternative building techniques to replace traditional loadbearing masonry construction, which was limited to four to five storeys.

More lightweight, non-loadbearing materials were introduced, and these required other components such as membranes and sealants in order to function robustly. Later in this essay we will look at how this change has resulted in added complexity – particularly in high-rise buildings.

Evolution of these new building systems, products and technologies is generally positive, and the buildings we build today certainly would not be possible without an advancement in design, components, material performance, and construction skills. But as building techniques changed, the guidance documents which accompanied the regulations did not keep pace, and they soon became less helpful as they no longer gave prescriptive examples of the more complex building envelopes that were being built. So, designers and contractors had to rely on manufacturers' data and testing of components to prove how they would perform. Fire engineers and acousticians carried out desktop studies to assess how a system made up of many materials and components would perform, and inevitably there was a lot of interpolation of data and little real life performance evidence.

Meanwhile, Building Regulations became more focused on specific areas of building performance including thermal efficiency, fire safety, acoustics and ventilation, and not particularly addressing in a holistic way the many varied building systems that were being used, especially as mid-rise and then high-rise flat blocks became increasingly common. An equivalent divergence is now happening with low-rise buildings where Building Regulations guidance documents do not adequately cover the modern methods of construction now being used.

British Standards guidance documents often show alternative ways to achieve compliance and fill in the gaps where the Building Regulations Approved Documents lack detailed guidance.

Designers need to be very careful to choose which path to compliance they are following - Approved Documents or British Standards – and be wary of mixing guidance from both.

So, what has been the impact from the changes to regulations and building techniques on the construction, habitation, and maintenance of high-rise residential buildings?

**THE SIMPLE MATERIALS USED IN TRADITIONAL LOW-RISE BUILDINGS HAVE BEEN REPLACED IN HIGH-RISE HOUSING BY ALTERNATIVE MATERIALS AND COMPONENTS WITH UNPROVEN LIFE SPANS.**

## LONGEVITY AND DURABILITY

Current Building Regulations remain focussed on the life safety and health of occupants and energy demand at the point of completion. They say little about long-term performance or durability and so do not give building owners, leaseholders, insurers or lenders the assurance that the building will, subject to planned maintenance, last for stated lifetime. Currently this is set out in the developers brief, if set out at all.

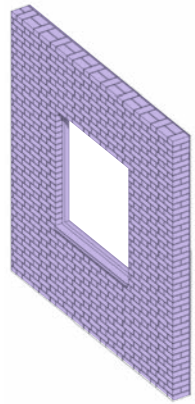
There is a disconnect between the expectation of leaseholders (buying minimum 125-year leases and often 999-year leases), the expectations of housing developers (very different for those who build to sell and those who build to hold) and the actual longevity of building products and the formal guarantees. A greater emphasis in the Building Regulations and in developers' briefs would help to align the interests of these groups and align the long-term maintenance burdens of more complex structures.

## CONFUSION AND COMPLEXITY

Increasing performance standards generally adds complexity and cost, especially to external wall construction – with higher performance products and limited choices, additional components, and component configurations that require specialist knowledge to

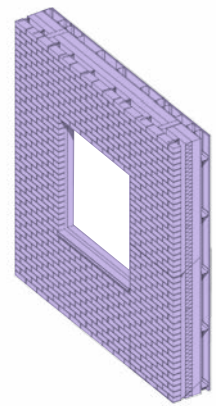
**TYPICAL VICTORIAN WALL CONSTRUCTION**

**— Brick**
**— Mortar**
**— Plaster**



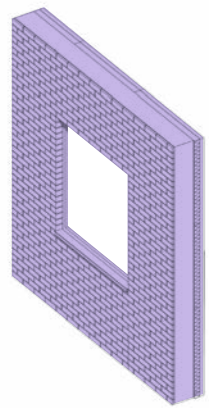
**TYPICAL MODERN HIGH-RISE WALL CONSTRUCTION**

**— Brick cladding / precast elements**
**— Mortar**
**— Masonry support**
**— Cavity tray**
**— Cavity fire barrier**
**— Channels and restraint ties**
**— Breather membrane**
**— Insulation**
**— Sheathing board**
**— Metal framing**
**— Vapour control layer**
**— Internal linings**



**PANELISED WALL/ADVANCED CONSTRUCTION METHODS**

**— Brick slip**
**— Mortar**
**— Concrete / composite / insulated panel**
**— Insulation**
**— Internal linings**



ensure they perform as expected. This applies to all buildings, but complexity of detailing and construction access increase with height.

The Building Regulations in their current form appeared following the Building Act 1984. The original Approved Documents were mostly published in 1992, with many revised and additional ones appearing incrementally from 2000 onwards. This ad hoc process has tended to increase complexity, and potential contradiction between different Approved Documents at different stages of their evolution – more is added, and little is taken away. The ambiguity of Approved Documents has also been raised following the Grenfell fire of June 2017. In the second Grenfell Fire Public Inquiry expert witness Paul Hyett stated that he was 'somewhere between disappointed and appalled' by the ambiguity in the Building Regulations Approved Documents.

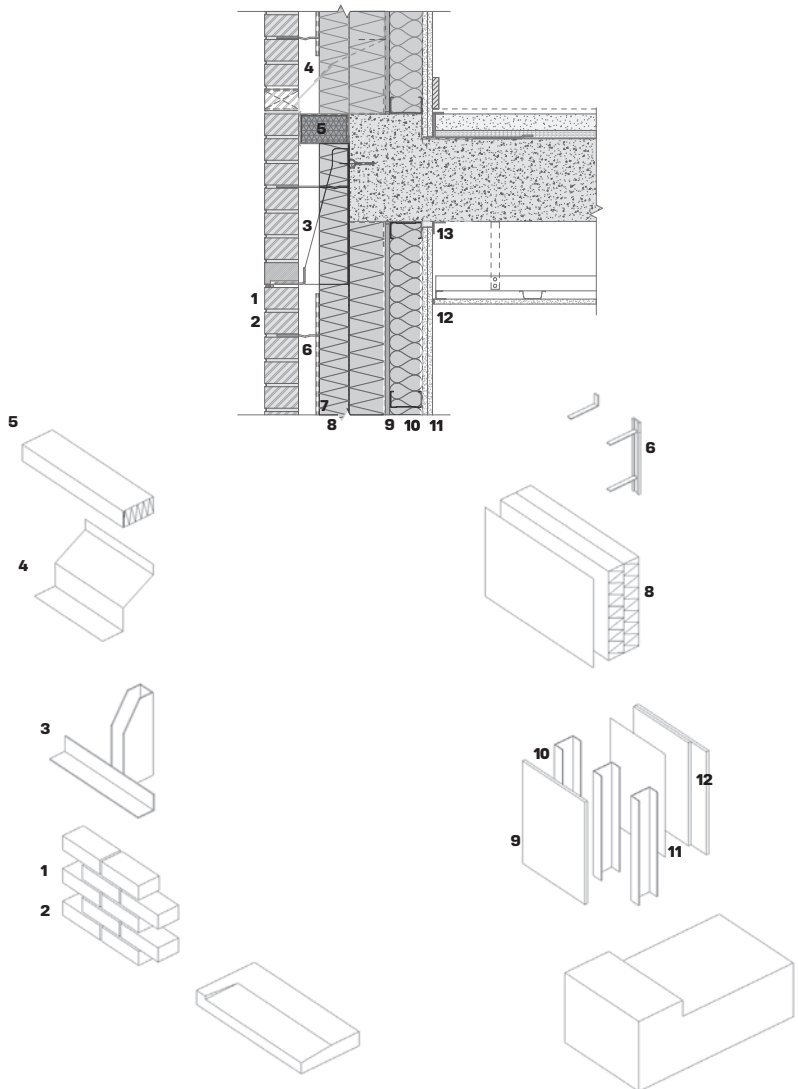
The way Building Regulations have evolved can also create confusion between different areas of regulation and guidance, including between Building Regulations and planning regulations. For example, Building Regulations promote natural ventilation to reduce energy demand, whereas planning standards in noisy and polluted urban contexts rely on sealed facades, closed windows and mechanical ventilation. Additional costs are often added by the need to apply complex solutions to satisfy these conflicting requirements.

The new Building Regulations Part O (Overheating) is a welcome and necessary attempt to address an increasing problem exacerbated by climate change, but once again it seems to have been devised in isolation from other requirements, including the need for adequate daylight and sunlight in our homes. It is also likely to lead to a proliferation of external shading devices, which have implications for capital and maintenance costs. The drive towards natural ventilation and good daylighting favours shallower rooms and therefore wider frontages, in contrast to the deeper plans which have become the norm. This increases the building envelope and worsens the 'form factor' used to assess thermal performance. It is also more expensive. Safety is covered by the Building Regulations, and this is an area where significant complexity and cost has been added to construction, particularly in high-rise. Components which were once considered of little fire risk are now banned in high-rise buildings. Added costs not only apply to materials which have had to be re-engineered to be non-combustible but also by increasing the



**TYPICAL MODERN HIGH-RISE WALL CONSTRUCTION**

1. **Brick cladding/precast elements**
2. **Mortar**
3. **Masonry support**
4. **Cavity tray**
5. **Cavity fire barrier**
6. **Channels and restraint ties**
7. **Breather membrane**
8. **Insulation**
9. **Sheathing board**
10. **Metal framing**
11. **Vapour control layer**
12. **Internal linings**
13. **Sealants and tapes**



complexity of the façade. For example, replacing high-performance thermal insulation with incombustible lower performing insulation will generally increase the façade depth, with additional costs associated with fixings, supports and window reveals.

**BUILDING REGULATIONS ARE CONCERNED WITH THE PERFORMANCE OF A BUILDING AT THE POINT OF COMPLETION. THEY DO NOT REGULATE LONG-TERM PERFORMANCE OR DURABILITY.**

## DESIGNING AND CONSTRUCTING TALL BUILDINGS IN THE POST-GRENFELL ERA

The Grenfell Tower fire on 14 June 2017 has had a seismic effect on the construction industry.

Most residential buildings have been impacted by recent changes to Building Regulations irrespective of height or typology. However, high-rise buildings have been particularly impacted by the changes to fire safety regulations implemented after the Grenfell disaster.

The fire and subsequent investigations have exposed the need for change across the industry. We expand below on some key aspects.

### The need for good construction detailing

As we have touched upon earlier, performance targets for thermal insulation, fire safety, acoustics, ventilation, daylight and other criteria often pull in different directions, and require designers to reconcile conflicting single-topic guidance to arrive at compliant solutions. These solutions may work on paper and in the laboratory, but they also require accurate workmanship on site – just as we are also suffering a skills crisis among construction workers.

The problem is compounded every time standards change. For example, the November 2018 change to Building Regulations, requiring the entire wall construction in buildings over 18m to be of limited combustibility, was a rapid and necessary reaction



to Grenfell, but it has introduced further complexity into design and construction, and uncertainties about the incombustibility of minor components within the wall system.

Many new apartment blocks today are clad in brick or other masonry products – for reasons of fire safety, durability and cultural preference expressed through the planning system; in London, the Mayor's Housing Design Guide and consequent planning policies have normalised a style referred to as the new London vernacular, which is inspired by traditional brick-built terraces and mansion blocks. To achieve this appearance in modern buildings requires hanging a brick or masonry skin from a steel support structure usually fixed back to a primary concrete structure. Incombustible insulation requires a wider installation space and therefore projects the façade even further from the primary frame. All these components are interwoven with fixings, membranes, sealants, gaskets and fire-stopping.

While it can be well designed, this envelope complexity can lead to increased maintenance costs and, in the worst cases, mistakes and failures. Most are not catastrophic like Grenfell, but the gap between designed performance and actual performance appears to be widespread in the housing industry. This is especially so in the area of energy performance. Later in this essay we look at how complete building systems could help to overcome these problems.

### The need for better quality control

Cladding investigations following Grenfell have revealed the weakness of the process for certifying products and signing off work on site, including confusion in the drafting of regulations and the unreliability of the approvals process. We do see some improvements here: responsible contractors are employing façade consultants to check work on site, and are favouring suppliers (for example of cavity barriers) who also offer an inspection and certification service.

There is much talk, in the context of the Building Safety Act of architects resuming a site inspection role (much diminished after 30 years of design and build contracts), but we don't see much evidence of that happening yet. Is the profession ready to upskill and take on this responsibility in 2023?





### Procurement

Although we all pray that Grenfell is a unique one-off disaster, it has revealed more general bad and muddled practices in the housing industry. Among these is the debasement of design and build contracting (a good idea in theory) into a process where cost is king, and lines of responsibility are blurred. Meanwhile there have been some thoughtful contributions towards transforming procurement, including the Housing Forum's Better Procurement for Better Homes – a good start would be for government to insist that recipients of grant funding follow its recommendations.[1] This builds on recommendations in The Construction Playbook – Government Guidance on sourcing and contracting public works projects and programmes (2022).[2]

### The need to rethink the layout of high-rise housing blocks

One likely consequence of the Grenfell disaster will be that more high-rise buildings will contain a second stair, and additional evacuation lifts. Two stairs also allow the separation of firefighting access from the potential evacuation of residents. So, there will be additional costs imposed by the construction of a second stair and loss of saleable floor area, which will also increase maintenance costs.

There is as yet no firm requirement for two stairs. The revised BS 9991 is still in draft and offers the option of a pressurised stair system, but this option is complex to design, install and maintain, and there are some doubts about its performance in a real fire rather than under theoretical conditions. Meanwhile the public, the media and some planning committees have already decided that two staircases is the way to go with tall buildings, and many developers are revising their design briefs accordingly.

1 **Better Procurement for Better Homes, The Housing Forum, October 2021, https://housingforum.org.uk/reports/report-housing-supply-and-delivery/better-procurement-for-better-homes/**

2 **https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1102386/14.116_CO_Construction_Playbook_Web.pdf**

### The need for independence in research, testing and certification

Designers and constructors rely on the expertise and impartiality of independent institutions to advise how to build safely. Originally set up by government, the Building Research Establishment (BRE), British Standards Institute (BSI) and British Board of Agrement (BBA) later became privatised organisations required to be commercially self-supporting. They derive income in part from testing and certifying commercial products.

The Grenfell Inquiry highlights the need for a genuinely independent body to research, test and certify construction elements and assemblies, not only to remove any suspicion of undue influence from commercial manufacturers, but to step back and examine more fundamental questions around how we should build. Instead of working out how to deliver a particular product or technique to the existing market, we need to ask how we can build better in the future.

## HIGH-RISE HOUSING AND THE PUSH FOR ZERO CARBON

Environmental sustainability, and specifically the requirement to reduce carbon emissions, has led to an increasingly demanding suite of planning and technical requirements on all residential development. These affect what we build, where we build, how we build – and whether we should build at all. Tall buildings generate unique challenges, benefits and requirements, many of which have an impact on their costs over time to residents.

Carbon in the building has three sources: the whole-life embodied carbon in its construction and maintenance, the operational carbon costs of providing its ongoing energy demands, and finally the transport carbon costs of its occupants. We look at tall buildings though the lens of each below.

### Whole-life embodied carbon

The focus on whole-life embodied carbon is a growing factor in whether to grant planning permission, even though we do not yet have specific targets. The merits of retrofit versus new build, and high-performance construction versus less carbon-intensive techniques, depend on what lifetime of beneficial use is assumed.





Embodied carbon poses a particular challenge to high-rise buildings, because they require stronger foundations and superstructures, so typically require more concrete and steel than the equivalent accommodation in lower buildings.

There is a case to be made that there is a long-term carbon benefit due to the increased longevity of these very strong structures and consequently improved whole-life carbon performance if taken over a longer period of 100 years or more. There is also extensive ongoing research into more carbon efficient techniques, including recycled materials, which could improve performance for buildings at any height.

### Operational carbon

A large part of a building's operational carbon comes from the energy needed to heat or cool it, and so its façade, and critically, its amount of façade for a given floor area (its form factor) becomes an important consideration.

Because they are often slender, tall buildings can offer the benefit of a small footprint and compact plan layout and so achieve a comparable or better form factor than lower buildings. However, the compact form tends to generate deeper flat plans, which are harder to reconcile with the new Building Regulations Part O: Overheating which encourages wider and shallower plans and through-ventilation. More articulated plan forms can provide a good solution to this but of course this must be balanced against an increase in façade area and so a poorer form factor.

Balconies and private outdoor space can further determine building form. Projecting balconies are popular for reasons of cost and ease of construction, but these become increasingly exposed at height and they also feel insecure to many residents. Recessed balconies are preferable, but these increase the amount and cost of external wall and worsen the form factor. Glazed winter gardens can be a good solution, but can be costly unless treated as an extension of the indoor heated space.
Another source of operational carbon is the energy needed to move people and services around the building. Taller buildings are more reliant on lifts to move people, pumps to move water and mechanical ventilation and cooling and inevitably lead to greater energy demands.

Taller buildings also generate large areas required for handling refuse, storing cycles and locating mechanical and electrical plant. To avoid taking up precious ground floor area – and creating dead street frontages – these have tended to be located in basements, including multi-level basements. These are costly to construct and require large amounts of concrete. New solutions, including the use of mezzanine and first floor levels for plant, can strike a good balance.

Finally, there is a balance to be struck with the small plan form of tall buildings versus the need for on-site renewable energy generation, notably photovoltaic panels and air source heat pumps, which are preferably sited on roofs alongside building services plant and roof terraces. Photovoltaic facades could provide a good answer, but they are currently hard to achieve due to the ban on combustible materials for buildings over 18 m.

**THE ADVANTAGE OF A COMPACT FOOTPRINT BECOMES A DISADVANTAGE WHEN LOOKING TO LOCATE RENEWABLE ENERGY KIT, NOTABLY PHOTOVOLTAIC PANELS AND AIR SOURCE HEAT PUMPS.**

### Transport carbon

Car free development is mandatory in most central and inner London boroughs, and increasingly in outer boroughs, regardless of housing type. Tall buildings often occur in parts of cities that are highly accessible by public transport and well connected to active travel networks; places where it is easy to walk or cycle. More UK specific research needs to be done but, in these locations, there is the potential for tall buildings to contribute positively to carbon reduction by minimising car dependence. The density tall buildings bring to cities can also have a positive benefit to the carbon costs of our ever-increasing demands for home deliveries. However, it should be noted that all of these benefits apply equally to high-density mid-rise development.





## MAINTAINING TALL BUILDINGS

As we have discussed, products and components, even though compliant with Building Regulations, may need to be replaced several times during the lifetime of the building, and many will not be easily accessible behind façades which cannot be easily dismantled.

Furthermore, exposure to wind, rain and extreme temperatures increases with height and can reduce the lifespan of facing materials and components. Careful attention to exposure ratings at the design stage can overcome this, usually by increasing the specification.

Although new leases are typically for 125 years or more, the typical designed lifespan of the structure and fabric of new housing is 60 years, and this is reflected by 60-year guarantees on the steel components in wall constructions: steel framing, masonry supports, brick ties. The BBA certificates for insulation and membranes typically say that products will remain effective for the lifespan of the building, although enforceable guarantees may vary. However, most other components carry a 25-year guarantee or less. Guarantees tend to be conditional on a rigorous maintenance programme being observed. It is worth noting that 100-year guarantees are now available on factory-built complete dwelling modules.

Replacing isolated external wall components may be possible using a crane or roof-mounted davit, but large maintenance programmes require scaffolding. This is a major undertaking on a tall building. Window replacement poses particular challenges: it is usually possible to extract and replace a window from the inside, but to replace the seals around the window typically requires removal of the surrounding façade and therefor external access.

In addition to costs associated with Building Regulation changes, the Building Safety Act will impose additional responsibilities on building owners, which in turn will lead to increased service charges to support additional management.

For new buildings, building owners will be required to verify, record, and monitor the safety of the external walls. (Previously the onus was on maintaining safety internally and providing for safe escape). This is likely to add to service charges: it implies that surveyors will need to gain access to high level façades to make physical inspections, and potentially intrusive and destructive inspections.

Mechanical components, including heating and cooling plant, are likely to be among the first to require replacement – and tall buildings have more plant than lower ones, for example pumps and high-level storage tanks. Designers and developers need to take much more care to think through the logistics of this. Small items of plant are built into flats or common utility cupboards and may require partial demolition for removal. Large items may not fit into goods lifts and need to be demountable or else removed by crane: for example, tall buildings require secondary power supplies to serve firefighting stairs, and this is often met by a diesel generator on the roof, weighing around five tons, which also has to be tested every month.

Regular cleaning of façades and windows is a major factor in the design and maintenance of tall buildings. Above five storeys, cleaning will usually require a cradle lowered from the roof. If the building has a complex stepped form, perhaps involving roof terraces at various levels, then several cradles are required to serve different sections.

## HOW CAN WE IMPROVE THE PERFORMANCE OF HIGH-RISE HOMES TO BENEFIT THE CONSUMER?

Significant amounts of time and money are, quite rightly, being targeted at making existing buildings safer, but there is perhaps not enough discussion and thinking about how best to design, construct and manage new ones. We wonder if, instead of asking 'how can we adjust our familiar working practices to meet the new rules?' we might better be asking 'how can we transform the way we do things to create better and safer buildings to the benefit of the consumer?'.

The leaseholder survey in this report shows a high level of dissatisfaction with the performance of modern apartment blocks, especially with regard to defects, regular maintenance and consequent service charges.

What can we do to improve the design and construction of apartment blocks, and especially high-rise ones, so that occupiers can enjoy comfortable and safe homes, free of inconvenience and unexpected financial burdens? Here are a few areas of current and future innovation, which merit further research and implementation.





The overarching message is that we need to take more care over the initial design and construction in order to reduce defects rectification, operating and maintenance costs – and in some areas that means increasing capital cost to reduce lifetime costs. That shifts the cost burden from leaseholders to developers, and could ultimately impact land values.

### The adoption of complete building systems

At present, exterior envelopes are often made up of multiple components from different sources, which have been tested separately, or in very specific combinations. Equally, tests are sometimes carried out in highly theoretical laboratory conditions and so do not reflect typical conditions on a building site.
Part of the solution lies in the development of complete building systems supplied by a single manufacturer, for example providing a single source of responsibility for the entire wall from outside to inside, rigorously and independently tested in real life conditions. These are more common in Europe and in commercial buildings in Britain, but so far relatively less so in British apartment blocks. This approach is intrinsic to off-site manufacture, and it could become widespread for site-based operations also.

Other advantages of such systems include: speed of construction; integrated design, construction, inspection and guarantee; reduced structural weight; fewer junctions, components and cavities.

One implication of this is greater standardisation, and less experimentation and innovation on individual projects: architects may find this uncomfortable. Unlike prestige projects in the commercial and cultural sectors, very few housing projects can afford proper research and development with full-sized mock-ups – but nor can they any longer afford the risks associated with untested solutions.

### Lower maintenance facade systems

Complete building systems will usually incorporate the external façade, and architects, planners and consumers will need to embrace non-traditional facing materials: as we have explained, applying traditional brickwork can add cost, complexity and embodied carbon. There are many alternatives to brick, including ceramic rainscreens, glass reinforced concrete (GRC) cladding,

certain metal claddings, (bizarrely dependent on colour - some colour coatings being combustible).

Windows will be integral to façade systems, and must be replaceable from the inside without collateral damage to seals and membranes requiring external access for repair.

**Install better mechanical and electrical systems**

The cost and disruption of planned and unplanned replacement and repair of M&E components is probably the most common cause of residents' dissatisfaction. Here are some relatively simple solutions:

- The housing industry should learn from commercial office block developers and install better quality lifts, designed for higher levels of usage.
- Alongside the move away from gas and towards renewable electricity, we should simplify communal systems, minimise wet piped services within flats and provide easy-to-use individual controls. Using current technology, energy efficiency will continue for the time-being to favour shared heating systems linked to communal air source heat pumps and photovoltaic panels, but we should develop more self-contained individual systems, perhaps integrating renewable energy with façade and balcony design. Currently a good solution for space heating and hot water is a communal ambient water loop, with individual heat pumps in each flat.
- The location of kitchens and bathrooms in flat layouts should enable clustering of water supply and waste pipes in ducts which can be accessed from the common parts – as is normal in hotel design. Prefabricated plumbing packs and room pods should be the default solution, minimising on-site plumbing work.

**Balconies and shading**

To manage overheating we are likely to see increasing use of external shading devices including adjustable blinds and louvres, which will add to capital and maintenance cost. By comparison it may become cost effective to adopt continuous perimeter balconies,





which combine shading, maintenance access, amenity space and planting opportunities. These are common in Switzerland. In London, the GLA would need to relax its insistence on balconies being at least 1.5m deep to make this more achievable.

## WHAT SHOULD HAPPEN NEXT

We now demand more from our residential buildings than ever before; they should be spacious and easy to live in, light filled, cool in the summer and warm in the winter. They should strengthen the streets and spaces they shape and provide a sense of community for all. Above all, they should support our critical carbon reduction targets. At the same time, our construction industry and the commercial and regulatory environment that guides it, has become ever more complex and there is increased pressure on land and construction costs.

In this context, it seems to us an important time to take stock, to consider whether we are not only meeting the challenges of today, but equally, are not creating new problems for the future. All of this suggests that the housing industry needs to change to be more innovative. We need to learn from the commercial office and hotel sectors in the design, construction and maintenance of apartment blocks to provide safe, comfortable and affordable homes for consumers.

**WE NEED TO TAKE MORE CARE OVER THE INITIAL DESIGN AND CONSTRUCTION IN ORDER TO REDUCE DEFECTS RECTIFICATION, OPERATING AND MAINTENANCE COSTS.**

We propose:

- A comprehensive overhaul of Building Regulations to provide a clear, coordinated and practical regulatory framework for today's housing with a greater focus on longevity and the costs of future maintenance.
- That Building Regulations, other associated technical standards and insurance-backed guarantees need to be fully and continuously coordinated.
- That research and development funding should prioritise holistic building systems, such as whole-wall systems to help the industry move away from assembling diverse components on site.
- That the BRE should become (or be replaced by) a genuinely independent body to research, test and certify construction elements and assemblies.
- The industry should adopt the recommendations of the Housing Forum's Better Procurement for Better Homes – and government should insist that recipients of grant funding follow its recommendations.
- All housing construction processes, but especially for high-rise housing, should include a rigorous and coordinated inspection and certification regime by consultants, contractors and suppliers. The industry needs to upskill to meet the challenge of the 'golden thread' of responsibility.
- Two-staircases should become the norm for buildings over 30 m (10 storeys).
- The handover package to leaseholders and freeholders should include a long-term estimate of service charges and sinking funds based on a quantity surveyor certified estimate of whole-life cost.



# EXPERIENCING THE HIGH LIFE —THE STATE OF WELLBEING IN HIGH-RISE HOUSING

**THE SATISFACTION AND WELLBEING LEVELS OF PEOPLE LIVING IN HIGH-RISE HOMES RANGE WIDELY AND FURTHER RESEARCH IS NEEDED TO BETTER MATCH RESIDENT NEEDS TO THE ACCOMMODATION AVAILABLE, WRITES KATH SCANLON.**

Recently I drove into central London on a route I rarely take. Crossing Albert Bridge from Chelsea, I was struck by the change in built form along the river in the last few years: Covid stopped much of normal life but it clearly did not stop high-rise development. Our capital has been transformed over the last 20 years from a low-rise city of terraced houses and private gardens to one punctuated with increasingly tall towers.

More than 20 years ago, when Ken Livingstone was running for mayor, he set out his vision for a city of skyscrapers. Thanks in part to the policies he put in place, this is now coming to pass.

Historically, residential tower blocks in the UK were almost exclusively social housing until the 1990s. Unlike in, say, New York City, they were not associated with luxury penthouse living. These social blocks were conceived as a utopian solution to the substandard conditions in Victorian-era slums, and the original occupiers largely regarded them as a massive improvement on the neighbourhoods they had left behind. But many of the blocks were built using concrete construction systems, some of which proved, in a haunting foreshadowing of Grenfell, to have structural weaknesses. The 1968 failure of Ronan Point, when the side of a newly built 22-storey council block collapsed due to a gas explosion, brought tower-block housing into disrepute.

By that time many critics were already pointing out that tower blocks were unsuitable for families with children, and in the 1970s many councils had a policy of not housing families above the fourth floor. Later, though, pressures on the housing stock meant that many authorities quietly abandoned such restrictions.

This history matters: cultural attitudes to housing are deeply ingrained but often unconscious. As recently as 1991, the eminent British psychiatrist Hugh Freeman wrote, “There appear to be widespread feelings in Britain, not to be dismissed because they are difficult to define, that tower blocks are somehow an offence against the natural or traditional order of human habitation.”

The current wave of tall, high-density development is not a reflection of a change in demand: Londoners have not abandoned en masse their terraced houses with gardens, longing instead for good views and modern construction. It is rather the inevitable consequence of tight planning constraints (particularly the green belt) and a growing population and demand for homes. If this

population is to be accommodated on London's existing footprint, then new homes must necessarily be built at higher densities.

Gentle densification is possible without tall buildings: inner Paris and Berlin, with their 8- to 12-storey residential blocks, are denser than many equivalent neighbourhoods of London. But on constrained sites, towers are the only way to achieve very high densities.

## CURRENT DEVELOPMENT MODELS

Unlike the social blocks of the 1960s and 70s, contemporary towers are mostly built by private developers, though housing associations have also built mixed use tall buildings. Within an individual tower, there may or may not be social or affordable homes. In London, developments of 10 homes or more must include at least 35% affordable housing – but many towers are elements of bigger schemes, and sometimes the affordable housing is elsewhere on the site or in the borough. In any case, the Section 106 affordable housing is paid for out of the profits from the market housing, which tends to produce a relatively skewed distribution, namely a smaller number of lower-cost affordable homes and many luxury flats. Prices and rents in these new-build blocks tend to be higher than for existing homes in the surrounding neighbourhoods.

## OWNERS AND RESIDENTS IN CONTEMPORARY TALL BUILDINGS

In a typical speculative development, the private flats are bought (often off plan or before construction begins) by private individuals, either to live in themselves or, often, as investments to be rented out. We know relatively little about the owners of high-rise flats in London, although the role of overseas investors is controversial. High-rise schemes are often marketed in the first instance to foreign buyers (in the case of London, most commonly in the Far East), most but not all of whom rent them to local households.[1]

1 Scanlon, K, Whitehead, C, Blanc, F, & Moreno-Tabarez (2017) The role of overseas investors in the London new buildresidential market. LSE Consulting.





Similarly, we don't have a clear picture of who lives in these homes: the blocks themselves are not census units. Recent LSE research into the experience of living in high-density new housing in London included surveys of residents of four tower blocks in the capital[2] and local authorities themselves have commissioned research into the composition of the resident population. A study undertaken for the London Borough of Wandsworth showed significant concentrations of non-UK-born people amongst the residents at Nine Elms, along the Thames in south London.[3]

## THE EXPERIENCE OF LIVING IN TOWERS

Surprisingly little research has been done on how residents experience life in tall buildings, and what research there is, mainly from social science, is rarely communicated to practitioners. Psychiatrist Hugh Freeman, writing in 1993 about mental health in high-rise housing, suggested – perhaps unfairly – that the fault was with those who designed and commissioned the buildings: "Planners, architects and others whose decisions affect the fabric of people's lives have shown little interest in looking at the long-term human effects of their activities."

Across the world, much of the early research focused on a particular type of high-rise: the public housing block. The failures of these buildings were at the time a matter of urgent policy debate: was it better to tear such blocks down or rehabilitate them? Fuerst and Petty[4] argued that recognised problems with such buildings were due to an excess of large units (filled by families with many children), high concentrations of poor tenants

2 Scanlon, K, Williams, P and Blanc, F. (2018) 'Build to Rent in London: A report for the University of New South Wales and NSW Landcom'. LSE London

3 BMG Research (2018) Nine Elms and Vauxhall Opportunity Area household research. Report for Wandsworth Council https:/ www.wandsworth.gov.uk/media/1435/nevoa_survey research_report_january_2018.pdf

4 Fuerst, JS, and Roy Petty (1991) 'High-rise housing for low-income families.' The Public Interest (103): 118.

and bad management, not to the building type itself. They conceded that high-rises were perhaps not the ideal place to raise children – but argued that they were better than the alternative homes available for such families.

In 2007, Canadian professor Dr Robert Gifford published an article entitled 'The consequences of living in high-rise buildings' in *Architectural Science Review*, in which he summarised the findings of almost 100 studies of the psychological and health effects of living in high-rises, going back to 1925.[5] Gifford noted that most of the researchers on the subject expected living in high-rises to lead to worse outcomes for residents. The negative effects they found included fear, stress, behaviour problems, elevated rates of suicide (often by jumping), poor social relations and hindered childhood development. On the other hand, there was also evidence that tall buildings freed up more space for green areas, and researchers noted that they tended to have good views and be in central locations. Residents were also required to do less maintenance than in houses, and had less fear of crime.

Regarding children, Gifford commented "that high-rise dwellers with small children are dissatisfied is one of the most consistent trends in the literature", and noted that many studies suggested that children had problems in high-rises but none indicated that they benefited from living in them.

One common phenomenon was that children were not allowed to go downstairs alone to play, which led to less outdoor playtime, potentially contributing to developmental delay. In response to issues like this, in 1969 a Chicago judge decreed that children could not live above the third floor in any new public housing building.

In general, levels of interaction within tall buildings were low; this was partly because the physical design of the buildings did not encourage spontaneous encounters. In certain contexts this was seen to be a positive thing: Arabs and Jews living in high-rises in Israel found that they enabled a kind of co-existence that would

5 **Gifford, R. (2007) 'The consequences of living in high-rise buildings.' Architectural Science Review 50(1): 2–17.**





have been difficult in other building types.[6] Residents were most likely to know people living on their own floor, but not those in the rest of the block. Researchers also found that residents of tall buildings were less likely to help each other than those living in other types of homes.

Gifford's paper paints a broadly negative picture of wellbeing in tall buildings, but it is not clear how far the conclusions apply to contemporary buildings. The article was written 15 years ago, and much of the research he reported on was done in high-rise public housing blocks in the States from the 1960s to the 1980s, at a time when such housing was very stigmatised and often poorly maintained and crime-ridden.

Freeman[7] paints a similar picture of UK high-rises in the 1980s: "In practice, high-rise blocks in Britain are often surrounded by a no-man's land of dereliction, with uncollected rubbish, ill-maintained grass and a profusion of dog excrement." These conditions have by no means been eliminated but the best new schemes are very different, reflecting the current emphasis on placemaking by councils and developers.

More recently, researchers have begun to look at conditions in private high-rises. In 2019 Andrews *et al*[8] studied families raising pre-school children in tall residential buildings in Australia. Their participants had more or less consciously decided to prioritise location, affordability and convenience over outdoor space. In return, they said, they wanted dedicated outdoor space for children, but did not always find it. Some of the other observations could relate to any multi-family housing, not just high-rises – for example, in several of the complexes there was no grassy area at all, only concrete. Respondents spoke of the stress of keeping their

6 **Arviv, T, and Eizenberg, E. (2021). 'Residential coexistence: Anonymity, etiquette and proximity in high-rise living.' Urban Studies, 58(16), 3247–3264.**

7 **Freeman, H. (1993) 'Mental health and high-rise housing'. Unhealth housing: Research, remedies and reform (Burridge, R and Ormandy, D, eds) London: Chapman and Hall, 168–90.**

8 **Andrews, FJ and Warner, E (2020) 'Living outside the house: how families raising young children in new, private high-rise developments experience their local environment.' Journal of Urbanism: International Research on Placemaking and Urban Sustainability, 13(3), 263–285.**

own children quiet so as not to disturb neighbours, and conversely said the noise from neighbours kept their children awake. Other negative features of high-rise buildings included potentially dangerous windows (there was a fear that children might fall out) and lack of daylight.

**IN THE HIGH-RISE SCHEMES WE LOOKED AT, MOST HOUSEHOLDS LIVING IN MARKET UNITS WERE CHILDLESS – EITHER EMPTY NESTERS OR, MORE OFTEN, SINGLE PEOPLE OR COUPLES WITHOUT CHILDREN.**

## WHO SHOULD LIVE IN TALL BUILDINGS?

In evidence given to a 2002 House of Commons committee inquiry into tall buildings, Southwark Regeneration (part of the local authority) said: "Residential towers should generally be occupied by those who choose to do so (ie, not social housing of last resort); they should not, on the whole, provide family accommodation unless private outdoor space is provided. High-rise accommodation is generally suitable for single people, couples (without children) and key workers."

Twenty years on, this probably still reflects our collective understanding of how these buildings work best. My own research, discussed in the following chapter, suggests that most residents of tall buildings in London are in fact these types of household. But while we can design and build high-rises with these caveats in mind, there is no way (in market housing) to control who eventually lives in the units.





## LIVING IN HIGH-DENSITY HOMES IN LONDON

At LSE we recently carried out research into the experience of residents living in high-density housing in London.[9] From 2016 to 2019, a team of researchers from LSE London and LSE Cities looked into life in 11 recent high-density schemes. Two of the schemes comprised very tall towers (Strata at Elephant and Castle, South London and Stratford Halo in East London, both 43 storeys), and six other case study developments included towers of 15 storeys or more. The research, part funded by the GLA, explored the demographics of these schemes and residents' perceptions of the pros and cons of living in them. We were interested in how people's experience was shaped by tenure, life stage, and whether they had children. What factors, we wondered, made individual dwellings and developments perform well or badly? Did such homes suit some households better than others?

## OUR KEY FINDINGS

### What residents enjoy about tall buildings

We found that most households in high-rises had chosen to live in these buildings. They valued the views, the sense of security (including, often, concierges), the large windows and modern architecture, and the expectation of easy maintenance.

### Physical characteristics of the homes

Certain problems came up again and again: many residents said their homes were too noisy, either from inside (noise transmission through walls, floors or ventilation) and/or from outside (especially traffic and train noise, but also sounds from external courtyards or neighbours' balconies). We heard that many homes were too hot, often because the heating was centrally controlled, and that they had very little storage.

9 Blanc, F., Scanlon, K. and White, T. (2020) 'Living in a denser London: How residents see their homes.' LSE London/LSE Cities https://www.lse.ac.uk/geography-and-environment research/lse-london/documents/Reports/2020-LSE-Density Report-digital.pdf

**Family living**

All the developments had some facilities for children. In the high-rise schemes we looked at, most households living in market units were childless – either empty nesters or, more often, single people or couples without children. Social tenants were more likely to have children. Some residents told us they wouldn't want to raise a family in a flat and expected to move to a house with a garden when they had children. Those who did have kids said lack of storage space – especially for big items like pushchairs – was a particular challenge.

Residents' views about their homes depend on many factors other than the buildings themselves. The immediate surroundings are important, perhaps especially for families with children. Good access to public transport was also seen as a key benefit. Current planning policies encourage high-density development around transport nodes, and stations at some distance from central London, including Lewisham, Croydon, Wembley and Stratford, now sprout forests of residential towers.

But there are other, less tangible factors affecting residents' views of high-density homes including the degree of choice that they have about where to live, and the stage they had reached in their life and family cycle. We concluded that tall buildings can work well for certain types of household, but only rarely for families with children.

Should we therefore accept that tall buildings will be mainly occupied by childless people, and design them to suit their needs? But we also know that families with children do live in tall buildings, whether through preference (perhaps rarely) or, more often, because they have few other affordable options. Australian studies[10] have shown that families faced practical challenges in high-rise developments designed mainly for adults. Should planners therefore insist that all high-density schemes, including tall buildings, include family-sized homes and facilities for children – even though few families with children choose to live in them?

10 **Andrews, FJ and Warner, E (2020) 'Living outside the house: how families raising young children in new, private high-rise developments experience their local environment.' Journal of Urbanism: International Research on Placemaking and Urban Sustainability, 13(3), 263–285.**





Academic research tells us much less about the experience of single adults and childless couples living in towers. The great majority of residents of the high-rise blocks in the LSE study had no children – suggesting that such homes do indeed appeal more to the childless.

Two specific types of high-rise do intentionally cater to childless customers: purpose-built all-rental blocks (known as Build to Rent), and student housing. Build to Rent schemes are blocks of flats (or houses in more suburban locations)) in single ownership and all privately rented. The model has spread rapidly in London since 2012. There are now dozens of inhabited schemes and many more being built – mostly high-rise blocks (Scanlon et al 2018). The schemes are usually located right next to transport hubs and many feature concierges, gyms, cafes and social spaces.

Some of the major operators, drawing on experience of so-called multi-family housing from north America, organise social events for residents; these can help overcome the recognised issue that high-rise residents tend mainly to know people on their own floor. Although most schemes are open to any type of household, tenants tend to be young singles and couples and, to a lesser extent, older downsizers.

Purpose-built student accommodation (PBSA) is another relative newcomer to the residential scene. These blocks – often but not always tall buildings – contain ensuite rooms (usually small), with or without cooking facilities. Some are associated with particular universities while others are open to any student. Similar to PBSA is the co-living model, where small ensuite rooms are rented not to students but to young professionals, who also have access to a range of communal facilities and social events. Both PBSA and co-living are restricted to adults.

The fact that these new (to the UK) types of accommodation appear to be thriving might be regarded as proof of the appeal of high-rise living to the target markets of mainly young singles and couples. Certainly, the operators feel that they are providing the kind of product the market wants. As yet, however, there has been little systematic research looking at the experience of childless people in high-rise buildings.

There are still a number of intriguing questions about how to foster wellbeing in high-rise housing.

These include:

- Could we build flexible units, whose configuration could change to suit growing or shrinking households? Alternatively, could flexible tenures enable people to move to different sized flats when their needs change?
- Should we channel high-rise development to sites large enough to enable proper master planning? Larger master-planned schemes can knit tall buildings into a cohesive whole with other typologies such as mid-rise mansion blocks or terraced houses and, importantly, properly integrated public realm and open space.
- Can a sense of community be engineered in new high-rise housing, or must it grow organically over years or decades? Some residential developments, in particular co-housing, emphasise the importance of communal space (whether internal or external) that is designed to foster social interaction and a sense of belonging. Co-housing and high-rise blocks are admittedly very different, but are there lessons that can be learned? How successful are choreographed events and activities at generating a sense of community, and who should be responsible for organising them?

The tall buildings that are going up now will shape our cities for decades or even generations to come. In order to make them the best places possible, we need a much better understanding of how high-rise buildings currently perform, learning in particular from the experience of those who live in them.



# FEEDBACK FROM RESIDENTS —WHAT WORKS AND WHAT DOESN'T

**KATH SCANLON EXPLORES IN MORE DETAIL THE FINDINGS OF AN LSE SURVEY OF LEASEHOLDERS IN HIGH-DENSITY BUILDINGS.**

Despite growing public and political concern about leaseholder charges and the management of leasehold blocks, particularly in the wake of Grenfell, there seems to be little systematic evidence about how much leaseholders in recent urban developments currently pay, how their charges are calculated and what they cover, or how and why the charges have changed over time. In June 2022, in connection with the preparation of this report, we distributed an online survey[1] (hosted by LSE) targeted at leaseholders in such buildings to try to gather some basic information on these topics.[2] As detailed below this survey was not limited to high-rise developments - the results show dissatisfaction with a wide range of modern flats.

## TENURE AND PURCHASE HISTORY

The survey aimed to collect information about service charges and sinking funds in recently built blocks of flats in London, defined as those built since 1990. Of the 50 respondents, 39 were living in the flats they owned (24 as leaseholders and 15 as shared owners) and 11 were renting them out. Some 57% of respondents said they had bought the properties new, and only four had used Help to Buy.

The median year of purchase was 2014. Two respondents had bought their property before 2000, and two in 2021.

Remaining lease terms ranged from six years for a Camden scheme built in 1992 (suggesting it was originally marketed with a 35-year lease) to 900+ years for schemes in Tower Hamlets and Islington. The median remaining lease term was 114.5 years.

## LOCATION AND SCHEME CHARACTERISTICS

We asked respondents for the name of their scheme and where it was located. All but five of the responses were from London. There was a good spread geographically with some 40 identifiable schemes represented, from 19 boroughs. Only Islington, Southwark and Tower Hamlets were represented by more than three schemes; Tower Hamlets stood out with responses from eight. This reflects the pattern of recent development in London, as Tower

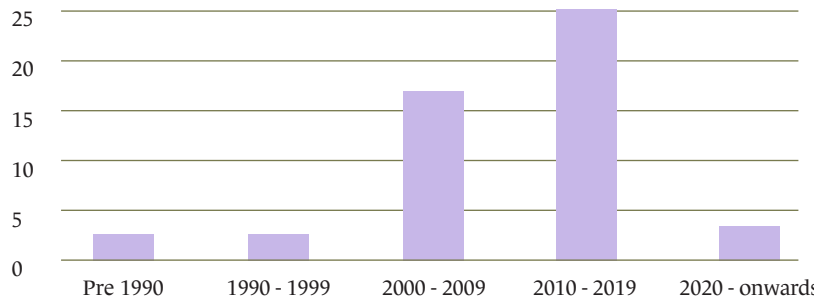




Hamlets (which includes the Isle of Dogs) is home to a remarkable concentration of high-rise and high-density blocks.

As intended, the survey mainly captured recent schemes. Half were built between 2010 and 2019. Nearly two thirds (62%) of the units had two bedrooms, and 26% had one. Ten respondents said their schemes had been built by housing associations, and 25 said they were built by private developers; the remainder did not know or did not specify.

### SCHEMES BY YEAR OF CONSTRUCTION




Because the issue of service charges is relevant to all high-density development, and many tall buildings are part of wider schemes that also include lower buildings, the survey was open to all those living in multi-unit blocks and not limited to high-rise. In fact, fewer than half of respondents lived in schemes where the tallest building was 10 storeys or more, and only eight lived in schemes including buildings of 20 storeys or more.

Most respondents themselves lived on the fifth floor or lower, with only a few living above the 20th floor, including one on the 27th and one on the 31st.

## GOVERNANCE AND MANAGEMENT

Respondents generally reported that managing agents were chosen by developers, housing associations or freeholders. One cynical respondent said the managing agent selected was "presumably whoever can increase costs at the fastest rate without providing the financials for it to the leaseholders."

On the whole respondents were dissatisfied with the management of their buildings, with 30 saying they were quite or very unhappy, versus nine saying they were quite or very satisfied

| | |
|---|---|
| Very satisfied | 1 |
| Quite satisfied | 8 |
| Neither satisfied nor dissatisfied | 5 |
| Quite unhappy | 15 |
| Very unhappy | 15 |

## MONTHLY SERVICE CHARGES AND SINKING FUNDS

Respondents were asked how much the monthly service charge for their flat was. The median amount currently paid was £208, with a minimum of £80 per month reported for a three-bedroom flat built in 1999, and a maximum of nearly £3,000 (an outlier) for a three-bedroom triplex on the 31st floor of a block built in 2004. The next highest figure was £750 per month.

Service charges had increased since purchase for almost all the respondents. The average annual increase was higher in buildings built by private developers than in buildings built by housing associations (simple average of 14% and 9% per annum respectively). Only two respondents reported that their service charges had fallen since they had bought their properties, while in one case there had been an increase of over 2,000% in 16 years (for a two-bedroom maisonette in Tower Hamlets).





Asked whether they had been consulted about changes to sinking funds or service charges, half the respondents said no and three said that payments had not changed since they bought their properties. Only about a third of respondents said they had been consulted about changes to these charges, or about the services that they paid for.

The main elements covered by the service charges were internal and garden maintenance plus repair and insurance (though some respondents said insurance was covered by a separate fee). In terms of other facilities paid for out of the service charge, 17 respondents said their scheme had a concierge, nine had gyms, six had rooftop gardens, two had swimming pools and one had a cinema room. (One respondent reported that service charges also went to "legal fees against developers.")

We also asked whether the schemes had separate sinking funds. Only 16% of respondents said yes; 42% said no, and the remainder were not sure. Current sinking fund contributions ranged from £500 to £9,000 per annum and had tended to increase over time. Four respondents said there had been no sinking fund when they bought their flat but that they were making payments now. Of those with a sinking fund, six said they had no understanding of how it was calculated, three had a good understanding and two had some understanding.

Some 12 of the 50 respondents (24%) said their scheme had a residents' management company, formed to protect the interests of leaseholders in a residential building, of whom half said they were active in this group.

## UNDERSTANDING OF AND SATISFACTION WITH SERVICE CHARGES

We asked respondents to tell us in their own words about the quality of service provided in exchange for the service charge; responses were coded as positive, neutral or negative. Ours was not a random sample, and it is well recognised that individuals with a grievance are more likely to complete surveys than those without. Nevertheless, the near-uniformity of negative views was very striking: only three answers were coded as positive or neutral, with the rest being negative, sometimes highly so.

The main reasons given for dissatisfaction were:

- Lack of responsiveness from managing agents.
- That the managing agent provided insufficient information, or incorrect information, about expenditure and the reasons for increased charges.
- Poor quality management of facilities (eg, lifts not repaired, rats, infrequent cleaning).

Some shared owners said their service charges helped pay for facilities such as swimming pools that they were not permitted to use. One respondent said leaseholders in their block had formed a right to manage group and were working to reduce the service charge through various means including reduction in concierge hours and increased security measures.

**SOME SHARED OWNERS SAID THEIR SERVICE CHARGES HELPED PAY FOR FACILITIES SUCH AS SWIMMING POOLS THAT THEY WERE NOT PERMITTED TO USE.**





## SELECTED RESPONSES THAT TELL US MORE ABOUT THE QUALITY OF SERVICE PROVIDED

“ Frills-free block with lifts and a front door that constantly malfunction. The managing agents … have not provided financials on the service charges for five years. ”

“ No heating for 12 weeks. No working fire alarms or smoke extractors. Rats. Overgrown hedges. The housing association, freeholder and maintenance company are appalling. ”

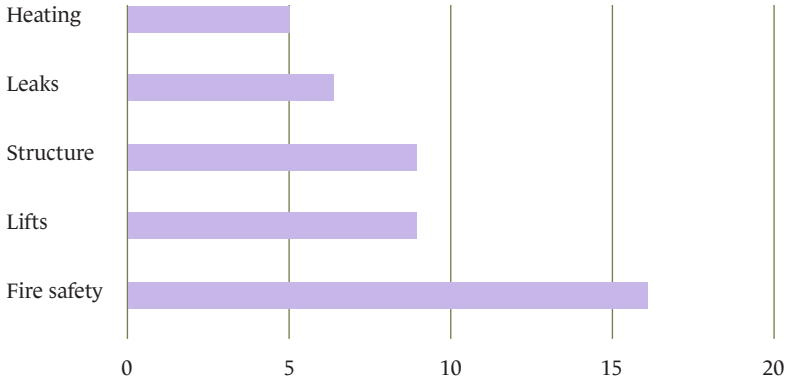
“ Whilst the quality is good, we are subjected to poor-door treatment. For example, we are not allowed to use the on-site gym as we purchased via a housing association whereas the blocks which were always privately owned are allowed to. Requests for service charge breakdowns are ignored and we are passed things like the extortionate phone bills our lift racked up when it was hacked to dial overseas. Despite informing the management company what had happened they would not fix it and passed the bill to us. ”

“ Although the monthly service charge is reasonable, the housing association is not competent and cannot accurately calculate the service charge. We regularly have adjustments of £1,000 - 2,000 after the end of the service charge year. The housing association is unable to produce any evidence supporting the costs they pass on to shared owners despite their legal obligations. ”

## MAJOR ISSUES

Two-thirds of respondents said there had been significant maintenance issues at the building or scheme level since they had bought their flats. These fell into five main categories: heating, leaks, structural problems, lifts and fire safety. Some respondents reported more than one problem and one unhappy person reported problems in all five areas. Of those reporting problems, most said they had not yet been resolved.

**NUMBER OF RESPONDENTS REPORTING MAJOR ISSUES AT BUILDING OR SCHEME LEVEL**




Fire safety was the most widely reported issue: 16 respondents mentioned this, of whom nine specifically mentioned cladding. Selected descriptions appear below.

“ We have a district heating system which supplies heating and hot water. Unfortunately, the system is not fit for purpose and there is never sufficient hot water in the wintertime. There are also issues with excessive heat due to poorly insulated pipework and highly insulated walls. ”

“ Leaks through multiple floors, multiple times. No drainage in flooded car park. Repeat failure of underground garage roller shutter for multiple months and multiple occasions. Block destroyed by a fire. ”

“ Fire safety, lifts, incorrectly installed underfloor heating (while building), water flooding underground car park due to defective building works, leaking stack pipes building-wide. ”

“ Lots of roof tiles coming off in storms, lift breaks down every other day. ”





“ Car lift condemned, meaning 19 flats have no access to car parking spaces we paid for. Cladding, flooding, poor design and build in general, lack of adequate drainage and fire stopping throughout the block. Inadequate health and safety measures, the list goes on. ”

“ Annual services charge have been going up, but the biggest issue is cost of alterations and major repair such as roof, communal entrance and lift, as these are very are expensive for leaseholders – for us it has been £5,000 in the last three years. ”

## LONGER-TERM PLANS

Few respondents hoped to remain in their current accommodation over the long term. Of those who expressed a preference, more than three-quarters hoped to be living in a house in five years’ time – and more wanted to move outside London than remain in the capital. Only 20% said they hoped to be where they were currently living, and a single respondent said they wanted to live in a different flat, though still in London.

**Where respondents hope to be living in five years’ time**

| | |
|---|---|
| In a house outside London | 18 (45%) |
| In a house in London | 13 (33%) |
| Where I am now | 8 (20%) |
| In a different flat, still in London | 1 (2.5%) |

## CONCLUSIONS

The responses suggest that many leaseholders in recent urban apartment schemes are dissatisfied with service charges and management performance and do not understand what the charges cover or how they are calculated. Some feel frustrated and powerless, others simply resigned.

It was striking how many respondents reported major problems with their building or scheme since they had moved in. Respondents answered in their own words rather than choosing a response from a pre-set list, but the problems were concentrated in a few main categories. These included issues with lifts (especially serious when there is only a single lift as is often the case in mid-rise blocks), leaks (sometimes difficult to trace) and overheating of common parts. Architects recognise all of these as common problems in high-density schemes.

Cladding and fire safety were a particularly serious concern in the wake of Grenfell. Respondents worried about their own physical safety and expressed frustration with the cost of rectifying the problems and the delay (it is now more than five years since the Grenfell Tower fire). Some said failure to resolve this problem had effectively locked them into their flats.

## FINAL IMPRESSIONS

“ Service charges feel like a con, and have put me off living in a leasehold flat. ”

“ Our managing agent and freeholder treat us like their personal piggybank. They also own our energy supplier which we are forced to use on terms of our lease. We are trapped due to the building safety crisis with no hope for our future. ”

“ If I ever get out of this hellscape at least I will have learnt not to touch leasehold again if it was the last property on earth. ”

On the whole, our respondents do not intend to stay in these flats for the long term but aspire to live in houses. In some ways this is unsurprising: attitudes to housing are culturally specific, and consumers in the UK, especially those with children, have a deeply entrenched preference for houses over flats. Our respondents actually do live in modern purpose-built blocks, but the experience has not changed their preferences—indeed in some cases it seems to have confirmed them.

Although this survey was not exclusively focused on high-rise flats, the findings are especially worrying for residents of taller blocks, given the additional maintenance costs detailed elsewhere in Chapter 5. They suggest that poor construction, management and maintenance of UK flats mean residents are unlikely to regard them as satisfactory lifetime homes. We urgently need rigorous research, including a large-scale survey on service charges, to establish in greater detail what the issues are and identify good practice so it can be replicated.

1 **Invitations to complete the questionnaire were distributed through a snowballing technique to employees of the firms taking part in this project and through social media. About 50 useable responses were received. Our respondents ranged in age from 26 to 57, with a median age of 37. 18 respondents lived with a partner; 13 with a partner and children, and seven lived alone. There was one single parent and one person who lived with related adults.**

2 **This was not a random survey and we did not carry out statistical testing on the results, which should be regarded as indicative only.**



# IN SEARCH OF THE RADIANT CITY —TALL BUILDINGS AND PUBLIC OPEN SPACE IN LONDON

**ANDREW BEHARRELL AND REBECCA LEE ON THE NEED TO ENSURE NEW TALL BUILDINGS ARE NOT DETRIMENTAL TO THE VITAL OPEN SPACES HEALTH AND WELLBEING DEPEND ON.**

Open space in cities, set aside for public use, is vital for our wellbeing: it helps us connect with nature, provides room for socialising and physical exercise, and increases biodiversity in the built environment. But given London's huge population growth – by 2031 its population will exceed 10 million – and the increasingly dense housing developments being built to accommodate this growth, it feels timely to ask, do we have enough of it?

It is widely accepted among London's planning authorities and its development industry that tall buildings are an essential component in meeting London's housing targets.[1] Many people now assume that London requires high-density development, that this can only be delivered with a significant element of tall towers, and that towers provide a desirable and legitimate response on well-connected sites.

This study examines the relationship between residential tall buildings and open space in the context of London's current and recent growth. It looks at the amount of public and shared open space delivered by super-dense developments involving tall buildings, compares this with London's existing open space provision, and puts it in the context of historic and current planning policies.

There is evidence of widely differing provision, from generous (Queen Elizabeth Park stands out), to minimal (Nine Elms) to non-existent (many of the stand-alone towers). This begs some important questions about how much we really value open space and whether open space planning policies are being sacrificed to achieve housing growth targets.

Open space is just one example of the wider social impacts of super-dense development: others include environmental impacts and the impact on local services and facilities. The open space issue has the merit of being easy to understand and measure. This study provides a starting point for more comprehensive and continuing research, which should inform decisions about London's future character and built form. It may be that delivering additional numbers of homes justifies a reduction in access to open space or it may be that we need to rethink the prevalence of high-rise housing or even demand a mitigation strategy in respect of current pipeline projects. In any event, we need better evidence on which to base such decisions.

1 Mayor of London, The London Plan, March 2021, page 17



**ADEQUATE OPEN SPACE FOR BOTH RECREATION AND REST IS A VITAL FACTOR IN MAINTAINING AND IMPROVING THE HEALTH OF THE PEOPLE**

Patrick Abercrombie,
*The County of London Plan 1943-44*

**BROCKWELL PARK IN LAMBETH WILL BE CLOSED TO THE PUBLIC ON SUNDAY, APRIL 5 TO COMPLY WITH THE NATIONAL GUIDELINES ON SOCIAL DISTANCING NEEDED TO FIGHT COVID-19.**

Love Lambeth

## ACCESS TO PUBLIC OPEN SPACE AS A BASIS FOR HEALTHY URBAN LIVING

The idea that every citizen should have ready access to green open space is enshrined in the National Planning Policy Framework (NPPF), the London Plan and the local plans of every London borough. The London Plan sets out minimum areas for children's play and (unquantified but ambitious) requirements for general recreation, sport and biodiversity. It provides guidance on the recommended minimum size of different types of green open space (from local pocket parks to large regional ones) and their distance from people's homes. The urban greening factor has added a further quantifiable test.[2]

Open space is seen as an essential component of a healthy city, providing opportunities for general recreation, sport, children's play and just watching the world go by. We value open spaces for a very wide range of reasons: some of them as a sociable place to cluster for informal events or large outdoor gatherings; others as a tranquil space to enjoy nature, breathe cleaner air and get away from frenetic city life. London is well endowed with every kind of green open space, although some areas are better served than others, and there is a historic and continuing correlation whereby relatively poorer areas have less access to open space than wealthier ones as seen in the table below.[3]

| Borough | % of people in poverty | Open Space/ person | Average m²/ person |
|---|---|---|---|
| Tower Hamlets | 39 | 17 | 22 |
| Newham | 36 | 31 | |
| Hackney | 29 | 17 | |
| Bromley | 17 | 259 | 229 |
| Richmond upon Thames | 19 | 169 | |
| Havering | 17 | 259 | |





The pandemic has brought home to everyone the value of local open space and the pressure on spaces which are not large enough to meet the needs of the local population. In April 2020 we saw the closure of Brockwell Park in Lambeth and Victoria Park in Hackney because too many people wanted to use them. While we hope to put the pandemic behind us, it usefully reminds us that our parks cannot sustain limitless increases in the intensity of use: some parks are similarly crowded on a typical sunny weekend.

The London Plan expects boroughs to carry out audits of existing open space to identify areas of deficiency, and, by implication, those which may be capable of accommodating additional population.

When testing a draft of this study at a New London Architecture (NLA) event, the issue of quality versus quantity arose. One contributor argued that the amount of open space is not important provided the quality of design and management is high; and conversely, large open spaces which are poorly designed and managed do not provide an attractive or useful amenity. Successful examples of 'curated' or 'choreographed' open spaces, where residents and neighbours are actively encouraged to attend outdoor community events, were mentioned to support this argument.

In response, this study maintains that the amount of open space does matter and that open spaces should generally be 'loose-fit' and adaptable for a wide range of activity, including kicking a ball and letting a dog off the lead, provided everyone conforms to basic norms of consideration for others. By contrast, curated spaces, although they have a value, tend to be small, exclusive and restrictive. Of course, quality matters, but this study is deliberately focused on the easily measurable issue of quantity.[4]

**2 Mayor of London, London Plan Guidance, Urban Greening Factor, Consultation Draft, September 2021**

**3 Statistics calculated using data from: https://www.trustforlondon.org.uk/data/poverty-borough/ https://www.gigl.org.uk/our-data-holdings/ planning-for-nature/boroughstats/**

**4 For a detailed examination of the tension between planning policies focused on the quality of open space and those focused on quantity, see 'The urgency of new quantitative public open space standards in London' by Lucia Nucci, 2018. https://cityterritoryarchitecture.springeropen.com/articles/10.1186/s40410-018-0087-3**

## QUANTIFYING OPEN SPACE —HOW MUCH DOES LONDON ALREADY HAVE?

London contains 28,683 hectares of public open space, which accounts for around 18% of the capital's total area. There is a further 25,153 hectares of shared private open space, such as allotments, sports clubs, city farms and cemeteries, which would bring the total to a remarkable 34%. Furthermore, there is around 13,700 hectares of shared open space just outside of London's boundary.[5]

Comparing this with the open space land coverage in some other major cities we find: Paris 10%; Barcelona 28%; New York 27%; Stockholm 40%.[6] London's population is 9 million, divided into 3.38 million households – so there are 31.9 $m^2$ of public open space per person or 85 $m^2$ per household. The equivalent figures if we include all open space (shared and public) are 75 $m^2$ per person or 200 $m^2$ per household. So, London is starting in a good place.

However, the amount of open space in each London borough varies widely, the least well provided being Islington with 8 $m^2$ per person, and the best being Bromley with 259 $m^2$ per person. Tower Hamlets, the borough with the greatest number of tall buildings (according to the NLA survey), has 17 $m^2$ per person.[7] Studies also show a correlation between London's poorest boroughs and open space: for example, 39% of people in Tower Hamlets live in poverty, compared to 17% in Bromley.[8]

5 https://www.gigl.org.uk/our-data-holdings/keyfigures/

6 http://www.worldcitiesculturefo rum.com/data/of-public-green-space-parks-and-gardens

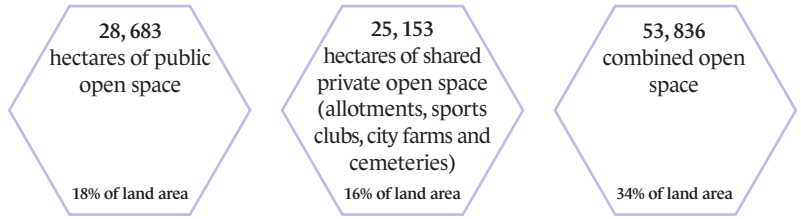
7 Statistics calculated using data from: https://www.trustforlondon.org.uk/data/poverty-borough/ https://www.gigl.org.uk/our-data-holdings/ planning-for-nature/boroughstats/

8 https://www.trustforlondon.org.uk/data/poverty-borough/

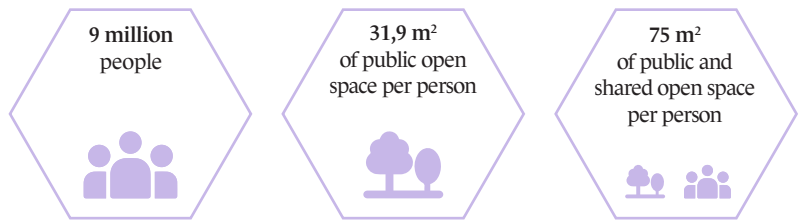




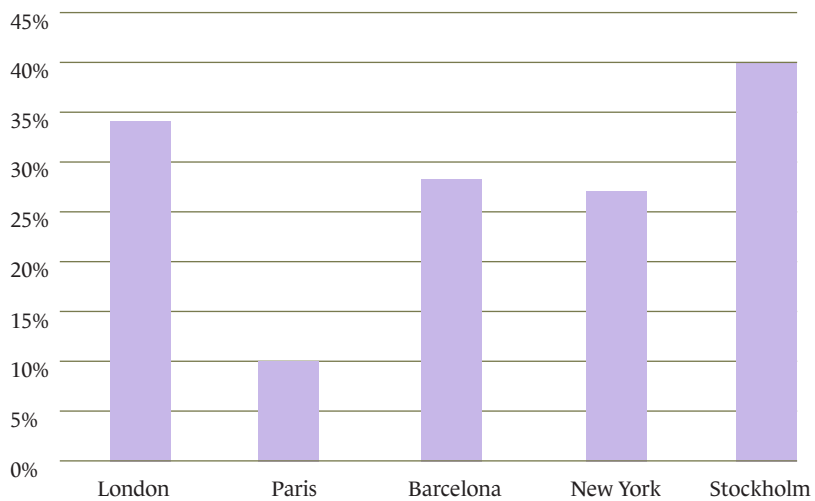
### How much open space does London have?




### How much open space per person?




### How does that compare with other cities?



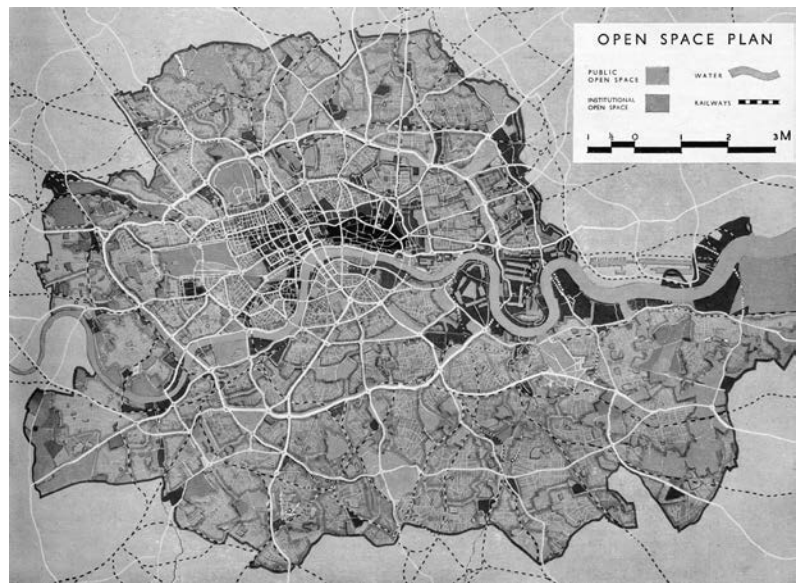
## QUANTIFYING OPEN SPACE —HOW MUCH DOES LONDON NEED?

Although the GLA has extensive policies and tests promoting open space, it does not have fixed targets or formulae for the overall amount to be provided in relation to new and existing residential development.[9] However, the father of modern planning in London, Patrick Abercrombie, had a lot to say on the subject. In Chapter Three of the County of London Plan (1943-44), which covers London's open spaces and park system, he wrote: "Adequate open space for both recreation and rest is a vital factor in maintaining and improving the health of the people".

Abercrombie recorded that the area of open space per person varied at that time from 24.3 $m^2$ in Woolwich to 0.4 $m^2$ in Shoreditch. (Deptford, Finsbury, Southwark, Stepney and Islington were also identified as having less than 2.0 $m^2$ per person.) This wide disparity led Abercrombie to propose "Standards of Open Space". He believed that four acres per 1,000 people (16.2 $m^2$ per person) within a half-mile walk from home was a realistic minimum figure to adopt, while noting that: "This is considerably below the seven acres suggested by many competent authorities, both in this and other countries, but it is put forward in view of the already highly developed use of the land in these areas, and on the understanding that an extra 3 acres per 1,000 are provided outside the county area, either in the Green Belt or in the wedges of open space leading from the latter to the county boundary". Abercrombie mapped those areas of London which failed to meet the proposed standard, noting they were mainly in the East End or on the South Bank.

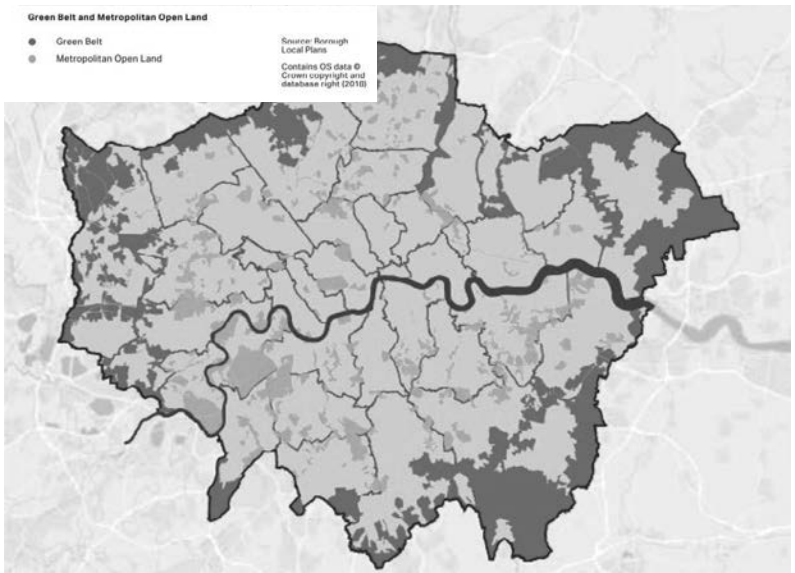
Abercrombie's target of 16 $m^2$ per person was quite modest compared to the average amount of open space existing today across London. However, that average conceals a very different picture when we analyse a selection of current and recent high-density developments, some of which provide little or no open space at all.

**9 The London Borough of Camden has introduced a requirement of 9 $m^2$ of public open space per resident of new housing developments and 0.74 $m^2$ per worker in new commercial developments – see Camden Planning Guidance: Public Open Space January 2021. This study has not examined the local plans of all London boroughs, and it is possible that there are other comparable borough standards.**




Patrick Abercrombie recommended minimum 4 acres per 1,000 people (16.2 $m^2$ per person) within half-mile (800m) walk from every home

**ALTHOUGH THE LONDON PLAN CONTAINS EXTENSIVE POLICIES AND TESTS PROMOTING OPEN SPACE, IT DOES NOT HAVE FIXED TARGETS OR FORMULAE FOR THE OVERALL AMOUNT TO BE PROVIDED.**




| | |
|---|---|
| Policy S4 Play and informal recreation | Development to meet specific targets |
| Policy S5 Sports and recreation | Assess, protect and enhance |
| Policy G1 Green infrastructure | Assess, protect and enhance |
| Policy G4 Open space | Protect and expand 'where possible' |
| Policy G5 Urban greening | Major developments to meet specific targets |
| Policy G6 Biodiversity and access to nature | Aim for net biodiversity gain |
| Housing SPG Policy 3,5 | |
| Neighbourhood scale | Enhance provision of green infrastructure in the public realm |
| Communal and public open space | Provide new public open space to address deficiency |
| Private open space | All developments to meet specific targets |





## WHY DENSITY MATTERS

Density is one way to measure the efficiency of land use – how much floor space, how many homes or rooms or people does this site accommodate? Given that one of the key objectives of London's planning policy is to make efficient use of land and that one of the key justifications for tall buildings is that they supposedly do just that, it is important to examine how robust are the density calculations for tall buildings (Refer to Chapter 1 for background on London's evolving attitude towards density.)

The density of standalone tall buildings which cover nearly all their site will be very high. Our case studies include developments which reach densities three times or more above the top end of the retired GLA matrix. By contrast, the density of schemes which contribute new public and shared open space for the benefit of their residents and neighbours will be correspondingly lower.

If the London Plan was to establish a level playing field by requiring a fixed minimum amount of public open space per person (as it does for private open space), then tall building projects, with their concentration of new residents, would have to set aside large areas of land for this purpose – or else demonstrate that there is existing local over-supply of open space which they can reasonably make use of, with suitable contributions for upgrading it. Isolated standalone tall buildings would become very hard to justify, unless they can form masterplanned clusters which include open space. The theoretical land-use efficiency advantage of high-rise versus mid-rise development would become more marginal.

## SPATIAL RELATIONSHIP OF TALL BUILDINGS TO LOCAL OPEN SPACE

The modernist vision of high-rise living was promoted by Le Corbusier's 1930 utopian project La Ville Radieuse (Radiant City) and his subsequent writing and projects, real and theoretical. This was a vision of towers surrounded by parkland, which also flowed beneath the buildings, which were elevated on 'pilotis' – by building tall, the ground plane would be liberated and everyone would enjoy views of, and access to, the green landscape.

This was the vision taken up by the architects and planners of Britain's post-war reconstruction. The Alton West Estate in Roehampton, completed in 1958, was and remains a fine example of the radiant city, but sadly the reality of other estates of that era has tended towards neglected and unloved grassland and surface car parks. It contrasted with the earlier and continuing emergence of skyscraper cities in downtown USA and elsewhere, with tightly packed clusters of tall buildings and canyon-like streets arranged on an urban grid. Open space is provided by a combination of local micro-parks and large city-scale parks, like Manhattan's 341-hectare Central Park.

London's tall buildings generally fall into two spatial planning categories. Some sit within a wider masterplan, and the best of these are integrated with open space and with a range of other housing typologies and land uses. Other towers are more opportunistic, brought forward by landowners and site promotors to capitalise on increasingly permissive planning policies driven by housing growth targets, which beg the question "why not?" rather than "why here?". Many of these are "footprint" developments, which fill pretty much the whole site up to the street edge, with little or no additional public open space.

In some growth zones, clusters of tall towers have been permitted with little or no provision of green open space, and no ready access to existing nearby open space.

By contrast, medium rise development can usually provide integrated open space within a traditional street-based urban design approach, comprising public squares, 'play streets' and shared courtyards within the urban block. Indeed, the limitation on medium rise densities is typically driven by the open space strategy, with building heights modelled to invite daylight and sunlight into the public realm and surrounding homes. However, mid-rise urban design starts to fail when the height and density is pushed too hard: courtyards, streets and homes become increasingly over-shadowed and privacy is compromised. Freestanding towers can achieve very good levels of daylight, sunlight and privacy unless they are gathered in tight clusters.

It seems counterintuitive, but mid-rise development can achieve comparable densities to tall towers on the same area of land: key





variables are the amount and usability of the open space. Towers, having smaller footprints, should free up more of the ground area, but the microclimatic and urban design conditions on the ground can create an uninviting public realm. The relative site capacity of towers versus mid-rise urban blocks was explored in the well-known work of Leslie Martin and Lionel March in the 1970s and more recently in a study by University College London.[10]

## RECREATION AT HEIGHT

The most accessible and flexible way to provide shared and public open space is at ground level. However, there is scope to provide some shared (but rarely public) open space at high level. Private balconies are now also the norm, but these perform a quite different function, and do not diminish the need for larger shared and public spaces.

### Private balconies

The London Plan 2011 (with reference to the London Housing Design Guide 2010) required all new homes to meet the GLA's standard for private open space, and therefore nearly all the tall buildings achieving planning permission from that time have private balconies or winter gardens measuring at least 5 $m^2$ or larger, depending on the size of the flat. If these are well-designed and located, they provide a valuable private space for outdoor seating and micro-gardening. Careful design is required to avoid discomfort or risk from wind, noise and vertigo.

### Sky gardens

To some degree open space can be provided within tall building footprints by way of roof terraces and sky gardens, which can provide attractive space, especially for quiet enjoyment. However, there are several limitations: they require careful management and supervision, especially if children's play is catered for; they compete for space with roof-top plant, including an increasing requirement for renewable energy kit; and there are significant micro-climate challenges. They are not a substitute for street-level public open space.

10 UCL, 13 June 2017, Energy 'High-Rise Buildings: Energy and Density' research project results

There is anecdotal evidence of roof gardens being closed because of management problems, especially with play space. Recent media stories have exposed problems with the children of social housing tenants playing in the corridors, having been excluded from roof gardens, a problem which would be avoided if suitable ground level play space was provided.[11] Surveys by the LSE suggest that communal roof terraces have limited appeal to residents, who are much more likely to use street level outdoor space, activated by every-day coming and going. We need to obtain more feedback from management companies and residents on their success in use.[12]

## QUANTIFYING OPEN SPACE – HOW MUCH DO HIGH-RISE DEVELOPMENTS CONTRIBUTE?

To help illuminate our understanding of the relationship between open space provision and the population growth accommodated in London's recent high-rise developments, we have examined a selection of projects to identify the amount of open space provided per person and/or per household. We can then compare these figures with the London average for open space and with Abercrombie's historic target.

The figures for single buildings are relatively straightforward to assess, but those for large multi-phase developments involving many separate developments and sequential masterplans are inevitably more complex: these require some extrapolation and reliance on published data which may not be fully up to date.

## ANALYSING OUR OWN PROJECTS

We began by analysing the open space provision in 15 high-density projects, recently completed or under construction, within our own practice Pollard Thomas Edwards. These feature buildings between

11 Laurence Sleator, The Times, 03 August 2022, 'Children in social housing banned from playing near luxury flats',

12 Fanny Blanc, Kath Scanlon and Tim White, LSE, March 2020, 'Living in a denser London'





10 and 18 storeys, but none meeting the NLA's tall buildings threshold of 20 storeys. Densities typically range from 500 to 1,150 habitable rooms per hectare (hrph), which are in line with the retired GLA density matrix. The combined public and shared open space per household averages 18 $m^2$, which equates to around 8 $m^2$ per person. In addition, all have private open space in line with the London Plan.

## ANALYSING SOME VERY LARGE REGENERATION PROJECTS

We then looked at four of London's largest growth areas. All of these involve multiple development sites with many different developers and design teams operating within overarching masterplans and planning frameworks over 10 years or more. Almost all are built on former industrial and railway lands, with formidable infrastructure challenges. There was little or no pre-existing public open space. The developments are more than 50% complete and include tall buildings.

| | |
|---|---|
| **QUEEN ELIZABETH OLYMPIC PARK** | 480 hectares development area |
| | 226 hectares regional park |
| | 100 hectares local open spaces |
| | Projected homes 33,000 by 2036 |
| | Projected population 109,000 |
| | Projected jobs 65,000 |
| | 18 $m^2$ public and shared open space per person (excluding visitors) |
| | For comparison Newham average 30.4 $m^2$ open space per person |

The area controlled by the London Legacy Development Corporation (LLDC) covers 480 hectares of land incorporating parts of Newham, Tower Hamlets, Hackney and Waltham Forest. The Queen Elizabeth Park at the centre of the area covers 226 hectares, and it goes a long way to redressing the East London deficiency identified by Abercrombie. There is a further 100 hectares of local open space, so the total amount of public open space covers some 68% of the area.[13]

The LLDC Local Plan 2020–2036 notes a pre-existing residential population of 26,000 growing to 109,000 by 2036. The number of homes is projected to grow from 9,000 to 33,000. Job creation figures are harder to pin down, but 65,000 appears to be a robust projection.[14] So, if we combine the projected residential and working population (but take no account of visitors) we could see around 174,000 people regularly using the 326 hectares of park and other public open space. That is around 18.7 $m^2$ per person. Although this is a very decent figure, and higher than Abercrombie's 16.2 $m^2$ target, it is worth noting that the average for Newham – generally a low-rise borough – is 30.4 $m^2$ per person.[15]

The built form of the LLDC area features a very wide range of low rise, mid-rise and high-rise buildings, with an increasing number of tall towers in the recent and future phases. Given the very large area of open space, perhaps this goes some way towards realising the radiant city vision of towers set in parkland.

13 **London Legacy Development Corporation, 20 March 2018, 'Open Space & Play Assessment Report', page 7**

14 **London Legacy Development Corporation, 21 July 2020, 'Local Plan 2020 to 2036', page 12, page 15, page 32, page 55**

15 **London Legacy Development Corporation, 20 March 2018, 'Open Space & Play Assessment Report', page 7**



| KING'S CROSS | 27 hectares development area |
|---|---|
| | 10.5 hectares public open space |
| | Projected residents 6,000 |
| | Projected students 5,000 |
| | Projected office workers 30,000 |
| | Projected users 41,000 (excluding visitors) |
| | 2.57 $m^2$ public open space per person |
| | Camden average open space per person 19 |

King's Cross is one of the most celebrated and visited regeneration areas in Europe, and the most central of our case studies. The land area of 27 hectares is smaller than other major growth areas and the density is emphatically urban, including many tall buildings. Some 10.5 hectares have been developed as public open space, arranged into eleven themed areas, ranging in character from Granary Square to Camley Street Nature Gardens.

Much of the land is given over to employment, education and retail, as well as residential, and development includes the new Google HQ and offices for Camden Council. The overall regeneration is nearing completion and the projected population by end of 2024 will include 30,000 office workers, 5,000 students and 6,000 residents. So, a total of 41,000 people (excluding visitors) will have daily access to the public open space, which is 2.57 $m^2$ per person. (There are no figures available for shared residential open space, which may increase this average.)

Camden has recently introduced a target for public open space per new resident, student and worker.[16] Applying this retrospectively to King's Cross would produce a target of around 8.5 hectares, which is exceeded by the actual provision.

16 **Borough planning stats – GIGL and Newham – Population – UTLA GLA | Newham | InstantAtlas Reports**

| | |
|---|---|
| **VAUXHALL, NINE ELMS, BATTERSEA** | 226 hectares development area |
| | 4.5 hectares linear park |
| | (Residential shared open space unquantified) |
| | Projected homes 20,000 by 2030 |
| | Projected population 33,000 |
| | Projected jobs 25,000 |
| | 0.78 $m^2$ public open space per person (excluding visitors) |
| | Wandsworth average 34.1 $m^2$ open space per person |

Vauxhall Nine Elms Battersea (VNEB) covers 226 hectares of land, stretching along the south bank of the Thames from Vauxhall to Battersea Park. A central park will be threaded through this, amounting to some 4.5 hectares – or 2% of the total.[17]

According to Wandsworth Council, by 2030 VNEB will accommodate 33,000 people living in 20,000 homes.[18] (This is a very low occupancy figure suggesting mainly one- and two-person households.) In addition, the council predicts that 25,000 permanent jobs will be created. So, if we combine the projected residential and working population (but take no account of visitors), we could see around 58,000 people regularly using the 4.5-hectare linear park. That is around 0.78 $m^2$ per person. The average for Wandsworth is 34.1 $m^2$.

People occupying VNEB will also have access to Battersea Park's 83 hectares, although the 2.4 km walk from Vauxhall (the more distant gateway to the new development) will take over 30 minutes, and therefore far exceeds Abercrombie's half-mile criterion or the contemporary 10-minute estimate of people's comfortable walking capacity. Of course, to take account of existing open space also requires an assessment of existing catchment and surplus capacity.

The built form of VNEB is predominantly made up of tall buildings of up to 54 storeys sitting above commercial podia. For many residents of the private market apartments, compensation for the lack of public open space will come from the exclusive podium gardens and spacious internal foyers within the individual developments.


17 **https://nineelmslondon.com/nine-elms-park-a-new-park-for-london/**

18 **Nine Elms Park – creating a new public space for London – https://www.youtube.com/watch?v=m_GuKSk7AhY**

| NORTH ACTON | 33 hectares core development area |
|---|---|
| | Current population circa 6,000 (including 1,000 students) |
| | Projected population circa 19,400 (17,000 residents and 2,400 workers) |
| | 0.6 hectares existing and projected public open space |
| | 0.31 $m^2$ public open space per person |
| | Plus 4.0 hectares nearby open space projected beyond the core to serve the wider area |
| | Ealing average open space per person 47 $m^2$ |

North Acton falls within the London Borough of Ealing, with planning policy and development control shared with the Old Oak and Park Royal Development Corporation (OPDC). It forms part of one of London's largest Opportunity Areas. North Acton Town Centre covers an island of some 33 hectares of land defined by major roads lying on the north side of the A40 and focused on North Acton station.

Development has been brought forward incrementally by landowners and without the benefit of an overarching masterplan. Around 2,500 apartments and 1,000 student rooms have been built here in the past 10 years, mostly in tall buildings ranging from 12 to over 50 storeys. The only public open space built so far is Station Square, which provides around 1,650 $m^2$ of mostly hard landscape. The current planning application for 1 Portal Way contains a public park of some 0.43 hectares, which will no doubt be very well used. We are not aware of other proposals for public open space within the core area: it is possible some will come forward on the remaining undeveloped sites alongside further tall buildings. Assuming 1 Portal Way proceeds, then some 0.6 hectares of public open space may have to serve an overall projected (2038) population of over 17,000 residents and 2,400 workers – around 0.31 $m^2$ per person.

The OPDC is currently developing a North Acton Public Realm prospectus, which aims to improve the quality and usability of the existing public realm and includes potential footway widening. It will also clarify the scope and timetable for eventual improvement to pedestrian and cycle connections across and beyond the OPDC area. The closest existing open spaces are North Acton Playing Fields (around 300m beyond the A40 surface crossing or 1 km using the A40 underpass) and Wormwood Scrubs (around 2.3 km). The OPDC has long-term plans to improve both these spaces. Acton Cemetery also




provides visual relief and a place for quiet contemplation, but it does not function as a public park.

By the late 2020s the OPDC plans to create two new 2-hectare local parks within 800m of North Acton alongside a range of smaller open spaces and green streets, and a more direct pedestrian and cycle route to Wormwood Scrubs. Adding the new nearby parks to the existing and proposed provision within the core area would provide 4.6 hectares of open space or 2.37 $m^2$ per resident and worker in North Acton (not accounting for the smaller open spaces and other users within the OPDC area).

In summary, North Acton has evolved piecemeal with very little new public open space to date. The OPDC plans to mitigate this with improvements to the access and function of existing nearby open spaces and by creating two new nearby local parks.

| | |
|---|---|
| **USING DATA FROM NLA TALL BUILDINGS SURVEY:** | 528 residential towers in pipeline |
| | 43 residential towers featured |
| | 16 of these are stand-alone or 'footprint' developments with little or no public open space at ground level |
| | 195 stand-alone towers in pipeline if extrapolated |

## ANALYSING STAND-ALONE TOWERS

The NLA's Tall Buildings Survey 2022 does not include project details, but the 2021 edition does show details of a selection of high-rise projects. Of the residential towers in London's pipeline featured there, 16 out of 43 projects (or 37%) are single towers on small sites: they appear to fully occupy their sites with no green open space at ground level. These are sometimes called 'footprint' developments. The survey does not feature details of all the 528 residential towers in the 2021 pipeline. If we extrapolate using the same proportion as the featured projects (again taking 37%), then this suggests there could be around 195 footprint towers in London's pipeline.

Most of these developments are on former employment land, rather than being embedded in existing residential neighbourhoods. Therefore, they are often more than 10 minutes' walk from nearby public open space. One typical example is a 22-storey mixed-tenure tower on a former commercial site at the intersection of two major highways, close to a public transport interchange. Apart from wide footways with street trees there is no public open space, and there are no shared roof terraces. The walk distance to the nearest small local park is 0.5 km. The density is over 600 homes per hectare.

A much-publicised forerunner for standalone towers is Strata in Southwark, completed in 2010, although later subsumed into the wider Elephant and Castle masterplan. With 408 flats, 43 storeys and 1,295 dwellings per hectare it is still one of London's tallest and densest residential towers.[19] It was criticised at the time for its appearance, lack of social housing, poor public realm and the disappointing performance of its signature rooftop wind turbines. There are no private balconies, and there is no green open space on site, but residents now have access to Elephant Park across the road.

**19 https://www.lse.ac.uk/lse-cities-density-homes/secure/strata-se1 Fanny Blanc, Kath Scanlon and Tim White, LSE, March 2020, 'Living in a denser London'**



### WHAT NEXT?

The relationship between tall buildings and open space requires detailed research beyond the scope of this study. That research should inform a more open debate about London's capacity to absorb further increases in population without expansion of its footprint, and what compromises we are prepared to make. Specifically:

- We need to start with an updated version of Abercrombie's London-wide mapping of open space provision and deficiency in relation to existing and planned development.
- We need a comprehensive analysis of the open space actually being delivered by recent and current high-density development, and how that relates to stated planning objectives and standards.
- We need post-occupancy evaluation of completed high-density developments and their impact on open space (as well as other local services and amenities).
- Equipped with better information, we can consider whether Londoners need and want a minimum target amount of nearby public open space for every resident (and potentially every worker) – and, if so, at what level that should be set and whether it should vary from borough to borough. Camden's planning guidance provides a very useful precedent.[20]

While the logic of concentrating higher density development on well-connected town centres is hard to fault, the reality is sometimes a world of housing units and dormitories with little access to open space – will they mature into homes and neighbourhoods? And, if London's allure and property values falter in a post-Brexit and post-pandemic world, will people choose to settle in the newly dense suburban centres, or will these places become a focus for short-term renters, and others who depend on subsidised housing and have little or no choice?

20 Camden Planning Guidance, January 2021, 'Public Open Space'



# CONCLUSIONS AND RECOMMENDATIONS

**AUTHORS, JUNE BARNES, ANDREW BEHARRELL, DICKON ROBINSON AND KATH SCANLON DRAW CONCLUSIONS AND RECOMMENDATIONS FROM THE ESSAYS TO ESTABLISH BETTER SAFEGUARDS FOR LEASEHOLDERS, IMPROVED DESIGN AND CONSTRUCTION FOR BETTER PERFORMANCE AND LONGEVITY, AND CLEARER OBLIGATIONS FOR THOSE DEVELOPING HIGH-RISE HOUSING.**

## CONCLUSIONS

This set of essays explores what can be done to ensure high-rise housing provides homes that meet their occupants' needs and aspirations over many years. The essays focus on leaseholders, but many of our conclusions apply to high-rise housing built for affordable or market rent. Also, many of our recommendations would benefit owners and occupants of lower-rise developments of leasehold properties, particularly those over four storeys where traditional forms of construction are not appropriate. The final essay on open space addresses the wider social impacts of high-rise housing on all occupiers and neighbours.

We have found that while high-rise is not the predominant form of housing currently being developed, it does play a prominent role in meeting housing demand and helping to meet local and national housing targets in cities. It is therefore important to ensure that it is built in a way which means the homes provided will be valued by their occupants and be easy and cost effective to maintain by their owners, whether these are leaseholders or freeholders. It is also important that the housing is built to last, which includes it being built in a way where the housing provided can be modified to meet changing needs over time. Currently, leaseholders are buying 250-year and 999-year leases without any clear understanding of the longevity of the buildings.

Those buying high-rise housing need to be better informed at the time of purchase about the likely costs of managing and maintaining their homes, and leaseholders need better information about their legal and statutory obligations. This is particularly important as more leaseholders take on the collective ownership of their homes when developers pass the freehold of blocks of flats to leasehold ownership companies.

**In this context we found that:**

- The rights and obligations of leasehold purchasers are not well understood by those buying homes in high-rise developments, and there are limited requirements on those selling homes, or on solicitors and conveyancers acting for purchasers, to provide clear information before purchase.
- Developers are not currently obliged to provide accurate information on the likely long-term costs of maintaining and repairing the homes they are building (including a plan for replacing building components as their life expires). Leaseholders are provided with service charge estimates at the time of purchase, but these are not supported by information on longer-term costs.
- There are also no obligations on developers to ensure that buildings are specified and constructed so as to be easy to maintain and repair. This is, however, a consideration for the long-term owners in the Build to Rent market, who are incentivised to ensure running costs over time are affordable.
- The current regulatory framework for the design and construction of high-rise housing – including planning requirements, Building Regulations and related standards and guidelines – is complex and sometimes contradictory. Taller buildings are already inherently more complex and have more demanding performance requirements than other buildings. The two factors together make it more difficult to build, maintain, upgrade and refurbish such buildings in a cost-effective way. The construction industry needs to rethink how best to build at height. There are new approaches being developed (or transferred from the commercial sector) but these need to be underpinned by better research and development and supported by legislation and guidance.
- The broader impact of high-rise housing needs to be understood. This includes understanding its effects on carbon reduction targets and how it affects surrounding neighbourhoods and public open space provision. Our essay on high-rise housing and open space highlights the gap between planning policy and reality in this area, and the glaring lack of consistency in how policy is applied.
- Finally, too little thought is being given to the long-term adaptability of specialist high-rise housing, even though a growing proportion of the new towers are student housing or co-living schemes with single rooms and varying amounts of communal space. If demand for specialist housing reduces, how easy will it be to turn such housing into more traditional flats or other uses?

We conclude that while high-rise housing may be perfectly satisfactory for wealthier purchasers and those deciding to rent a flat on the market (generally for a relatively short period), living in tall buildings can be more problematic for leaseholders on modest incomes and for shared owners and tenants of affordable housing.

**This is for three reasons:**

I. Leaseholders on modest incomes, including shared owners, have difficulty coping with the rising costs of service charges and sinking funds and unexpected additional costs (like those many are currently bearing as a result of the concerns over external cladding). This is the overwhelming experience of leaseholders of recent flatted housing responding to the LSE survey undertaken for this publication. The problem does not only apply to high-rise housing, but it becomes more acute with increasing height and associated complexity of construction and future access for maintenance.

2. Research broadly indicates that high-rise homes best suit people who actively choose to live in them and are prepared to sacrifice other housing characteristics (gardens, etc) for the advantages of high-rise living. For social housing tenants this is generally not the case – they have very limited choices about where they live and tend to remain in their homes for long periods. There is very little turnover in social rented housing compared to market rental housing.
3. Research, and experience from the era of high-rise council housing, also suggests that high-rises are unsuitable for families with children. It appears that lessons from the last time social housing tenants with children lived in towers have been forgotten by policy makers and social housing providers.

There will undoubtedly be a role for high-rise buildings in meeting the needs and aspirations of some households in the future – predominantly for those households more able to afford the responsibilities of being a leaseholder in a tall building or where the freeholder is the landlord of market rented housing and has priced in the cost of maintaining the tower into their business plans.

At the same time, it is difficult to see how high-rise housing can provide sustainable homes for leaseholders on modest incomes, given that maintenance expenditure will need to increase to keep the towers in good repair. The post-Grenfell experience has shown that many leaseholders are struggling to meet repair costs, and such challenges are likely to continue as buildings age. If tall buildings therefore fall into disrepair then government—whether local or central—may be forced to step in.

We are also not convinced that high-rise housing is suitable for social housing tenants with children, given lessons from the past around the significant issues of raising children without easy access to open space which parents can oversee. Current housing policies are not helpful in this regard.

Given our increasing reliance on high-rise housing in urban areas, we must establish better safeguards for leaseholders, improved design and construction for better performance and longevity, and clearer obligations for those developing high-rise housing. To this end we set out below our specific recommendations for central and local government, developers, architects, freeholders, lawyers and researchers.





## RECOMMENDATIONS

Central government

- **Boost service charges information:** Government should use section 21 of The Housing and Regeneration Act 2008 to make regulations to improve the provision by landlords of service charge information to tenants and leaseholders. This requirement should include social landlords.
- **Improve best practice for setting service charges:** Government should provide and regularly update best practice guidance for setting service charges and contributions to sinking funds.
- **Reconsider social housing grant for high-rise:** Government should consider the suitability of high-rise living for people on lower incomes and review whether social housing grant should be made available for affordable housing, including shared ownership and other home ownership programmes, for housing above 10 storeys, and for families where easily accessible gardens cannot be provided.
- **Make long-term costs a feature of planning:** Government should place an obligation on planning authorities to satisfy themselves that high-rise residential developments are sustainable for the duration of their stated lives. This should be based on an assessment of lifecycle costs submitted by developers, validated by comparison with similar developments in their area.

The assessment should:

— Demonstrate that the new development has a built-life in line with the leases granted on individual flats. This throws into doubt whether flats should be sold on the very long leases which are currently the norm.

— Provide a costed building component repair and replace ment programme for the projected life of the building including an estimated monthly service charge and sinking fund charge for each of the flats in the development to demonstrate how repair and replacement costs could be met over time.

- **Review the Building Regulations:** Building Regulations should provide a clear, coordinated, and practical regulatory framework for today's housing, and need to be reviewed regularly alongside associated technical standards and insurance-backed guarantees.
- **Align Building Regulations and planning policies:** Both should have a greater focus on lifetime utility (maintenance/ repair/ replacement costs over their lifetime) as well as safety and robustness at the point of completion. The government should carry out regular reviews of the impact of any changes in regulations and policies on these goals.

- **Support research and development:** Government should provide an annual research and testing budget to support the development of best practice approaches for the construction and repair of high-rise buildings
- **Set up an independent testing organisation:** The BRE should become (or be replaced by) a genuinely independent body to research, test and certify construction elements and assemblies.

Local authorities including regional authorities

- Demand information about lifetime costs: Planning applicants for high-rise residential developments should be required to state the intended life of their project and to demonstrate that they have analysed the lifecycle costs and can show that the building will be sustainable over that timescale.
- **Draw up and enforce open space provision:** Planning authorities should have clear policies on open space provision around new high-rise developments including the amount of additional public and shared open space per household to be provided in the area where the development is proposed.
- **Review guidance on high-rise housing:** Local authorities should review their promotion of tall buildings to focus on 'build to market rent' and households on higher incomes.

Developers

- **Prepare lifecycle cost plans:** Developers should prepare a full lifecycle cost plan for high-rise housing schemes and make it available to planning authorities and purchasers. It should contain a breakdown of the principal structure, fabric and services, giving the anticipated life of components and the cost of replacement at current pricing.
- **Endow sinking funds:** When passing the freehold interest to a leaseholder company, the developer should endow a substantial initial tranche of the sinking fund to underpin the long-term viability.
- **Procure for quality and value not lowest cost:** The industry should adopt the recommendations of the Housing Forum's Better Procurement for Better Homes – and government should insist that recipients of grant funding follow its recommendations.
- **Employ rigorous inspection regimes during construction and handover:** All housing construction processes, but especially for high-rise housing, should include a rigorous and coordinated inspection and certification regime by consultants, contractors and suppliers. The industry needs to upskill to meet the challenge of the 'golden thread' of responsibility.
- **Incorporate two staircases for high-rise:** Two-staircases should become the norm for buildings over 30 m (10 storeys).





Architects and other construction professionals

- **Develop lifetime in use methodology:** The design industry must offer the skills to undertake lifecycle cost planning and to promote design strategies which emphasise future proofing buildings by minimising cost in use over time. This should be based on active research programmes of cost in use, focussed on the longevity of the materials, products and design strategies employed in high-rise residential projects.

Freeholders

- **Adopt lifecycle cost plans:** Freeholders should have a duty to maintain a lifecycle cost plan provided by the developer and ensure it is updated at least every five years.

Legal profession

- Develop liabilities guidance for purchasers: The legal profession should establish best practice guidance for those acting as conveyancers to prospective purchasers so that purchasers are made more aware of the liabilities they will be assuming in purchasing a leasehold interest in a high-rise housing scheme. Those using this guidance could be kite marked as a way of helping would-be purchasers select a conveyancer.

Future research

Further independent research on high-rise residential buildings is required to:

- Better understand the current picture in terms of: how such housing is managed; how service charges and sinking funds are set and calculated; the obligations of leaseholders to pay for ongoing management and maintenance; the responsibilities of managing agents and leasehold management companies.
- Explore the satisfaction of residents in existing high-rise buildings and how it varies by tenure, household type and income
- Identify problems in existing residential high-rise buildings in terms of build quality and potential costs to building owners and leaseholders
- Inform the development of new construction methods that will extend the lives of these buildings, reduce carbon take and be affordable to freeholders and leaseholders.
- Collate basic data on high-rise residential buildings completed in the last ten years, or in the development pipeline, including: mapping of location and accessibility; number, size and tenure of homes; open space and other social provision.
- Better understand the transport carbon benefits of high-density residential in well-connected locations.

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Now, as a senior advisor, he lends his expertise to PTE's research and development group Knowledge Hub, maintaining and improving design standards across the practice and fostering a culture of feedback and continuous design innovation. He also sits on several external design review panels.

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