UK Cities DNA

The Three 'Res' – To Retrofit, to Refurbish or to Repurpose?

Knight Frank

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The tenth of twelve insight papers in our UK Cities DNA initiative – putting real estate supply and demand in the context of the economic direction of travel.

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The Three ‘Res’ – To Retrofit, to Refurbish or to Repurpose?

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- Retrofitting, refurbishing and repurposing are very distinct disciplines, requiring varying levels of intervention and with very different risk vs reward curves.
- Values ultimately determine viability, with benefits being netted off against associated costs. Each project is unique and, by definition, there is no ‘one-size-fits-all’ solution.
- Knight Frank Research shows that offices undergoing retrofit/ refurb from EPC C and below to EPC B and above have seen, on average, the gap of rents relative to prime close by 18 percentage points. Conversely, the average cost of inaction is -27% relative to prime.
- The hypothetical scenario of upgrading an EPC D-rated office building in London to EPC B minimum using the four most common interventions would cost an estimated £113 psf. When combined with a high level of amenity, this figure would rise to an estimated £268 psf.

Some assets fail. Period. Obsolescence may be the key driver behind this and this may take on any number of guises – specifics such as dated and inefficient heating cooling and ventilation (HVAC) plant; or more generally, reduced occupier liquidity as the asset is less attractive to the market due to heightening ESG demands; or more fundamentally still, tumbling rents. Or all the above, collectively impacting on capital value.

The actual driver is something of a moot point. How the situation arose in the first place is a secondary consideration to the remedial action required to restore value. No matter the driver, understanding and assessing obsolescence risks is key.

EXPLAINER

The 3 RE’s

Whether to retrofit, refurbish or redevelop determines the level of intervention required. We outline broad definitions for the purpose of this series.

1 Retrofit

The process of upgrading an existing building by replacing fixtures, fittings, and systems with modern, energy-efficient technologies while keeping the structure operational. This improves energy performance and occupant comfort without significantly disrupting use or income flow.

2 Refurbish

A comprehensive renovation that typically strips the building back to its frame without altering the building's core structure or use. It involves renewing some or all fixtures, finishes, and systems to enhance functionality and energy efficiency. This may also require modifications to optimise space and occupant amenities, to alter the market positioning of the building in the most transformative cases.

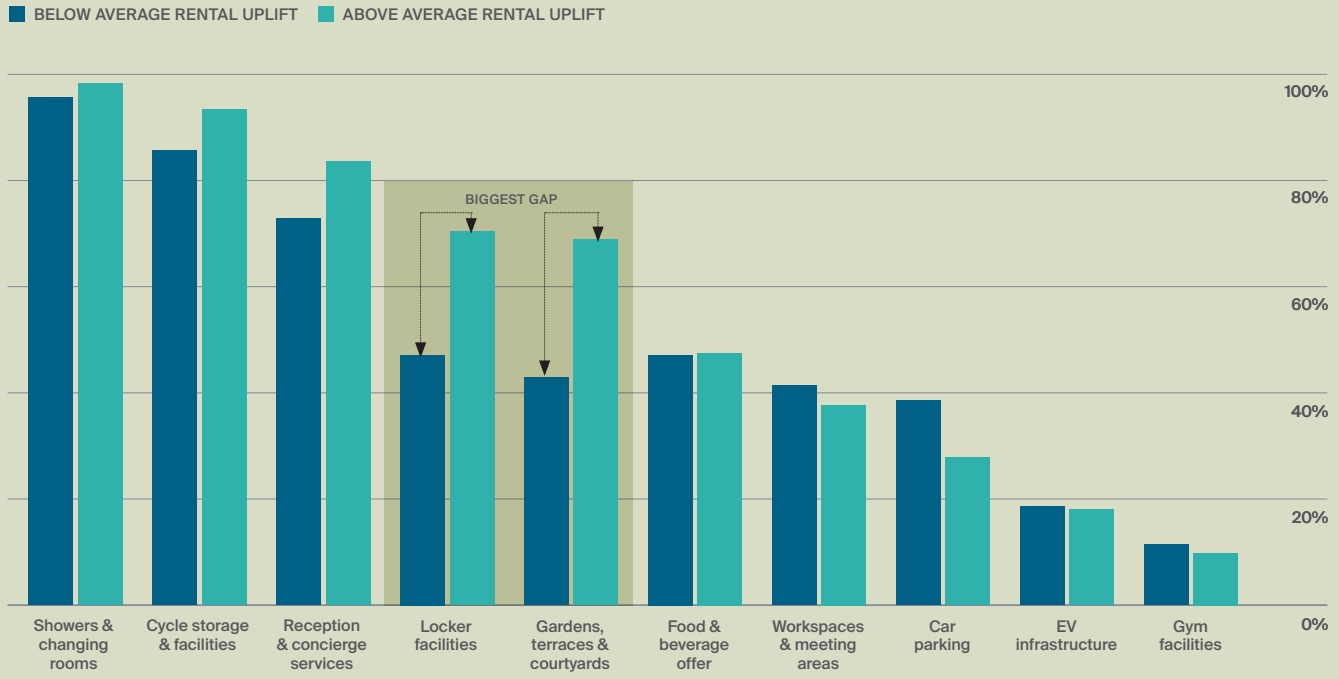
3 Repurpose

This can either be changing the use of the existing building and, therefore, its layout, technologies, and materials, such as an office changing into a residential unit. Or, at the greatest level of intervention, redeveloping through complete remodelling or demolition and rebuilding, to a different or same use, with the goal of increasing internal space, allowing for flexible use, and typically achieving the highest levels of energy efficiency.

“There is no ‘one-size-fits-all’ solution to obsolete or failing assets. Period.”

Figure 1: Amenity levers

Percentage of office renovations with each amenity, grouped by relative rental uplift



Source: Knight Frank Research

And having the right strategy to rerender an asset fit-for-purpose.

There is no 'one-size-fits-all' solution to obsolete or failing assets. Period. There is a plethora of options to explore in the pursuit of optimal asset performance and these fall broadly under three 're-' headers – retrofit, refurbish or repurpose. Rather than nuances, the differences between all three are substantial.

VARYING LEVELS OF INTERVENTION

The lightest option, **retrofit**, involves upgrading by replacing fixtures, fittings and systems while keeping the structure operational.

The next stage up is **refurbishing**, which is more comprehensive, typically stripping the building back to its frame and may involve modifying space and amenities to change the building's market positioning.

The biggest shift is **repurposing** – whether that entails using existing structures to change use, or redevelopment, which involves demolishing and rebuilding to the same or different use.

These three broad layers of intervention carry varying cost and benefit implications – these are explored more fully in in the parallel Research paper: *'Meeting the Commercial Property Retrofit Challenge – Part 2: The Business Case for Action'*. These are summarised below.

THE BENEFITS...

All our analysis comes with the caveat that there is great variation between assets, be that based on use class, geography, local market dynamics, building age or specification.

On average, our analysis found an office retrofit/refurb from an EPC C and below to B and above saw the gap of rent relative to prime close by 18 percentage points. This relative change removes general market movement and underlying rental growth, so an absolute change could be different (and potentially higher still). However, investors should also consider the potential value enhancements alongside the level of intervention, the market context, future pipeline, the occupier pool and requirements, as there can be wide variation and the process requires bespoke asset assessment. Amenity provision is also key and certain amenities correlate with higher uplifts – for example, a high proportion of those seeing an above average increase have outdoor space, such as a courtyard or terrace.

> "Our analysis found an office retrofit/refurb from an EPC C and below to B and above saw the gap of rent relative to prime close by 18 percentage points."

Turning the analysis on its head also helps us to see the cost of inaction. Our analysis of average rents achieved for offices rated EPC C and below shows a widening gap relative to prime. The cost of inaction, or base case, is growing and is likely to continue doing so. The rents achieved by the retrofitted and refurbished London sample remain, on average, 10% lower than the relative prime levels. However, rents for London offices rated EPC C and below are, on average, around 27% lower than prime levels.

But rent is only one piece of the puzzle. ESG-focused improvements are likely to lower a property's risk premium, due to a combination of lower liquidity risk, potentially reduced vacancy risk and shorter void periods. Collectively, these present lower obsolescence risk. This is a key component of yield, potentially supporting yield compression and enhancing value and performance.

Add in the possibility of ancillary income from renewable energy and EV infrastructure, or favourable financing, and a wider picture of potential upside becomes ever clearer.

...VS THE COSTS

But this upside will, of course, need to be balanced by cost implications. By their definition, these will always be asset-specific, but can be explored through a number of scenarios.

A key one is upgrading to EPC B. The cost to upgrade will depend on building factors, location, size, interventions required and amenity provision, making asset-specific assessment critical. Understanding the variance and baseline costs can help narrow down potential strategies. Our hypothetical scenario of an EPC D-rated office building in London being upgraded to meet the potential EPC B minimum would cost £113 per square foot (psf). When layering on various amenity levels in our scenario, the cost rises to roughly £268 per sq ft.

Amenity provision versus net lettable area becomes a greater factor when weighing up costs and practicalities. For example, whilst food and beverage (F&B) is among the top amenities on occupiers' wish lists, the cost can be ca. £250 psf and a whole host of operational practicalities need to be brought into the equation. Similarly, collaborative meeting spaces can cost between £90 and £120 psf. Detailed, asset specific analysis is crucial to determine the most cost-effective approach, ensuring that investments align with both regulatory requirements and market demand, to maximise potential value.

Click here to access the full parallel Research Paper: *'Meeting the Commercial Property Retrofit Challenge – Part 2: The Business Case for Action'*.

Table 1 : Cost benchmarking

The average cost per intervention using Central London as a base, £psf

ENERGY EFFICIENCY UPGRADES	
MECHANICAL & ELECTRICAL UPGRADES	
Switch from traditional chiller and fan coil systems to efficient VRF units	£30-£40
Replace existing air handling units (AHUs) with high-efficiency models	£15
Upgrade from gas boilers to air source heat pumps	£10-£20
Install energy-saving LED lighting with smart controls for occupancy	£10-£15
Replace central boilers with localized water heaters for WCs and kitchens	£2.5-£5
Upgrade existing boiler with a high-efficiency, energy-saving model	£3-£5
Install a smart Building Management System (BMS)	£5
Add photovoltaic (PV) solar panels	£2-£7
Install solar shading and reflective films	£2-£5
BUILDING ENVELOPE IMPROVEMENTS	
Repair or replace window seals and gaskets	£5-£10
Replace or upgrade flat roof finishes	£3-£7
Install triple glazing	£10-£25
Conduct air permeability testing to identify and seal air leaks	£1-£10
Increase wall insulation	£3-£7
Improve floor insulation	£1-£2
Replace façades and windows	£50-£100
FUNCTIONAL IMPROVEMENTS	
STANDARD REFURBISHMENT FEATURES	
Install raised access flooring	£6
Install suspended ceilings	£8
Refurbish reception area	£10
Renovate WCs	£20
Refurbish staircases and lift lobbies	£5
AMENITY SPECIFICATION	
Install end-of-trip facilities such as bicycle storage, showers, and lockers	£20
Add private or communal terraces	£10-£25
Introduce onsite food and beverage options	£250
Add fitness and wellness facilities	£50
Create collaborative meeting spaces	£90-£120

Source: Knight Frank *Cost Consultancy*

TO REFURB OR RETROFIT? – THE PROPERTY MANAGER VIEW

The refurbishment vs retrofit debate brings a whole host of operational considerations into play. These are encapsulated in an example the market is currently facing.

The subject asset is as follows:

- a ca. 250,000 sq ft office building in the City of London
- it has been 15-20 years since its last major refurbishment
- it carries an EPC rating of C
- leases are expiring within a 2-3 year period and occupiers are in the market
- amenities need upgrading, including:
  - installing end of trip facilities
  - reviewing of the reception and amenity provision
  - dealing with obsolete plant.

The landlord has a difficult decision to make – to update the existing asset through a retrofit, or to completely overhaul with a refurbishment and potentially close the building to undertake this. To help make this decision, it is critical to understand the needs of the current occupiers and what is driving them. And to then communicate how the building can contribute to those. Occupiers are increasingly looking for regears working with landlords to meet their targets.

There are two fundamental considerations when weighing up the two options. The first, and probably the most obvious, is disruption. Whatever the decision and course of action taken, the current occupants will still be affected to a greater or lesser degree.

If the retrofitting option is adopted the building will remain operational, and complex retrofits can cause significant interruptions. Refurbishing projects typically involve much more visible disruption, especially if significant structural overhauls are needed. Our advice is that planning and communication are key and should be led by the operations team. Moreover, the occupiers should be factored into the equation and brought along on the journey, so that they can input and buy into the plans.

Energy performance goals can be a key driver. Here, there are some quick wins to be had e.g. switching to LED lighting or swapping to energy efficient boilers. These projects can be undertaken with occupiers in situ and, with efficient budget planning, can be spread over time, thereby increasing the operational term of the asset. The knock-on effect of these projects should be an improvement in EPC score and should assist with potential future regulatory influences, such as climate change targets.

The second fundamental consideration is the comfort and functionality of the asset. In general terms, enhancing the usability of the space will lead to higher levels of occupier satisfaction and increase the chances of attracting higher-quality occupiers. Careful planning and consideration needs to be afforded as to how the amenities will function and operate and the question asked as to whether they will actually be used. What, as a landlord, should you be offering?

Table 2: Levelling up

The amenity provision in our Group 1 and Group 2 scenarios and the Gross Internal Area (GIA) each would require

GROUP 1 AND 2 GROUP 1 ONLY

SCENARIO		Proportion of GIA space
Standard refurbishment features	Raised access floor	90%
	Suspended ceiling	80%
	Refurbishment of reception	4%
	Refurbishment of WCs	5%
	Staircases and lift lobby refurbishment	5%
Amenity specification	End-of-trip facilities (bicycle parking, locker facilities, showers, and changing rooms)	2%
	Private or communal terraces	8%
	Onsite food and beverage options	2%
	Fitness and wellbeing facilities	3%
	Collaborative meeting spaces	20%

Source: Knight Frank Research, Knight Frank Project Building & Consultancy

The consideration of amenity level will form a key part of any strategy and assist in future-proofing the building to adapt to future technological and operational requirements. As has already been highlighted, the most frequently cited amenity improvements centre on food & beverage (F&B) offers, end of trip and provision of outdoor areas. But does the space allow for these improvements or will an area of the asset need to repurposed to accommodate? There has been a discernible push for cafés and fitness areas, but these may bring operational challenges as well as spatial. How will these spaces operate and by who? Third party engagement and negotiation then becomes part of the wider process.

While not the only consideration, operational costs are invariably the main driving factor in the ultimate decision-making process. And everything will inevitably hinge of the conundrum between balancing initial costs versus long-term savings. Retrofitting generally has high initial outlay, but also has potential for significant long-term savings through lower operational budgets. It needs to be weighed up against the expense of void periods, marketing expenditure and costs to the occupiers.

Whilst not an exhaustive list, this example nevertheless touches on the priority considerations in the whole retrofitting vs refurbishment debate. In the case specified, Knight Frank was able to work with the client and stakeholders – two of the key existing occupiers renewed, with a plan to retrofit around them.

KEY TAKEAWAYS FROM PROPERTY MANAGERS:

1. Understand the building and asset.

2. Engage with occupier(s) to understand their needs.

3. Work in partnership with occupiers.

4. Use your Project Manager in the renewal discussions.

"The landlord has a difficult decision to make – to update the existing asset through a retrofit, or to completely overhaul with a refurbishment and potentially close the building to undertake this."

TO REFURBISH OR REPURPOSE? – THE BUILDING CONSULTANT VIEW

What are the practical considerations when weighing up the options? There are complexities in producing the business case for either a refurbishment or a repositioning scheme. As ever, the main driver is for the project to be economically viable. That entails striking a tricky equilibrium between market trends, user expectations and financial constraints, as well as overcoming environmental policies and regulatory challenges.

But the key is to not let unrealistic project goals prevent a good and viable scheme. Spaces need to be designed and constructed in such a way that they can be upgraded to meet future requirements, to secure long-term return and to serve local communities more effectively.

With the three 'res', there are some key practical considerations facing the industry. Broadly, these fall under one of three headings: legislative, physical and functional.

Legislative:
With the tightening of legislation on demolition, the refurbishment and repurposing of existing buildings reduces waste and carbon emissions, certainly compared to a re-development project. There is now also a trend towards a responsible approach to investment.

But with the Building Safety Act 2023, the upcoming changes in Fire Safety Regulations and the recent release of the Grenfell Inquiry's final report, the market is facing an increasing number of challenges.

By way of example, Knight Frank is currently undertaking a 240,000 sq ft refurbishment project in the City of London, on an asset originally constructed in 2003. Due to insufficient base build design information, surveys and laboratory assessments have had to be undertaken to prove the design intent under the original Fire Strategy – reverting to regulations when the building was constructed is now very challenging. Fire audits of the base build construction are now key, so that potential fire issues and risks are known at feasibility stage.

Physical requirements:
In order to achieve EPC B rating and above, significant intervention will usually be required. However, the necessary level of intervention can only be assessed on a building-by-building basis and is often dependent on the age of construction.

For example, a building constructed from 2010 onwards may avoid the need to replace the façade and windows and still achieve an EPC B with other interventions. Moving to an all-electric building may require upgrades to the incoming supply, if, for instance, the project involves providing an all-electric restaurant as part of a mixed-use scheme.

Equally, requirements for additional insulation within external walls may have an effect on Net Internal Area (NIA) and this, in turn, may impact rents. Above all else, a Sustainability Strategy needs to be developed from the outset, with clear targets that can be measured against to demonstrate value.

Functional:
Carrying out works in an occupied building heightens the level of complexity. Refurbishment or repurposing projects often involve more intrusive works, making it challenging to retain occupiers and keep them onside as works are undertaken. This needs to be assessed in detail to review the sequencing of the project events and to maintain income. If the building can remain part-occupied during the project, then a strong communication plan is essential.

Robust building records at the end of a project are likewise crucial to comply with Technical Due Diligence and ensure future liquidity.

KEY TAKEAWAYS FROM BUILDING CONSULTANTS:

1. Understand the building's construction.
2. Be aware of changing regulations.
3. Work with Project Managers at the earliest opportunity to undertake the development appraisal.
4. Ensure value is protected through each stage of the project.

COMMON DENOMINATORS

There is no generic hierarchy within the three 'res' – refurbishing is not necessarily 'better' than retrofitting, repurposing not necessarily a solution that supersedes all other options. Each 're' has its own merits, risks and rewards and the viability will vary dramatically by project and asset.

Whether retrofitting, refurbishing or repurposing, there are certain common denominators. Chief amongst these is thorough and effective contingency planning. Risks need to be considered at the outset of projects to ensure the business case is viable and unexpected costs and delays are mitigated.

Each asset is unique, each project is different – there are no 'one-size-fits-all' solutions.

"Whether retrofitting, refurbishing or repurposing, there are certain common denominators. Chief amongst these is thorough and effective contingency planning."

We like questions, if you've got one about our research, or would like some property advice, we would love to hear from you.

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