

COST MODEL: RESIDENTIAL CONVERSION



Introduction

The UK's housing shortage is a well-known and debated problem and need for new homes has found a possible solution in office-to-residential conversions. Ben de Waal and Chris Amesbury of Davis Langdon, an AECOM company, look at what needs to be done to make this successful.



Ben de Waal
Head of Residential
Davis Langdon, An AECOM Company



Chris Amesbury
Head of Private Residential
Davis Langdon, An AECOM Company

The need for new homes is not in dispute. Housing output has declined to the point where current outputs are less than 50% of 1980 levels and at their lowest in England since 1923. In 2010, the private sector increased the number of completions but these were still two-thirds of the number it was building in the mid-2000s.

According to the Institute for Public Policy Research (IPPR) there is a projected housing shortage in the UK of 750,000 units by 2025. Lending to first-time buyers continues to fall, with lending down 17% on the same period last year. And according to research carried out by the Smith Institute, home ownership is likely to fall by two million in the next ten years with the private rental sector set to grow to around 25% of the market. Supply of land for housing remains constrained due to the lack of land and buildings fit for development and conversion, whilst the planning system remains burdensome, expensive and uncertain. In fact 40% of local authorities are unable to identify a satisfactory supply of land for new homes and many of these authorities are in areas of highest demand.

The position is clear. A more diverse housing supply is needed to accommodate different tenures, with the greatest need reserved for affordable housing and the predicted growth in the intermediate rental sector. Local plans need to identify the land and buildings allocated for housing and ensure the necessary support services are in place. And buildings need to be flexible and adaptable to accommodate changes to the way people live and use them.



Source: Department for Communities and Local Government; Davis Langdon

The case for office conversions

Historically, only 2-3% of new dwellings have been built each year on land previously used as offices but with office vacancy rates now in excess of 10% in most regions outside London, the potential for conversions should not be ignored. The Government is sufficiently convinced that it has put forward proposals to allow, as permitted development, the conversion of office space to residential. By doing so, this will bring underused and vacant properties back into economic use, providing an estimated 7,000 new dwellings per annum.

The idea of converting buildings to live in is not a new one. The idea gained favour in the mid '90s as a result of the massive oversupply of office space built in the late '80s, coinciding with an increase in residential values and a growing appetite for urban living. Conversions became viable and developers simply responded to market demand.

The viability of office conversions needs to be seen in the context of the relative performance of the residential and office markets in the area concerned, as well as the cost of the conversion itself. There are many supply and demand factors that contribute to this. These include demographic and labour market changes; consumer appetite for urban living; exchange rates and their influence on overseas demand; provision of local services, schools and transport links; planning constraints; and of course mortgage and development finance liquidity.

One of the most significant factors influencing the market today is the amount of surplus local authority office space coming onto the market with negligible economic value for its current use. Authorities will naturally be cautious about releasing too much commercial space for conversion, with the risk of either compromising the area's attractiveness as a business destination or inadvertently forcing rents to rise through undersupply. However, they will equally want to guard against long-term disuse and the degenerative effect it can have on an area. This should

therefore ensure that conversion is considered as a real alternative in the development of their local plans.

Given the overall sustainability agenda, there is certainly strong logic to living closer to our places of work and reusing buildings that would otherwise be redundant. However, whether the permitted development proposals will have the desired impact remains to be seen. Any conversions requiring changes to the external façade or external works will still need planning permission and a number of questions remain unanswered such as the process for determining affordable housing quotas and other planning gain outcomes' measures to deal with transport and parking implications; and how to address the noise implications created by use changes. The expectation is perhaps that the market will drive these issues to a sensible outcome.

Whilst many conversions will be carried out for sale, there is an increasing interest in residential investments, with rents up by an average 4.2% since July last year in England and Wales and by 7.1% in London, as measured by LSL Property Services buy-to-let index. The private rental market is still dominated by the largely unregulated 'buy to rent' market but there is growing interest from pension funds attracted to returns that match their annuity profile and from Registered Providers and local authorities seeking investment in mixed-tenure developments. Office conversions can provide a route for these types of investments, especially in areas of low office values or in areas where there is a strong rental market.

Government proposals to allow conversion of office space to residential could provide an estimated 7,000 new dwellings per annum.



Centrepoint in London has recently been acquired by new owners who need to find a way of getting an income from empty office floors. One option would be conversion to residential.

Fiscal policy

Despite the spending cuts being implemented as part of the package of austerity measures, the Coalition Government remains committed to reversing the downward trend in housing delivery and has taken some clear steps to encourage growth. It continues to provide grant support with the injection of £4.3 billion of funds into the affordable rent sector aimed at providing 170,000 homes by April 2015. In addition, the implementation of the New Homes Bonus, an incentive paid to local authorities equal to the council tax levied on each new home for a period of six years, is expected to inject a further £1 billion over the next four years.

Further measures are also being provided through the likes of the FirstBuy scheme which provides access to funding for first-time buyers and will help more than 10,000 first-time buyers in England over the next two years. The government has made £250 million available over this period for this programme.

Conversion projects often give rise to opportunities to save money through tax relief, either directly or indirectly. The VAT rules associated with residential property are complex, although, where a commercial building is converted to residential, the works are subject to a reduced rate of 5%. If the property is listed, then approved alterations carried out in compliance with the listed building consent may be zero rated. In any event, professional fees (unless novated to the building contractor), carpets, certain furniture and kitchen appliances are always standard rated. Once complete the first sale or lease over 21 years is zero-rated; however a shorter lease will be exempt for VAT purposes meaning that any input tax incurred will be irrecoverable.

Land remediation relief also provides an opportunity for companies to get tax relief on remediation costs including the removal of asbestos in existing buildings. Its life is potentially limited, with proposals for its abolition in April 2012 part of an ongoing consultation into tax simplification measures. However, whilst it remains, there is an opportunity to generate a cash benefit which can be as high as 39% of the cost of remediation.

Also, whilst capital allowances are not available on chattels and fixtures installed within the actual dwelling units, there is an opportunity to claim plant and machinery allowances (PMAs) in common parts, such as lifts, centralised heating systems and incidental building works and this may well, for example, influence the decision whether to go for a centralised or at source heating solution.

Where renewable energy technologies are utilised, feed-in tariffs (FIT) and the renewable heat incentive (RHI) provide cash payments for up to 25 years for eligible installations. Some of these also currently qualify for 100% tax relief through the Enhanced Capital Allowances programme, although this accelerated benefit is currently under consultation with HMRC. Further information can be found at www.bankingtaxfinance.com, once it becomes available.

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Public sector participation

With the greatest need for new housing being in the social housing and intermediate housing sectors, the latter being those people who are not in receipt of social benefits but cannot afford to buy, local authorities and Registered Providers are both likely to have a significant influence on the market going forward.

On 1 April 2012, the Government is set to abolish the Housing Revenue Account subsidy system and introduce self-financing for council housing. The reforms are expected to pass control of over £300 billion of rental income to local authorities over the next 30 years which could free up over £50 billion for new housing and improvements to the existing stock. They also have control of their surplus office space and may well be prepared to trade land value for more social housing provision, thereby removing a land cost from the development appraisal which would bring benefits through cash flow and savings on overall cost of construction finance.

Despite the removal of social housing grants, there is still government support for Registered Providers through the affordable rent grants. Registered Providers will, nonetheless, need to explore new ways to develop without a grant. Some will turn to the bond markets for new sources of funding with Places for People recently raising £175 million in the social housing sector's first unsecured issue on the UK bond market.

Sale of stock will seem attractive in the short term but is ultimately not sustainable and it is questionable whether the sales expertise and brand exists to adopt a house-builder type model. There is, however, a growing appetite for institutional type lease arrangements involving Registered Providers as the tenant in mixed tenure investment properties. The Registered Providers' covenant strength remains strong and is therefore more attractive to investors who are unwilling to take the risk on void levels and running costs.

With social and intermediate housing sectors driving the need for new housing, LAs and RPs are likely to have a significant influence on the market going forward.

Key cost drivers

When considering the key cost drivers for a refurbishment scheme, it is worth considering the advantages on offer when compared against a new-build alternative. Firstly, and most importantly, the time savings generated from not having to go through planning and from having a reduced construction programme, can have a significant impact on the appraisal. In fact, it is anticipated that a 1% shift in floor space from office to residential would lead to savings of around £100 million in today's money from planning savings alone. This not only increases the attractiveness of conversions when considering existing under-utilised space, but it also means that returns can be made over a shorter period of time enabling greater churn of available cash flow.

The key cost drivers for a refurbishment, or conversion, scheme are likely to centre on the ability to utilise the existing structure and foundations, and the ability to utilise elements of the existing façade. If the structure is not particularly suitable for residential use, the cost and time implications of significantly altering an existing building may eliminate any perceived economic advantage over a new build alternative.

When considering the approach to replacing or refurbishing the facades on the building, the adopted solution will need to achieve not only the requirements of Building Regulations in terms of thermal performance (Part L), but also the objectives of the façade in relation to the design intent and target market. For example, if the building is targeting the prime market, the façade is likely to require whole scale replacement, adopting high quality materials and may be delivered through a bespoke curtain walling system. In comparison, a refurbishment scheme delivering affordable housing may, where appropriate, incorporate a simpler repair and refurbishment of the façade.

Establishing the ability of the existing structure and façade to accommodate the potential alterations will enable key decisions to be made with a level of confidence, and can minimise premiums for risk. Similarly, the selection of a 'total envelope' contractor may provide a single point of responsibility for the design, procurement, production and installation of the façade, and thus reduce the inherent risk.

Other key cost drivers worth considering are the services installations, and the level of quality required from the finishes. In conversion from office projects, it is likely that the central plant requirements are less for residential, and this can provide opportunities to re-configure space at ground floor / basement levels which can be utilised for other facilities, such as parking or residents' facilities. The location of chillers within high quality buildings requires careful planning and consideration, as the penthouse levels offer the maximum value opportunities and locating plant at these levels should be avoided where possible. The planning of service cores also needs careful consideration to allow lettable floor space to be maximised whilst also allowing flexibility in the floor plate layouts on each floor.

If the existing structure is not suitable for residential use, the cost and time implications of altering it may eliminate the economic advantage over a new build.



Key cost drivers

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One of the emerging cost drivers for residential projects is the requirement to achieve ever more stringent energy performance and sustainability levels. The Department for Communities and Local Government (DCLG) has recently released an updated cost review document outlining the anticipated cost of building to the Code for Sustainable Homes for different project types. With the Government's target of achieving Code 6 across all new build housing types by 2016, it is important to factor in the likely sustainability targets within any planned scheme. The summary of likely costs contained within the review, which was released in August 2011 and included costs prepared by Davis Langdon, shows that the cost uplifts for achieving Code Levels 4, 5 & 6 are approximately 10%, 30%, and 50% higher than costs for schemes measured against a Part L 2006 base-line.

For refurbishment or conversion schemes, the rules on sustainability are different, in that the performance of the building is measured against the old EcoHomes targets rather than Code for Sustainable Homes. This can result in significant cost differences when comparing options for either a new-build or conversion residential scheme.

Taking into account the various key cost drivers, it can be seen that opportunities exist to realise cost savings through the refurbishment of buildings, but these need to be measured against any potential implications on value. In high quality residential schemes with new high quality facades and fairly extensive remodelling of structure, the savings are likely to be limited to a maximum of 10% of the overall costs. This compares to affordable schemes, where the structural and façade elements are likely to form a major part of overall costs, meaning potential savings could be far greater and could reach up to 20% or 30%.

Cost savings through the refurbishment of buildings need to be measured against any potential implications on value.



Factors that influence design

One of the key factors influencing the design of a refurbishment scheme will be whether opportunities exist to realise the ultimate value of the asset. Understanding whether the existing structure can accommodate a vertical or horizontal extension will significantly influence the ultimate design solution, as will establishing the extent to which the existing structural core can be readily manipulated to provide an efficient residential floor plate.

Many existing office buildings will be able to accommodate these types of alterations without major impact on the existing substructure and frame, and can have a significant impact on the viability equation. A simple two-storey extension to an existing building could readily add 10-20% to the potential value of the scheme, particularly when higher values likely to be achieved at the top of the building are taken into account, whilst an extension to an existing floor plate could add significantly more.

An early appreciation of the specific requirements of the target market will also allow the overall design to be progressed with the ultimate purchaser/user in mind. As purchasers become more demanding in their requirements, any refurbishment project needs to be able to compete head to head with the attributes of a new-build scheme; otherwise the ultimate value of the scheme could be compromised. Schemes in key locations, which can accommodate well-designed space with high quality external and internal finishes and can provide complementary ancillary uses, will be attractive not only to the requirements of funders, but also to investors.

Incorporating suitable ancillary space at the lower levels of the building may also create additional revenue, either through the creation of independent rental space or by increasing the ultimate value and desirability of the residential element. Those uses which enhance the value of the latter whilst providing additional value are likely to provide the best returns, such as good quality food retail, and parking in prime Central London markets.

Finally, the need to accommodate affordable housing or a more significant commercial element will bring a number of design considerations into play, such as the separation of ground floor entrances, plant and servicing strategies, façade treatments, and core arrangements. The efficiency of the building is likely to fall quite significantly, and costs are likely to be higher for each component than in a single-use building.

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The cost model

The cost model considers the potential costs for converting an existing office building into a residential building that provides a good quality level of accommodation. The existing building is arranged over 15 floors, with a single level of basement, and a gross internal area of 17,600m².

The existing building is concrete framed with a central core, and the proposed scheme includes alterations to the core to ensure the residential sales areas are maximised. It includes the replacement of the existing façade with a new façade and has a solid to glazed ratio of components which are necessary to achieve the thermal performance demanded by Part L of the Building Regulations.

The accommodation itself is completed to a level which includes fully-fitted kitchens and bathrooms, with wardrobes to each of the bedrooms. Floor finishes are provided throughout. Heating is provided through an underfloor heating system, which is fed from the centrally located boiler system. Comfort cooling is not provided, and the model includes the cost to replace the existing central plant.

Costs are Q3 2011, based on an outer-London location, and assume a lump-sum, single stage-design and build contract. Main contractor preliminaries and contingencies are included, but demolitions and site preparation, external works and services, professional fees and VAT have been excluded.



July 2011 Region	Total Building Cost Factor Outer London = 1.00
All UK	0.94
Greater London	1.03
South East (excluding Greater London)	0.97
South West	0.97
East Midlands	0.90
West Midlands	0.92
East Anglia	0.96
Yorkshire & Humberside	0.90
North West	0.92
Northern	0.89
Scotland	0.92
Wales	0.89
Northern Ireland	0.69

Location Factors

Conversion of office building into residential units cost model

Cost breakdown

	£	£/m2 GIFA	%		£	£/m2 GIFA	%
Demolitions & alternations	1,870,500	106.28	6.85%	Internal doors	925,500	52.59	3.39%
Allowance for soft strip, 17,600m2 @ £30 Allowance for asbestos removal, Item @ £200,000 Allowance for removal of existing glazing, 3,500m2 @ £75 Structural alterations including repairs to existing concrete frame (exposed soffit & columns), alterations to lift/door openings, works to new and existing risers and cores, 17,600m2 @ £50				Single timber core / apartment entrance doors, including frame and ironmongery, 200nr @ £800 Double timber core doors, including frame and ironmongery, 2nr @ £1,500 Single timber internal apartment doors, including frame and ironmongery, 1,200nr @ £600 Allowance for riser doors, 85nr @ £500			
Substructure and superstructure	250,000	14.20	0.92%	Wall finishes	1,889,500	107.36	6.92%
Sundry remedial work including extension to new entrance, ground slab and structural walls including foundations and lift pit bases, Item @ £250,000				Plasterboard and paint to inside face of external walls, 19,350m2 @ £40 Paint to drylined / plasterboard internal partitions, 36,050m2 @ £5 Paint to fair faced blockwork walls, 1,000m2 @ £8 Ceramic wall tiling to bathrooms, 6,900m2 @ £75 Allowance for enhanced wall finishes to entrance, Item @ £25,000 Painted MDF skirting, 25,650m @ £15			
Roof	182,500	10.37	0.67%	Floor finishes	1,142,550	64.92	4.18%
Replacement roofing asphalt complete, additional insulation, removal and disposal of existing, 1,100m2 @ £140 Mansafe, including access ladder and fall arrest system, 190m @ £150				Sand and cement screed including acoustic underlay, 14,800m2 @ £20 Carpet floor finishes, 5,850m2 @ £30 Ceramic floor tiling to kitchen and bathrooms, 2,700m2 @ £75 Timber strip flooring to other areas, 6,150m2 @ £65 Epoxy paint to concrete slabs in plant areas, 600m2 @ £25 Allowance for enhanced floor finishes to entrance, Item @ £25,000 Allowance for surface hardener / anti-skid finish to car park, 1,100m2 @ £8 Extra over allowance for lining / markings to car park, Item @ £20,000			
Stairs	106,000	6.02	0.39%	Ceiling finishes	546,700	31.06	2.00%
New balustrades and handrails to existing stairs including repairs to stairs and finishes, 32nr @ £3,000 Allowance for cat ladders & plant access, Item @ £10,000				Painted plasterboard suspended ceiling generally, 14,800m2 @ £35 Extra over allowance for access panels, 34nr @ £150 Painted finish to underside of concrete soffit, 1,700m2 @ £8 Allowance for sundry ceiling finishes, Item @ £10,000			
External walls, windows and external doors	4,300,000	244.32	15.74%	Fittings and furnishings	1,738,750	98.79	6.37%
Allowance for replacing facade with aluminium rainscreen cladding system, 5,100m2 @ £400 Windows, aluminium framed, double glazed units, 3,500m2 @ £550 Entrance screens, aluminium framed, double glazing, 100m2 @ £600 Stainless steel balustrade with glass infill panels, 190m @ £500 Glazed manual revolving door, aluminium framed, 2,200mm dia 1nr @ £30,000 Allowance for façade cleaning system, entrance canopy and sundry doors, Item @ £150,000				Allowance for main entrance reception desk, Item @ £15,000 Allowance for post-boxes, 150nr @ £125 Allowance for kitchens, including fitted base / wall units, worktops, white goods and ceramic tiled splashback, 150nr @ £7,500 Vanity units with cistern enclosure shelf, 300nr @ £500 Bathroom fittings including mirrors, toilet roll holder etc, 300nr @ £350 Allowance for bespoke timber wardrobe to master bedrooms, 150nr @ £1,500 Allowance for column guards, protective bollards, barriers to car park, cycle rack, car park traffic management system to basement, Item @ £50,000 Allowance for statutory signage and other fittings, Item @ £50,000			
Balconies and terraces	1,040,500	59.12	3.81%				
New projecting balconies, steel structure with timber decking and glazed balustrade, 150nr @ £5,000 Allowance for timber decking to roof terrace, 500m2 @ £125 Allowance for single doors to balconies and roof terrace 152nr @ £1,500							
Internal walls and partitions	1,382,000	78.52	5.06%				
Drylined party / corridor walls, 8,200m2 @ £85 Plasterboard walls within apartments 11,700m2 @ £50 Allowance for other walls / partitions to plant areas, additional walls and detailing, Item @ £100,000							

Cost breakdown

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	£	£/m2 GIFA	%		£	£/m2 GIFA	%
Sanitary fittings	41,000	2.33	0.15%	Communications installations	643,000	36.53	2.35%
Cleaners Sink installed on every other floor, Item @ £3,500 Sanitaryware fittings to apartments based upon 2nr bathrooms per unit, 150nr @ £4,500				Fire and smoke detection and alarm system, security installation 17,600m2 @ £6 Telephone/data/satellite installation, including containment, wiring and dishes, 17,600m2 @ £15 Security installation, including CCTV, door entry, access control, intruder alarms and car park barrier, 17,600m2 @ £7 Containment and wiring only for future security, sound system and home automation systems, 150nr @ £1,000			
Disposal installations	299,000	16.99	1.09%	Special installations	141,000	8.01	0.52%
Soil, waste and disposal: rainwater disposal; cast iron down pipes and fittings 17,600m2 @ £17				Building management system, sensors, valves and interfaces with window actuators 17,600m2 @ £8			
Water installations	598,000	33.98	2.19%	Builder's work	334,400	19.00	1.22%
Hot and cold water service; hot and cold water storage; distribution 17,600m2 @ £34				Builder's work in connection with services installations, including machine bases, fire stopping, forming holes, chases in the existing building fabric, 17,600m2 @ £19			
Space heating & air treatment	1,297,000	73.69	4.75%	Preliminaries and contingencies	4,888,100	277.73	17.90%
Full mechanical ventilation to basement car park, 1,100m2 @ £106 Heat source, gas-fired boilers, flues, removing existing, complete, 16,500m2 @ £4 Landlords heating, including distribution, 16,500m2 @ £9 Mechanical ventilation to plantrooms and staircase pressurisation installations via Automatic Openable Vents (AOV's), Item @ £65,000 Heat plate exchangers incl heat meter, 150nr @ £2,000 LTHW system including radiators, bathroom heated towel rails, associated pipework and fittings, 150nr @ £2,000 Whole house ventilation system with heat recovery, incl fan, ductwork and grilles, 150nr @ £2,000				Contractor's management, site establishment and site supervision, including overheads and profit @ 16%, Item £3,587,600 Design reserve and construction contingency @ 5%, Item £1,300,500			
Electrical installations	2,082,000	118.30	7.62%	Total construction cost building only	27,310,400	1551.73	100.00%
LV Switchgear and panels, distribution boards, power to main plant and lifts 17,600m2 @ £17 Standby generation and associated flue, Item @ £65,000 Power installation, including distribution board, meter, small power points and fused connection units. 17,600m2 @ £34 Lighting and emergency lighting to landlord areas (including basement), lighting control, PIR sensors and daylight sensors. 17,600m2 @ £27 Lighting installation with apartments, including low energy downlighters, kitchen pelmet lighting, bathroom mirror lighting, balcony lighting and basic controls, 150nr @ £4,300							
Gas Installation	36,000	2.05	0.13%				
Gas supply to boilers, Item @ £36,000							
Lift installations	714,000	40.57	2.61%				
4nr 13 person, 1,100kg, 16stops, 1.6m/s monospace PASSENGER lift, including lighting and power and fire fighting facilities. 1nr having fire fighting capability, Item @ £714,000							
Protective installations	862,400	49.00	3.16%				
Earthing and bonding, 17,600m2 @ £4 Wet riser, sprinkler installation, including lightning and surge protection, 17,600m2 @ £45							

Conclusion

Where costs do not prohibit development, conversion of office and other B class commercial space does genuinely provide an opportunity to make inroads into the significant undersupply of homes. Whilst there will be a need to ensure an area's commercial offer is not overly compromised the option of conversion is likely to be increasingly considered as a realistic option for any vacant office space that comes onto the market. This is not meant to imply wholesale conversion in all locations, rather another alternative in an increasingly flexible attitude to the way we use our built assets.



The location of Peninsula Heights – next to the Thames near Westminster in central London – made it an ideal candidate for conversion from an office building to upmarket apartments.

