

Can rooftop extensions help solve the housing crisis?

With the government proposing planning rule changes to ease the addition of extra storeys, *Colin Marrs* looks at whether this could really help create thousands more homes



RCKa's proposals for a major rooftop extension project in Golders Green

FORBES MASSIE

Building extra floors on top of existing buildings is an idea at least as old as the invention of the mansard roof. But the idea is increasingly being looked at as a possible way of helping solve the country's housing crisis.

The government certainly seems to think the idea has potential. Earlier this month, the Ministry of Housing, Communities and Local Government proposed changes to the National Planning Policy Framework (NPPF) to make it easier to add up to two storeys to an existing building. It also resurrected the idea that permitted development exemptions from planning applications could also apply to rooftop additions.

So what opportunities and challenges could this present to architects? And how many extra homes will really be delivered by building up?

In November, property consultant Knight Frank cross-referenced Ordnance Survey and Land Registry data to create a detailed 3D model. Its analysis concluded that rooftops in London's fare zones one and two had enough space to provide for 40,000 new homes. This work followed a separate study carried out in 2016 by HTA Design for rooftop developer Apex Airspace, which put capacity across Greater London at 140,000.

Putting the scale of opportunity into context, 'adding one storey to Oxford Street gives you the equivalent square footage of the Shard', says Val Bagnall, business development director at Apex.

One of the main challenges to achieving this number is the attitude of buildings' existing occupants. Leaseholders have significant legal powers to stop such developments in their tracks.

RCKa's Russell Curtis has been working on a scheme to add two additional storeys to a 1970s estate consisting of 15 separate blocks in Golders Green, north London. He says that architects should engage early to ensure the creation of benefits for existing residents.

'It is tricky,' he says. 'We have undertaken public engagement exercises and tried to show the residents how we can add an extra storey without

before



The skyline in Victoria, London, with Apex Architecture's 295 Vauxhall Bridge Road rooftop extension scheme highlighted

compromising their enjoyment of their flats. We have looked at other benefits we can offer, including landscape upgrades and a new gym. But you have to ensure the economics stack up to make that work.'

In tight urban environments, how daylight, sunlight and overshadowing affect surrounding buildings can also prove a challenge. Such factors can rule some extensions out completely. In other locations, setting the additional floors back from the edge of the existing building can help mitigate the problem. This approach also speeds up the process and helps avoid disruption, according to Bagnall.

'If you are building right up to the edge of the existing roof then you would need to build scaffolding up the side of the building,' he explains.

While the Apex and Knight Frank studies looked only at the potential for extensions to residential buildings, Max Titchmarsh, founder of Max Architects, says there is also potential for new homes on commercial buildings.

A new study completed by his practice estimates that 25,000 new homes could be built on existing residential and commercial buildings in London's Central Activities

floors and retain ownership of them to gain rental income.'

It is an approach that comes with its own unique design challenges. 'There is a historical notion that you can't have office workers and residents mixing,' says Titchmarsh. 'In the Far East, having a shared core is completely normal, but in London you often need to find buildings where it is possible to run a separate core on the outside of the existing structure for access to the rooftop residential.'

Most rooftop extensions are constructed using prefabricated materials. 'Modular construction is often the best solution,' says Riëtte Oosthuizen, planning partner at HTA. 'It is lightweight, putting less stress on the existing structure, and much less disruptive to the existing occupants, because modules

after



Apex's study identified locations for further upward extensions in the area

Zone – very roughly equivalent to the zone one area.

'The Apex model involves them buying the freeholds to buildings,' Titchmarsh says. 'Our model is slightly different and involves working with building owners to enhance the value of their property assets. The emergence of the private rented sector market makes it easier for these owners to add

are just craned on to the top of the buildings.'

In many cases, a deck is added to the roof to transfer weight before units are craned on top. However, Curtis says that in Golders Green, a 'table' will be placed over the building, supported by steel girders stretching up the side of the blocks, disguised by cladding. 'You have to look at whether

'You need to get good architects and good designers on these projects. If we do it in a ham-fisted way then the impact will be pretty grim.'

the building has sufficient structural capacity,' he says. 'We have taken the fail-safe option on this project but are hoping eventually to do away with supports in future.'

Sympathetic cladding can also help reduce the visual impact of rooftop development. 'In Golders Green,' says Curtis, 'on the edge of a couple of sensitive conservation areas, we have taken an approach that is not apologetic but not outlandish. It is clear that the extension is a later addition but it is sympathetic to the building below.'

But not everyone shares the optimistic projections about how many new homes rooftop development can provide. Westminster City Council's director of development planning, John Walker, is decidedly sceptical.

'Even if all the challenges are overcome, most people will do it to add additional volume to their own home,' he says. 'The idea that it will create thousands of new homes is naive. We did a lot of residential on top of commercial buildings in the 1980s and it either just became a penthouse flat for the company director or just sat there.'

And Mike Kiely, president of the Planning Officers Society, says the government's approach is unlikely to provide a step-change in the amount of rooftop development.

'If you look at the current position, there have been permitted development rights to convert lofts to flats for some time,' he says. 'There has been very little take up of that due to the complexities involved.'

Despite such doubts, Knight Frank's head of geospatial, Ian McGuinness, says the new wording of the NPPF could provide a spur to council planning departments to adopt new policies encouraging upward extensions.

'The announcement by government on the NPPF is useful,' he says, 'but rather than a blanket principle, local authorities should be trying to replicate our mapping in-house. Some areas will be more suitable than others. Several boroughs have designated tall-buildings zones, and there is no reason they couldn't create residential intensification zones.'

Optimistic projections outlining the potential of vertical extensions are nothing new. In 2014, multidisciplinary consultant WSP released research showing that 77,000 new homes could be provided by redeveloping existing NHS buildings to include floors of flats on top of them.

The current rules certainly do not seem to be holding back rooftop development. RCKa's scheme in Golders

Green was set to be submitted for planning at the time of publication. And at the start of this year, Southwark Council granted planning permission to 200 council homes on the top of three existing blocks in the borough.

But Michael Squire of Squire & Partners argues that a stronger approach is needed. 'I have argued for some time that there should be a permitted development right to construct an additional floor on 20th-century buildings,' he says.

'Sure, there would have to be some restrictions on height, and perhaps the involvement of an architect to prevent shocking additions, [but] this would remove the hassle of getting a planning consent.'

It had been thought that this was an option the government had already rejected.

In a 2016 consultation on the proposal by the then Department of Communities and Local Government, fewer than half of respondents were supportive. The government seemed to agree, saying that 'the complex prior approval that would be required to

protect neighbours and the character and amenity of an area would result in a permitted development right that is no less onerous than a planning application'.

But alongside the recent proposed revision to the NPPF, the government had a surprise.

It said it was 'exploring what opportunities there are to further support this approach through a new permitted development right for upwards extensions for new homes where existing buildings are lower than the prevailing roofline'.

Whatever government measures are taken, and how much they help the growth in upward extensions, design is set to play a key role, according to New London Architecture chair Peter Murray.

'The problem,' he says, 'is the same as with any type of development that adds additional height: it gets seen from a lot of places.'

'You need to get good architects and good designers on these projects. If we do it in a ham-fisted way then the impact will be pretty grim.'



Lipton Plant Architects' design for nine new homes on top of University House, close to Old Street roundabout