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Post CoVid-19 offices of tomorrow

Social media has been awash with speculation about the likely fallout from the CoVid-19 pandemic on the design and use of offices. Roderic Bunn offers some thoughts on the implications

It's human nature to consign bad experience to history. We're good at tactical amnesia. If we weren't we wouldn't face the future with optimism. As the CoVid-19 outbreak begins to retreat in the rear-view mirror we'll be considering not just the downsides but the opportunities too. New lines may be drawn for what employees are prepared to accept at work, particularly in offices where people are usually in close proximity.

The British Council for Offices (BCO) was certainly quick off the mark. In April it issued a Briefing Note authored by property firm Stanhope. Many of its short-term social-distancing proposals were of the 'bleedin obvious' variety, such as more scrupulous cleaning regimes and the safe spacing of desk workers. Its longer-term forecasts were more rather debateable. For example, the Note repeated, without question, a suggestion by the World Health Organisation (WHO) that higher ventilation rates could be justified at the expense of thermal comfort. While occupants of naturally ventilated and mixed-mode buildings are indeed known to successfully trade-off between ventilation and draught, noise, temperature, daylight glare and so on, it's stretching credibility that people's tolerance of thermal discomfort will change based on a fear that if they don't open a window they're more likely to catch a bug. Similarly, suggestions that offices could be flushed of pathogens by running mechanical ventilation plant 24/7 is unlikely to be attractive unless the cost benefits are reliably quantified. Similar caveats apply to the call for HEPA filtration.

Much is being pinned on home and remote working becoming the new norm. Sales of virtual private network products (VPN) certainly jumped massively in the early days of the lockdown. One provider reported a 10-fold increase in sales. However, the same provider said that its cheapest VPN product dominated purchases. VPN vendors may hope customers gravitate to advanced networking software, but larger companies were said to be investing in more concurrent user licences rather than buying the sophisticated networking products needed to sustain extensive and secure remote working.

So while the current shift to remote working may not be the game-changer some believe, greater diversification of office work is likely in the medium term. This may significantly reduce the need for rented central office space, leading to the renegotiation of leases if not the exercising of termination clauses. Landlords will undoubtedly try to retain tenants through various inducements. This may only work in the short-term. No company will pay for space it can't justify.
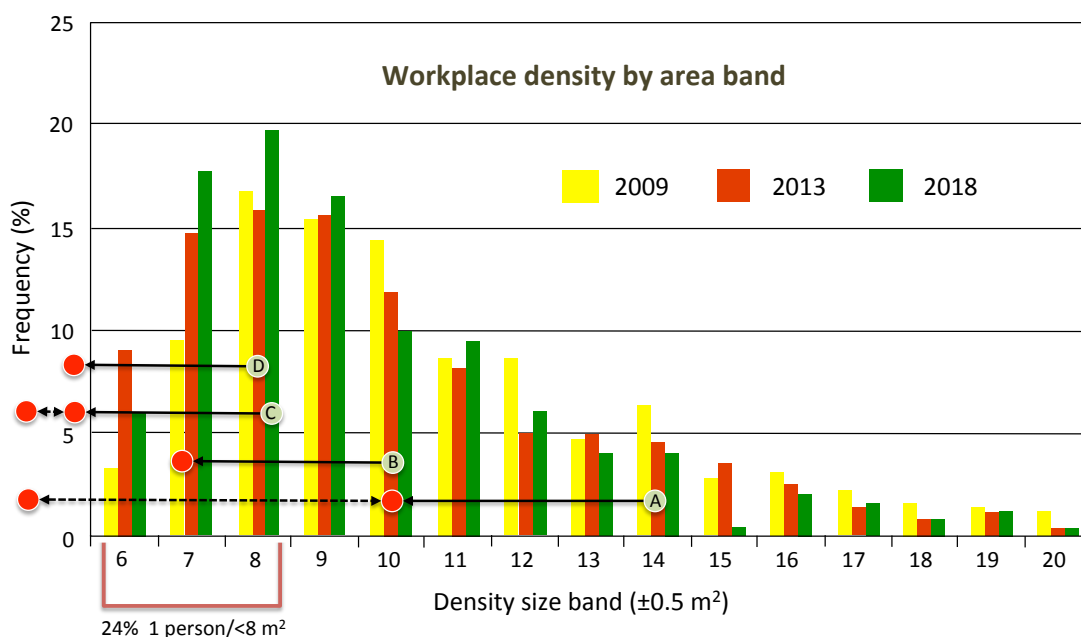
Increases in UK office density 2009-2018 from the BCO report *Office Occupancy: Density and Utilisation*. The graph is overlain with longitudinal density data from academic research of four large office buildings (A-D) studied between 2007 and 2015. Dotted lines for two buildings indicate density below one person/6 m² in specific zones.

So what is the right amount of office space? If the pandemic has done anything it's been to alert people to the health risks of forced close proximity with others. Sometimes this can't be helped – public transport being an obvious example. But in the office workplace one has choices. A key choice is whether employers should continue to cram office workers into tighter and tighter spaces in ways they were doing before the pandemic. The BCO's own research over the last decade reveals the severity of the trend.

The chart shows how average office density increased from one person/12.5 m² in 2008 to one person/9.6 m² in 2013. Come 2018, 24% of floors surveyed by the BCO fell into the band of one person/8 m² and below. Overlain on the chart are density trends for four large offices

analysed by your author longitudinally for 10 years or more. Although this data reinforces the BCO's findings, your author measured some social and workstation densities below the BCO's presumed limit of one person/6 m^2.

Commitments to agile working and flexible utilisation of offices tend to be applauded in wellbeing assessments. However, this may not be the density safety-valve that some believe, particularly where smaller desks (say, 1.4 m) have been installed in fixed workstation areas. In those instances observed diversity of occupancy may be less about 'agile' working and more about workers escaping density-induced discomfort. Clues can be found in confidential occupant surveys where some respondents admit escaping to atriums and empty meeting rooms, or to home where they can. Basically, anywhere they can get space, acoustic privacy and some environmental control.

Some commentators are sounding the death knell for open-plan, suggesting a return to cellular accommodation and circulation routes designed to reduce close contact between co-workers. Others are calling for regulations that set a minimum area per person in offices, along with maximum occupancies for lifts and lobbies[1]. That might all be desirable, but we'll need robust proof of improved occupant satisfaction and health for employers to pay for lower occupant densities. Tantalising research evidence suggests that densities lower than one person/15 m^2 may be more conducive to occupant satisfaction for a range of comfort variables – noise being a key one. Alas the data are partial and unconvincing, largely owing to a paucity of case-study offices operating at modest densities.

Future case-studies will need to capture the perceptions of occupants reliably so we can be more certain of the relationship between density and the comfort, health and productivity variables. More critically, we'd need to know where the discomfort thresholds lie if we are to be able to define the components of what might be termed an office's carrying capacity.

The disadvantages of diversified working – including home working – will also need to be studied to get both sides of the story. Home working may have lifestyle benefits, but it could also stress the separation of work and home life in ways detrimental to overall wellbeing. If the pandemic does trigger moves to measure and control the density carrying-capacities of offices we'll need to keep an eye on the unintended consequences.

Dr Roderic Bunn is an Associate with consultant WMEboom specialising in Soft Landings and building performance evaluation

[1]www.scottbrownrigg.com/design-research-unit/articles-publications/smart-lifts-lonely-workers-no-towers-or-tourists-architecture-after-coronavirus/