

Forget flying taxis: How to win public support and make drones benefit cities

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It's easy to assume, perhaps thanks to all the [lurid tabloid headlines](#), that people don't like drones. At best, they're a nuisance—the buzzing playthings of inconsiderate hobbyists or photographers taking pictures

from above. At worst, they're a tool for idiots to [close airports](#), ruin holidays and cost the country millions.

But the [research](#) Nesta Challenges has carried out over the past two years reveals a far more nuanced picture.

The public, and public services, are actually quite open to drones being used more widely—including in cities, potentially the most challenging and controversial environment for them.

But if this is to ever happen, there are challenges along the path to [public acceptance](#). And these are not just the obvious ones around making sure operations are safe and reliable: [people also care about what drones do, who is operating them—and where](#).

That's a big departure from how traditional aviation is perceived. Nobody really cares what's in any given plane or what altitude it's at, what route it's on or what airline it's owned by—as long as it's far enough overhead. And that's reflected in the laws and regulations that govern existing air traffic. Providing the pilots and equipment are certified, and they're operating safely, there are no serious restrictions on who and what gets access to the sky.

Buzz needs

But it turns out that an unpiloted aircraft flying just 40 feet from our heads is quite different from an airliner 40,000 feet above. And the difference in altitude isn't just a number. Low altitude airspace means interacting with people and things on the ground, in a way that flying above the clouds doesn't.

So one thing is clear: simply replicating the rules and regulations around civil aviation won't work. The future of [drone](#) traffic will be different to

present day air traffic.

In the research we carried out as part of the Flying High project, we aimed to think about this future. We wanted to better understand [how people thought drones might be used in our cities](#), to investigate how [feasible](#) some of the more far-fetched services people are proposing are, and to [paint a picture](#) of what the urban drone system of the future would look like.

We worked with local councils, academics and businesses in five English cities, chosen in part to reflect the diversity of economics, politics and scale of the places most of us live: [Bradford](#), [London](#), [Preston](#), [Southampton](#) and the [West Midlands](#) Combined Authority.

Interestingly, while there were some minor local variations in how people thought drones could be used (and some rather larger variations in how much or how deeply they had thought about these possible futures), there were several consistent principles. Generally, there was interest in the public sector uses of drones (for police, fire, [transport infrastructure](#), medical transport), support for uses that promote social and economic equity, and some degree of support for cities having a say over, or even control of, drone traffic within their borders.

But this support from cities, like support from the public, is tentative and conditional. Some of the wilder commercial applications of drones we have heard—from flying taxis to pizza delivery—found little favour.

We believe that a continued push for potentially disruptive uses like these, that bring little or no public benefit, risks turning the public against drones. We could make the same mistakes that were made with genetically modified crops in the 1990s or nuclear power in the 1960s and 70s. In these cases, legitimate concerns about how the technologies were used were ignored—and [public opposition](#) hardened, even against

applications with a clear and positive story to tell.

The positive case

In our research, we were keen to find out more about some of the positive uses that could bring public benefit. These are the kinds of uses that, given the current state of public and civic opinion, are most likely to be received with an open mind.

We developed five [near-future scenarios](#), around long- and short-haul medical transport, fire and traffic incident response, and [infrastructure development](#), and engaged with industry experts and potential users of the technology to gauge how technically and economically feasible they would be.

We found that, aside from some remaining barriers to long-distance flight (flying further than the pilot can see), precision flight and automation, existing drone technology is largely capable of providing these services.

However, regulation remains a barrier. And a large part of the issue is building up a track record of safe operation that could convince the Civil Aviation Authority to permit operations like these over built-up areas.

Business cases—in particular, defining services in a way and at a scale which is both viable for operators and useful for customers—also still need some work, particularly for medical transportation. In short, there has so far been too much focus on technology development and not enough on developing credible services for that technology.

Even if the economics of these uses are hard to project with any certainty, there is growing evidence of the macroeconomic benefits that drones could bring to the UK. In December, with PWC, we [jointly](#)

[published economic analysis](#) of the value to the UK economy of urban public service drone use—projecting net savings to the UK taxpayer of over £1 billion, and economic activity generated to the tune of almost £7 billion over the next 15 years.

But the only way to figure this all out for real—and to find out once and for all whether the public will accept this kind of service—is to actually try it out.

We think that some of the [public money](#) allocated to the Future Flight stream of the Industrial Strategy Challenge Fund needs to be spent on quickly getting live demonstrations going of public benefit drone services and testing out what the public think.

Spending time and money on boondoggles such as flying taxis or online deliveries for the rich, or focusing exclusively on technology development without buy-in from the public or a credible business or service model, doesn't just risk wasting money, it puts at risk the real benefits that we have found drones could bring to our public services.

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