

Here's how drones will change cities

October 3 2016, by Antonios Tsourdos



Credit: AI-generated image ([disclaimer](#))

Amazon has been busy [testing out](#) its new [Prime Air](#) initiative at a secret location in the English countryside. The service's promise of a 30-minute delivery by specially designed drones may look like click-bait PR, but it's an early sign of the significant changes coming to cities around the world.

For the moment, much of the hype around drones is full of caveats:

safety is always the first priority, and nobody quite knows the full extent of what's possible. There's still uncertainty about how new services will weave their way through airspace – let alone the inevitable tangle of regulations.

Prime Air is likely to take four to five years to become a mainstream service, as public acceptance and demand evolves alongside the business model. But in the meantime, there is going to be a tidal wave of change in both the technology itself, and the public's attitude towards it.

Civilian Unmanned Aerial Vehicles (UAVs) are like the first motorised cars: they have started out as a toy – and sometimes a [hazardous one at that](#). But they will, with time, become normal and form the basis of a new way of living and working.

In response, the urban environment will need to adapt. Perhaps the scale of urban transformation not be as extreme as it was with cars – after all, drones don't require large-scale infrastructure such as roads and bridges. But the changes will still be many and far-reaching.



Credit: AI-generated image ([disclaimer](#))

Clear skies

For one thing, the need for airspace will lead to a push towards decluttering of features such as satellite dishes, and the removal of any unnecessary "sky furniture", such as telecommunications, electricity wires and billboards.

Engineers may also need to find ways to map out street lighting and transmitter masts, as well as keeping track of other drones, in order to simplify the vast quantity and variety of visual data the UAV's sensors and pilots have to deal with. Networks of UAV landing pads, recharging hubs and [air traffic control stations](#) will be created, sited on top of tall buildings.

"UAV-ready" features will become a standard part of homes: not just landing pads with guidance lights (which are [already on the market](#)), but also recharging docks and secure trapdoors, to allow for the storage of deliveries. Space for straightforward UAV access will provide a new selling point for property, though this could be an issue in areas where space is limited: for example, residents living in flats may need to rely on communal arrangements.

Need for speed

There are countless other applications for drones beyond delivery services. They can also be used to monitor structures such as wind turbines, or to keep a check on the environment – from riverbank and coastal erosion, to rising water levels and flood threats. Drones could even replace some roles and systems in our cities, such as traffic wardens, speed cameras and some forms of policing.

In [agriculture](#), drones are already being used to keep an eye on crops and spot any problems. They are also playing a role in [investigating accidents](#) – and, of course, being deployed for security and military uses.

Drone racing is likely to be another new addition to city spaces. Just as the motor engine led very quickly to [motor sports](#), the availability of new technology and new skills will inevitably lead to competition.

Drone racing is already attracting international interest – there are a [number of competing leagues](#) and televised events and the future landscape could include UAV racing courses. Participants and audiences could be local, or – with the help of an internet connection – based anywhere in the world.

All of these rely on highly skilled UAV pilots – perhaps even people capable of operating multiple UAVs at a time. Linked to pilot training

will be the need for formal, accredited education and skills in UAV services management. Being able to handle a UAV will become a useful life skill for members of the general public.

Business opportunities

There will be plenty of opportunities for businesses and services relating to UAV provision, maintenance, development and management, as well as communications and safety technologies to meet the need for ultra-reliable and more sophisticated tech such as "first-person" vision goggles to control UAVs at a distance – not to mention systems for testing and licensing pilots.

The local, national and international UAV infrastructure also has real scope to transform the operations for [overseas aid and development](#). Equipped with cameras, UAVs could enable a greater understanding of changing situations and needs, and pinpoint the delivery of support and supplies.

We need high-profile trailblazers such as Prime Air for the technology to realise the drone market's potential. The hard work, though, is going to be behind the scenes, creating the safety mechanisms for each stage of UAV use, and putting in place laws that get the balance right between protecting civilians from harm and allowing this technology the chance to grow.

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