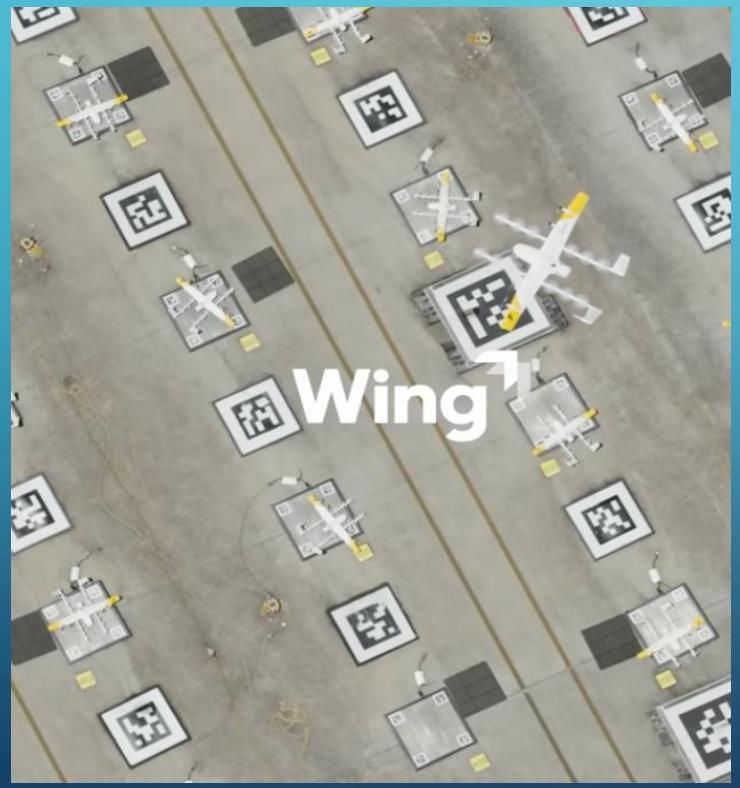
GOVERNANCE: AIRSPACE AND LAND USE PLANNING



LGA Advanced Air Mobility Webinar

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sasig

Strategic Aviation Special Interest Group

SCOPE OF THE PRESENTATION

- Air Rights – do they exist and if so in what circumstances?
- Current rules controlling use of airspace and how they are being applied in relation to AAM
- Implications for the approval, monitoring and enforcement current AAM operations and future infrastructure – role of CAA vs Local Authorities
- Are the current arrangements where they have little control over impacts what LA's want or do the need to be more proactive in arguing for what they need?
- There is certainly a requirement for clarity about Decision Rights, framework/process for decisions on Atypical Airspace and BLVOS drone operations/e-VTOL flights and supporting infrastructure and the role of Local Authorities in making or influencing them
- Above, will be key issues for Phase 4 of Future of Flight Programme – Phase 4; SASIG and LGA are engaged trying to look out for LA interests amongst policy-makers and regulators working to commercialise the sector
- To do this they need LAs across the country to be engaged and speak with one voice through them and in turn they will be kept informed and offered objective advice by the Drone Bureau

EXISTING GOVERNANCE – KEY DOCUMENT & CAA

- Civil Aviation Act 1982 as amended in 2012 and more recently
- Air Navigation Order 2016
- Air Traffic Management and Unmanned Aircraft Act 2021
- Air Navigation Directions 2023 (DfT) Droneport Design and Development Framework (CPC 2022)
- Relevant EU Regulations held over post Brexit
- CAP 3040: Unmanned Aircraft Operations in an Atypical Air Environment - Policy Concept (2nd Ed - 2024)
- **CAP 722: Unmanned Aircraft System Operations in UK Airspace – Guidance (Ed 9.2 -2024) provides an excellent summary of the above**

Role of CAA

- Design of airspace and generic flight rules
- Certification of Equipment, Companies and Pilots for BVLOS or CAP3040 environs by CAA
- Oversight and regulations for both private leisure vs commercial drone operations
- OCS (to become SORA) Approvals andliaise with police and HSE on enforcement action
- Required to consider safety, operational efficiency, overall airspace design, G-Class airspace, air prox/accidents, environment; but not land use and activities on the ground and the sensitivity of receptors to Aam activities

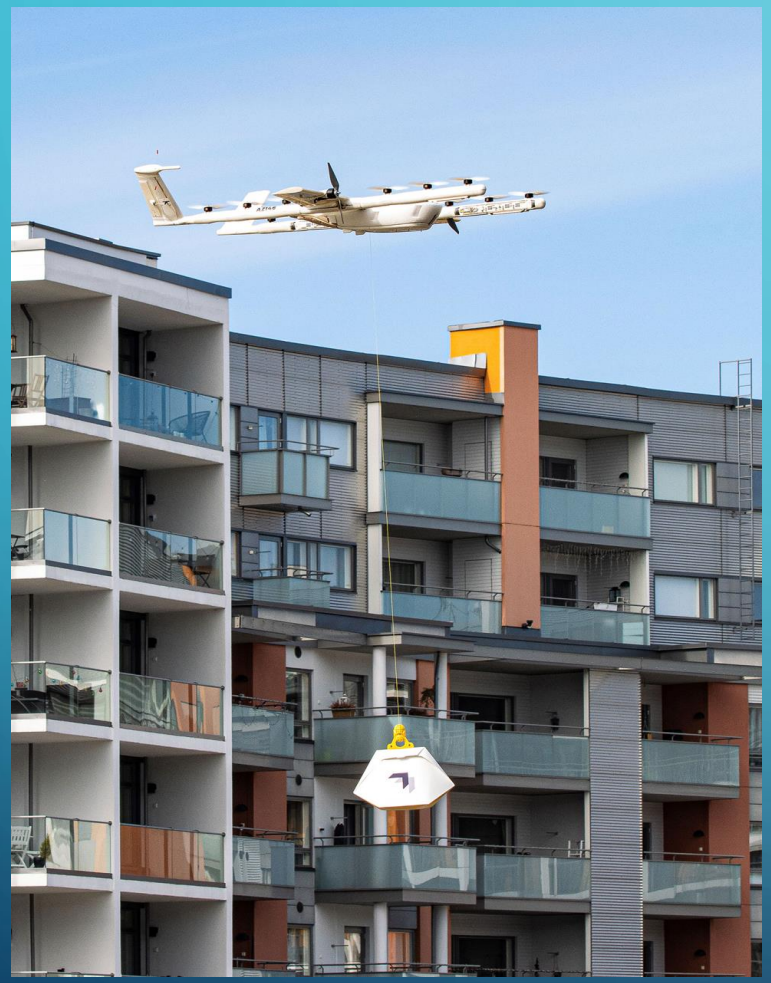
LARGE SCALE FIXED WING CARGO DRONES

Windracers Ultra TM – SATE Project in Highlands with Royal Mail

Pipistrel Cargo Drone: Nuuva V300 hybrid-electric VTOL unmanned cargo aircraft

Payload: 3 Pallets – 100 CuFt and up to 3 Tonnes

SMALLER DRONES FOR HOME DELIVERIES IN HIGH DENSITY URBAN ENVIRONMENTS



What controls are needed and who should enforce them? Role for LAs?

EXISTING GOVERNANCE CONT. ROLE OF LOCAL AUTHORITIES

- CAA has no requirement to consider on ground environment (other than for obstacles that could affect aircraft safety); **or**
- To consult LAs about lower airspace design and operating rules and SORA Approvals
- Temporary droneports can operated under PDRs at airfields, or off private land for 28 days before enforcement action can be taken
- Use of Byelaws only means of operational control – that produces and uncertain environment for operators
- MANNA and Wing.Com ops in urban areas indicate public resistance to high intensity use – will be directed at LAs, not CAA

MAJOR INFRASTRUCTURE WILL BE REQUIRED FOR LARGE SCALE COMMERCIAL DRONE OPERATIONS

Drone Nests and Vertiports will require significant low value land and green power, a location away from sensitive receptors access to main flight corridors

LA Stance to Futrure Infrastructure Requirements: Forward plan where sites are best located (pro-active); define site criteria but don't determine exact sites (passive) or respond to landowner, developer or operator proposals (Reactive)

DOWNTOWN MANHATTAN HELIPORT (E-VTOL OPS 2026)

Archer partnering with United
to Newark

Joby partnering with Delta Airlines to
JFK and La Guardia

- Commercial E-VTOL Operations being actively planned in US – New York, LA
- Progress may be slightly slower in UK due to EU OEM failures and order books of US manufacturers; but
- Planning of networks and the infrastructure that will be required is active already.

POTENTIAL ROLE LOCAL AUTHORITIES - INFRASTRUCTURE

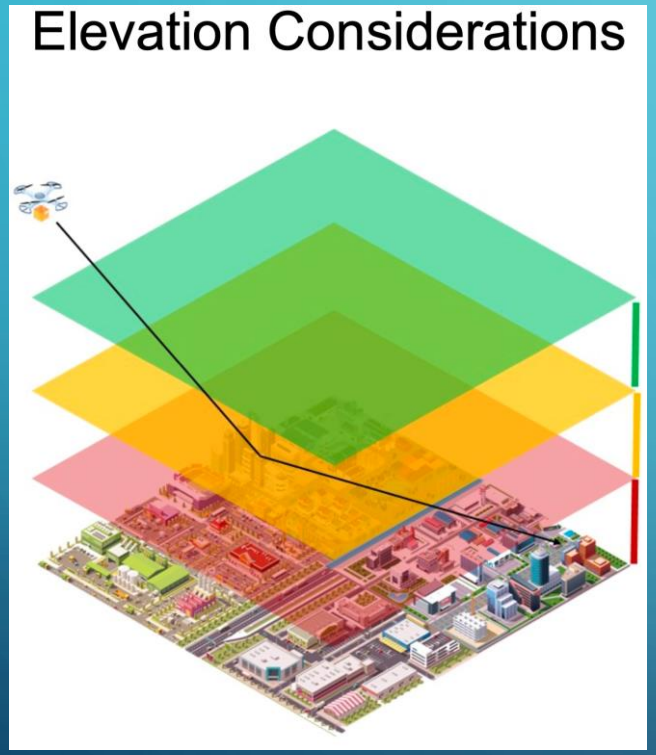
- Determining location of a network of sites and how they are:
  - Integrated with surrounding land uses (Development Plans)
  - Connected and dovetail with other forms of mobility (Local Transport Plans)
  - Contribute economically and socially to the local area (Economic/Environmental Strategies)
- Planning approvals for infrastructure and their terms of operation
- Potentially also ownership or licensing of landing zones for distribution (Droneports) and “Vertiports” for passenger and special mission operations – Lease or covenant provide an additional method of control

POTENTIAL ROLE LOCAL AUTHORITIES - OPERATIONS

- Currently on ground considerations are secondary to equipment capability, flight environment, conspicuity etc
- LAs could define the “no fly” zones (i.e. particular areas that need to be protected for safety, privacy or nuisance reasons - critical infrastructure – military/civil, prisons/schools/hospitals, nature reserves/tranquil areas, residential/public spaces)
- LAs could define permitted flight times or what types of flights face fewer restrictions; they could possibly even charge for movements at sensitive times of day or using non-standard corridors

Skyy Avantia 100: 65kg Payload

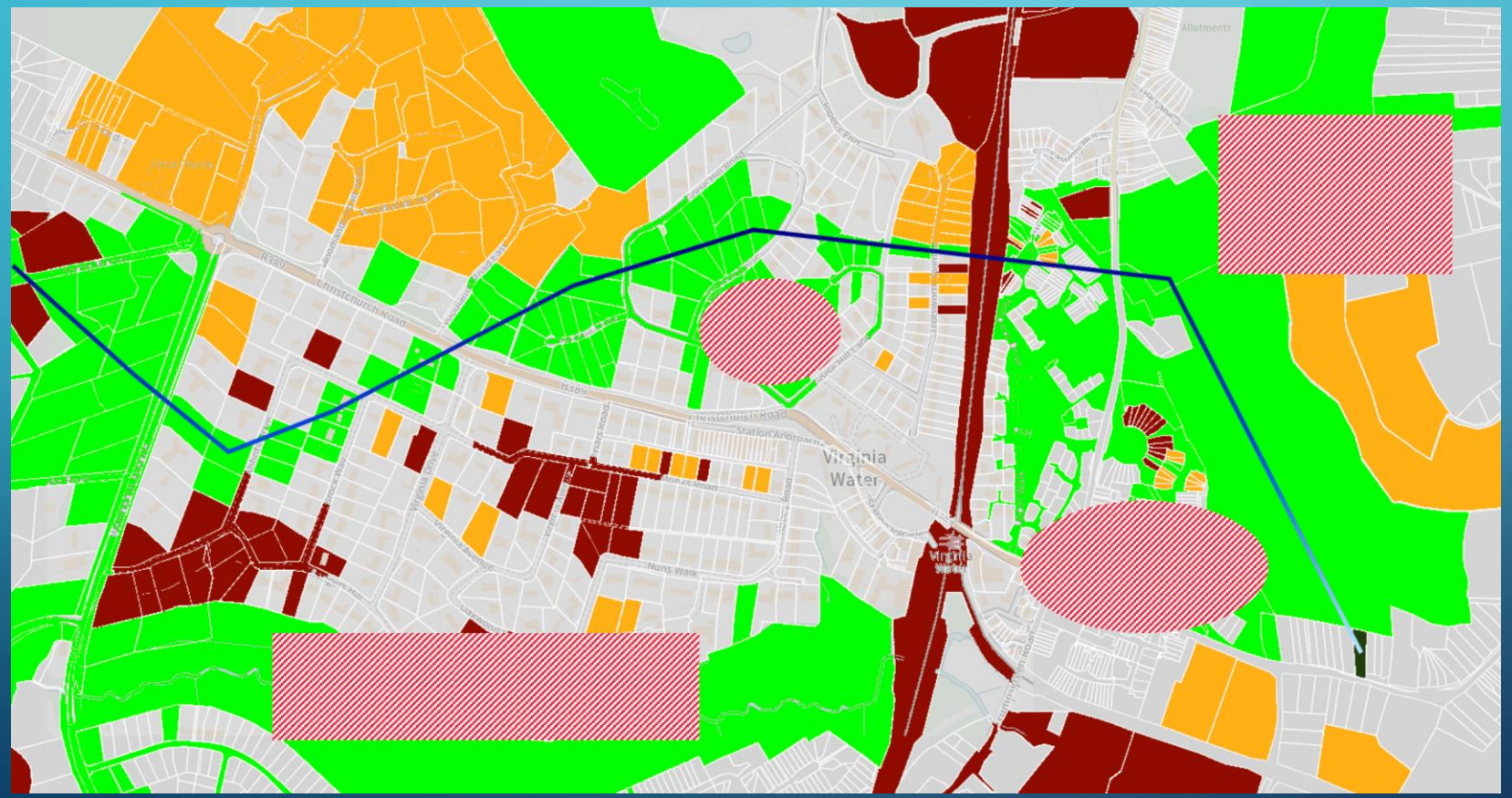
NEED TO ENGAGE WITH LA ABOUT OPERATIONS



Altitude of flight is important factor:

- Flights sufficiently high up (green area: over 1,500 ft) have less impact so operating restrictions less
- Lower to the ground (red area: under 500 ft) interactions with underlying land uses and activities intensifies and sensitivity of receptors to drome or e-VTOL operations (noise, visibility, privacy etc) increases
- In-between (yellow area: 500-1,500 ft) impacts are geared by vehicle size, flight level of operations, height of natural/built features, density of population, sensitivity of ground environment

INTEGRATING AIRSPACE AND LAND USE PLANNING



Sensitivity of land uses can be weighted, so Drone Operators can plot least disruptive routings and high intensity corridors