Future Airspace Strategy
Modernising the UK’s airspace system

Aviation relies on the effective management of the scarce resource that is airspace to ensure that passengers, businesses, the military, sports and leisure flyers continue to enjoy the many benefits aviation brings.

The basic structure of the UK’s airspace - the routes aircraft fly and how airspace is allocated between users such as airlines, military and private aircraft - was developed over forty years ago.

Over this period there have been huge changes including a hundred fold increase in demand for aviation, a massive change in technology, greater environmental concerns and much closer links with international counterparts.

Over the years, the UK’s airspace system has become complex and increasingly difficult to manage as it has been changed to meet different demands. In order to meet future demand safely and efficiently a radical rethink is required.

The CAA, together with the Department for Transport, Ministry of Defence and NATS, is developing a proposal – the Future Airspace Strategy - to provide the safest and most efficient airspace possible, reduce delays, which is aligned with European developments and technological changes, reduces the impact of aviation on the environment and balances the needs of all airspace users.

Background

The current global recession has curbed demand at some UK airports, but experience of previous setbacks, following the September 11th terrorist attacks and during the first Gulf War, suggest demand will increase again as the downturn ends.

The Future Airspace Strategy (FAS) outlines the proposal for UK airspace up to 2030 to be able to safely handle reasonable demand, and has been subject to an extensive consultation that was completed in February 2011.

With FAS is in place it will allow others (NATS, airports, airlines etc) to develop and introduce new procedures and systems that bring about the proposed benefits.
Key Considerations

Safety: The UK has an excellent air safety record. The implementation of a modernised airspace system is designed to continuously improve safety levels, while at the same time addressing the challenges presented by new technologies and revised operating procedures.

Capacity: It is likely that the pressure on the UK’s airspace system will continue to grow over the long term with a changing profile of demand from different user groups. There will be an increased requirement to manage supply and demand and balance the needs of different airspace users.

Efficiency: Airspace is a scarce resource. To make the most efficient possible use of it a more flexible and integrated airspace system needs to be developed.

Environment: The environmental impact of air travel, both locally in terms of noise and air quality and globally in terms of climate change, plays an important role in determining how UK airspace should be developed. The new strategy makes proposals to enable aircraft to fly in more environmentally efficient ways while maximising capacity benefits and improving safety.

Allocation and Airspace Regulation: There is an increasing demand from all users for more access to airspace – in many cases these demands conflict – for example airline requirements could result in more controlled airspace to safely manage their services that may constrain other users, while the military and private fliers would like to see fewer restrictions.

International compatibility: The UK is part of the Single European Sky (SES) development and will introduce new technologies developed as part of the SES research programme (SESAR) in conjunction with pan-European aspirations. These systems will also need to integrate with systems in North America for transatlantic operations.

Security: National security is a priority and the shared civil and military, Joint and Integrated, management and operation of airspace must be maintained.

What FAS proposes

Make airspace simpler and more flexible: Moving away from the current rigid structure of routes and different types of airspace. This would allow different users access to the same area of airspace as and when demand dictates – for example during early morning and early evening an area of airspace may be assigned to commercial operations when they are busiest. At times of lower demand it could be made more freely available to other users.
**Take advantage of the latest technology:** Advances in the way aircraft navigate (increased accuracy and more use of satellite navigation) and communicate with controllers (direct data transfer rather than voice communications), tied to new technology for air traffic control (advanced computer tools for controllers) will allow increases in capacity and efficiency.

**Introduce more flexible routes:** Allow pilots and controllers, using computer tools, to make more direct or flexible routes for aircraft that reduce delays and are more efficient – reducing the amount of fuel burnt and therefore reducing the environmental impact.

**Share systems, technology and airspace across Europe:** By removing national boundaries in the air, systems that are incompatible and duplicated and procedures that change from country to country, it will allow a more seamless and efficient system for aircraft to use.

### The Benefits

The proposals outlined in the Future Airspace Strategy aim to produce significant benefits in the following areas:

**Safety:** enabling direct increases in the safety level and the ability to maintain current levels of safety while enabling benefits in other areas

**Capacity:** enabling air navigation service providers to supply additional airspace capacity safely, while minimising the expansion of controlled airspace

**Environment:** reducing aircraft greenhouse gas emissions and noise impact

**Cost:** enabling users and suppliers to operate in the most cost effective way

### Next Steps

Following an extensive consultation process the FAS is set to be published in June 2011. The Strategy can then form the guiding basis for a raft of projects that will transform the UK’s airspace system and make it effective out to 2030.

Among the first such projects will be the work to change the UK and Ireland Transition Altitude. The Transition Altitude is the height where aircraft change from operating their altimeter by reference to an altitude derived from a local pressure setting, expressed in feet (normally above mean sea level), to an area-wide standard pressure setting that allows the flight to be conducted using an internationally agreed set of Flight Levels.

The UK Transition Altitude is not currently consistent across the UK and varies between 3,000 ft and 6,000 ft depending on location and type of airspace. This was set in the 1950s when aircraft instrumentation and air traffic control systems were much less accurate and aircraft performance was lower. Modern commercial aircraft reach these sorts of altitudes extremely quickly on departure, and the change in operating techniques as the aircraft passes through the Transition Altitude adds to the complexity and workload for pilots at a critical stage of the flight.

A change to the Transition Altitude would also ultimately bring environmental, efficiency and capacity gains by simplifying the modernisation of the UK’s airspace system as proposed by the Future Airspace Strategy.

Subject to the outcome of the consultation, the new Transition Altitude is expected to be implemented during the winter of 2013/14.

---

**For further information please contact:**

Tony Rapson, Policy Coordinator, CAA Directorate of Airspace Policy.
e-mail: tony.rapson@caa.co.uk