# Leeds Bradford Airport

# Airspace Change Proposal 2017

**Current Position – Ascents & Descents**

1. Local airspace is located between 0 ft – 7,000 ft, national airspace is located between 7000 ft – 19,000 ft and international airspace is above 19,000 ft.
2. Aircraft presently take off at around 95% engine capacity to make sure they get up to an altitude of 3,000 ft as soon as possible. At 3,000 ft the impact of the noise on the ground is reduced.
3. Before ascending beyond 7,000 ft to national airspace however, contact with national air traffic control needs to be made and approved. This can take time to confirm, especially in busy periods so the plane often has to stop the ascent by powering down the engines and adopting a level trajectory.
4. Once approval is granted by national air traffic control, the engines can be powered up and the ascent can continue. This process is noisy and burns more fuel thus increasing $CO_2$ and $NO_x$ emissions. This process can take place more than once depending on what other air traffic is in the vicinity, and whether there is a need to move it within the local air space.
5. A similar approached is adopted for descents as they pass through different airspace control areas.

**Airspace Change Proposals – Controlled Ascents & Descents**

1. Local airspace will be increased to 12,500 ft with national airspace between 12,500 ft – 19,000 ft and international airspace unaffected above 19,000 ft.
2. Aircraft will take off at a reduced thrust capacity which is quieter than the current protocols and uses less fuel, so there are less $CO_2$ and $NO_x$ emissions.
3. Ascents are consequently shallower which when coupled with the higher local air space ceiling of 12,500 ft, means there's ample time to make contact with national air traffic control and seek the authorisation to rise into national air space. This means there is no need to adopt the practise of powering off and powering on before reaching national air space thus reducing noise, $CO_2$ and $NO_x$ emissions.
4. A similar protocol will be adopted for aircraft descents where a greater use of gliding techniques will be used to smooth the landing trajectory.

**Current Position – Standard Arrival Routes (STAR's)**

1. LBA does not operate STAR's as the airspace around the Airport is of an insufficient size to accommodate them. Arrival routes have to be intensively managed by air traffic controllers to ensure safe separation distances between planes are maintained. With the increased in air traffic movements this process is becoming difficult to manage.

2. Current ground based navigation beacons used by aircraft are becoming obsolete and will be phased out.

**Airspace Change Proposals – Satellite Based Standard Arrival Routes**

1. The introduction of STAR's within the proposed increased volume of air space will allow the effective management of the environmental impact of aircraft operations. This will be achieved by being able to provide high levels of predictability for airline crews and air traffic controllers on arrival routes. Planes will be guided more accurately thus reducing air miles flown and therefore fuel used and their environmental impact.
2. Ground based navigation beacons will be replaced with Global Navigation Satellite Systems (GNSS) which will allow more accurate tracking of aircraft.
3. The combination of STAR's and GNSS at LBA will reduce the amount of air traffic controller interventions thus increasing safety levels and efficiency of operations in how aircraft are managed.
4. All departing aircraft will continue to use the existing Noise Preferential Route albeit they will be flying within that NPR much more accurately.