



Department  
for Transport

# Options Assessment

Air Navigation Directions and Air Navigation  
Guidance

November 2025

Department for Transport  
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# 1. Summary of Proposal

The Transport Act 2000 enables the Secretary of State for Transport to provide the Civil Aviation Authority (CAA) the function of approving changes to the design of UK airspace. The detail of the CAA's responsibilities are set out in the Air Navigation Directions.

The Air Navigation Guidance is the document which requires the CAA to take account of any guidance on environmental objectives in line with the objectives and responsibilities as set out within the Air Navigation Directions. The Air Navigation Guidance was last updated in 2017.

The Air Navigation Directions and Guidance inform the CAA's detailed Airspace Change Process (CAP1616) which is used by industry to submit and apply for changes to UK airspace. It also sets out the CAA's decision-making process.

The modernising of UK airspace structures is a key component of the Airspace Modernisation Strategy. Airspace modernisation is a key programme to support radical change within the aviation sector, including airport expansion at London Heathrow and Gatwick airports, and the introduction of new and innovative new aircraft such as drones.

To support future and emerging Airspace Modernisation priorities such as airport expansion and coordinating airspace change in the London region, updated Air Navigation Directions and Guidance are required to futureproof the regulatory framework for the CAA.

## 2. Strategic case for proposed regulation

### Background

The UK's airspace is one of the most complex in the world, and its basic design has not changed significantly in 70 years following the introduction of commercial air transport. In the 1950s there were around 200,000 air traffic movements per year in UK airspace, compared to over 2.5 million flights in 2024. Each day around 6,000 aircraft fly in UK airspace, carrying 600,000 passengers.

Historically, aircraft would primarily navigate UK airspace using ground-based navigational aids<sup>1</sup> (NAVAIDs). Significant advances in navigational technologies such as satellite-based navigation systems have enabled aircraft to fly more accurately and predictably.

The Government's airspace modernisation programme is a key national infrastructure project that aims to increase the efficiency and resilience of UK airspace, enable new users to safely share the skies, whilst reducing the environmental impact of aviation. It will modernise UK airspace by updating its structural design, improve the systems which we use to manage it, and use new technology to improve how air traffic safely shares the skies.

The Department for Transport (DfT) and the UK Civil Aviation Authority (CAA) are working together as co-sponsors for the modernisation of UK airspace. These efforts are underpinned by the Airspace Modernisation Strategy (AMS) which sets out the ends, ways and means of modernising airspace through a series of 'delivery elements'. Originally published in 2018, it was refreshed in 2023.

The CAA is the UK's independent aviation regulator and is responsible for air navigation functions, including overseeing and regulating how airspace is changed. The Transport Act 2000 underpins the regulatory framework for airspace change and provides the Secretary of State for Transport the powers to issue directions to the CAA to carry out these functions. The details of which are contained in the Air Navigation Directions.

The Air Navigation Guidance requires the CAA to take account of any guidance on environmental objectives given to it by the Secretary of State when it is deciding whether to approve an airspace change. It also includes guidance for the aviation industry to consider when submitting applications for airspace change.

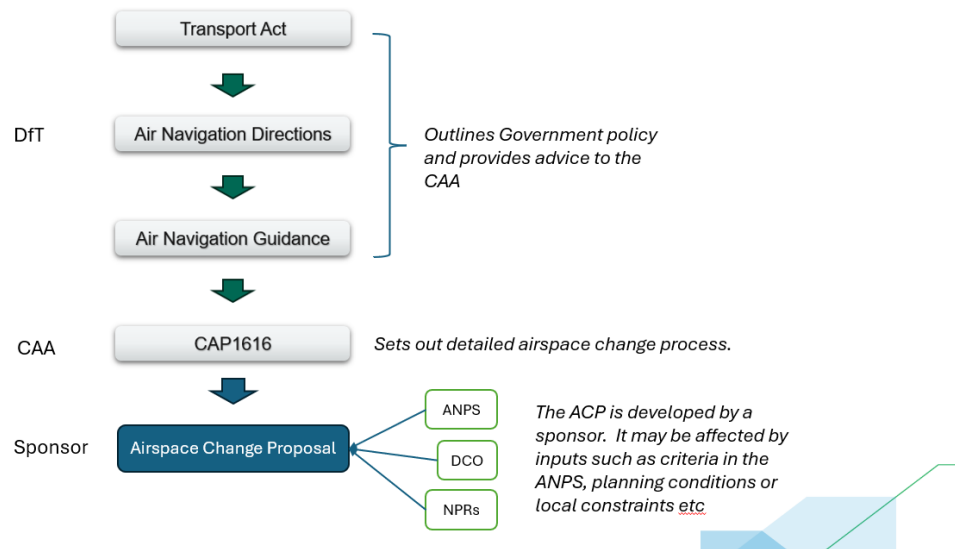
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<sup>1</sup> NAVAID – Radio-based infrastructure which provides aircraft with inflight navigational guidance.

The Air Navigation Directions and Guidance inform the CAA's detailed Airspace Change Process (CAP1616) which is used by industry to submit and apply for changes to UK airspace. It also sets out the CAA's decision-making process. CAP1616 sets out the detailed process which must be followed by applicants, including on undertaking environmental assessments and consultation and engagement with stakeholders.

Figure 1 below sets out the regulatory framework for undertaking Air Navigation Functions in the UK.

## Government Policy - Air Navigation Functions



The aviation environment is changing, driven by economic opportunities of airport expansion and developments in technologies which are shaping how aircraft perform and operate (i.e drones). These require a regulatory framework for airspace which recognises these unique operations, and complexities of the aviation sector, whilst ensuring that the continued growth and success are undertaken in a sustainable manner.

## Problem Under Consideration

Airspace modernisation is a complex and dynamic programme. It requires the Government and regulation to be at the forefront of technological advances and opportunities for growth, whilst maintaining a high level of safety and meeting obligations on sustainability. The Airspace Modernisation Strategy covers 9 different elements and ranges from the redesign of airspace structures around major airports to satellite-based navigation to the data infrastructure required. The diversity of the activity, and the longevity of the activity requires Government to be dynamic in how policy is developed and applied.

Airspace change is by its nature highly complex, and a significant number of airspace change proposals fail on their first attempt to be approved the regulator. Whilst there are many fundamental issues which contribute to this challenge, the current regulatory framework does not provide the CAA and industry with the applicability and clarity of the directions and guidance which enable an effective regulatory process leading to over

regulation, administrative burdens and loss of confidence in the airspace modernisation programme.

The existing Air Navigation Directions and Guidance are convoluted, burdensome and irrelevant in places for the CAA and industry to digest and apply. The detail has expanded over previous iterations and contain a vast variety of information which exceeds the original intentions and purpose of the documents.

As such, the Directions and Guidance are difficult to interpret and do not provide users confidence that they are correctly following Government guidance. This exposes them to legal challenge from opposing stakeholders who argue that the process has not been correctly followed to have decisions overturned. This is particularly the case where Government guidance provides recommendations or suggestions but stops short of mandating action. The language and tone within the current guidance is suggestive to a point that it is frequently interpreted as prescriptive. This frequently results in industry and CAA undertaking excessive actions, often which are irrelevant to their particular airspace change, just to minimise the risk of challenge of not following Government guidance. This directly results in additional time, effort and cost leading to delays in implementing airspace change, or in extreme circumstances airspace changes not happening.

Current feedback from the CAA and industry is that without changes to the current Directions and Guidance, it is highly unlikely that key ambitions of the airspace modernisation programme (i.e. Heathrow expansion) can be delivered effectively and within the required timescales. The Directions and Guidance lack the robustness and flexibility to enable the CAA and airport sponsors to develop, design and implement airspace change which meets local operational needs to support the increasing growth and demand of air travel.

This inflexibility also limits the UK's ability to reduce the environmental impact of air travel on a per flight basis, as aircraft fly inefficient routes, leading to increased fuel burn and carbon emissions. Updating of airspace structures can reduce these impacts with immediate effect.

## **Evidence to Support the Problem Statement**

### **UK Airspace Design Service (UKADS) Consultation**

The UKADS consultation was launched 22 October 2024 and sought feedback from industry on government plans to implement an airspace design service to coordinate and deliver airspace change, originally within the London region. Feedback obtained during the consultation identified the need for changes to the CAA's existing airspace change process (CAP1616), and therefore by de-facto changes to the Air Navigation Directions and Guidance which underpin this regulatory process. This was a reoccurring theme raised by airlines, airports and NATS throughout the consultation process.

### **Process Cost**

The cost of applying the requirements set out in the current Directions and Guidance has been labelled by the CAA and industry as excessive and disproportionate. Ambiguity and burdensome / duplicative requirements are leading to increased costs on the CAA and industry to ensure compliance with Government policy. Sponsors are also undertaking

potentially excessive action to mitigate the risk of legal challenge of not following the current unclear process. CAA have stated that a recent initial environmental assessment for an ACP cost more than £500,000. Additionally, of the 35 ACPs reviewed to date, they have not showed a significant impact on the environmental factors to meet the threshold for a full assessment to be performed. This has added significant time and resourcing cost to the CAA.

### **Inefficient use of existing airspace**

Utilisation of current airspace is inefficient leading to increased carbon emissions as aircraft are flying longer routes than necessary. This is due to old airspace designs which conform to historical and current Air Navigation Directions and Guidance. Analysis contained within the Initial UKADS DMA<sup>2</sup> estimates that the inefficient use of airspace is responsible for nearly 1.4 million tonnes of “excess” CO2 emissions across the four airspace modernisation regions (Scotland, West, Manchester and London), ranging from 33,740 tonnes of excess emissions in the Scottish region to nearly 1.2 million tonnes in the London region.

### **CAA Annual Report**

The CAA are required to provide the Secretary of State an annual report of progress on airspace modernisation. The 2024 report identified delays and challenges to airspace changes put forward by airport sponsors. It cited:

“Some airports have not progressed their airspace change proposals (ACPs) due to applications not meeting the required regulatory standard. This has created delays on neighbouring airports and the wider Future Airspace Strategy Implementation (FASI) programme. There have also been funding challenges especially amongst smaller airports, which has resulted in some airports withdrawing from the programme. The RAG rating for this element has remained at red as a result.”

### **Industry Engagement**

Formal engagement with stakeholders, including NATS, airports and airlines has provided DfT feedback on the airspace change process and requests for improvement such as simplification, removal of duplication, and more proportionate guidance on the consultation process. Of note this feedback has been received from those airports who have struggled to progress their airspace change. DfT hold formal engagement with industry and attend industry forums on a quarterly basis.

### **Government Failures**

The Government Failure explained below provides the rationale for intervention:

Government Failure 1 – Bureaucracy and Red Tape / Efficiency. The existing Air Navigation Directions and Guidance are prescriptive in nature and provide suggestive language to the CAA on how they are to perform their air navigation function. This approach does not allow for a proportionate based process to be developed by the CAA, but rather reactive to a detailed set of requirements from Government which do not take into account the dynamic

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<sup>2</sup> [The Transport Act 2000 \(Air Traffic Services\) \(Amendment\) Order 2025](#)

and diverse nature of airspace change. This has inevitably created a burdensome and excessive process, as CAA and industry look to undertake a process which can demonstrate following Government advice comprehensively to avoid any risk of legal challenge. This has obstructed airspace modernisation activities happening in a reasonable timescale.

### **Why Government Intervention is Necessary**

Changes to the Air Navigation Directions and Guidance are required to ensure that the powers and expectations being provided to the CAA and industry are clear, concise, accurate and proportionate whilst reflecting the Government's policy aims and priorities. These changes will enable the CAA to implement airspace changes which are aligned with the broader objectives of the Airspace Modernisation Strategy (AMS).

Intervening in this manner can improve the efficiency of the airspace change process, enabling more timely decision making to help realise the benefits of airspace modernisation sooner. This will be achieved through removing ambiguity within current guidance and providing clearer expectations on the CAA. It will remove burdensome processes and duplication of effort, thus reducing operating costs and encouraging greater investment by the aviation sector.

The Air Navigation Directions and Air Navigation Guidance form part of the overarching regulatory framework for airspace change set by Government. These statutory documents are issued by Government, under powers of the Transport Act 2000. It is therefore the only means of updating the directions and guidance provided to the CAA for the purpose of regulating airspace change.

### 3. SMART objectives for intervention

#### Policy Objectives, Intended Outcomes and Indicators of Success

The aim of this change is to enable the Air Navigation Directions and Guidance to enable a more flexible and timely delivery of airspace change, whilst meeting and maintaining a high standard of aviation safety, supporting emerging changes to the aviation landscape (i.e. drones) and enabling economic growth (airport expansion) in a timely and sustainable manner.

To deliver this policy aim effectively, the following critical success factors (CSFs) are applicable:

- CSF1: Robust regulatory framework – A clear and efficient regulatory framework for airspace design is essential to maintaining high standards of safety, whilst ensuring changes continue to support our environmental obligations.
- CSF 2: Flexibility and responsiveness – The ability to design and implement airspace changes quickly and effectively, to meet the demands of air travel whilst minimising the environmental impact due to operational inefficiencies, reducing cost to airlines and potentially passengers.

The overarching policy aim can be broken down into two key objectives. The intended outcomes and indicators of success, which will be used to measure progress and the achievement of each objective, have also been included.

**Objective 1** – Provide clear, concise and unambiguous directions and guidance to the CAA. Government must set out to the CAA what is legally required and how we expect these directions to be implemented through clear and interpretable guidance. This should set out the operational parameters for overseeing and regulating airspace change, including how CAA are to report and engage with Government on their role as airspace regulator to ensure we are sufficiently assured of their delivery. Directions and guidance must take into account the emerging requirements of all airspace users, including drones, and how airspace change at major airports can contribute to economic growth and decarbonisation efforts of the sector. They must reduce the administrative burden of the process, reducing cost and duplication of processes. As the Directions and Guidance are DfT owned documents, it is within our control to implement these changes.

Indicators of success for objective 1 include:

- Streamlined processes which remove unnecessary duplication, whilst still achieving the high standards of safety and regulation for airspace change.
- Reduced costs and administrative burdens for the aviation industry and CAA.
- Increased rate of airspace change proposals being successfully approved by the CAA.

**Objective 2** – Enable airspace modernisation activities to support wider aviation ambitions on Heathrow Expansion, Future of Flight and delivery of a new UK Airspace Design Service (UKADS). The UK needs the ability to be responsive to emerging technologies and opportunities for economic growth. Airspace modernisation is a key enabler to realising benefits provided by the expansion of Heathrow Airport and new and innovative technologies such as drones. The regulatory processes must be robust and fit for purpose to enable the effective implementation of new airspace structures.

Indicators of success for objective 2 include:

- Ability to respond flexibly to changes in the aviation landscape and implement airspace changes to realise economic, social and environmental benefits.
- A more agile regulatory process which considers bespoke requirements and local options to best meet the needs of the sector.
- The regulatory process set by the CAA is underpinned by the Directions and Guidance issued by the DfT to the CAA. The CAA must consider these statutory documents when creating a more agile regulatory process, and therefore DfT have an influence on achieving success in this area.

## **Time Frames**

Changes and implementation of revised Air Navigation Directions and Guidance are expected to take place during Q2 2026 (April – July), considering the requirement to lay any statutory instruments. To support these timescales, a public consultation on the proposed changes is aimed for October 2025.

Following implementation of the revised Directions and Guidance, objective 2 would be achieved with almost immediate effect as work begins on redesigning the London Airspace, including activities to support an additional runway at Heathrow which requires airspace design to be undertaken many years in advance of infrastructure works.

## **Government Missions**

Updated Air Navigation Directions and Guidance will improve the deliverability of the airspace modernisation programme and enable benefits to be realised in a timely manner. This intervention will support the Government's mission to kickstart economic growth, facilitating a reduction in both airport and airline operating costs (in the form of reduced fuel burn) and flight delays, and the Department's aim to deliver greener transport, facilitating reduced carbon emissions and noise per flight. Reduced operating costs and delays are

likely to increase the attractiveness of the UK aviation sector, thereby potentially inducing greater levels of investment and consequent growth.

In addition, updating the Directions and Guidance will ensure regulation takes into account the integration of new airspace users, such as drones, aerial taxis and spacecraft. Without its introduction, the significant economic potential of these nascent industries cannot be fully realised.

The Government has committed to reduce regulatory administrative costs by 25%. While it is difficult at this stage to estimate exactly how much costs will fall by, there will be process efficiencies and simplifications associated with improving the directions and guidance provide to the CAA. The magnitude of any savings will be explored through the consultation process with industry.

## 4. Summary of long-list and alternatives

Three options were considered at the long list stage. These are set out below:

### **Option 1 – Do Nothing.**

Under this option, there would be no government intervention, and the existing Air Navigation Directions 2023 and Air Navigation Guidance 2017 would remain as the extant regulatory framework documents for airspace modernisation.

Critical airspace modernisation activities which support the implementation of a new UK airspace design service and airport expansion (Heathrow) would be unable to be delivered, as the Directions and Guidance do not currently make allowances for the activities required to deliver these projects.

Where existing airspace changes continue, sponsors will follow the existing process set by the CAA. These processes are burdensome, inefficient and in places require nugatory or duplicative effort. Testing and trials cannot be delivered as current policy does not consider emerging aircraft type (i.e. drones).

In some cases, airspace change proposals may not be pursued. The complex and unclear process creates legal risk of challenge, where opposing stakeholders challenge the CAA's decision-making process. More widely, this risks delivery of the wider airspace modernisation programme undermining Government commitment.

This option would not only fail to meet the critical success factors and intended policy objectives but also allows existing operational inefficiencies to continue. As a result, this option was removed from consideration.

### **Option 2 – Non-Regulatory Directions and Guidance.**

Under this option the DfT would provide informal, non-regulatory guidance to supplement the existing directions and guidance. This option would allow Government to address ambiguity within the current documents to provide clearer and more concise guidance whilst not requiring to undertake any formal regulatory changes. This would allow changes to be made without consultation and in a shorter time frame.

However, any such document could not supersede the existing Directions and Guidance as these are statutory documents which the CAA must follow / consider under the Transport Act 2000. Any supplementary guidance could only reinforce current policy.

Reinforcing current policy would not go far enough to support CAA improve their airspace change processes. The CAA are required to fundamentally change and improve their processes to support the timely implementation of new airspace structures in the UK to support airport capacity and growth.

Changes are required to policy such as environmental considerations, strategic prioritisation and activities required to support new users (i.e drones) which are not covered within the existing directions and guidance. These new policies and government priorities would only have effect if they were to be within statutory documents. This is the primary mechanism to ensure that CAA take these policy changes and government priorities into account in delivering their air navigation function.

This option would not only fail to meet the critical success factors and intended policy objectives but also allows existing operational inefficiencies to continue. As a result, this option was removed from consideration.

**Option 3 – Do Minimum – Light touch review of AND and ANG to make existing policy clearer and unambiguous.**

See section 5.

**Option 4 – Do Maximum (Preferred) – Update AND and ANG to provide new policy directions and guidance on emerging Government priorities for Airspace Modernisation.**

See section 6.

### **Small and Micro Business Assessment (SaMBA)**

As set out in the Evidence Base section, it is expected that approximately 133 current or recent airspace change sponsors will be required to undertake some level of familiarisation and transitional activities as a result of the measure. These organisations are diverse in type and include: commercial aerodromes, air navigation service providers, recreational aerodromes, aerospace manufacturers, and innovative aviation technology companies.

Due to the number and variety of impacted organisations, it has not been possible to provide an estimate of the number of micro (1-9 employees), small (10-49 employees), medium (50-249 employees) and large organisations (250+ employees) that will be affected by the measure.

Of the affected organisations in scope of the measure, it is likely that commercial aerodromes will face the most significant familiarisation and transition costs due to a) the number of ACPs they are likely to be involved in and b) the relative complexity of those ACPs compared with more straightforward ACPs that are likely to be undertaken by other organisations. As a result, it has been deemed proportionate to consider the size profile of these organisations only, instead of expending significant effort assessing the size or organisations that will face minimal impacts.

It has not been possible to assess the size of all commercial aerodromes due to a lack of suitable data. However, the size of aerodromes within the Airspace Modernisation Masterplan has been assessed in previous analysis conducted by DfT. Of the 20 airports included in the latest iteration of the masterplan, it was estimated that there was one micro firm, 10 medium sized firms, 8 large firms and one Ministry of Defence run airport<sup>3</sup>. In addition, a significant proportion of ACPs are sponsored by NATS, which has over 4,500 employees<sup>4</sup> and is therefore also categorised as a large firm.

It is likely that any impacts of the measure will scale according to the complexity of the typical ACPs undertaken by an organisation, and it is likely that larger organisations will generally undertake more complex ACPs due to the complexity of their immediate airspace. As the measure is primarily beneficial to ACP sponsors, it is therefore likely that large organisations will experience larger benefits compared with smaller organisations.

However, given the policy is intended to be beneficial for all organisations, it would not be appropriate to include any exemptions or mitigations based on organisational size.

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<sup>3</sup> Categorisations based on latest available annual accounts from Companies House. Note that Manston Airport is not currently an operating airport.

<sup>4</sup> [Company - NATS](#)

## 5. Description of shortlisted policy options carried forward

From the long list, two options were taken forward to the shortlist.

### **Option 3 – Do Minimum – Light touch review of AND and ANG to make existing policy clearer and unambiguous.**

This option involves reviewing the Air Navigation Directions and Guidance to identify areas of improvement to the language, style and tone to afford greater clarity to the CAA and aviation industry on our instructions and expectations for airspace change.

It will consider where processes and guidance can be tightened up to avoid duplication, and nugatory effort. This will reduce administrative costs for the industry through ensuring only activity which is required takes place. It will also improve the language, so the documents make clear where an activity is mandatory, versus optional to avoid overcomplicating process to limited benefit. This will partially reduce the risk of legal challenge as Government direction will be clearer and afford the aviation industry greater confidence in the process and their compliance.

This option will also remove unnecessary and irrelevant information which is not required the purpose of the Air Navigation Directions and Guidance.

This option meets Objective 1 through providing clear and unambiguous directions and guidance to the CAA and industry on airspace change. However, due to this option not updating policy or making any statutory changes to the CAA's regulatory function, this option does not meet the requirements of Objective 2.

A quick glance options summary table has been produced below. This highlights if each option would meet the overall policy objectives and mitigate the identified market failures.

Table 1: Options Summary Table

| Options Considered | Does Each Option Meet Policy Objectives / Mitigate Government Failures? |
|--------------------|-------------------------------------------------------------------------|
|--------------------|-------------------------------------------------------------------------|

|                                                             | Key:    Yes                      To An Extent                      No                    |                                                                                                                                                                                              |
|-------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                             | Objective 1 – Provide clear, concise and unambiguous directions and guidance to the CAA. | Objective 2 – Enable airspace modernisation activities to support wider aviation ambitions on Heathrow Expansion, Future of Flight and delivery of a new UK Airspace Design Service (UKADS). |
| Option 1: Do Nothing                                        | No                                                                                       | No                                                                                                                                                                                           |
| Option 2: Non-Regulatory                                    | No                                                                                       | No                                                                                                                                                                                           |
| Option 3 – Do Minimum – Light touch review of AND and ANG   | To An Extent                                                                             | No                                                                                                                                                                                           |
| Option 4 – Do Maximum (Preferred) – Full update AND and ANG | Yes                                                                                      | Yes                                                                                                                                                                                          |

## 6. Description of preferred option and explanation of the logical change process whereby this achieves SMART objectives

### Preferred Option and how it Achieves Policy Objectives

**Option 4 – Do Maximum (Preferred) – Update AND and ANG to provide new policy directions and guidance on emerging Government priorities for Airspace Modernisation.**

Option 4 is an extension of Option 3 and goes further to reflect policy changes which are required to meet the needs of emerging airspace modernisation priorities (e.g. airport expansion, UKADS and Future of Flight) which are not currently captured as part of the existing regulatory framework.

Option 4 includes the administrative changes to the directions and guidance as outlined in paragraph 37. In addition to this, this option would review the directions and guidance in detail to identify where Government policy could be improved to support deliverability of airspace modernisation. This would include but not be limited to:

1. **Strategic Policy:** Setting new Government policy on how airspace design must prioritise safety, capacity, noise and carbon emissions. Setting the precise altitude at which these factors must be prioritised within an airspace design, including implementing new airspace design priorities which lower the prioritisation of noise considerations in the airspace design from 7,000ft to 4,000ft as the preferred proposal. The consultation will be used to establish whether other altitudes are viable (e.g. 5,000ft or 6,000ft).
2. **Environmental:** Enabling environmental assessments already undertaken as part of other processes (e.g. planning) to be utilised for the purpose of an airspace change. Removing the need to undertake environmental assessments for some specific airspace proposals (e.g. drones).
3. **Consultation & Engagement:** Reduce the criteria for the call in process, including setting a definitive time limit. Provide improved guidance on how to undertake the consultation process.

4. Operational: Afford industry greater flexibility to design more localised options, which best meet their operational need. Extending the period permitted for emerging new aircraft to undertake tests and trials in UK airspace.
5. Procedural: Improve the efficiency and streamline processes to avoid duplication of effort, improve delivery timescales and reduce administrative burdens.
6. Ambiguity: Review current guidance and improve the language to be clearer and more concise on government policy.

The aim of these policy changes is to primarily improve the deliverability of airspace changes by providing industry greater flexibility and scope to design and propose options which best fit their individual needs. These changes reflect the diverse activity of airspace change (e.g. airport airspace structure versus short term drone trial) and include a range of measures which capture the entirety of airspace change activity. It also provides the CAA greater discretion to consider applications considering the type of activity, local operational needs and stakeholders impacted.

How this option achieves the policy objectives, mitigates identified government failures, while aligning strongly with the identified Critical Success Factors (CSFs) is explained below:

#### **Objective 1 – Provide clear, concise and unambiguous directions and guidance to the CAA.**

Reviewing and rewriting the directions and guidance will ensure that Government policy and guidance is well understood and can be implemented accurately and with confidence. Where existing language and / or processes are ambiguous or duplicative, these will be addressed to ensure that processes are streamlined, appropriate and proportionate for the range of airspace modernisation activities. It will address that not one size fits all and that tailored guidance will need to be provided for the range of activities being covered. It will also improve the language, so the documents make clear where an activity is mandatory, versus optional to avoid overcomplicating process to limited benefit. This will partially reduce the risk of legal challenge as Government direction will be clearer and afford the aviation industry greater confidence in the process and their compliance.

#### **Objective 2 – Enable airspace modernisation activities to support wider aviation ambitions on Heathrow Expansion, Future of Flight and delivery of a new UK Airspace Design Service (UKADS).**

Government Failure 1 – Bureaucracy and Red Tape / Efficiency. Option 4 will provide the CAA greater flexibility to apply a proportionate process for airspace modernisation. It will enable greater autonomy and discretion to reduce bureaucratic processes and red tape, streamlining the regulatory process and improving efficiency. This will enable airspace change to be delivered in a timelier manner and realise the benefits of airspace modernisation sooner.

Critical Success Factors - Option 4 effectively addresses all the critical success factors, ensuring a robust legislative framework (CSF 1), offering flexibility and responsiveness (CSF 2). This makes it the most comprehensive option for achieving the overall policy aim of updating the Air Navigation Directions and Guidance to support delivery of airspace modernisation programme.

# Logic Model

## Problem

- The current regulatory framework for airspace change is currently ambiguous, inefficient and burdensome.
- DfT cannot currently support the requirements of the Airspace Modernisation Strategy, notably on redesigning London airspace, implementation of the UKADS and enabling future of flight operations.
- The current regulatory framework for airspace change is time consuming and often disproportionate to the scale of the changes required. Government guidance is ambiguous and inefficient.
- Current Government policy is unclear and does not provide the CAA and industry with clear direction on how airspace modernisation is to support wider UK ambitions on growth and economic

## Inputs

- Government legal and policy expertise to review existing policy and determine policy priorities for airspace change.
- Access to relevant data to identify emerging issues, support evidence-based policymaking, and ensure alignment with cross Government policies.
- Parliamentary time to introduce and pass potential Statutory Instruments.

## Activities

- Undertake industry / cross government engagement for obtaining feedback and evidence on potential changes.
- Policy scoping workshops with CAA and industry to develop new policies on airspace modernisation functions.
- Policy deep dives with aviation policy teams to understand the impacts of these new policies on airspace modernisation holistically across aviation functions.
- Drafting revised Directions and Guidance.

## Outcomes

### Policy outcomes:

- Clarity and awareness of Government priorities for airspace modernisation.

- Instruction on how safety, capacity, noise and carbon are to be balanced for airspace design.

#### Operational outcomes:

- Extension of permitted airspace trials to support greater data gathering and research of new and innovative aircraft.

#### Process outcomes:

- Reduced burden and cost on the CAA and industry on implementing airspace change.
- Streamlined processes which make better use of existing material and work undertaken to avoid duplication.
- Increased flexibility to review and approve airspace change proposals in a more simplistic and timely manner and at reduce cost.
- More clarity in terms of what falls under scope of the airspace change process, separate from the planning process.

#### Engagement outcomes:

- Tailored and bespoke engagement with local communities, to address local issues and concerns.
- Limits on airspace changes which can be called in, reducing the risk of airspace decisions being made.

### **Impacts**

- A more flexible and agile regulatory framework for airspace change which enables new and emerging airspace modernisation activities.
- Provides the regulatory framework for the implementation of the UK Airspace Design Service, to delivery coordinated airspace change in the Southeast.
- Enable opportunities to support new and innovative aircraft users gather data and evidence to inform future policy on the widespread use of drones in UK airspace.
- Support the UK's growth agenda by providing the airspace infrastructure required to enable airport expansion in the Southeast.
- Reduce legal risk of challenge to the CAA and industry from opposing organisations.

# 7. Regulatory scorecard for preferred option

## Part A: Overall and stakeholder impacts

### (1) Overall impacts on total welfare

Description of overall expected impact

The proposed updates introduce short-term costs for stakeholders, including training and procedural adjustments to align with new strategic, environmental, and consultation frameworks. Transitioning may require legal reviews and system updates, especially as responsibilities shift and noise policies evolve, potentially increasing disturbance in some areas.

However, the reforms offer significant benefits: they reduce administrative complexity, streamline decision-making, and clarify roles and timelines, improving efficiency. The changes support airspace modernisation by enabling better integration of emerging technologies like drones and eVTOLs, increasing capacity, reducing delays, and lowering environmental impact. These improvements are expected to deliver long-term economic gains and enhance the UK's aviation competitiveness.

Although it has not been possible to provide quantitative estimates of the EANDCB, it is thought highly likely that the measure falls well within the de minimis threshold of  $\pm£10m$ . If monetised, the following impacts would be considered as direct costs or benefits to business:

Costs

Stakeholder Familiarisation

Transition and compliance

Benefits

Reduced administrative burden

Fuel efficiency savings due to changes to ABPs

It is thought likely that initial upfront costs associated with adjusting the updated airspace change process will be significant, but are non-recurring and expected to be short term in nature. These initial costs will be offset by reduced long-term administrative burdens, leading to long-term benefits for businesses. It has been indicatively estimated, through CAA expertise and previous analysis, that these savings could be in the region of £1.1 million to £1.65 million per annum.

Businesses will benefit further on an ongoing basis from reduced fuel consumption and associated costs. However, these benefits will only be realised in instances where airspace change takes place, i.e. it will not apply to all flights, and in instances where the current route choices are not already optimised for CO2 efficiency. Additionally, any efficiency gains on individual routes is likely to be marginal as the phase of flight in which savings can be realised is relatively short, e.g. an aircraft climbing at a rate of 1,000 to 3,000 feet per minute would only be at the affected altitudes for 1 to 3 minutes. Based on analysis conducted for a 2017 Impact Assessment<sup>5</sup>, it is indicatively estimated that fuel savings in the region of £6 million per annum could be experienced. Due to the number of steps in the logic chain and these benefits accruing to organisations that are not directly subject to the regulations, this has been assessed to be an indirect benefit to businesses.

The measure is therefore expected to be beneficial overall for businesses, i.e. the business NPV is positive. The EANDCB is expected to be negative, but is unlikely to exceed the - £10m threshold.

Overall, it is expected that the wide-ranging benefits of the measure will exceed the fairly limited costs and the NPV of the measure is therefore expected to be positive.

Directional Rating (example only)

Positive (Based on all impacts (incl. non-monetised))

(ii) Monetised impacts

There are no monetised impacts of the policy due to an absence of suitable evidence and data at this stage. Information is being sought through the consultation process to enable monetised estimates of key impacts to be presented in the final stage impact assessment.

Directional Rating (example only)

Neutral

(iii) Non-monetised impacts

Costs:

Stakeholder Familiarisation (Direct; Businesses): Stakeholders, especially airspace change sponsors, will need to invest in training, legal reviews, and policy updates to understand new strategic, environmental, and procedural frameworks. One-off costs include workshops and briefings to ensure compliance with revised guidance, particularly where ambiguity has been reduced or new responsibilities introduced.

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<sup>5</sup> [Clarifying altitude based priorities during airspace changes](#)

Transition and Compliance (Direct; Businesses): Organisations must realign internal processes to match the updated regulatory framework. This includes adapting environmental assessments and consultation strategies. Though long-term burdens are expected to decrease, the transition may involve legal and system updates and coordination with the CAA.

Noise Disturbance (Direct; Households): Replacing altitude-based noise priorities with a broader policy that prioritises carbon may lead to increased noise in some areas. While the policy promotes flexibility and respite options, communities near adjusted flight paths may experience more disturbance. For more information on this, please refer to Annex A.

#### Benefits:

Reduced Administrative Burden (Direct; Businesses): The reforms streamline processes by reducing duplication and allowing reuse of environmental assessments. The CAA gains more autonomy, cutting delays and compliance costs. Clearer guidance also reduces misinterpretation.

Improved Efficiency (Direct; CAA): Defined roles, responsibilities, and timelines - especially for call-ins and consultations - reduce bottlenecks and support faster implementation of airspace changes.

Fuel efficiency savings due to changes to Altitude Based Priorities (ABPs) (Indirect; Businesses): Separate to the fuel efficiency benefits brought about by the implementation of the UK's Airspace Modernisation Strategy (see below), the revisions to ABPs are likely to lead to decreases in fuel consumption when flightpaths are amended to prioritise CO<sub>2</sub> emissions in place of the current balanced approach.

Support for Modernisation (Indirect; Various): The updated framework aligns with the UK's Airspace Modernisation Strategy, leading to:

Increased Capacity and Reduced Delays: Modernised airspace allows more efficient routing and better traffic flow management, reducing delays and improving resilience.

Enabling Future of Flight: Faster approvals and integration of drones and eVTOLs are expected, supporting commercialisation and operational scaling.

Environmental and Financial Gains: More direct, fuel-efficient routes reduce emissions and decrease fuel consumption and associated expenditure.

#### Directional Rating (example only)

##### Positive

(iv) Any significant or adverse distributional impacts?

No significant adverse or distributional business impacts are expected as a result of the policy.

There is the potential for adjusted flight paths to lead to adverse distributional impacts for some households. These impacts will naturally be felt by those working or living near

airports. However, the precise nature of these impacts cannot be identified at this stage and it will be determined by future airspace changes and planning decisions.

Directional Rating (example only)

Uncertain

## **(2) Expected impacts on businesses**

Description of overall business impact

The proposed updates introduce short-term costs for stakeholders, including training and procedural adjustments to align with new strategic, environmental, and consultation frameworks. Transitioning may require legal reviews and system updates, especially as responsibilities shift and noise policies evolve, potentially increasing disturbance in some areas.

However, the reforms offer significant benefits: they reduce administrative complexity, streamline decision-making, and clarify roles and timelines, improving efficiency. Efficiency improvements are likely to reduce costs for operators through reduced fuel expenditure.

The changes support airspace modernisation by enabling better integration of emerging technologies like drones and eVTOLs and providing increased opportunities for innovative businesses.

Overall, the business NPV is expected to be positive. It is thought likely that initial upfront costs associated with adjusting to the updated airspace change process will be significant but are non-recurring and expected to be short term in nature. These initial costs will be offset by reduced long-term administrative burdens, leading to long-term benefits for businesses.

Businesses will benefit further on an ongoing basis from reduced fuel consumption and associated costs.

Directional Rating (example only)

Positive

### **(ii) Monetised impacts**

There are no monetised impacts of the policy. Evidence to allow monetisation to take place for the final stage impact assessment is being sought through consultation.

Directional Rating (example only)

Neutral

### **(iii) Non-monetised impacts**

Costs:

Stakeholder Familiarisation (Direct; Businesses): Stakeholders, especially airspace change sponsors, will need to invest in training, legal reviews, and policy updates to understand new strategic, environmental, and procedural frameworks. One-off costs include workshops

and briefings to ensure compliance with revised guidance, particularly where ambiguity has been reduced or new responsibilities introduced.

Transition and Compliance (Direct; Businesses): Organisations must realign internal processes to match the updated regulatory framework. This includes adapting environmental assessments and consultation strategies. Though long-term burdens are expected to decrease, the transition may involve legal and system updates and coordination with the CAA.

Benefits:

Reduced Administrative Burden (Direct; Businesses): The reforms streamline processes by reducing duplication and allowing reuse of environmental assessments. The CAA gains more autonomy, cutting delays and compliance costs. Clearer guidance also reduces misinterpretation. It has been indicatively estimated, through CAA expertise and previous analysis, that these savings could be in the region of £1.1 million to £1.65 million per annum.

Fuel efficiency savings due to changes to ABPs (Indirect; Businesses): Separately to the fuel efficiency benefits brought about by the implementation of the UK's Airspace Modernisation Strategy (see below), the revisions to Altitude Based Priorities (ABPs) are likely to lead to decreases in fuel consumption when flightpaths are amended to prioritise CO2 emissions in place of the current balanced approach.

Support for Modernisation (Indirect; Various): The updated framework aligns with the UK's Airspace Modernisation Strategy, leading to:

Increased Capacity and Reduced Delays: Modernised airspace allows more efficient routing and better traffic flow management, reducing delays and improving resilience.

Enabling Future of Flight: Faster approvals and integration of drones and eVTOLs are expected, supporting commercialisation and operational scaling.

Environmental and Financial Gains: More direct, fuel-efficient routes decrease fuel consumption and associated expenditure.

Directional Rating (example only)  
Positive

(iv) Any significant or adverse distributional impacts?

No significant adverse or distributional impacts are expected for businesses as a result of the preferred option.

Directional Rating (example only)  
Neutral

### **(3) Expected impacts on households**

(i) Description of overall business impact

The proposed updates introduce changes to noise prioritisation and potentially increase noise-related disturbance in some areas.

However, the preferred option will offer significant benefits to passengers and society. By supporting airspace modernisation, the proposal is likely to decrease journey times and reduce disruption and delays, leading to time savings for passengers. More efficient routing will also reduce fuel consumption for operators and lead to lower carbon emissions.

Directional Rating (example only)  
Uncertain

#### (ii) Monetised impacts

There are no monetised impacts of the policy

Directional Rating (example only)  
Neutral

#### (iii) Non-monetised impacts

Costs:

Noise Disturbance (Direct; Households): Replacing altitude-based noise priorities with a broader policy that prioritises carbon may lead to increased noise in some areas. While the policy promotes flexibility and respite options, communities near adjusted flight paths may experience more disturbance.

Benefits:

Support for Modernisation (Indirect; Various): The updated framework aligns with the UK's Airspace Modernisation Strategy, leading to:

Increased Capacity and Reduced Delays: Modernised airspace allows more efficient routing and better traffic flow management, reducing delays and improving resilience. This is likely to lead to time savings for passengers.

Environmental and Financial Gains: More direct, fuel-efficient routes reduce carbon emissions.

Directional Rating (example only)  
Uncertain

#### (iv) Any significant or adverse distributional impacts?

Yes. There is the potential for adjusted flight paths to lead to adverse distributional impacts for some households. These impacts will naturally be felt by those working or living near airports.

However, the precise nature of these impacts cannot be identified at this stage and it will be determined by future airspace changes and planning decisions.

Directional Rating (example only)  
Uncertain

## **Part B: Impacts on wider government priorities**

(i) Business environment: Does the measure impact on the ease of doing business in the UK?

By enabling the benefits of the AMS to be realised in a timely manner, this intervention will support the Government's mission to kickstart economic growth, facilitating a reduction in both airline operating costs (in the form of reduced fuel burn) and flight delays, and the Department's aim to deliver greener transport, facilitating reduced carbon emissions and noise per flight. Reduced operating costs and delays are likely to increase the attractiveness of the UK aviation sector, thereby potentially inducing greater levels of investment and consequent growth.

Some elements of the measure will remove the need for airspace change sponsors to undertake costly assessments that are of little value to the airspace change process. Airspace change sponsors will therefore see a reduction in administrative expenditure, due to lower consultancy costs and the staff time required to oversee these projects.

By making the process of airspace change quicker, more reliable, and better integrated it is likely that the preferred option will enable safer integration of new airspace users, thereby supporting economic growth.

Directional Rating (example only)  
Supports

(ii) International Considerations: Does the measure support international trade and investment?

The measure will have a positive impact in removing some constraints on capacity within the UK aviation sector. Given the inherently global nature of air transport, this may lead to an increase in inward investment as overseas operators will be likely to benefit from additional capacity.

Directional Rating (example only)  
Supports

(iii) Natural capital and Decarbonisation: Does the measure support commitments to improve the environment and decarbonise?

The measure will have a positive impact on decarbonisation, due to more efficient flight routing and a consequent decrease in fuel consumption.

As above, it is possible that the measure will indirectly unlock additional airspace capacity in the future, thus offsetting positive decarbonisation impacts. However, the decision to utilise additional capacity will be determined through the planning process and any consequent impacts on decarbonisation are therefore outside the scope of this assessment.

Directional Rating (example only)  
Supports

(iv) Growth Summary: Does the measure support the Government's commitment to economic growth?

By enabling the benefits of the AMS to be realised in a timely manner, this intervention will support the Government's mission to kickstart economic growth, facilitating a reduction in both airline operating costs (in the form of reduced fuel burn) and flight delays, and the Department's aim to deliver greener transport, facilitating reduced carbon emissions and noise per flight.

Reduced operating costs and delays are likely to increase the attractiveness of the UK aviation sector, thereby potentially inducing greater levels of investment and consequent growth.

Directional Rating (example only)  
Supports

## 8. Monitoring and evaluation of preferred option

### **Evaluation Methods**

Following the implementation of the revised Air Navigation Directions and Guidance, we will remain committed to ensuring the new regulatory framework is functioning as intended against its objectives. We will utilise the following mechanisms to fully evaluate the preferred option:

#### **Co-sponsor Governance Boards**

**Joint AMS Programme Board** – This director level board is co-chaired jointly by the DfT and the CAA and serves as the main decision-making board. It is attended by key members, with attendance by key stakeholders such as the Future of Flight (FoF) project teams and the Ministry of Defence (MoD). The board set and monitor the strategic direction for the programme as appropriate. This board can be used to obtain direct feedback from the CAA on how they are utilising the new Directions and Guidance, and how that translate to supporting the aims and ambitions of improving airspace modernisation.

**Internal DfT Coordination Board** – This is a DfT owned board. This is not a decision-making board. It is to provide information and insight to other DfT teams which have cross over with elements of the work taking place on the Airspace Modernisation Programme. This board can be used to obtain feedback and discussion from across DfT on the CAA's application of the Directions and Guidance to ensure it is be utilised effectively and the intended benefits being realised.

#### **Industry Engagement**

The DfT have regular, formal engagement with industry through a series of industry lead forums. These forums have been used in the past to obtain feedback from industry on the problems and challenges of the existing Directions and Guidance, and will be used to obtain future feedback on the revised changes.

#### **Dedicated Review Point**

The Airspace Modernisation team will undertake a dedicated review point 12 months after the implementation of the revised Directions and Guidance. The review point will obtain

feedback and evidence from the CAA and industry on the success of the changes and how they have impacted the wider programme. A report will be compiled and issued to the Joint AMS Programme Board for consideration by the Co-Chairs (Deputy Director level).

### **Additional Considerations**

Unintended consequences as a result of the policy should also be assessed. This could include whether the preferred option has:

Reputational damage and reduced trust towards Government and CAA on their intentions for minimising the impact towards the environment of airspace change.

Increased risk of legal challenge towards the CAA and airspace change sponsors for their proposed airspace designs which are directly due to the changes made to the regulatory framework.

Increased regulatory oversight for DfT of CAA actions, if CAA misapply the revised Directions and Guidance.

## 9. Minimising administrative and compliance costs for preferred option

The preferred option is an enabling power for the CAA which does not introduce any immediate administrative burdens for government and minimal requirements for industry. It updates the legislative mechanism for CAA to make changes to their own internal processes. As such, no new reporting requirements, forms, or compliance processes are being introduced at this stage.

Any administrative burdens (for industry only) associated with this power would only arise once the CAA have revised and implemented their own airspace change process which industry are required to follow.

We are committed to minimising administrative burdens wherever possible. This will include ensuring clear guidance is issued in advance, providing reasonable transition periods to allow businesses time to comply, and engaging stakeholders early in the process to identify areas where familiarisation time or administrative input can be reduced.

The preferred option also supports the Government's commitment to reduce the regulatory burden for UK regulators by the end of this Parliament. By allowing changes to be made to the Directions and Guidance, CAA can streamline and improve their own regulatory processes for industry.

## Summary: Analysis and evidence

For Options Assessment, please finalise these sections including the full evidence base.

Price base year: N/A

PV base year: N/A

### **Net present social value (with brief description, including ranges, of individual costs and benefits)**

#### Option 1 – Do nothing (baseline)

Not estimated – this is the baseline against which other options have been evaluated.

#### Option 3 – Do minimum

The overall expected impact of this option is likely to be positive. However, this would not provide the level of changes required to simplify the airspace change process and deliver resultant benefits. Although neither has been quantified, it is estimated that the NPSV of this option would be significantly lower than the NPSV of Option 4.

#### Option 4 – Do maximum (preferred)

The overall expected impact of the measure is likely to be positive.

The proposed updates involve short-term costs, such as training, legal reviews, and system changes, especially as responsibilities shift and noise policies evolve.

However, the reforms simplify administration, clarify roles, and improve decision-making. They support airspace modernisation by integrating technologies like drones and eVTOLs, boosting capacity, reducing delays, and lowering environmental impact.

Overall, the long-term economic and efficiency benefits are expected to outweigh the limited transition costs.

### **Public sector financial costs (with brief description, including ranges)**

#### Option 1 – Do nothing (baseline)

Not estimated – this is the baseline against which other options have been evaluated.

#### Option 3 – Do minimum

There are no public sector financial costs associated with this option.

#### Option 4 – Do maximum (preferred)

There are no public sector financial costs associated with this option.

### **Significant un-quantified benefits and costs (description, with scale where possible)**

#### Option 1 – Do nothing (baseline)

Not estimated – this is the baseline against which other options have been evaluated.

#### Option 3 – Do minimum

This option would result in minimal short-term costs, as organisations would not be required to become familiar with revised AND/ANG.

Some administrative savings would be realised, but these would be lower than the savings experienced under Option 4. The benefits of airspace modernisation would not be realised as quickly.

#### Option 4 – Do maximum (preferred)

The proposed updates involve short-term costs, such as training, legal reviews, and system changes, especially as responsibilities shift and noise policies evolve.

However, the reforms simplify administration, clarify roles, and improve decision-making. They support airspace modernisation by integrating technologies like drones and eVTOLs, boosting capacity, reducing delays, and lowering environmental impact.

### **Key risks (and risk costs, and optimism bias, where relevant)**

#### Option 1 – Do nothing (baseline)

N/A

#### Option 3 – Do minimum

No significant risks have been identified.

#### Option 4 – Do maximum (preferred)

No significant risks have been identified.

### **Results of sensitivity analysis**

#### Option 1 – Do nothing (baseline)

N/A

Option 3 – Do minimum

No sensitivity analysis has been conducted due to the absence of monetised impacts.

Option 4 – Do maximum (preferred)

No sensitivity analysis has been conducted due to the absence of monetised impacts.

# Evidence Base

## Introduction

The preferred option would introduce a number of amendments to the Air Navigation Directions and Air Navigation Guidance. The impacts of these individual amendments, or groups of related amendments, will be explored comprehensively in final stage impact assessments ahead of legislation being laid. Due to uncertainty in the precise scope and nature of many of these amendments, this document provides a high level, proportionate, assessment of the combined impact of the proposed amendments.

## Number of Affected Businesses

Organisations that currently act as airspace change sponsors will need to familiarise themselves with the new Air Navigation Directions and Air Navigation Guidance in order to understand the implications for their organisations. This may involve reviewing documentation and enacting changes to existing processes. A total of 133 current / recent change sponsors has been identified on the CAA's Airspace Change Portal. All of these would be required to abide by the new Directions and Guidance<sup>6</sup> if they were to submit subsequent airspace change proposals.

A variety of organisational types and industrial sectors are represented within the 133 identified airspace change sponsors, namely:

- Commercial aerodromes, e.g. Heathrow Airport. This is the most common type of organisation identified through analysis of the portal.
- Air navigation service providers, e.g. NATS.
- Aerospace manufacturers, e.g. BAE Systems.
- General aviation aerodromes, e.g. London Gliding Club.
- Renewable energy providers, e.g. SeaGreen Wind Energy Ltd.

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<sup>6</sup> DfT analysis of [Airspace change portal](#)

- Space launch organisations, e.g. Orbital Express Launch Ltd.
- Advanced Air Mobility and other innovative aviation technology companies, e.g. Skyports Ltd.

Transitional arrangements haven't yet been agreed, but it is likely that any ACP underway and past Stage 2 of the process will continue to use the 2017 guidance. The organisations listed above may therefore not be affected, i.e. if they do not submit subsequent ACPs, and are therefore intended to be used as an illustration for the number and variety of impacted organisations.

## Overview of Preferred Option

Each element of the preferred option will have a variety of different impacts, although there will be a significant degree of commonality between them given the overarching objective.

This section provides a brief description of each element of the preferred option.

1. **Strategic Policy:** Outline government policy on the role of the CAA in delivering UK airspace change, including operational priorities and climate obligations.
2. **Environmental:** Replace existing obligations with more tailored and bespoke guidance, whilst being clear on how environmental factors such as noise and carbon are to be prioritised (i.e. revisions to Altitude Based Priorities).
3. **Consultation & Engagement:** Implement a more balanced and proportionate consultation and engagement process, providing greater flexibility and autonomy for industry to conduct engagement based upon local factors.
4. **Operational:** Improve the operational environment to enable CAA and Industry greater scope to achieving specific objectives from flight designs, trials and structures.
5. **Procedural:** Improve the efficiency and streamline processes to avoid duplication of effort, improve delivery timescales and reduce administrative burdens.
6. **Ambiguity:** Review current guidance and improve language to be clearer and more concise on government policy. This section does not represent any changes to Government policy.

Subsequent sections of this document provide descriptions of the impacts of the preferred option and identification of which impacts are expected from each of the elements listed above.

## Impacts of Preferred Option

Given the degree of commonality between the anticipated impacts of each element of the preferred option, and a desire to avoid repetition, each impact has been described once in this section. The proceeding section identifies which impacts are associated with each element of the proposal.

## Costs

Stakeholder familiarisation (Direct; Businesses): The proposed updates introduce new strategic, environmental, operational, and procedural frameworks that stakeholders - particularly airspace change sponsors - will need to understand and integrate. This will likely require short-term investment in training, legal review, and internal policy updates. For example, changes to environmental assessment requirements and consultation processes will necessitate briefings and workshops to ensure compliance. While these costs are a one-off, they are essential to ensure smooth adoption and avoid misinterpretation of the revised guidance, especially where ambiguity has been reduced or new responsibilities have been introduced.

This impact has been classified as a direct cost to business as an immediate and unavoidable consequence of the changes to the ANG and AND.

No monetised estimate of stakeholder familiarisation costs has been provided within this document due to a lack of evidence regarding the magnitude of these costs. Evidence, data or analysis from consultation respondents is welcomed to enable a monetised estimate of these costs to be produced ahead of implementation – see Annex B: Consultation Questions.

Transition and compliance (Direct; Businesses): Organisations will need to adapt internal processes to align with the revised regulatory framework. This includes updating procedures for airspace change proposals, modifying environmental assessment workflows, and adjusting consultation strategies. For instance, a change in how certain environmental obligations (e.g., HRA, SEA) are met and the introduction of more flexible engagement principles will require procedural realignment. Although these changes are designed to reduce long-term burdens, the transition phase may involve legal consultation, system updates, and coordination with the CAA to ensure continued compliance, particularly where responsibilities shift or where new discretionary powers are granted to the regulator.

As with familiarisation costs, these have been classified as a direct cost to business as an immediate and unavoidable consequence of the changes to the ANG and AND.

No monetised estimate of transition and compliance costs has been provided within this document due to a lack of evidence regarding the magnitude of these costs. Evidence, data or analysis from consultation respondents is welcomed to enable a monetised estimate of these costs to be produced ahead of implementation – see Annex B: Consultation Questions.

Noise disturbance (Direct; Households): The revised guidance proposes replacing altitude-based noise priorities with a broader policy framework that balances safety, capacity, noise, and carbon. This may lead to airspace designs that prioritise efficiency or emissions reductions over noise mitigation in certain altitude bands (e.g. 4,000–7,000 feet). As a result, some communities could experience increased aviation noise, particularly if flight paths are adjusted to optimise fuel burn or capacity. While the policy encourages local flexibility and multiple route options to provide respite, the potential for increased noise exposure remains a concern, especially in densely populated or previously quieter areas.

Households will be the main impacted group as a result of any revisions to flightpaths. These impacts have been deemed to be direct. Although they will not materialise immediately, i.e. not until subsequent airspace changes take effect, any noise impacts that do result are a direct consequence of changes to the guidance regarding Altitude Based Priorities.

## Benefits

Reduced administrative burden (Direct; Businesses): The proposed updates aim to streamline regulatory processes, reducing duplication and unnecessary complexity. By allowing the reuse of environmental assessments from other planning processes (e.g., DCO or spaceport licensing), and enabling the CAA to act without DfT approval in specific cases, the reforms cut red tape and speed up decision-making. This reduces compliance costs and administrative overhead for both regulators and industry stakeholders. Clearer guidance and reduced ambiguity also mean fewer delays due to misinterpretation, allowing sponsors to focus resources on delivering effective airspace changes rather than navigating bureaucratic hurdles.

No monetised estimate of the benefits of a reduced administrative burden has been provided within this document due to a lack of evidence regarding the likely. Evidence, data or analysis from consultation respondents is welcomed to enable a monetised estimate of these costs to be produced ahead of implementation – see Annex B: Consultation Questions

As an immediate and unavoidable consequence of changes to guidance, these have been deemed a direct benefit to business.

It has not been possible to precisely calculate the magnitude of this reduced administrative burden. However, an indicative estimate has been produced based on previous analysis conducted by DfT and expertise provided by the CAA. The analysis underpinning the initial UKADS DMA estimated that the present value cost (PVC) of masterplan Airspace Change Proposals (ACPs) is approximately £110 million over the next ten years. The CAA estimated that the joint impact of: 1) the establishment of the UKADS; 2) changes to the CAP1616 process; and 3) the proposed updates to the AND/ANG would reduce CAA administrative burdens by 20-30%.

If it is assumed that these changes will lead to a similar administrative burden reduction for businesses and that the impact of each aspect is equal, i.e. the proposed changes to the AND/ANG will account for a third of the burden reduction, it can be indicatively estimated that the changes to the AND/ANG will deliver administrative burden reductions for masterplan ACPs valued at between £0.73m and £1.10m per annum with a central estimate of £0.91m.

Table 2: Estimated administrative burden reduction

|  | % administrative burden reduction | Total administrative burden reduction (£m) | Administrative burden reduction attributable to | Annual administrative burden reduction attributable to |
|--|-----------------------------------|--------------------------------------------|-------------------------------------------------|--------------------------------------------------------|
|  |                                   |                                            |                                                 |                                                        |

|         |     |        | AND/ANG<br>changes (£m) | AND/ANG<br>changes (£m) |
|---------|-----|--------|-------------------------|-------------------------|
| Low     | 20% | £21.94 | £7.31                   | £0.73                   |
| Central | 25% | £27.43 | £9.14                   | £0.91                   |
| High    | 30% | £32.91 | £10.97                  | £1.10                   |

The estimates presented above consider the reduction in costs associated with masterplan ACPs<sup>7</sup> only, which represent 15% of ACPs currently in the system. The CAA have indicated that they expect the changes to the AND and ANG to have minimal impact on ACPs deemed “low” and “medium” complexity, but may have some impact on “high” complexity ACPs which represent 10% of ACPs in the system.

To account for this, the figures presented above are increased by 50% to estimate overall administrative burdens of £1.10m to £1.65m with a central estimate of £1.38m per annum.

These estimates are highly indicative and will be refined using information provided through consultation.

Improved airspace change process efficiency (Direct; CAA): The revised guidance introduces clearer roles, responsibilities, and timelines, particularly around call-in procedures and consultation requirements. These changes reduce bottlenecks and uncertainty, enabling faster implementation of airspace changes and better alignment with operational needs. The result is a more agile regulatory environment that supports timely delivery of modernisation objectives.

Fuel efficiency savings due to changes to ABPs (Indirect; Businesses): Separate to the fuel efficiency benefits brought about by the implementation of the UK’s Airspace Modernisation Strategy (see below), the revisions to Altitude Based Priorities (ABPs) is likely to lead to decreases in fuel consumption when flightpaths are amended to prioritise CO2 emissions in place of the current balanced approach.

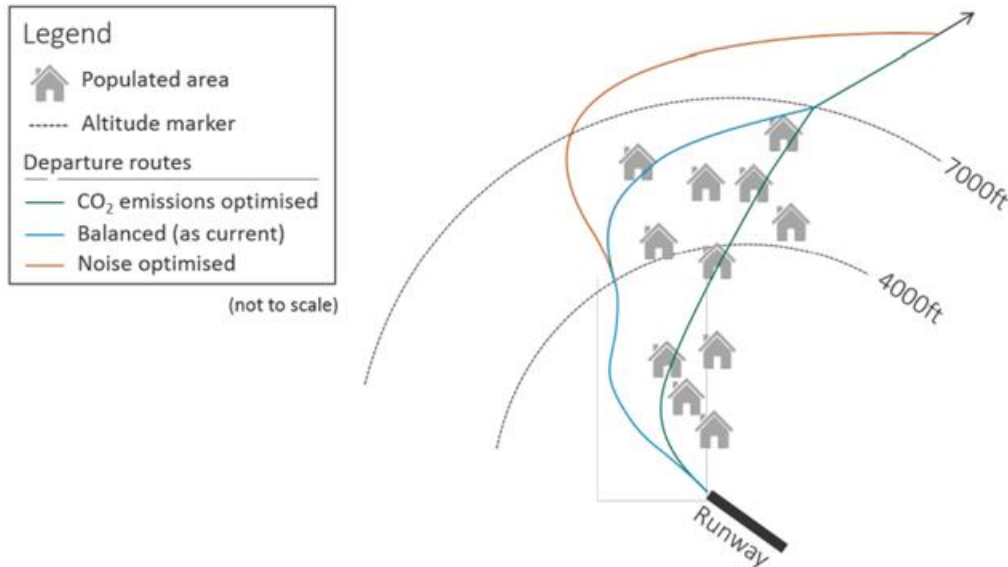
To illustrate this benefit, Figure 1 below provides an indicative example of three potential departure routes from a fictional airport. The green line represents a proposed departure route where the CO2 emissions are prioritised. The blue line represents a balanced approach, whereby noise is prioritised provided there is no disproportionate increase in CO2 emissions. The red line represents the noise optimised route.

In this example, the green line represents the shortest possible route but also results in the overflight of a larger population than either of the other two routes. As a consequence, fuel

<sup>7</sup> A masterplan ACP refers to an airspace change proposal submitted by a sponsor who participates in the Future Airspace Strategy Implementation (FASI) programme.

consumption is likely to be reduced compared with the (existing) approach, although the negative impacts of aviation noise on health and quality of life will also increase.

Figure 3: is an indicative example of proposed departure routes at a fictional airport.



The magnitude of this impact has not been estimated as the precise impacts will depend on the technical specifics of any future airspace design and can therefore not be estimated with any degree of accuracy. A 2017 Impact Assessment<sup>8</sup>, which aimed to provide “the necessary clarity and strength of language to ensure that noise is prioritised up to 7,000 feet”, estimated additional fuel costs of £4.6 million in 2017 prices as a consequence of aircraft flying longer routes. If it is assumed that the proposed measure has the inverse impact, the fuel benefit to airlines is estimated to be approximately £6 million in 2025 prices.

This has been classified as an indirect benefit to business in accordance with RPC guidance on direct and indirect impacts<sup>9</sup>. Firstly, there are several “steps in the logic chain” before these would be realised. For this to occur:

- The change in policy will be approved and published
- CAA internal processes revised and updated (CAP1616)
- Airspace change sponsors will be required to become familiar with them
- The new priorities will then be reflected in subsequent airspace change proposals
- The fuel benefit will be derived when operators fly the routes set out in the relevant, redesigned airspace.

Secondly, the indirect classification reflects that the businesses benefitting are not the same businesses that are subject to the regulation. In this instance, ACP sponsors –

<sup>8</sup> [Clarifying altitude based priorities during airspace changes](#)

<sup>9</sup> [RPC case histories - direct and indirect impacts March 2019 1 .pdf](#)

mostly aerodromes and aerospace firms – are the businesses subject to the regulation while the fuel savings are a benefit to organisations that are not directly subject to the regulation, i.e. airlines.

Support for airspace modernisation (Indirect; Various): The updated AND/ANG framework remains consistent with the policy objectives of the UK's Airspace Modernisation Strategy. It supports the adoption of new technologies, such as drones, by explicitly including them in the regulatory scope. This ensures that the UK's airspace evolves in step with technological advancements and changing aviation demands, thus facilitating the benefits of airspace modernisation, which are listed below:

- **Increased capacity:** Modernising airspace enables more efficient use of available airspace through optimised flight paths. This allows for increased throughput at both airports and en-route sectors without the need for costly infrastructure expansion. By redesigning airspace structures and procedures, capacity can be unlocked to accommodate more flights, supporting growth in passenger and cargo volumes.
- **Reduced delays and disruption:** Airspace modernisation introduces more direct routing, dynamic traffic flow management, and improved coordination between air traffic control units. These enhancements reduce the need for airborne holding and ground delays, which are common causes of inefficiency and passenger dissatisfaction. By smoothing traffic flows and reducing bottlenecks, the system becomes more predictable and resilient to disruptions. This not only improves the passenger experience but also reduces operational costs for airlines.
- **Enabling Future of Flight<sup>10</sup>:** Modernised airspace will likely lead to: faster approvals for trials and demonstrations of drones and eVTOLs; quicker integration of new flight paths and operational zones for emerging aircraft; reduced delays in scaling up from pilot projects to commercial operations.
- **Lower environmental impact:** Modernised airspace enables aircraft to fly more direct and fuel-efficient routes, reducing overall flight time and fuel burn. This leads to significant reductions in carbon emissions and supports the UK's commitment to achieving net zero aviation.
- **Long-term economic gains (Indirect; Businesses):** A more efficient and modernised airspace system enhances the UK's economic competitiveness by supporting growth in aviation, logistics, and high-value sectors reliant on air connectivity. Reduced delays, improved capacity, and better integration of regional airports contribute to productivity gains across the economy. The reforms also lower the cost and time required to implement airspace changes, encouraging investment and innovation.

## Equivalent Annual Net Direct Cost to Business (EANDCB)

Although it has not been possible to provide quantitative estimates of the EANDCB, it is thought highly likely that the measure falls well within the de minimis threshold of  $\pm£10\text{m}$ . If monetised, the following impacts would be considered as direct costs or benefits to business:

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<sup>10</sup> [Future of Flight action plan - GOV.UK](#)

## Costs

- Stakeholder Familiarisation
- Transition and compliance

## Benefits

- Reduced administrative burden
- Fuel efficiency savings due to changes to ABPs

It is thought likely that initial upfront costs associated with adjusting to the updated airspace change process will be significant, but are non-recurring and expected to be short term in nature. These initial costs will be offset by reduced long-term administrative burdens, leading to long-term benefits for businesses.

Businesses, namely airlines, will benefit further on an ongoing basis from reduced fuel consumption and associated costs. However, these benefits will only be realised in instances where airspace change takes place, i.e. it will not apply to all flights, and in instances where the current route choices are not already optimised for CO2 efficiency. Additionally, any efficiency gains on individual routes are likely to be marginal and the phase of flight in which savings can be realised is relatively short, e.g. an aircraft climbing at a rate of 1,000 to 3,000 feet per minute would only be at the affected altitudes for 1 to 3 minutes.

The measure is therefore expected to be beneficial overall for businesses, i.e. the EANDCB is expected to be negative, but is unlikely to exceed the -£10m threshold.

## Risks

If no further action is taken these changes could lead to businesses having to re-submit proposals which align with any revised policy and procedure. However, similar to the previous time the Directions and Guidance were amended, the DfT intend to develop a 'migration' policy where businesses will transition from one process to another without the need to restart their application. This is expected to only need apply to a few applications currently underway.

## Annex A - The potential impacts of setting the altitude-based priorities level at altitude 4000ft vs 7000ft

This annex sets out information on the potential impacts of changing the approach to the Secretary of State's guidance to the CAA on altitude-based priorities. Altitude-based priorities provide clear priorities to be set for airspace design, including prioritisation of how noise, carbon and flight efficiency are balanced. This annex focusses on the impact of different policy changes in the London area. The implications between different policy choices may be different outside London where the airspace is less congested, and the population may be more spread out.

It is challenging to assess the impacts of changing the approach to altitude-based priorities and the consultation will also ask questions to help improve the evidence base.

To illustrate the potential differences between setting the altitude at which noise impacts are prioritised, at different levels, the CAA has prepared maps showing the contours with aircraft height profiles truncated<sup>11</sup> to a 4,000 ft altitude against the original average summer daytime 45 and 51 dB LAeq, 16h noise contour, and the average summer night 40 and 45 dB LAeq, 8h noise contours<sup>12</sup>. The original contours are representative of contours being truncated at 7,000 ft. The contours based on altitude of 4,000ft show the effect of excluding all noise from aircraft above this altitude from the calculation. Similarly, the contours based on altitude restriction of 5,000 ft show the effect of excluding all noise from aircraft above this altitude from the calculation, and so on.

51 dB LAeq, 16h and 45 dB LAeq, 8h are the noise contours currently set in policy (in the 2017 Air Navigation Guidance) as this is where the "lowest observed adverse effect levels"<sup>13</sup> occur from aircraft noise. The lower noise contours (45 dB LAeq, 16h and 40 dB LAeq, 8h) are included for the purpose of comparison and as a sensitivity as on-going DfT

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<sup>11</sup> Truncation refers to the exclusion of noise from aircraft once they reach above a particular altitude, in this case 4,000ft.

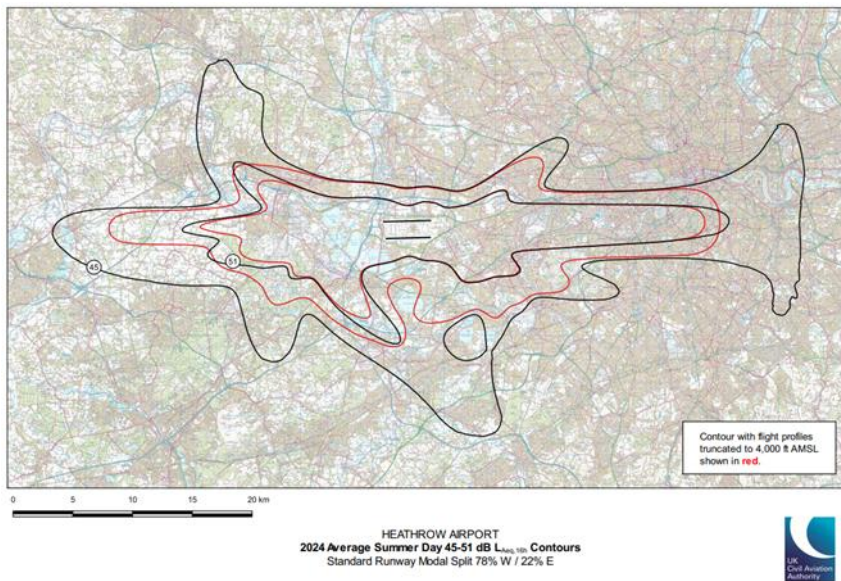
<sup>12</sup> A noise contour shows an area on map which is exposed to noise levels from aircraft above a certain decibel level across a certain period – in this case 16 hours (0700-2300) or 8 hours (2300-0700). The LAeq metric smooths out the peaks and troughs of aircraft noise to create an equivalent continuous sound level and reflects both the number of aircraft movements during this period and their individual loudness.

<sup>13</sup> The lowest observed adverse effect level is the level of noise exposure above which adverse effects on health and quality of life can be detected.

funded studies are considering whether such effects occur at noise levels lower than 51 dB LAeq,16h and 45 dB LAeq,8h. These studies are expected to be published in 2026.

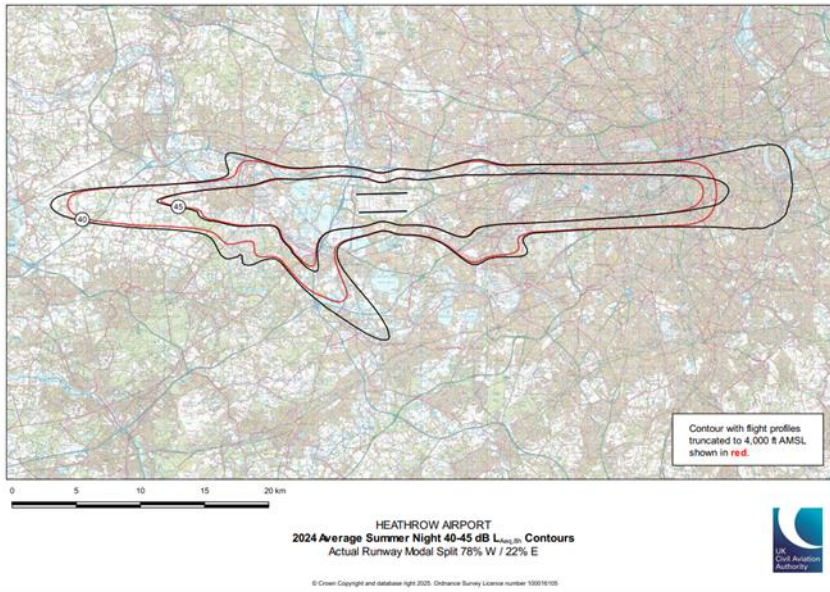
Figure 4 below shows the difference between 4,000ft contours and contours using the 2024 average summer day for 45 and 51 dB LAeq,16h for the area around Heathrow airport. The two runways are shown at the centre of the image. The black lines represent the original contours, and the red lines indicate the truncated contours.

Figure 4: shows Heathrow 4,000 ft vs Original 2024 Average Summer Day



This indicates that there is a gap between the noise contour if the priority is set at below 4,000ft - In other words, 11% of people (789,500 people would be within 4000ft compared to 884,000 at 7000ft, see Table 1) who are currently assessed as being adversely impacted by aircraft noise would not be taken into account if the priority was set to below 4,000ft. This does not mean that those people would be subject to greater noise than today- with improvements to technology and faster climbs and descents they may have less noise. But the effect of setting the priority at below 4,000ft would be that the impacts on these people would not be considered in any decision to amend airspace design.

Figure 5: shows Heathrow 4000 ft vs Original; 2024 Average Summer Night



This difference is less at night (see figure 5 above, which shows the difference against the original 2024 average summer night 40 and 45 dB LAeq, 8h contours), with the main differences seen over central London to the Isle of Dogs, and to the south towards Chertsey. The shift to prioritising noise below 4000ft would result in a 9% reduction in the number of people who are currently assessed as being adversely impacted by aircraft noise at 45dB.

Tables 4 and 5 show the areas, populations and households' differences for the day and night contours at Heathrow. The standard contours are modelled on the noise from all aircraft regardless of altitude, whereas the altitude-based contours ('truncated contours') exclude noise from aircraft once they reach those altitudes.

Tables 4: Heathrow 2024 Average Summer Day Contours

| LAeq, 16h (daytime) | Area (km2) | Population | Households | Notes                |
|---------------------|------------|------------|------------|----------------------|
| 45 dB               | 710.1      | 2,645,100  | 1,092,000  | Original             |
| 45dB                | 403.3      | 1,571,300  | 644,300    | 4,000 ft (truncated) |
| 51 dB               | 232.3      | 884,000    | 359,700    | Original             |
| 51 dB               | 201.4      | 789,500    | 321,300    | 4,000 ft (truncated) |

Table 5: Heathrow 2024 Average Summer Night Contours

| L <sub>Aeq</sub> , 8h (night-time) | Area (km <sup>2</sup> ) | Population | Households | Notes                |
|------------------------------------|-------------------------|------------|------------|----------------------|
| 40 dB                              | 333.4                   | 1,577,700  | 660,700    | Original             |
| 40 dB                              | 266.9                   | 1,119,000  | 468,200    | 4,000 ft (truncated) |
| 45 dB                              | 153.7                   | 740,000    | 305,400    | Original             |
| 45 dB                              | 146.5                   | 675,600    | 279,200    | 4,000 ft (truncated) |