DONCASTER SHEFFIELD AIRPORT AIRSPACE CHANGE PROPOSAL

ACP-2024-039

Stage 2(B)
Initial Options Appraisal

Version 1.0
March 2026

Table of Contents

1. INTRODUCTION

1.1 Background

1.1.1 Doncaster Sheffield Airport (DSA) is located around 6 miles southeast of Doncaster and 19 miles east of Sheffield. DSA closed in 2022 after the previous airport operator withdrew. This led to the CAA removing the controlled airspace and flight procedures which supported the airports operations.

1.1.2 In March 2024, City of Doncaster Council (CDC) secured a 125-year lease for the site, and began work to reinstate the airport licence, establish a local air traffic control service, and prepare for scheduled passenger and cargo services to return from 2027/28.

1.1.3 To restore the controlled airspace and procedures needed for DSA to reopen safely and bring passenger and cargo flights back to the region, CDC are sponsoring an Airspace Change Proposal – ACP-2024-039.

1.1.4 The reopening of DSA is the centrepiece of South Yorkshire Airport City (SYAC), a major regional growth programme designed to restore aviation services and unlock thousands of new jobs across advanced manufacturing, engineering, logistics and green technologies. The project is being delivered through a partnership between national government, the South Yorkshire Mayoral Combined Authority and CDC.

1.1.5 Government backing for the SYAC programme has enabled significant investment to prepare the airport for reopening, reflecting national importance of restoring regional connectivity, supporting trade and driving economic growth across the North. The airport's return forms part of the Governments wider devolution agenda, demonstrating how locally led, nationally supported investment can deliver regeneration, skilled employment and long-term prosperity.

1.2 The Airspace Change Process

1.2.1 In December 2017, the Civil Aviation Authority (CAA) reformed the airspace change process and introduced CAP1616, guidance on the regulatory process for changing notified airspace design and planned and permanent redistribution of air traffic. The updated fifth edition was published was published in November 2023.

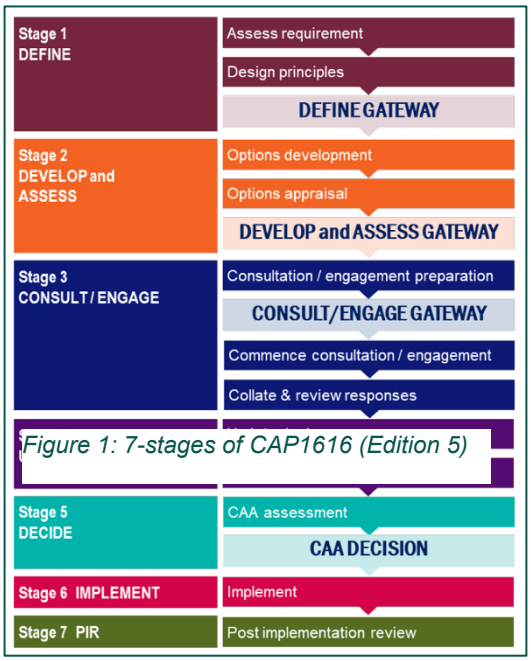


Figure 1: 7-stages of CAP1616 (Edition 5)

1.2.2 CAP1616 lays out the regulatory process for changing flight paths, including the community engagement requirements. Proposals for changes to flight paths are submitted to, assessed, and approved by the CAA following the guidance set out in CAP1616.

1.2.3 There are seven-stages which provide a framework for changing airspace and CAP1616 places significant importance on engaging a wide range of stakeholders, including potentially affected communities.

1.2.4 The CAA monitors the progress of an airspace change proposal against the requirements of the process at key defined points, called gateways. At each gateway, the CAA will assess whether the relevant process requirements have been met, and whether to approve progress to the next stage.

1.2.5 Each permanent airspace change proposal is assigned a 'level' depending on the characteristics of the change and potential for impacts, which is in part based on the altitude and location in which the changes occur. The application of levels enables the airspace change process to accommodate different types and complexities of airspace change proposals by applying the requirements in a proportionate way.

1.2.6 From September – December 2025, the CAA conducted a consultation regarding proposed changes to CAP1616 Version 5.1. The updated process and guidance are expected to be ready by the end of 2026. This submission has been written in accordance with CAP1616 Version 5.1[1].

Scaling of the airspace change process

1.2.7 In accordance with regulatory principles, the CAA will apply the airspace change process in a reasonable and proportionate manner that can accommodate flexibility. They will consider scaling the airspace change process further within the requirements of each level, when there is a good reason, and it is proportionated to do so.

1.2.8 If a change sponsor considers that a specific airspace change proposal warrants further scaling, it must raise and minute this request at the assessment meeting. Any proposed further scaling to the airspace change process must be approved and published by the CAA on the airspace change portal.

1.3 The Airspace Modernisation Strategy and the Masterplan

1.3.1 The Airspace Modernisation Strategy (AMS) was first published in 2018 and set out the 'ends, ways and means', of modernising airspace through a series of 'delivery elements' that will update its design technology, and operations.

1.3.2 As covered in the Statement of Need, in 2018, DSA successfully implemented PBN procedures, becoming an early adopter of PBN concepts and aligning its procedures with the UK AMS and ICAO global navigation plan. More information on that airspace change can be found here.

1.3.3 The AMS was updated in 2023 and split into 3 parts, published separately. More information can be found here. The AMS vision is to deliver quicker, quieter, and cleaner journeys and more capacity for the benefit of those who use and are affected by UK airspace. The AMS does not propose specific airspace change, but a key deliverable is a masterplan of airspace changes that will be necessary for modernisation.

1.3.4 Following the publication of the AMS, the Airspace Change Organising Group was established to co-ordinate the national programme. ACOG developed the Masterplan, a single coordinated implementation plan for airspace changes in the UK up to 2040. Across all iterations of the masterplan, it will:

- Identify when and where airspace change proposals are needed, with proposed timelines for implementation;
- Describe how these proposals relate to each other, and highlight potential conflicts between their designs;
- Explain how trade-off decisions to resolve these conflicts have been made'
- Demonstrate the anticipated cumulative impact of all the airspace change proposals.

1.3.5 The Masterplan is now on Iteration 3 and is being developed separately for each region of the UK. The masterplan region for the airports in the vicinity of Doncaster Sheffield Airport is referred to as the Manchester Terminal Manoeuvring Area cluster and includes Manchester Airport, Liverpool Airport, East Midlands Airport, Leeds Bradford Airport, Birmingham Airport and NERL.

[1] More information on the CAA CAP1616 consultation can be found here.

Doncaster Sheffield Airport and the MTMA

1.3.6 Doncaster Sheffield Airport is not part of the MTMA Masterplan, and therefore the masterplan does not articulate any dependencies with other airports in the cluster.

1.3.7 It is likely that the re-introduction of controlled airspace at DSA will create interactions with Leeds Bradford Airports existing arrival routes and potentially departure routes.

1.4 Doncaster Sheffield Airport ACP – Assessment meeting with the CAA

1.4.1 The assessment meeting allows the change sponsor to discuss with the CAA the airspace issues and opportunities giving rise to the proposed change, how the change will address those issues, and how the change sponsor intends to proceed.

1.4.2 The assessment meeting with the between Doncaster Sheffield Airport and the CAA took place on 3 September 2025. The presentation provided by DSA is available on the CAA Portal here.

Scaling of this proposal

1.4.3 As stated in CAP1616 f, paragraph 2.25, during the assessment meeting, there may also be a discussion on how the airspace change process could be scaled.

1.4.4 During the assessment meeting, DSA stated that, whilst maintaining transparency and providing meaningful opportunities for stakeholder input, they would aim to progress this proposal at a faster pace than typical Level 1 ACPs. CDC emphasised, that although the intent is to fast track the process, all CAP1616 requirements will be fully met.

1.4.5 During the discussion on the provisional process timescales, CDC outlined the intention to combine Stages 1 and 2 of the CAP1616 process.

1.4.6 Following the Assessment Meeting, the CAA agreed to the combining of Stages 1 and 2 with a combined Define and Develop and Assess Gateway to take place on 30 April 2026. The full minutes of the meeting are available on the CAA Portal here. The timeline for the ACP is available here.

1.4.7 The Stage 1 Design Principle Submission document and associated appendices is available on the CAA Portal here. The Statement of Need for this proposal is here. The Stage 2(A) Design Options and Design Principle Evaluation submission document is available on the CAA Portal here.

1.4.8 This document is the CAP1616 Stage 2(B) Initial Options Appraisal.

2. AIRSPACE CHANGE PROPOSAL

2.1 ACP to date

2.1.1 The following table provides background information on the ACP to date.

Airspace Change Stage	Summary	Link to Documents
Stage 1	In August 2025, DSA submitted a Statemetn of Need (SoN) to the CAA.	Statement of Need
	In September 2025, DSA had an assessment meeting with the CAA. The purpose of the assessment meeting is for the change sponsor to present and discuss its SoN, and to enable the CAA to consider whether it falls within the scope of the formal airspace change process. DSA and the CAA also discussed the scaling of this ACP.	Assessment Meeting Presentation Assessment Meeting Minutes
	DSA carried out engagement with relevant stakeholders to describe the Current Day scenario and to develop a set of Design Principles for this proposal. The aim of the Design Principles is to provide a framework against which design options can be developed and evaluated.	Stage 1 Submission Document
Stage 2 (A)	DSA developed a single option for the airspace change proposal. This option was shared with the same stakeholders and at the same time as the proposed design principles. Feedback from this engagement was then used to generate additional options and to provide more information on the baseline scenario. The final part of Stage 2(A)was to qualitatively assess the options against the Design Principles and produce a Design Principle Evaluation.	Stage 2(A) Submission Document
Stage 2 (IOA)	This stage requires the sponsor to undertake an Initial Options Appraisal (IOA) on the airspace change options which proceed from Stage 2A. This is where we are now. The following sections describe the options under assessment and the baseline scenarios, followed by explaining the methodology used to assess each option. At the end of the document we explain, based on the IOA, the option(s) we intend to take forward to Stage 3.	This document

Table 1: ACP to date

2.1.2 All airspace design options in this document are subject to change throughout the airspace change process, as options are matured in detail and refined in accordance with safety requirements, our design principles, our appraisals, and stakeholder engagement and consultation.

2.2 Requirements

2.2.1 The following table highlights the CAP1616 (v5.1) Stage 2 Initial Options Appraisal (IOA) requirements for an airspace change sponsor, to what extent that requirement has been scaled, in agreement with the CAA, and provides the location in this document, or associated appendix, where this information can be found.

CAP1616 Reference	CAP1616 (V5.1) Requirement	Location
CAP1616 V5.1 Para 3.18 CAP1616 f Paras 3.38-3.67	Conduct the Initial Options Appraisal The sponsor must: • Consider the IOA against the statutory factors & where applicable, government policy, that the CAA is required to consider • Ensure the IOA is objective, repeatable & consistent • Undertake a qualitative and where possible, quantitative assessment • Conduct an IOA of the potential impacts of each design option against the baseline scenarios. ▪ A qualitative assessment of the likely environmental impacts ▪ High level assessment of all reasonable costs & benefits involved ▪ A qualitative assessment of the potential impacts on safety • Provide an indication of the preferred design option(s) • Provide supporting evidence in relation to CAP2091 • Use the most up to date, credible, and clearly sources of data to assess the impacts of the baseline scenarios and design options • Identify any evidence gaps in the IOA & describe what evidence will be collected, and how to fill such gaps and develop the FOA.	IOA Methodology Section 4.4 IOA Section 5 Preferred Design Option Section 6.2 This IOA was undertaken on the most up to date sources of data at the time. Evidence to collect for FOA Section 6.3
CAP1616 V5.1 Para 3.19 CAP1616 f Paras 3.68-3.69	Habitats Regulation Assessment Must conduct the HRA screening exercise, as per CAP1616i Environmental Assessment Requirements and Guidance for Airspace Change Proposals.	HRA Section 5.4

Table 2: List of CAP1616 V5.1/CAP1616 f Stage 2 IOA requirements

3. OVERVIEW OF OPTIONS UNDER ASSESSMENT

3.1.1 The Stage 2A Design Options and Design Principle Evaluation document provides detailed information about the options development process and also on the future baseline scenario.

3.1.2 DSA is not yet a licensed airport with very few movements other than a small number of movements by 2Excel Aviation, which were approved by CDC. These flights do not carry passengers or cargo and operate on an unlicensed basis.

3.1.3 Therefore, this baseline predominantly provides information on existing traffic patterns from other airspace users. CAP1616 requires the baseline scenario to be appraised in this IOA as it provides a means of comparing the options to better understand and highlight the benefits and impacts of each new option. The baseline will also continue to be appraised as part of the Full Options Appraisal and Final Options Appraisal at Stage 3 and Stage 4.

3.1.4 As part of the Stage 2A options development, we considered 4 options with 3 of those options proposed by our stakeholders.

3.1.5 One of those options, Option 0, was discounted ahead of Design Principle Evaluation as it did not meet the objective of the proposed change, as set out in the Statement of Need, which is to is to re-establish controlled airspace, Standard Instrument Departures (SIDs), Standard Terminal Arrival Routes (STARs), and Instrument Approach Procedures (IAPs) serving DSA.

3.1.6 DSA then undertook a Design Principle Evaluation where we evaluated each of the 3 remaining options against each Design Principle. This was the first opportunity to shortlist options before we progress to this IOA.

3.1.7 The outcome of our Stage 2A Design Principle Evaluation was that Option 1 was discontinued.

3.1.8 The sub sections below provide a high-level overview of Options 2 and 3 taken to this IOA. More information about how we have developed and evaluated these options is available in our Stage 2A submission document on the CAA Airspace Change Portal.

3.1.9 All route centrelines, controlled airspace dimensions and classifications in Options 2 and 3 are subject to change. They will be further refined as we seek to evolve a solution that best balances the competing stakeholder requirements, in accordance with further stakeholder consultation and engagement and in accordance with CAA Policy and airspace and Instrument Flight Procedure (IFP) design criteria.

3.2 Option 2 – Refinement of the 2022 design (Option 1) due stakeholder feedback or to align with CAA policy

3.2.1 This option would be similar to the previous notified airspace arrangements at the time of the airport's closure in 2022, but not identical. If this option were to be progressed, there could be further refinements identified but at this stage, the following adjustments have been identified:

- The addition of an earlier FL60 point on the RWY02 UPTON SID to enable a reduction in the volume of controlled airspace to the north-west.
- A new SID termination point to the SW of UPTON for UPTON SIDs
- Remove of the RWY20 left turn UPTON SID
- Adjustment to the ROGAG SIDs to ensure at least 2nm containment from the edge of controlled airspace

- Revised CTA boundaries to the west of the CTR to reduce the overall volume together with a proposed reduction in classification from Class D to Class E+ for some CTAs.

3.2.2 Figure 2 shows the proposed DSA controlled airspace construct with SID and final approach centrelines as well as DSA's NPRs. Airspace classifications are Class D unless stated otherwise.

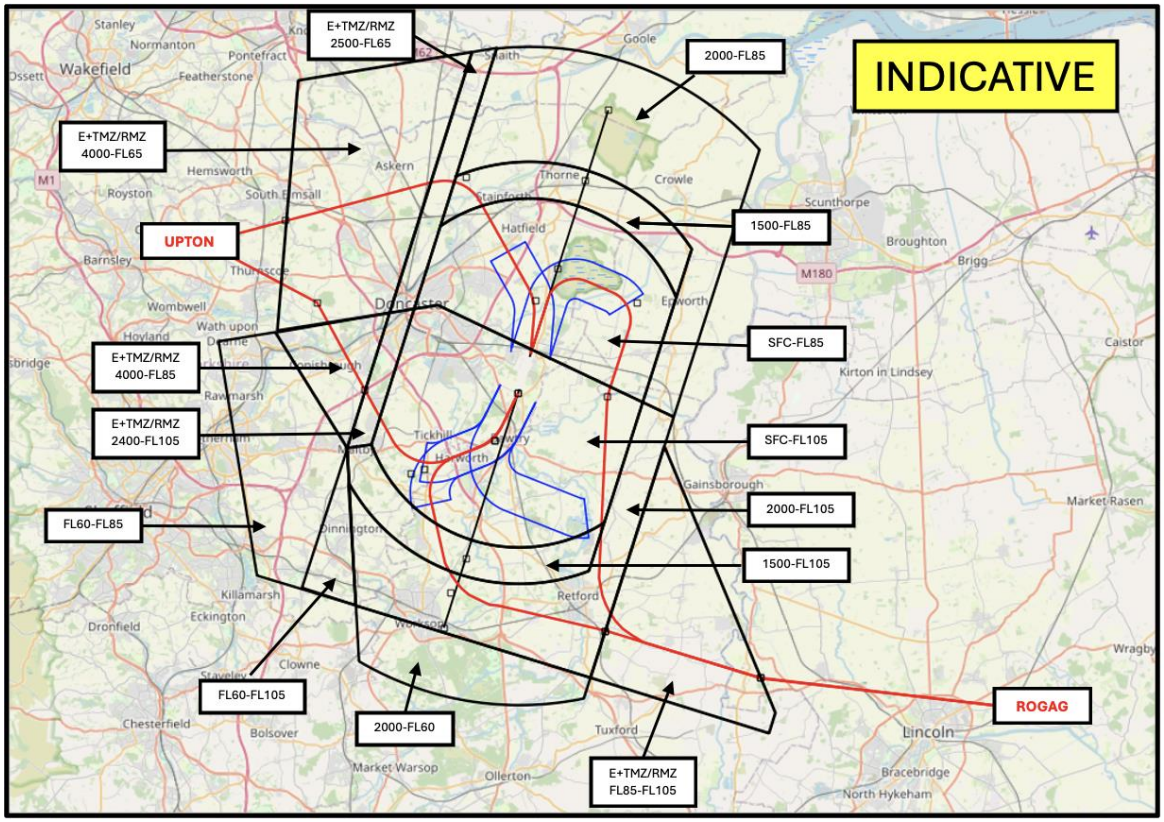


*Figure 2: Option 2 **(ILLUSTRATIVE)***

3.2.3 ATC would vector all arrivals onto final approach, usually to the Instrument Landing System (ILS) or occasionally to the RNP Approach. Departures will follow RNAV1 SIDs unless vectored when beyond the NPR or if required for safety reasons. Omni-Directional Departures will exist for any aircraft unable to fly the RNAV1 SIDs.

3.2.4 Whilst this option has different controlled airspace dimensions and classifications compared to the previous design (Option 1), we would expect the traffic patterns below 7,000ft to closely reflect those previously experienced, with some small differences above approximately 6000ft on the RWY 20 ROGAG and RWY 20/02 UPTON SIDs owing to their proposed adjustments.

3.3 Option 3 - Use of Radius-to-Fix to create less restrictive CAS structures and to aid future MTMA integration

3.3.1 Option 3 as illustrated in Figure 3 uses RNP with RF to create a very different proposal which attempts to:

- Reduce the numbers of people affected by noise and overflight[2] and remain aligned with DSA's existing NPRs

[2] This is based on qualitative judgment and cannot yet be confirmed.

- Contain flight paths within the smallest amount of controlled airspace
- Position departures to the south of DSA as much as technically possible to aid existing and future MTMA integration
- Enhance systemisation for both DSA ATC and the surrounding MTMA network design

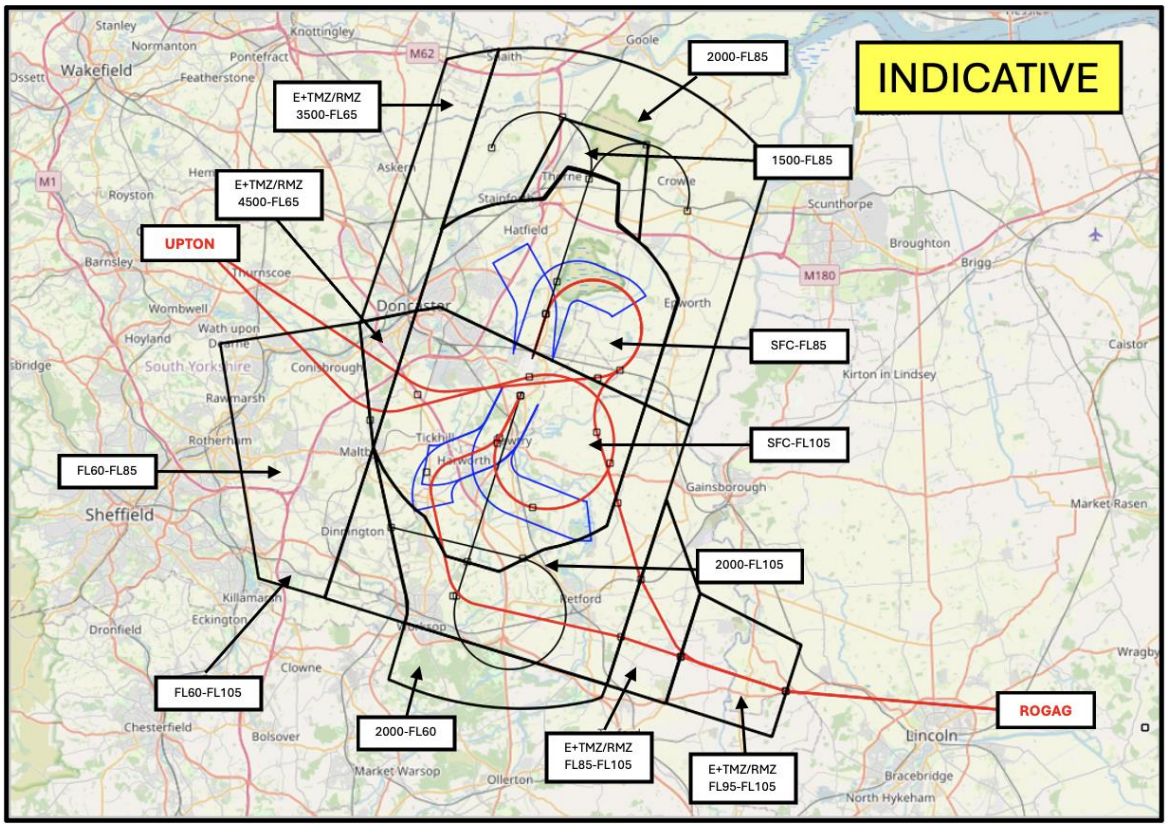


Figure 3: Option 3 ***(ILLUSTRATIVE)***

3.3.2 ATC would commonly vector arrivals onto the PBN procedures which they could follow from c. FL60/5000ft round onto final approach, usually to the Instrument Landing System (ILS) or occasionally to the RNP Approach. Departures will follow RNP1+RF SIDs unless vectored when beyond the NPR or if required for safety reasons. Omni-Directional Departures will exist for any aircraft unable to fly the RNP1+RF SIDs either due to aircraft navigational capability or if unable to meet the climb gradients, some of which could be greater than 8%.

3.3.3 This option has different controlled airspace dimensions and classifications compared to Options 1 and 2 and a more systemised airspace design with arrivals following PBN procedures from a higher altitude. The use of RF provides a higher degree of concentration compared to the patterns associated with Option 2.

4. INITIAL OPTIONS APPRAISAL METHODOLOGY

4.1.1 The Initial Options Appraisal (IOA) is the first stage in a three-phase appraisal of airspace change options. It involves the mainly qualitative appraisal of the airspace change options that have proceeded from Step 2A (outlined in previous section of this document).

4.1.2 As options progress through the airspace change process, the two following appraisals, the Full Options Appraisal and Final Options Appraisal undertaken at Stage 3 and 4, will quantitively evaluate options in further detail.

4.1.3 The following sections outline the methodology DSA have followed whilst appraising its airspace change options as part of this IOA.

4.2 Defining the baseline 'do nothing' scenario

4.2.1 As part of the IOA, CAP1616 requires airspace change sponsors to undertake an assessment of the impacts of the future scenario without the airspace change so that a comparison can be made against the impacts of the design options.

4.2.2 For full context, the relevant section from CAP1616 f, paragraphs 3.11-3.14 (page 30) are included below.

The change sponsor must develop the baseline scenarios

3.11 The change sponsor must undertake an assessment of the impacts of the future scenario without the airspace change so that a comparison can be made against the impacts of the design options.

3.12 Because of the time needed to go through the airspace change process and implement change, the future scenario without airspace change will need to assume the current-day airspace situation (that is, airspace structures and behaviours) but reflect other changes to the use of the airspace independent of the proposed airspace change, for example, traffic growth and fleet changes that occur as part of business as usual. The future scenarios without the airspace change must also take account of anticipated changes to the types of aircraft operating in the airspace. Throughout this guidance, baseline scenarios is the term used to refer to these future scenarios without the airspace change and are developed for:

- year of implementation without the airspace change proposal (year 1); and
- 10-years after implementation without the airspace change proposal (year 10).

3.13 The baseline scenarios must also be considered in relation to their context which may be changing, by taking due consideration of known or anticipated factors that might affect it. For example, the change sponsor must identify and take account of any planned housing developments which have been given consent or known housing provision allocated within local development frameworks. These additional housing provisions must be factored into the baseline as they increase households and population affected by the change. Inclusion of planned housing development must be agreed with relevant stakeholders including local authorities.

3.14 Change sponsors must not assume that an airspace change has already taken place as part of the future baseline scenario, since this would have required an airspace change decision and associated assessment.

4.2.3 In the case of DSA, the baseline scenario is what is there today, as described in "Current Day Scenario" Section 3 of the Stage 1 Design Principle Submission Document. That is without a licensed, operational Doncaster Sheffield Airport.

4.2.4 A future baseline for this ACP in any year does not change, or what would change in terms of the operations of other airspace users, cannot be reasonably forecast by CDC. We cannot predict how other

airports, military operations or general aviation activities would evolve out to 2037 (10-years after implementation).

4.2.5 As CAP1616f 3.14 states that change sponsors must not assume that an airspace change has already taken place as part of the future baseline scenario, since this would have required an airspace change decision and associated assessment. Therefore, CDC cannot assume any change to the surrounding airspace structures in the future baselines.

4.3 Planned Developments

4.3.1 The future Year 1 (2028) and Year 10 (2037) baseline scenarios for this ACP are therefore as described in The Current Day Scenario with the exception of us taking account of any planned housing developments which have been given consent or known housing provision allocated within local development frameworks. These have been provisionally[3] identified and are set out below.

[3] Inclusion of planned housing development must be agreed with relevant stakeholders including local authorities (CAP1616f 3.13). The housing developments have not yet been agreed for inclusion with local authorities in this stage of the ACP. They will be agreed prior to Full Options Appraisal in Stage 3.

4.3.2 Table 3 provides information on planned developments in the approximate 0-4000ft geographical location, Table 4 provides information on planned developments in the approximate 4000-7000ft geographical location.

Local Council Authority	Type of Development	Size of Development	Location	Status	Additional Comments	Map Ref
North Lincolnshire Council	Residential- Houses	120 dwellings	Land north of Newlands Lane, Epworth	Awaiting Decision	Portal Page Link	1
North Lincolnshire Council	Residential- Houses	41 dwellings	land north of Godnow Road, Crowle, Scunthorpe	Awaiting Decision	Portal Page Link	2
North Lincolnshire Council	Residential- Houses	67 dwellings	5-7 Eastoft Road, Crowle, Scunthorpe, DN17 4LP	Awaiting Decision	Portal Page Link	3
Bassetlaw District Council	Residential- Houses	<1300 dwellings	Land South of Scrooby Road and North of Snape Lane, Harworth, South Yorkshire	Awaiting Decision	Portal Page Link	4
Bassetlaw District Council	Residential- Houses	52 dwellings	Land South of Tickhill oad (Phase 3), Harworth, South Yorkshire	Awaiting Decision	Portal Page Link	5
Bassetlaw District Council	Residential- Houses	95 dwellings	School Land and Access Kingston Road, Worksop, Nottinghamshire	Awaiting Decision	Portal Page Link	6
Bassetlaw District Council	Residential- Houses	24 dwellings	Land at Church Farm, Main Street, Hayton, Nottinghamshire	Awaiting Decision	Portal Page Link	7
Bassetlaw District Council	Residential- Houses	45 dwellings	Land Adjacent to Grovewood Road, Miserton, South Yorkshire	Awaiting Decision	Portal Page Link	8
City of Doncaster Council	Residential- Houses	285 dwellings	Land South of Grange Lane, New Rossington Doncaster	Awaiting Decision	Portal Page Link	9
City of Doncaster Council	Residential- Houses	<200 dwellings	Land South of Ladycroft Road, Armthorpe, Doncaster	Awaiting Decision	Portal Page Link	10
City of Doncaster Council	Residential- Houses	542 dwellings	Hungerhill Business Park, Herald Road, Edenthorpe DN3 2JY	Approved	Portal Page Link	11
City of Doncaster Council	Residential- Flats	248 dwellings	Land to the East of Mere Lane, Edenthorpe, Doncaster, DN32BF	Approved	Portal Page Link	19
City of Doncaster Council	Residential- Houses	150 dwellings	Land North of Hatfield lane, Barnby Dun, Doncaster DN3 1DE	Approved	Portal Page Link	20
City of Doncaster Council	Residential- Houses	273 dwellings	Land at Former Bawtry Carbon Works, Austerfield, DN10 6QT	Awaiting Decision	Portal Page Link	21
City of Doncaster Council	Residential- Houses	111 dwellings	Land off Doncaster Road, Branton, Doncaster	Awaiting Decision	Portal Page Link	23

City of Doncaster Council	Place of Worship/education	N/A	Belvedere House, 113 Thorne Road, Wheatley, Doncaster, DN2 5BQ	Awaiting Decision	Portal Page Link	24
City of Doncaster Council	Residential- Flats	22 dwellings	Adjacent Tadcaster Arms Hotel Doncaster Road Armthorpe Doncaster DN3 2BY	Approved	Portal Page Link	29
City of Doncaster Council	Residential- Flats & Houses	101 dwellings	Ground Floor Carr House Centre Danum Road Bennetthorpe Doncaster DN4 5HF	Awaiting Decision	Portal Page Link	30
City of Doncaster Council	Residential- Houses	21 dwellings	Land North Of The Railway Line Rose Hill Rise Rose Hill Doncaster DN4 5LE	Approved	Portal Page Link	32
City of Doncaster Council	Residential- Houses	187 dwellings	Land East Of Warning Tongue Lane Cantley Doncaster DN4 6TT	Approved	Portal Page Link	34
City of Doncaster Council	Residential- Houses	126 dwellings	Land At Former Rossington Colliery West End Lane New Rossington Doncaster DN11 0TT	Approved	Portal Page Link	35
City of Doncaster Council	Residential- Houses	31 dwelling	Land South Of South End Thorne Doncaster DN8 5QP	Awaiting Decision	Portal Page Link	36
City of Doncaster Council	Residential and Education	150 dwellings	Manor Farm, Bessacarr Lane, Bessacarr, Doncaster DN4 7PU	Awaiting Decision	Portal Page Link	37
City of Doncaster Council	Residential and Education	400 dwellings + Primary school	Land North West of Hatfield Lane, Armthorpe, Doncaster DN3 3HA	Approved	Portal Page Link	40
City of Doncaster Council	Education	75 pupils	Wincanton Middle Bank House Middle Bank Lakeside Doncaster DN4 5PF	Approved	Portal Page Link	41
City of Doncaster Council	Residential- Houses	34 dwellings	Land East of Hurst Lane, Auckley, Doncaster, DN9 3QJ	Awaiting Decision	Portal Page Link	44
City of Doncaster Council	Residential- Houses	229 dwellings	Land At Waggons Way Stainforth Doncaster	Awaiting Decision	Portal Page Link	46
City of Doncaster Council	Medical Centre	1	Land South West Of West End Lane New Rossington Doncaster DN11 0PQ	Approved	Portal Page Link	49
City of Doncaster Council	Residential- Houses	1400 dwellings	Land South Of Hurst Lane Auckley Doncaster	Awaiting Decision	Portal Page Link	50
City of Doncaster Council	Residential- Houses	139 dwellings	Land North West Of Neale Road Wheatley Doncaster DN2 4PG	Approved- Permission not Required	Portal Page Link	51

City of Doncaster Council	Residential- Houses	215 dwellings	Land off Alexandra Street, Thorne, DN8 4EY	Awaiting Decision	Portal Page Link	52
City of Doncaster Council	Residential- Houses	50 dwellings	Former McCormick Tractors International Wheatley Hall Road Wheatley Doncaster DN2 4PG	Approved- Permission not Required	Portal Page Link	53
City of Doncaster Council	Residential- Houses	382 dwellings	Land On The East Side Of Hatfield Lane Armthorpe Doncaster DN3 3HA	Approved- Permission not Required	Portal Page Link	54
City of Doncaster Council	Residential- Houses	184 dwellings	1 Garland Road New Rossington Doncaster DN11 0ZG	Approved- Permission not Required	Portal Page Link	55
City of Doncaster Council	Residential- Houses	166 dwellings	Land at Cammidge Way, Bessacarr, Doncaster	Awaiting Decision	Portal Page Link	57
Rotheram Metropolitan Borough Council	Residential- Houses	185 dwellings	land north of Tickhill Road Maltby	Granted Conditionally	Portal Page Link	70

Table 3: Planned housing developments in the approximate 0-4000ft geographical area

Local Council Authority	Type of Development	Size of Development	Location	Status	Additional Comments	Map Ref
North Lincolnshire Council	Residential- Houses	36 dwellings	DN17 1TY	Approved with Conditions	Portal Page Link	12
North Lincolnshire Council	Residential- Houses	144 dwellings	Land Off Burringham Road, Ashby Parklands, Scunthorpe	Approved with Conditions	Portal Page Link	13
North Lincolnshire Council	Residential- Houses	550 dwellings	Land East of M181/A1077(M), Burringham, SCUNTHORPE, DN17 1US	Pending	Portal Page Link	14
North Lincolnshire Council	Residential- Houses	158 dwellings	Land north of Burringham Road, Burringham Road, Scunthorpe, DN17 2AA	Pending	Portal Page Link	15
City of Doncaster Council	Residential- Houses	186 dwellings	DN4 9AP	Approved	Portal Page Link	16
City of Doncaster Council	Residential- Houses	195 dwellings	DN12 3LR	Approved	Portal Page Link	17
City of Doncaster Council	Residential- Houses	26 dwellings	S640EW	Approved	Portal Page Link	18

City of Doncaster Council	Residential- Houses	53 dwellings	Land South of Lutterworth Drive, Adwick Le Street, Doncaster DN6 7DF	Approved	Portal Page Link	22
City of Doncaster Council	Place of Worship	N/A	56-60 Silver Street, Doncaster, DN11HT	Approved	Portal Page Link	25
City of Doncaster Council	Residential- Houses	58 dwellings	Paddocks West of 100 Doncaster Road, Harlington, Doncaster, DN5 7JB	Approved	Portal Page Link	26
City of Doncaster Council	Residential- Houses	86 dwellings	Land South of Jossey Lane, Scawthorpe, DN5 9ED	Approved	Portal Page Link	27
City of Doncaster Council	Residential- Houses	63 dwellings	Land to rear of 22-72 Ownston Road, Carcroft, Doncaster DN6 8DL	Approved	Portal Page Link	28
City of Doncaster Council	Residential- Houses	4 dwellings	Land On The North East Side Of Sandford Road Balby Doncaster DN4 8DU	Approved	Portal Planning Page	31
City of Doncaster Council	Residential- Houses	57 dwellings	Previously Developed Land Cross Bank Balby Doncaster DN4 8BE	Awaiting Decision	Portal Page Link	33
Metropolitan Borough of Rotherham	Residential- Houses	95 dwellings	Land to the North of Barnborough Lane, Goldthorpe, Rotherham	Approved	Portal Page Link	38
City of Doncaster Council	Residential- Houses	333 dwellings	Former Yorkshire Main Colliery Tip Site Lords Head Lane Warmsworth Doncaster DN4 9LP	Awaiting Decision	Portal Page Link	39
City of Doncaster Council	Residential- Houses	191 dwellings	High Street, Askern, Doncaster, DN6 0AA	Awaiting Decision	Portal Page Link	43
City of Doncaster Council	Residential- Houses	35 dwellings	Former Adwick Depot Land Off Village Street Adwick Le Street Doncaster DN6 7AA	Approved- Permission not Req	Portal Page Link	45
City of Doncaster Council	Residential- Houses	59 dwellings	Land At Watch House Lane Bentley Doncaster DN5 9LR	Approved	Portal Page Link	47
City of Doncaster Council	Residential- Flats	20 dwellings	7-9 Hall Gate, Doncaster SN1 3LU	Approved	Portal Page Link	42
City of Doncaster Council	Residential- Flats	33 dwellings	Frenchgte Centre, St Sepulchre Gate, Docaster DN1 1LJ	Awaiting Decision	Portal Page Link	48
City of Doncaster Council	Residential- Houses	671 dwellings	Informal Land Eden Grove Hexthorpe Doncaster DN4 0DA	Approved- Planning not Req	Portal Page Link	56

City of Doncaster Council	Education	1 new school	The Old Rectory Holywell Lane Braithwell Rotherham S66 7AF	Approved	Portal Page Link	58
City of Doncaster Council	Residential- Houses	27 dwellings	1 Fullwood Drive Balby Doncaster DN4 8QH	Permission not required	Portal Page Link	59
Derbyshire County Council	Residential- Houses	450 dwellings	Former Whitwell Colliery, Station Road, Whitwell, S80 4TS	Approved	Portal Page Link	60
Mansfield District Council	Residential- Houses	107 dwellings	Land North Of Netherfield Lane Meden Vale Notts	Registered	Portal Page Link	61
Wakefield Metropolitan District Council	Residential- Houses	211 dwellings	Land Between Ackworth Road And Hardwick Road Pontefract	Approved	Portsl Page Link	62
Wakefield Metropolitan District Council	Residential- houses	287 dwellings	Land To The East Of Wakefield Road Hemsworth	Awaiting Decision	Portal Page Link	63
Wakefield Metropolitan District Council	Residential- Houses	29 dwellings	Land Off Honeysuckle Walk South Elmsall Pontefract WF9 2FS	Awaiting Decision	Portal Page Link	64
Wakefield Metropolitan District Council	Residential- Houses	104 dwellings	Land South Of Mayfields Way And Parkgate, South Kirkby (HS45)	Awaiting Decision	Portal Page Link	65
Wakefield Metropolitan District Council	Residential- Houses	168 dwellings	Oak Tree Grove (Land At) Hemsworth Pontefract WF9 4TJ	Awaiting Decision	Portal Page Link	66
Wakefield Metropolitan District Council	Residential- Houses	190 dwellings	Land at Holem Farm, Carlton	Awaiting Decision	Portal Page Link	67
Wakefield Metropolitan District Council	Residential- Houses	73 dwellings	Land Off Wentworth Terrace Fitzwilliam WF9 5BZ	Awaiting Decision	Portal Page Link	68
East Riding District Council	Residential- Houses	600 dwellings	Beal Homes Development Site Rawcliffe Road Goole East Riding Of Yorkshire DN14 8JN	Approved	Portal Page Link	69
Rotheram Metropolitan Borough Council	Residential- Houses	785 dwellings	Land at Oldcotes Road Dinnington	Proposed to be delegated	Portal Page Link	71
Rotheram Metropolitan Borough Council	Residential- Houses	260 dwellings	Land at Cumwell Lane Hellaby	Proposed to be delegated	Portal Page Link	72
Rotheram Metropolitan Borough Council	Residential- Houses	107 dwellings	Land south of Mansfield Road Aston	Proposed to be committee	Portal Page Link	73

Table 4: Planned housing developments in the approximate 4000-7000ft geographical area

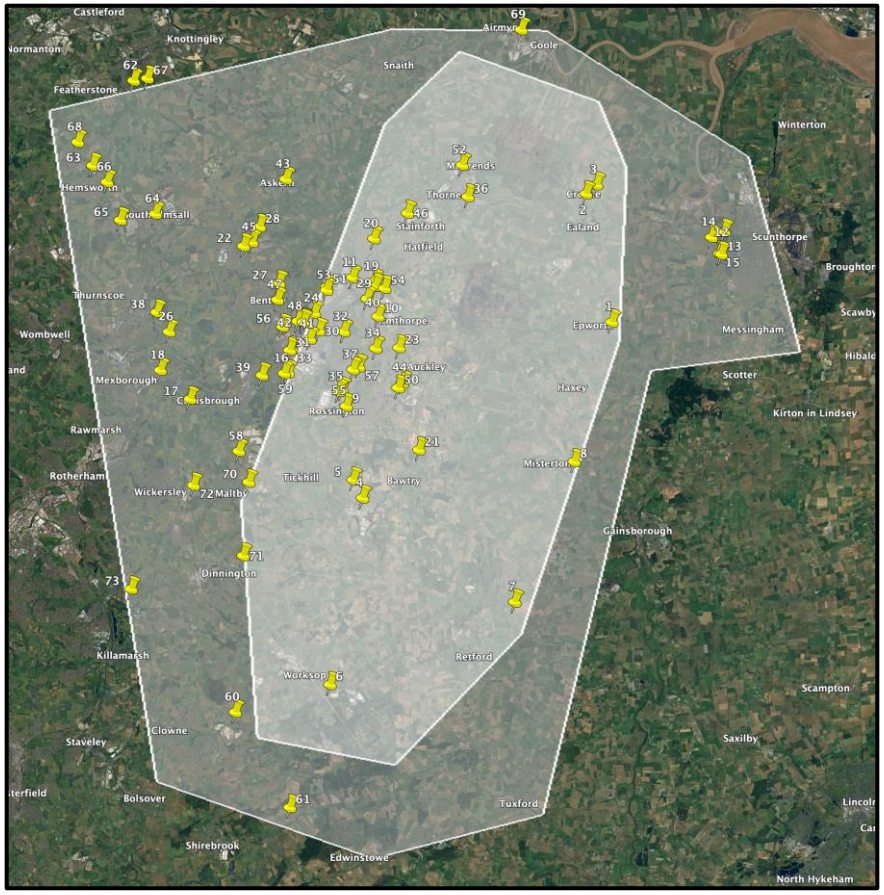


Figure 4: Map of housing development locations

4.3.3 Table 5 provides information on Local Plans from the local councils in the potentially impacted area.

Council	Link to Local Plan	Net Houses	Settlement Location	Settlement	Percentage of Overall Supply	Total New Dwelling Allocation	Additional Information
City of Doncaster Council	Doncaster Local Plan	15,907 new dwellings	Doncaster Main Urban Area	Doncaster Main Urban Area	45%	7,182	Potential Development Sites:

Council	Link to Local Plan	Net Houses	Settlement Location	Settlement	Percentage of Overall Supply	Total New Dwelling Allocation	Additional Information
		(920 per annum 2018-2035)	Main Towns	Adwick-le-Street- Woodlands	40%	482	-could hold up to 1,438 homes but not formally allocated - Not counted in Net house total 11 hectares of land (DSA02) allocated for housing to accommodate up to 280 dwellings to support initial phases of airport expansion Full appendix of housing sites on pg.255
				Armthorpe		1,049	
				Conisbrough- Denaby		528	
				Dunscroft, Dunsville, Hatfield & Stainforth		1,968	
				Mexborough		310	
				Rossington		1,282	
				Thorne- Moorends		724	
			Service Towns and Villages	Askern	15%	691	
				Auckley- Hayfield Green		255	
				Banburgh- Harlington		66	
				Barnby Dun		104	
				Bawtry		90	
				Carcroft- Skellow		307	
				Edlington		665	
				Finningley		50	
				Sprotborough		80	
				Tickhill		74	
Total: 15,907							
Rotherham Metropolitan Borough Council	Rotherham Core Strategy	14,000+ new dwellings (By 2027)	Rotherham Uban Area	Rotherham Urban Area	38%	5,471	
			Principle Settlements for Growth	Dinnington, Anston and Laughton Common (including Dinnington East Broad Location for growth)	24%	1,300	
				Wath-upon-Dearne, Brampton Bierlow and West Melton		1,300	
				Bramley, Wickersley and Ravenfield Common		800	
			Principle Settlements	Waverley	33%	2,500	
				Maltby and Hellaby		700	

Council	Link to Local Plan	Net Houses	Settlement Location	Settlement	Percentage of Overall Supply	Total New Dwelling Allocation	Additional Information
				Aston, Aughton and Swallownest		560	
				Swinton and Kilnhurst		560	
				Wales and Kiveton Park		370	
			Local Service Centres	Catcliffe, Treeton and Orgreave		170	
				Thorpe Helsey		170	
				Thurcroft		300	
				Todwick			
				Harthill			
				Woodsetts		170	
			Other Villages	Laughton en le Morthen			
				Harley			
			Green belt villages	N/A	0%	0	
Total: 14,371							
Metropolitan Borough of Barnsley	Barnsley Local Plan	21,546 dwellings (2014-2033)	Urban Barnsley	Urban Barnsley	43%	9070	Percentages of overall supply include 4295 dwellings proposed as part of mixed use sites.
			Settlements	Cudworth	6%	1303	
				Dearne	14%	2891	
				Hoyland	12%	2567	
				Penistone	5%	1003	
				Royston	6%	1302	
				Wombwell	20%	2069	
				Other	4%	801	
Total: 21,006							
Bassettlaw District Council	Bassetlaw Local Plan	9720 new dwellings by 2028	Main Towns	Worksop	25%	2,560	
				Retford	22.60%	2,331	
				Harworth & Bircotes	21.40%	2,203	

Council	Link to Local Plan	Net Houses	Settlement Location	Settlement	Percentage of Overall Supply	Total New Dwelling Allocation	Additional Information
		(540 dwellings per annum)	Large Rural Settlements	Blyth/ Carlton in Lindrick And Costhorpe/ Langold & Hodsock/ Misterton/ Tuxford	13.7%	1,412	
			Small Rural Settlements	Not detailed	16.70%	1,715	
			Other villages and countryside	Not detailed	.6%	64	
Total: 10,285							
East Riding District Council	East Riding Local Plan	20,900+ new dwellings (1,100 new homes per annum)	Major Haltemprice Settlements	Anlaby	14%	3,120	5,097 of the new dwellings were completed between 2021/22-2022-23
				Willerby			
				Kirk Ella			
				Cottingham			
				Hessle			
			Principle Towns	Beverley	13%	3,010	
				Brindlington	13%	2,850	
				Driffield	10%	2,250	
				Goole	4%	855	
			Towns	Elloughton-cum-Brough	26%	915	
				Hedon		9	
				Hornsea		660	
				Howden		2140	
				Market Weighton		840	
				Pocklington		770	
				Withernsea		350	
			Rural Service Centres and Primary Villages		14%	3075	
			Villages and the Countryside		7%	1500	
Total: 22,344							
Wakefield District Council	Wakefield Local Plan	26,600 new dwellings	Main Urban Area	Sub Regional City of Wakefield	20%		Exact numbers not provided
			Principle Towns	Castleford	20%		

Council	Link to Local Plan	Net Houses	Settlement Location	Settlement	Percentage of Overall Supply	Total New Dwelling Allocation	Additional Information
		between 2017 and 2036 (1,400 homes per annum)		Pontefract	10%		
			Other Urban Areas	Featherstone	40%		
				Hemsworth			
				Knottingley			
				Normanton			
				South Elmsall/South Kirkby			
			Local Service Centres		8%		
			Villages and the Countryside		2%		
North Lincolnshire Council	Local Plan currently withdrawn https://localplan.northlincs.gov.uk/news						
North Yorkshire Council	No current local Plan- consultation https://www.northyorks.gov.uk/planning-and-conservation/planning-policy/north-yorkshire-local-plan						

Table 5: Local Plan information

4.3.4 At this stage, the local development work presented above provides an indication of the planned developments within the immediate vicinity of DSA, particularly within the scope of the primary noise contours.

4.3.5 When undertaking the qualitative assessment, we have cross referenced against this initial data however owing to fidelity of the assessment at this stage, and the developments identified above are typically within or adjacent to areas of existing population, they have not been called out as part of the IOA assessments unless they have potential to fall within the 63dB L_{Aeq16h} contour as this could mean additional costs for the airport in terms of financial assistance towards acoustic insulation.

4.3.6 In Stage 3, full quantitative noise assessment forms part of the Full Options Appraisal (FOA), and as part of this a full review of the local development data will be undertaken to ensure it is up to date and relevant at the point of undertaking the assessment.

Year of Implementation, Movement Numbers and Traffic Forecast

4.3.7 CAP1616 requires ACP Sponsors to consider the forecast growth of their operation in terms of the forecast number of movements. This forecast should not only consider growth between now and implementation of the proposed changes, but it should also consider the potential growth to 10 years beyond the implementation date.

4.3.8 This ACP is expected to be implemented in March 2028, with 10 years beyond this assessed as 2037.

4.3.9 Conversations between CDC and their future operators are constantly evolving. Table 6 below sets out DSA's latest forecasts as of February 2026. This forecast see's DSA reaching their Section 106 limit of 4,140 cargo ATMs in 2034. Any increase to this limit would require a separate planning process outside of the scope of this ACP. Cargo ATMs have therefore been flatlined from 2034 to 2037.

Year	ATMs
2028	1,841
2037	12,329

Table 6: DSA Traffic Forecast

Modal Split

4.3.10 Runway usage can vary considerably from year to year due to variations in wind direction. This modal split us produced using long-term average runway usage. In the case of DSA there isn't a long-term average that can be used. However, analysis of radar data from 16th June – 15th Sept 2022 provides the following modal split:

Year	RWY 02	RWY 20
92 day summer	36.7%	63.3%

Table 7: 2022 Modal Split

4.3.11 The quantitative assessments in the Full Options Appraisal in Stage 3 will apply this same modal split.

4.4 Initial Options Appraisal Methodology

Safety (all) - Methodology

4.4.1 A qualitative safety assessment of each option which compares against the baseline. Further detailed safety assessment work will be undertaken as part of Stage 3, followed by further work in preparation for ACP submission at Stage 4.

Communities, Impact: Noise - Methodology

4.4.2 At Stage 2, CAP1616 requires a qualitative assessment of the options shortlisted following the Stage 2A DPE and therefore for the purposes of this IOA, each option has been qualitatively assessed against the baseline when considering potential impacts to noise.

4.4.3 There are a range of metrics used to describe aircraft noise and to inform policy. The most common international measure of noise is the L_{Aeq} which means 'equivalent continuous noise level'.

4.4.4 In the UK, daytime aircraft noise is typically measured by calculating the average noise level in decibels (dB) over 16 hours (0700-2300) during the daytime summer period, and over 8 hours (2300-0700) during the nighttime summer period. The summer period is 16 June to 15 September inclusive. Noise primary impacts are defined by these L_{Aeq} contours, above 51dB L_{Aeq} for day and 45dB L_{Aeq} for night. These are known as the Lowest Observed Adverse Effect Level or LOAEL.

4.4.5 The LOAEL is defined as the point at which adverse effects of noise begin to be seen on a community basis. i.e. those communities within the LOAEL are considered to be those who are most adversely affected by aircraft noise. The shape of these contours are directly influenced by the position of the flight paths, especially at c.4,000ft and below. The size of these contours are determined largely by four main factors:

- The type of aircraft using the airport
- The number of aircraft using the airport
- The frequency of use of each flight path
- The height of aircraft on those flight paths

4.4.6 Inevitably, the numbers of people within the LOAEL will increase with any option compared to the future baseline, which sees close to zero flights operating from the airport. In the future baseline, there is no LOAEL and therefore no people are adversely affected from DSA operations.

4.4.7 At this stage, quantitative L_{Aeq} assessment has not been undertaken. For the purposes of informing the assessment of this IOA category, Subject Matter Experts provide a qualitative assessment of how the route positioning within Options 2 and 3 are likely to affect the overall size and shape of the day or night LOAEL. This assessment has been partially informed by the last available $L_{Aeq\ 16h}$ contours generated for DSA in 2017, please see the 'Other cost' section for further details

4.4.8 In addition to the qualitative assessment of the impacts to the L_{Aeq}, the assessment has also looked at potential overflight. When undertaking quantitative assessment, overflight is calculated using the 48.5° cone defined in CAA document CAP1498. At this stage, quantitative assessment has not been undertaken, however the potential areas of overflight have been qualitatively identified.

4.4.9 To undertake this part of the qualitative assessment for Options 2 and 3, actual data from aircraft arriving and departing from the airport in Summer 2022 has been considered and the options have then been visually compared against this data. This qualitative assessment includes consideration of the increased concentration along route centrelines that could expected from the options, where applicable, and subsequently the changes in frequency of overflight for some areas. We have also considered whether there are potentially cumulative noise impacts, particularly for departures overflying the same areas as final approach.

4.4.10 As part of the Full Options Appraisal in Stage 3, DSA will undertake full quantitative modelling of noise including L_{Aeq}, N60/65 and overflight contours and operational diagrams.

Noise modelling category

4.4.11 The CAA has published its Policy on Minimum Standards of Noise Modelling (CAP 2091). This document defines categories of noise modelling sophistication and describes the different situations where the CAA require noise calculations to be provided. Moreover, it sets out requirements for the minimum category which different stakeholder or sponsor groups should use when providing noise calculations to the CAA for them to carry out their regulatory duties.

4.4.12 CAP2091, CAA Policy on Minimum Standards for Noise Modelling, require Change Sponsors to determine and declare what Noise Modelling Category they consider is appropriate for the ACP consultation. The minimum level of sophistication of the modelling process should depend on the size of the current or proposed noise effect of the airport on its local community. The category of noise modelling required by the CAA is based on the number of residents in the 51dBL_{Aeq16h} day or 45dB$L_{Aeq,8h}$ night contours either before or after the proposed change, whichever is greater.

4.4.13 In the case of DSA, the airport is not currently operating and an up-to-date noise model is not available to determine definitively which category would apply under CAP 2091. Given these limitations, we propose to adopt a precautionary approach and assume Category E in line with CAP 2091 guidance. We can then verify whether this categorisation remains appropriate once we have modelled the 2037 scenario, representing the worst-case scenario, in the Full Options Appraisal.

Communities, Impact: Local air quality - Methodology

4.4.14 Due to the effects of mixing and dispersion, emissions of NOx, PM10 and PM2.5 from aircraft travelling above 1000ft are unlikely to have a significant impact on local air quality. The DfT's Air Navigation Guidance (2017) states that: "Studies have shown that NOx emissions from aviation related operations reduce rapidly beyond the immediate area around the runway. Therefore, the impact of airspace design on local air quality is generally negligible compared to changes in the volume of air traffic and that of the local transport infrastructures feeding the airport.". ICAO's Airport Air Quality Manual (International Civil Aviation Organization. Doc 9889 Airport Air Quality Manual. Second Edition, 2020. ICAO, Canada.) similarly states that 1000ft is the typical limiting altitude for ground-level NOx impacts from aircraft emissions. If a local authority finds any places where the national air quality objectives are not likely to be achieved, it must declare an Air Quality Management Area (AQMA) there. Then the local authority will put together a plan to improve the air quality.

4.4.15 This qualitative assessment would usually highlight if there could be lateral flight path changes below 1000ft (compared to the baseline) which could therefore have an impact on Local Air Quality. In the case of DSA, the airport is not currently operational.

4.4.16 Para 7.5 of CAP1616i sets out criteria that would trigger a detailed assessment where there may be a change in emissions due to airspace changes, and states that change sponsors must produce information on and monetise local air quality impacts only where there is a possibility of pollutants breaching legal limits and target values. This is only considered likely where:

- there is likely to be a change in aviation emissions (by volume or location) below 1,000 feet AAL; and
- the location of emissions is within or adjacent to a designated Air Quality Management Area (AQMA).

4.4.17 Given that the baseline position is that the airport is not in operation, the proposed changes will affect aviation emissions below 1,000 feet. Doncaster Metropolitan Borough Council has declared several AQMAs as part of its duties under the Local Air Quality Management (LAQM) regime. The closest (AQMA No.5) encompasses the village of Conisborough, but does not encompass the Airport, which is some distance away, and cannot be considered as "adjacent".

Both conditions in Para 7.5 of CAP1616i are, therefore, not met and a detailed local air quality assessment is not required. On this basis the assessment of the proposed airspace changes can be dealt with in a qualitative manner. This will consider:

- The proposed changes regarding aircraft emissions below 1,000 feet;
- The locations of AQMAs; and
- A summary of recent monitoring data in communities around the airport, both prior to, and after the closure of the Airport in 2022.

However, given that the number of DSA movements will be the same in either Option 2 or 3 and no AQMAs will be overflown below 1000ft in either option, there will be no discernible difference on the impact to Air Quality between options and therefore not support the argument for one option over the other in the Initial options Appraisal.

The output of the assessment will therefore be reported in a chapter of the Full Options Appraisal.

Wider society, Impact: Greenhouse gas emissions and General aviation/commercial airlines, Impact: Fuel burn – Methodology

4.4.18 An indicative quantitative assessment of changes to fuel burn and greenhouse gas impact for each departure option when compared to the baseline scenario.

4.4.19 For this initial appraisal, a comparison is made in the track length of the SIDs and expected typical arrival path to/from common points in the network for each option. The assessment assumes the same % split of directional traffic flows that were seen at the airport in 2022:

Arrival Direction	% of all arrivals
RWY 20 Arrivals joining final approach from the west side	39%
RWY 20 Arrivals joining final approach from the east side	23%
RWY 02 Arrivals (all from east side)	38%

Departure Direction	% of all departures
RWY 02 UPTON	19%
RWY 02 ROGAG	19%
RWY 20 UPTON	30%
RWY 20 ROGAG	32%

Table 8: % of arrival & departure direction

4.4.20 Using these percentages, the number of track miles flown for Year 1 and Year 10 between the common network points and the runway can be estimated for each option. This will provide an early indication of which of the 2 options is likely to be most efficient with regards fuel burn and greenhouse gas emissions although the assessment does not take into account any variation in vertical profiles that could arise within each option.

4.4.21 Fuel burn and CO_2 emissions as a result of the track mile changes have not been quantified in this IOA. As part of the Full Options Appraisal (Step 3A) we will provide an estimate of greenhouse gas emissions associated with aircraft in the landing and take-off cycle up to and from a common point in the network. The estimate will be based on fuel burn calculations taken from the noise modelling carried out in AEDT.

As necessary, these calculations will be supplemented by calculations using the Eurocontrol BADA dataset to compute CO2e.

4.4.22 Using the CO2e calculations, greenhouse gases will be monetised using the Government's TAG workbook.

Tranquillity (Wider society) - Methodology

4.4.23 CAP1616 requires the consideration of impacts upon tranquillity which is with specific reference to National Parks and Areas of Outstanding Natural Beauty (AONB), plus any locally identified 'tranquil' areas below 7000ft.

4.4.24 The closest AONB's and National parks are shown in Figure 5. There were no locally identified tranquil areas highlighted through engagement.

Figure 5: AONBs and National Parks

4.4.25 We will qualitatively assess whether the option has the potential to impact tranquillity with regards to AONBs and/or National Parks.

Wider society, Impact: Biodiversity– Methodology

4.4.26 As part of Stage 2 and as required by CAP1616, we have undertaken a Habitats Regulation Assessment (HRA) screening assessment which considers if there are any potential impacts to designated sites up to 3,000ft. The HRA screening assessment highlights if there is potential for this ACP to overfly European sites below this altitude. These sites are

- Special Areas of Conservation (SAC) and possible SACs
- Special Protection Areas (SPA) and potential SPAs
- Ramsar sites (wetlands of international importance) and proposed Ramsar sites.

4.4.27 The following sites have been identified which could experience change overflight patterns from DSA arrivals or departures:

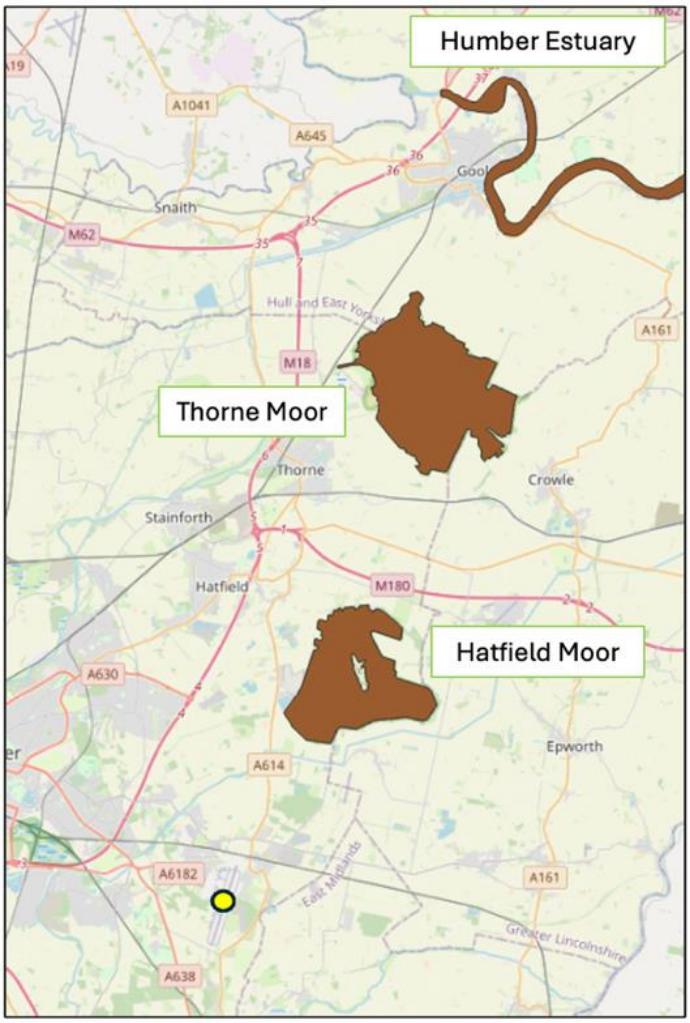


Figure 6: European sites within the scope of this ACP

4.4.28 As a result of the HRA screening exercise, an Appropriate Assessment together with information to inform a Strategy Environmental Appraisal (SEA) may be required but this is to be confirmed.

4.4.29 This partly quantitative IOA assessment will highlight the extent to which each of these sites could be overflown by DSA arrivals or departures, based on the directional traffic flows experienced in 2022 (see greenhouse gas emissions and fuel burn methodology) for each option. Where required, any HRA/SEA will be performed as in Stage 3 as part of the Full Options Appraisal.

Wider society, Impact: Capacity/resilience – Methodology

4.4.30 Subject matter experts will qualitatively assess any impacts to airport capacity and/or network resilience compared to the baseline scenario.

4.4.31 The resilience assessment will consider the level of reliance of the airport's proposed Instrument Flight Procedures on GNSS and/or ground based navigational infrastructure.

General aviation, Impact: Access – Methodology

4.4.32 A qualitative assessment of the potential impacts of each option on GA operations, including the ability to access controlled airspace in each option.

4.4.33 To support this assessment, we consider the traffic patterns of other airspace users currently through the use of Radar data from 1st May – 31st October 2025 and compare it to the traffic patterns between 1st May – 31st October 2022 when RHADS controlled airspace was in operation. Whilst Option 1 has been discontinued, use of the 2022 dataset still provides useful insight into the anticipated impacts of Options 2 and 3 on GA operations.

General aviation/commercial airlines, Impact: Economic impact from increased effective capacity – Methodology

4.4.34 This assessment provides the forecast change in air transport movements (passenger/cargo) and estimated passenger numbers carried for each option compared to the baseline scenario.

Commercial airlines, Impact: Training costs – Methodology

4.4.35 The IOA will qualitatively estimate whether any training costs would be incurred by Commercial airlines in order to implement the option.

Commercial airlines, Impact: Other costs – Methodology

4.4.36 The IOA will qualitatively estimate whether any other costs would be incurred by Commercial airlines in order to implement the option.

Airport/air navigation service provider, Impact: Infrastructure costs – Methodology

4.4.37 The airport will incur significant capital expenditure on infrastructure costs in order to provide a licensed aerodrome with H24 Approach Control (Radar) and Aerodrome Services and an instrument runway with conventional instrument approach procedures. As the Air Traffic Service offering and conventional Instrument Flight Procedures are the same with each option, this assessment will not provide any basis for selecting a preferred or best-performing option and such costs are excluded from the IOA.

Airport/air navigation service provider, Impact: Operational costs and Deployment costs – Methodology

4.4.38 The operational expenditure required to deploy the provision of a licensed and operational ANSP providing H24 Aerodrome and Approach (radar) Control Services are considerable but do not change between Option 2 or 3. Therefore, this assessment will not provide any basis for selecting a preferred or best-performing option and such costs are excluded from the IOA.

Airport/air navigation service provider, Impact: Other costs – Methodology

4.4.39 The IOA will qualitatively estimate whether any costs for the airport could be incurred in terms of financial assistance towards acoustic insulation where residents are newly exposed to noise at the 63 dB $L_{Aeq,16h}$ level or above.

4.4.40 As L_{Aeq} modelling of the options has not taken place in this stage, this qualitative assessment is informed by the 2017 $L_{Aeq,16h}$ contours produced by RHADS in support of their consultation for a previous ACP. These contours are presented in Figure 7 based on 2017 data although the consultation material does not provide any information on the numbers of RHADS movements in the summer period contributing to the contours. Based on CAA data, there were 10,804 ATMs in the 12 months of 2017 which is slightly lower than DSA's forecast ATMs for 2037.

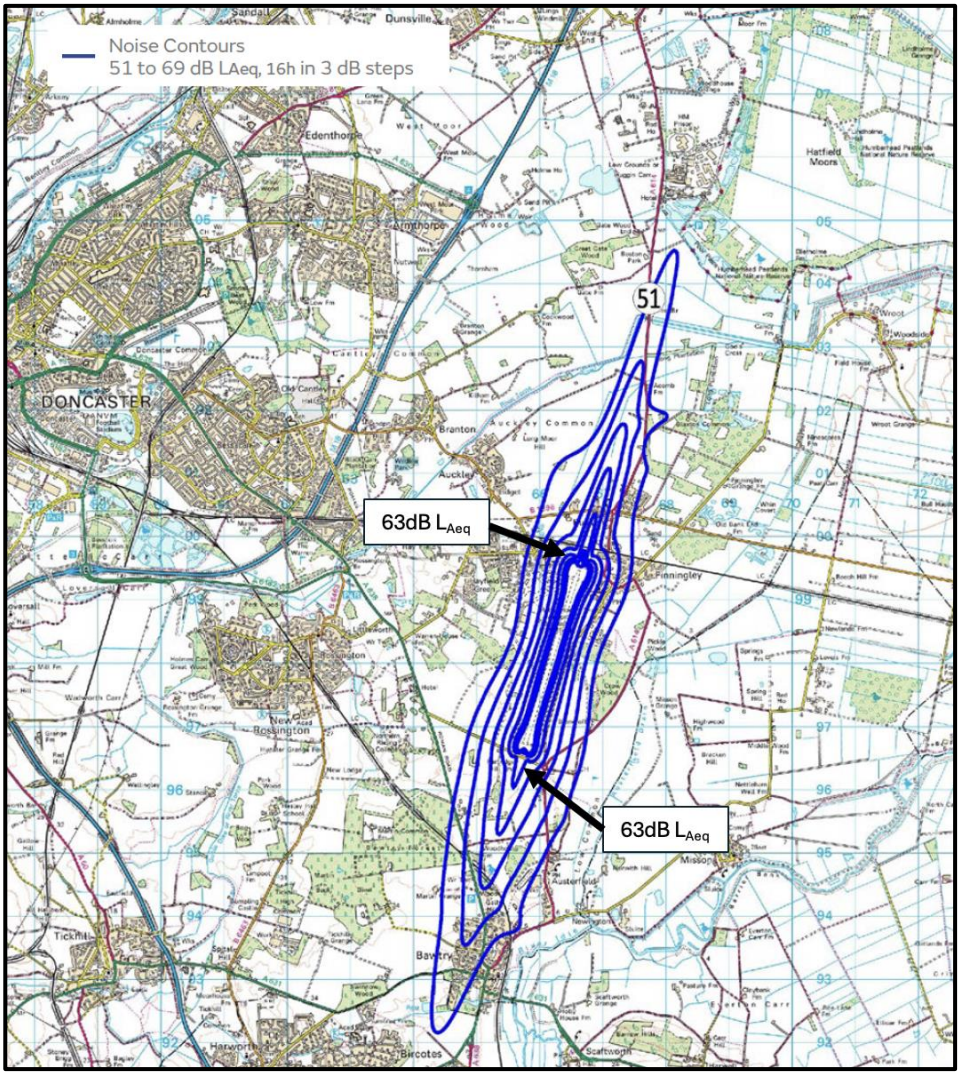


Figure 7: RHADS 2017 LAeq,16h from their 2017 consultation

4.4.41 This assessment also considers whether there are any planned developments expected within the 63 dB $L_{Aeq,16h}$ band.

4.4.42 CAP1616 also says "compensation to be considered" where residents "experience significantly increased overflight". There is no definition included for what constitutes "significantly increased overflight" but in the absence of noise and overflight modelling at this stage, we have deferred this consideration until the Full Options Appraisal in Stage 3.

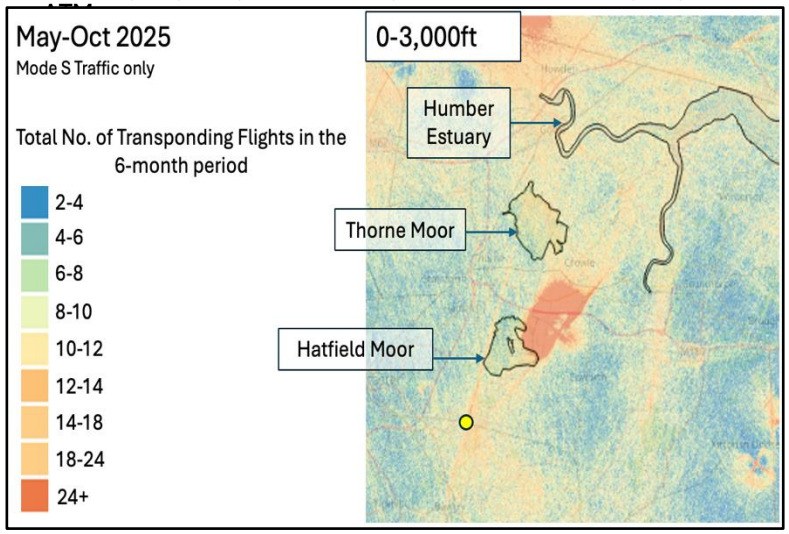
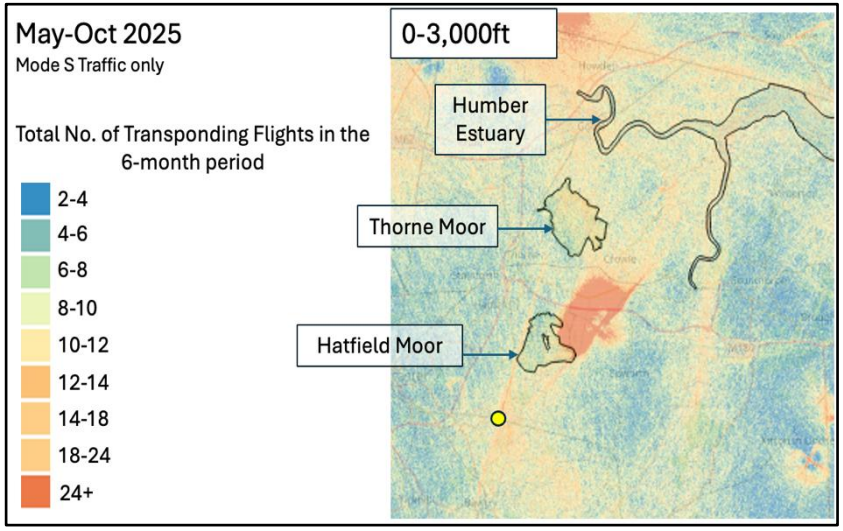
Impact on FASI MTMA – Methodology

4.4.43 This category is not a category required for consideration during the IOA by CAP1616f, nor is this ACP in direct support of CAA's Airspace Modernisation Strategy and therefore DSA is not part of Iteration 2 of ACOG's Airspace Change Masterplan. However, there could be impacts of DSA's options on the existing and future operations of adjacent airports and ANSPs. Although we cannot assume a FASI MTMA deployment, this qualitative assessment of each option does include an indication of interdependencies and included within the IOA.

5. INITIAL OPTIONS APPRAISAL

5.1 Baseline: the current day scenario

CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
Description of Option	The future Year 1 (2028) baseline scenario for this ACP are as described in The Current Day Scenario (Section 3 of the Stage 1 Submission Document) with the exception of us taking account of any planned housing developments which have been given consent or known housing provision allocated within local development frameworks. Number of DSA ATMs per year: 0	The future Year 10 (2037) baseline scenario for this ACP are as described in The Current Day Scenario (Section 3 of the Stage 1 Submission Document) with the exception of us taking account of any planned housing developments which have been given consent or known housing provision allocated within local development frameworks. 0 DSA ATMs. Number of DSA ATMs per year: 0
Safety	There is no affect on the safety performance of a future DSA operation that doesn't exist nor are CDC in a position to assess the safety performance of other airspace users' operations in the region.	
Communities, Impact: Noise	There will be no people adversely affected by noise from DSA movements.	There will be no people adversely affected by noise from DSA movements.
	There will be no people overflown below 7000ft from DSA commercial ATMs	There will be no people overflown below 7000ft from DSA commercial ATMs
Communities, Impact: Local air quality	No change (Nil NOx emissions)	No change (Nil NOx emissions)
Wider society, Impact: Greenhouse gas emissions and General aviation/commercial airlines, Impact: Fuel burn	No change (Nil emissions). The total number of track miles flown between the common network points and the runway for Year 1 is 0nm	No change (Nil emissions). The total number of track miles flown between the common network points and the runway for Year 10 is 0nm
Tranquillity (Wider society)	No change (No overflight of any AONBs or National Parks below 7000ft)	No change (No overflight of any AONBs or National Parks below 7000ft)

CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
Wider society, Impact: Biodiversity	No change. Humber Estuary, Thorne Moor and Hatfield Moor are currently regularly overflown by GA traffic but not by any DSA ATMs. 	No change. Humber Estuary, Thorne Moor and Hatfield Moor are currently regularly overflown by GA traffic but not by any DSA ATMs. 
Wider society, Impact: Capacity/resilience	Without controlled airspace for DSA there would be significant impact to the airport's commercial capacity rendering the business case unviable with the associated lost opportunity of wider societal benefits.	Without controlled airspace for DSA there would be significant impact to the airport's commercial capacity rendering the business case unviable with the associated lost opportunity of wider societal benefits.
General aviation, Impact: Access	There will be no impact to GA operations	There will be no impact to GA operations
General aviation/commercial airlines, Impact: Economic impact from increased effective capacity	In year 1 we estimate there will be 0 passenger flights carrying 0 passengers and 0 cargo flights	In year 10 we estimate there will be 0 passenger flights carrying 0 passengers and 0 cargo flights
Commercial airlines, Impact: Training costs	No training costs would be incurred by commercial airlines	No training costs would be incurred by commercial airlines
Commercial airlines, Impact: Other costs	No other costs would be incurred by commercial airlines	No other costs would be incurred by commercial airlines

CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
Airport/air navigation service provider, Impact: Infrastructure costs	No infrastructure costs would be incurred by the airport or ANSP	No infrastructure costs would be incurred by the airport or ANSP
Airport/air navigation service provider, Impact: Operational costs and Deployment costs	No operational or deployment costs would be incurred by the airport or ANSP	No operational or deployment costs would be incurred by the airport or ANSP
Airport/air navigation service provider, Impact: Other costs	No costs for the airport would be incurred in terms of financial assistance towards acoustic insulation where residents are newly exposed to noise at the 63 dB LAeq,16h level or above	No costs for the airport would be incurred in terms of financial assistance towards acoustic insulation where residents are newly exposed to noise at the 63 dB LAeq,16h level or above
Interdependencies	No impact to NERL, Leeds Bradford Airport, Manchester Airport, East Midlands Airport, MoD or NERL	No impact to NERL, Leeds Bradford Airport, Manchester Airport, East Midlands Airport, MoD or NERL

Table 9: IOA - Baseline: the current day scenario (YoI & YoI+10)

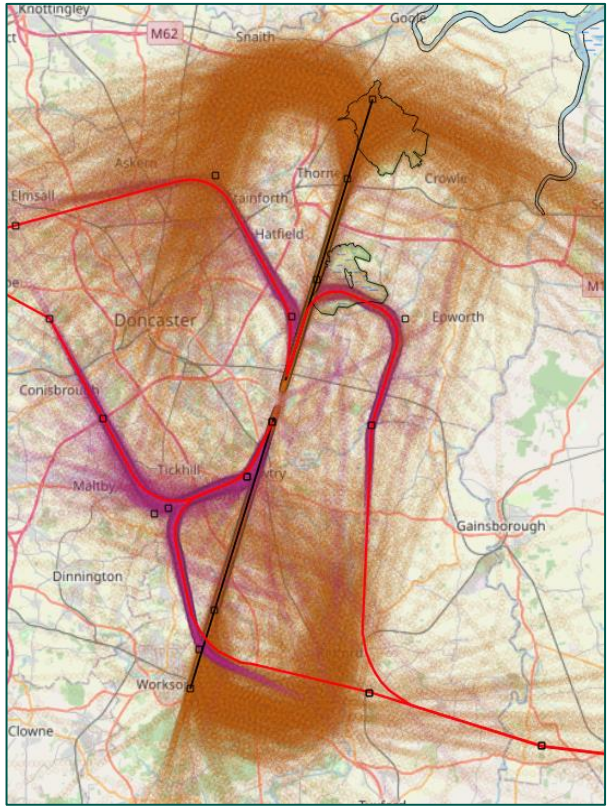
5.2 Option 2 – Refinement of the 2022 design (Option 1) due stakeholder feedback or to align with CAA policy

CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
Description of Option	Option 2 would be similar to the previous notified airspace arrangements at the time of the airport's closure in 2022, but not identical. If this option were to be progressed, there could be further refinements identified but at this stage, the following adjustments have been identified: • The addition of an earlier FL60 point on the RWY02 UPTON SID to enable a reduction in the volume of controlled airspace to the north-west. • A new SID termination point to the SW of UPTON for UPTON SIDs • Remove of the RWY20 left turn UPTON SID • Adjustment to the ROGAG SIDs to ensure at least 2nm containment from the edge of controlled airspace • Revised CTA boundaries to the west of the CTR to reduce the overall volume together with a proposed reduction in classification from Class D to Class E+ for some CTAs. Number of DSA ATMs per year: 1,841	Option 2 would be similar to the previous notified airspace arrangements at the time of the airport's closure in 2022, but not identical. If this option were to be progressed, there could be further refinements identified but at this stage, the following adjustments have been identified: • The addition of an earlier FL60 point on the RWY02 UPTON SID to enable a reduction in the volume of controlled airspace to the north-west. • A new SID termination point to the SW of UPTON for UPTON SIDs • Remove of the RWY20 left turn UPTON SID • Adjustment to the ROGAG SIDs to ensure at least 2nm containment from the edge of controlled airspace • Revised CTA boundaries to the west of the CTR to reduce the overall volume together with a proposed reduction in classification from Class D to Class E+ for some CTAs. Number of DSA ATMs per year: 12,329

CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
Safety	Controlled airspace and IFPs were previously, safely in operation up to 2022. CAA's conclusion in the 2017 PIR[4] of this airspace (noting this was prior to the implementation of PBN SIDs) was that "The implementation of Class D at RHADS has achieved its stated aims with regard to protecting CAT flights operating in and out of the airport, improving the operations of airspace users to and from the airport, and minimising the environmental impacts of those operations upon local communities. The introduction of SIDs and STARs and connectivity to the airways structure contained with Class D airspace undoubtedly reduces controller workload, and planning complexity for pilots and ATC alike". The proposed CAS construct in this option is similar but not identical to the previous arrangement but with a reduction in volume and classifications in some areas. There are only minor adjustments proposed to the previous IFPs in this option and the previous IFPs continue to be safeguarded. Therefore no flyability issues are expected. No safety risks have been identified at this time that are considered to be intolerable. Regarding the impact on the safety of operations outside controlled airspace, CAA's conclusion in the 2017 PIR stated that "whilst the CAA acknowledges the comments from both GA and gliders raising safety concerns from the effect of funnelling, and the impact of potentially having to plan to route around the airspace, these concerns have not manifested themselves in safety occurrences as since the implementation of the ACP AIRPROX reports in the RHADS local vicinity have decreased". As shown in our extended analysis of filed Airprox in the region (See Section 4.6 of our Stage 2A document), there is no evidence to show that there has been any reduction in Airprox events in the region since the closure of RHADS airspace nor is there any correlation between the number of filed Airproxes outside controlled airspace and the establishment of controlled airspace at the airport. Given that the previous 2022 airspace volume and classification did not result in an increase in safety occurrences in the region and this option proposes a reduction in the volume and classification of the controlled airspace, no safety risks have been identified to operations outside controlled airspace at this time that are considered to be intolerable. Note that at the time of this IOA, DSA is not a licensed aerodrome and is without a certified ANSP with approved Safety Management System. Therefore, no formal safety assessments have yet taken place.	
Communities, Impact: Noise	L_{Aeq} Inevitably, the numbers of people within the day/night LOAEL will increase with any option compared to the future 2028 baseline, which sees close to zero flights operating from the airport. In the future baseline, there is no LOAEL and therefore no people are adversely affected from DSA operations. With this option, in Year 1, the LOAEL can be expected to be very small with somewhere in the region of 620 forecast ATMs in Summer 2028. Potentially, the LOAEL will not extend as far as Bawtry to the south but might take in eastern edge of Hayfield Green, Blaxton and west Finningley where there are some properties as close as 250m from the runway.	L_{Aeq} Inevitably, the numbers of people within the day/night LOAEL will increase with any option compared to the future 2037 baseline, which sees close to zero flights operating from the airport. In the future baseline, there is no LOAEL and therefore no people are adversely affected from DSA operations. There will be somewhere in the region of 5090 forecast ATMs in Summer 2037 and with RWY 20 the prominent runway direction, the LOAEL is likely to extend north into Hatfield Moors along both final approach and possibly along the first part of the RWY02 ROGAG SID However, in terms of adverse effects on residential communities, Hatfield Moor is uninhabited. The LOAEL is likely to encompass more of West Finningley, Blaxton and Hayfield Green by 2037. To the south we expect to see it extend over Bawtry and Harworth. The offset RWY 20 SIDs and RWY 02 UPTON SIDs will help to reduce noise concentration along final approach slightly.

[4] PIR

CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
	Overflight In terms of the number of people overflown by an aircraft at least once in the 92-day summer period we could expect to see similar overflight patterns to those experienced in 2022. Arrivals will all be vectored onto final approach from both sides of the RWY 20 approach overflying Crowle, Epworth, Snaith, Thorne, Rawcliffe Bridge, Pollington, Sykehouse, Fishlake, Fenwick, Braithwaite. RWY 02 arrivals will typically be vectored from only the east side of final approach with Gamston, Ranby, Elkelsey, Retford, Clayworth, Mattersey, Tonworth, Blythe and Bawtry. Owing to the standard vectoring patterns of all arrivals, we expect that this option would overfly more people than Option 3 although arrivals will be more dispersed until on final approach. Concentration along SID centrelines will be usual with direct overflight of Bawtry, Harworth, New Edlington Conisbrough and Langold for RWY 20 departures and Blaxton, Westwoodside, Wiseton, Dunsville, Braithwaite, Carcroft and South Elmsall for RWY 02 departures. Figure 8 shows Option 2 route centrelines mapped against overflight patterns below 7000ft in 2022.	Overflight In terms of the number of people overflown by an aircraft at least once in the 92-day summer period the population counts could be in the same order of magnitude as in Year 1 however the population numbers overflown at least 5 times per day or more would be bigger in Year 10 than compared to Year 1. Traffic patterns are expected to be similar to those presented in Figure 8 from 2022.

CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
	 *Figure 8: Option 2 route centrelines mapped against overflight patterns below 7000ft (2022)*	
Communities, Impact: Local air quality	Given that the baseline position is that the airport is not in operation, the proposed changes will affect aviation emissions below 1,000 feet. However, as the number of DSA movements will be the same in either Option 2 or 3 and no AQMAs will be overflown below 1000ft in either option, there will be no discernible difference on the impact to Air Quality between options and therefore not support the argument for one option over the other in the Initial options Appraisal.	Given that the baseline position is that the airport is not in operation, the proposed changes will affect aviation emissions below 1,000 feet. However, as the number of DSA movements will be the same in either Option 2 or 3 and no AQMAs will be overflown below 1000ft in either option, there will be no discernible difference on the impact to Air Quality between options and therefore not support the argument for one option over the other in the Initial options Appraisal. The output of the assessment will therefore be reported in a chapter of the Full Options Appraisal

CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
	The output of the assessment will therefore be reported in a chapter of the Full Options Appraisal	
Wider society, Impact: Greenhouse gas emissions and General aviation/commercial airlines, Impact: Fuel burn	The total number of track miles flown between the common network points and the runway for Year 1 is 51,892nm representing a 3.7% decrease compared to Option 3.	The total number of track miles flown between the common network points and the runway for Year 10 is 347,518nm representing a 3.7% decrease compared to Option 3.
Tranquillity (Wider society)	No Areas of Outstanding Natural Beauty of National Parks are expected to be typically overflown below 7,000ft by DSA arrivals or departures	No Areas of Outstanding Natural Beauty of National Parks are expected to be typically overflown below 7,000ft by DSA arrivals or departures
Wider society, Impact: Biodiversity	In Year 1 we estimate that Hatfield Moor could be overflown by 574 DSA arrivals and 177 departures. This results in an overflight rate of 2.1 flights per day. In Year 1 we estimate that Thorne Moors could be overflown by 574 DSA arrivals. This results in an overflight rate of 1.6 flights per day although some of these could be above 3,000ft It is unlikely that the Humber Estuary will be routinely overflown below 3,000ft	In Year 10 we estimate that Hatfield Moor could be overflown by 3,847 DSA arrivals and 1,184 departures. This results in an overflight rate of 13.8 flights per day. In Year 10 we estimate that Thorne Moors could be overflown by 3,847 DSA arrivals. This results in an overflight rate of 10.5 flights per day although some of these could be above 3,000ft It is unlikely that the Humber Estuary will be routinely overflown below 3,000ft
Wider society, Impact: Capacity/resilience	This option would see an additional 1,891 DSA ATMs in Year 1. In terms of operational resilience, the airport is expected to have ILS to each runway end, including CAT III to RWY 20 for Low Visibility Procedures, an on-airfield NDB with an NDB approach to each end, an on-airfield DME and an RNP Approach to each end. For arrivals this provides sufficient redundancy for both a single or dual ground based nav aid failure. SIDs will be to an RNAV1 specification with an on-airfield DME contributing to DME/DME coverage in the region. Any non-RNAV1 aircraft could still depart via an Omni-directional departure from either runway end.	This option would see an additional 12,329 DSA ATMs in Year 10. In terms of operational resilience, the airport is expected to have ILS to each runway end, including CAT III to RWY 20 for Low Visibility Procedures, an on-airfield NDB with an NDB approach to each end, an on-airfield DME and an RNP Approach to each end. For arrivals this provides sufficient redundancy for both a single or dual ground based nav aid failure. SIDs will be to an RNAV1 specification with an on-airfield DME contributing to DME/DME coverage in the region. Any non-RNAV1 aircraft could still depart via an Omni-directional departure from either runway end.

CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
General aviation, Impact: Access	Appendix A presents radar data from 1st May – 31st Oct 2022 when DSA's controlled airspace was active, to 1st May – 31st Oct 2025 when there was no DSA controlled airspace. This provides strong evidence into how GA activity would be displaced should Option 1 have been carried forward. Option 2 is not too dissimilar to Option 1 but has less controlled airspace to the west of the airport and some of those volumes are of a lower classification and therefore the radar plots in Appendix A from 2022 are based on a more restrictive controlled airspace then this option. However, we would expect some similar impacts in regions. Some of the main differences that Option 2 are likely to mean for GA activity are: - Retford/Gamston arrivals and departures are more likely to avoid controlled airspace and enter/exit their ATZ from the South, generating higher volumes of GA traffic over Tuxford and Ollerton and also routing to the NE to transit to the east of the DSA CTA over Gainsborough/Sturgate Airfield and Scunthorpe. - Netherthope arrivals and departures are more likely to avoid controlled airspace and enter/exit their ATZ from the East, generating higher volumes of GA traffic over Clowne and Stavely - Sandtoft arrivals and departures are more likely to avoid controlled airspace and enter/exit their ATZ from the South, generating higher volumes of GA traffic over Scunthorpe. - A general shift of traffic which is currently transiting N/S out to the east over Gainsborough/Sturgate Airfield and Scunthorpe. This region is the most obvious region that could experience an increase in density of GA operations. However, in 2022 the RAF Scampton MATZ and EGR313 were active which compressed GA traffic into a 7nm gap between RAF Scampton and Doncaster's CTA 6. In Option 2, RAF Scampton MATZ and EGR313 no longer exist, increasing the available gap to 11nm, considerably wider once north of RAF Waddington. This gap would reduce to just over 7nm again when EGD324B is active but only for traffic FL105+. Suitably equipped aircraft can transit through DSA airspace, above FL85 without an ATC clearance. As can be seen from the 2025 radar data, there is already a certain density of GA operations in this region without any DSA airspace - the BGA have advised this region provides better	YEAR 10: No change to Year 1.Previous DSA operations with 11,569 ATMs in 2019 never refused any requests for transits through CAS. No evidence to suggest the forecast traffic level will result in any less access to CAS than in Year 1.

CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
	soaring conditions than further to the east or west which are not conducive to good soaring flight. A general shift of traffic to the west of the CTR over Conisborough, Thurnscoe, South Elmsall and Pontefract. Although in Option 2 the proposed classification is E+ meaning some of this traffic would not be displaced as suitably equipped aircraft can transit through, above 4000ft without an ATC clearance. However, Gliders without a radio and transponder would still need to avoid the controlled airspace in Option 2 with a 4000ft base and therefore we could see similar GA density in this region in Option 2 compared to 2022. Whilst the density plots show an obvious increase in density of GA operation to the east and west (particularly the east) of DSA's controlled airspace, attention should be paid to the keys used in each plot. Whilst Slides 11 and 13 of Appendix A show that GA traffic wishing/requiring to avoid controlled airspace would be displaced, the data suggests somewhere in the region of 10-24 transponding GA flights plus potentially up to 8 non-transponding flights in the same 1000ft band in the entire 6 month period. This is assuming the non-transponding flights are in the same 1000ft band though this cannot be confirmed as the Primary only data covers ground all the way up to 10,000ft. The areas with the highest density of GA traffic in the region in both the 2022 and 2025 scenario are within the Sandtoft, Netherthorpe and Retford/Gamston ATZs and Sturgate Airfield. The denotification of the RAF Scampton MATZ and EGR313 provide a much less restrictive airspace structure than in 2022.	
General aviation/commercial airlines, Impact: Economic impact from increased effective capacity	In year 1 we estimate there will be 1,002 passenger flights carrying 155,412 passengers and 839 cargo flights	In year 10 we estimate there will be 8,189 passenger flights carrying 1,169,538 passengers and 4,140 cargo flights
Commercial airlines, Impact: Training costs	In year 1 we don't anticipate any additional training costs for commercial airlines other than the business-as-usual briefing s supplied by operators to their crews when commencing operations from a new airport.	In year 10 we don't anticipate any additional training costs for commercial airlines.

CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
Commercial airlines, Impact: Other costs	In year 1 we don't anticipate any other costs for commercial airlines other than the business-as-usual costs incurred by operators when commencing operations from a new airport.	In year 10 we don't anticipate any other costs for commercial airlines.
Airport/air navigation service provider, Impact: Infrastructure costs	By year 1 the airport will have incurred significant capital expenditure on infrastructure costs in order to provide a licensed aerodrome with H24 Approach Control (Radar) and Aerodrome Services and an instrument runway with conventional navigation aids for their instrument approach procedures. As the Air Traffic Service offering and conventional Instrument Flight Procedures are the same with each option, this assessment will not provide any basis for selecting a preferred or best-performing option and such costs are excluded from the IOA.	In year 10 the airport will incur business as usual operating costs to provide a licensed aerodrome with H24 Approach Control (Radar) and Aerodrome Services and maintain an instrument runway with conventional navigation aids for their instrument approach procedures. As the Air Traffic Service offering and conventional Instrument Flight Procedures are the same with each option, this assessment will not provide any basis for selecting a preferred or best-performing option and such costs are excluded from the IOA.
Airport/air navigation service provider, Impact: Operational costs and Deployment costs	The operational expenditure required to deploy the provision of a licensed and operational ANSP providing H24 Aerodrome and Approach (radar) Control Services are considerable but do not change between Option 2 or 3. Therefore, this assessment will not provide any basis for selecting a preferred or best-performing option and such costs are excluded from the IOA.	The operational expenditure required to maintain the provision of a licensed and operational ANSP providing H24 Aerodrome and Approach (radar) Control Services are considerable but do not change between Option 2 or 3. Therefore, this assessment will not provide any basis for selecting a preferred or best-performing option and such costs are excluded from the IOA.
Airport/air navigation service provider, Impact: Other costs	In year 1 we don't anticipate costs for the airport could be incurred in terms of financial assistance towards acoustic insulation where residents are newly exposed to noise at the 63 dB $L_{Aeq,16h}$ level or above. This needs to be confirmed through noise modelling in the Full Options Appraisal	By year 10 there could be some costs for the airport incurred in terms of financial assistance towards acoustic insulation where residents are newly exposed to noise at the 63 dB LAeq,16h level or above. This could be for the houses just to the east of the RWY 20 Threshold in Finningley. There is a new development of 271 houses currently pending decision in Austerfield to the south of the runway, but we do not expect this to fall within the 63dB $L_{Aeq,\ 16h\ band}$. This needs to be confirmed through noise modelling in the Full Options Appraisal.

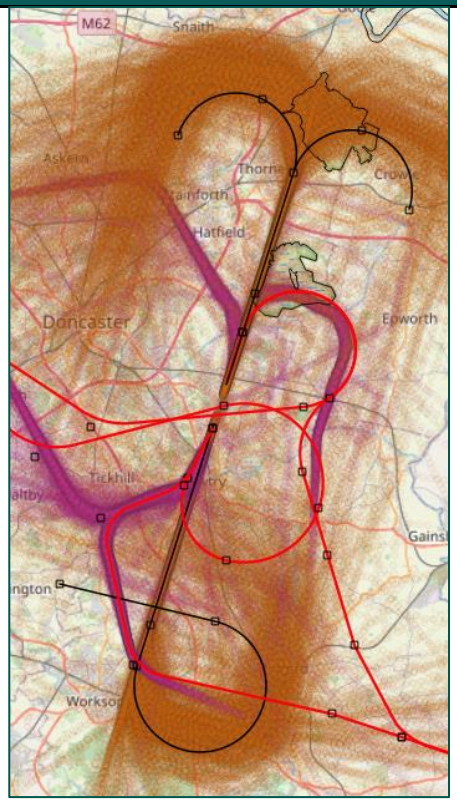
CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
Interdependencies	Owing to the CAS construct to the NW of DSA and the position of the UPTON SIDs, we expect that routine co-ordination will be required between Leeds Bradford Airport and DSA to Leeds arrivals can descend through DSA's CAS and any conflict with DSA's UPTON SIDs is resolved. DSA UPTON departures may need to be subject to release by NATS, to ensure separation from Leeds southbound departures. This is expected to be manageable as the interactions are almost identical in this option to the previous interactions in 2022 with much higher DSA traffic levels. DSA are forecast less than 2 UPTON departures per day in Year 1. In Year 1, the future MTMA design will not have been deployed.	Owing to the CAS construct to the NW of DSA and the position of the UPTON SIDs, we expect that routine co-ordination will be required between Leeds Bradford Airport and DSA to Leeds arrivals can descend through DSA's CAS and any conflict with DSA's UPTON SIDs is resolved. DSA UPTON departures may need to be subject to release by NATS, to ensure separation from Leeds southbound departures. This is expected to be manageable as the interactions are almost identical in this option to the previous interactions in 2022 although LBA and DSA ATMs will be higher than they were in 2022 by 2037. DSA are forecast 8 UPTON departures per day by 2037 In Year 10, the future MTMA design should have been deployed. Current thinking by NERL is a hold for Leeds arrivals somewhere to the north of DSA. If this transpires, this will increase the amount of co-ordination required between Leeds and DSA. The small shift in UPTON SIDs to terminate slightly to the south of UPTON may help reduce this confliction although co-ordination will still be required and a hold to the north of DSA may limit the procedural termination level of DSA SIDs or require the introduction of step-climb SIDs.

Table 10: IOA - Option 2 (YoI & YoI+10)

5.3 Option 3 - Use of Radius-to-Fix to create less restrictive CAS structures and to aid future MTMA integration

CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
Description of Option	Option 3 uses RNP with RF to create a very different proposal which attempts to: • Reduce the numbers of people affected by noise and overflight and remain aligned with DSA's existing NPRs • Contain flight paths within the smallest amount of controlled airspace • Position departures to the south of DSA as much as technically possible to aid existing and future MTMA integration • Enhance systemisation for both DSA ATC and the surrounding MTMA network design Number of DSA ATMs per year: 1,841	Option 3 uses RNP with RF to create a very different proposal which attempts to: • Reduce the numbers of people affected by noise and overflight and remain aligned with DSA's existing NPRs • Contain flight paths within the smallest amount of controlled airspace • Position departures to the south of DSA as much as technically possible to aid existing and future MTMA integration • Enhance systemisation for both DSA ATC and the surrounding MTMA network design Number of DSA ATMs per year: 12,329
Safety	Controlled airspace and IFPs were previously, safely in operation up to 2022. CAA's conclusion in the 2017 PIR of this airspace (noting this was prior to the implementation of PBN SIDs) was that "The implementation of Class D at RHADS has achieved its stated aims with regard to protecting CAT flights operating in and out of the airport, improving the operations of airspace users to and from the airport, and minimising the environmental impacts of those operations upon local communities. The introduction of SIDs and STARs and connectivity to the airways structure contained with Class D airspace undoubtedly reduces controller workload, and planning complexity for pilots and ATC alike". The proposed CAS construct in this option is significantly smaller in volume and classifications than in the previous design in some regions and this option proposes very new Instrument Flight Procedures including use of Radius-to-Fix on SIDs and Approaches and a different concept of operation for ATC compared to in 2022. Preliminary IFP design has taken place on these options, but they have not been formally designed or assessed against terrain/obstacles. There is a greater chance of IFP flight validation raising issues than in Option 2 but nothing of concern at this stage. The design is more systemised with a lower reliance on controller intervention therefore controller and pilot workload should be lower. Not all aircraft will have RF capability and therefore procedures will be required to tactically handle non-RF aircraft both after departing on an Omni-directional departure or being vectored onto final approach rather than positioned towards an IAF. Regarding the impact on the safety of operations outside controlled airspace, CAA's conclusion in the 2017 PIR stated that "whilst the CAA acknowledges the comments from both GA and gliders raising safety concerns from the effect of funnelling, and the impact of potentially having to plan to route around the airspace, these concerns have not manifested themselves in safety occurrences as since the implementation of the ACP AIRPROX reports in the RHADS local vicinity have decreased". As shown in our extended analysis of filed Airprox in the region (See Section 4.6 of our Stage 2A document), there is no evidence to show that there has been any reduction in Airprox events in the region since the closure of RHADS airspace nor is there any correlation between the number of filed Airproxes outside controlled airspace and the establishment of controlled airspace at the airport. Given that the previous 2022 airspace volume and classification did not result in an increase in safety occurrences in the region and this option proposes a significant reduction in the volume and classification of parts of the controlled airspace, no safety risks have been identified to operations outside controlled airspace at this time that are considered to be intolerable. Note that at the time of this IOA, DSA is not a licensed aerodrome and is without a certified ANSP with approved Safety Management System. Therefore, no formal safety assessments have yet taken place.	

CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
Communities, Impact: Noise	L_{Aeq} Inevitably, the numbers of people within the day/night LOAEL will increase with any option compared to the future 2028 baseline, which sees close to zero flights operating from the airport. In the future baseline, there is no LOAEL and therefore no people are adversely affected from DSA operations. With this option, in Year 1, the LOAEL can be expected to be very small with somewhere in the region of 620 forecast ATMs in Summer 2028. Potentially, the LOAEL will not extend as far as Bawtry to the south but might take in eastern edge of Hayfield Green, Blaxton and west Finningley where there are some properties as close as 250m from the runway. Overflight In terms of the number of people overflown by an aircraft at least once in the 92-day summer period we could expect to see much more concentrated overflight patterns to those experienced in Option 2 therefore with far fewer people overflown. However, those communities under the flight paths, particularly of arrivals prior to final approach will be overflown more frequently as traffic will be less dispersed. RWY 02 arrivals will typically overfly less of Retford, Elkesley, Gamston, Ranby, Blythe and Clayworth and RWY 20 arrivals will typically overfly less of Thorne, Fishlake, Stainforth and Rawcliffe Bridge. Concentration along SID centrelines will be high though with SIDs climbing to the less densely populated east side of the airport, we expect the numbers of people overflown to be significantly lower than Option 2 and with most departures reaching 7000ft before tracking west of the airport. In particular, this option would see much less overflight of Harworth owing to the RWY 20 SIDs diverging from each other earlier.	L_{Aeq} Inevitably, the numbers of people within the day/night LOAEL will increase with any option compared to the future 2037 baseline, which sees close to zero flights operating from the airport. In the future baseline, there is no LOAEL and therefore no people are adversely affected from DSA operations. There will be somewhere in the region of 5090 forecast ATMs in Summer 2037 and with RWY 20 the prominent runway direction, the LOAEL is likely to extend north into Hatfield Moors along both final approach and possibly along the southern part of Hatfield Moor owing to both the RWY 02 SIDs following the same tracks. However, in terms of adverse effects on residential communities, Hatfield Moor is uninhabited. The RWY 02 SIDs are slightly further from Hayfield Green than in Option 2 but we expect it to encompass more of west Finningley and Blaxton. To the south we expect to see it extend over Bawtry but owing to the earlier split on the SIDs compared to Option 2, the LOAEL will potentially not encroach over as much of Harworth. At this time, we would expect a smaller number of people adversely affected by aircraft noise with Option 3 compared to Option 2. Overflight In terms of the number of people overflown by an aircraft at least once in the 92 day summer period the population counts could be in the same order of magnitude as in Year 1 however the population numbers overflown at least 5 times per day or more would be bigger in Year 10 than compared to Year 1. Whilst overflight patterns for Option 3 have not yet been modelled, Figure 9 shows the overflight patterns expected in Option 2 mapped against the arrivals and departure centrelines of Option 3 for context. The comparison shows how, with the exception of Bawtry, the populations overflown by UPTON SIDs in Option 2 would not be overflown in this option.

CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
	 *Figure 9: Overflight patters expected in Option 2 against arrivals & departures of Option 3*	
Communities, Impact: Local air quality	Given that the baseline position is that the airport is not in operation, the proposed changes will affect aviation emissions below 1,000 feet. However, as the number of DSA movements will be the same in either Option 2 or 3 and no AQMAs will be overflown below 1000ft in either option, there will be no discernible difference on the impact to Air Quality between options and therefore not support the argument for one option over the other in the Initial options Appraisal. The output of the assessment will therefore be reported in a chapter of the Full Options Appraisal	Given that the baseline position is that the airport is not in operation, the proposed changes will affect aviation emissions below 1,000 feet. However, as the number of DSA movements will be the same in either Option 2 or 3 and no AQMAs will be overflown below 1000ft in either option, there will be no discernible difference on the impact to Air Quality between options and therefore not support the argument for one option over the other in the Initial options Appraisal. The output of the assessment will therefore be reported in a chapter of the Full Options Appraisal

CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
Wider society, Impact: Greenhouse gas emissions and General aviation/commercial airlines, Impact: Fuel burn	The total number of track miles flown between the common network points and the runway for Year 1 is 53,833nm representing a 3.7% increase compared to Option 2.	The total number of track miles flown between the common network points and the runway for Year 10 is 360,512nm representing a 3.7% increase compared to Option 2.
Tranquillity (Wider society)	No Areas of Outstanding Natural Beauty of National Parks are expected to be typically overflown below 7,000ft by DSA arrivals or departures.	No Areas of Outstanding Natural Beauty of National Parks are expected to be typically overflown below 7,000ft by DSA arrivals or departures.
Wider society, Impact: Biodiversity	In Year 1 we estimate that Hatfield Moor could be overflown by 574 DSA arrivals and 527 departures. This results in an overflight rate of 3 flights per day. In Year 1 we estimate that Thorne Moors could be overflown by 574 DSA arrivals. This results in an overflight rate of 1.6 flights per day although some of these could be above 3,000ft. It is unlikely that the Humber Estuary will be routinely overflown below 3,000ft.	In Year 10 we estimate that Hatfield Moor could be overflown by 3,847 DSA arrivals and 3,526 departures. This results in an overflight rate of 20.2 flights per day. In Year 10 we estimate that Thorne Moors could be overflown by 3,847 DSA arrivals. This results in an overflight rate of 10.5 flights per day although some of these could be above 3,000ft. It is unlikely that the Humber Estuary will be routinely overflown below 3,000ft.
Wider society, Impact: Capacity/resilience	This option would see an additional 1,891 DSA ATMs in Year 1. In terms of operational resilience, the airport is expected to have ILS to each runway end, including CAT III to RWY 20 for Low Visibility Procedures, an on-airfield NDB with an NDB approach to each end, an on-airfield DME and an RNP Approach to each end. For arrivals this provides sufficient redundancy for both a single or dual ground based nav aid failure as well as redundancy for GNSS outages. SIDs will be to an RNP1 specification. Any non-RNP1 aircraft could still depart via an Omni-directional departure from either runway end. The addition of another airport with full-length runway and H24 ATS service provision provides additional resilience to the wider network for diversions and/or emergency situations.	This option would see an additional 12,329 DSA ATMs in Year 10. In terms of operational resilience, the airport is expected to have ILS to each runway end, including CAT III to RWY 20 for Low Visibility Procedures, an on-airfield NDB with an NDB approach to each end, an on-airfield DME and an RNP Approach to each end. For arrivals this provides sufficient redundancy for both a single or dual ground based nav aid failure as well as redundancy for GNSS outages. SIDs will be to an RNP1 specification. Any non-RNP1 aircraft could still depart via an Omni-directional departure from either runway end. The addition of another airport with full-length runway and H24 ATS service provision provides additional resilience to the wider network for diversions and/or emergency situations.
General aviation, Impact: Access	Option 3 proposes considerably less controlled airspace than in Option 2 and therefore even less than in Option 1 which is the subject of the 2022 traffic patterns in Appendix A. The main differences of Option 3 (compared to Option 2) are: - Less controlled airspace to the west and what airspace there is has	

CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
	higher bases than in Option 2. This region to the west was identified as having particular importance to the BGA with the BGA claiming that the 2022 design creating "narrow, shallow corridors to the west of DSA". The airspace proposed in this design removes the requirement for any DSA controlled airspace underneath Yorkshire CTA 12 and a considerably reduced volume under Yorkshire CTA 11 (compared to Option 1). Traffic will be able to transit to the west of DSA over Conisborough, Thurnscoe, South Elmsall and Pontefract up to FL60 (FL50 under CTA 12 as per current arrangements) - Removal of the Netherthorpe ATZ from controlled airspace. - In order to enable to the reduced impacts to GA to the west of DSA, Option 3 would need to extend the CTA to the east by c.0.5nm to contain the new RF SIDs, which wrap around to the east of the airport to enable aircraft to gain altitude in this region, not to the west. - The use of PBN transitions onto final approach results in changes being required to the bases of controlled airspace closer in to the airport owing to IFP design criteria and CAA's controlled airspace containment rules. This requires extensions to the CTR to the north, in between Hatfield Moors and Thorne Moors which could negatively impact Sandtoft traffic and to the south near Barnaby Moor which could negatively impact Netherthorpe and Retford/Gamston traffic, where that traffic wants to avoid controlled airspace. Although this option has significantly less controlled airspace than option 2, we would still expect to see: - Retford/Gamston arrivals and departures more likely to avoid controlled airspace and enter/exit their ATZ from the South, generating higher volumes of GA traffic over Tuxford and Ollerton and also routing to the NE to transit to the east of the DSA CTA over Gainsborough/Sturgate Airfield and Scunthorpe. - Netherthope arrivals and departures are more likely to enter/exit their ATZ from the East, generating higher volumes of GA traffic over Clowne and Stavely. - Sandtoft arrivals and departures are more likely to avoid controlled airspace and enter/exit their ATZ from the South, generating higher volumes of GA traffic over Scunthorpe.	YEAR 10: No change to Year 1. Previous DSA operations with 11,569 ATMs in 2019 never refused any requests for transits through CAS. No evidence to suggest the forecast traffic level will result in any less access to CAS than in Year 1.

CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
	- A general shift of traffic which is currently transiting N/S out to the east over Gainsborough/Sturgate Airfield and Scunthorpe. This region is the most obvious region that could experience an increase in density of GA operations. However, in 2022 the RAF Scampton MATZ and EGR313 were active which compressed GA traffic into a 7nm gap between RAF Scampton and Doncaster's CTA 6. In Option 3, RAF Scampton MATZ and EGR313 no longer exist, increasing the available gap to 10.5nm, considerably wider once north of RAF Waddington. This gap would reduce to just over 6.5nm again when EGD324B is active but only for traffic FL105+. Suitably equipped aircraft can transit through DSA airspace, above FL85 without an ATC clearance. As can be seen from the 2025 radar data, there is already a certain density of GA operations in this region without any DSA airspace - the BGA have advised this region provides better soaring conditions than further to the east or west which are not conducive to good soaring flight. Whilst the density plots show an obvious increase in density of GA operation to the east and west (particularly the east) of DSA's controlled airspace, attention should be paid to the keys used in each plot. Whilst Slides 11 and 13 of Appendix A show that GA traffic wishing/requiring to avoid controlled airspace would be displaced, the data suggests somewhere in the region of 10-24 transponding GA flights plus potentially up to 8 non-transponding flights in the same 1000ft band in the entire 6-month period. This is assuming the non-transponding flights are in the same 1000ft band though this cannot be confirmed as the Primary only data covers ground all the way up to 10,000ft. The areas with the highest density of GA traffic in the region in both the 2022 and 2025 scenario are within the Sandtoft, Netherthorpe and Retford/Gamston ATZs and Sturgate Airfield. The denotification of the RAF Scampton MATZ and EGR313 provide a much less restrictive airspace structure than in 2022.	
General aviation/commercial airlines, Impact: Economic impact from increased effective capacity	In year 1 we estimate there will be 1,002 passenger flights carrying 155,412 passengers and 839 cargo flights.	In year 10 we estimate there will be 8,189 passenger flights carrying 1,169,538 passengers and 4,140 cargo flights.

CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
Commercial airlines, Impact: Training costs	In year 1 we don't anticipate any additional training costs for commercial airlines other than the business-as-usual briefings supplied by operators to their crews when commencing operations from a new airport.	In year 10 we don't anticipate any additional training costs for commercial airlines.
Commercial airlines, Impact: Other costs	In year 1 we don't anticipate any other costs for commercial airlines other than the business-as-usual costs incurred by operators when commencing operations from a new airport. Whilst Option 3 requires operators to have Radius-to-Fix (RF), we expect the majority of operators to have this fleet capability in 2028. We would not expect operators without RF to upgrade avionics to meet this requirement but gradually, all fleets would become RF capable. In the meantime, ATC will have procedures to safely handle non-RF aircraft by continuing to vector to final approach and tactically manage non-RF aircraft departing via Omni-directional departures.	In year 10 we don't anticipate any other costs for commercial airlines.
Airport/air navigation service provider, Impact: Infrastructure costs	By year 1 the airport will have incurred significant capital expenditure on infrastructure costs in order to provide a licensed aerodrome with H24 Approach Control (Radar) and Aerodrome Services and an instrument runway with conventional navigation aids for their instrument approach procedures. As the Air Traffic Service offering and conventional Instrument Flight Procedures are the same with each option, this assessment will not provide any basis for selecting a preferred or best-performing option and such costs are excluded from the IOA.	In year 10 the airport will incur business as usual operating costs to provide a licensed aerodrome with H24 Approach Control (Radar) and Aerodrome Services and maintain an instrument runway with conventional navigation aids for their instrument approach procedures. As the Air Traffic Service offering and conventional Instrument Flight Procedures are the same with each option, this assessment will not provide any basis for selecting a preferred or best-performing option and such costs are excluded from the IOA.
Airport/air navigation service provider, Impact: Operational costs and Deployment costs	The operational expenditure required to deploy the provision of a licensed and operational ANSP providing H24 Aerodrome and Approach (radar) Control Services are considerable but do not change between Option 2 or 3. Therefore, this assessment will not provide any basis for selecting a preferred or best-performing option and such costs are excluded from the IOA.	The operational expenditure required to maintain the provision of a licensed and operational ANSP providing H24 Aerodrome and Approach (radar) Control Services are considerable but do not change between Option 2 or 3. Therefore, this assessment will not provide any basis for selecting a preferred or best-performing option and such costs are excluded from the IOA.
Airport/air navigation service provider, Impact: Other costs	In year 1 we don't anticipate costs for the airport could be incurred in terms of financial assistance towards acoustic insulation where residents are newly exposed to noise at the 63 dB $L_{Aeq,16h}$ level or above. This needs to be confirmed through noise modelling in the Full Options Appraisal	By year 10 there could be some costs for the airport incurred in terms of financial assistance towards acoustic insulation where residents are newly exposed to noise at the 63 dB LAeq,16h level or above. This could be for the houses just to the east of the RWY 20 Threshold in Finingley. There is a new development of 271 houses currently pending decision in Austerfield to the south of the runway, but we do not expect this to call within the 63dB $L_{Aeq,\ 16h}$ band. This needs to be confirmed through noise modelling in the Full Options Appraisal.

CAP1616 IOA group and category	YOI 2028	YOI + 10 Years 2037
Interdependencies	Owing to the smaller volume of CAS to the NW of DSA we expect that routine co-ordination between Leeds Bradford Airport and DSA will not be required as Leeds arrivals will not need to descend through DSA's airspace. The move of DSA's UPTON SIDs to the south of DSA will significantly help to reduce conflict. DSA UPTON departures could be vertically separated from Leeds southbound departures enabling free-flow for both airports but this is to be confirmed. In Year 1, the future MTMA design will not have been deployed.	Owing to the smaller volume of CAS to the NW of DSA we expect that routine co-ordination between Leeds Bradford Airport and DSA will not be required as Leeds arrivals will not need to descend through DSA's airspace. The move of DSA's UPTON SIDs to the south of DSA will significantly help to reduce conflict. DSA UPTON departures could be vertically separated from Leeds southbound departures enabling free-flow for both airports but this is to be confirmed. In Year 10, the future MTMA design should have been deployed. Current thinking by NERL is a hold for Leeds arrivals somewhere to the north of DSA. If this transpires, DSA's RWY 02 SIDs will be easier to separate from a hold and free up airspace for Leeds arrivals to descend free from conflict with DSA traffic

Table 11: IOA - Option 3 (YoI & YoI+10)

5.4 Habitats Regulation Assessment Screening

5.4.1 A Habitats Regulations Assessment is required for airspace change proposals which are likely to have a significant effect - either alone or in combination with other plans or projects - on European sites.

5.4.2 In order to ascertain the potential for significant effects to occur, and whether an appropriate assessment of the potential adverse effects of the airspace change proposal on European sites is needed, the change sponsor must undertake a screening exercise. The CAA has developed early screening criteria for change sponsors to use and this is presented below:

Q1. Are there any changes to air traffic patterns or number of movements expected below 3,000 feet due to the airspace change proposal?

Yes. There will be an increase in DSA ATMs flying over Thorne & Hatfield Moors and it is likely that some of these movements will be below 3,000ft although some GA flights currently overflying the sites will be displaced.

Q2A. Are there any European sites within a radius of 18 km of each runway end?

Yes. Thorne and Hatfield Moors SPA, Hatfield Moor SAC and Thorne Moor SAC are within 18km of the end of the runway

Q2B. Are any European sites identified in Q2A overflown (i.e. plane passing directly overhead or within 2,655 feet of the boundary of a European site at 3,000 feet or below) by proposed flight routes?

Thorne and Hatfield Moors SPA and Hatfield Moor SAC will be directly overflown and DSA ATMs below 3,000ft are expected.

Q3A. Will the airspace change proposal reduce the number of movements overflying one or more European sites, while not increasing them over another?

There will be an increase in DSA ATMs although some GA flights currently overflying the sites will be displaced. Further analysis is required to determine if/when this becomes a net increase.

Q3B Will the airspace change proposal increase the altitude of aircraft overflying one or more European sites, whilst not decreasing altitude over another?

Maybe. Further analysis is required to assess the altitude at which the DSA ATMs overfly the sites compared to the altitude at which they are currently overflown by GA. Note that the size of the aircraft operating to/from DSA will be larger and louder than the GA flights currently overflying these sites even if they are overflying at a higher altitude.

6. IOA CONCLUSION

6.1 IOA Outcome

6.1.1 The Initial Options Appraisal is the first in three phases of assessment undertaken throughout the airspace change process. As part of the IOA, DSA have taken a qualitative approach to assessing most categories with the use of indicative quantitative information where available to do so.

6.1.2 Although within the CAP1616 process there is the opportunity to shortlist options as part of the conclusion to the IOA, DSA have decided to take both Option 2 and Option 3 assessed as part of this IOA through to Stage 3.

6.1.3 This is for 3 main reasons:

1. Whilst Option 3 appears to be a viable option which requires less controlled airspace than Option 2, it is a radically different design to that was last in operation in 2022. Therefore, the level of experience and assurance that Option 3 can be safely integrated into the existing network design is not as high as with Option 2 which only contains relatively minor adjustments from Option 1. This will require further investigation as we progress into Stage 3 of the process.

2. With regards to the altitude-based priorities, within the current ANG2017[5] the altitude-based priorities say *'in the airspace from the ground to below 4,000 feet the government's environmental priority is to limit and, where possible, reduce the total adverse effects on people'*. At this stage, the qualitative nature of the noise assessments means that we do not have definitive information about the option's performance with regards to adverse noise impacts. This is something that we will be able to test quantitatively in stage 3 as part of the process of further shortlisting options within the FOA ahead of consultation on the preferred option.

3. DSA have just invited feedback on Options 2 and 3 from stakeholders. All feedback received will be considered and, where possible, used to refine design options ahead of FOA.

6.1.4 In March 2026 we provided our stakeholders with an overview of outcome of the IOA and,

- Advised that DSA had carried forward Options 2 and 3 into Stage 3
- Invited feedback on Options 2 and 3 which, where possible, we will use to further refine options ahead of public consultation.

6.1.5 The overview provided to stakeholders in March 2026 is available in Appendix A to the Stage 1 Submission Document, Stakeholder Correspondence and Material.

6.2 Preferred Option

6.2.1 At this stage, DSA's are leaning towards Option 3 as being the preferred option subject to further development and appraisal of options in Stage 3.

[5] A new version of the ANG is currently being written following Government consultation. However, the ANG2017 remains current for decision making purposes at the time of writing this document.

6.3 Evidence to collect as part of Stage 3 FOA

6.3.1 Throughout this Stage 2 submission document set, we have highlighted where we plan to undertake further detailed appraisal as part the FOA, in order to further assess the benefits and impacts of an option.

6.3.2 This is particularly the case with the primary noise metric data, where at Stage 3 we will model the noise contours associated with each option to CAP2091 standards, allowing us to quantify the benefits and impacts.

6.3.3 We will also collect the following data and undertake the additional assessments as part of our Full Options Appraisal assessment and following this assessment we will determine the option that we intend to take to consultation:

- Generate more granular year 1 and year 10 forecasts including assumptions around fleet mix.
- Quantitative noise contours, including population counts and size (km2). These will include the 63 dB LAeq,16h level or above contour used to assess population who may be entitled to financial assistance towards acoustic insulation
- Qualitative Air Quality assessment.
- Where required, a Habitats Regulation Assessment and/or Strategy Environmental Appraisal (SEA)
- Quantitative overflight contours, including assessments of population, Candidate Quiet Areas, Country Parks, Gardens and Designated Landscapes, and Historic buildings.
- WebTAG assessment
- Annualised fuel burn and equivalent CO_2 emissions data
- Further information around interdependencies with the upper network and neighbouring airports
- Quantified CAS requirements.

7. GLOSSARY

Acronym	Term	Description
ACOG	Airspace Change Organising Group	Established in 2019 at the request of the Department for Transport and Civil Aviation Authority to coordinate the delivery of key elements of the UK's Airspace Modernisation Strategy.
ACP	Airspace Change Proposal	To carry out any permanent change to the published airspace, the Civil Aviation Authority (CAA) requires the change sponsor to carry out an airspace change proposal in accordance with CAP1616.
ADS-B	Automatic Dependent Surveillance Broadcast	A means by which aircraft can automatically transmit and/or receive data such as identification, position, and additional data, as appropriate in a broadcast mode via a data link.
AIP	Aeronautical Information Publication	A publication which contains details of regulations, procedures and other information pertinent to the operation of aircraft in the particular country to which it relates.
AMS	Airspace Modernisation Strategy	UK Government has tasked the aviation industry to modernise airspace in the whole of the UK. The long-term strategy of the CAA and the UK Government is called the Airspace Modernisation Strategy (AMS). Its CAA document reference number is CAP1711.
AMSL	Above Mean Sea Level	
ANSP	Air Navigation Service Provider	An organisation that provides the service of managing the aircraft in flight or on the manoeuvring area of an airport and which is the legitimate holder of that responsibility.
AONB	Area of Outstanding Natural Beauty	
ATC	Air traffic control	The ground-based personnel and equipment concerned with controlling and monitoring air traffic within a particular area.
ATZ	Aerodrome Traffic Zone	An airspace of defined dimensions established around an aerodrome for the protection of aerodrome traffic.
CAA	Civil Aviation Authority	The UK Regulator for aviation matters
CAP1616	Civil Aviation Publication 1616	The airspace change process regulated by the CAA
	Capacity	A term used to describe how many aircraft can be accommodated within an airspace area without compromising safety or generating excessive delay
CAS	Controlled Airspace	Generic term for the airspace in which an air traffic control service is provided as standard; note that there are different sub classifications of airspace that define the particular air traffic services available in defined classes of controlled airspace.
-	Centreline	The nominal track for a published route
-	Concentration	Refers to a density of aircraft flight paths over a given location, this generally refers to high density where tracks are not spread out; this is the opposite of dispersal
CCO	Continuous Climb Operations	An aircraft operating technique facilitated by the airspace and procedure design and assisted by appropriate ATC procedures, allowing the execution of a flight profile optimised to the performance of aircraft, leading to significant economy of fuel and environmental benefits in terms of noise and emissions reduction
CDO	Continuous Descent Operations	An aircraft operating technique in which an arriving aircraft descends from an optimal position with minimum thrust and avoids level flight to the extent permitted by the safe operation of the aircraft and compliance with published procedures and ATC instructions
-	Conventional navigation	The historic navigation standard where aircraft fly with reference to ground-based radio navigation aids

Acronym	Term	Description
-	Conventional route	Routes defined to the conventional navigation standard, i.e. using ground-based radio navigation beacons to determine their position.
CTA	Control Area	Controlled airspace extending upwards from a specified limit above the earth. Control Areas are situated above the Aerodrome Traffic Zone (ATZ) and afford protection over a larger area to a specified upper limit.
CTR	Control Zone	Controlled airspace extending upwards from the surface of the earth to a specified upper limit. Aerodrome Control Zones afford protection to aircraft within the immediate vicinity of aerodromes
db	Decibels	A unit used to measure the intensity of a sound (or the power level) of an electrical signal by comparing it with a given level on a logarithmic scale.
-	Dispersal	Refers to the density of aircraft flight paths over a given location, this generally refers to lower density – tracks that are spread out; this is opposite of Concentration
DPE	Design Principle Evaluation	An evaluation of each option against each design principle which forms part of Stage 2A of the CAP1616 process
-	Easterlies	When a runway is operating such that aircraft are taking off and landing in an easterly direction
-	Final Approach	The final part of an arrival flight path that is directly lined up with the runway
FL	Flight Level	The Altitude above sea-level in 100 feet units measured according to a standard atmosphere. A flight level is an indication of pressure, not of altitude. Only above the transition level (which depends on the local QNH but is typically 4000 feet above sea level) are flight levels used to indicate altitude; below the transition level feet are used.
FLARM	Flight Alarm	FLARM (an acronym based on 'flight alarm') is the proprietary name for an electronic device which is in use as a means of alerting pilots of small aircraft, particularly gliders, to potential collisions with other aircraft which **are similarly equipped.**
FUA	Flexible Use Airspace	Airspace which is not solely designated for a single purpose, but can be allocated flexibly according to need, or switched entirely on/off according to a schedule or agreed process.
-	Flight-path	The track flown by aircraft when following a route, or when being directed by air traffic control
ft	Feet	The standard measure for vertical distances used in air traffic control
FASI	Future Airspace Implementation Strategy	Under the Government's Airspace Modernisation Strategy (AMS, ref 15) airports in the UK are required to update their airspace and routes in a coordinated way.
GA	General Aviation	All civil aviation operations other than scheduled air services and non-scheduled air transport operations for remuneration or hire. The most common type of GA activity is recreational flying by private light aircraft and gliders, but it can range from paragliders and parachutists to microlights, balloons, and private corporate jet flights.
IFP	Instrument Flight Procedures	A published procedure used by aircraft flying in accordance with the instrument flight rules, which is designed to achieve and maintain an acceptable level of safety in operations and includes an instrument approach procedure, a standard instrument departure, a planned departure route and a standard instrument arrival.
ILS	Instrument Landing System	An ILS operates as a ground-based instrument approach system that provides precision lateral and vertical guidance to an aircraft approaching and landing on a runway, using a combination of radio signals to enable a safe landing even during poor weather.
IOA	Initial Options Appraisal	A qualitative appraisal of an option against a baseline 'do nothing' scenario, as required at Step 2B of CAP1616

Acronym	Term	Description
L_{Aeq}		The most common international measure of noise, meaning, 'equivalent continuous sound level'. This is a measurement of sound energy over a period of time.
$L_{Aeq\ 16h}$		The A-weighted Leq measured over the 16 busiest daytime hours (0700-2300) is the normal time-period used to develop the Airport Noise Contours for day-time operations.
$L_{Aeq\ 8h}$		The A-weighted Leq measured over the 8 night-time hours (2300-0700) is the normal time-period used to develop the Airport Noise Contours for night-time operations.
-	Lower Airspace	Airspace in the general vicinity of the airport containing arrival and departure routes below 7,000ft. Airports have the primary accountability for the design of this airspace, as its design and operation is largely dictated by local noise requirements, airport capacity and efficiency
NAP	Noise Abatement Procedures	Noise abatement procedures are designed to minimise exposure of residential areas to aircraft noise, while ensuring safety of flight operations
NATS NERL		NATS NERL - The UK's licenced air traffic service provider for the en route airspace (upper network) that connects airports with each other, and with the airspace of neighbouring states.
nm	Nautical Mile	Aviation measures distances in nautical miles. One nautical mile (nm) is 1,852 metres. One road mile ('statute mile') is 1,609 metres, making a nautical mile about 15% longer than a statute mile.
-	Network Airspace / Upper network	En route airspace above 7,000ft in which NATS has accountability for safe and efficient air traffic services for aircraft travelling between the UK airports and the airspace of neighbouring states.
NTK	Noise Track Keeping	A system that monitors and records radar data to monitor aircraft operations and report statistics focused around noise.
PANS OPS	Procedures for Air Navigation Services Aircraft Operations	PANS-OPS is contained in an ICAO Document 8168 which sets out the design criteria and rules for instrument flight procedures which include approach and departure procedures.
PBN	Performance Based Navigation	Referred to as PBN; a generic term for modern standards for aircraft navigation capabilities including satellite navigation (as opposed to 'conventional' navigation standards)
RMA	Radar Manoeuvring Area	An ATC operational area articulated as a volume of airspace by the ANSP. It facilitates the close-in radar vectoring by ATC that is required to take the aircraft safely from a holding stack and established onto final approach.
RNAV / RNAV 1	aRea NaVigation	This is a generic term for a particular specification of Performance Based Navigation. The suffix '1' denotes a requirement that aircraft can navigate to with 1nm of the centreline of the route 95% or more of the time. In practice the accuracy is much greater than this.
RNP-RF	Required Navigation Performance – Radius to fix	An advanced navigation specification under the PBN umbrella. The suffix '1' denotes a requirement that aircraft can navigate to with 1nm of the centreline 95% or more of the time, with additional self-monitoring criteria. In practice the accuracy is much greater than this. The RF means Radius to Fix, where airspace designers can set extremely specific curved paths to a greater accuracy than RNAV1.
RNP-AR	Required Navigation Performance – Authorisation required	An advanced navigation specification under the PBN umbrella. 'Authorisation required' refers to aircraft and operators complying with specific airworthiness and operational requirements. RNP-AR allow airspace designers to set extremely specific curved paths to a greater accuracy than RNAV1, these can be designed before and after the Final Approach Fix.
-	Separation	Aircraft under Air Traffic Control are kept apart by standard separation distances, as agreed by international safety standards. Participating aircraft are kept apart by at least 3nm or 5nm lateral separation (depending on the air traffic control operation), or 1,000ft vertical separation.

Acronym	Term	Description
SID	Standard Instrument Departure	Usually abbreviated to SID; this is a route for departures to follow straight after take-off.
	Tactical Intervention	Air traffic control methods that involve controllers directing aircraft for specific reasons at that particular moment (see Vector)
TMA	Terminal Manoeuvring Area (Terminal Airspace)	An aviation term to describe a designated area of controlled airspace surrounding a major airport or cluster of airports where there is a high volume of traffic.
TMZ	Transponder Mandatory Zone	Airspace of defined dimensions where the carriage and operation of transponder equipment is mandatory.
VFR	Visual Flight Rules	Visual Flight Rules (VFR) are the rules that govern the operation of aircraft in Visual Meteorological Conditions (VMC) (conditions in which flight solely by visual reference is possible)
VMC	Visual Meteorological Conditions	Visual meteorological conditions (VMC) are the meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling equal to or better than specified minima
VSA	VFR Significant Area	A volume of airspace which has been identified as being particularly important to VFR operations. A VSA might take the form of a route, a zone, or an area chosen for its particular importance to GA users. These areas do not have any official status but are intended to highlight the importance of a particular area so that future airspace development plans can take account of the GA activity.
-	Vector / vectoring	An air traffic control method that involves directing aircraft off the established route structure or off their own navigation – ATC instruct the pilot to fly on a compass heading and at a specific altitude. In a busy tactical environment, these can change quickly. This is done for safety and for efficiency.
-	Westerly operation	When a runway is operating such that aircraft are taking off and landing in a westerly direction