Future Airspace Strategy Implementation North (FASI-N)
Manchester Terminal Manoeuvring Area (MTMA)
Manchester (EGCC) and East Midlands (EGNX) Airports

Gateway documentation:
Stage 1 Define

Step 1B Design Principles and Stakeholder Engagement Feedback
V1.1

NATS Uncontrolled

Publication history

Issue	Month/Year	Change Requests in this issue
Issue 1.0	May/ 2020	Submitted to the CAA
Issue 1.1	May/ 2020	Supplementary note for DP4 included in the list of Final Design Principles, previous version of this document had not included it.

Contents

1. Introduction

This document forms part of the document set required in accordance with the Civil Aviation Authority's (CAA) CAP1616 Airspace Change Process. This document aims to provide adequate evidence to satisfy: *Stage 1 Define Gateway, Step 1B Design Principles.*

NATS formally commenced an Airspace Change Proposal in October 2019 through the submission of a Statement of Need to the CAA (link). This outlined the requirement for an airspace change in order to interface with Manchester and East Midlands Airport's proposed low-level changes. An Assessment Meeting was held with the CAA in January 2020, where NATS expanded upon their Statement of Need and submitted a proposed timeline – as outlined in the Assessment Meeting minutes (link).

This document describes the stakeholder engagement NATS completed on a set of draft Design Principles and how feedback influenced the evolution of the final Design Principles, as listed in the Executive Summary.

2. Executive Summary and Final Design Principles

The following list summarises the final Design Principles which have resulted from the stakeholder engagement described in Section 4.

The Design Principles have been split into general themes which align to the general objectives of this Airspace Change Proposal, including safety and environmental.

This document describes how stakeholder feedback has influenced the evolution of the final Design Principles – as listed below – from the stakeholder engagement. The proposed Design Principles and evidence of the engagement undertaken with stakeholders are required, to complete the CAP1616 Define Gateway. The submission of this document targeted the CAA's May 2020 Gateway Assessment Meeting (29/05/20) and was submitted four weeks prior (01/05/20). Subject to approval of Stage 1, NATS will formally adopt these Design Principles for the MTMA Manchester/ East Midlands Airspace Change Proposal.

No	Final Design Principle and Priority	Category	Notes
1	The airspace will maintain or enhance current levels of safety **(High)**	Safety	
2	The proposed airspace will maintain or enhance operational resilience of the ATC network **(High)**	Operational	
3	The proposed airspace design will yield the greatest capacity benefits from systemisation **(High)**	Operational	*The proposed airspace design should provide increased capacity and reduce delay. This could include the delivery of a suitable delay absorption mechanism or reducing departure intervals. Systemisation will minimise the need for ATC tactical intervention; for example, through better traffic; management.*

No	Final Design Principle and Priority	Category	Notes
4	The MTMA airspace design will provide a compatible and optimised interface between the lower level terminal airspace; the upper Free Route Airspace (FRA) and ATS network **(High)**	Technical	*The intent of this Design Principle is for the provision of a design that supports the systemisation of traffic flows: from low-level terminal traffic to high-level Free Route flows. The future design should effectively manage arrivals and departures within the TIMA without impacting capacity.*
5	The proposed MTMA airspace will facilitate optimised network economic performance **(Medium)**	Economic	*Economic benefits could include environmental improvements such as reduced track mileage/ emissions or revenue from increased capacity/ route charges.*
6	The proposed MTMA airspace will facilitate the reduction of CO_2 emissions per flight **(Medium)**	Environmental	
7	Minimise environmental impacts to stakeholders on the ground (note: network changes are >7,000ft, the position of the interface with the airport's lower level routes will be determined by the airport, hence impacts below 7,000ft will be addressed in the separate airport-sponsored ACP) **(Low)**	Environmental	
8	The MTMA airspace should be compatible with the requirements of the MoD and take into consideration the requirements of the defence industry stakeholders **(Medium)**	Operational	*Consider where impacts might be greatest by considering Military-use areas against placement of airspace structures.*
9	The impacts on GA, non-commercial and other civilian airspace users due to MTMA should be minimised **(Medium)**	Operational	*Consider where impacts might be greatest by considering known VFR significant areas against placement of airspace structures. This includes a wide variety of airspace users such as emergency, recreational, training and sport aviation.*
10	The classification and volume of controlled airspace required for the MTMA should be the minimum necessary to deliver an efficient airspace design, taking into account the needs of UK airspace users **(Medium)**	Technical	*This may include releasing CAS as appropriate*
11	The route network linking Airport procedures with the enroute phase of flight will be spaced to yield maximum safety, capacity and efficiency benefits by using an optimal standard of PBN **(High)**	Technical	*Where appropriate, the use of RNP should be considered if the fleet mix can support it.*

No	Final Design Principle and Priority	Category	Notes
12	The MTMA airspace design will provide a compatible and optimised interface with London Airspace Modernisation Programme (LAMP) design (High)	Technical	*Closely spaced routes across the interface.*
13	Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it (High)	Policy	*The CAA have stated that this DP is required by all change sponsors. CAP1711 describes what airspace modernisation must deliver including:* *- the need to increase aviation capacity;* *- growth to be sustainable;* *- the need to maximise the utilisation of existing runway capacity.*
14	The airspace should introduce improved Continuous Climb Operations (CCO) and Continuous Descent Operations (CDO) for all aircraft (Medium)	Environmental	*This Design Principle includes enabling continuous operations below 7,000ft, where possible.*

3. Engagement Activities and Stakeholders

3.1 Stakeholders

NATS identified relevant and representative stakeholders to engage on a set of draft Design Principles. This was based on the following criteria:

- *Who is directly impacted by the proposed change?*
- *Who is indirectly impacted?*
- *Who is potentially impacted?*
- *Who's help may be required?*
- *Who knows about the proposed airspace change?*
- *Who has an interest in the proposed airspace change?*

Using these measures – alongside a known set of stakeholders - the following 51 aviation and local stakeholders were identified:

- 10 Airports/ Airfields within a potentially affected area – BAE Warton, City Airport & Heliport (Barton), Birmingham, Blackpool, Doncaster, East Midlands, Hawarden, Leeds, Liverpool and Manchester
- The top airlines who operate from Manchester Airport and had more than 4,000 movements in 2019 (accounting for over 65% of traffic in 2019) – British Airways Shuttle, easyJet, Jet 2, Lufthansa, Ryanair, Thomas Cook Airlines and Thomson Airways. The percentage each airline accounted for can be found in Appendix A.
- The top airlines who operate from East Midlands Airport and had more than 3,000 movements in 2019 (accounting for 63% of all traffic) – Atlantic Airlines, European Air Transport, Jet 2, Ryanair and Thomson Airways. The percentage each airline accounted for can be found in Appendix A.
- The MoD via the DAATM (Defence and Air Traffic Management) function
- 3 AoNBs (Area of Outstanding Natural Beauty)/ National Parks in the surrounding area – Cannock Chase, Forest of Bowland and the Peak District

NATS also engaged with 32 relevant stakeholders from the NATMAC (National Air Traffic Management Advisory Committee) group including representatives of GA (General Aviation) and recreational aviation organisations.

As the proposed changes will not make changes to airspace structures or procedures below 7,000ft, local community stakeholders were not included in this engagement. (Changes to the airspace structure below 7000ft will be addressed by the FASI-N changes sponsored by the individual airports).

A full list of all 58 stakeholders can be found in Appendix A: All Stakeholders.

3.2 Engagement

NATS created a set of draft Design Principles – listed in Section 3.3 below – which were based on the submitted Statement of Need (link) and the objectives stated in the Assessment Meeting (link) to achieve through this Airspace Change Proposal. The draft Design Principles were based on how to achieve an optimal high-level network design alongside the consideration of factors such as environmental impact and the potential effect on other airspace users.

The draft Design Principles included mandatory statements - such as ensuring safety and accordance with the Airspace Modernisation Strategy - alongside aspirational objectives which could potentially be compromised. The draft principles have also each been assigned a category – such as environmental or operational - which align to the general objectives of this Airspace Change Proposal.

After identifying a representative group of stakeholders (described in Section 3.1), NATS provided them with a set of draft Design Principles for feedback on. Stakeholders were sent the draft Design Principles via email on Wednesday 18th March and were asked to provide feedback by Friday 10th April, a period of just over 3 weeks. Stakeholders who had not responded were sent a follow-up email on Thursday 9th April and given an additional week to respond. Stakeholders were asked to respond even if they had no specific comments.

Email correspondence was used for engagement on the draft Design Principles as this allowed NATS to easily contact all stakeholders who could potentially be impacted by this proposal. Face to face engagement was not deemed necessary as the draft Design Principles are a set of high-level objectives based on the rationale covered in the Statement of Need alongside the Airspace Modernisation Strategy; both of which can be accessed remotely.

The draft Design Principles for this ACP are also purposely similar to those used for the other FASI-N MTMA ACP (Liverpool) and the two FASI-N ScTMA ACPs (Edinburgh and Glasgow). This MTMA Manchester/ East Midlands Stage 1B is the second of the four to be engaged on and submitted to the CAA. There are separate portal entries for all four ACPs which can be checked for progress and document uploads.

Alongside the formal engagement emails sent to all stakeholders, NATS also gave an update on the PLAS programme of work (including this ACP) to the Lead Operator Panel in December 2019. This was held at Heathrow and attended by a variety of aviation stakeholders including aircraft manufacturers, airlines and the CAA. The notes for this have been provided alongside this document (Ref 2).

3.2.1 Unexpected Impact on Engagement

Shortly after stakeholders were sent the draft Design Principles for this ACP (18/03/20), the UK government put the whole of the UK under lockdown following the COVID-19 outbreak (23/03/20). This included the closure of

non-essential businesses; employees being directed to work from home where possible; and the introduction of a furlough scheme. Alongside this, the aviation sector experienced a huge reduction in passenger numbers and associated flights.

NATS decided to continue with the engagement strategy described above, whereby relevant stakeholders were contacted via email and asked to respond with comments on the draft Design Principles. In light of the unprecedented situation created from the response to the virus outbreak, NATS recognises that stakeholders may not be available to provide comment or understandably have other priorities to focus on. NATS therefore decided to mirror comments received for the MTMA Liverpool draft Design Principles which are also relevant for this submission. A link to the MTMA Liverpool portal and the Stage 1B Design Principles document can be found on the portal here. These Design Principles were approved by the CAA on Friday 24th April 2020.

The draft Design Principles were identical for both MTMA submissions and – as per CAP1616 guidance – were not focussed on the specific design details. We have therefore been able to duplicate these comments with the benefit of including feedback from stakeholders who may not have been able to respond to this submission, as explained above. Despite the lockdown a total of 14 responses were received to the Design Principle engagement. These responses have been redacted and provided within a supplementary document (Ref 3), alongside the additional 5 responses received for the MTMA Liverpool Design Principles which have been applied to this submission.

3.2.2 Engagement with Community Stakeholders

At the Assessment Meeting for this ACP – the minutes of which can be found here on the portal – NATS presented this as a scalable Level 1 ACP.

Under the FASI-N partnership structure, NATS is responsible for changes to the route network above 7,000ft - including STARs and Holds – which this ACP covers. Airports including East Midlands and Manchester Airports, will be responsible for the ACPs and associated changes below 7,000ft; such as SIDs and arrival transitions. As such, consultation and engagement with community/ local stakeholders throughout the CAP1616 process is the responsibility of the airports.

NATS have proposed that this ACP is treated as a scaled Level 1 ACP in acknowledgement that proposed designs could potentially influence proposed designs (e.g. sponsored by the airport) below 7,000ft. NATS will continue to engage closely with neighbouring change sponsors – such as airports – and will ensure that all potential impacts are fully communicated through engagement and supporting analysis. However, community and local stakeholders are not an appropriate type of stakeholder under this ACP; impacts to these groups will be addressed by the airport's ACPs.

NATS acknowledges that it is the responsibility of the airports to engage with community stakeholders in association with their ACPs. NATS will work closely with these airports as key stakeholders and ensure that any potential impacts to their designs, traffic or procedures below 7,000ft are identified and engaged on.

The CAA will confirm the level of this ACP at Stage 2B.

3.3 Draft Design Principles

No	Draft Design Principle	Category	Notes

No	Draft Design Principle	Category	Notes
1	The airspace will maintain or enhance current levels of Safety	Safety	
2	The proposed airspace will maintain or enhance operational resilience of the ATC network	Operational	
3	The proposed airspace design will yield the greatest capacity benefits from systemisation	Operational	
4	The MTMA airspace design will provide a compatible and optimised interface between the Free Route Airspace (FRA) and ATS network	Technical	
5	The proposed MTMA airspace will facilitate optimised network economic performance	Economic	This includes track mileage/ fuel-burn/ route charges
6	The proposed MTMA airspace will facilitate the reduction of CO_2 emissions per flight	Environmental	
7	Minimise environmental impacts to stakeholders on the ground (note: network changes are >7,000ft, the position of the interface with the airport's lower level routes will be determined by the airport, hence impacts below 7,000ft will be addressed in the separate airport-sponsored ACP)	Environmental	
8	The MTMA airspace should be compatible with the requirements of the MoD	Operational	
9	The impacts on GA and other civilian airspace users due to MTMA should be minimised	Operational	Consider where impacts might be greatest by considering known VFR significant areas against placement of airspace structures
10	The volume of controlled airspace required for the MTMA should be the minimum necessary to deliver an efficient airspace design, taking into account the needs of UK airspace users	Technical	This may include releasing CAS as appropriate
11	The route network linking Airport procedures with the enroute phase of flight will be spaced to yield maximum safety and efficiency benefits by using an appropriate standard of PBN.	Technical	Where appropriate, the use of RNP should be considered if the fleet mix can support it.
12	The MTMA airspace design will provide a compatible and optimised interface with London Airspace Modernisation Programme (LAMP) design	Technical	Closely spaced routes across the interface.
13	Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it.	Policy	The CAA have stated that this DP is required by all change sponsors. CAP1711 describes what airspace modernisation must deliver

No	Draft Design Principle	Category	Notes
			including: - the need to increase aviation capacity; - growth to be sustainable; - the need to maximise the utilisation of existing runway capacity.
14	The airspace should introduce improved Continuous Climb Operations (CCO) and Continuous Descent Operations (CDO) for all aircraft	Environmental	Feedback from Airlines (Lead Operator Panel 04/12/19).

4. Draft Design Principles Feedback

From the 58 individual stakeholders contacted and engaged with, NATS received responses from 14 stakeholders which have been redacted and provided within a supplementary document (Ref 3). NATS responded back to all stakeholders to thank them for their feedback and answered any immediate questions, where relevant. Stakeholders were also reminded when NATS was submitting this document to the CAA and uploading onto the portal (01/05/20), alongside a link to the site.

General Comments

Alongside the feedback specific to the draft Design Principles covered in the following sections, a number of stakeholders submitted general comments which have been summarised below:

- The Airfield Operators Group (AOG) replied that the proposed draft Design Principles all seemed sensible and logical, with no further comments or objections.
- A representative from the Association of Remotely Piloted Aircraft Systems UK (ARPAS-UK) replied with support for the draft Design Principles.
- BAE Warton approved all of the proposed Design Principles asides from one comment in relation to Design Principle 8 (DP8), which has been summarised below.
- Asides from the proposed Design Principle covered in the next section, Birmingham Airport responded that they had no further comments on the draft Design Principles.
- The British Helicopter Association (BHA) responded that they had no comments on the draft Design Principles.
- The British Microlight Aircraft Association (BMAA) submitted several comments related to the draft Design Principles, as covered below. Their response also noted that the BMAA welcomes the opportunity to engage in consultation at an early stage within the ACP CAP1616 process.
  NATS will continue to engage with appropriate stakeholders, including the BMAA, during the Stage 2 Design work prior to the Stage 3 Consultation.
- British Skydiving responded that they had no comments on the draft Design Principles.
- A representative from easyJet provided approval for all the draft Design Principles.
- Liverpool Airport submitted one comment against specific draft Design Principle 12 (DP12) – summarised and responded to below – but approved the rest.

- Feedback was received from the MoD, citing approval for all 14 of the draft Design Principles. The response noted that the MoD seek clarity on the priorities will are assigned to the final Design Principles, which this document summarises over the upcoming sections.

Additional Design Principles

NATS received the following suggestion from the Guild of Air Traffic Control Officers (GATCO) when asked if they wanted to propose any additional Design Principles:
We would also note that this is a major change for our members, so we'd expect comprehensive training for those affected and suggest that implementation needs to be deconflicted from any other changes and completed during (usually) quieter traffic months (November to March).
NATS can confirm that a comprehensive ATC training plan will be produced alongside the final proposal. The training plan will stipulate the level of training and numbers of staff that must be trained before changes can enter operational service. Other known changes to airspace and systems will be taken into consideration. This will not be translated into a Design Principle as it is an agreed requirement of the project.

NATS also received the following additional Design Principle suggestion from Birmingham Airport:
Any changes proposed by Manchester Airport or East Midlands Airport should not negatively impact traffic operating to or from Birmingham Airport (negatively meaning having an impact on capacity, increasing track-miles for aircraft operating, or increasing controller workload at Birmingham Airport). BAL requires to be fully consulted on any wider network changes that may be required to fulfil the Manchester and EMA ACP local arrangements.

As covered in the engagement evidence document (Ref 3), NATS responded to Birmingham Airport that the lower-level airspace changes referenced in the above suggestion are the responsibility of the airports, such as Manchester and East Midlands. This ACP will coordinate network changes to integrate with these lower level airport changes but will not be responsible for designing and submitting these changes. NATS and Birmingham Airport had a follow-up phone conversation to discuss this, which Birmingham Airport confirmed they were happy with.

Other Comments

As described in Section 3.2.1 above, NATS has duplicated relevant comments received from stakeholders for the MTMA Liverpool Design Principles and responded to them below. A note has been included next to the stakeholder name to make it clear where comments have been copied over. It should also be noted that some stakeholders submitted the same feedback for both submissions as the draft Design Principles were identical.

The following general comments were also received for the MTMA Liverpool Design Principles

- Airlines UK supported and agreed with all of the draft MTMA Liverpool Design Principles except from a comment made against DP10, summarised in Section 4.10 below.
- A representative from the British Balloon and Airship Club (BBAC) responded that they approved all of the draft Design Principles for the MTMA Liverpool ACP.
- A representative from the Skydive Northwest centre responded that they would not be affected if the proposed changes remain within the potentially impacted area shown on the portal. NATS will continue to engage with stakeholders during the Stage 2 design work for both MTMA ACPs, so that any potential impact changes will be communicated.

The MTMA Liverpool Design Principles were approved by the CAA on Friday 24th April 2020.

The feedback has been summarised in the following sub-sections (4.1 - 4.14) which correspond to which draft Design Principle the feedback was in response to. NATS has responded to each comment alongside an explanation into how this has impacted the final Design Principle wording.

NATS has assigned a priority to each Design Principle based on the feedback received and whether it is mandatory for NATS to comply with the principle e.g. safety or a compulsory policy. The priorities used are *high, medium and low*.
NATS acknowledges that Design Principles which have been assigned a "medium" or "low" priority may have to be compromised against the mandatory principles with a "high" priority. However, NATS is committed to meet all of the Design Principles as best as possible during the upcoming Stage 2 Design work.

4.1 Draft Design Principle 1 - The airspace will maintain or enhance current levels of safety

Stakeholder	Feedback	NATS' Response
City Airport & Heliport (Barton)	In relation to GA – without understanding details of changes, hard to ascertain.	NATS appreciates that it is difficult to discuss safety implications before design work commences. However, the maintenance or improvement of safety levels applies to all relevant stakeholders who may be impacted by these changes, including the GA community.
Guild of Air Traffic Control Officers (GATCO)	GATCO would support the reasoning given by NATS and agree with the listed benefits. We would want to see more detailed designs before we could support fully, but there are certainly no objections at this stage.	NATS will continue to engage with GATCO during the development of the Design Options from Stage 2 onwards.
Honourable Company of Air Pilots (HCAP)	This should remain as No 1 but it must apply to overall safety, to account for any adverse impact on the safety of aircraft operating outside controlled airspace. Thus, the safety appraisal must also look at whether the changes making inadvertent infringement more likely (perhaps because of increased complexity as well as changed boundaries) or increase the mid-air collision risk of aircraft operating outside the new vertical and lateral boundaries.	It is not currently known whether NATS proposed airspace design will include any changes to controller airspace boundaries or classification. However, NATS can guarantee that any changes – including those to other airspace structures or procedures – will be part of a full safety assessment. This will include new and changing hazards, associated risks and mitigations – such as those suggested.
Manchester Airport	Agreed. This links to MAN agreed Design Principles.	No response required.

Summary and priority: There will be no change to the wording of this Design Principle as a result of the feedback received. NATS have assigned a "high" priority to this principle as the maintenance or, where possible improvement, of safety is at the forefront of any airspace change proposed by NATS.

4.2 Draft Design Principle 2 - The proposed airspace will maintain or enhance operational resilience of the ATC network

Stakeholder	Feedback	NATS' Response

City Airport & Heliport (Barton)	In relation to GA – if simplification and improvements can also reduce potential for Infringements, then yes this should improve resilience.	The PLAS Project shall design the airspace with the consideration of protecting airspace boundaries and resilience against non-standard situations. For example, any changes to CAS should seek to accommodate all users inside and outside CAS, including minimising infringements. NATS will also conduct a safety assessment to determine whether the design is adequately safe.
GATCO	We would note that NATS have correctly assessed that the ACPs at Manchester, Liverpool and East Midlands airports are critical and the implementation of any of these ACPs need to be fully aligned with NATS ACP.	NATS supports this statement.

Summary and priority: NATS did not receive any feedback which suggested any changes to this Design Principle. This principle has been assigned a **"high"** priority as operational resilience is a key driver behind this proposal and any deterioration to this would not be accepted.

4.3 Draft Design Principle 3 - The proposed airspace design will yield the greatest capacity benefits from systemisation

Stakeholder	Feedback	NATS' Response
GATCO	We would suggest that some of the more novel approach concepts (such as point merge) work well in environments with a lot of "space" without airports being too close together. The Manchester/Liverpool/East Midlands area would appear to be the opposite so any attempt to introduce point merge, without assessing the impact it would have on the rest of the traffic flows or without having a joined up plan to make changes to the other flows of traffic, could result in very little operational benefits and controllers having to make up for the shortcomings of the system.	NATS will ensure that the impacts of all proposed airspace/ procedure changes are identified and clearly articulated to affected stakeholders, through continued engagement. NATS shall minimise the requirement for additional controlled airspace and will consider current airspace usage including known traffic flows. Although NATS has not started exploring specific design concepts, this proposal shall not negatively impact on other airport's structures or routes.
Manchester Airport	As written, this is a statement rather than a DP, and only addresses the requirement for capacity through the use of systemisation (i.e. it's a solution). Suggestions: 1. Suggest change the words to "The design of the airspace shall minimise the need for ATC tactical intervention" (in principle this is systemisation but is less prescriptive). 2. From a MAN perspective we'd like to see a broader DP that provides	Please find NATS' responses to the points raised by Manchester Airport below. 1. NATS will update the Design Principle supporting note to include the suggested wording as an example of systemisation. 2. The supplementary note for this Design Principle will be updated to explain that the proposed airspace design should provide increased capacity and reduce delay. This

Stakeholder	Feedback	NATS' Response
	capacity through design and makes the best possible use of advanced ATM techniques, tools and procedures. It's partly covered by DP11 but again, that's prescriptive. 3. In addition, there needs to be something that covers delay, i.e. the airspace shall be designed in such a way that is not a constraint to airport capacity/growth. It's partly addressed through the link to CAP1711 but when it comes to assessment of designs against DPs, we'd like to see something more measurable so we can compare and contrast options.	could include the delivery of a suitable delay absorption mechanism or reducing departure intervals. However, prior to Stage 2 Design work, NATS cannot commit to specific ATM techniques, tools or procedures. As such, the Design Principle should not be this design focussed. It is also too early to know whether NATS and any relevant stakeholders - such as an airport - can invest/ commit to these changes. 3. As noted above, the description for this Design Principle will be updated to cover delay. This will ensure that this is taken into consideration in the later Stage 2 Design Principle Evaluation. CAP 1711 Airspace Modernisation specifically refers to delay (Section 3.19) which is also covered under Design Principle 13.

Summary and priority: The following supporting note will be included for this Design Principle, addressing the above feedback:
The proposed airspace design should provide increased capacity and reduce delay. This could include the delivery of a suitable delay absorption mechanism or reducing departure intervals. Systemisation will minimise the need for ATC tactical intervention; for example, through better traffic management.

This Design Principle has been assigned a **"high"** priority as it is a key driver behind this airspace change and a requirement of the Airspace Modernisation Strategy (DP13), which this proposal is supporting.

4.4 Draft Design Principle 4 - The MTMA airspace design will provide a compatible and optimised interface between the Free Route Airspace (FRA) and ATS network

Stakeholder	Feedback	NATS' Response
British Microlight Aircraft Association (BMAA)	Sponsors must show how they are integrating their proposal within the overall UK airspace modernisation context, for example proposals which do not connect efficiently between upper and lower airspace (potentially under different airspace "management") would only inhibit overall airspace efficiency and therefore not receive our support. Optimisation of the development work above and below the 7,000ft NATS en-route split.	NATS agrees that any proposed changes must be shown to integrate with both lower and upper airspace. The wording of this Design Principle will therefore be updated to include "*the lower level terminal airspace"* alongside the upper FRA. NATS will have to show that proposed designs effectively integrate within the UK airspace network – both current airspace and other proposed changes - during the Stage 2 Design work. This will involve close engagement with relevant stakeholders from airports and representatives from other airspace change projects.
Manchester Airport	It feels like there needs to be a bit of background to explain the words. What is "compatible and optimal" and what benefits will it bring? It would	The intent of this Design Principle is for the provision of a design that supports the systemisation of traffic flows: from low-level terminal traffic to high-level Free

Stakeholder	Feedback	NATS' Response
	be good to have this Design Principle described in benefits rather than features. Also, this only looks upwards into FRA. Can it be extended to cover the interface below the MTMA with airports i.e. a compatible and optimised interface with FRA and airports.	Route flows. The future design should effectively manage arrivals and departures within the TMA without impacting capacity. This will be included in the supplementary note for this principle. NATS will ensure that designs are compatible and optimal through on-going engagement with appropriate stakeholders. For example, NATS will work closely with the FRA project on how routes at the boundaries interface with volumes of FRA in the upper airspace. As noted above, NATS will include "*the lower level terminal airspace*" in the Design Principle wording as the design will need to be compatible with the airport interface too.

Summary and priority: In response to the above feedback, the wording of this Design Principle will be changed to include a reference to lower level airspace around airports:
The MTMA airspace design will provide a compatible and optimised interface between the lower level terminal airspace; the upper Free Route Airspace (FRA) and the ATS network.

The following supplementary note will also be included, addressing the above feedback:
The intent of this Design Principle is for the provision of a design that supports the systemisation of traffic flows: from low-level terminal traffic to high-level Free Route flows. The future design should effectively manage arrivals and departures within the TIMA without impacting capacity.

This Design Principle has been assigned a **"high"** principle because any design which is not able to fully integrate with the neighbouring airport, ATS and FRA networks would not be progressed. NATS recognises that any proposed airspace change must work alongside current airspace and any known future changes.
This is in line with DP12 which is concerning the alignment with the London Airspace Modernisation Programme (LAMP) design.

4.5 Draft Design Principle 5 - The proposed MTMA airspace will facilitate optimised network economic performance

Stakeholder	Feedback	NATS' Response
GATCO	We note also that given the current uncertainty surrounding the industry, 2022 may be optimistic. We suggest the airlines will want to see what the benefit is that they are paying NATS and the other ANSPs to produce are - and it's not inconceivable that a decision may be taken that it's not required just now.	NATS acknowledges that there may be changes in future forecasts and planned changes, as an outcome of the COVID-19 outbreak and associated consequences. NATS will continue to work closely with stakeholders and the regulator; and will ensure that any changes to scopes are clearly communicated.
Manchester Airport	Again, this is an outcome and isn't transparent what it means. The DP should better describe what are the factors that will contribute to this	NATS will consider economic opportunities during the Stage 2 design development work. Economic benefits could be gleaned

Stakeholder	Feedback	NATS' Response
	performance (maybe added in the text from the notes).	from environmental improvements such as reduced track mileage/ emissions or direct revenue from increased capacity/ route charges. Further context will be added to the note in support of this Design Principle.

Summary and priority: The supporting note for this Design Principle will be updated as follows:
Economic benefits could include environmental improvements such as reduced track mileage/ emissions or revenue from increased capacity/ route charges.

This Design Principle has been assigned a **"medium"** priority as NATS is committed to facilitate economic benefits through improve airspace and procedure designs. A proposed design should seek to drive economic growth through improvements such as reduced fuel burn or route charges.

4.6 Draft Design Principle 6 - The proposed MTMA airspace will facilitate the reduction of CO_2 emissions per flight

Stakeholder	Feedback	NATS' Response
HCAP	This principle should be combined with current principles 7 & 14 into a new Principle No 3 so that environmental issues are given appropriate priority.	These three Design Principles (6, 7 and 14) cover different environmental mitigation techniques associated with different impacts. Prioritising the mitigation of CO_2 and noise impacts are based on the altitude of proposed changes i.e. noise is a priority below 7,000ft and environmental impacts above. Therefore, these can be evaluated discretely and should be kept as separate principles. NATS is committed to improve Continuous Climb Operations (CCO) and Continuous Descent Operations (CDO) procedures which support environmental initiatives; but also safety/ workload benefits. Likewise, this principle can be evaluated separately from the other two principles: meeting one of the principles would not automatically mean that the other two are met. Combining these three individual objectives would also reduce the discreet nuances covered by each which, as covered above, can be evaluated separately. This Design Principle, alongside DP14, have been assigned a "medium" priority as mitigating environmental impacts is a significant objective for NATS (albeit not mandatory). DP7 has been given a "low" priority as mitigating environmental/ noise impacts below 7,000ft will primarily be the responsibility of airports however, NATS will support this where possible.
Manchester Airport	Agreed	No response required.

Summary and priority: NATS did not receive any feedback which suggested any changes to this Design Principle. This has been assigned a **"medium"** priority in recognition of the importance in mitigating

environmental impacts, where possible. It has not been assigned the highest priority as there is a possibility that it may need to be compromised against a mandatory principle such as safety.

4.7 Draft Design Principle 7 - Minimise environmental impacts to stakeholders on the ground (note: network changes are >7,000ft, the position of the interface with the airport's lower level routes will be determined by the airport, hence impacts below 7,000ft will be addressed in the separate airport sponsored ACP)

Stakeholder	Feedback	NATS' Response
HCAP	This principle should be combined with current principles 6 & 14 into a new Principle No 3 so that environmental issues are given appropriate priority.	Covered under the same comment above, for DP6.
Manchester Airport	This is linked to DP14 and I'd suggest the 2 could be combined. The routes in the upper airspace should be designed in a way that can respond to the environmental requirements below 7,000ft. This has been discussed at length in the development of the requirements between MAN and NERL and has resulted in requirements that cover the use of CDO and CCDs but also delay absorption such as point merge, We'd like to see something more specific to reflect this interaction and collaborative route design. 7,000ft is just a boundary written by the regulator, and the need to manage environmental performance is one that falls on both airports and NERL.	Although Design Principles 7 and 14 are closely linked, they are not mutually exclusive: meeting one principle does not automatically mean that the other is also met. For example, minimising impact to those on the ground could include avoiding overflying a National Park which may not involve CDO or CCD operations. NATS will keep these as separate principles as they can be achieved in different ways and evaluated separately. The wording of this Design Principle will still include the 7,000ft altitude distinction between lower-level terminal/ airport and higher network changes. CAP1616 clearly outlines the change in environmental impacts below and above this altitude. NATS is committed to enable and support a decrease in environmental impacts, where possible. The supplementary note for this Design Principle will be updated to make this clear. Design Principle 4 (covered above) will also be updated to specifically include "*the lower level terminal airspace*" which will also further support NATS' intention for a collaborative design solution.

Summary and priority: NATS did not receive any feedback which suggested any changes to this Design Principle. This Design Principle has been assigned a **"low"** priority as the proposed network changes covered by this submission will not make airspace or procedure changes below 7,000ft. However, this should be included as a separate principle because NATS is committed to work alongside other change sponsors – such as airports – in order to mitigate noise impact to local stakeholders on the ground, where possible.

4.8 Draft Design Principle 8 - The MTMA airspace should be compatible with the requirements of the MoD

Stakeholder	Feedback	NATS' Response
BAE	Whilst noting that DP8 caters for MoD compatibility –	Alongside the general requirements of

Stakeholder	Feedback	NATS' Response
Warton	and as we have responded previously in other ACP DPs – we would ask that industry activities such as ours are taken into consideration. We recognise that our activities cut across both environments covered by DP8 and DP9 but would ask that specific mention is made of defence industry activity. We note that the NATS FRA (Free-Route Airspace) submission used the word "*will*" for this DP, whereas this MTMA principle uses "*should*". In any case, we would be content if DP8 wording was modified as follows: "*The MTMA airspace should be compatible with the requirements of the MoD and will take into consideration the requirements of defence industry stakeholders".*	the MoD, NATS is committed to also include those of the wider defence sector. Therefore, to reflect this, the wording will be updated to include *"and take into consideration the requirements of the defence industry stakeholders".* This is consistent with DP8 (MoD requirements) of the FRA Stage 1B Design Principles. NATS cannot guarantee that there will be no impacts on other airspace users, such as the MoD. The design options will seek to minimise this as much as possible, but compromises may be required.
Manchester Airport	Agreed in principle, but it should balance these with the needs of civilian air traffic. Perhaps it would be more appropriate to add "*… and will seek to apply the use of Flexible Use of Airspace arrangements where possible*"?	NATS agrees that any proposed changes to airspace or procedures should consider the impact on all relevant airspace users. As part of the upcoming Stage 2 Design phase, NATS will explore design considerations such as the potential for flexible routing to assist with the expedition of traffic during demand peaks. However – as the detailed design stage has not started and the Design Principles should not be design focussed – specific mention of design concepts, such as FUA, will not be included.

Summary and priority: In response to feedback received, NATS will update the wording of this principle to include consideration of the wider defence industry:
The MTMA airspace should be compatible with the requirements of the MoD and take into consideration the requirements of the defence industry stakeholders.

This principle has been assigned a **"medium"** priority in recognition of military users and their requirements/ use of the airspace. This is the same priority as DP9 which relates to minimising impact on the GA community.

4.9 Draft Design Principle 9 - The impacts on GA and other civilian airspace users due to MTMA should be minimised

Stakeholder	Feedback	NATS' Response
British Hang Gliding and	As a general principle, ACPs should minimise impact on GA including	NATS cannot guarantee that there will be no impact (including access) to other airspace users however, this

Stakeholder	Feedback	NATS' Response
Paragliding Association (BHPA) *Comment received for the MTMA Liverpool Design Principles*	sporting and recreational aviation, and to ensure their continued right of access to the airspace.	principle highlights the pledge to minimise this. Other airspace user's requirements and locality will be taken into consideration, through continued engagement. The supporting note of this Design Principle will be updated to include examples of GA and other civilian users for clarity: "*This includes a wide variety of other airspace users such as emergency, recreational, training and sporting aviation*".
BMAA	Sponsors must accept the submission that GA including sporting and recreational aviation is entitled to continued safe use of airspace and that commercial aviation does not have a right to limit airspace access.	As described above, the supporting note of this Design Principle will be updated to specifically mention types of GA and civilian air traffic. Although it is too early to pre-empt potential changes to airspace classification/ volume, NATS will fully articulate justification for proposed changes alongside any anticipated impacts for stakeholders. NATS will also ensure adherence to the CAA policy of keeping the volume of controlled airspace to the minimum necessary to meet the needs of UK airspace users.
BMAA	Sponsors should ensure that there will be measures to allow flexible use of airspace and prepare for the wider use of electronic conspicuity devices and interoperability with existing e-conspicuity e.g. FLARM and Pilot Aware etc.	As mentioned above, NATS has not begun work on the design stage of this ACP. If appropriate, NATS will consider the use of flexible operations to assist with the expedition of traffic. Stakeholders, such as GA communities, will be fully engaged with as part of Stage 2 to gather feedback on proposed designs. However, it should be noted that technology changes associated with GA/ outside of CAS are out of scope, as this proposal solely relates to airspace change.
City Airport & Heliport (Barton)	Agreed – impacts on GA should be minimal or provide a positive benefit. In addition, ability for Instrument approach capability at City Airport (Barton) should be considered as this is a likely development in future and occasionally ad-hoc IFR departures already take place.	Although the introduction of Instrument Approach Procedures at City Airport & Heliport (Barton) will not fall under the scope of this ACP, NATS is keen to work closely with City Airport as a key stakeholder. NATS encourages City Airport to provide NATS with any information on future changes as part of NATS' Stage 2 design work and beyond. Similarly, NATS would welcome being engaged with as part of any future changes at City Airport.
Denbigh Gliding Club *Comment received for the MTMA Liverpool Design Principles*	Denbigh Gliding (and other gliding operations) routinely operate gliders in North Wales up to FL195 where permitted, and higher within the designated TRA(G)s.	NATS will continue to engage with stakeholders, such as gliding representatives, during Stage 2. This will allow stakeholders to provide feedback on design options, ensuring that their own requirements are taken into consideration.
HCAP	This is an important principle. UK airspace is a national resource that	NATS fully supports the need to ensure equitable and appropriate access for other airspace users.

Stakeholder	Feedback	NATS' Response
	needs to be shared across the entire user base, including GA, drone and military operators. Where necessary, additional controllers/control stations should be provided to ensure that current GA (and military) activity levels can be sustained while also providing for the needs of future drone operations.	Controller workload and training requirements will be considered as part of the safety case which will be submitted as part of the final Airspace Change Proposal. This will include assessing whether the capacity of sector controllers can monitor and effectively respond to any changes in workload as a consequence of this Airspace Change Proposal.
Manchester Airport	Commercial airlines are "civilian users" so is this what is meant on this DP? Perhaps change to "*The impacts on GA and other non-commercial airspace users …*".	Agreed – NATS will update the wording of this Design Principle to include "*non-commercial airspace users*".

Summary and priority: In response to feedback received, NATS will update the Design Principle wording to:
The impacts on GA, non-commercial and other civilian airspace users due to MTMA should be minimised.

The descriptor note of this principle will also be updated to state specific airspace users:
This includes a wide variety of other airspace users such as emergency, recreational, training and sporting aviation.

This principle has been assigned a **"medium"** priority in recognition of other airspace users and their requirements/ use of the airspace. This is the same priority as DP8 which relates to minimising impact on the MoD.

4.10 Draft Design Principle 10 - The volume of controlled airspace required for the MTMA should be the minimum necessary to deliver an efficient airspace design, taking into account the needs of UK airspace users

Stakeholder	Feedback	NATS' Response
Airlines UK *Comment received for the MTMA Liverpool Design Principles*	You need to be very careful with release of CAS. The problem is that things change and a piece of CAS that may appear not to be required/ used at the moment may be needed in the future; and once given away, it is a very expensive and difficult process to get it back. Consider this very carefully before giving it away as once gone it is very difficult to get it back.	Any changes to airspace will be based on a variety of factors such as safe containment of procedures, current usage and what is required to deliver a safe and efficient operation. NATS will not make any changes to airspace without a full impact analysis, including any possibility of requiring it back.
BMAA	The BMAA considers that the UK airspace's default classification is G and that sponsors must establish a safety case for proposing to change	Any proposed changes to CAS volume or classification by NATS will require submission of a comprehensive safety case. The proposed CAS will be the minimum required to

Stakeholder	Feedback	NATS' Response
	this class or add any further restrictions or requirements by their ACP.	deliver a safe and efficient operation. The wording of this Design Principle will be updated to include "*classification*" alongside "*volume*".
BMAA	All sponsors must demonstrate that alternatives have been considered such as RMZ and TMZ before considering controlled airspace.	As part of the later Step 2A (Options Development), NATS is required to develop a comprehensive long-list of options that address the Statement of Need. Although it is not possible to pre-determine design options – such as the suggestions made – NATS will provide rationale for all options, before evaluating against the Design Principles.
BMAA	Where Class E is proposed, without a TMZ or RMZ should be considered as the default option.	Before passing Stage 1, it is not possible to start work on the Stage 2 design work nor to predetermine the design options. It is therefore too early to ascertain whether this specific comment from the BMAA will be relevant. NATS will re-engage with stakeholders as part of Stage 2 to seek feedback on developed options, including the BMAA.
City Airport & Heliport (Barton)	Agreed – impacts on GA should be minimal or provide a positive benefit by release of CAS. Additional height overhead City Airport (Barton) and within vicinity, possibly to 2500ft would be beneficial. In addition, ability for Instrument approach capability at City Airport (Barton) should be considered as this is a likely development in future and occasionally ad-hoc IFR departures already take place.	During the Stage 2 design work, NATS will review the classification and volume of airspace to ensure it is appropriate to the airspace usage. Specific information on stakeholder usage – such as the point raised – will be useful to NATS during the engagement as part of the design work. As covered in the response under DP9 above - although new Instrument Approaches at City Airport do not fall under the scope of this ACP, NATS is keen to be engaged with and work alongside City Airport.
Manchester Airport	Agreed, this matches with MAN DP "A".	No response required.

Summary and priority: In response to feedback received, the wording of this Design Principle will be updated slightly to include airspace classification:
The classification and volume of controlled airspace required for the MTMA should be the minimum necessary to deliver an efficient airspace design, taking into account the needs of UK airspace users

NATS have assigned this principle a "**medium"** priority in line with DP8 and DP9 which relate to impact on other airspace users.

4.11 Draft Design Principle 11 - The route network linking Airport procedures with the enroute phase of flight will be spaced to yield maximum safety and efficiency benefits by using an appropriate standard of PBN

Stakeholder	Feedback	NATS' Response
Manchester Airport	Can you be more specific about the "appropriate standard of PBN"? This links back to both	In response to this feedback, the Design Principle wording will be slightly changed from "*appropriate*

Stakeholder	Feedback	NATS' Response
	capacity and delays; we see that any design to the lowest common denominator may not yield the overall benefits.	*standard of PBN*" to "*optimum standard of PBN"*. NATS is focussed on maximising the benefits of the latest technology and navigation capabilities. The proposed PLAS design will utilise the optimal navigation performance specification based on the anticipated fleet mix for guidance when designing the airspace (as defined by the ICAO PBN Manual – DOC 9613). The specifics of this will be developed as part of the Stage 2 Design work. The wording of this Design Principle will also be changed to include "*capacity"* alongside "*safety and efficiency benefits".*

Summary and priority: The wording of this Design Principle will be updated to:
The route network linking Airport procedures with the enroute phase of flight will be spaced to yield maximum safety, capacity and efficiency benefits by using an optimal standard of PBN.

This principle has been assigned a "high" priority because the use of PBN is required to achieve the safety, environmental and operational objectives of this airspace change. The use of modern technology is an enabler for ensuring an efficient airspace design and is in support of the wider Airspace Modernisation Strategy (covered under DP13).

4.12 Draft Design Principle 12 - The MTMA airspace design will provide a compatible and optimised interface with London Airspace Modernisation Programme (LAMP) design

Stakeholder	Feedback	NATS' Response
GATCO	From the perspective of ATC controllers directly affected by this, we suggest the greatest benefit will be the systemisation of interactions between Manchester and Liverpool traffic. East Midlands is less of an issue but if you move the DAYNE hold south and make it into a point merge for traffic from the south and south west, the interaction of East Midlands traffic becomes more problematic.	As outlined in our Statement of Need for this ACP, the changes under this submission will be coordinated with, and complement, the airports' low-level changes. Improving the interaction with Manchester, East Midlands and neighbouring airport traffic flows is a key issue to be addressed as part of this ACP. Design options and specific geographical considerations will form part of the upcoming Stage 2 Design work. NATS will continue to engage with stakeholders – including GATCO – to ensure they have an opportunity to feed into this.
Liverpool Airport	Couldn't see a direct link between LAMP and the MTMA within this slide pack.	The Assessment Meeting slide pack (referred to in this comment) was presented at the very beginning of this ACP and the draft Design Principles were produced afterwards. However, LAMP was specifically mentioned on Slide 21 *Stakeholder Engagement;* as an airspace project and stakeholder this ACP will need to engage with. A link to the portal and the Assessment Meeting slide pack can be found here.
Manchester Airport	Agreed.	No response required.

Summary and priority: NATS did not receive any feedback which suggested any changes to this Design Principle. This has been assigned a **"high"** principle because any design which is not able to fully integrate with the neighbouring LAMP design would not be progressed. NATS recognises that any proposed airspace change must work alongside current airspace and any known future changes.
This is in line with DP4 which is concerning the alignment with the Free Route Airspace (FRA) and ATS network.

4.13 Draft Design Principle 13 - Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it.

Stakeholder	Feedback	NATS' Response
BMAA	In line with the principles of the Airspace Modernisation (was FAS) principles the ACP must respect the requirement for minimum airspace volumes design for efficiency and reduced environmental impact. These principles will include:	NATS is committed to adhere to CAP1711 which describes what airspace modernisation must deliver, including the principles – such as those mentioned – which are fundamental to airspace change.

Stakeholder	Feedback	NATS' Response
	- Minimum size of controlled airspace; - Minimum number of departure/ arrival routes; - Steeper and continuous climbs and descents for cost and environmental benefits as well as minimisation of CAS footprint.	
GATCO	GATCO have seen from past experience that results from changes such as this have not been as beneficial operationally as first envisaged: for example at London City they have point merge but none of the changes around have taken place (especially Gatwick) which rendered that system a bit of a futile exercise. The system is safe, the controllers can use it but it has certainly increased the level of coordination between controllers in the TC ops room (workload) without delivering all the anticipated benefits. And increased workload for other controllers (e.g. Heathrow approach) as a result of that new airspace/system.	As part of our ongoing engagement, the NATS project team is keen to understand what stakeholders felt went well alongside what could have been improved upon, on previous airspace changes. Having led, supported and contributed towards a large number of previous Airspace Change Proposals, NATS will ensure that lessons learnt are taken into consideration during our upcoming design work.
Manchester Airport	Agreed but there's lots of things under the umbrella of 1711. Some of these requirements around capacity and sustainability are already addressed elsewhere so I'm not sure if there's a conflict? Is there also a link to the Airspace masterplan?	NATS' airspace change – in conjunction with the FASI-N programme – is required to include a Design Principle that assures alignment with CAP1711. NATS recognises that CAP1711 covers a variety of initiatives and has created other Design Principles – albeit which may overlap with 1711 – based on the objectives outlined in NATS' Statement of Need submitted to the CAA. The PLAS project shall collaborate with the ACOG FASI-N masterplan. At the time of submitting this, the masterplan has not been published so a link is not available.

Summary and priority: NATS did not receive any feedback which suggested any changes to this Design Principle. This principle has been assigned a **"high"** priority as this airspace change proposal and all associated changes as part of it, are required to be in compliance with the Airspace Modernisation Strategy.

4.14 Draft Design Principle 14 - The airspace should introduce improved Continuous Climb Operations (CCO) and Continuous Descent Operations (CDO) for all aircraft

Stakeholder	Feedback	NATS' Response
HCAP	Where the requirements of CCO and CDO conflict, CCO should have priority, as this provides the greatest alleviation of environmental impact. This principle should be combined with current	NATS is aware of guidance from Eurocontrol stating that a level-off in descent is more detrimental to fuel-burn; therefore, CDAs should be prioritised over CCOs. The environmental impact of design options will be

	principles 6 & 7 into a new Principle No 3 so that environmental issues are given appropriate priority.	fully evaluated as part of the Stage 2 work. NATS contacted HCAP to explain NATS' position as per the Eurocontrol guidance, and to check whether their comment was meant to state the other way around i.e. CDOs should be prioritised over CCOs. HCAP were unaware of the guidance which NATS provided them with a link to. NATS also explained that they still intend to introduce both types of operation if possible; the guidance would be considered only if a priority call was required. The comment relating to combining this principle with Design Principles 6 and 7 has been covered under the same comment above, for DP6.
Manchester Airport	Agreed although this could be combined with DP7.	As covered above, these Design Principles will be kept separate as achieving one does not necessarily mean that the other is met. As DP7 specifically mentions the 7,000ft altitude distinction, the supporting note for this Design Principle (DP14) will be updated to include "*this includes enabling continuous operations below 7,000ft"*.

Summary and priority: The following supplementary note will be added to this Design Principle:
This Design Principle includes enabling continuous operations below 7,000ft, where possible.

NATS did not receive any feedback which suggested any changes to this Design Principle. NATS have assigned this principle a **"medium"** priority for this principle as although it is not a mandatory objective for this airspace change and may need to be compromised, designs should seek to achieve this where possible.

5. References

Reference	Title and Description
Ref 1 Available publicly	*NATS MTMA Manchester and East Midlands Statement of Need* *Link to the document on the online portal*
Ref 2 Supplied to the CAA and redacted version uploaded to the portal	*Lead Operator Carrier Panel Minutes - 041219*
Ref 3 Supplied to the CAA and redacted version uploaded to the portal	*NATS MTMA Manchester and East Midlands Engagement Responses*

6. Appendix A: All Stakeholders

Organisation	Notes
BAE Warton (Management and Operations)	
City Airport & Heliport (Barton) (Management and Operations)	
Birmingham Airport (Management and Operations)	
Blackpool Airport (Management and Operations)	
Doncaster Airport (Management and Operations)	
East Midlands Airport (Management and Operations)	
Hawarden Airport (Management and Operations)	
Leeds Airport (Management and Operations)	
Liverpool Airport (Management and Operations)	
Manchester Airport (Management and Operations)	
Ryanair (19%)	Airlines which had more than 4,000 movements from Manchester Airport in 2019 have been contacted; accounting for over 65% of all traffic. Percentages to the left show the percentage of all traffic that each airline accounted for.
easyJet (16%)	
Jet 2 (11%)	
Thomson Airways (8%)	
Thomas Cook Airlines (6%)	
Lufthansa (3%)	
British Airways Shuttle (3%)	
Ryanair (23%)	Airlines which had more than 3,000 movements from East Midlands Airport in 2019 have been contacted; accounting for 63% of all traffic. Percentages to the left show the percentage of all traffic that each airline accounted for.
European Air Transport (17%)	
Jet 2 (12%)	
Atlantic Airlines (6%)	
Thomson Airways (5%)	
MoD DAATM (Defence and Air Traffic Management)	NERL Contact
Cannock Chase	AoNB
Forest of Bowland	AoNB (Area of Outstanding Natural Beauty)
Peak District	National Park

Organisation	Notes
Airlines UK	Relevant organisation from the NATMAC distribution list
Airspace4All	Relevant organisation from the NATMAC distribution list
Airport Operators Association (AOA)	Relevant organisation from the NATMAC distribution list
Airfield Operators Group (AOG)	Relevant organisation from the NATMAC distribution list
Aircraft Owners and Pilot Association (AOPA)	Relevant organisation from the NATMAC distribution list
Airspace Change Organising Group (ACOG)	Relevant organisation from the NATMAC distribution list
Association of Remotely Piloted Aircraft Systems UK (ARPAS-UK)	Relevant organisation from the NATMAC distribution list
Aviation Environment Federation (AEF)	Relevant organisation from the NATMAC distribution list
British Airways (BA)	Relevant organisation from the NATMAC distribution list
British Airline Pilots Association (BALPA)	Relevant organisation from the NATMAC distribution list
British Balloon and Airship Club	Relevant organisation from the NATMAC distribution list
British Business and General Aviation Association (BBGA)	Relevant organisation from the NATMAC distribution list
British Gliding Association (BGA)	Relevant organisation from the NATMAC distribution list
British Helicopter Association (BHA)	Relevant organisation from the NATMAC distribution list
British Hang Gliding and Paragliding Association (BHPA)	Relevant organisation from the NATMAC distribution list
British Microlight Aircraft Association (BMAA) / General Aviation Safety Council (GASCo)	Relevant organisation from the NATMAC distribution list
British Model Flying Association (BMFA)	Relevant organisation from the NATMAC distribution list
British Skydiving	Relevant organisation from the NATMAC distribution list
Drone Major	Relevant organisation from the NATMAC distribution list
General Aviation Alliance (GAA)	Relevant organisation from the NATMAC distribution list
Guild of Air Traffic Control Officers (GATCO)	Relevant organisation from the NATMAC distribution list
Honourable Company of Air Pilots (HCAP)	Relevant organisation from the NATMAC distribution list
Helicopter Club of Great Britain (HCGB)	Relevant organisation from the NATMAC distribution list
Heavy Airlines	Relevant organisation from the NATMAC distribution list
Iprosurv	Relevant organisation from the NATMAC distribution list
Isle of Man CAA	Relevant organisation from the NATMAC distribution list
Light Aircraft Association (LAA)	Relevant organisation from the NATMAC distribution list
Low Fare Airlines	Relevant organisation from the NATMAC distribution list
MoD – DAATM	Relevant organisation from the NATMAC distribution list
PPL/ IR (Europe)	Relevant organisation from the NATMAC distribution list
UK Airprox Board (UKAB)	Relevant organisation from the NATMAC distribution list
UK Flight Safety Committee (UKFSC)	Relevant organisation from the NATMAC distribution list

7. Appendix B: Engagement Evidence

7.1 Original email sent to stakeholders

From: *Airspace Consultation*
Sent: *18 March 2020 08:55*
Subject: *NATS FASI-N MTMA Manchester/ East Midlands ACP Design Principles*

Dear Colleague,

NATS are currently commencing an Airspace Change Proposal (ACP) to make changes to the ATC route network for routes to/from Manchester and East Midlands Airports in and around the Manchester Terminal Manoeuvring Area (MTMA). This ACP is being progressed under the Future Airspace Strategy Implementation – North (FASI-N) programme.
As part of this process we would like to involve you in the formulation of the design principles which will be used by the project. This is a required part of the UK CAP1616 airspace change process.
Further details on this ACP can be found on the CAA portal by following this link.

We would like to clarify that we are currently asking for feedback on Design Principles for several ACPs:
- *FASI-N Manchester + East Midlands (this one)*
- *FASI-N Liverpool*
- *FASI-N Edinburgh*
- *FASI-N Glasgow*

Hence many of you (i.e. NATMAC & Airline Colleagues) may find that you have received several emails very similar to this one. If you are on the list for several, please be assured that these are separate ACP's and hence they each require separate feedback (though the DPs are similar). Please respond to each however please let us know if your comments are the same as previously submitted.

Below are the draft set of design principles for the FASI-N MTMA (Manchester/ East Midlands) changes. Please can you review these and give us your comments.
If you have suggestions for additional design principles we would welcome your input.

If you are content with the proposed design principles please press the "Approve" voting button, or reply "Approve".

If you have comments please reply to this email and annotate the table below.

No	Design Principle	Category	Notes	Stakeholder Comments
1	The airspace will maintain or enhance current levels of safety	Safety		
2	The proposed airspace will maintain or enhance operational resilience of the ATC network	Operational		
3	The proposed airspace design will yield the greatest capacity benefits from systemisation	Operational		
4	The MTMA airspace design will provide a compatible and optimised interface between the Free Route Airspace (FRA) and ATS network	Technical		
5	The proposed MTMA airspace will facilitate optimised network economic performance	Economic	This includes track mileage/ fuel-burn/ route charges	
6	The proposed MTMA airspace will facilitate the reduction of CO_2 emissions per flight	Environmental		
7	Minimise environmental impacts to stakeholders on the ground (note: network changes are >7,000ft, the position of the interface with the airport's lower level routes will be determined by the airport, hence impacts below 7000ft will be addressed in the	Environmental		

No	Design Principle	Category	Notes	Stakeholder Comments
	separate airport sponsored ACP)			
8	*The MTMA airspace should be compatible with the requirements of the MoD*	*Operational*		
9	*The impacts on GA and other civilian airspace users due to MTMA should be minimised*	*Operational*	*Consider where impacts might be greatest by considering known VFR significant areas and Military-use areas against placement of airspace structures*	
10	*The volume of controlled airspace required for the MTMA should be the minimum necessary to deliver an efficient airspace design, taking into account the needs of UK airspace users*	*Technical*	*This may include releasing CAS as appropriate*	
11	*The route network linking Airport procedures with the enroute phase of flight will be spaced to yield maximum safety and efficiency benefits by using an appropriate standard of PBN.*	*Technical*	*Where appropriate, the use of RNP should be considered if the fleet mix can support it*	
12	*The MTMA airspace design will provide a compatible and optimised interface with London Airspace Modernisation Programme (LAMP) design*	*Technical*	*Closely spaced routes across the interface.*	
13	*Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it*	*Policy*	*The CAA have stated that this DP is required by all change sponsors. CAP1711 describes what airspace modernisation must deliver including:* *- the need to increase aviation capacity;* *- growth to be sustainable;* *- the need to maximise the utilisation of existing runway capacity.*	
14	*The airspace should introduce improved Continuous Climb Operations (CCO) and Continuous Descent Operations (CDO) for all aircraft*	*Environmental*	*Feedback from Airlines (Lead Operator Panel 04/12/19).*	
	Add further suggested Design Principles HERE.			

We would appreciate your feedback by Friday 10th April. Many thanks for your time.

Best regards,
NATS Airspace Change Team

7.2 Follow-up email sent to stakeholders who had not submitted a response

From: *Airspace Consultation <airspaceconsultation@nats.co.uk>*
Sent: *09 April 2020 15:50*
Subject: *FW: NATS FASI-N MTMA Manchester/ East Midlands Airspace Change Proposal*

Dear Colleague,

We note that we have not received a response to our proposed draft Design Principles sent below. Although we originally asked for comments by tomorrow (10th), we would like to offer you a further few days and will accept comments up to Friday 17th April.

Similarly, if you have no comments that would also be useful to receive.

Kind regards,
NATS Airspace Change Team