Final report

Development of Airspace Design Principles for the Southampton Airport FASI-South Airspace Change Proposal

CAP1616 Stage 1B Define Gateway Submission Document

Final report on airspace design principles engagement

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1. Introduction and background

1.1. Purpose

This report describes the outcomes of the stakeholder engagement conducted by Southampton Airport (SOU) to develop and refine airspace design principles for its airspace change proposal (ACP-2019-03). The report forms part of the SOU submission to the Civil Aviation Authority (CAA) for the Define Gateway of the regulatory process for changing airspace design (CAP1616). In this capacity the report aims to:

- Demonstrate how the engagement conducted by SOU has influenced the development of the design principles that the airport proposes to adopt for the ACP.
- Provide evidence that the conversations held with stakeholders have created a good understanding of the design considerations that are important to different groups.
- Explain how the final list of proposed design principles forms a broadly accepted framework for evaluating airspace design options during Stage 2 of the ACP.

1.2. Structure

The report is organised into six main sections:

- Section 1 summarises the background to our ACP.
- Section 2 describes our engagement approach and the stakeholder groups that we invited to participate.
- Section 3 summarises the feedback offered by stakeholders during the first phase of the engagement to gather issues and opportunities that should be considered when developing an initial list of design principles.
- Section 4 summarises the feedback offered by stakeholders during the second phase of the engagement to refine the design principles and explains our rationale for adopting or discounting potential design principles to create the final list.
- Section 5 summarises the outputs of the Consultation Institute's (TCI) independent assurance of the engagement activities we conducted.
- Section 6 explains our conclusions and the expected next steps.

1.3. Background

The airspace in southern England is some of the busiest in the world. The Department for Transport (DfT) has notified aviation stakeholders that, with traffic levels forecast to continue growing, delays are expected to increase sharply if the airspace is not upgraded to introduce additional capacity. In response, the Government tasked the Civil Aviation Authority (CAA) to develop the UK Airspace Modernisation Strategy (AMS), which was published in December 2018, and describes the changes that the industry should make to meet the growing demand for aviation in a safe, efficient and environmentally sustainable way. The overall programme of changes required to implement the AMS is considered one of the most significant airspace and air traffic management (ATM) developments ever undertaken.

Some of the most important changes described in the AMS concern the widespread adoption of satellite-based navigation technology. This enhanced form of navigation (commonly known as Performance-based Navigation or PBN) enables arrival and departure routes to be re-designed with greater precision and flexibility. The UK has agreed to comply with European legal directives requiring the deployment of PBN routes in busy areas of controlled airspace such as the portions above southern England, including SOU. The deployment of PBN routes at SOU, in line with the AMS and European legal directives, is the main driver for our ACP and the reason for our participation in the FASI-South (Future Airspace Strategy Implementation – South) programme.

FASI-S is an initiative set out in the AMS that brings together 18 airports and NATS (the UK's en-route Air Navigation Service Provider) in a programme to re-design the airspace structure and route network in southern England. As part of the FASI-S Programme, SOU is responsible for implementing new PBN arrival and departure routes from the ground to 7000ft. We are also responsible for ensuring the effective integration of our routes with those designed by the other FASI-S airports and with the wider re-design of the airspace that is led by NATS.

The NATS led component of FASI-S is known as LAMP (the London Airspace Management Programme) and is focused on re-designing the airspace above 7000ft. The main goal of LAMP is to introduce the additional airspace capacity required to meet the airports' growth plans out to 2030 and beyond. LAMP also offers the opportunity to significantly improve the efficiency and environmental performance of the airspace, providing that the routes are integrated effectively with the changes below 7000ft.

The deployment of PBN arrival and departure routes will also enable SOU to address local issues associated our operations, specifically:

- The lack of Standard Instrument Departures (SIDs) from both runways.
- The lack of a PBN approach into Runway 20.

These issues are both requirements of the EU Commission Regulation 2018/1048[1] - on Airspace Usage Requirements and Operating Procedures Concerning PBN.

1.4. Alignment with the CAP1616 process

In December 2017 the CAA published CAP1616, "Airspace Design: Guidance on the regulatory process for changing airspace design including community engagement requirements". The guidance sets out the process that all ACP sponsors must follow to make a permanent change to the published airspace design. The CAP1616 process is split into seven stages, illustrated in figure 1. We started the process at Stage 1A in January 2019 by submitting a Statement of Need (SoN) that describes the airspace issues and opportunities that SOU is seeking to address by sponsoring the ACP.

Stage 1B concerns the development and communication of airspace design principles to be applied to the ACP. We understand that our airspace design principles should encompass the safety, environmental and operational criteria and the strategic policy objectives that SOU is seeking to achieve in developing the ACP. We also recognise that the principles must be drawn up through discussions with affected stakeholders at this early stage in the process. As part of the design principle development, we considered

[1] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32018R1048

key government policy documents, including the DfT Aviation Strategy Green Paper, the AMS and the Air Navigation Guidance 2017, and local criteria, such as planning agreements and noise abatement arrangements relating specifically to SOU.

Once evaluated by the CAA, we expect our final list of proposed design principles to form a framework that we can use with stakeholders to consider and compare all the airspace design options available to address the issues and opportunities set out in the SoN.

The final list of airspace design principles that we propose to adopt for the ACP are set out in table 1. The principles are numbered for ease of reference. Design principle DP1, regarding the safety of commercial air transport and general aviation (GA) operations takes top priority, over all other principles. Subject to this overriding principle of maintaining a high standard of safety, the second highest priority principle for our ACP that cannot be discounted is that it accords with the published AMS (CAP 1711) and any current or future plans associated with it (DP2). Beyond DP1 and DP2, the other principles are not organised into a priority order. Where airspace design options may bring certain principles into conflict with one another, we will make trade-offs decisions based on an assessment of the overall impacts and two-way conversations with the affected stakeholders.

Figure 1: Stages of the CAP1616 process

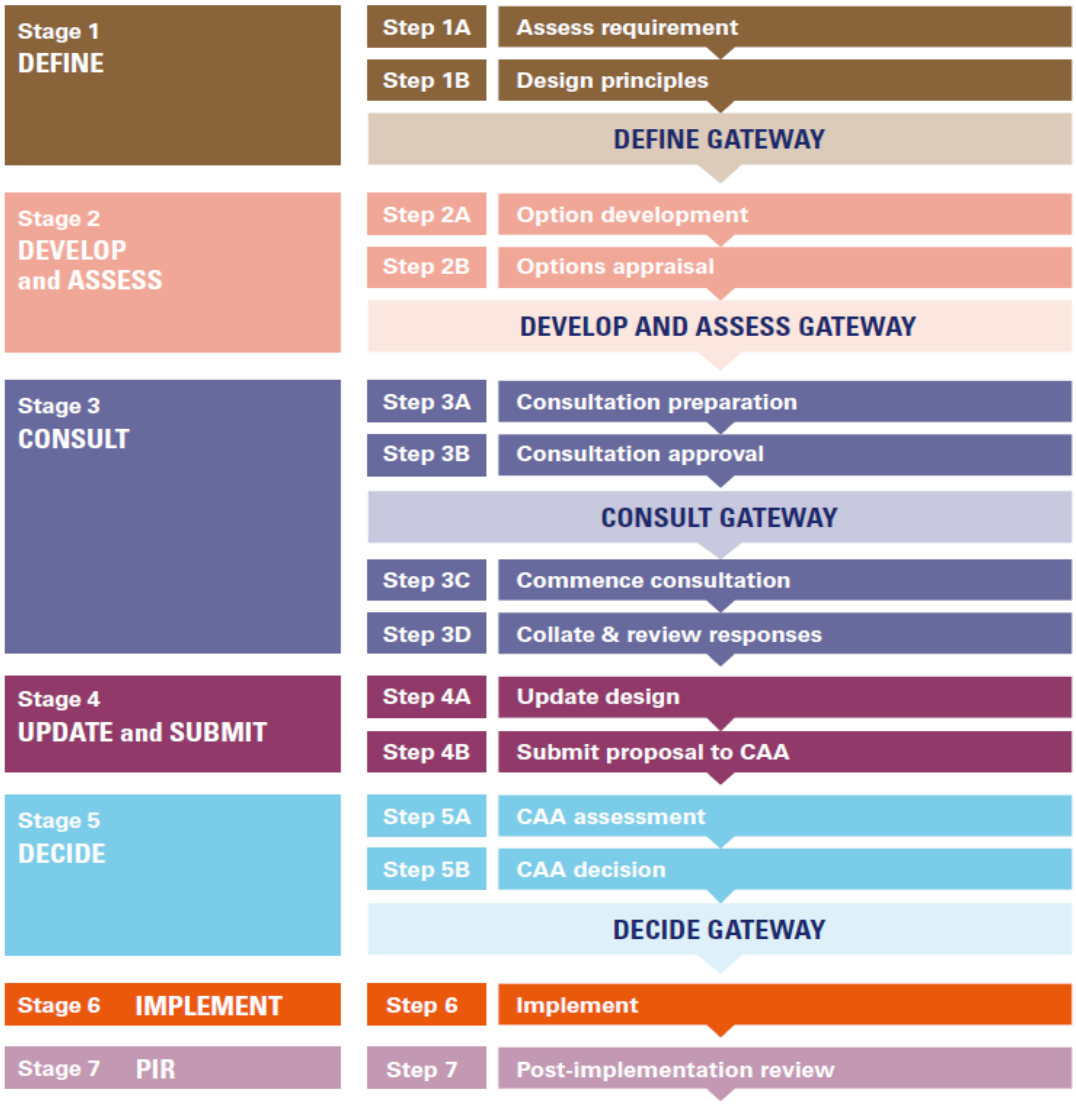

Table 1: Final list of airspace design principles that SOU propose to adopt

#	Airspace design principle
DP1	**Top priority:** Be as safe or safer than today for both commercial air transport and general aviation users that are affected by the airspace change.
DP2	**Second priority:** The SOU ACP accords with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.
DP3	Avoid introducing additional complexity and bottlenecks into controlled and uncontrolled airspace and contribute to a reduction in airspace infringements.
DP4	Minimise tactical intervention by Air Traffic Control (ATC) below 7000ft.
DP5	Ensure sufficient airspace capacity to accommodate SOU's master plan traffic forecasts while providing for the integration of GA traffic.
DP6	Minimise, and where possible, reduce aircraft emissions, the degradation in air quality and adverse ecological impacts.
DP7	Minimise and where possible reduce, the total adverse effects on health and quality of life from aircraft noise.
DP8	Ensure a predictable, fair and equitable share of traffic across all routes, through multiple route options and respite routes.
DP9	Avoid overflying densely populated residential areas, national parks, AONBs, noise sensitive buildings and other areas prized for tranquillity.
DP10	Maximise operational efficiency for commercial air transport and general aviation users affected by the airspace change.
DP11	Ensure that aircraft operating at SOU climb and descend continuously to/from at least 7000ft.
DP12	Adopt the most beneficial form of enhanced navigation standards for arrival and departure routes.
DP13	Avoid increasing the overall volume of controlled airspace and where deemed necessary, mitigate the impact by including measures that improve access to GA and do not increase airspace segregation.
DP14	Consider the use of electronic conspicuity to improve airspace integration where possible.
DP15	Take into account the combination of effects on the operations at neighbouring airports that are affected by the airspace change.
DP16	Offer flexibility in the route structure to strengthen resilience against adverse weather and network issues that may affect operations at SOU.

2. Design principle engagement approach

2.1. Overview of our engagement approach

Our approach to engaging stakeholders in two-way conversations to develop our design principles is based on the Inform, Listen and Adapt model suggested in the template guidance for an engagement strategy accompanying CAP1616, to:

- *Inform* stakeholders of the background, drivers, issues and opportunities associated with the ACP and the factors that might give rise to potential design principles.
- *Listen* to the feedback from stakeholders about the issues and opportunities and other factors that they think should be considered when developing and evaluating airspace design options.
- *Adapt* to demonstrate how stakeholder feedback has influenced the development and refinement of our airspace design principles.

We split our engagement approach into two phases. Phase 1 focused on informing stakeholders and listening to their feedback over the course of six workshops – three with representatives from stakeholder groups and three with members of the public. All workshops were held in a conference facility at the Holiday Inn Hotel in Eastleigh, close to SOU. We developed an initial list of potential design principles using the feedback gathered during phase 1. Phase 2 focused on adapting the initial design principles based on the discussions at two follow-up workshops with the same representatives from the stakeholder groups engaged during phase 1. Our final proposed design principles were refined using the feedback gathered during phase 2.

The workshops were our main channel of engagement for developing design principles and were supported by several additional channels, specifically:

- Correspondence (letters and email) to all stakeholders explaining the engagement process and how they can participate.
- Workshop materials.
- Workshop outputs circulated to all stakeholders.
- Feedback forms provided to all stakeholders to ensure a remote input is provided consistent with face-to-face opportunities.
- A dedicated email address and freephone information line to encourage and coordinate correspondence.
- Bilateral engagement between the sponsor and individual stakeholders.

All of the engagement material is available in Appendix B.

We contracted specialists in airspace change, air traffic management and stakeholder engagement to prepare for and facilitate all of the workshops and ensure that the outputs were recorded accurately. The materials we created to support the workshops were designed to be simple and accessible for all stakeholders to understand. The materials presented at the workshops and a copy of the minutes, were circulated to all stakeholders via email, offering participants an opportunity to provide additional feedback remotely,

after they had time to reflect on the discussions. We established a dedicated SOU ACP email address to encourage remote feedback and coordinate the answers to all stakeholder questions and comments. Stakeholders were given two weeks to provide additional feedback remotely via email. Copies of all workshop materials and minutes are included in Appendix B, from page 472 onwards. Copies all feedback gathered at the workshops and provided remotely by stakeholders in the following two weeks are included in Appendix C. Additional feedback forms that seek stakeholders' views on the engagement process itself (rather than the design principles themselves) were circulated after the workshops and aim to identify lessons for future engagements. Copies of the engagement process feedback forms are included in Appendix B, reference 12.

2.2. Summary of stakeholder groups invited to participate

At this early stage within the airspace change process it is unclear what the precise impacts of our ACP might be. Therefore, our engagement was primarily with stakeholder representatives, such as:

- Community leaders
- Local authorities elected representatives
- Airport consultative committee members
- Representative groups
- Governmental organisations
- Industry groups

To ensure that we included a sufficiently broad range of stakeholders and gathered some direct insights from members of the public, we also incorporated the following selection criteria:

- Representatives of communities currently affected by the SOU flightpaths.
- Representatives of communities that could be affected by future SOU flight paths.
- Representatives of relevant seldom-heard and hard to reach stakeholders, including equality groups.
- Interested parties and those with a willingness to engage in future stages of the ACP as per CAP1616 guidance.

We aimed to maximise the level of participation from stakeholders as part of this engagement through the following measures:

- A careful process of mapping stakeholders to supplement the existing information held by SOU and those involved in its existing consultative forums focused on normal operational issues.
- Qualified all those stakeholders initially identified to ensure the correct data was held.
- Invites issued via both email and post.
- All invites were followed up by telephone contact – unavailable invitees were called to ask if they would like to nominate another representative.

- If an organisation which was representing a particular interest or viewpoint decided they did not want to take part, SOU then invited a similar organisation to represent this view (if there was sufficient time to organise).

Table 2 summarises the details of the eight workshops that we conducted during the two phases of engagement and outlines the main the stakeholder groups that were invited to participate in each forum.

Table 2: Stakeholder groups invited to participate in each engagement workshop

Workshop details	Stakeholder groups participating in the workshops
Workshop #1 **Aviation stakeholder groups**	We felt it was important to gather views from a wide range of aviation stakeholders that may be affected by the ACP. Invitations to workshop #1 were extended to representatives from: - Commercial air transport users operating at SOU - GA users operating in the airspace close to SOU - Neighbouring commercial and GA aerodromes - Military airspace users and aerodromes - Air Navigation Service Providers - The Emergency Services
Workshop #2 **Local government and business stakeholder groups**	We felt that engaging with local councils would provide views from policymakers responsible for the communities who currently live below SOU flightpaths or who may be impacted by the changes proposed in the ACP. We also felt it was important to gather views from business and tourism groups with strong links to the local area. Invitations to workshop #2 were extended to representatives from: - Local councils - Parish councils - Local health authorities - Hampshire County Council - Local business groups - Local tourism groups
Workshop #3 **Community representatives and interest groups**	We felt that it was important to gather views from those who represent local community groups, users of the major bodies of water in the SOU area and countryside groups who could speak on behalf of the rural areas of the county. The environmental groups invited covered a wide range of interests, including climate change, air quality and local habitats. We also felt it was important to engage with local schools and stakeholders from the seldom-heard, marginalised or vulnerable groups in the community to find out how they might be impacted by overflights. Invitations to workshop #3 were extended to representatives from: - Community groups - Seldom-heard, marginalised or vulnerable groups - The Campaign for Rural England - Environmental interest groups

	- Local schools - Natural England - The Department for Environment, Food & Rural Affairs
Workshops #4, #5 & #6 Public Focus Groups	We felt it was important to reach beyond established stakeholder groups and also engage directly with a representative sample of the General Public that are either currently affected by SOU traffic or may be as a result of the ACP. Holding three Public Focus Groups allowed us to gather feedback from members of the public and helped us to gain some direct insight into their awareness and opinions. We felt the focus groups were an important reality check about the public's understanding and priorities. The outputs were used to challenge or confirm the opinions expressed by their representatives in the previous workshops. The focus groups targeted residents from three communities within a 20 mile radius of SOU, two that are currently affected by SOU traffic and one that might be in the future. We also included 2-3 residents at each group with experience of using SOU as a passenger. A full report from ComRes is provided in Annex 1.
Workshops #7 and #8 Design principle follow-up workshops	All stakeholder representatives that were engaged in the previous workshops were invited to participate in one of two follow-up sessions. The objective of the follow-up sessions was to discuss the initial list of potential design principles that we developed using the outputs from phase 1 and gather additional feedback from stakeholders about how the principles should be refined.
NATMAC engagement	In addition to the aviation stakeholders engaged in workshop #1, we emailed all members of the National Air Traffic Management Advisory Committee (NATMAC) on 25th July 2019 with copies of the phase 1 workshop presentation, the phase 2 workshop presentation and the follow-up workshop feedback form. NATMAC members were asked to provide any feedback to SOU by 7th August 2019. A copy of the email to NATMAC members is included in Appendix B, email reference 222.

2.3. Chronology of engagement activities

Table 3 sets out the chronology of the engagement activities conducted to develop our design principles. A full engagement log that records all forms of engagement between ourselves and stakeholders during the course of the engagement is provided in Appendix A, with copies of all of the correspondence in Appendix B.

Table 3: Chronology of engagement activities

Engagement activity	Date
Qualifying calls & invites issues for Phase 1 Workshop	w/c 10th June 2019
Phase 1 Workshop Reminder	w/c 24th June 2019
Phase 1 Stakeholder Representative Workshops #1, #2 and #3 held	28th June (#1) 1st July 2019 (#2 and #3)
Issued workshop materials and feedback forms, along with phase 2 workshop invitations, to all stakeholders invited to participate in workshops #1, #2 and #3.	2nd – 4th July 2019
Phase 1 Public Focus Groups #4, #5 and #6 held	3rd July 2019 (#4 and #5) 9th July 2019 (#6)
Issued summary reports of phase 1 workshops to all stakeholders	10th – 11th July 2019
Phase 2 Workshop reminder issued	w/c 17th July 2019
Phase 1 Workshops remote feedback deadline	17th July 2019
Phase 2 Workshops held	19th & 23rd July 2019
Issued workshop power point and feedback form to all stakeholders	25th July 2019
Phase 2 Workshops report summary issued to all stakeholders	30th July 2019
Stage 1B remote feedback deadline	7th August 2019
Stage 1B submission to the CAA	15th August 2019

3. Phase 1: Initial design principle development

3.1. Phase 1, Stakeholder representative workshops #1, #2 and #3

Our objectives for the three stakeholder representative workshops in the first phase of the design principles engagement were to:

- Increase the awareness and understanding among stakeholders about the need for airspace change and the process for bringing it about.
- Gain an understanding of what stakeholders believe are the main issues and opportunities connected with the use of airspace and any proposed changes.
- Gather insights from the stakeholders about the factors that should be considered when developing the airspace design principles.
- Establish a forum that can meet again during future stages of the airspace change process and use the design principles as a framework to compare and contrast potential airspace design options.

During the workshops, stakeholder representatives were given a presentation outlining the drivers for airspace modernisation set out in the AMS, the scope of the FASI-S programme that SOU are participating in and an overview the CAP1616 process that all airspace change sponsors must follow. Stakeholders were then presented with several themes related to airspace change to discuss in sub-groups. The aim of the sub-group discussions were to gather feedback from stakeholders about the main airspace design considerations associated with each specific theme, and to use that information to feedback in plenary on the factors that are important for us to consider when developing an initial list of potential design principles. The presentation used in workshops #1, #2 and #3 is included in Appendix B, reference 8.

The themes for discussion were:

- Safety
- Airspace Capacity
- Flight efficiency and environmental performance
- Noise management and mitigations
- New Technology
- Airspace Integration
- Resilience
- Other themes raised by stakeholders that were not adequately covered above

Following the sub-group discussions on each theme, stakeholders were encouraged by a facilitator to reported back with their feedback, so that all the participants could comment on the findings from each individual group. A full summary of the discussions in the sub-groups and in plenary at each workshop is included in Appendix C.

3.2. Phase 1, workshop #1: Aviation Stakeholders

Table 4 provides a full list of the aviation stakeholder organisations that were invited to workshop #1 and the stakeholders that actually attended the workshop.

Table 4: Aviation stakeholders that were invited to and attended workshop #1

All stakeholders invited	Stakeholders that attended
Solent Airport	**Dorset Gliding Club**
Isle of Wight Airport Sandown	**Airspace4All**
Compton Abbas Airfield	**Bath, Wiltshire & North Dorset Gliding Club**
Bournemouth Airport	**Specsavers Aviation**
Farnborough Airport	**Solent Airport**
Goodwood Aero Club	**Lee Flying Club**
Old Sarum Airfield	**Western Air Thruxton**
Western Air Thruxton	**Farnborough Airport**
Gatwick Airport	**Hampshire Constabulary**
OceanAir Express (UK) Ltd	**Lasham Gliding Society**
Flybe	**Goodwood Aero Club**
Blue Islands	**Gatwick Airport**
Aurigny Air Services	**Xclusive Jets**
Eastern Airways (UK)	**Bournemouth Airport**
Easyjet	**Vector Aerospace**
Stobart Air	**Old Sarum Airfield**
Signature Flight	**Heli Air**
XclusiveJet	**Observer from ICCAN**
Specsavers Aviation	
Lasham Gliding Society	
Heli Air Thruxton	
GoSkydive	
Dorset Gliding Club	
British Gliding Association	
British Business and General Aviation Association	
Airspace4All	
British Helicopter Association	
Bath, Wiltshire & North Dorset Gliding Club	
Lee Flying Association	
NATS En-route Limited	
Independent Commission on Civil Aviation Noise	
UK Flight Safety Committee	
Hampshire & Isle of Wight Air Ambulance	
Hampshire Constabulary	
Vector Aerospace	
DAATM Airspace MoD	

A summary of the main points of feedback provided by aviation stakeholders during workshop #1 is organised by theme in table 5. A full summary of the discussion at workshop #1 is included in Appendix B, reference 1 and in Appendix C.

Table 5: Main points of feedback from workshop #1

Theme	Main points of feedback
1. Safety	1.1. A clear baseline of safety performance is required to measure against. 1.2. A simple airspace structure will help avoid complexity and pressure on flight crews. 1.3. New routes should be deconflicted by design. 1.4. The ACP should build in layers of safety using safety nets. 1.5. SOU should adopt new technology and develop a business culture guided by a Safety Management System to enhance safety. 1.6. Provide visual demarcation of controlled airspace for GA. 1.7. The ACP should seek to remove network pinch points. 1.8. There is a risk that the removal of too many conventional navaids may increase infringements into controlled airspace.
2. Airspace Capacity	2.1. Aviation demand and traffic growth forecasts should be realistic. 2.2. The airspace design should be based on a better understanding of future demand / traffic levels. 2.3. Lack of clarity regarding the requirement for increased airspace capacity. 2.4. PBN routes needs to be smartly applied, maximising the potential of modern aircraft. 2.5. The airspace design should offer greater ATC capacity and provide adequate resources to accommodate and integrate GA users. 2.6. The airspace design should ensure adequate capacity for helicopter operations.
3. Flight efficiency and environmental performance	3.1. Trade-offs between environmental performance and other drivers for airspace modernisation need to be better understood. 3.2. Total system requirements and impacts associated with flight efficiency and environmental performance should be considered. 3.3. Continuous climb/descent should require less controlled airspace. 3.4. Steeper approaches may not be practical in all scenarios 3.5. The ACP should maximise airspace integration and minimise the segregation of airspace structures. 3.6. The efficiency and environmental performance of both commercial and GA operations should be considered in the context of the ACP.

	3.7. Use of curved approaches may be appropriate to enhance environmental performance.
4. Noise management and mitigations	4.1. The introduction of additional controlled may increase noise generated by GA operator if aircraft in Class G are forced lower. 4.2. Continuous climb and descent profiles enabled by PBN routes should require less controlled airspace. 4.3. Multiple routes for respite may not be practical, without an expansion in controlled airspace.
5. New Technology	5.1. New technology should be future-proofed e.g. Drone technology 5.2. New technology should minimise the need for Class D airspace and enable maximum access for GA operators. 5.3. Datalink and ADS-B technology should be exploited as part of the ACP. 5.4. ATS Surveillance should be able to 'see' ADS-B. 5.5. Should keep sufficient ground-based navigation in case of failure and to enable navigation around controlled airspace as part of the ACP.
6. Airspace Integration	6.1. Need to involve stakeholders from the emerging drone sector in the development of airspace options. 6.2. Integration, not segregation of airspace structures. 6.3. SOU & BOU should develop & consult on their ACPs together. 6.4. Erosion of Class G/ and the expansion of controlled airspace is a concern to some stakeholders. 6.5. Access to controlled airspace for all airspace users' needs to be maximised as part of the ACP. 6.6. The ACP should produce an airspace design that works for all users. 6.7. The ACP should design greater ATC capacity and resources to accommodate GA, not just commercial aircraft.
7. Resilience	7.1. The ACP should not design for emergency situations at the expense of GA operations. 7.2. The ACP should not encourage the operation to over resilient. The focus should not be convenience, but safety and efficiency. 7.3. It is important to account for potential technology failures in the new airspace design.

3.3. Phase 1, workshop #2: Local Government and Business Stakeholders

Table 6 provides a full list of the local government and business stakeholder organisations that were invited to workshop #2 and the stakeholders that actually attended the workshop.

Table 6: Local government and business stakeholders that were invited to and attended workshop #2

All stakeholders invited	Stakeholders that attended
Leader of Winchester City Council	**Solent Local Enterprise Partnership**
Leader of Eastleigh Borough Council	**New Forest National Park Authority**
Leader of Southampton City Council	**Southampton Airport Consultative Committee**
Leader of New Forest District Council	**New Forest District Council**
Chairman of Southampton Airport Consultative Committee	**Winchester City Council**
Head of Strategic Planning, Winchester City Council	**Eastleigh Borough Council**
Corporate Director - Strategy, Eastleigh Borough Council	**Bishopstoke Parish Council**
Service Director for Growth at Southampton City Council	**Compton and Shawford Parish Council**
Chief Planning Officer, New Forest District Council	**Southampton City Council**
Southampton City Council	**Twyford Parish Council**
Pollution Team Leader, Eastleigh Borough Council	**South Downs National Park Authority**
Chairman of the New Forest National Park Authority	
Chairman of South Downs National Park Authority	
Planning Officer at IOW AONB Partnership	
Chairman of Twyford Parish Council	
Chairman of Chandler's Ford Parish Council	
Chairman of Compton and Shawford Parish Council	
Chairman of Bishopstoke Parish Council	
Leader of Hampshire County Council	
Chief Executive of Solent Local Enterprise Partnership	
Chief Executive of Hampshire Chamber of Commerce	
Chairman of Hampshire County Council's Health & Wellbeing Board	
Chairman of Southampton City Council's Health & Wellbeing Board	
Chief Executive of Tourism South East	

A summary of the main points of feedback provided by local government and business stakeholders during workshop #2 is organised by theme in table 7. A full summary of the discussion at workshop #2 is included in Appendix B, reference 3 and in Appendix C.

Table 7: Main points of feedback from workshop #2

Theme	Main points of feedback
1. Safety	1.1. Safety is the primary concern for local government and business stakeholders. 1.2. Sufficient obstacle clearance must be retained. 1.3. The ACP should consider flight paths that avoid densely populated areas where possible to avoid safety risks. 1.4. Unknown aircraft interacting with commercial air transport (GA/drones etc.) are an issue that must be mitigated.
2. Airspace Capacity	2.1. The ACP should lead to a reduction in the numbers of diversions and cancellations for SOU traffic. 2.2. A full economic assessment of the costs vs. the benefits is needed to inform decisions about the airspace design options. 2.3. The runway capacity at SOU a limiting factor on overall growth. 2.4. The ACP should be cognisant of the requirements and impacts associated with ground facilities, surface access and local connectivity. 2.5. The ACP should be future-proofed, so further changes to add capacity are not required. 2.6. The numbers of skilled personnel required to support the operation may also be a limiting factor to growth (in addition to airspace capacity).
3. Flight efficiency and environmental performance	3.1. Aircraft emissions should be considered to be as important as aircraft noise at all altitudes. 3.2. Air quality is a local and national issue that should be considered as part of the ACP and wider FASI-South programme. 3.3. The emissions impacts associated with the ACP needs to be discussed with local communities 3.4. The ACP should align with the outputs of local Clean Air Zone consultation. 3.5. Stakeholders expect an increase in local emissions as a result of more traffic on the ground and in the air at SOU. 3.6. The ACP should consider alignment with Government's 2050 zero-carbon objectives 3.7. Flight paths should route aircraft over water, where possible.
4. Noise management and mitigations	4.1. Stakeholders recognise the difficulty in trades-offs regarding overflying fewer people or dispersing flights.

	4.2. The Government should offer more guidance on how to make difficult trade off decisions at a local level. 4.3. It will be hard to strike the right balance between sharing and concentrating noise (and maintain this balance over time). 4.4. Stakeholders stated a preference to align to established noise contours. 4.5. Continuous climb/descent should be used where possible as a mitigation for aircraft noise impacts. 4.6. The ACP should reduce the impact of aircraft noise on local and national parks.
5. New Technology	5.1. Stakeholders expressed concerns over the impacts of the ACP and additional traffic for security, both physical and cyber, as new technology is introduced to support the operation. 5.2. The ACP should provide assurance that there will be appropriate safety nets if the technology fails.
6. Airspace Integration	5.3. Stakeholders indicated a preference for additional restrictions to flight paths, and potentially restrictions to flying hours, rather than airspace integration. 5.4. Separating aircraft (GA and commercial) effectively is preferable to airspace integration.
7. Resilience	7.1. Local transport infrastructure must be considered as part of the overall resilience assessment. 7.2. Resilience should not be prioritised over safety and environmental issues. 7.3. Current and future policy and regulatory changes must be considered as part of the airspace design options appraisal. 7.4. There should be a clear scheme of fines and penalties for airspace infringements.

3.4. Phase 1, workshop #3: Local community and interest groups

Table 8 provides a full list of the local government and business stakeholder organisations that were invited to workshop #3 and the stakeholders that actually attended the workshop.

Table 8: Local community and interest groups that were invited to and attended workshop #3

All stakeholders invited	Stakeholders that attended
Chief Executive of Inland Waterways Association	**Southampton Commons and Parks Protection Society**
Chief Executive of Associated British Ports	**Campaign for the Protection of Rural England, Hampshire**
Commodore of the Southampton Royal Yacht Club	**National Farmers Union South East**
Chief Executive of CPRE Hampshire	**Cherbourg Primary School, Eastleigh**
Chairman of the Hampshire Ramblers	**Bitterne Park School**
Secretary of Southampton Friends of the Earth	**Natural England**
Founder of Clean Air Southampton	**Wickham Society**
Natural England Dorset, Hampshire & Isle of Wight	**Townhill Park Residents' Association**
Chairman at Winchester Action on Climate Change	
Policy Adviser at Dept for Environment, Food & Rural Affairs	
Headteacher at Bitterne Park School	
Headteacher of Mount Pleasant Junior School	
Vice Chancellor of the University of Winchester	
Chief Executive of Autism Hampshire	
Chief Executive of Solent MIND	
Chairman of the Hampshire Equalities Group	
Head of Ethnic Minority & Traveller Achievement Service	
Chairman of the City of Winchester Trust	
Chairman of Southampton Commons & Parks Protection Society	
Secretary of Friends of Marhill Copse	

A summary of the main points of feedback provided by local community and interest groups during workshop #3 is organised by theme in table 9. A full summary of the discussion at workshop #3 is included in Appendix C.

Table 9: Main points of feedback from workshop #3

Theme	Main points of feedback
1. Safety	1.1. Safety should not be compromised by the ACP. 1.2. The proximity of flight paths to roads and schools should be considered as part of the ACP.
2. Airspace Capacity	2.1. SOU should be aware that it could increase airspace capacity and not use it all. 2.2. There should be greater clarity regarding the expected economic benefits of additional capacity and the traffic growth it enables. 2.3. The current night flight arrangements should be retained. 2.4. There should be clear government oversight of all airports capacity development plans.
3. Flight efficiency and environmental performance	3.1. Stakeholders expressed concerns about the potential increase in NOx from aviation traffic growth and its impact on air quality. 3.2. The ACP and wider FASI-South programme must consider emissions at both a local and global level. 3.3. Stakeholders welcomed the potential for the ACP to enable a reduction in airborne holding. 3.4. SOU need to clarify the plans for expansion of the airport and how they relate, or otherwise, to the ACP. 3.5. Ecological impacts, including the migration of wildlife, should be considered as part of the environmental impact assessment.
4. Noise management and mitigations	4.1. The ACP should explore multiple routes to give communities respite options. 4.2. Stakeholders expressed a preference for flexibility in route options and climb/descent gradients. 4.3. Stakeholders requested more information/transparency on the growth in the schedule and the potential impact on noise. 4.4. Nature sites should be carefully considered as part of the noise impact assessment. 4.5. Poultry farms and impact on other livestock should be carefully considered as part of the noise impact assessment. 4.6. The current night flight arrangements should be retained
5. New Technology	5.1. Stakeholders welcomed the potential improvements and benefits that the investment in new technology can bring.

	5.2. Impact of drones/lasers to be carefully considered
6. Airspace Integration	6.1. Airspace grabs (by other airports through their ACPs) needs to be carefully considered and independently managed. 6.2. Flights to/from BOU should be considered concurrently with the SOU ACP. 6.3. The overall network design must be future proofed so these major overhauls in the airspace design do not need to happen again. 6.4. Stakeholders expressed concerns over sufficient ground transport developments to accommodate the growth plans at SOU, alongside other local infrastructure investments (for example at the port).
7. Resilience	7.1. The resilience of surface access is a concern to stakeholders, specifically can local transport infrastructure cope with the growth in passenger numbers? 7.2. The ACP should consider resilience against adverse weather conditions.

3.5. Phase 1, workshops #4, #5 and #6: Public Focus Groups

Although CAP1616 states that the early stages of engagement should primarily be with stakeholder representatives, SOU commissioned an additional research exercise by opinion polling company ComRes, to gather evidence to help shape the design principles from a representative sample of local people living under the existing flight path and those living under potentially affected areas. The objectives of the focus groups were to:

- Understand the level of awareness of the need for airspace change and the process for it
- Increase understanding about the need for airspace change and the process for it
- Provide an opportunity for participants to comment on/influence draft design principles and advise on the relative priority of the principles

ComRes conducted three focus groups (workshops #4, #5 and #6) with eight participants in each, to build a representative picture of local attitudes and perspectives. The breakdown of the groups was as follows:

- Group 1, workshop #4: Under existing flight paths
- Group 2, workshop #5: Under existing flight paths
- Group 3, workshop #6: Outside existing flight paths/on the edge, but with the potential to be affected

A further breakdown within the groups took into account the following factors:

- Socio-economic group: Good spread of different socio-economic grades
- Age: Spread of ages 18+
- Gender: Even mix

Participants were recruited by working with specialist local recruiters. During the recruitment process, people were screened to ensure they live in the correct areas, as well as to ensure there is a diverse spread across a range of demographic factors.

Each focus group was let by an independent moderator, who was also a member of the ComRes' Infrastructure team and well acquainted with the aviation sector and with airspace modernisation specifically. The focus groups allowed for a workshop style deliberative discussion and consensus forming on the complex issues associated with airspace change.

The Public Focus Groups highlighted environmental concerns as most significant for them, with emissions and the local air quality being a significant issue. A key concern across the groups was also safety and concerns over new technology failing. Participants also felt that any impacts on those living closest to the airport should be mitigated and that any changes of flight paths in the future should be spread among a wider group of people, rather than concentrated. Participants in Groups 1 and 2 lived under existing SOU flight paths and Group 3 consisted of individuals living in the area that could be potentially impacted by the airspace change. Table 10 summarises the main concerns captured from the Public Focus Groups relating to key aspects of airspace change at SOU.

Table 10: Summary of the main concerns captured from the Public Focus Groups

Topic	Summary of concerns
The Environment	Environmental concerns top the list for the focus group participants. Emissions were the highest priority issue with participants are concerned about an increase in flights leading to increased emissions.
Noise	Noise is not considered to be a major issue for many participants who live under flight paths. Those in potentially affected areas are somewhat concerned by the impact of new aircraft noise and there is likely to be a small minority that is very concerned.
Airspace Modernisation	Participants do not fully understand the difference between airspace modernisation and airport expansion. This leads to conflation of the main issues and increased hesitancy about possible changes.
Southampton first	Participants are keen that the local Southampton area is the primary beneficiary of the investment in airspace change. Infrastructure development (e.g. ground transportation) is considered necessary to accommodate the increase in traffic that will be enabled by the airspace change.

For those living near SOU, the dominant view was that increased noise would not be a hugely detrimental factor in the day to day quality of life, as the assumption was that people would become accustomed to the noise. However, there were a small number of participants who showed considerable concern about hearing noise overhead. The impact of the airport on the local environment was seen as a key downside by participants, with concerns about air pollution, fuel dumping and the impact on wildlife.

Table 11 summarises the key issues that should be considered when developing the initial list of airspace design principle that were raised at the Public Focus Groups. A full copy of the ComRes Public Focus Group report is available at Annex 1.

Table 11: Summary of key issues linked design principles provided during the Public Focus Groups

Group	Main points of feedback
Group 1, workshop #4	- Pollution and the environment – emissions, air quality, local wildlife. - Efficiency – convenience for passengers and use airspace more efficiently. - Noise – mitigate impacts for those closest to the airport. - Safety – concerns over technology failures. - Road traffic – improvements to roads and parking are needed. - Balanced impacts on local people/business - local benefits should clearly offset the inconveniences. - Security – aviation disasters and terrorism are a concern. - Improving airport infrastructure. - Integration of drone activity.

Group 2, workshop #5	- Environmental impacts – global concerns on climate change. - Integration with other airports is important. - Access roads and infrastructure – concerns over traffic increase. - Impact on surrounding areas- economic benefits for Southampton. - Safety and security – impact of drone infringements.
Group 3, workshop #6	- Environmental impacts – local air quality and global emissions. - Safety – Can the increase in air traffic be handled safely. - Understand the long term rather than short term benefits case. - Need for an independent organisation to oversee all airport changes - Benefits to regional cities – put the local areas first. - Regional expansion – economic benefits to the area should be quantified. - Cost benefit analysis. - Consideration of the developments at the Port of Southampton.

3.6. Phase 1: Feedback provided remotely after the workshops

Stakeholders that attended the phase 1 workshops and those who were invited to participate but unable to attend were given the opportunity to provide additional feedback remotely in writing, on the issues and opportunities that should be considered when developing design principles. A copy of the materials presented at the workshop was circulated to all stakeholders after the workshop, along with a feedback form and instructions on how and when to offer additional views. Copies of the workshop material, feedback form and instructions are included in Appendix B, from page 472 onwards.

All stakeholders (whether they attended the workshop or not) were given a two-week window to provide feedback via the feedback form provided, to ensure equal feedback opportunities where possible. A copy of the feedback form is included in Appendix B, reference 10.

Table 12 summarises the feedback provided by stakeholders remotely after the phase 1 workshops. The feedback is organised by workshop.

Table 12: Summary of feedback provided remotely after the phase 1 workshops

Workshop	Stakeholder	Summary of remote feedback
Workshop #1 Aviation Stakeholders	Lasham Gliding Society	- Reduce potential impacts on the GA community. - Minimise the amount of controlled airspace. - Avoid creating choke points. - Ensure ATC the has capacity to handle GA aircraft. - Support for continuous climb/descent profiles. - Any use of electronic conspicuity should be based on real solutions (current available in the market at a competitive price).
	Bath, Wilts & North Dorset Gliding Club & British Gliding Association	- Highlighted safety for all existing and planned airspace users. - Highlighted the importance of not creating funnelling areas. - Highlighted the importance of flexible use of airspace. - Suggested reducing noise levels on the ground by designing higher flight profiles.
	Western Air Thruxton	- Raised concerns over human resources at SOU being able to cope with traffic growth. - Raised concerns over the possible extension to or increase in controlled airspace. - Considered that respite routes would be impracticable. - Supported continuous climb/descent profiles - Highlighted the importance of not creating choke points.

		- Highlighted the importance of providing contingency for GNSS, i.e. through ground-based navigation equipment in case of system failures.
	Gatwick Airport	- Safety should have primacy, but not exclusivity. - Other airspace users needs should be considered when designing new airspace.
	Ministry of Defence	- Safety should be an underpinning design principle. - Any design should at least maintain current safety standards. - Consideration should be given to other airspace users with regards to capacity. - New technology should be embraced for airspace modernisation. - Flexible use of airspace is an important feature of future airspace designs and should be considered as part of the ACP. - Any additional controlled airspace implemented should be minimised.
Workshop #2 Local Government and Business	New Forest National Park Authority	- Highlighted its proximity to SOU and importance as a local stakeholder representative. - Emphasised the statutory purposes of National Parks. - Highlighted the tranquillity of the New Forest National Park. - Requested careful consideration of any proposals that could increase the overflying of National Parks at low levels.
	Twyford Parish	- Considered the workshop to be thought-provoking. - No feedback related to the themes or on design principles.
	Compton and Shawford Parish Council	- Suggested that noise impacts should be shared, as this would be fair and equitable.
	New Forest & District Council	- Highlighted the proximity of SOU to two National Parks, the South Downs and New Forest - Highlighted the impact that an increase in noise could have on the Parks. - Raised concerns about the potential impact on air and water quality in the local area.
	South Downs National Park Authority	- Raised concerns over introducing aircraft noise to tranquil areas - Suggested that all National Parks should be treated equally - Suggested that multiple route options over already impacted areas should be explored.

Workshop #3 Community and Interest Groups	Campaign to Protect Rural England, Hampshire	- Highlighted their concern regarding the environmental issues - Emphasised the need to reduce pollution, both air and noise. - Raised concerns over routes impacting areas not previously overflown as they would pollute new areas.
	Natural England	- Raised concerns regarding air and water quality impacts on protected sites and the wider environment. - Suggested that consideration should be given to Special Protection Area/Site of Special Scientific Interest (SPA/SSSI) areas - Raised concerns about climate change and the impact on carbon emissions - Suggested that the ACP consider the impact on quality of life in the local area.

3.7. Initial list of potential design principles

At the end of the phase 1 engagement exercise, all the feedback from the workshops, Public Focus Groups and the written feedback received was analysed and used to develop an initial list of design principles. All the feedback received is available in Appendix C. This initial list of design principles was then proposed to stakeholders during phase 2 of the engagement for further consideration and refinement. Table 13 sets out the initial list of potential design principles we developed using the feedback gathered during phase 1 of the engagement. The principles are organised by theme (the airspace capacity and resilience themes were combined during the analysis of the phase 1 feedback).

Table 13: Initial list of potential design principles developed from the phase 1 engagement feedback

Theme	Initial design principle statement
Safety	- Must be as safe or safer than today for both commercial air transport and General Aviation operations - Should avoid introducing additional complexity and bottlenecks in both the network and Class G airspace
Flight efficiency and environmental performance	- Should ensure the Airspace Change minimises the environmental impact. - Should ensure no degradation in existing local air quality limits. - Should minimise total adverse ecological impacts.
Noise management and mitigations	- Should minimise the total adverse impact of aircraft noise on communities. - Should offer a predictable, fair and equitable share of traffic across the arrival and departure routes.

	- Should avoid overflying densely populated residential areas, national parks, AONBs and other noise-sensitive areas, wherever possible.
New technology	- Should enable aircraft to climb higher sooner on departure and stay higher for longer on approach. - Should ensure the airspace structure, route network and remaining navigation infrastructure minimises the likelihood of infringements. - Should consider the use of ADS-B to improve airspace integration where possible.
Airspace integration	- Should not increase the overall volume of controlled airspace. Where an increase is required it should be accompanied by measures that offer greater access and not increase segregation. - Should consider the impact of efficiency and environmental performance of both GA and commercial operations.
Capacity and resilience	- Should ensure ATC capacity is sufficient to accommodate SOU's master plan forecasts while providing integration for GA traffic. - Should offer flexibility in the route structure to strengthen resilience against adverse weather and network issues that may affect operations.

4. Phase 2: Refining the potential design principles

4.1. Overview of phase 2 engagement

The objectives of the second phase of the engagement activity were to:

- Increase awareness and understanding among participants about the need for airspace change and of the process for bringing it about.
- Offer clarification on points raised in feedback at the previous three design principle workshops.
- Provide a summary of the feedback received during the first three design principle workshops, from the feedback received in writing and from the Focus Groups held.
- Explain the initial design principle statements that had been developed based on the feedback received so far.
- Gather feedback from stakeholders in response to these draft statements, to refine the design principles for submission to the CAA.

The second phase of engagement consisted of two workshops (workshops #7 and #8) conducted at the Holiday Inn, Eastleigh on the 19th and 23rd of July 2019. All stakeholders that were initially identified were given the opportunity to attend the second phase of workshops, irrespective as to whether they were able to participate in phase 1 of the engagement.

During the phase 2 workshops, stakeholder groups that were previously separated based on their likely level of subject knowledge and areas of interest were mixed. The rationale for mixing stakeholders at this stage was to provide a more diverse conversation and to share views.

4.1. Phase 2 engagement approach and materials

During the second phase of stakeholder engagement we conducted two follow up workshops, where representatives answered key questions that had arisen following phase one engagement and provided further clarity on the Southampton Airport Master Plan. We summarised the feedback that had been received during the phase 1 workshops, Public Focus Groups and from the written feedback provided remotely. Full copies of the phase 2 workshop summaries are available in Appendix C, pages 300-345.

We presented the initial list of potential design principles that had been developed following the analysis of the phase 1 feedback. Stakeholders were asked to discuss and provide additional feedback to refine the principle statements and consider whether they should be adopted or discounted. The main points of feedback gathered during the workshops #7 and #8 and their influence on the design principle statements are set out in table 14. A full record of the phase 2 workshop discussions is included in Appendix B, references 5 and 7 and in Appendix C, as they form part of our stakeholder feedback. A full record of the phase 2 workshop discussions is included in Appendix C. After the workshops, stakeholders were given the opportunity to provide written feedback remotely up until 7th August 2019. A copy of the feedback form for providing written feedback is included in Appendix B, reference 11. Table 14 sets out the stakeholders that participated in the phase 2 workshops.

Table 14: Stakeholders attending workshops #7 and #8

Stakeholders that attended workshop #7	Stakeholders that attended workshop #8
easyJet	Southampton Airport Consultative Committee
Western Air Thruxton	Bishopstoke Parish Council
Airspace4All	Wickham Society
Bournemouth Airport	Bath, Wiltshire & North Dorset Gliding Club & the British Gliding Association
Twyford Parish Council	Southampton Common & Parks Protection Society
New Forest National Park Authority	Hampshire County Council
Airspace Change Organising Group (ACOG – as an observer)	Two representatives from the Airspace Change Organising Group - ACOG (as observers)
Compton & Shawford Parish Council	CPRE Hampshire
Flybe	Lasham Gliding Society
Independent Commission on Civil Aviation Noise (ICCAN - as an observer)	Xclusive Jets
Farnborough Airport	Goodwood Aero Club
Hampshire Constabulary	NATS
Winchester City Council	Dorset Gliding Club
Solent Local Enterprise Partnership	Eastleigh Borough Council
Eastleigh Borough Council	
Townhill Park Residents Association	
Autism Hampshire	

4.2. Phase 2, workshops #7 and #8: Feedback and design principle evolution

Table 15 summarises the main points of feedback from the phase 2 workshops and the influence the feedback had on the relevant initial design principle statements. The feedback is organised by theme

Table 15: Phase 2 workshops feedback on influence on design principle statements

Theme	Main points of feedback	Relevant initial principle(s)	Influence of feedback on refined principle(s)
General	Stakeholders felt that the verbs 'must, should and could' should be removed from the design principle statements because they may add ambiguity regarding the approach to prioritisation and trade-offs between principles. SOU reminded stakeholders of the importance of Air Navigation Guidance 2018 and the Noise Policy Statement for England and informed attendees that these must be met as part of the airspace change process, regardless of design principles.	N/A	Must, should and could removed from design principle statements
Safety	Stakeholders suggested that infringements should be considered as part of the safety theme. This suggestion was added to the proposed design principle.	- Should avoid introducing additional complexity and bottlenecks in both the network and Class G airspace	- Avoid introducing additional complexity and reduce bottlenecks in both controlled and uncontrolled airspace and contribute to a reduction in infringements
Flight efficiency and environmental performance	Discussion on the proposed design principles dealing with environmental issues centred on changing the language used considering improving the local environment. It was suggested that one overarching environmental design principle being considered. This led to the three proposed environmental design	- Should ensure the Airspace Change minimises the environmental impact - Should ensure no degradation in existing local Air Quality limits	- Minimise, and where possible reduce, aircraft emissions, the degradation in air quality and adverse ecological impacts

	principles being re-worded into one principle.	- Should minimise total adverse ecological impacts	
Noise management and mitigations	Discussion on the noise principles led to the adding of the consideration of 'multiple routes and respite options' and the removal of 'on communities' to make the principles more inclusive. The initial principle considering the airport's night-time operations period was discussed and it was suggested it be removed, as it is not relevant to the airspace change proposal and is tied in by an S106 agreement.	- Should offer a predictable, fair and equitable share of traffic across the arrival and departure routes - Should minimise the total adverse impact of aircraft noise on communities	- Ensure a predictable, fair and equitable share of traffic across all routes, through multiple route options and respite routes - Minimise, and where possible, reduce total adverse effects on health and quality of life from aircraft noise
New Technology	During the discussion on the proposed technology design principle, it was suggested that the term 'ADS-B' could be replaced with 'electronic conspicuity'	- Should consider use of ADS-B to improve airspace integration where possible	- Consider the use of electronic conspicuity to improve airspace integration where possible
Airspace Integration	It was suggested that the initial design principle regarding additional controlled airspace should be reworded. Discussions also took place concerning the interactions with Bournemouth Airport and the potential combined effects of changes to the airspace at both airports. It was suggested that a design principle be added to cover this, the following design principle was added to the final list following this suggestion "Airspace options should take into account the combination of effects of neighbouring airports."	- Should not increase the overall volume of controlled airspace. Where an increase is required it should be accompanied by measures that offer greater access and not increase segregation	- Avoid increasing the overall volume of controlled airspace and where deemed necessary, mitigate the impact by including measures that improve access to GA and do not increase airspace segregation. - Airspace design options should take into account the combination of effects on the operations at neighbouring airports.

4.3. Phase 2: Feedback provided remotely after the workshops

Stakeholders that attended the phase 2 workshops and those who were invited to participate but unable to attend were given the opportunity to provide additional feedback remotely in writing, on the initial design principles and how they should be refined. A copy of the materials presented at the phase 2 workshops was circulated to all stakeholders after the workshops, along with a feedback form and instructions on how and when to offer additional views. Copies of the workshop material, feedback form and instructions are included in Appendix B, from page 472 onwards.

All stakeholders (whether they attended the workshop or not) were given a two-week window to provide feedback via the feedback form provided, to ensure equal feedback opportunities where possible. A copy of the feedback form is included in Appendix B, reference 11.

Phase 2 feedback provided remotely by aviation stakeholders

In the feedback received from Lasham Gliding Society, they suggested re-wording many of the proposed design principles and requested additional design principles be added to the existing list. They also suggested that ‘must’ be added to the majority of the design principles, which contradicted the feedback received during the workshops. All the proposed new design principles and the re-wording are available in Appendix C and D, alongside SOU’s response.

The feedback from the MOD highlighted the following considerations; access to controlled airspace is provisioned for, for all airspace users and that increasing capacity should not come at a cost to other airspace users and that it is essential that the MOD is guaranteed clearance to access or transit controlled airspace. The MOD also stated they would wish that any new controlled airspace requirements are minimum and that SOU take into consideration the impact of any changes to adjacent uncontrolled airspace. The MOD supports new technologies, the concept of Electronic Conspicuity and flexible use of airspace. Finally, the MOD suggested a design principle that considers the impact of change on other airspace users, which would ensure access to any portions of controlled airspace is provisioned for in any change.

On the 29th July 2019, SOU received correspondence directly from the CAA informing them of the necessity to refer to and include a design principle that states the airspace change proposal will “accord with the CAA’s published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it”. Following this, SOU has added the following design principle; “Must confirm with CAP1711 and any current or future plans associated with it”. A copy of the letter is available in Appendix C, pages 274-275.

Phase 2 feedback provided remotely by local government and business stakeholders

Feedback received from Eastleigh Borough Council and the Chairman of the Southampton International Airport Consultative Committee commented that safety should be the overriding consideration, with the environmental impacts considered a second priority.

The New Forest National Park Authority welcomed the proposed design principle on the need to avoid overflying National Parks wherever possible. They recognised that it would not be possible to avoid overflying the parks, but felt that the wording of the proposed principle, “Avoid overflying densely populated residential areas, national parks, AONBs and other noise-sensitive areas, wherever possible”, reflected this. They also highlighted the information concerning AONB’s in the Air Navigation Guidance 2017.

The feedback from the New Forest District Council proposed two further design principles for SOU to consider:

- The ‘in-combination effects of the airspace change proposals on areas where the airspace is also affected by other airports. For example, the airspace over the New Forest will be affected by a number of airports in southern England and the effects of each airport’s airspace use should not be considered in isolation.
- The proposal should consider the potential to ‘off-set’ environmental impacts. Consideration should be given to how the objectives and principles of the Government’s 25-Year Environment Plan will be incorporated and influence proposals.

We felt that the first design principle suggested by the New Forest District Council has now been covered by the additional principle added following the workshop sessions; “Airspace options should take into account the combination of effects of neighbouring airports”. The second suggested design principle, we felt is adequately addressed by the refined environmental design principles (DPs 6,7,8 and 9) and the necessity to follow the Air Navigation Guidance 2017 (ANG-2017) and the Noise Policy Statement for England (NPSe).

The feedback suggested by Hampshire County Council disagreed with removing the word ‘should’ from the design principles and instead proposed we use the word ‘must’ with regards to the environmental principle. SOU propose to remove all ‘could’, ‘should’, ‘shall’, ‘must’ verbs from the principle statements because they add ambiguity regarding the approach to prioritisation and trade-offs between principles. The proposed prioritisation of the principles and the approach to trading off principles is described in section 1.4. Hampshire County Council also suggested the inclusion of a carbon neutrality target and an offsetting programme similar to that of TAG Farnborough Airport. SOU consider that this suggestion is adequately addressed in DP6 to the extent that carbon neutrality and offsetting would influence the development and evaluation of airspace design options.

Winchester City Council emphasised the significance of the GA community and the number of infringements which occur at SOU. We felt that the final set of design principles cover these concerns.

Compton and Shawford Parish Council commented on the competing interests within the process and how much easier it is for groups, such as the GA community, to make their points, due to their level of technical knowledge. They also felt that the GA might be overrepresented in comparison to the public, who bear the brunt of the disturbance and that care would be required in resolving tensions and making the necessary balances.

Phase 2 feedback provided remotely by local community and interest groups

Feedback received from Autism Hampshire suggested the following design principle; “Should provide increased opportunities to disadvantaged and neurodiverse groups in training, apprenticeship and securing employment”. We do not propose to take this

suggested principle forward because it is not related to the development and evaluation of airspace design options within the scope of this ACP.

Southampton Common and Parks Protection Society stated that the proposed wording of the environmental design principles should recognise concerns on air quality and state no ‘net increase’ in harmful emissions. We considered that this suggestion is adequately addressed by the collation and refinement of the external environmental impact design principle, DP6, to, ‘minimise, and where possible, reduce aircraft emissions, the degradation in air quality and adverse ecological impacts. ‘

The feedback also commented on the noise principles, recognising that no increase in overall noise would be hard to quantify and that avoiding overflight of densely populated areas would be impossible to achieve. The feedback suggested that the sharing of noise and provision of respite options does not reflect the local opinion and that avoiding areas of ‘landscape importance used for recreation’ should also be added. As a result of this feedback and following technical considerations with our environmental specialists, SOU have refocused the wording of DP7 to encompass, ‘the total adverse effects on health and quality of life from aircraft noise’ and included, ‘areas prized for tranquillity’ in DP9.

Campaign to Protect Rural England, Hampshire summarised the workshop in their feedback and stated that their focus is noise, air pollution and the quality of the environment. The feedback from Townhill Park Residents Association did not provide any additional comments on the proposed design principles.

The evolution of the initial design principle statements based on the feedback provided during phase 2 of the engagement is set out in full in Appendix D.

4.4. Final list of proposed airspace design principles

The final list of airspace design principles that we propose to adopt is set out again in table 16 (this table is a replication of table 1 on page 6). The principles are numbered for ease of reference. Design principle DP1, regarding the safety of commercial air transport and GA operations takes top priority, over all other principles. Subject to this overriding principle of maintaining a high standard of safety, the second highest priority principle for our ACP that cannot be discounted is that it accords with the published AMS (CAP 1711) and any current or future plans associated with it (DP2). Beyond DP1 and DP2, the other principles are not organised into a priority order. Where airspace design options may bring certain principles into conflict with one another, we will make trade-offs decisions based on an assessment of the overall impacts and two-way conversations with the affected stakeholders.

Table 16 (repetition of table 1): Final list of airspace design principles that SOU propose to adopt

#	**Airspace design principle**
DP1	**Top priority:** Be as safe or safer than today for both commercial air transport and general aviation (GA) users that are affected by the airspace change.
DP2	**Second priority:** The SOU ACP accords with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.
DP3	Avoid introducing additional complexity and bottlenecks into controlled and uncontrolled airspace and contribute to a reduction in airspace infringements.
DP4	Minimise tactical intervention by Air Traffic Control (ATC) below 7000ft.
DP5	Ensure sufficient airspace capacity to accommodate SOU's master plan traffic forecasts while providing for the integration of GA traffic.
DP6	Minimise, and where possible, reduce aircraft emissions, the degradation in air quality and adverse ecological impacts.
DP7	Minimise and where possible reduce, the total adverse effects on health and quality of life from aircraft noise.
DP8	Ensure a predictable, fair and equitable share of traffic across all routes, through multiple route options and respite routes.
DP9	Avoid overflying densely populated residential areas, national parks, AONBs, noise sensitive buildings and other areas prized for tranquillity.
DP10	Maximise operational efficiency for commercial air transport and general aviation users affected by the airspace change.
DP11	Ensure that aircraft operating at SOU climb and descend continuously to/from at least 7000ft.
DP12	Adopt the most beneficial form of enhanced navigation standards for arrival and departure routes.
DP13	Avoid increasing the overall volume of controlled airspace and where deemed necessary, mitigate the impact by including measures that improve access to GA and do not increase airspace segregation.

DP14	Consider the use of electronic conspicuity to improve airspace integration where possible.
DP15	Take into account the combination of effects on the operations at neighbouring airports affected by the airspace change.
DP16	Offer flexibility in the route structure to strengthen resilience against adverse weather and network issues that may affect operations at SOU.

5. Independent assurance of design principles engagement

To ensure that a compliant engagement process takes place, we has appointed The Consultation Institute (TCI) to benchmark all of our engagement activities against industry good practice and the regulatory process requirements set out in CAP1616.

TCI is a UK-based not-for-profit organisation founded in 2003, which has been setting standards for best practice in public engagement and consultation across the globe. TCI is recognised as the 'go-to' organisation for those in need of support for controversial programmes of change and up-skilling employees to tackle difficult scenarios. TCI offers expert advice and guidance across the world of public consultation and engagement and is extensively used by consultors that commission advisory services, training, risk evaluations, briefings and quality assurance of their consultation and engagement plans.

TCI has quality assured SOU's engagement on airspace design principles. This assurance has involved working closely with SOU to advise on the best approach to take as well as signing off individual elements. TCI provided guidance to SOU at the outset, based on the Institutes risk assessment and stakeholder mapping methodologies, to ensure that engagement activities were based on a solid foundation. As a result, TCI advised on the need for additional resources to plan and deliver a programme of public and stakeholder engagement.

TCI advised on, and signed off, each of the following elements:

- Approach to engagement
- Objectives
- Target audiences
- Methodology: a mix of stakeholder workshops and focus groups, comprising two rounds of dialogue complemented by an opportunity to submit written comments
- Planning and timetabling of all activity
- Brief for research agency
- Detailed rationale for invitation of stakeholders
- Drafting of letters of invitation
- Approach to maximising attendance
- Documentation and reporting

The Institute is fully satisfied that the engagement approach taken aligns with our best practice standards and has been delivered with a high degree of professionalism. We believe that the approach has been successfully captured in this report and the supporting documents.

6. Conclusion and next steps

This report was submitted to the Airspace Regulation (AR) team at the CAA on August 15th 2019. The AR team will evaluate our approach to engagement with stakeholders to develop airspace design principles for our ACP in preparation for a Gateway Meeting on August 30th 2019. Once the CAA confirm that our engagement is compliant with the regulatory guidance, our ACP will progress to Stage 2: Develop and Assess. Stakeholders that were invited to participate in the development of the design principles will be re-engaged at the start of Stage 2 to support the development of a comprehensive list of airspace design options and evaluate them against the design principles as part of the options appraisal process.

Our final list of proposed design principles has been developed and refined through two-way conversations with a wide mix of stakeholders that are potentially affected by the airspace change. The workshops and focus groups that we organised brought together a mix of representatives from different backgrounds and with different interests. All workshops were attended by airport staff, technical specialists and third-party facilitators to ensure that our first round of engagement in the ACP process was effective.

We would like to thank all stakeholders that gave their time to support the engagement process, consider the issues and opportunities associated with the airspace change and share their views on the development of the design principles. We feel that the engagement has provided us with a good understanding of the local factors that are most important to different stakeholders when developing airspace design options for the ACP. We expect that our engagement during the options development and assessment stage, and in the later public consultation, will be more constructive because of the outputs of the design principle engagement.

We understand that there will never be unanimous agreement on all of the principles that we propose to adopt or the airspace design options they may be used to evaluate. We also acknowledge that some of the principles may at times come into conflict with one another and difficult trade-offs may need to be made. We are committed to continuing a transparent two-way process of engagement as the ACP progresses, which we expect will help to inform these trade-off decisions when they emerge.

If stakeholders would like to view all the Stage 1B submission documents associated with this report and track the progress of our ACP, they can be viewed by searching for ‘Southampton Airport’ on airspacechange.caa.co.uk/.