

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

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Organisation/Representing.....Heathrow Strategic Planning Group – (Environment and Airspace Group)

Some overarching comments:

Methodology

The principles need a context to determine their application, otherwise they are free floating and there is no basis on which to assign relative priority, weight and trade-offs. This is crucial since, quite properly, it will be necessary to balance competing objectives and interests in new designs and procedures and these trade-offs need to be clear to stakeholders. We have suggested that one immediately understandable and highly relevant context would be the different stages of the flight journey given that the relative significance of the various principles rightly varies at different points. If this approach were to be adopted it would provide a far clearer basis for the application of the design principles to actual airspace change proposals. Otherwise it is very hard to see how critical decisions about balance can be made.

We are concerned to know more about how the overall methodology and how the Design Principles (once adopted) will apply to all Airspace Change Proposals options to be considered when a change is designed? How will trade-offs be made and how will effective voice to external stakeholders be enabled?

Balancing Principles

We suggest that 'Balancing Principles for decision making' should be set out. For example:

- Safety should never be compromised
- Below 4000ft all decisions will support reducing the number of people significantly impacted by noise, then other local pollution impacts, and then mitigating those impacts
- Between 4000-7000ft decisions will support noise reducing the number of people significantly impacted by noise, then other local pollution impacts, and then mitigating those impacts. Then carbon reduction
- Above 7000ft decisions will support carbon and other relevant emission reduction, with regard to mitigating noise impacts

Consultation process

As described above, the consultation in subsequent stages has to provide a clear explanation of the rationale behind the Design Principles and their application.

We need more information on how 'higher' legislation and principles have *actually been applied* to preparing the framework for these? e.g. National Noise Policy for England, UN SDG, AFP, Net Zero Strategy etc.

The consultation also needs to address directly what types of proposals might be coming down the track and their effect – such as IPA, flight track concentrated by PBN etc.

We have concerns that the Stage 1A has already been signed off by CAA without affording 'external' voice to that of the aviation industry – notably for local communities and LAs. In our view the process would benefit from earlier opportunity for external voice, in particular our members – the local LA perspective. Because of this we believe:

- Missed opportunity for engagement that would have allowed better understanding of the purpose and eventual use of the Design Principles and therefore a richer response obtained.
- We believe there are avoidable misunderstandings and / or errors in the way the Design Principles and presentations appear inconsistent with 'higher' policies referred, and to jump the consideration of 'avoiding impact' and straight to 'mitigation'.

Some other Key Points

Fundamentally, the key aims of reducing local noise and pollution emission impacts should not be watered down in favour of UK and global decarbonisation targets. Different balances need to be applied for the various parts of the total flight – surface access to the airport, ground servicing; ground running/taxiing; approach / departure and below 4000ft; below 7000ft; and then beyond.

The focus for the development of the design principles and their application must be what is needed for the future, not to minimise the extent of change as stated in the needs statement Stage 1A. It is suggested this needs review.

Further consideration to the Stage 1 needs statement – is this fully consistent with the APF and NPSfE? The starting point should be to ‘reduce numbers of people significantly impacted by noise’, not to be ‘mitigating impacts’. Principles require that this should operate to (avoid) or minimise noise at source, then to reduce and mitigate impact on receptors (including alternation/respice), then where necessary to offer beneficial moves to improve health and QoL (compensation)

APF 2013 – sharing of the benefits of new technology between industry and local communities. Apply principle to ACP and new tech / innovation

Design Principles need to prioritise reducing noise at the NQP and the whole of Night. Different approaches to routing and alternation may be appropriate by Day, at Night sensitive shoulder periods and in the Night NQP.

Further research needed into what makes different receptors sensitive to noise, and options for alternation / respice most meaningful to impacted communities. A range of new metrics required to assess. e.g. N and LA period metrics and contours to scale and manage the total ‘noise envelop’, then N and SEL to limit specific impacts on small groups of receptors. Then meaningful targeted consultation on proposal options.

It is important to understand what Heathrow will do to fill the space left by ICCAN. We currently wait on DfT / CAA replacement arrangements in the Spring 2022 but Heathrow can take good initiatives too.

In general terms, it would be wrong to introduce *flexibility* that might increase noise impacts to reduce ground delays for example – the operations should be managed efficiently by the various responsible parties and local communities should not have to pay the cost of their managerial failures.

We must be mindful of all harmful emissions - as well as noise and carbon. In terms of Air Quality - In September 2021 the WHO introduced even more stringent Guideline Values for common pollutants including particulates. The Guideline Value for PM 2.5 halving to 5ug/m3. As you'll be aware, airports associated with ultrafine particulates. The proposed Environment Bill 2019 – 2021 also introduces a duty on the government to set new long-term targets for PM_{2.5} by October 2022.

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
Safety								
S1	Workshops 1,8	Future airspace change must be safe for all stakeholders, including those on the ground		X				How are the aircraft emergency risks to the airborne balanced against the longer term impacts to those on the on the ground, including the impact on longer term health, wellbeing and quality of life (QoL). What are the key significant risks associated with the ACP and against what standard these risks have been quantified?
S2	Workshop 2	Airspace design must be safe		X				As S1
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground			x			Not clear, does 'risk' refer to the risk of a crash or noise impacts? Land sue planning should avoid dense activities within PSZ of elevated risk.

								<p>Otherwise, ACP design should have regard to changing settlement patterns and how this in turn changes to scale and distribution of receptors.</p> <p>Heathrow is on the edge of a city and people live at relatively high densities in cities. The fact of the matter is that numbers of households needing housing are likely to grow and they will have to go somewhere (and there is a London Plan-designated opportunity area around it).</p>
S4	Workshops 6, 7, 11	Must be safe, but does not exceed existing safety standards to an extent that it has a detrimental impact on other benefits.	X					<p>Suggest:</p> <p>“Must be safe but should minimise detrimental impact on other objectives as directed by the Balancing Principles” (see below)</p> <p>The reference to ‘not exceed existing safety standards’ is misplaced. Safety standards should not be restricted from improving safety - we need to remove the phrase ‘existing safety standards’.</p>
Policy								
P1	CAA	Subject to the overriding design principle of maintaining a high standard of safety, the highest priority principle of this airspace change that cannot be discounted is that it				x		<p>The AMS should be designed to achieve objectives – not followed slavishly for its own sake.</p>

		remains in accordance with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.						<p>This appears to be dismissive of other and 'higher' policies such as: NSPfE, APF 2013, ICAO Guidance on the Balanced Approach to Aircraft Noise Management", Second Edition, ICAO, 2008 etc or even the UN Sustainable Development Goals.</p> <p>Furthermore, local objectives may properly outweigh broader AMS objectives.</p>
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency {London Plan}	x					<p>'Taking into account' could mean anything and nothing. This should be rephrased more meaningfully, e.g. "There should be a commitment to have regard to local plans and policies and it should be clear how doing this has had a tangible impact on ACP design, particularly the impact on health and QoL and climate emergency."</p>
Noise			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
<i>Relating to sharing the noise</i>								

N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels			x			However, overall, we should commit to build back better rather than simply back to previous.
N2	Workshops 3,4,6,7,9,11,12	Share the noise	x					<p>This needs to be applied alongside the principles at N20 – N24.</p> <p>Sharing can be achieved <i>spatially</i> and <i>over time</i> - flight path and specific track within a broad path; runway, flight path and track alternation; and a more evenly Balanced preference for Easterly/Westerly operations.</p> <p>PBN – is a tool that can be used but we need clarity on how it can be used. There is a reluctance to go for the increase spread of routes because it is harder to do.</p>
N3	Workshops 3, 6	Future airspace change should result in a larger number of people slightly annoyed, rather than a smaller number significantly annoyed		x				Could rather than should!
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities	X					Follow the Aviation Policy Framework 2013 principles for sharing the gains from new tech and innovation, and demonstrably show compliance with “limit and where possible reduce the number of people in UK significantly

								affected by aircraft noise” and the new UK airspace policy noise objective to “limit and, where possible reduce the number of people significantly affected by the adverse impacts from aircraft noise”
<i>Relating to aircraft flight profiles</i>								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite	x					Distinct flightpaths at lower levels from each runway for a given route, to ensure a meaningful difference in alternation / respite for local communities.
N6	Workshops 1, 3 4,6,8,12	There should be steeper climbs for aircraft to get higher quicker and for arrivals to stay as high as possible, for as long as possible			x			Yes to Steeper landing approaches – steeper Departures far more complicated balancing – more noise closer to the airport in favour of less noise further along departure route. Different impacts of different aircraft types, routes - more nuanced
<i>Relating to respite/dispersal</i>								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite	X					
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths	X					

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N9	Workshop 5	Multiple routes for respite to be operated to a schedule						Need to be challenging demanding operations that offer the number of alternative routes as necessary to offer worthwhile noise benefits – despite increased workload to pilots and ATC.
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite	X					Monitoring and publishing – must be seen to be applied and fair
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]		X				Ask people about what makes it respite meaningful to them – this is a proper matter for consultation. It might be short frequent periods or longer periods, sticking to a predictable plan as far as possible might outweigh strict balance of time over a monitoring period?
N12	Workshop 7	Different flight paths for day/night flights	x					Sensitivities day, night and shoulder periods are not necessarily the same
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces		x				
<i>Relating to newly overflowed</i>			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N14	Workshop 8	Avoid overflying places that aren't currently overflowed				x		

N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected		x				
<i>Relating to noise reductions/mitigations</i>								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise	X					NPSfE, APF etc all clear that this is the case at lower altitudes
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)	x					Need for new metrics and research – concern at demise of ICCAN. Who will provide independent technical expertise now? Public transparency and openness to independent scrutiny is important to Heathrow’s image too!
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise	X					
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)	x					Compensate rather than mitigate - the point here is to offer these communities means to benefits to their Health and QoL to compensate for acknowledged harmful impacts. However, firstly seek to Avoid and then Mitigate before Compensate - NPSfE
<i>Relating to limiting impacts/health impacts</i>			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N20	Workshop 1	Don’t make it worse for those currently significantly impacted, even if there is an overall net noise reduction	x					Priority to reduce impacts for the very worst impacted

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N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change	x					
N22	Workshop 4	Minimise the negative impacts on health from night flights	x					
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP				x		Priority to reduce number of people significantly impacted, not to minimise 'any' increase
N24	Workshop 6	Minimise impacts on those affected by noise, not just those considered to be overflown (e.g., those who hear aircraft/airport noise even though not directly overflown, according to the CAP1498 definition)			x			
<i>General</i>								
N25	Workshop 2	Find a balance between the number of procedures for respite and operational complexity and technical capability (there is an issue with the number of procedures that aircraft/airlines can manage)			x			But are we being demanding enough / unambitious? Reward airlines that flying accurately to track and following procedures to achieve objectives
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits				x		To limit the scale of change of change is administrative convenience only. (Stage 1A statement of need is in error). Design the ACP that is needed to meet future requirements, not aim to minimise the changes. For most receptors, the benefits of changes will likely be felt through an

								accumulation of many small changes rather than a single big change. Reward accurate flying to achieve objectives
N27	Workshops 3, 6,9,10	Future airspace change should avoid overflying the same communities with multiple routes, and take into account routes and the cumulative impacts of routes to/from other airports, below 7000 feet		X				
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible	x					Displace thresholds for landing and steeper approaches; start departure roll from beginning of the runway (rather than any shortcut mid-point) to enable maximum altitude at boundary on departure
N29	Workshop 9	Make use of open spaces/parks etc.			x			Not clear, do you mean overfly these at night when parks are less/not used by the public or a preference for avoiding overflying populated area rather than open spaces. Disagree with latter
Environment			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
E1	Workshop 1	Noise should remain the priority below 4000 feet, regardless of any policy changes	x					Key point – concern that carbon agenda not be allowed to diminish this
E2	Workshop 1	Minimise fuel burn, CO ₂ , greenhouse gases and all other contributors to climate change			x			Balance – noise and also other pollutants and net gains in biodiversity

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E3	Workshop 2	Operate flights in the most CO ₂ efficient/friendly way			x			Above 7000ft
E4	Workshop 3	Must not degrade air quality	x					
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO ₂ impacts	x					
E6	Workshop 7	The airspace design should deliver a net CO ₂ benefit across Heathrow's operation whilst delivering noise benefits below 7000 feet	x					Signal the airplanes to not start the engines prematurely Also consider non-flying Scope 1,2,3 impacts of the airport operation. e.g. ground tugs, taxiing, surface access route to airport – CO ₂ 'end to end' approach
E7	Workshop 9	Noise is the priority below 7000 feet, but the project as a whole should still deliver net carbon reduction for Heathrow's operation		x				
E8	Workshop 8	The airspace change should deliver an overall CO ₂ reduction for Heathrow's operation. If noise benefits negatively impact CO ₂ below 7000 feet, that needs to be offset by CO ₂ benefits elsewhere (e.g., in the upper airspace or reduced airborne/stack delays)	x					
E9	Workshop 12	Prioritise noise over carbon			x			
E10	Workshop 12	Noise and CO ₂ are equally important and there should be a balance			x			

Technology			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
T1	Workshop 1	Future airspace change should use modern technology		x				It's 'just a tool' - it should be used to achieve benefits in terms of the agreed overarching aims
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available	x					As above
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments		x				
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts	X					
T5	Workshop 12	Minimise the impact of future change					x	Do not be constrained by aiming to minimise change from status quo – should design for what is needed in future, as if starting with a blank sheet of paper. Statement of Need Stage 1A needs revising in terms of the stated aim to minimise change
Operational Performance								
OP1	Workshop 1	Future airspace change should enable Heathrow to make the most efficient use of its runways, subject to environmental commitments			x			This is not about maximising capacity

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays				x		Who decides? This appears to be avoiding delays on the ground as a priority? People can wait in a terminal and the aircraft isn't burning fuel, better this than flying holding patterns or flying in the night period
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)	x					Incentivise both the pilot in command and the airline to operate according to airport procedures designed to achieve the agreed benefits
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule	x					Within proper limits within the day. In this context 'night' is defined at 23.00 to 07.00 – there are particular benefits to value in reducing operations in the shoulder of Night and the NQP. Necessary to retain sufficient 'spare' capacity in the day schedule for resilience so avoid straying into Night.
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)	x					Maintain some spare capacity in the schedule. Pre-Covid operations allow inadequate contingency
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints	x					

OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations			?			Needs should be a balanced and coordinated in strategy across all airports, not on a 'first come first served' basis between airport proposals
OP8	Workshop 10	Minimise impacts on other airspace users		X				
OP9	Workshop 12	Designs should enable a reduction in stack holding		x				

Any other design principles we should consider?

	Fundamentally, the key aims of reducing local noise and pollution emission impacts should not be watered down in favour of total carbon reduction. Different principles need to be applied differently for the various parts of the flight – ground running, approach / departure and below 4000ft, below 7000ft, and then beyond.
	Do not design to minimise the extent of change but design to what is needed for the future. Review Stage 1A Statement of Need I relation to the aim to <i>minimise change</i>
	Further consideration to the Stage 1A needs statement – is this fully consistent with the APF and NPSfE? Starting point should be to 'reduce numbers of people significantly impacted by noise', not to be mitigating impacts. Should operate and manage to (avoid) minimise noise at source, then to reduce and mitigate impact on receptors (including alternation/respice), then where necessary to offer beneficial moves to improve health and QoL (compensation)
	APF 2013 – sharing of the benefits of new technology between industry and local communities. Apply principle to ACP and new tech / innovation
	Further research needed into what makes different receptors sensitive to noise, and options for alternation / respice most meaningful to impacted communities. A range of new metrics required to assess. e.g. N and LA period metrics and contours to scale and manage the total 'noise envelop', then N and SEL to limit specific impacts on small groups of receptors. Then meaningful targeted consultation on proposal options

	Design Principles need to prioritise reducing noise at the NQP and the whole of Night. Different approaches to routing and alternation may be appropriate by Day, at Night sensitive shoulder periods and NQP.
	We must be mindful of all harmful emissions - as well as noise and carbon. In terms of Air Quality - In September 2021 the WHO introduced even more stringent Guideline Values for common pollutants including particulates. The Guideline Value for PM 2.5 halving to 5ug/m3. As you'll be aware, airports associated with ultrafine particulates. The proposed Environment Bill 2019 – 2021 also introduces a duty on the government to set new long-term targets for PM _{2.5} by October 2022.

General Points Raised by Stakeholders (these are issues for Heathrow to consider during the ACP development but are not design principle suggestions)

1	Workshops 6,9, 11	Use N & LA _{max} metrics
2	Workshop 6	Avoid use of 'where possible & seek to', instead use 'will do'
3	Workshop 8	Look at best practices from other hub airports operating in high population areas
4	Workshop 9	Airlines should use the best possible technology to create greater societal benefits [which airlines and passengers should pay for]
5	Workshop 10	Work collaboratively with other airports and NATS
6	Workshop 7	Support steeper climbs providing there is no increase in significant effects
7	Workshop 11	References should be made to Air Quality policy/WHO guidelines on air quality
8	Workshop 11	Expand on what is meant by 'efficiency', operational/environmental etc.
9	Workshop 3	Options that are discounted on safety grounds need to be evidenced

10	Workshop 12	Consider other aspects of climate change, pollution, air quality and all other types of emissions.
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