AIRSPACE MODERNISATION AIRSPACE CHANGE PROPOSAL

APPENDIX C – STAKEHOLDER FEEDBACK

CONTENTS

1. Phase 1 feedback - Community Groups

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name......⬛⬛⬛⬛⬛⬛ Organisation/Representing........Englefield Green Action Group...............................

	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					
S2	Workshop 2	Airspace design must be safe		X				
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground		X				
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				
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 remains in accordance with the CAA's			X			

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]	X					But not to the detriment of noise.
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels	X					
N2	Workshops 3,4,6,7,9,11,12	Share the noise	X					
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					
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities					X	The way noise is measured is to the benefit of the industry - contrived by the industry to allow ever increasing expansion of numbers of flights - using EPNdB and to the detriment of communities as it takes no account of height along flight paths.

The latest generation of aircraft is widely acclaimed by the aviation industry. The devices would be quieter and more economical. But an objective consideration shows that new types such as the Airbus A320-NEO, the Boeings 737-Max and the 787-Dreamliner are not at all quieter. On the contrary.

B787 Dreamliner

B737 MAX   A320 NEO

Noise Level
EPNdB

120

100

80

60

40

20

0

0   5   10   15   20   25   30   35

Cumulative Margin (EPNdB)
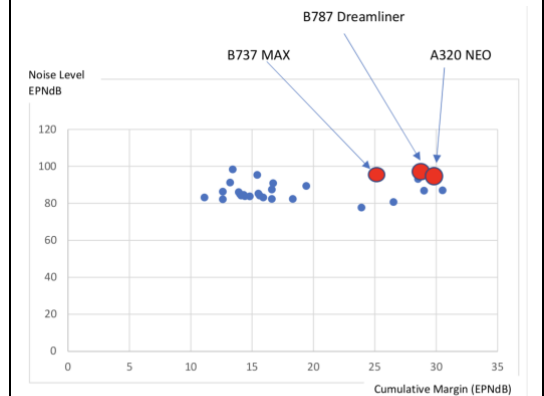
More modern aircraft such as the 737-Max, the Dreamliner and the A320 Neo have a larger 'cumulative margin', but deliver a comparable or even higher noise level than older aircraft. Read the article for a detailed explanation. (source noise measurements: ICAO noise certificates)

To make a good assessment it is important to know how the system works. The United Nations Aviation Organization, ICAO, has established a protocol for measuring the noise of each individual aircraft. The results of

such a measurement are stated on an official noise certificate.

Measurements are taken just before arrival when the aircraft is at 120 meters altitude, at take-off on either side of the end of the runway 450 meters away and after the first climb when the aircraft has reached 450 meters altitude.

The measured values are reported as an average of constant perceptible sound for ten seconds. The measure for that average noise level is EPNdB(effective perceived noise in decibels).

The measurements are carried out with a fixed protocol by the competent aviation authorities in the region where the aircraft was built: the European EASA tests the Airbuses, the American FAA the Boeings.

Unnecessarily complicated
Based on those measurements, it should be easy to assess whether one aircraft is quieter than another. But no,
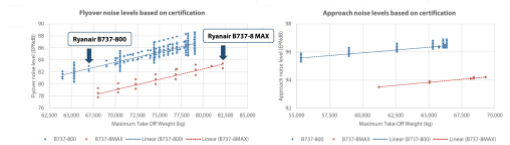
the aviation sector makes it unnecessarily complicated to continue calculating.

In addition to the measured values, the same noise certificate also states so-called 'limit values'. These are values that have been established by the aviation sector itself as maximum values for different types of aircraft.

The difference between the limit value (the maximum permissible noise) and the measured value is called the margin. The three margins of the three different measurements are added together to form a cumulative margin. And it is now used to indicate whether or not an aircraft has become quieter.

Example: fleet renewal Ryanair
- Current fleet: 99% B737-800
- Expected fleet 2030: 60+% B737-8 MAX
- No noise reduction for departures; 2 dB lower noise levels for arrivals

Take for example the older B737-800 and latest B737-8 Max

		Relating to aircraft flight profiles						
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite	X					
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					
		Relating to respite/dispersal						
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					
N9	Workshop 5	Multiple routes for respite to be operated to a schedule			X			
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite		X				
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]	X					
N12	Workshop 7	Different flight paths for day/night flights			X			
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces				X		Night flights should be stopped altogether, people need a full nights sleep as per WHO (2018) guidance. If Frankfurt is not allowed night flights,

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								shoulder periods, late departures, then neither should Heathrow
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown			X			If there are more flights these should be sent over areas that are not currently overflown.
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected	X					
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise	X					
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)	X					
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					
Relating to limiting impacts/health impacts			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**

Classification: Public

N20	Workshop 1	Don't make it worse for those currently significantly impacted, even if there is an overall net noise reduction	X					
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					
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					
General								
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			Devil in the detail
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits			X			
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				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible		X				
N29	Workshop 9	Make use of open spaces/parks etc.			X			Open spaces/parks are important areas for mental health wellbeing. Heathrow is in the wrong place and should, as other countries have done, be moved to a low population area, to improve the health outcomes of the overflown.
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					
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change					X	Minimise the number of flights – it is not sustainable.
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way					X	Noise is the top priority up to 4000' and should be to 7000' – the noise budget cannot be raided to allow unbridled expansion and reduction of operating costs to the industry at the expense of communities. It needs to be made a statutory nuisance, as all other 'good citizen' industries are required not to be a nuisance.

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
E4	Workshop 3	Must not degrade air quality	X					NADP1 improves the NOX levels upto the mixing layer
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO_2 impacts	X					See E3 comments
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			Noise benefits must be the only consideration.
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				To avoid concentrating flight paths over the same people all the time.

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available			X			
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						
T5	Workshop 12	Minimise the impact of future 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		
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays			X			
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)	X					
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule		X				But not by using 'mixed mode' operation as this would remove the respite element.

					X			
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)			X			
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			X			
OP8	Workshop 10	Minimise impacts on other airspace users			X			
OP9	Workshop 12	Designs should enable a reduction in stack holding						

Any other design principles we should consider?

	Use of NADP1 departure procedures

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name......█████████████████████ Organisation/Representing........Ealing

	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	Yes					
S2	Workshop 2	Airspace design must be safe	Yes					
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground	Yes					
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		Yes				
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 remains in accordance with the CAA's				No		

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]	Yes					
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels	Yes					
N2	Workshops 3,4,6,7,9,11,12	Share the noise		Yes				
N3	Workshops 3, 6	Future airspace change should result in a larger number of people slightly annoyed, rather than a smaller number significantly annoyed		Yes				
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities				No		Communities must take priority
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite	Yes					

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	Yes					
Relating to respite/dispersal								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite	Yes					
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths		Yes				
N9	Workshop 5	Multiple routes for respite to be operated to a schedule		Yes				
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite	Yes					
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]	Yes					
N12	Workshop 7	Different flight paths for day/night flights						Night flights should cease
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces						Night flights should cease
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown						

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected						
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise	Yes					
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)	Yes					Reduce rather than limit the effects
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise	Yes					
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)	Yes					Over a wider area than currently
Relating to limiting impacts/health impacts			**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	Yes					
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change	Yes					
N22	Workshop 4	Minimise the negative impacts on health from night flights	Yes					
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP	Yes					

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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)	Yes					
General								
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)		Yes				
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits				No		
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	Yes					
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible	Yes					
N29	Workshop 9	Make use of open spaces/parks etc.	Yes					
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	Yes					

Technology			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change		Yes				But not by reducing climb rate
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way		Yes				But not by reducing climb rate
E4	Workshop 3	Must not degrade air quality	Yes					
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO_2 impacts	Yes					
E6	Workshop 7	The airspace design should deliver a net CO_2 benefit across Heathrow's operation whilst delivering noise benefits below 7000 feet	Yes					
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	Yes					
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)	Yes					
E9	Workshop 12	Prioritise noise over carbon	Yes					
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance				No		Noise is the most important

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
T1	Workshop 1	Future airspace change should use modern technology			?			
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available			?			
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments		Yes				Especially to reduce noise
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts	Yes					
T5	Workshop 12	Minimise the impact of future 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				No		
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays				No		This would go against predictability
			Strongly Agree	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)	Yes					

OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule						Night flights should cease
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)				No		Only by operating below total capacity
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints			?			
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations		Yes				
OP8	Workshop 10	Minimise impacts on other airspace users		Yes				
OP9	Workshop 12	Designs should enable a reduction in stack holding	Yes					

Any other design principles we should consider?

	No community affected by departure on easterly operation should be affected by arrival on westerly operation, or vice-versa

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name... ████████████████████ Organisation/Representing…...Forest Hill Society, London ████

	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				
S2	Workshop 2	Airspace design must be safe		x				
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground			x			Agree with the principle but this seems unavoidable given the airport location.
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					Safety is a fundament but should not be a factor that is so weighted by this process and the industry that it always overrides all other factors to the environmental disadvantage of those on the ground and the commercial advantage of the industry.
Policy								

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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 remains in accordance with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.		x				Use of the term 'overriding design principle' implies a bias to this process that if the airport were to use any safety argument at all all other considerations , such as the environment and impact on those on the ground, will in the end be overridden.
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]		x				In accordance with the London Plan implemented in February 2021 and Local Plans being drafted and implemented by individual London Boroughs, ACPs will align with and must take account of issues included therein.
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels				x		This looks attractive for those currently overflown, but it would rule out routing flight paths over communities currently with no air traffic, which will need to be done for aircraft noise is to be shared fairly. Generally, reference to pre-Covid levels should probably instead refer to an

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								agreed baseline year, such as 2018.
N2	Workshops 3,4,6,7,9,11,12	Share the noise	x					
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					
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities	x					Assume we are talking about noise benefits? The commercial needs of the industry have always been observed as by far the highest priority for the airport. Given the airport location a significant rebalancing is needed with noise impact on overflown communities given very high priority.
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite		x				Respite is more than valuable. Well designed and managed respite must be seen as essential to this project.
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					Arrivals in SE London are a particular concern, they do not consistently fly a Continuous Descent Approach, flying higher for longer would make a significant difference to those who live

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								many miles from landing. Heathrow flying higher would create essential height options for interacting airport paths, such as London City.
Relating to respite/dispersal								
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					
N9	Workshop 5	Multiple routes for respite to be operated to a schedule	x					
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite	x					
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]		x				
N12	Workshop 7	Different flight paths for day/night flights			x			
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces				x		Night flights and early morning arrivals are a huge source of complaint from heavily populated London communities. They should be dispersed, shared and

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								rotated, with planned respite, the same as day flights. There are insufficient open spaces to make this realistic in heavily populated areas. We do not think that commercial benefit gains for LHR by receiving early morning flights outweigh the considerable health and environmental disbenefits to the overflown.
Relating to newly overflown			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N14	Workshop 8	Avoid overflying places that aren't currently overflown					x	Regrettable as it is, in the interests of fairness unavoidable aircraft noise should be dispersed across the population
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected	x					No one wants to be under a concentrated flight path. With a brand new start to flight paths, this is a once in a lifetime opportunity to design a system whose impacts on communities are demonstrably fair.
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise			x			ACPs must minimise noise pollution. The noise metrics used by the industry

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								serve to mask acknowledgement of high noise-level incidents at quiet times of day which cause the early morning "wake-ups" that are significant in SELondon.
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)	x					
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				
Relating to limiting impacts/health impacts			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					We would substitute "Must improve..." for "Don't make it worse…"
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			x			For an ACP with high quality design and

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		an increase in noise due to this ACP						well managed flight paths, impact needs to be demonstrably fairly distributed, some people may need to experience an increase in noise.
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				This applies particularly to those who live many miles from the airport. not within the regulated areas close to the airport but who are nevertheless overflown and impacted by intrusive noise – either decibels or overflight frequency or both
General								
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		It is the airport that is holding that new technology and procedures will be able to deliver multiple flight paths with rotation/managed respite. Why should the overflown be expected to compromise on this? Is the industry not actually able or willing to do the work needed to deliver? We need transparency.
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits		x				
N27	Workshops 3,	Future airspace change should avoid overflying the same communities with multiple routes,	x					South East London is overflown by

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
	6,9,10	and take into account routes and the cumulative impacts of routes to/from other airports, below 7000 feet						London City easterly arrivals in a concentrated path at c1900ft without Continuous Descent Approach. Also by a crossing Heathrow westerly arrivals path at c 4000 ft also without CDA. Sometimes simultaneously (light easterly winds). No community should have two different airport flight paths designed overhead under 7000ft, let alone paths crossing. And using them both at the same time has presented unacceptable levels of noise and emissions polution to overflown Londoners. This and probably other known flight path problems for London communities should be designed out at the earliest possible stage of this process. Early collaboration is needed between the two airports to solve this particular problem, well before ACOG is needed to arbitrate.
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible		x				Must use steep take-offs and landings and use CDA on all inbound flights.
N29	Workshop 9	Make use of open spaces/parks etc.			x			Appropriate flight path levels, dispersals

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								and use of CDA is key to reduction of noise impact. Flying aircraft over heavily populated areas noise cannot be easily confined in such a way over London with parks closely interspersed with homes. Dispersal /rotation/respite/CDA is a far more important principle. Note that LB Lewisham's Local Plan defines the key principle of enjoyment of high-quality design open spaces as being crucial to residents.
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			
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change		x				The definition of the phrases CO^2 and green house gases could be expanded to include a more considered definition of all pollutant emissions in subsequent iterations of the Design Principles.
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way		x				
E4	Workshop 3	Must not degrade air quality		x				

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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				
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				Given the proposed duration for this ACP, it may be prudent to re-specify "deliver net carbon reduction" with "deliver net carbon emissions at zero".
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				Agreed. However, noise and all pollutant emissions must be treated with equivalence, with every effort focussed on reduction.
Technology			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
T1	Workshop 1	Future airspace change should use modern technology		x				
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available		x				This ACP has proposed lifespan of 25+ years. This principle must anticipate all foreseeable technologies that may be deemed deliverable in the design time-frame.
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				
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				
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays		x				
			Strongly Agree	Agree	Neither Agree nor	Disagree	Strongly Disagree	Further comments

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
					Disagree			
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)	x					Add " through the use of published and transparent metrics and periodic publication of reports."
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule		x				
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)		x				
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		x				
OP8	Workshop 10	Minimise impacts on other airspace users		X				
OP9	Workshop 12	Designs should enable a reduction in stack holding	x					The importance of the elimination of stacks must be promoted to being one of the highest – and deliverable – priorities. We understood that doing away with stacks is a core element of the project?
Any other design principles we should consider?								

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name....█████████████████████ Organisation/Representing.................HACAN................

	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				
S2	Workshop 2	Airspace design must be safe		X				Safe for whom?
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground		X				
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				
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 remains in accordance with the CAA's published Airspace Modernisation Strategy				X		Think this is not a clear principle as the strategy is wide ranging and is not clear in terms of noise reduction or priorities between carbon and noise reductions.

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		(CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]			x			Agree if this means not routing flight paths over housing developments. Perhaps stronger wording needed?... *"Future Airspace Change should incorporate local plans and policies regarding air pollution and the climate emergency."*
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels				X		Not sure this is a technical possibility and goes against a principle of sharing the noise pollution more equitably. This principle is meaningless without further clarification and inclusion of noise metrics.
N2	Workshops 3,4,6,7,9,11,12	Share the noise	X					
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				Tentatively support this in terms of spreading noise around but there may be instances where new flight paths may result in both of these issues occurring.

N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities	X						Need a mechanism to ensure this is done equitably – none exists currently. Our members believe that communities around Heathrow have a reasonable expectation that they should see improvement in the noise climate over time. How can this be delivered? If airspace change delivers benefits to the airport that enables more movements how will any noise benefit be delivered to communities?
Relating to aircraft flight profiles									
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite		X					Do we need to define 'suitable distance'? What distance would guarantee valuable respite?
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						Agree in principle, especially for smaller aircraft but would need to see robust data to show total noise impact on all Heathrow communities.
Relating to respite/dispersal									
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				
N9	Workshop 5	Multiple routes for respite to be operated to a schedule		x				Agree in principle but not clear if this is possible in practice.
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite	x					
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]	x					
N12	Workshop 7	Different flight paths for day/night flights			x			Would need to understand what the practical implications would be for overflown communities.
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces		x				Agree with first part of this principle but question whether the second part is deliverable?
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown					x	Goes against principle of sharing noise
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected			x			Don't think this principle needs justifying with 'if'. If noise is to be shared then new communities will be overflown.
Relating to noise reductions/mitigations								

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise	x					Reducing noise at source should be the priority.
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)			x			Big difference between limiting the effects and reducing the effects. Principle should be simply to reduce the level of aircraft noise for overflown communities.
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise		x				Is this possible for communities closest to the runways?
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)		x				Does mitigation work sufficiently well? Reducing noise at source should be the priority. Runway alternation seems to offer the most comprehensive mitigation.
Relating to limiting impacts/health impacts			**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				Are we taking 54dB LAeq as the onset of significantly impacted?
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change		x				Is this technically possible given those most impacted will be at the ends of the runways?

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			Minimise the total number or those newly impacted?
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			Is this practical – assume it would cover most of London?
General							
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			This principle should be reworded as it is not clear. Yes, there is limited space in aircraft flight management systems – so can't support a principle without understanding what is possible with existing and future aircraft?
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits				x		Airspace change is large and complex. What is needed is clarity about the potential noise benefits.
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			This should be split into 2 different principles.
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible				x		

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N29	Workshop 9	Make use of open spaces/parks etc.				x		People need open spaces to have an escape from noise.
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					
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change			x			Depends what impact this has on noise.
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way			x			Depends what impact this has on noise.
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				Feels like this is 2 principles.
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		Not sure we should be trading off increases in noise with possible carbon reductions – we want to see both ideally.

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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		Think this is a meaningless statement.
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available			x			Isn't that happening anyway? Does it need to be a principle?
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments		x				Only if this doesn't hinder reductions in noise now.
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			Not sure this is possible given changes being discussed are significant
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		Not if this means an increase in ATMs. Environmental commitments can be too easily ignored or abandoned. Respite periods should not be reduced.

			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			Depends what impact this has on noise for local communities in terms of runway alternation and respite.
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)	x					This potential also requires improved regulation and enforcement powers.
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule			x			Not clear what efficient use of the runways means. Mixed mode operations must be avoided.
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)			x			This should be standard practice. Poor weather is a regular occurrence and the required flexibility should be built into day to day operations.
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints			x			What is an acceptable noise constraint?
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations			x			What is the noise impact of such a principle?
OP8	Workshop 10	Minimise impacts on other airspace users			X			
OP9	Workshop 12	Designs should enable a reduction in stack holding		x				Depends on the noise impact of stack reduction.

Any other design principles we should consider?
A tailored approach pertaining to aircraft size or type may be appropriate. For example, a full power departure of a small aircraft may reduce noise for a lot of people and have little or no impact elsewhere. This may not be the case for the larger aircraft which cannot climb as quickly.

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name...█████████████████████████ Organisation/Representing...Iver Parish Council

	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				
S2	Workshop 2	Airspace design must be safe	x					
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground					x	
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					
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 remains in accordance with the CAA's published Airspace Modernisation Strategy			x			

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		(CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]	x					

Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels	x					
N2	Workshops 3,4,6,7,9,11,12	Share the noise	x					
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					
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities		x				
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respitex			x			Define valuable respite Respite for whom? What about those communities who are not directly

								overflown but are subject to constant noise
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					
Relating to respite/dispersal								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite			x			Define meaningful respite Respite for whom? What about those communities who are not directly overflown but are subject to constant noise
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths	x					
N9	Workshop 5	Multiple routes for respite to be operated to a schedule			x			What about respite for those who are not overflown?
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite			x			Define what this means
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]			X			Define what respite means Respite for whom? What about those communities who are not directly overflown but are subject to constant noise

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N12	Workshop 7	Different flight paths for day/night flights			x			
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces			x			Agree night flights over open spaces Define predictable respite for whom ? What about those communities who are not directly overflown but are subject to constant noise
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown				x		
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected	x					
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise	x					
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)	x					
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise	x					Including those not directly overflown
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)			x			What about those not directly overflown who suffer noise constantly?

Relating to limiting impacts/health impacts			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					
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			
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					
General								
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			
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits				x		
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	x					

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		cumulative impacts of routes to/from other airports, below 7000 feet						
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible	x					
N29	Workshop 9	Make use of open spaces/parks etc.		x				
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					
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change			x			Noise should be the priority
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way				x		
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			
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		x				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		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)						
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				
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available		x				
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			What does this mean? Need to develop technology to adequately measure airport noise particularly for those close to the airport who are constantly impacted
T5	Workshop 12	Minimise the impact of future change			x			Mission impossible
Operational Performance								

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
OP1	Workshop 1	Future airspace change should enable Heathrow to make the most efficient use of its runways, subject to environmental commitments			x			Noise for those close to the airports has to be a priority
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays			x			Need to know more about this
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)	x					Enforcement is needed
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule	x					
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)		x				
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints			x			Noise has to be the priority
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations			x			How?
OP8	Workshop 10	Minimise impacts on other airspace users			x			Who?
OP9	Workshop 12	Designs should enable a reduction in stack holding		x				

Any other design principles we should consider?	
	The design principles should consider all those impacted by noise not just those overflown
	Define what is meant by valuable respite, predictable respite, meaningful respite

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name........... ████████ .... Organisation/Representing...........Pavilion...

	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	✓					
S2	Workshop 2	Airspace design must be safe	✓					
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground		✓				
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	✓					
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 remains in accordance with the CAA's published Airspace Modernisation Strategy	✓					

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		(CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]		✓				

Noise			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels		✓				
N2	Workshops 3,4,6,7,9,11,12	Share the noise	✓					
N3	Workshops 3, 6	Future airspace change should result in a larger number of people slightly annoyed, rather than a smaller number significantly annoyed	✓					
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities	✓					
Relating to aircraft flight profiles								

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite		✓				
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		✓				
Relating to respite/dispersal								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite		✓				
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths		✓				
N9	Workshop 5	Multiple routes for respite to be operated to a schedule		✓				
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite		✓				
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]		✓				
N12	Workshop 7	Different flight paths for day/night flights		✓				
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces	✓					

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N14	Workshop 8	Avoid overflying places that aren't currently overflown					✓	
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected				✓		
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise		✓				
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)		✓				
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise		✓				
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)	✓					
Relating to limiting impacts/health impacts								
N20	Workshop 1	Don't make it worse for those currently significantly impacted, even if there is an overall net noise reduction		✓				
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change		✓				

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N22	Workshop 4	Minimise the negative impacts on health from night flights	✓					
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP		✓				
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)		✓				
General								
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)		✓				
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits	✓					
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	✓					
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible	✓					
N29	Workshop 9	Make use of open spaces/parks etc.		✓				

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
Environment								
E1	Workshop 1	Noise should remain the priority below 4000 feet, regardless of any policy changes		✓				
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change		✓				
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way	✓					
E4	Workshop 3	Must not degrade air quality		✓				
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO_2 impacts		✓				
E6	Workshop 7	The airspace design should deliver a net CO_2 benefit across Heathrow's operation whilst delivering noise benefits below 7000 feet		✓				
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		✓				
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		✓				

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		benefits elsewhere (e.g., in the upper airspace or reduced airborne/stack delays)						
E9	Workshop 12	Prioritise noise over carbon				✓		
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance		✓				
Technology								
T1	Workshop 1	Future airspace change should use modern technology	✓					
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available		✓				
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments		✓				
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts	✓					
T5	Workshop 12	Minimise the impact of future change		✓				
Operational Performance								
OP1	Workshop 1	Future airspace change should enable Heathrow to make the most efficient use of its		✓				

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		runways, subject to environmental commitments						
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays		✓				
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)		✓				
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule	✓					
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)		✓				
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints		✓				
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations		✓				
OP8	Workshop 10	Minimise impacts on other airspace users		✓				
OP9	Workshop 12	Designs should enable a reduction in stack holding	✓					
Any other design principles we should consider?								

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name...........█████████.. Organisation/Representing...........Pavilion..

	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		✓				
S2	Workshop 2	Airspace design must be safe	✓					
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground		✓				
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	✓					
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 remains in accordance with the CAA's published Airspace Modernisation Strategy	✓					

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		(CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]		✓				

Noise			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels		✓				
N2	Workshops 3,4,6,7,9,11,12	Share the noise	✓					
N3	Workshops 3, 6	Future airspace change should result in a larger number of people slightly annoyed, rather than a smaller number significantly annoyed		✓				
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities	✓					
Relating to aircraft flight profiles								

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite		✓				
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		✓				
Relating to respite/dispersal								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite		✓				
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths		✓				
N9	Workshop 5	Multiple routes for respite to be operated to a schedule		✓				
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite		✓				
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]		✓				
N12	Workshop 7	Different flight paths for day/night flights		✓				
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces	✓					

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N14	Workshop 8	Avoid overflying places that aren't currently overflown				✓		
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected				✓		
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise		✓				
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)		✓				
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise		✓				
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)	✓					
Relating to limiting impacts/health impacts								
N20	Workshop 1	Don't make it worse for those currently significantly impacted, even if there is an overall net noise reduction		✓				
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change		✓				

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N22	Workshop 4	Minimise the negative impacts on health from night flights	✓					
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP		✓				
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)		✓				
General								
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)		✓				
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits	✓					
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	✓					
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible	✓					
N29	Workshop 9	Make use of open spaces/parks etc.		✓				

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
Environment								
E1	Workshop 1	Noise should remain the priority below 4000 feet, regardless of any policy changes		✓				
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change		✓				
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way	✓					
E4	Workshop 3	Must not degrade air quality		✓				
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO_2 impacts		✓				
E6	Workshop 7	The airspace design should deliver a net CO_2 benefit across Heathrow's operation whilst delivering noise benefits below 7000 feet		✓				
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		✓				
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		✓				

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		benefits elsewhere (e.g., in the upper airspace or reduced airborne/stack delays)						
E9	Workshop 12	Prioritise noise over carbon				✓		
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance		✓				
Technology								
T1	Workshop 1	Future airspace change should use modern technology	✓					
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available		✓				
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments		✓				
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts	✓					
T5	Workshop 12	Minimise the impact of future change		✓				
Operational Performance								
OP1	Workshop 1	Future airspace change should enable Heathrow to make the most efficient use of its		✓				

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		runways, subject to environmental commitments						
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays		✓				
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)		✓				
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule	✓					
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)		✓				
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints		✓				
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations		✓				
OP8	Workshop 10	Minimise impacts on other airspace users		✓				
OP9	Workshop 12	Designs should enable a reduction in stack holding		✓				
Any other design principles we should consider?								

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name.████████............................ Organisation/Representing........Plane Hell Action SE (PHASE)

	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					
S2	Workshop 2	Airspace design must be safe		X				
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground		X				
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				
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 remains in accordance with the CAA's published Airspace Modernisation Strategy			X			

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		(CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]	X					But not to the detriment of noise reduction
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels	X					But this must not translate into concentration of flight paths over the same communities; and communities not currently impacted must expect to take their share of the noise burden as described in N3, Workshops 3, 6
N2	Workshops 3,4,6,7,9,11,12	Share the noise	X					
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					Cf PHASE response to N1
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities					X	Noise is currently measured in a way that benefits the industry and to the detriment of communities and hides the fact that new aircraft such as A320-Neo, Boeing 737-Max and 787-Dreamliner are quieter. This demands the question

								'quieter than what?' It has enabled the so-called 'quietness' factor to allow these aircraft to fly lower, inflicting more rather than less noise on communities, a fact not helped by the complicated measures used to calculate noise as an 'average' rather than 'single event' measure – to the detriment of the overflown.
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite	X					
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					
Relating to respite/dispersal								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite	X					'Meaningful' being the all-important word.
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths	X					
N9	Workshop 5	Multiple routes for respite to be operated to a schedule							Does this mean multiple routes operating in parallel and at scheduled times? Many flight paths should be designed to operate in a phased approach to spread/share the impact experienced by the communities under

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								currently-concentrated and few flight paths.
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite		X				
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]	X					
N12	Workshop 7	Different flight paths for day/night flights					X	There should be no night flights. We need a minimum of 8 hours sleep each night for health. There must not be any flight-path concentration at any time or place. If night flights/shoulder flights and late departures/early arrivals are banned at other European airports e.g. Frankfurt, Heathrow should be able to ban these, too. Citing Frankfurt, business involving flights has boomed rather than failed since night flights were banned.
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces				X		There should be no night flights. We need a minimum of 8 hours sleep each night for health. There must not be any flight-path concentration at any time or place.
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N14	Workshop 8	Avoid overflying places that aren't currently overflown			X			Aircraft noise must be shared not concentrated – anywhere or any time.
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected	X					Aircraft noise must be shared not concentrated – anywhere or any time.
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise	X					
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)	X					
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					
Relating to limiting impacts/health impacts			**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					
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					There should be no night flights

ID	Workshop	Description						Comments
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP	X					But without concentrating flight paths
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					
General								
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			There should be no reliance on 'modelling' which can never replicate the reality but can only ever be an indication or show guidance. Respite must be the overarching goal.
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits	X					
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					
N29	Workshop 9	Make use of open spaces/parks etc.			X			Open spaces and parks are necessary for and beneficial to health and wellbeing. Do not make a point of overflying this except in upper airspace.

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					
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change					X	Noise reduction is the priority. Minimising fuel burn, CO2, GHG etc will only be achieved by reducing flight numbers
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way					X	Noise reduction is the priority. Minimising fuel burn, CO2, GHG etc will only be achieved by reducing flight numbers
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			Noise reduction is the only consideration
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	X					Noise benefits must take priority over CO2 impacts

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		benefits elsewhere (e.g., in the upper airspace or reduced airborne/stack delays)						
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	Noise reduction must take priority over CO2 impacts
Technology			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
T1	Workshop 1	Future airspace change should use modern technology		X				And should support many flight paths over concentrated flight paths
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available			X			
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						
T5	Workshop 12	Minimise the impact of future 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	

			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			
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)	X					
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule		X				Mixed mode is not an option since this would negate any idea of respite.
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)					X	Only in national emergencies should airspace design be 'violated'. If there are, as an example, problems resulting from weather the plane should neither take off nor land – and the airlines and airport staff have enough experience of how to handle such groundings.
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints			X			Define 'acceptable' – acceptable to whom, the industry or impacted communities?
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations			X			
OP8	Workshop 10	Minimise impacts on other airspace users			X			
OP9	Workshop 12	Designs should enable a reduction in stack holding						

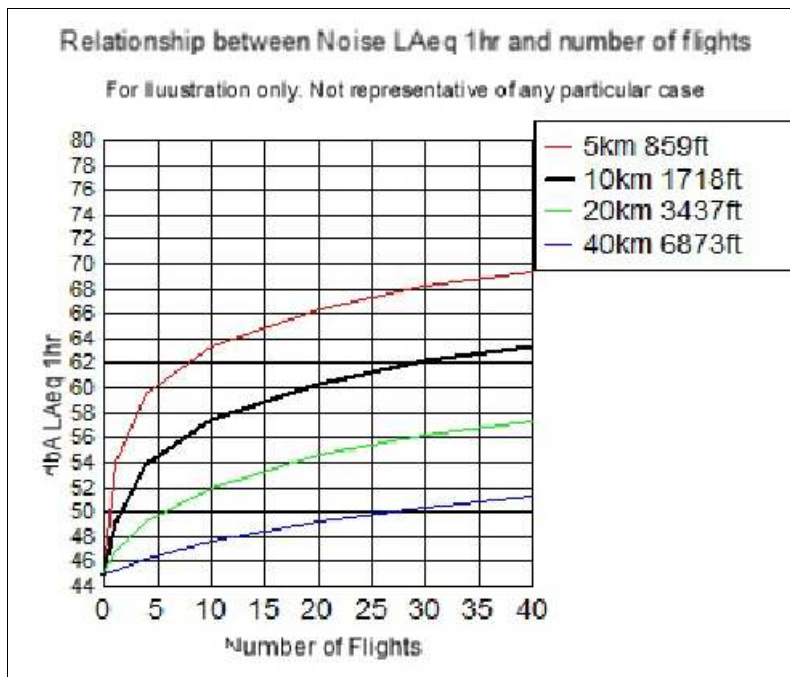| Any other design principles we should consider?	
	General points raised by stakeholders: why were community groups impacted by arrivals that come in low at a distance from landing not invited to contribute?
	Had they been, Workshop 7 might have included the opportunity to flag up steeper descents to reduce the noise impact over the overflown.

<div align="right">**ANNEX A**</div>

Heathrow Design Principles Workshop Feedback by RHC 12 November 2021

TRAFFIC NUMBERS.

The number of flights on Heathrow's departure flight paths number between 1 and 12 per hour per flight path. Arrival numbers vary between 10 and 40 flights per hour per flight path. The RHC modelled chart here illustrates the acoustic impact in decibels from increasing flight frequency. The decibels rise much faster at lower frequencies. This is not to suggest the effect on people is less at higher frequencies; the dose-response relationship has also to be taken into account and the higher the decibel level the greater the negative effect on health and quality of life. The chart is for the number of flights per hour. In between flights there will be background noise levels. 40 flights an hour is equivalent to a single event flight.

Relationship between Noise LAeq 1hr and number of flights

For Illustration only. Not representative of any particular case

—	5km	859ft
—	10km	1718ft
—	20km	3437ft
—	40km	6873ft

Heathrow Design Principles Workshop Feedback by RHC 12 November 2021

PROPOSED COMMUNITY OR LOCAL NOISE OBJECTIVE

There needs to be a community noise objective that shares the noise in a fair and reasonable way. Local Noise objectives can be introduced under provisions in Air Navigation Guidance 2017.

RHC recommends: Where there is a reduction in overall noise the benefit be applied to those already most affected and where there is an increase in overall noise the dis-benefit be applied to those already least affected. This objective can be applied using proportionality or a sliding scale between those most and those least affected.

The reduction in overall noise scenario arises where the aircraft fleet becomes less noisy and there is no expansion. The increase in overall noise scenario arises when increased noise from expansion exceeds and the reduction in noise from a less noisy aircraft fleet.

MULTIPLE FLIGHT PATHS AND NOISE DISTRIBUTION (NUMBER OF FLIGHT PATHS AND THEIR POSITION)

1.   Applying RHC's proposed community noise objective to the design of flight paths using the webTAG tool leads to the principle of maximizing dispersion. The following Figure 1 illustrates the noise impact of dispersion.
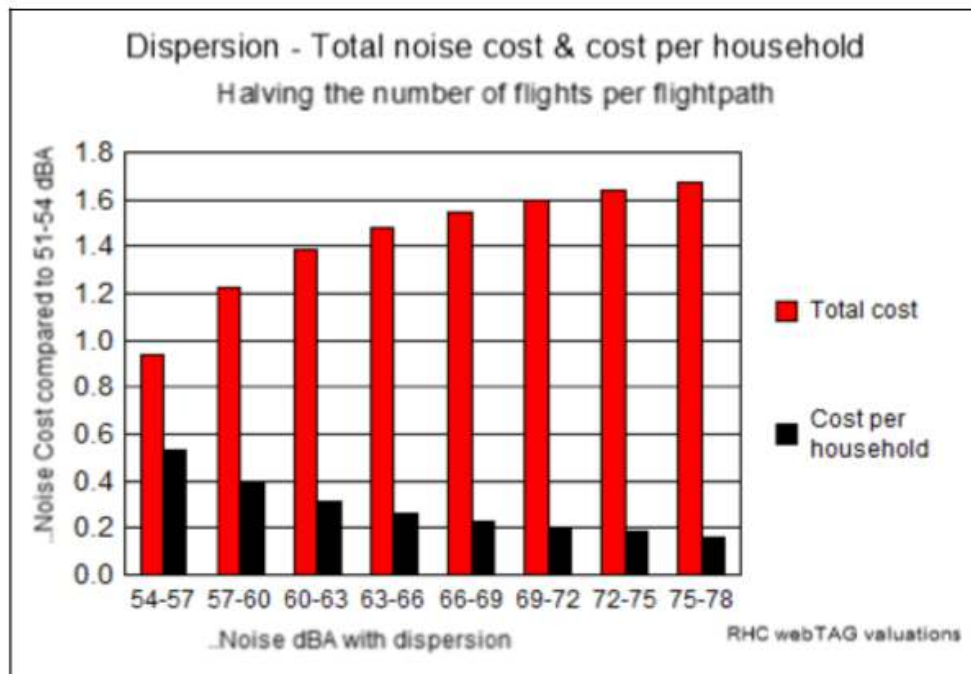

Figure 1 Cost of Multiple flight paths compared to a single flight path. Prepared by RHC

2.   The noise cost of introducing a single flight path is compared with the introduction of two flight paths. The number of flights is halved on each of the two flight paths compared to a single flight path. The noise cost is calculated using webTAG for several bands of noise compared to a base 51-54 dBA level. For example:

a. **Total cost**. Where the noise level increases from 51-54 to 75-78 dBA the total noise cost in webTAG monetary terms of two flight paths is 1.7 times the noise cost of one flight path.

b. **Cost per household**. On the assumption household density is the same for one and two flight paths, the number of households doubles for two flight paths. Where the noise level increases from 51-54 to 75-78 dBA the cost per household is 0.2 times the cost for a single flight path.

3. Using Total Cost as the decision criteria requires minimising the number of flight paths if Total Cost is to be minimised. This means concentration. Using Cost per household as the decision criteria requires maximising the number of flight paths if average cost per household is to be minimised. This means dispersion.

4. The Community objective requires the cost per household to be minimized, which in turn supports dispersion of noise rather than concentration. We recommend dispersion as a design principle but this needs to be qualified as follows.

5. There is an exception to the support of dispersion. When there is an existing legacy noise climate and an established distribution of the population rather than a blank sheet of paper for design of all the flight paths, there is a substantial cost to dispersing the existing noise. Figure 2 below is the vertical arrivals gate about 8 km east of Heathrow, as an example. It shows a single flight path (brown line) being divided into two flight paths (albeit overlapping) (green lines).
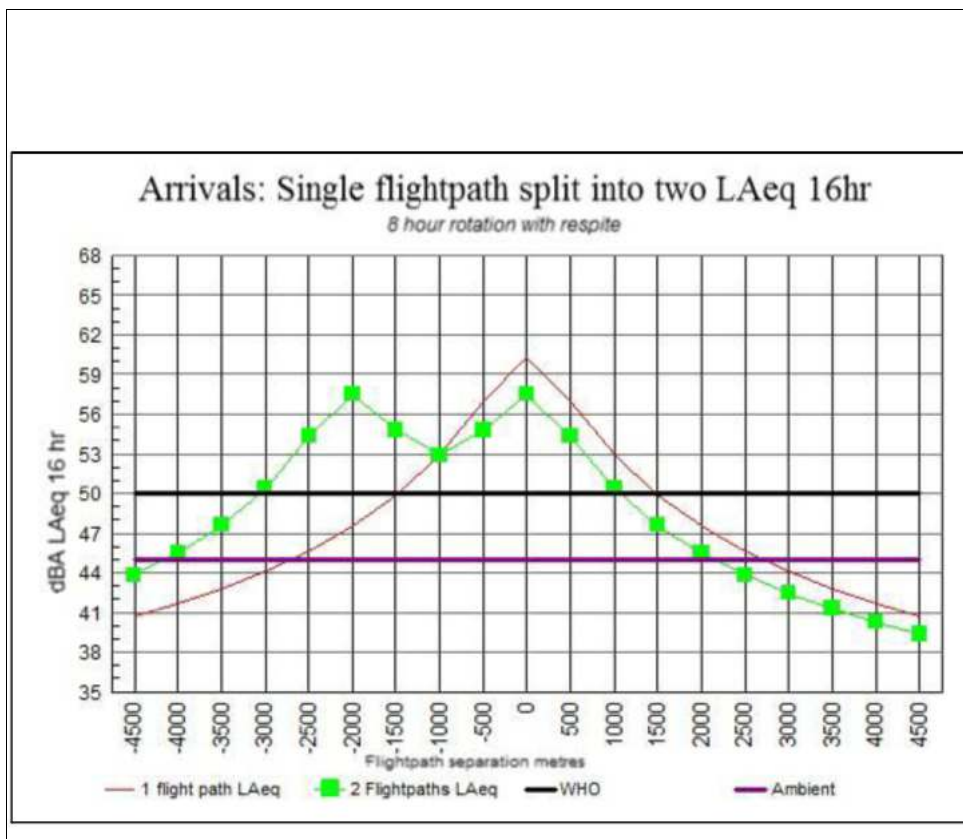

Figure 2 Single Flight path split into two Prepared by RHC

6. Half the flights on the existing path 1 are transferred to the new path 2. This could be by halving the flow rate or introducing scheduled respite for half the time. Acoustically, reducing the number of flights by half reduces the noise level by 3 dBA. For example, directly under the flight path the ground noise level would be reduced to 58 dBA on the existing flight path and increased from background of say 45 dBA to 58 dBA on the new flight path.

7. The following table represents the incremental benefit and dis-benefit from sub-dividing an existing flight path. The webTAG value of the reduction depends on the new noise level as in the table - ranging in a benefit between £3,500 and £7,000 per household (NPV 60 year). The noise cost from the increase ranges from zero to £24,000 (NPV 60 year) depending on the new noise level. For example, referring to the chart, the ground noise level directly under the existing flight path reduces by 3 dBA to 58 dBA with a benefit of £4,763 per household. But people directly under the new flight path would experience a dis-benefit of £7,592 per household. This exception to dispersion principle arises in the case of existing flight paths because the valuation is an incremental change rather than a total change.

Respite: Noise benefit and cost from transferring 50% of air traffic to a second flight path. Figures are normalized and are not derived from the Chart. Source: RHC		
£ per household (NPV 60 yr) webTAG	Noise Benefit to existing households 3dBA reduction to new level	Noise Dis-benefit to new households Increase from 51-54dBA to new level
New level after transfer (dBLAeq 16 hr)	£ per household	£ per household
51-54	3,552	0
54-57	4,040	-3,552
57-60	4,763	-7,592
60-63	5,525	-12,356
63-66	6,301	-17,882
66-69	7,094	-24,182

8. There is a substantial noise impact cost from creating multiple flight paths from existing flight paths and we therefore recommend that the design principle for dispersion be qualified so as to support dispersion for additional flights but not as a reason to re-distribute noise from existing flight paths.

9. The above analysis suggests that in the case of airspace design principles for Heathrow, the substantial existing flight path network and resultant noise climate should not be re-distributed through dispersion. To do so would result in a substantial noise dis-benefit for newly affected people in excess of the benefit to those already affected. The additional noise from the NWR expansion should be distributed only to those newly affected and not to those already affected by the existing noise legacy of a two runway airport. In practice a black and white solution is probably not feasible and, as we said earlier in regard to the proposed community noise objective, a degree of proportionality as between those most and those least affected is probably needed and is reasonable.

RHC recommends a dispersion design principle whereby:
*   **Dispersion is sought for the additional flights from the NWR expansion,**
*   **Noise from existing flight paths is not re-distributed.**
*   **There is no increase in noise impact for those already affected by the two runway airport**.

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

PLEASE SEE ANNEXES A AND B SUBMITTED WITH THIS RESPONSE.

Name: ██████████ Organisation/Representing: RICHMOND HEATHROW CAMPAIGN (RHC)

██████████████████████

	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					Safety is paramount
S2	Workshop 2	Airspace design must be safe	x					Safety is paramount
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground				x		Not possible in densely populated area surrounding Heathrow.
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					RHC recognises that safety is paramount. The CAA says in its 2018 draft Modernisation Strategy that *'the UK's airspace has an excellent safety record that is underpinned by a well-established system of structures, rules and procedures.'* The report does highlight safety improvements needed in dealing with the complex structure, air traffic controller workload and conflicts between general and commercial aviation. But the draft Strategy was based on substantial growth in aviation. **RHC**

								believes that in the absence of growth from a 3rd runway, safety does not need the degree of improvement planned by the Modernisation Strategy. There has not been any update of the Strategy in recognition of reduced growth and there should be, including an assessment of safety.

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 remains in accordance with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.				x	**The Airspace Modernisation Strategy CAP 1711 needs to be updated. It has a number of crucial deficiencies, including:** • **Need for Modernisation.** The drivers for long term aviation demand have weakened and demand is likely to be further constrained by climate change. Expansion of Heathrow goes against the levelling up of the economy across the UK and is increasingly irrational. There is little evidence supporting aviation growth and airport expansion. Focus therefore should be on the question of need for airspace modernisation in the scenario with little or no growth and no airport expansion. • **Airspace Capacity.** RHC supports increased airspace capacity to improve safety and efficiency but is wholly opposed to increased capacity to satisfy increased demand, which the CAA claims is a main reason for modernisation. • **Punctuality, Delay, Resilience Benefits**. The DfT's publication -Upgrading UK

| | | | | | | | Airspace - Strategic Rationale, 2017 (used by the DfT to support its draft Modernisation Strategy) says *'Aviation traffic forecasts from NATS suggest that commercial air transport will grow by around 2% a year in the UK, from 2.25m flights in 2015 to 3.25m flights in 2030.'* The CCC recommends a maximum 0.7%pa to achieve carbon Net Zero (6th Carbon Budget). NATS estimates of future delays, etc., and hence need for modernisation, are therefore hugely overstated. RHC has not been able to find quantification of the benefits of modernisation on operations or the environment in the scenario with little or no growth. This needs to be remedied. |

- **Noise Objectives**: RHC has long argued that Objectives come before Principles and that there is No Local Noise Objective dealing with allocation of noise. This needs to be remedied. See Annex B attached here,

- **WHO** is not on a legal footing but should be and with timetable and targets for noise reduction to WHO levels.

- **PBN and Respite.** Procedures to reduce the impact of noise and in particular noise caused by PBN, such as avoidance of dense populations, respite and relief using multiple flight paths cannot fully mitigate the harmful noise affects of PBN. Analysis to understand respite is woefully inadequate.

							There is a webTAG net noise cost on health and well-being from introducing respite into legacy airspace. See Annex B attached here.
							• **The ICAO Balanced Approach** is failing: reduction of noise at source (too slow - there needs to be an updated forecast for Heathrow's fleet), land use (London's population growth and housing plans are largely ignored but offset reduction of noise at source) and operational (gains are relatively small even in aggregate). Growth restrictions (airspace capacity should be no greater than needed for the 480k passenger planning cap and should be quantified as such in Modernisation plans).
							• **Tier 3 airspace change** is high risk for Heathrow's communities. Airlines can allocate flight frequencies as they wish for commercial and other reasons and yet flight frequency has major impact on noise impact and on health and well being. It is imperative this major gap in flight path design is addressed. See Annex A attached here.
							• **Environmental issues** tend to be given subsidiary significance to commercial and efficiency benefits, notwithstanding the wording of the Modernisation Strategy.

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								Environmental issues should be on no less a footing than efficiency. • Airspace design for 10 to 20 or more years needs to take account of potentially significant technology changes, such as electric and hydrogen propulsion and air taxis and wide use of drones. These changes could have material impact on communities and should be incorporated now into emerging flightpath plans. • **RHC urges Heathrow, as a top priority, to demonstrate that over the next 5, 10 and 15 years there will be a clear reduction in noise impact from both less noisy aircraft and their less noisy use of the airspace. Without this assurance, communities will have good reason to question the serious intent of the modernisation.**
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]	x					See also P1 Balanced Approach
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								

N1	Workshop 1	The design options must not create any more noise for any single community compared to pre-COVID-19 levels	x						• RHC has long promoted a Local Noise Objective dealing with allocation of noise. The Objective supports NI. See Annex B attached here.
N2	Workshops 3,4,6,7,9,11,12	Share the noise	x						• **Fairness.** In the absence of expansion and hence growth in noise energy, noise reduction through less noisy aircraft should be allocated preferentially to those most effected by the legacy airspace structure. • **Multiple Flight paths.** Communities should not be exposed to both departures and arrivals. • **Other Airports.** When integrating flightpaths servicing Heathrow and its 14 + neighbouring airports, the allocation should be fair. The ACP needs to provide communities around each airport with engagement in the environmental impact on them from traffic serving neighbouring airports. At present this is missing. • **Tailor-made flight paths.** There needs to be recognition of the different noise impacts as between arrivals and departures; between easterlies and westerlies; between flight paths tending to serve long and short haul flights and between other modal features. In effect flight paths need to be tailor-made.

								Legacy airspace structure. Changes to legacy airspace structure should be kept to the minimum. **Uncertainty and blight** from changes to aircraft noise patterns and potential controversy in allocating noise across Heathrow's community needs explicit recognition and mitigation. **Respite.** See P1 caution in introducing respite (there is a cost and not only a benefit). See Annex B attached here.
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				- This is about concentration versus dispersion (or concentrated dispersion). RHC agrees but subject to the other criteria referred to in N1 and N2, et al. **WebTAG should optimise average noise per household (i.e. dispersion) NOT total noise (i.e. concentration).** See Annex B attached here.
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities			x			Efficiency benefits should be for the industry. Benefits from less noisy aircraft (noise at source) should all be for the community since the **polluter should pay principle** applies to environmental harm (Noise Policy Statement England)

Relating to aircraft flight profiles									
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite	x						
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				• **Aircraft height.** RHC's modelling demonstrates that height is not necessarily of net benefit taking account of noise from kinetic energy needed from increased power or reduced acceleration and hence reduced speed and longer noise exposure. Aircraft on steeper arrivals may have increased breaking and earlier lowering of undercarriage and reduced safety. The issue is more about noise allocation than overall noise reduction. This is not intended as a blanket response because the impact varies depending on distance from airport and a range of other factors and for example choice of NPD 1 or 2 can reduce noise. Perhaps more important than raising the height of Heathrow's fleet as a whole is the reduction in number of flights that are clearly unnecessarily low. • **Altitude Based Priorities** in the design of airspace underestimate the noise impact from higher altitudes and the official band breakpoints of 4,000 feet and 7,000 feet (amsl) are several thousand feet too low. Noise is prioritised in relation to carbon up

									to 7,000 feet. We realise this is Policy rather than Principle but irrespective of the banding the noise impact is for real
Relating to respite/dispersal									
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite	x						• Caution is needed when introducing respite into legacy airspace structure since it results in a net noise cost (webTAG). See Annex B attached here. • Heathrow currently has 30 flight paths (arrival and departure). Multiple flight paths for each so as to provide mitigation from PBN concentration through dispersion or alternation respite can only provide **partial mitigation** (at least over near to medium distance from the airport) because of lack of airspace. Meaningful mitigation may not be possible in the case of Heathrow and its dense surrounding population.
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths	x						See also N7 and limits to mitigation using multiple flight paths.
N9	Workshop 5	Multiple routes for respite to be operated to a schedule	x						See also N7 and limits to mitigation using multiple flight paths.
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite	x						See also N7

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]	x					See also N7
N12	Workshop 7	Different flight paths for day/night flights			x			The aim should be to minimise noise and its harm to health and well-being. This may or may not lead to different paths for day/night.
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces				x		See N12 and RHC Response to Any Other Design Principles.
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown			x			See N15
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected			x			**Newly Affected.** The aim should be to minimise noise and its harm to health and well-being. This may or may not lead to flights over new people. If there is no expansion and hence no overall increase in noise energy then the RHC Local Noise Objective for allocating noise suggests no re-allocation to new people. If there is expansion and increased overall noise energy then the objective suggests that the increment include new people on the basis that those already suffering high noise levels should not suffer more. See Annex B attached here.
Relating to noise reductions/mitigations								

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise	x					• **Heathrow's insulation programme** has historically fallen way short of what is needed. • Insulation is not a substitute for peace and quiet, especially for children and the vulnerable and for the outdoors. • Also, rehousing communities around the perimeter of the Airport is unjustified and strongly opposed by local communities.
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)	x					**WHO Guidelines** are not on a legal footing but should be. Government has resisted this for 30 years and as with air quality and CO2, noise must be given a legal basis. There should be a timetable and targets for noise reduction to WHO levels.
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise	x					This in line with RHC's Local Noise Objective for allocating noise. See Annex B attached here.
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)	x					This in line with RHC's Local Noise Objective for allocating noise. See Annex B attached here.
Relating to limiting impacts/health impacts			**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						This in line with RHC's Local Noise Objective for allocating noise. See Annex B attached here.
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change	x						This in line with RHC's Local Noise Objective for allocating noise. See Annex B attached here.
N22	Workshop 4	Minimise the negative impacts on health from night flights	x						**Night flights** have a high impact on health and well-being. RHC proposes an 8 hour ban (11pm to 7am) by re-allocating night flights in that period to the day time. There is sufficient day capacity at Heathrow for this.
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP	x						RHC goes further and says no one should experience an increase under the circumstances where there is no expansion and increase in overall noise energy. See Annex B attached here.
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						The use of **overflight** has become distorted from its original purpose. Overflight fails to recognise the full spread of noise laterally and substantially ignores many people significantly effected. The overflight tool should not be used in design unless it is redesigned to cover the appropriate area. E.g. A LOEL 51 dBA contour can be 10km wide on departures while the overflight tool covers only to a fraction of this.

General								
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					**Technical barrier**. Aircraft computers do not have capacity for multiple flightpath coding alongside PBN at all the airports the aircraft visit globally. Even as computers are upgraded, the aircraft visiting Heathrow have an average life of 25 years so many will not be compliant. Complexity is dangerous especially as many pilots visit Heathrow intermittently given their airline's global coverage.
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits	x					Simplicity is essential for pilots and ATC.
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					See also response to N2 regarding multiple flight paths and other airports.
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible	x					Local residents should not be exposed to excessive noise from within the airport.
N29	Workshop 9	Make use of open spaces/parks etc.				x		RHC has substantial reservations – see RHC response to Any Other Design Principles
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					See also N6

E2	Workshop 1	Minimise fuel burn, CO$_2$, greenhouse gases and all other contributors to climate change			x				• There will be an increased conflict between noise, CO2 and air pollution mitigation. That is until zero CO2, zero noise and zero pollution are achieved (the three zeros) but probably not before 2050! • RHC suggests that generally CO2 reduction will be relatively small in the lower airspace around Heathrow compared to total CO2 from aviation and that effort should be focussed on CO2 reduction in a wider context and that locally around Heathrow noise and air pollution should be the priority.
E3	Workshop 2	Operate flights in the most CO$_2$ efficient/friendly way		x					See also E2
E4	Workshop 3	Must not degrade air quality		x					See also E2
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO$_2$ impacts	x						See also E2
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					See also E2
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					See also E2
E8	Workshop 8	The airspace change should deliver an overall CO$_2$ reduction for Heathrow's operation. If		x					See also E2

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		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)						
E9	Workshop 12	Prioritise noise over carbon		x				See also E2
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance				x		See also E2
Technology			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
T1	Workshop 1	Future airspace change should use modern technology		x				Subject to mitigating the significant health costs of PBN on local communities.
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available		x				See also T1
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments		x				See also T1
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts		x				See also T1
T5	Workshop 12	Minimise the impact of future change		x				See also T1
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				• But RHC strongly opposes increased number of flights (mixed mode or otherwise).

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								• RHC opposes the additional 25,000 ATMs a year previously proposed by Heathrow. • RHC opposes the introduction of Independent Parallel Approaches. • RHC has considerably reservations about introducing curved flight paths and locating arrival joining points nearer the airport.
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays		x				
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)		x				• Heathrow needs to make good use of noise, CO2 and Air Quality Action Plans. • RHC has proposed to Heathrow a Greenhouse Gas quota scheme for the larger emitters to manage their contribution to climate change.
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule	x					See also N22
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)		x				But there are limits that should not be breached such as excusing late runners on account of weather. Dual runway use and breach of respite should not be allowed on account of weather.

									On the other hand, Time Based separation is an example of good practice.
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints			x				RHC is concerned that performance is treated as the objective and the environment as the constraint and on a lesser footing. Both performance and the environment should be given no less status and objectives.
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations		x					
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?

Avoidance of Dense Populations. PBN introduces precision and flexibility and some noise relief may be possible through use of PBN to navigate around dense populations (say over parkland). But in the south east and across densely populated London around Heathrow, for example, it seems unlikely there will be sufficient airspace to allow enough flight path separation to give meaningful relief, especially if the number of flights is increased through expansion. Furthermore, air traffic directed over, say, The Royal Botanic Gardens, Kew or over Richmond Park has to fly over dense populations surrounding these parks and the parks themselves are highly vulnerable to noise due to the large number of visitors. This raises the question of compliance of airspace design with designated Areas of Outstanding Natural Beauty (AONB) and National Parks and Quiet Areas. RHC is concerned that Heathrow has in mind greater use of Richmond Park for overflight for arrivals on Westerlies (i.e. from the east) and departures on Easterlies (i.e. to the east), which would potentially increase the noise impact over Richmond and other communities.

Letter boxes in and out of Lower Airspace. RHC suggests the letter box structure is critical to flight path design in Lower Airspace (up to 7,000 feet). There appear to be no design Principles for the letter box structure. Possibly the intention is flexibility with no formal structure. But with design seeking to remove holding stack use for most of the time then presumably the Principle is to reduce queuing and to require aircraft to approach directly from further afield. This subject needs clarification.

RHC Addit | **Sound Absorption may be over-estimated leading to an under-estimate of noise impact.** The CAA's Ancon model assumes a sound absorption rate of an 8 decibel reduction for every doubling of propagation distance. A 6 decibel reduction is the adjustment according to basic physics and brief examination of why 8 decibels is used

ional Issue	by the Ancon model indicates it was chosen in 1997 to represent an airframe adjustment. RHC is not aware it has been validated and a lot has happened to airframe design in 20 years and noise thresholds have been reduced making the point more relevant. RHC estimates that in the case of Brockman's Park departures the 50dBA footprint comparing 8 versus 6 decibel reduction increases the area of a single event 90 second Leq from 167 km2 to 313 km2 (x1.9), an hourly (9 flights) Leq from 92 km2 to 142 km2 (x1.5) and the annual Leq (70% westerlies) from 78 km2 to 114 km2 (x1.4). These are very material differences and the matter needs investigation.

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name... ████████████████████ .... Organisation/Representing......Teddington Action Group.......

	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	*					
S2	Workshop 2	Airspace design must be safe	*					
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground			*			Due to Heathrow's location in the middle of a highly populated area flying over dense populations cannot be avoided.
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					*	Safety standards cannot be compromised for those in the air or on the ground. After safety, Airspace Navigation Guidance (ANG) 2017 requires minimising significant adverse noise impacts on impacted communities is to be the next priority. ANG makes it clear in designing airspace noise is the first priority (after

							safety) up to 4000ft and between 4-7000ft can only be balanced against CO2 – note not fuel savings, engine maintenance cost or other commercial considerations. It could be implied from the way this principle is worded that safety standards might be subject to limitation due to other – potentially commercial – considerations. **This is unacceptable, and this principle should be rejected as it does not add anything.**
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 remains in accordance with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.				*	**This suggested principle adds nothing to the general position applicable to airspace modernisation and lacks clarity as it stands (in fact it reads as if the CAA is asking for a blank cheque in the future). It should not be used for the purposes of the present airspace modernisation programme.** Clearly the whole issue of airspace modernisation should comply with best practice. ANG sets out national policies regarding noise and health which have legal effect

| | | | | | | | and airspace modernisation needs to be subject to these.

There is a major omission in Heathrow's airspace modernisation strategy and the CAA's CAP 1616 process in that there is not an accepted evidence base for arriving at airspace modernisation design decisions – in particular regarding what causes significant adverse impacts, especially in relation to PBN, where international evidence (particularly in the US) makes it clear there are very significant health/quality of life impacts arising from concentration of flight paths and low flying.

It is evident within its guidance notes that the CAA is aware of the dangers of creating noise sewers under concentrated flight paths as well as the importance of departures and arrivals flying higher. This is especially important in the case of Heathrow as the airport is situated within a densely populated area and already causes the worst environmental impacts in the UK and Europe.

A presentation was made to the HCNF on 20 October 2021 regarding these issues and a response should be provided before airspace design |

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								principles around Heathrow are progressed further.
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]		*				This is self-evident but this should not be used to override safety and health/noise/wellbeing concerns which are reflected in adopted national policies (see above).
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create any more noise for any single community compared to pre-COVID-19 levels	*					Flights to and from Heathrow already cause unacceptable levels of noise impact – way above WHO recommended levels - to millions of people living in London and the southeast. Noise sewers must be avoided at all costs as these will cause the most serious adverse impacts and potentially blighted and stigmatised neighbourhoods – this is evident from USA evidence. **The principle, whilst having merit and serving as a limitation on airspace redesign, as stated it is overly simplistic and needs to be qualified**.

| | | | | | | | | The overriding objective is set out in national policy, which in relation to aviation noise is to **avoid, minimise or mitigate the industry's significant adverse impacts, judged by effects to health and wellbeing.** If this cannot be achieved immediately Heathrow needs to use its best endeavours to work towards achieving WHO recommended noise standards in relation to environmental noise, so that every community is protected as far as possible. This may mean that noise needs to be shared on a more equitable basis between communities – but in any event no communities already suffering noise over the LOAEL at 51 dBLAeq on **single mode** should suffer noise levels to a greater extent than 2019. Not making any community already impacted worse off should be an overriding consideration in redesigning airspace |
| N2 | Workshops 3,4,6,7,9,11,12 | Share the noise | * | | | | | | Please see above. Workshop 1 discussed this point, and it was agreed that **noise should be shared on a fair and equitable basis.** |

N3	Workshops 3, 6	Future airspace change should result in a larger number of people slightly annoyed, rather than a smaller number significantly annoyed	*					**This objective should be a fundamental component of Heathrow's airspace modernisation programme.** In order to avoid noise sewers and the outcomes experienced in the US (as well as seen in Heathrow's own PBN trials) it is essential best endeavours are used to achieve managed dispersion as well as optimising the use of airspace around Heathrow to create meaningful respite for all communities.
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities					*	It should be noted that the experience in the US is that the commercial benefits of PBN have been vastly overstated (please see HCNF presentation on 20 October). This objective as stated may imply that economic gains for the airport and airlines should be traded against fundamental health, safety and environmental considerations. **This is not a correct interpretation of the ANG (which has legal effect), where safety and noise/environmental take precedence over commercial considerations up to 7000ft.**
Relating to aircraft flight profiles								

N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite	*						**This should apply beyond the runway ends and especially on easterly departures best efforts should be used to achieve acceptable living conditions through managed dispersion and meaningful respite up to 7000 ft.** The expiration of the Cranford Agreement should be used as an opportunity to relieve areas currently experiencing the most intense levels of noise on easterly departures. This should involve noise sharing – please see earlier responses.
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	*						**This is essential. ICAO advocates the use of NADP1 (not NADP2) over densely populated residential areas near airports (such as Heathrow).** Higher climb rates of departures (which are achievable as demonstrated by independent aviation consultants TO70) will very significantly reduce the adverse impacts of low flying which has been allowed to develop in recent years (apparently for commercial reasons). This accounts for the much higher complaint and annoyance levels than experienced prior to the 2014 PBN trials.

									There are already aircraft, including long haul, that operate NADP1 type procedures out of Heathrow. Unfortunately, the examples are minority users of Heathrow so the adverse impacts of shallow climbs are felt severely with the likes of BA and Virgin operating them. Heathrow should mandate significantly steeper climb rates to all airline users in future. It should also be noted that people are annoyed by aircraft they hear flying over them i.e. noise events, not theoretical average sound levels. The industry funded and pro aviation CAA arrives at incorrect conclusions in this regard in CAP 1498.
Relating to respite/dispersal									
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite	*						**An evidence base is required to implement this objective.** In order to implement this principle, there needs to be a clear understanding of what flight path separation is needed to achieve meaningful respite. All areas under departure and arrival flight paths should be offered a minimum of 8 hours per day respite when subject to overflight due to operational mode.

| N8 | Workshop 4 | Share the noise through managed distribution over multiple flight paths | * | | | | | | As evidenced in the US and Heathrow's own PBN trials in 2014, in order to avoid serious environmental damage to established residential communities, **highly concentrated flight paths (previously termed 'noise sewers' by the CAA) caused by highly concentrated flight paths need to be avoided at all costs.**

Further research needs to be undertaken to establish whether this is best achieved through managed dispersion, truly meaningful respite or a combination of both (see above).

Underpinning these decisions an evidence base is required to ensure that significant adverse impacts of aviation noise are understood and avoided wherever possible or progressively minimised where not.

At present such an evidence base does not exist. **It is essential that Heathrow commissions research to be undertaken on an independent basis (not through the CAA) given its unique location and noise footprint.**

In other words, if airspace is to be modernised around Heathrow at all bespoke innovative solutions will be required at lower altitudes (i.e., below |

							7000ft) – not industry generated standardised solutions which may be applicable to airports not surrounded by high population densities (disregarding the impacts on communities living under or close to flight paths).
N9	Workshop 5	Multiple routes for respite to be operated to a schedule	*				Please see earlier comments.
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite	*				Please see earlier comments.
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]		*			Please see earlier comments (but unclear what the bracketed wording means).
N12	Workshop 7	Different flight paths for day/night flights			*		**Night flights should not be permitted after 2024.**
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces				*	Subject to achieving meaningful noise separation (and sufficient duration) the principle of predictable respite during the day can play an important part in noise mitigation strategy. However, as noted above all night flights should be banned after 2024. **It should also be pointed out that the aviation industry's historic concept that flights – day or night – should be concentrated over open spaces, whilst superficially appearing a**

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								simple solution, has not been properly thought through. First, established residential communities will need to be flown over to get to and beyond open spaces. Consequently, if this principle were to be adopted for future airspace strategy, **such areas will become blighted and potentially unfit for human habitation.** Secondly, in fact there is a very strong case for parks and open spaces to be avoided during the day **as these are locations where very large numbers of people go for recreation, peace and tranquillity.** Richmond, Bushy and Home Parks are prime examples.
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown					*	Given Heathrow's already unacceptable noise impacts, sadly this will not be possible. Please see earlier comments concerning noise sharing.
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected		*				The noise burden needs to be shared subject to not causing significant adverse impacts (i.e., ANG must be applied).

Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise	*						**The first step should always be to reduce noise at source.** As noted, – and accepted by the CAA in its guidance - this can be achieved by implementing higher departures and arrivals as far as possible. Heathrow should also incentivise the use of modern quieter aircraft through differential airport charges.
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)	*						This is required under ANG and without any other appropriate evidence base WHO guidance (which resulted from a world-wide meta-analysis) should be used as the default starting point.
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise	*						**This is implicit from the official aviation noise policy set out in ANG 17.** The main problem with the principle as suggested is the absence of a robust evidence base and Heathrow should address this by commissioning independent research. Please see earlier comment.
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)	*						Every effort should be made to help those most significantly impacted. However, see comment above

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								regarding the need to establish an appropriate evidence base on which to make informed decisions.
Relating to limiting impacts/health impacts			**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	*					See earlier comments – particularly in relation to proposed Principle N1.
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change	*					See above.
N22	Workshop 4	Minimise the negative impacts on health from night flights	*					There should be a total 8-hour Night Flight Ban after 2024.
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP					*	Whatever Heathrow does it will impact very large numbers of people due to its unique location in the middle of a densely populated area. This suggested principle seems to emanate from the old now obsolete aviation noise policy which used a simplistic '**minimise total'** numbers approach. Rightly **this has been superseded by the current national policy set out in ANG 2017**. This states that adverse (health and wellbeing) impacts should be minimised. When it considered flight path design options, **the Airports Commission (advised by the CAA) found that the**

								lowest monetised health impacts resulted from 'maximum respite' rather than minimising newly affected or minimise total options. This is also reinforced by CAA research carried out for Heathrow in relation to the monetised health benefits of splitting a single PBN route.
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)	*					**The CAA's definition of overflight is potentially misleading as it does not reflect aviation's real impacts.** Noise is noise and will cause damage whether created by aeroplanes inside or outside the CAA's theoretical cones. **The best measure of noise impact is through the use of N> metrics, particularly at 65 and 70 dBLAmax during the day and 60 dBLAmax at night.** It appears that the CAA apparently prefers the use of overall average 'legacy' dBLAeq metrics, as these can be used as a device to justify ATM expansion by assuming theoretically quieter planes (projected into the future) rather than the actual noise levels of individual flights and the number of overheard aircraft movements (which are the actual cause of 'annoyance').

							ICAO has recognised that LAeq metrics only account for approximately one third of community annoyance. SoNA 2nd edition does not recognise or address this finding and this is likely to be one of the factors that led ICCAN to recommend a new national noise impact survey should be undertaken.
General							
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)				*	Aviation needs to do all it can to minimise the harm caused by its operations. This is reflected in national noise policy set out in ANG 17 – see earlier comments. **If aviation cannot find solutions to the problems caused by proposed airspace modernisation (evidenced in the US and the 2014 PBN trials) the redesign of airspace around Heathrow should not proceed.**
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits				*		Best endeavours are required to ensure the harmful impacts of aviation (through noise and atmospheric pollution) are minimised. **It should be taken into consideration that airspace modernisation is likely to be a once a generation event,**

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	
								which must address aviation's adverse impacts. Given Heathrow's location and the present level of its impact it is essential that every opportunity to achieve noise reduction should be taken – for short, medium and long term societal benefit.
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	*					**It is essential that communities are not overflown by multiple routes and in particular by both departures and arrivals** (which would mean that meaningful respite would be severely curtailed).
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible	*					This is essential. In addition, airborne noise should be minimised by mandating both departures and arrivals to fly higher.
N29	Workshop 9	Make use of open spaces/parks etc.				*		Please see earlier response – N13.
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	*					Noise minimisation must be the top priority, not negotiable up to 4000ft and balanced only against CO2 considerations up to 7000ft.
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change			*			See above response – E1. Below 4000ft noise is the top priority (after safety). Between 4-7000ft a balanced decision

							can be taken involving noise and CO2 **although this must be subject to rigorous justification** (and not exploited to save fuel costs for airlines). The best way of reducing CO2 is to reduce the number of flights, use more efficient planes and ultimately people flying less.
E3	Workshop 2	Operate flights in the most CO$_2$ efficient/friendly way			*			Not applicable below 4000ft and must be balanced between 4-7000ft. Above 7000ft flights should be operated in a way that **minimises all greenhouse gas emissions including CO2, NOX, vapour contrails and particulates.**
E4	Workshop 3	Must not degrade air quality		*				This is more likely to be achieved through use of modern aircraft types and flying at higher altitudes. It should not be used as an argument to trump noise at low altitude (although in practical terms this principle is also likely to align with noise minimisation).
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO$_2$ impacts		*				Please see earlier responses including E1.
E6	Workshop 7	The airspace design should deliver a net CO$_2$ benefit across Heathrow's operation whilst delivering noise benefits below 7000 feet	*					See earlier responses, in particular E3. Noise is the priority at low altitudes – all aviation's emissions contributing to

								global warming should be minimised within this parameter.
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	*					See earlier responses, in particular E3. Noise is the priority at low altitudes – all aviation emission contributions to global warming should be minimised.
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)					*	This suggested principle is misguided and should be discounted. Under ANG noise is the only priority (after safety) below 4000ft and can only be balanced against CO2 between 4000 and 7000ft. Above these levels given international climate change limitation commitments all aviation emission contributions to global warming should be minimised. **There is no moral or legal basis for trade off.**
E9	Workshop 12	Prioritise noise over carbon	*					This is mandatory below 4000ft and carbon can only be balanced against noise between 4-7000ft. See earlier responses.
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance					*	Noise minimisation is the priority and mandatory below 4000ft. Carbon can

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								only be balanced against noise between 4-7000ft. See earlier responses, in particular E3. Noise is the priority at low altitudes – all aviation emission contributions to global warming should be minimised.
Technology								
T1	Workshop 1	Future airspace change should use modern technology			*			Subject to noise, other environmental and safety considerations being met.
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available			*			Subject to noise, other environmental and safety considerations being met.
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments			*			Subject to noise, other environmental and safety considerations being met.
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts		*				This depends on what societal impacts are being mitigated. See earlier responses concerning noise and environmental priorities.
T5	Workshop 12	Minimise the impact of future change			*			Needs further definition and clarification.
Operational Performance								
OP1	Workshop 1	Future airspace change should enable Heathrow to make the most efficient use of its runways, subject to environmental commitments			*			Unclear as stated – what is meant by 'efficient' and exactly what are the 'environmental commitments'?

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								Please see earlier comments regarding noise and environmental overriding priorities.
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays					*	It depends on the extent and cause of 'extensive ground delays'. This should not override noise or other environmental priorities.
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)			*			Unclear. Depends on what the 'design' entails, what 'benefits' are concerned, what is meant by 'monitoring' and what the 'KPIs' are.
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule				*		It is up to Heathrow to ensure it plans its schedule to operate within caps and constraints imposed at night for environmental reasons.
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)					*	This should not be an airspace design principle – it concerns operations. It should be remembered that aviation in general and Heathrow in particular is a major contributor to extreme weather caused by climate change!

OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints				*		It's not clear what this means without knowing what the 'performance targets' and 'environmental/noise constraints' are. Once again this appears to be an operational aspiration rather than an airspace design principle.
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations					*	It is unclear what this means and what the implications would be. Northolt should be closed it is major constraint on flight path design and noise sharing around Heathrow. It would also make a very good housing site!
OP8	Workshop 10	Minimise impacts on other airspace users					*	It is unclear what this means and what the implications would be.
OP9	Workshop 12	Designs should enable a reduction in stack holding		*				OK assuming other noise and environmental constraints are met first.

Any other design principles we should consider?
Please see email dated 6 October together with enclosure and presentation to the HCNF on 20 October 2021. A response to the matters raised in both documents has been requested.

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name...........⬛⬛⬛⬛⬛⬛⬛⬛⬛ Organisation/Representing.....The Windlesham Society.....

	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					
S2	Workshop 2	Airspace design must be safe	X					
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground					X	If there is a genuine risk to anyone in the UK population from overflight then airports should be re-sited - this has happened in Hong Kong and other major airports around the world. It is immoral and unfair to expose deliberately some people to significant risk because of where they live. Any risk should be fairly shared.
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					

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 remains in accordance with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.					X	The health impacts of aircraft noise are the highest priority for those UK communities impacted by overflight from Heathrow. We do not know what the CAA's current and future plans are and hence we cannot agree with them.
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]					X	This gives communities with local plans and policies an unfair advantage - the UK Government has a duty of care to all UK residents
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels					X	If Heathrow is to allow airlines to fly over all communities within a 20mile radius of the airport then some communities which have had little or no aircraft noise should expect to have some noise in future in the interests of fairness. Measurable targets should be set for a 'total acceptable noise dose' - this should add together all the noise experienced by a community - aviation noise - easterly and westerly operations and arrivals and departures - plus GA,

								military aviation and other transport & noise sources.
N2	Workshops 3,4,6,7,9,11,12	Share the noise	X					
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					
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities			X			It is not clear what this means and we would welcome clarification.
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite	X					
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					
Relating to respite/dispersal								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite					X	We do not want concentration and respite. Dispersion is the only and fairest way particularly for communities further away from the airport where it is more easily viable.
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths					X	See N7.

N9	Workshop 5	Multiple routes for respite to be operated to a schedule					X	See N7.
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite					X	See N7.
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]					X	See N7.
N12	Workshop 7	Different flight paths for day/night flights					X	Night flights should be eliminated and for health reasons the UK population should be given the opportunity for 8 clear hours of sleep during night time hours.
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces					X	See N7 and N12.
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown					X	Every community in the vicinity of the airport needs to take its fair share of noise - any increase in noise for any community should be limited to a small % increase on current levels - the trials of 2014 proved that communities will not accept significant changes in noise levels from overflight
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected	X					

		Relating to noise reductions/mitigations						
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise	X					
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)	X					
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise			X			Agree to some extent. However, this will push the noise to other communities. Individuals who choose to live close to the airport must expect aircraft noise
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)			X			See N18.
		Relating to limiting impacts/health impacts	**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			
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change			X			See N18.
N22	Workshop 4	Minimise the negative impacts on health from night flights	X					However, the aim should be to eliminate night flights. At the workshop, we asked for 8 clear hours of sleep per night.
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP					X	The noise needs to be fairly and equitably shared amongst all

								communities impacted by overflight from Heathrow. This principle could lead to noise increases being loaded on communities in less densely populated areas who have likely opted to live in quieter places! A better principle would be "the level of noise increase experienced by any community due to this ACP should not exceed [% to be discussed with communities]".
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				
General								
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			
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits				X		All noise benefits are valuable.
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					This is absolutely crucial.

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible			X			Not likely to be possible. It is still noisy 20km from the airport.
N29	Workshop 9	Make use of open spaces/parks etc.			X			It depends on the time of day and each open space/park needs to be considered on its merits
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				This should be amended to "below 7000 feet".
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change					X	Noise should be the priority below 7000 feet. Reductions in CO_2 etc should come from improvements in aircraft design and fuel management and not at the expense of noise for communities. Airport charges should reflect (and incentives be designed) to reward airlines which have invested in greener, quieter aircraft.
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way					X	See E2.
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					Aircraft are still very noisy between 4000 and 7000 feet.

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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		See E2.
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		See E2.
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			See E2.
E9	Workshop 12	Prioritise noise over carbon	X					If planes are to continue to fly over millions of UK residents then the health dis-benefits due to noise must be minimised. However, it would be better to move airports away from populations and then prioritise carbon reduction
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance			X			See E2.
Technology			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
T1	Workshop 1	Future airspace change should use modern technology			X			Modern technology is vital and should be used to reduce the dis-benefits of overflight to the health and wellbeing of communities around Heathrow. Modern technology should not be allowed to

								create "noise sewers" (eg through PBN or IPA) as a consequence of maximising Heathrow's efficiency and capacity.
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available			X			See T1.
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments			X			See T1. This needs further explanation. What does this "future proofing" involve?
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					
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 should be amended to read "environmental commitments and noise impact for communities". This is especially relevant for IPA, which we strongly oppose, particularly during night time hours and early in the morning.
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays					X	Clarity required on the meaning of "flexibility of the route structure". Health and wellbeing of local communities should not be jeopardised to resolve serious flight delays.

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)		X				
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule			X			This "efficient use" should not include IPA, which we oppose. Night flights should be eliminated entirely.
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)			X			You need to be really clear what you mean by "operational flexibility". We oppose IPA.
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			X			
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?

	SMART objectives should be agreed on all principles, avoiding the use of vague terms should as "minimise" etc
	For principle N22, at Workshop 4 we asked for 8 clear hours of sleep per night ie a ban on night flights. This principle has been misrepresented.

We suggest N23 is replaced by "The level of noise increase experienced by any community due to this ACP should not exceed [% to be discussed with communities]"

2. Phase 1 feedback - Industry Organisations/Groups

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name............_____..................................... Organisation/Representing.......Biggin Hill Airport...

	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	✓					
S2	Workshop 2	Airspace design must be safe		✓				
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground		✓				
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	✓					
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 remains in accordance with the CAA's published Airspace Modernisation Strategy		✓				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		(CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]		✓				
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels		✓				
N2	Workshops 3,4,6,7,9,11,12	Share the noise		✓				
N3	Workshops 3, 6	Future airspace change should result in a larger number of people slightly annoyed, rather than a smaller number significantly annoyed		✓				
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities		✓				
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite		✓				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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	✓					
Relating to respite/dispersal								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite		✓				
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths		✓				
N9	Workshop 5	Multiple routes for respite to be operated to a schedule		✓				
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite		✓				
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]		✓				
N12	Workshop 7	Different flight paths for day/night flights		✓				
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces		✓				
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown		✓				

| N15 | Workshop 8 | Overfly new people if it delivers benefits to those currently affected | | ✓ | | | | |

| *Relating to noise reductions/mitigations* | | | | | | | | |

N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise		✓				
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)		✓				
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise		✓				
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)		✓				

Relating to limiting impacts/health impacts			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			✓			
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change		✓				
N22	Workshop 4	Minimise the negative impacts on health from night flights		✓				
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP		✓				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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)		✓				
General								
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)		✓				
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits			✓			
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		✓				
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible		✓				
N29	Workshop 9	Make use of open spaces/parks etc.			✓			
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						

E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change		✓				
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way		✓				
E4	Workshop 3	Must not degrade air quality		✓				
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO_2 impacts			✓			
E6	Workshop 7	The airspace design should deliver a net CO_2 benefit across Heathrow's operation whilst delivering noise benefits below 7000 feet		✓				
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		✓				
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)		✓				
E9	Workshop 12	Prioritise noise over carbon			✓			
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance		✓				

Technology			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
T1	Workshop 1	Future airspace change should use modern technology	✓					
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available	✓					
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments		✓				
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts	✓					
T5	Workshop 12	Minimise the impact of future 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		✓				
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays		✓				
			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments

OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)		✓				
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule		✓				
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)		✓				
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints		✓				
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations	✓					
OP8	Workshop 10	Minimise impacts on other airspace users	✓					
OP9	Workshop 12	Designs should enable a reduction in stack holding		✓				
Any other design principles we should consider?								
1	Heathrow should consider the effect of any changes in its flight routes on the behaviour of other airspace users making the use of the airspace around Heathrow, including adjacent airfields and their route requirements.							

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name........ ███████ .... Organisation/Representing...........British Airways

	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					
S2	Workshop 2	Airspace design must be safe	X					
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground			X			
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				
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 remains in accordance with the CAA's published Airspace Modernisation Strategy	X					

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		(CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]		X				

Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create any more noise for any single community compared to pre-COVID-19 levels	X					
N2	Workshops 3,4,6,7,9,11,12	Share the noise	X					
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					
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities		X				
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite		X				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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		
Relating to respite/dispersal								
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				
N9	Workshop 5	Multiple routes for respite to be operated to a schedule		X				
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite		X				
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]		X				
N12	Workshop 7	Different flight paths for day/night flights			X			
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces				X		
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown				X		

N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected		X				
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise			X			_New engine technology will reduce noise by itself_
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)				X		
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				
Relating to limiting impacts/health impacts			**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				
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				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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		
General								
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				
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits		X				
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		*Impossible to do effectively*
N29	Workshop 9	Make use of open spaces/parks etc.			X			
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		*Noise & CO2 should be considered together with equal weighting)*

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change		X				
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way		X				
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				
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**

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
T1	Workshop 1	Future airspace change should use modern technology	X					
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available	X					
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				
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					
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays		X				
			Strongly Agree	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)		X				
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule	X					

OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)	X				
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		X			
OP8	Workshop 10	Minimise impacts on other airspace users			X		
OP9	Workshop 12	Designs should enable a reduction in stack holding		X				*If point merge considered must include a shorter point merge to facilitate fuel planning as well a the full point merge procedure*

Any other design principles we should consider?
Climb gradients imposed purely for noise mitigation must be an average climb gradient not a 'never dip below' gradient. This allows for optimum acceleration altitudes to be flown, which is a CO2 saving (i.e. climb gradients reduce during the acceleration phase).

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name. ████████ ....   Organisation/Representing. British Helicopter Association..........

	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						
S2	Workshop 2	Airspace design must be safe						
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground						
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	Yes					
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 remains in accordance with the CAA's published Airspace Modernisation Strategy	Yes					

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		(CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]						
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels						
N2	Workshops 3,4,6,7,9,11,12	Share the noise						
N3	Workshops 3, 6	Future airspace change should result in a larger number of people slightly annoyed, rather than a smaller number significantly annoyed						
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities		Yes				
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite						

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		Yes				
Relating to respite/dispersal								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite						
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths						
N9	Workshop 5	Multiple routes for respite to be operated to a schedule						
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite						
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]						
N12	Workshop 7	Different flight paths for day/night flights						
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces		Yes				
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown					No	

N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected		Yes				
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise						
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)		Yes				
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise						
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)						
Relating to limiting impacts/health impacts			**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						
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change						
N22	Workshop 4	Minimise the negative impacts on health from night flights						
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP						

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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)		Yes				
General								
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)		Yes				
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits		Yes				
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						
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible				NO		Not possible
N29	Workshop 9	Make use of open spaces/parks etc.					NO	Avoid parks where people go for leisure
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				No		

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change						
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way	Yes					
E4	Workshop 3	Must not degrade air quality						
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO_2 impacts						
E6	Workshop 7	The airspace design should deliver a net CO_2 benefit across Heathrow's operation whilst delivering noise benefits below 7000 feet	Yes					
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						
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)						
E9	Workshop 12	Prioritise noise over carbon						
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance	Yes					
Technology			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
T1	Workshop 1	Future airspace change should use modern technology						
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available						
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments	Yes					
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts						
T5	Workshop 12	Minimise the impact of future 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	Yes					
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays						
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)						

OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule						
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)						
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints						
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations						
OP8	Workshop 10	Minimise impacts on other airspace users						
OP9	Workshop 12	Designs should enable a reduction in stack holding						
Any other design principles we should consider?								
	Safety for other users in the surrounding airspace							

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name... Organisation/Representing....MOD..

	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					
S2	Workshop 2	Airspace design must be safe	x					
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground			x			
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				
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 remains in accordance with the CAA's		x				

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			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]			x			
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels			x			
N2	Workshops 3,4,6,7,9,11,12	Share the noise			x			
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			
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities		x				
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite			x			

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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			
Relating to respite/dispersal								
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			
N9	Workshop 5	Multiple routes for respite to be operated to a schedule			x			
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite			x			
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]			X			
N12	Workshop 7	Different flight paths for day/night flights			x			
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces			x			
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown			x			

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			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected			x			
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise			x			
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)			x			
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			
Relating to limiting impacts/health impacts			**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			
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			

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			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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			
General								
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			
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits		x				
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			
N29	Workshop 9	Make use of open spaces/parks etc.			x			
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			

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Classification: Public

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change			x			
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way			x			
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			
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**

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			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
T1	Workshop 1	Future airspace change should use modern technology		x				
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available		x				
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			This is too vague to be meaningful
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				
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays		x				
			Strongly Agree	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)		x				

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OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule		x				
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)		x				
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	x					
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?								

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HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name. ███████████.....................Organisation/Representing.......Denham Airport (EGLD)...

	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	🟩					
S2	Workshop 2	Airspace design must be safe						
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground						
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		🟩				
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 remains in accordance with the CAA's published Airspace Modernisation Strategy			🟩			

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		(CAP 1711) and any current or future plans associated with it.			■			
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]		■				

Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels				■		
N2	Workshops 3,4,6,7,9,11,12	Share the noise		■				
N3	Workshops 3, 6	Future airspace change should result in a larger number of people slightly annoyed, rather than a smaller number significantly annoyed		■				
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities	■					
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite	■					

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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	■					
Relating to respite/dispersal								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite		■				
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths		■				
N9	Workshop 5	Multiple routes for respite to be operated to a schedule		■				
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite		■				
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]						
N12	Workshop 7	Different flight paths for day/night flights						
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces						
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown			■			

ID	Workshop	Description	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected		■				
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise		■				
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)		■				
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise		■				
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)		■				
Relating to limiting impacts/health impacts			**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	■					
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change		■				
N22	Workshop 4	Minimise the negative impacts on health from night flights		■				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP	■					
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)		■				
General								
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)		■				
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits		■				
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		■				
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible		■				
N29	Workshop 9	Make use of open spaces/parks etc.		■				
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						
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change						
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way						
E4	Workshop 3	Must not degrade air quality						
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO_2 impacts						
E6	Workshop 7	The airspace design should deliver a net CO_2 benefit across Heathrow's operation whilst delivering noise benefits below 7000 feet						
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						
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)						

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
E9	Workshop 12	Prioritise noise over carbon						
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance						
Technology			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
T1	Workshop 1	Future airspace change should use modern technology	🟩					
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available	🟩					
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments	🟩					
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts	🟩					
T5	Workshop 12	Minimise the impact of future 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	🟩					
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays	🟩					

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)	■					
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule		■				
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)		■				
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints		■				
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations		■				
OP8	Workshop 10	Minimise impacts on other airspace users	■					
OP9	Workshop 12	Designs should enable a reduction in stack holding		■				

Any other design principles we should consider?

Denham DP1	Reduce the overall footprint of controlled airspace
Denham DP2	Allow equitable access to all volumes of CAS to other airspace users

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name........████████████...................................... Organisation/Representing: London City Airport ......

	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				Agreed that design must maintain or improve current standards of safety.

Disagree as there is no need to specify ground or air. If it was less safe than today, then it wouldn't be able to progress. |
S2	Workshop 2	Airspace design must be safe		X				
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground				X		
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				
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 remains in accordance with the CAA's	X					Strongly agree as its mandatory

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]		x				Should either assume this would be mandatory (policy) , or split this into sub-Design Principles (DP). Each design must be evaluated against each DP, and this has multiple factors where a design may meet one element of this DP but not another, causing challenges for the evaluator.

Noise			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels					x	These give indication for multiple routes for respite.

Compliance with N1 would be impossible to evaluate effectively, clarification on what is the definition of 'community' and 'more noise' – required.

N3 suggest the removal of one single route that may provide other benefits, shifting towards a respite or managed dispersal. |
N2	Workshops 3,4,6,7,9,11,12	Share the noise					x	
N3	Workshops 3, 6	Future airspace change should result in a larger number of people slightly annoyed, rather than a smaller number significantly annoyed						
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities						

Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite						This is a good proposal if it's specified to 4000ft, then the respite routes should start to join above 4000-7000ft. Otherwise LHR will need lots more airspace to contain multiple routes a couple of miles apart to 7000ft.
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					It is recommended that this is split into two separate Design Principles (arrivals and departures).
Relating to respite/dispersal								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite						
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths						N10 is the best worded, most comprehensive version of these otherwise-similar DPs. It may be easier to evaluate at Stage 2 if they were three sub-DPs.
N9	Workshop 5	Multiple routes for respite to be operated to a schedule						
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite		x				
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]						N12/N13: LCY is closed at night.
N12	Workshop 7	Different flight paths for day/night flights						

N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces						Not recommended
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown				x		Similar to N1
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected						Depending on how this would contradict to LCY`s DPs
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise						It is arguable that this would be preferred, if by keeping the same conditions more capacity or respite could be gained.
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)						
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise						
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)						Difficult to reflect these to different airspace designs unless very steep departure and arrival introduced.
Relating to limiting impacts/health impacts			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**

Ref	Source	Description						Comment
N20	Workshop 1	Don't make it worse for those currently significantly impacted, even if there is an overall net noise reduction						As LOAEL is generally up to 4000ft the suggestion is an altitude-based response.
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change						
N22	Workshop 4	Minimise the negative impacts on health from night flights						
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP						N24: disagree, as it's not a 'heath issue' based on government guidance, prioritise the lowest altitudes/greatest negative impacts.
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		
General								
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				Agree, consider to be part of the respite
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits	x					
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				Might be difficult to avoid in the LTMA.

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible		x				
N29	Workshop 9	Make use of open spaces/parks etc.		x				If prioritising living areas over leisure areas
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						
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change						Recommend to balance noise vs carbon emission.
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way						Noise priority below 4000ft, noise priority 4000-7000 unless there is a significant CO_2 issue, CO_2 priority 7000+ft.
E4	Workshop 3	Must not degrade air quality						
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO_2 impacts						
E6	Workshop 7	The airspace design should deliver a net CO_2 benefit across Heathrow's operation whilst delivering noise benefits below 7000 feet						E2: Optimise is better than minimise
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						E6-E7: similar
E8	Workshop 8	The airspace change should deliver an overall CO_2 reduction for Heathrow's operation. If						

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		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)						
E9	Workshop 12	Prioritise noise over carbon						
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance						
Technology			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
T1	Workshop 1	Future airspace change should use modern technology						Includes navigational specification for airspace design but also tools such as TBS/AMAN/XMAN. How to design airspace to be reliant on these tools? T4: agree but consider rewording Encouraging airlines to update to latest navigation equipment could release benefit.
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available						
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments						
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts						
T5	Workshop 12	Minimise the impact of future change						
Operational Performance								
OP1	Workshop 1	Future airspace change should enable Heathrow to make the most efficient use of its		x				Environmental part should be excluded in this section as its already covered elsewhere

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		runways, subject to environmental commitments						
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays				x		This would need many airborne routes to the same exit point e.g. departing south to go north to avoid a ground delay, putting more miles and increasing complexity in other airspaces
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)						Consider rewording if possible as it is difficult to have a DP based on other parties` actions
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule						First part is same as OP1, the night flight part could be a separate DP with an appropriate wording.
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)						This is not a DP
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints						This is not a DP
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations	x					
OP8	Workshop 10	Minimise impacts on other airspace users	X					

OP9	Workshop 12	Designs should enable a reduction in stack holding						Suggesting a more generic wording
Any other design principles we should consider?								

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name. ███████ .... Organisation/Representing: London Luton Airport Operations Limited

	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		✓				
S2	Workshop 2	Airspace design must be safe	✓					
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground		✓				
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		✓				
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 remains in accordance with the CAA's	✓					

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]		✓				
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels		✓				Cumulative impacts should be considered with this design principle.
N2	Workshops 3,4,6,7,9,11,12	Share the noise			✓			
N3	Workshops 3, 6	Future airspace change should result in a larger number of people slightly annoyed, rather than a smaller number significantly annoyed			✓			
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities			✓			
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite		✓				

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	✓					Keeping arrivals higher for longer is likely to enable benefits for neighbouring airports.
Relating to respite/dispersal								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite			✓			Any respite that is considered should be mindful of neighbouring airports (as it is likely to take up more airspace) and cumulative impacts should be considered.
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths			✓			
N9	Workshop 5	Multiple routes for respite to be operated to a schedule			✓			
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite			✓			
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]			✓			
N12	Workshop 7	Different flight paths for day/night flights			✓			
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces			✓			
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N14	Workshop 8	Avoid overflying places that aren't currently overflown			✓			
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected		✓				If it delivers benefits to neighbouring airports, overflying new people should be considered. A full cost and benefit appraisal should be completed with neighbouring airports if this is the case.
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise			✓			
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)		✓				
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise			✓			
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)			✓			
Relating to limiting impacts/health impacts			**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			✓			

N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change			✓			
N22	Workshop 4	Minimise the negative impacts on health from night flights			✓			
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP		✓				
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)			✓			
General								
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)		✓				Balance should also take account of the benefits that can be achieved by neighbouring airports. This will be assessed by cost benefit appraisal.
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits			✓			
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		✓				
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible			✓			

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N29	Workshop 9	Make use of open spaces/parks etc.		✓				
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			✓			
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change		✓				
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way		✓				Providing this does not limit the benefits that could be achieved by neighbouring airports.
E4	Workshop 3	Must not degrade air quality			✓			
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO_2 impacts		✓				Providing this does not limit the benefits that could be achieved by neighbouring airports.
E6	Workshop 7	The airspace design should deliver a net CO_2 benefit across Heathrow's operation whilst delivering noise benefits below 7000 feet			✓			
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			✓			
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			✓			

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		7000 feet, that needs to be offset by CO_2 benefits elsewhere (e.g., in the upper airspace or reduced airborne/stack delays)						
E9	Workshop 12	Prioritise noise over carbon			✓			
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance			✓			
Technology			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
T1	Workshop 1	Future airspace change should use modern technology	✓					
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available	✓					
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments		✓				Providing this does not limit the benefits that could be achieved by neighbouring airports.
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts			✓			
T5	Workshop 12	Minimise the impact of future change			✓			
Operational Performance								
OP1	Workshop 1	Future airspace change should enable Heathrow to make the most efficient use of its		✓				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		runways, subject to environmental commitments						
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays			✓			Providing this does not limit the benefits that could be achieved by neighbouring airports (as this may take up more airspace) and considers predictability which is likely to be needed by ATC and operators.
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)				✓		We do not believe this is a design principle and should be more monitoring after a design is implemented (should it receive CAA approval).
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule		✓				Providing this does not limit the benefits that could be achieved by neighbouring airports and considers predictability which is likely to be needed by ATC and operators.
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)	✓					
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints			✓			

OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations	✓					
OP8	Workshop 10	Minimise impacts on other airspace users	✓					
OP9	Workshop 12	Designs should enable a reduction in stack holding	✓					
Any other design principles we should consider?								

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name.......... ~~████████~~ .... Organisation/Representing.....MAG...

	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			No comment
S2	Workshop 2	Airspace design must be safe			X			No comment
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground			X			No comment
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				We would be concerned if the application of this DP had an adverse impact on (for instance) the capacity of the London TMA.
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 remains in accordance with the CAA's	X					All sponsors of airspace change are obliged to follow the requirements of the Airspace Modernisation Strategy.

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]			X			No comment
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels			X			No comment
N2	Workshops 3,4,6,7,9,11,12	Share the noise			X			No comment
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			No comment
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities			X			No comment
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite			X			No comment

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				Higher rates of climb and descent make more efficient use of airspace and minimise the volume of controlled airspace we believe that this is consistent with the Airspace Modernisation Strategy.
Relating to respite/dispersal								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite			X			No comment
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths			X			No comment
N9	Workshop 5	Multiple routes for respite to be operated to a schedule		X				Whilst we do not have a view on the application of respite itself, if it is applied, a predictable schedule might help other airports create their own (matching) respite schedules and reduce the complexity of managing this within the LTMA.
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite			X			No comment
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]			X			No comment
N12	Workshop 7	Different flight paths for day/night flights			X			No comment

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces			X			No comment
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown			X			No comment
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected			X			No comment
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise			X			No comment
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)			X			No comment
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise			X			No comment
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)			X			No comment
Relating to limiting impacts/health impacts			**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			No comment
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change			X			No comment
N22	Workshop 4	Minimise the negative impacts on health from night flights			X			No comment
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP			X			No comment
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			No comment
General								
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				There needs to be a balance within the TMA to avoid excessive complexity and possible delays and safety issues caused by multiple/time dependant routes.
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits			X			No comment
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			No comment

| N28 | Workshop 7 | Keep as much of the noise within the airport boundaries as possible | | | X | | | No comment |
| N29 | Workshop 9 | Make use of open spaces/parks etc. | | | X | | | No comment |

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			The balance between minimising noise and emissions will need to be judged taking account national policy and the feedback from stakeholders.
E2	Workshop 1	Minimise fuel burn, CO2, greenhouse gases and all other contributors to climate change			X			The balance between minimising noise and emissions will need to be judged taking account national policy and the feedback from stakeholders.
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way			X			The balance between minimising noise and emissions will need to be judged taking account national policy and the feedback from stakeholders.
E4	Workshop 3	Must not degrade air quality			X			No comment
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO_2 impacts			X			The balance between minimising noise and emissions will need to be judged taking account national policy and the feedback from stakeholders.

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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			
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			The balance between minimising noise and emissions will need to be judged taking account national policy and the feedback from stakeholders.
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			The balance between minimising noise and emissions will need to be judged taking account national policy and the feedback from stakeholders.
E9	Workshop 12	Prioritise noise over carbon			X			The balance between minimising noise and emissions will need to be judged taking account national policy and the feedback from stakeholders.
E10	Workshop 12	Noise and CO2 are equally important and there should be a balance			X			The balance between minimising noise and emissions will need to be judged taking account national policy and the feedback from stakeholders.
Technology			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
T1	Workshop 1	Future airspace change should use modern technology		X				The adoption of modern technology would be consistent with the Airspace Modernisation Strategy and should

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								support greater consistency of operation across the LTMA.
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available	X					The adoption of modern technology would be consistent with the Airspace Modernisation Strategy and should support greater consistency of operation across the LTMA.
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments			X			No comment
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts			X			No comment
T5	Workshop 12	Minimise the impact of future change			X			No comment
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			No comment
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays			X			No comment

OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)			X			No comment
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule			X			No comment
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)		X				This would support operations across the LTMA.
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints			X			No comment
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations	X					The operations at adjacent airports fulfil a crucial role in UK infrastructure and all are undertaking airspace change within their respective FASI programmes. Changes at LHR should be managed within this programme in accordance with the Airspace Modernisation Strategy and CAP1616 in order to design out conflicts and constraints wherever possible.
OP8	Workshop 10	Minimise impacts on other airspace users	X					This is consistent with the Airspace Modernisation Strategy
OP9	Workshop 12	Designs should enable a reduction in stack holding			X			No comment
Any other design principles we should consider?								

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name........████████... Organisation/Representing...........NERL...

	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					Agreed
S2	Workshop 2	Airspace design must be safe	X					Agreed
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground			X			
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			All benefits should be considered in the final design – it is for HAL to decide on suitability and overall balance
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 remains in accordance with the CAA's published Airspace Modernisation Strategy	X					Agreed, as a statutory DP from the CAA

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		(CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]			X			No comment, for HAL to decide

Noise			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
Relating to sharing the noise								
N1	Workshop 1	The design options must not create any more noise for any single community compared to pre-COVID-19 levels			X			
N2	Workshops 3,4,6,7,9,11,12	Share the noise			X			
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			
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities			X			
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite			X			Note that any respite routes, whether off the same or different runways, will need to take into account knock on

								fuel/carbon impacts to the network, and network complexity. For flight planning purposes routes will also need to have a common point in the network for flights in the same direction. Respite routes that converge on common points may create separation issues. This could affect departure separation off the runway
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					Modern aircraft are capable of steeper profiles than previously utilised. It will be for HAL to consider the relative benefits of this alongside other considerations. The network design will strive to provide substantial environmental benefits from continuous climb and continuous descent operations.
Relating to respite/dispersal									
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite			X				NERL recognises the policy requirements to consider respite options but note a number of factors that airports must be taken into account when developing and assessing them. These apply whether the respite routes are from the same or different runways: - Direct knock-on impacts to network fuel and carbon must be taken into account – in particular if the network exit/entry points are further from UK entry/exit points

								such that network tracks are elongated. - For flight planning purposes, and to alleviate complexity, any respite routes for flights in the same direction will need to have a common point for entering the network. - The convergence of respite routes to common points may create catch-up/separation issues. Mitigating this may require additional time between departures – potentially effecting throughput. - Each additional respite route will introduce complexity. The airport will need to work with NERL to establish the number/nature of respite routes possible without compromising safety. There will inevitably be limitations. - Technical capabilities of the fleet - The impact of respite routes on the efficiency of neighbouring airport operations NERL looks forward to working with Heathrow to address these challenges, but note that until the work is undertaken and solutions found, there are risks associated with designs that assume a wholesale application of respite routes.
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths			X			As N7

N9	Workshop 5	Multiple routes for respite to be operated to a schedule			X			As N7
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite			X			
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]			X			
N12	Workshop 7	Different flight paths for day/night flights			X			
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces			X			
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown			X			
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected			X			
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise			X			
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)			X			

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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			
Relating to limiting impacts/health impacts			**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			
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			
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			
General								
N25	Workshop 2	Find a balance between the number of procedures for respite and operational complexity and technical capability (there is an	X					As N7

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		issue with the number of procedures that aircraft/airlines can manage)						
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits			X			
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			
N29	Workshop 9	Make use of open spaces/parks etc.			X			
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			
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change	X					NATS welcomes this statement as we will be designing the overarching network in order to realise major environmental benefits in support of the net zero target
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way		X				We believe that it is for airlines to decide how to operate the flights, but agree that this should be done in the most efficient manner in support of the airspace designs

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	Priorities should be in line with National Policies. Design decisions below 7000ft must take account of *direct* knock-on effects to network efficiency (e.g., network entry points moving further from their destination)
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			
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				We strongly agree that changes should help to deliver the whole industry's aim of reaching net zero emissions and note that policy allows for this below 7000 feet.
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		Whilst it is true that reduced airborne delay will provide benefits NERL does not have the capability to offset any negative impact of the airport design in the network. We will be seeking to design the most optimal tracks and minimising the number of network routes in order to provide environmental benefits but it is vitally important that airport sponsors also seek efficiency in the lower airspace.

E9	Workshop 12	Prioritise noise over carbon				X		Priorities should be in line with National Policies
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance			X			We do not believe that they are of equal importance, but HAL do need to consider both in their options

Technology			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
T1	Workshop 1	Future airspace change should use modern technology		X				Agreed
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available		X				Agreed
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			
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				Agreed, NERL will seek to work with Heathrow to make most efficient use of its runways but note that until development work is undertaken, there is no guarantee that the network can accommodate runway usage concepts that are radically different from today.

			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			Network considerations need to be taken into account when designing to mitigate ground delays. Simplifying the design on the ground could add unsupportable levels of complexity or environmental disbenefits in the air.
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)			X			
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule			X			
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)		X				Agreed
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			X			
OP8	Workshop 10	Minimise impacts on other airspace users			X			
OP9	Workshop 12	Designs should enable a reduction in stack holding		X				NATS is investing in advanced streaming tools will provide benefit to the future operation, alongside more modern delay absorption techniques.

								Heathrow should ensure that the low-level design complements the network to ensure that the reduction in airborne delays can be delivered.
Any other design principles we should consider?								

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name ████████████ .... Organisation/Representing RAF Northolt

	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					
S2	Workshop 2	Airspace design must be safe	X					
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground	X					
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				
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 remains in accordance with the CAA's published Airspace Modernisation Strategy	x					

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		(CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]	X					
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels		X				
N2	Workshops 3,4,6,7,9,11,12	Share the noise		X				
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			
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities	X					
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite			X			This will need to consider the impact on adjacent airports

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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				
Relating to respite/dispersal								
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				This will need to consider the impact on adjacent airports
N9	Workshop 5	Multiple routes for respite to be operated to a schedule			X			This will need to consider the impact on adjacent airports
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite		X				
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]			X			
N12	Workshop 7	Different flight paths for day/night flights			X			This will need to consider the impact on adjacent airports
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces			X			
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown			X			

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected			X			
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise			X			
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)			X			
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			
Relating to limiting impacts/health impacts			**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			
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				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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				
General								
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			This will need to consider the impact on adjacent airport operations
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits		X				
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				RAF Northolt have a similar DP
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible			X			
N29	Workshop 9	Make use of open spaces/parks etc.			X			
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				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change		X				
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way		X				
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				
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**

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
T1	Workshop 1	Future airspace change should use modern technology		X				
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available		X				
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					Any future changes are likely to have a knock-on effect to adjacent airports' operations and therefore minimising impact is very important.to RAF Northolt.
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 will need to consider the impact on adjacent airports' operations
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays		x				This will need to consider the impact on adjacent airports' operations
			Strongly Agree	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**

OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)		X				
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule			X			
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)		X				
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	x					Any future changes are likely to have a knock-on effect to adjacent airports' operations and therefore minimising impact is very important.to RAF Northolt.
OP8	Workshop 10	Minimise impacts on other airspace users	X					This will need to consider the impact on adjacent airports' operations
OP9	Workshop 12	Designs should enable a reduction in stack holding	x					
Any other design principles we should consider?								

3. Phase 1 feedback - Local Authorities/Councils and Environmental Organisations

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name: ████████████ .... Organisation/Representing.. Bracknell Forest Council ....

	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	✓					
S2	Workshop 2	Airspace design must be safe	✓					
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground		✓				
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		✓				
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 remains in accordance with the CAA's published Airspace Modernisation Strategy		✓				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		(CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]		✓				

Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels	✓					
N2	Workshops 3,4,6,7,9,11,12	Share the noise		✓				
N3	Workshops 3, 6	Future airspace change should result in a larger number of people slightly annoyed, rather than a smaller number significantly annoyed		✓				We would hope that it is no worse than at present
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities		✓				
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite	✓					

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	✓					
		Relating to respite/dispersal						
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite	✓					
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths	✓					
N9	Workshop 5	Multiple routes for respite to be operated to a schedule	✓					
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite	✓					
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]	✓					
N12	Workshop 7	Different flight paths for day/night flights	✓					Open space should be used to provide minimum disruption during the day and evening to limit impact on school and those working from home during the day and then those returning from work in the evening
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces			✓			Open space should be used day and night

Relating to newly overflown			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N14	Workshop 8	Avoid overflying places that aren't currently overflown		✓				
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected			✓			
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise		✓				
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)	✓					
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise		✓				
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)		✓				
Relating to limiting impacts/health impacts			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		✓				
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change			✓			Unavoidable close to the Airport

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N22	Workshop 4	Minimise the negative impacts on health from night flights		✓				
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP	✓					
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)	✓					
General								
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)		✓				
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits		✓				
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	✓					
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible	✓					
N29	Workshop 9	Make use of open spaces/parks etc.	✓					
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		✓				
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change		✓				
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way		✓				
E4	Workshop 3	Must not degrade air quality		✓				
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO_2 impacts			✓			
E6	Workshop 7	The airspace design should deliver a net CO_2 benefit across Heathrow's operation whilst delivering noise benefits below 7000 feet		✓				
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		✓				
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)		✓				
E9	Workshop 12	Prioritise noise over carbon			✓			
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance	✓					

Technology			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
T1	Workshop 1	Future airspace change should use modern technology		✓				If it provides benefits
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available		✓				
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments		✓				
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts		✓				
T5	Workshop 12	Minimise the impact of future 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		✓				
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays		✓				
			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments

OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)		✓				
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule		✓				
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)		✓				
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints		✓				
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations		✓				
OP8	Workshop 10	Minimise impacts on other airspace users		✓				
OP9	Workshop 12	Designs should enable a reduction in stack holding		✓				
Any other design principles we should consider?								

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name........ █████████████ .... Organisation/Representing.. Hertsmere Borough Council..................................

	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		y				
S2	Workshop 2	Airspace design must be safe		y				
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground		y				
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		y				
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 remains in accordance with the CAA's published Airspace Modernisation Strategy			y			

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		(CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]		y				
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels		y				
N2	Workshops 3,4,6,7,9,11,12	Share the noise			y			
N3	Workshops 3, 6	Future airspace change should result in a larger number of people slightly annoyed, rather than a smaller number significantly annoyed			y			
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities			y			
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite		y				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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			y			
Relating to respite/dispersal								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite		y				
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths			y			
N9	Workshop 5	Multiple routes for respite to be operated to a schedule			y			
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite		y				
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]		y				
N12	Workshop 7	Different flight paths for day/night flights			y			
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces			y			
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown		y				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected			y			
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise		y				
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)		y				
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise		y				
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)		y				
Relating to limiting impacts/health impacts			**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		y				
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change		y				
N22	Workshop 4	Minimise the negative impacts on health from night flights		y				
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP		y				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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)		y				
General								
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)			y			
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits			y			
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			y			
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible		y				
N29	Workshop 9	Make use of open spaces/parks etc.			y			
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			y			

ID	Workshop	Statement	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change		y				
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way		y				
E4	Workshop 3	Must not degrade air quality		y				
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO_2 impacts			y			
E6	Workshop 7	The airspace design should deliver a net CO_2 benefit across Heathrow's operation whilst delivering noise benefits below 7000 feet		y				
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			y			
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)			y			
E9	Workshop 12	Prioritise noise over carbon			y			
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance			y			
Technology			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
T1	Workshop 1	Future airspace change should use modern technology			y			
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available			y			
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments		y				
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts		y				
T5	Workshop 12	Minimise the impact of future change			y			
Operational Performance								
OP1	Workshop 1	Future airspace change should enable Heathrow to make the most efficient use of its runways, subject to environmental commitments		y				
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays			y			
			Strongly Agree	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)		y				

OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule		y				
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)			y			
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints		y				
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations			y			
OP8	Workshop 10	Minimise impacts on other airspace users			y			
OP9	Workshop 12	Designs should enable a reduction in stack holding			y			
Any other design principles we should consider?								

HEATHROW STRATEGIC PLANNING GROUP

Heathrow Airspace Modernisation ACP

Heathrow Airport Limited

Email: airspace@heathrow.com

16/11/2021

Dear Sir / Madam

Response to the Stage 1B Consultation

I **attach** a completed Matrix on behalf of the membership of the HSPG to the deadline previously agreed with ▮▮▮▮▮▮. I also set out 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/respite), 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 routeing 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 / respite 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.

Kind Regards
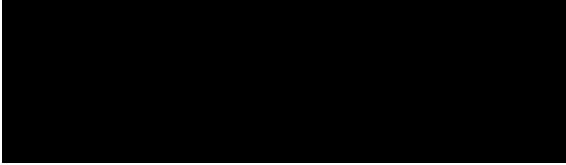
Lead Advisor

Heathrow Strategic Planning Group

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name...⬛⬛⬛⬛⬛⬛⬛⬛

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.

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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/respite), then where necessary to offer beneficial moves to improve health and QoL (compensation)

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Further research needed into what makes different receptors sensitive to noise, and options for alternation / respite 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. Otherwise, ACP design should have regard to changing settlement patterns and how this in turn changes to scale and distribution of receptors. 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).

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					Suggest: "Must be safe but should minimise detrimental impact on other objectives as directed by the Balancing Principles" (see below) 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'.
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 remains in accordance with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.		x				The AMS should be designed to achieve objectives – not followed slavishly for its own sake. 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. Furthermore, local objectives may properly outweigh broader AMS objectives.

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]	x					'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."

Noise			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
Relating to sharing the noise								
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					This needs to be applied alongside the principles at N20 – N24. Sharing can be achieved *spatially* and *over time* - 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. 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.
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"
Relating to aircraft flight profiles								
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
Relating to respite/dispersal								
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					
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				

Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown				x		
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected		x				
Relating to noise reductions/mitigations								
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

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								QoL to compensate for acknowledged harmful impacts. However, firstly seek to Avoid and then Mitigate before Compensate - NPSfE
Relating to limiting impacts/health impacts			**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
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			
General								
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

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								overflying populated area rather than open spaces. Disagree with latter
Environment								
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
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 – CO2 '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	x					

		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)						
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
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
			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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 *minimise change*								
	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/respite), 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 / respite 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 routeing 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.

KINGSTON COUNCIL - DESIGN PRINCIPLES RESPONSE (17/11/21)

Policy			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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 remains in accordance with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.					x	**P1** **Airspace Modernisation Strategy** The Airspace Modernisation strategy (2018) was developed before Covid-19 and before National and Local Climate Emergency declarations aiming to mitigate climate change. Continued expansion in airspace capacity as an aim is not supported by Kingston Council..
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]	x MUST					P2 future airspace change ~~should~~ **must** take
	Kingston	**While maintaining a high standard of safety, the highest priority principles of this airspace change are improvements in airspace performance (to include carbon, air quality, noise and service performance) with no net decreases in performance across any of these areas**	x					The council does not support any increase in flights to and from Heathrow airport. The infrastructure to support travel to and from the airport is not in place. The Council does not believe that this modernisation has been successful if it necessitates an increase in noise to any individual Airspace modernisation must look to decrease air pollution, decrease carbon,

								and increase the efficiency of the system for passengers and airlines. In Kingston's Annual Public Health Report 2018, 'Clearing the Air', the detrimental impact of air pollution was well evidenced, including the disproportionate impact on economically deprived communities. As part of this report, the council sets out our commitment to reduce air pollution, including traffic congestion, supported through the Council's Air Quality Action Plan and Active Travel Programme. This work has been expanded through extensive residential consultation and commitment for change, as set out in our local Climate Emergency Action Plan. Therefore, any airspace modernisation must avoid any increase in traffic congestion (impacting on air quality). The 2018 airspace modernisation strategy should be reviewed to reflect recent impacts and changes and the fundamental principle of growth in capacity should be reviewed.

Noise			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
Relating to sharing the noise								

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N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels			x			N1
N2	Workshops 3,4,6,7,9,11,12	Share the noise				x		N2 / N3 Surprised that the option to share the noise was widely supported by groups. A diversification of flight paths and decisions to share the noise would only be required if there was a significant increase in noise / flights which is not an aim of this modernisation plan. Improvements should be made to the experiences for those currently living in flight paths through this modernisation. By sharing the noise, we would be subjecting more residents to the detrimental health impacts of noise pollution. Long term noise exposure can cause a variety of negative mental and physical health impacts on individuals. The disproportionate impact on lower socio-economic communities needs to be considered in decisions made regarding noise pollution by committing to zero or near zero noise increase in residential flight paths.
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		
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities		x				

		Relating to aircraft flight profiles						
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite			x			N5
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				N6 Again, to a point. If the technology was available to make very steep climbs possible but this made homes under the flight path uninhabitable, this would have to be balanced against the impact of the people in those homes.

		Relating to respite/dispersal						
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	
N9	Workshop 5	Multiple routes for respite to be operated to a schedule			x			N12 The Council is not in support of further use of greenspaces and parks in this modernisation programme
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite	x					
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]			x			Would support fewer flight paths with better technology to reduce noise distribution
N12	Workshop 7	Different flight paths for day/night flights		x				
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces			x			

Relating to newly overflown			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N14	Workshop 8	Avoid overflying places that aren't currently overflown			x			N14: Would not support overflying places that aren't currently overflown where there is no impact on individuals if this refers to parks and green spaces
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected				x		N15: Not supported unless modelling demonstrates that there is a large carbon / air quality / environmental enhancement for doing so. Should not be done to facilitate a greater number of flights
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise			x			
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)	x					N18 - Agree, except where this involves impacting a greater number of people. Commenting on principles without an assessment of the levels of impact / benefit is difficult, but see comments above re: 'share the noise'
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					

Relating to limiting impacts/health impacts			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				
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 - this should be a commitment to zero or close to zero
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP			x			
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				
General								
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)						N25 - can't comment, this is not accessible as a principle. What does this mean? N26 - Agree, but while a large a complex change is being made, noise benefit is a key factor
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits		x				

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					N27 - agree, important to ensure that airspace changes are coordinated
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible	x					N29 - Kingston Council does not agree with making more use of parks in this airspace modernisation
N29	Workshop 9	Make use of open spaces/parks etc.				x		

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			E4 - **improve** air quality
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change	x					Must also recognise that there is not sufficient capacity on the ground (traffic levels) for an increase in flights. This modernisation must not aim to increase capacity without infrastructure to support it. This consultation is airspace modernisation only and not expansion.
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way	x					
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	**Kingston preferred wording:** Noise is the priority below 7000 feet, but the airspace change **must** deliver an overall CO2 reduction for Heathrow's operation. If noise benefits negatively impact CO2 below 7000 feet, it needs to be offset by CO2 benefits elsewhere (e.g. in the upper airspace or reduced airborne/stack delays).
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				
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			Note: offset of carbon production in operation must always be within operational boundaries rather than by purchasing offset credits
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 strongly disagree without the qualification about below 7000 feet

| 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 | |

	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					S1-S4 While we agree that air travel is safe and that further safety should not be sought at the expense of environmental considerations, it should be sought against operational expansion. This balance between safety and other factors should be assessed using cost benefit analysis. There must be no decrease in the current levels of safety.
S2	Workshop 2	Airspace design must be safe		x				
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground	x					
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				

Technology			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
T1	Workshop 1	Future airspace change should use modern technology	x					T3: Technological advances should be used to mitigate social impacts is a key principle - this change aims for an improvement in the use of airspace across multiple factors, not greater operational performance and knock on impacts to residents and stakeholders
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available	x					
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				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
OP1	Workshop 1	Future airspace change should enable Heathrow to make the most efficient use of its runways, subject to environmental commitments		x				OP2 - does this mean making last minute changes - exposing new sensitive receptors to environmental pollution - or is this again about much more flight paths (Kingston Council not in agreement about an expansion in flight paths)\n\nOP5 - what does that mean?
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays					x	

OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)	x					
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule	x					
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)						
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					x	
OP8	Workshop 10	Minimise impacts on other airspace users			x			
OP9	Workshop 12	Designs should enable a reduction in stack holding			x			

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name: ████████████ (Environment Protection Lead Practitioner) **Organisation/Representing**: London Borough of Ealing – (Environment Protection)

	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				Can this principle demonstrably work with the "ICAO's balanced approach to management of aircraft noise" and is capable of avoiding/preventing effects synonymous with SOAEL? What are the new key and significant risks associated with the ACP and against what standard these risks have been assessed/ quantified? How key risks have balanced against risk associated with impacts on those affected on ground, including the impact on longer term health, wellbeing and quality of life (QoL)?
S2	Workshop 2	Airspace design must be safe		X				As S1

					x				Avoid/prevent large populations being exposed to noise level synonymous with SOAEL (NPSE). Regard should be had of the ICAO Guidance on the Balanced Approach to Aircraft Noise Management", Second Edition, ICAO, 2008. Also, this principle is not criterion outside of the safety zones, where land use Planning decisions should avoid adverse impacts upon densely populated areas,
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground							
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						Suggest: "Must be safe but should minimise detrimental impact on other objectives as directed by the balanced approach" (see below) 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'.
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 remains in accordance with the CAA's published Airspace Modernisation Strategy			x				The AMS should be designed to achieve objectives outlined in existing international/national policy framework. The proposed policy wording appears dismissive of existing overarching policies such as NSPE, APF 2013,

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		(CAP 1711) and any current or future plans associated with it.						ICAO Guidance on the Balanced Approach to Aircraft Noise Management", Second Edition, ICAO, 2008 etc or even the UN Sustainable Development Goals.
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]	x					London Plan policies might well be less relevant in areas affected by future airspace change, therefore, greater alignment should be achieved with local plan policies (DPDs and SPGs) on regional basis. Taking into account local plans and policies' does not mean that final ACP design has factored-in and tangibly influenced by local policy constraints, including consideration for health impacts, QoL and climate emergency.
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels			x			Given the communities surrounding Heathrow Airport have experienced and attained a 'new normal' in context of noise related disturbances post Covid-19 pandemic, therefore, design options should consider delivering airspace that

								is representative of noise emissions / levels that are synonymous with post-Covid-19 period and not to noise levels prior to Covid-19 pandemic.
N2	Workshops 3,4,6,7,9,11,12	Share the noise	x					Where there is a reduction in overall noise the benefit be applied to those already most affected and where there is an increase in overall noise the dis-benefit be applied to those already least affected. This objective can be applied using proportionality or a sliding scale between those most and those least affected. Sharing can be achieved *spatially* and *over time* - 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. 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.
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"
Relating to aircraft flight profiles								
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			Steeper approaches when landing might work, however, steeper Departures are far more complicated to balance – more noise closer to the airport in favour of less noise further along departure route is unlikely to deliver NPSE policy. Different impacts of different aircraft types, routes - more nuanced.
Relating to respite/dispersal								

N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite	X					Heathrow currently has 30 flight arrival and departures. Multiple flight paths for each movement type to provide mitigation from PBN concentration through dispersion or alternation respite can only provide partial mitigation (at least over near to medium distance from the airport) because of lack of airspace. Meaningful mitigation may not be possible in the case of Heathrow that is surrounded by densely populated areas.
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths	X					Refer to N7 for multiple flight paths and meaningful and predictable respite
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?

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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				
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown				x		
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected		x				
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise	X					NPSE, 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

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								QoL to compensate for acknowledged harmful impacts. However, firstly seek to Avoid and then Mitigate before Compensate - NPSE
Relating to limiting impacts/health impacts								**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
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			
General								
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?

ID	Workshop	Point						Notes
								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 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

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								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
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					There will be an increased conflict between noise, CO2 and air pollution mitigation. We think that CO2 emission reductions in the lower airspace around Heathrow will be small compared to total CO2 emissions from aviation in UK and therefore, closer scrutiny of CO2 emissions reduction in a wider aviation context is warranted and priority locally around Heathrow should be on noise and air pollution, i.e.surface access.
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO_2 impacts	x					See E4
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					See E4.

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								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 – CO2 '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
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

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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
Further consideration to the Stage 1 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/respite), 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 / respite 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 routeing and alternation may be required by Day, at Night sensitive shoulder periods and NQP.

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name................███████████████████ Organisation/Representing....London Borough of Merton.

	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				Difficult for a Council Stakeholder to respond on safety issues aside a general statement
S2	Workshop 2	Airspace design must be safe		x				As above
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground		x				As above
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				As above
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 remains in accordance with the CAA's published Airspace Modernisation Strategy						No comment

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		(CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]	x					Agreed, Heathrow is stated in a number of Air Quality Action Plans
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels		x				
N2	Workshops 3,4,6,7,9,11,12	Share the noise			x			
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			
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities			x			
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite			x			

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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			
Relating to respite/dispersal								
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			
N9	Workshop 5	Multiple routes for respite to be operated to a schedule			x			
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite		x				
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]			X			
N12	Workshop 7	Different flight paths for day/night flights			x			
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces			x			
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown		x				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected			x			
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise	x					
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)		x				
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				
Relating to limiting impacts/health impacts			**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				
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				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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				
General								
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				
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits		x				
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				
N29	Workshop 9	Make use of open spaces/parks etc.		x				
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				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change		x				
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way		x				
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					
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**

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
T1	Workshop 1	Future airspace change should use modern technology		x				
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available		x				
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				
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			
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays			x			
			Strongly Agree	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)		x				

OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule		x				
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)			x			
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			x			
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?								

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name: ███████ .... **Organisation/Representing**: London Borough of Redbridge..........................

	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		✓				
S2	Workshop 2	Airspace design must be safe		✓				
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground		✓				
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		✓				
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 remains in accordance with the CAA's published Airspace Modernisation Strategy			✓			

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		(CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]	✓					
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create any more noise for any single community compared to pre-COVID-19 levels		✓				
N2	Workshops 3,4,6,7,9,11,12	Share the noise		✓				Not sure about this. It may be better to localise the noise as far as possible rather than exposing more parts of the country to it. Noise from new routes should be shared.
N3	Workshops 3, 6	Future airspace change should result in a larger number of people slightly annoyed, rather than a smaller number significantly annoyed		✓				Agree but still not sure that sharing the noise and exposing more people is a solution.
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities		✓				
Relating to aircraft flight profiles								

N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite		✓				
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			✓			I'd like to know more about the safety aspect of this approach. Does it increase any risks to safety?
Relating to respite/dispersal								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite		✓				Again, not entirely sure as this means more people exposed to noise from dispersed flight paths.
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths		✓				Not sure this is a good approach.
N9	Workshop 5	Multiple routes for respite to be operated to a schedule		✓				Not sure this is a good approach
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite		✓				Does predictable mean the public knowing flight paths and their scheduling?
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]		✓				
N12	Workshop 7	Different flight paths for day/night flights			✓			Not sure how this might impact on safety.
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces			✓			

Relating to newly overflown			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N14	Workshop 8	Avoid overflying places that aren't currently overflown		✓				
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected		✓				Still not sure that spreading the problem is a real solution.
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise		✓				
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)		✓				
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise		✓				
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)		✓				
Relating to limiting impacts/health impacts			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		✓				
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change		✓				
N22	Workshop 4	Minimise the negative impacts on health from night flights		✓				
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP		✓				
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)		✓				
General								
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)		✓				
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits		✓				
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		✓				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible		✓				
N29	Workshop 9	Make use of open spaces/parks etc.		✓				
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		✓				Agree, unless there is a disproportionate increase in CO2 emissions.
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change		✓				
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way		✓				
E4	Workshop 3	Must not degrade air quality		✓				
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO_2 impacts				✓		Impact on CO2 emissions is as important as noise pollution.
E6	Workshop 7	The airspace design should deliver a net CO_2 benefit across Heathrow's operation whilst delivering noise benefits below 7000 feet		✓				
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		✓				Agree, but don't entirely agree that noise should be th priority under 7,000 feet.
E8	Workshop 8	The airspace change should deliver an overall CO_2 reduction for Heathrow's operation. If		✓				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		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)						
E9	Workshop 12	Prioritise noise over carbon				✓		
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance		✓				
Technology			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
T1	Workshop 1	Future airspace change should use modern technology		✓				
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available		✓				
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments		✓				
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts		✓				
T5	Workshop 12	Minimise the impact of future change		✓				
Operational Performance								
OP1	Workshop 1	Future airspace change should enable Heathrow to make the most efficient use of its		✓				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		runways, subject to environmental commitments						
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays		✓				
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)		✓				
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule		✓				
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)		✓				
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints		✓				Would like to know more about what environmental/noise constraints are considered acceptable, or rather what impacts are considered acceptable.
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations		✓				
OP8	Workshop 10	Minimise impacts on other airspace users		✓				
OP9	Workshop 12	Designs should enable a reduction in stack holding		✓				

Any other design principles we should consider?	
	I think the above covers a lot of ground and I can't think of any further design principles.

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name...████████████   Organisation/Representing:..   London Borough of Sutton

	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	Y					
S2	Workshop 2	Airspace design must be safe	Y					Duplicates S1
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground			Y			Not clear how this can be achieved given the level of population growth and existing densely populated communities already surrounding the airport
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		Y				
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				Y		Safety concerns will be changed as new developments or policies are introduced. Unless CAP1711 is designed to be flexible and adapt to these changes then

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		remains in accordance with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.						difficult to see why it should override other strategic documents.
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]	Y					The majority of London boroughs and neighbouring authorities have declared climate emergencies.
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels			Y			Given that aircraft sizes, power levels and noise emissions are expected to reduce through technology advancement, is this proposal necessary?
N2	Workshops 3,4,6,7,9,11,12	Share the noise			Y			This principle is perhaps better managed via equitable respite
N3	Workshops 3, 6	Future airspace change should result in a larger number of people slightly annoyed, rather than a smaller number significantly annoyed			Y			The focus should be on reducing overall annoyance levels
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities			Y			Not clear what this means
Relating to aircraft flight profiles								

N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite			Y			Not clear what this means, given that meaningful respite might be achieved through longer periods than just for example alternate flights.
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	Y					Subject to impact on communities immediately under the takeoff flightpath close to the airport
Relating to respite/dispersal								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite	Y					
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths			Y			Will need to be considered alongside altitude and approach angle design
N9	Workshop 5	Multiple routes for respite to be operated to a schedule		Y				
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite	Y					N10 and N11 could be reduced to one guideline. Also effectively covers N7.
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]		Y				N10 and N11 could be reduced to one guideline
N12	Workshop 7	Different flight paths for day/night flights		X				This happens at present, e.g. switching from westerly to easterly operations
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces		Y				

Relating to newly overflown			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N14	Workshop 8	Avoid overflying places that aren't currently overflown			Y			This of course depends on other factors e.g. frequency and altitude
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected			Y			
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise		Y				
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)	Y					
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise	Y					
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)	Y					
Relating to limiting impacts/health impacts			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		Y				
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change			Y			

N22	Workshop 4	Minimise the negative impacts on health from night flights			Y			Question as to whether the number of night flights now or in the future, which tend to be exceptional circumstances, is significant enough to warrant additional
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP		Y				
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)			Y			Difficult to see how this might be achieved. Even if an aircraft does not pass directly overhead, the noise profile is still defined as 'overflown' if it passes within a specific distance.
General								
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)				Y		It is arguable that, given the location of Heathrow, the new types of aircraft being introduced and the complexities of managing aircraft movements across London, operators do have the capacity to manage the respite and technical requirements to use Heathrow.
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits			Y			Highly likely that even marginal benefits will only be achieved through more complex changes due to the surrounding residential patterns and alignment with other London airports
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			Y			The closer to the airport, the less opportunity for varying routes.

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		cumulative impacts of routes to/from other airports, below 7000 feet						
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible		Y				
N29	Workshop 9	Make use of open spaces/parks etc.			Y			Agree in principle, but open space at a premium and not contiguous. May also conflict with air quality, heritage and other issues
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			Y			Below 4000 ft there is a balance to be struck between noise and emission impacts. This could be merged with E6
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change		Y				
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way	Y					
E4	Workshop 3	Must not degrade air quality		Y				
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO_2 impacts				Y		E7 is a preferable approach
E6	Workshop 7	The airspace design should deliver a net CO_2 benefit across Heathrow's operation whilst delivering noise benefits below 7000 feet		Y				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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		Y				
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)		Y				
E9	Workshop 12	Prioritise noise over carbon				Y		This proposal does not take into the nuances of altitude and other factors as highlighted in E6-E8
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance		Y				
Technology			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
T1	Workshop 1	Future airspace change should use modern technology		Y				
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available		Y				
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments		Y				
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts		Y				
T5	Workshop 12	Minimise the impact of future change			Y			Not clear what this means

Operational Performance								
OP1	Workshop 1	Future airspace change should enable Heathrow to make the most efficient use of its runways, subject to environmental commitments		Y				
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays			Y			Not clear exactly what this means. However, presumably flight contingency plans will continue as they do now to allow for emergencies and special events.
			Strongly Agree	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)	Y					
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule	Y					
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)		Y				
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints		Y				
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations		Y				

OP8	Workshop 10	Minimise impacts on other airspace users		Y				Vital that emergency services (eg air ambulance/police helicopters) and armed forces/air defence movements can continue
OP9	Workshop 12	Designs should enable a reduction in stack holding		Y				Understand that revised approach proposals will reduce stack requirements as a matter of course
Any other design principles we should consider?								

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name......█████████.......................................… Organisation/Representing…Mole Valley District Council...........

	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					
S2	Workshop 2	Airspace design must be safe	x					
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground	x					
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			
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 remains in accordance with the CAA's		x				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]	x					Mole Valley has declared a Climate Change Emergency
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels	x					
N2	Workshops 3,4,6,7,9,11,12	Share the noise	x					
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					
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities				x		
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite	x					

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				
Relating to respite/dispersal								
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				
N9	Workshop 5	Multiple routes for respite to be operated to a schedule		x				
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite		x				
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]		X				
N12	Workshop 7	Different flight paths for day/night flights		x				
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces		x				
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown		x				

N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected			x			
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise		x				
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)	x					
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					
Relating to limiting impacts/health impacts			**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					
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					

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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				
General								
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)						It is not understood what is meant by this question.
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits	x					
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					
N29	Workshop 9	Make use of open spaces/parks etc.				x		
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				

ID	Workshop	Statement	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change		x				
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way	x					
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				
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**

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
T1	Workshop 1	Future airspace change should use modern technology	x					
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available	x					
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					
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					
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays		x				
			Strongly Agree	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)	x					

OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule	x					
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)		x				
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	x					
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?								

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name: ██████████   Organisation: MRA and Elmbridge Council

	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	√					Resilience of use of PBN satellite navigation must be demonstrated for safe use in all weather conditions, and from dangers posed from loss of satellites (space junk/political action), cyber-attack and power failure. Sufficient manned air traffic control expertise must remain.
S2	Workshop 2	Airspace design must be safe	√					
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground			√			You cannot avoid dense populations around Heathrow. This should not be used as an argument for concentrated noise sewers.
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			√			Attribute not clear. Do you mean safety must not be over-engineered such that other airspace change potential benefits

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								e.g. noise or pollution reduction, are compromised?
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 remains in accordance with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.				√		Airspace design must comply with CAA regulations, but compliance must be achieved whist delivering other benefits. 'Future plans' are unknown at this time. Putting this as the second overriding principle is an excuse to avoid addressing issues of concern to the population. It should be on an equal footing with achieving other benefits.
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]		√				All Boroughs, including those in London must be given equal weight and consideration in their attempts to reduce pollution and detrimental impacts on their communities. One area cannot be prioritised or sacrificed over others.
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create any more noise for any single community compared to pre-COVID-19 levels		√				Ideally noise pollution would decrease or not increase. The noise profile pre-COVID 19 needs to be studied as some communities already get a disproportionate amount of noise in comparison to others. This attribute

								may be impossible to achieve if the principle of sharing noise pollution from Heathrow is properly employed.
N2	Workshops 3,4,6,7,9,11,12	Share the noise	√					Essential
N3	Workshops 3, 6	Future airspace change should result in a larger number of people slightly annoyed, rather than a smaller number significantly annoyed	√					The sentiment behind this is to avoid noise sewers. It could be reworded as '…than a smaller, but still significant number of people's lives made unbearable.'
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities				√		I don't understand this attribute. Does it mean don't funnel planes over industrial areas? Or does it mean have more planes to benefit jobs and companies? Any general benefits felt by populations around HR would also automatically benefit industry too. We are not talking about ground-based operations and access so I can only assume this means that commercial considerations have to be given priority vs. residents' quality of life. I do not agree with this.
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite	√					Route dispersal to provide meaningful respite, and how respite is defined are crucial. However, easterly and westerly preference use should not be forced to fit with increased or dangerous wind

								speeds. Prevailing winds need to inform the design.
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	√					Steeper approaches and take-off using NADP1 should be used standardly and also airline adherence should be monitored and enforced.
Relating to respite/dispersal								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite	√					See N5 comment
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths	√					
N9	Workshop 5	Multiple routes for respite to be operated to a schedule	√					A workable level of route dispersal and respite procedures are possible to achieve and a predictable pattern is probably safer and easier for pilots and ATC to become familiar with.
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite	√					
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]	√					
N12	Workshop 7	Different flight paths for day/night flights		√				Sensible rules around night flight timings, respite and route dispersal might make this less necessary.

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces				√		Predictable respite is important but combining it with concentrating flights over open spaces is not logical. The two parts of the attribute should be independent of each other. Concentration over the few open spaces around Heathrow automatically also leads to concentration over certain heavily populated areas and the creation noise sewers in and around those few green spaces. This is not acceptable at any time and especially not at night. Night flights should be banned for 8 hours between 10.30 and 6.30am.
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown				√		To share noise equitably, some communities with little noise pollution may have to be overflown a little
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected		√				I think this is poorly expressed but it is consistent with the sentiment in N14 i.e. everyone around Heathrow benefits from its positive attributes (ease of flying, jobs etc) and so we all need to share the negative impacts. No community should be completely protected, nor should any community be

								disproportionately adversely affected. Fairness is key.
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise	√					Noise reduction should be prioritised as the ambition to try to meet WHO recommendations – that is the ultimate mitigation strategy. But realistically genuine noise mitigation strategies will also be key, but it depends on what they are and how accurately their impacts are measured and calibrated.
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)	√					This is very important, but my understanding is that this attribute is also about reducing and sharing noise fairly
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise	√					Objective independent measures of noise impacts are critical to underpin route planning on this basis. This is consistent with the principle of noise sharing.
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)		√				This depends on what an acceptable and meaningful level of mitigation is deemed to be. If complex procedures will only achieve e.g. a 1DCB reduction but cause more harm elsewhere then mitigation strategies need to assessed in a wider context. The effect on some communities hard by the runways may

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								be difficult to mitigate to a meaningful level, but every effort should be made to come up with creative solutions from investment in physical sound blocking systems from double glazing to baffling to meaningful respite routines and night flight bans.
Relating to limiting impacts/health impacts			**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	√					
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change	√					
N22	Workshop 4	Minimise the negative impacts on health from night flights	√					
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP				√		This attribute goes against noise sharing and promotes noise sewers.
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)	√					It is important that robust, independent and publicly available noise data is collected from multiple points to feed into the airspace redesign. Actual noise according to credible measures should be used to underpin route structures, not just perceived sensitivities to noise. Also average noise events are not good markers. No-one is woken or kept awake by an average (statistically

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								smoothed) noise event; **it is specific planes at specific heights and locations that disturb sleep, education and health.**
General								
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)	√					It must be possible to come up with a workable design that pilots and ATC can become familiar with that will share/reduce noise better.
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits				√		
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	√					This is really important. Raising the base of stack heights to say 10,000 ft (given that stacks are meant to be much reduced or eliminated by airspace redesign) must make continuous climb easier to manage.
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible	√					
N29	Workshop 9	Make use of open spaces/parks etc.			√			But only as far as this does not lead to noise concentration. Green spaces are surrounded by houses.
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	√					Essential
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change		√				Greener aircraft should make this possible, but steeper continuous climb is more of a priority in terms of general benefit. This can also deliver CO2 benefits.
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way		√				But not to outweigh noise reduction benefits
E4	Workshop 3	Must not degrade air quality		√				Better technology and also planes being higher will mean air quality in local communities is better and there are fewer particulates at low level. Planting trees in Wales does not give immediate benefit to someone in Feltham.
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO_2 impacts	√					Essential
E6	Workshop 7	The airspace design should deliver a net CO_2 benefit across Heathrow's operation whilst delivering noise benefits below 7000 feet	√					
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	√					
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	√					

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		7000 feet, that needs to be offset by CO_2 benefits elsewhere (e.g., in the upper airspace or reduced airborne/stack delays)						
E9	Workshop 12	Prioritise noise over carbon	√					
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance		√				It is a question of where the balance is set. The health impacts of noise are significant – sleep deprivation, depression, poor learning, poor concentration and physical impacts.
Technology			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
T1	Workshop 1	Future airspace change should use modern technology		√				But technologies need to be safe – see comment S1. **Use of PBN does not automatically mean route concentration – it can be a tool for effective dispersal**.
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available		√				
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments	√					
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts	√					Rules for use of green technologies should be part of this.
T5	Workshop 12	Minimise the impact of future change		√				
Operational Performance								

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
OP1	Workshop 1	Future airspace change should enable Heathrow to make the most efficient use of its runways, subject to environmental commitments			√			Yes, but only if environmental commitments also include noise and we are talking about 2 runways not 3.
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays				√		Flexibility and variation need to be only employed if it is not going to contravene agreements on route dispersal and noise pollution. Airlines need to have an incentive to operate efficiently according to their timetable. If they know they have flexibility to do something else then there will be no adherence to the design.
			Strongly Agree	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)	√					It is really important that there is meaningful oversight and sanction for airlines that just do what they always do regardless of the impact on communities. Late running, low flying late night large planes on certain routes are a case in point. We need to avoid situations where there is habitual and predictable non-compliance that is just written off as part of their quota allowance.
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule		√				But we need to understand what the implications of this are.

OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)		√				Yes, but various scenarios for poor conditions should be able to be modelled in advance so there are more automatic procedures that kick in.
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints			√			I'm not sure what this means. Too woolly.
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations			√			An integrated system that takes account of other airports is what the Airspace redesign is all about, but this is less of a priority than getting the current needs balanced.
OP8	Workshop 10	Minimise impacts on other airspace users				√		The military and drone operators which have enormous flexibility should not be prioritised over the quality of life benefits (noise & pollution reduction, respite) that may be made possible to communities near Heathrow.
OP9	Workshop 12	Designs should enable a reduction in stack holding		√				And stack base heights could be raised to facilitate continuous climb NADP1

Any other design principles we should consider?
Safety – resilience of the sat Nav PBN system should be guaranteed – see comment S1
Noise – use of NADP1 continuous climb for take-offs to reduce noise (possible raising of base stack heights of needed to make this easier)
Safety & Noise : Easterly/westerly preference – ensure that take-offs and landings are not forced to a 50:50 split regardless of prevailing winds nor safety.

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name...   .... Organisation/Representing...Runnymede Borough Council (RBC) (Officer Response)

Caveat:

We have concerns over the lack of clarity around the Design Principal process:

1) Responses are asked in respect of combined, unrelated parameters e.g.,
   "S4: Must be safe, but does not exceed existing safety standards to an extent that it has a detrimental impact on other benefits"

   - Clearly Safety must take overall priority for all parties
   - What are the 'other benefits' which Safety might detrimentally impact on. If the priority is on safety what is the implicit trade-off for which agreement is sought.

2) We understand that the current stage of the ACP is effectively a second stage of the process. The first stage having been carried out in conjunction with the CAA and the airport community without inclusion of local authorities and communities.

   This has culminated in the present proposal being presented void of the eventual proposals. In the absence of context, responses are in danger of being cautious because of concerns because of the lack of detail around potential proposals e.g., the effects of IPA, concentration of flight paths into so called 'noise sewers', etc.

3) Greater granularity in the prioritisation of parameters is required e.g., weighting of noise levels on all processes below 4,000ft which may change in priority against Carbon Emissions above 7,000ft.

   Similarly – considerations around 'respite' should not be presented as an unspecified proposal but needs to be weighted to recognise the importance of respite at night and / or in the NQP.

	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					Please see comment in Caveat Safety must be the primary overarching consideration in all aspects
S2	Workshop 2	Airspace design must be safe	X					Please see comment in Caveat Safety must be the primary overarching consideration in all aspects
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground		X				This is only one aspect, which while we generally agree with must be taken in conjunction with other parameters including planning policy, land use, etc.

	Proposed by	Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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					We strongly agree that all design considerations must be safe. The Balanced approach must be applied but safety must not be to the detriment, for example, of cleaner and quieter aircraft and vice versa. This is an example where agreement is sought regarding two incomparable parameters

P1								We do not agree that future safety standards should not exceed existing safety standards. The safety standards must be appropriate to the need.

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 remains in accordance with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.			x				Accordance with other policies does not appear to be factored in e.g. NSPfE & APF 2013, etc.
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]	X						**This should NOT be limited to the London Plan**. Local Plans in the relevant and affected areas must also be included and where appropriate take precedence over the London Plan

Noise			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
Relating to sharing the noise								
N1	Workshop 1	The design options must not create any more noise for any single community compared to pre-COVID-19 levels	x						We agree with this statement as a minimum. However, this does not appear to adopt improvement on the

									pre-Covid 19 levels which is surely what this should be striving to achieve.
N2	Workshops 3,4,6,7,9,11,12	Share the noise	X						RBC has adopted a policy that flightpaths should be dispersed. We are concerned that the introduction of PBN will result in the concentration of more flights into the same volume of air space – increasing the noise burden on already impacted communities. Implicitly, PBN is reported to enable flightpath control which could / should be utilised to disperse the noise impact and not make it worse for already impacted communities. Sharing the noise can also be multidimensional
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					Future airspace change and the understood aspirations of the Jet Zero consultation – as well as reducing carbon emissions - should also result in technological advances to make quieter aircraft. If the Jet Zero aspirations are accepted as credible it is a curious objective of Future Airspace Change to be couched in terms of 'degrees of annoyance'. This is an example of where the HAL's focus appears to be on

								mitigation rather than avoidance in the first instance.
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities		X				If one categorises the negative impacts in terms of 'pollution' – including but not limited to material pollution and noise pollution – on the basis of the international accepted 'Polluter Pays Principle' – the 'airport / plane company' must implicitly be the Polluter. On this basis it is incumbent on the airport to prevent pollution or mitigate / compensate. Therefore, it is difficult to justify why the benefits of airspace change should be shared between industry and communities. Communities are the passive partner who are not creating or instigating the original action.
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite	X					This agrees with the RBC adopted principle of dispersal. Managed departures from different runways to increase respite is a positive
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				This is an example of an inappropriate simplification. Having previously stated that we believe that Safety must be the overarching priority we are now asked to prioritise on the approach and departure angle of flights in isolation. This is an

								impossible judgement to make in this way. Clearly there is a need for balance but where is this accommodated within this statement?
Relating to respite/dispersal								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite	X						We strongly agree that there should be planned and meaningful respite. However, what is the definition of 'meaningful' respite. This has been the subject of discussion in previous consultations but has not been resolved. Is meaningful respite longer periods less frequently or shorter periods more frequently? Also how is respite reconciled with 'awakenings' in regard to late evening / night and early morning flights, etc.?
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths	X						See comment N7
N9	Workshop 5	Multiple routes for respite to be operated to a schedule	X						See comment N7
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite	X						See comment N7
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]	x						See comment N7

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N12	Workshop 7	Different flight paths for day/night flights	x					Day, night and shoulder sensitivities are not the same and must be considered separately
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces		x				
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown				x		This appears to be contrary to the RBC accepted principle of dispersal
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected		x				
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise	x					
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)	x					There is a need for new research on the health impacts of noise. Previous consultations on this subject have identified that there is reason to expect that noise does have a negative impact on health but failed to establish 'safe' limits or internationally accepted standards. We believe that this remains to be the case.
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise	x					

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)	x					We agree with this. However, as has been established in previous consultation on this subject – identification of those affected and who has access to compensation cannot be on the basis of a geographic boundary. Further work has to be carried out on a more meaningful and equitable mechanism.
Relating to limiting impacts/health impacts			**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					
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change	x					This agrees with the RBC dispersal principle
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		This is in contravention to the RBC Principal of dispersal
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			We agree that the impacts on those affected by noise should be minimised. We do not agree that those overflown should be excluded from minimisation of the impacts of noise – especially where there is an increase in the noise impact due to concentration of flights,

								typography, etc. The impacts of noise must be minimised - period.
General								
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			It is the airport / airlines that are providing the service. The onus is therefore on the airport / airlines to manage the negative impact of delivering that service on the community. How can we agree or disagree the trade-off between the number of procedures that aircraft/airlines can manage against safety and health impacts?
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits				x		How small is small? At what point would we agree that change is too complex in proportion to what benefit?
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				This appears agree with the RBC principle of dispersal
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible	X					
N29	Workshop 9	Make use of open spaces/parks etc.			x			What is the context of this question? Do you mean overflying open spaces in daytime e.g., areas for recreation; or do

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	
								you mean overflying open spaces at night / shoulder periods
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					…in addition to safety which takes overall priority
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change			x			… subject to overarching considerations of safety
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way			x			… on what basis is it proposed that this judgement should be made. Are we being asked to choose between Co2 and safety?
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			… on what basis is it proposed that this judgement should be made. Are we being asked to choose between noise and CO2 impacts?
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					…in addition to safety which takes overall priority
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					…in addition to safety which takes overall priority

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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			On what basis is the balance struck?
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance			x			On what basis is the balance struck?
Technology			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
T1	Workshop 1	Future airspace change should use modern technology		x				Implicitly we agree with this but the term 'modern' technology is not defined. What modern technology? … and how will this be governed by the principles for safety against consideration of other factors?
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available		x				Why would anyone design with specifications which are not the latest assuming that there is an improvement / advantage over previous specifications?
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments		x				Why would anyone do otherwise?
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts		x				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
T5	Workshop 12	Minimise the impact of future change					x	Why would you minimise the impact of future change an objective? Surely the positive impact of future change should be the objective regardless of whether this requires minimal or a greater level of 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			Heathrow's operational aspirations are not within the remit of a Local Authority.
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays				X		On what criteria would flexibility be permitted? Would these be commercial, health, carbon emissions? This sounds very much like the consultation and discussion around night flights
			Strongly Agree	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)	x					
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule	x					

OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)		x				Agree subject to an agreed and enforced definition of where flexibility is permitted and to what extent
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			x			
OP8	Workshop 10	Minimise impacts on other airspace users		x				
OP9	Workshop 12	Designs should enable a reduction in stack holding		x				Subject to consideration of other factors previously noted
Any other design principles we should consider?								

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name........████████........ Organisation/Representing……...London Borough of Southwark..

	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					
S2	Workshop 2	Airspace design must be safe	x					
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground		x				
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				
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 remains in accordance with the CAA's published Airspace Modernisation Strategy			x			

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		(CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]	x					
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels				x		This depends on the details of relative impacts / benefits
N2	Workshops 3,4,6,7,9,11,12	Share the noise	x					
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		A false choice is being presented and the statement is unclear – larger in real terms or as a proportion? In real terms airspace changes should not widen negative effects. In proportions the statement is reasonable.
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities			x			The benefits should go overwhelmingly to communities not industry
Relating to aircraft flight profiles								

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite	x					
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					
Relating to respite/dispersal								
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					
N9	Workshop 5	Multiple routes for respite to be operated to a schedule	x					
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite	x					
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]	X					
N12	Workshop 7	Different flight paths for day/night flights	x					
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces	x					
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N14	Workshop 8	Avoid overflying places that aren't currently overflown				x		
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected			x			This depends on the detail and relative impacts
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise	x					
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)	x					
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					
Relating to limiting impacts/health impacts			**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				
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			This depends on the detail and should not be an overriding principle
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				
General								
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			
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits				x		This depends on the detail
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					
N29	Workshop 9	Make use of open spaces/parks etc.					x	This is unclear. Parks are crucial places of respite in particular for lower income groups less likely to have outside space. They should not be targeted for flight paths in the daytime.

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					
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change	x					
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way	x					
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				The priority but subject to balance depending on the relative impacts
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					
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			At low altitude but both are crucial

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					
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available	x					
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					
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		Heathrow's efficiency should be secondary to environmental and community impacts
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays			x			
			Strongly Agree	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**

OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)	x					
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule		x				
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)		x				
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints			x			What performance targets? Unclear.
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations			x			
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?								

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name.████████............................ Organisation/Representing...Surrey County Council...

	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	Y					This statement introduces the idea of balance – the need for design principles to also consider health impacts of noise and air pollution to those living and working in the vicinity of the airport.
S2	Workshop 2	Airspace design must be safe	Y					Goes without saying
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground			Y			
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			Y			It would be expected that airports are using the highest safety standards possible. Safety is the highest design principle, it appears odd to have wording that diminishes that – even if indirectly as here

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 remains in accordance with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.			Y			
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]	Y					References need to be wider than just London Plan. Most councils have declared a climate emergency and have Climate change strategies. Areas such as Spelthorne have existing AQMAs.
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels			Y			
N2	Workshops 3,4,6,7,9,11,12	Share the noise	Y					Airspace design should limit or reduce the adverse impacts of aircraft noise. For example through: -minimising number of people overflown -managed dispersal and respite

ID	Workshops	Description						Notes
								-noise efficient operations
N3	Workshops 3, 6	Future airspace change should result in a larger number of people slightly annoyed, rather than a smaller number significantly annoyed			Y			Important to avoid concentration and creation of "noise sewers"
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities	Y					
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite	Y					
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			Y			
Relating to respite/dispersal								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite	Y					
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths	Y					
N9	Workshop 5	Multiple routes for respite to be operated to a schedule		Y				
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite	Y					Airspace design should offer long term predictability of flight paths and respite

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]		Y				More community involvement needed on what communities want from respite
N12	Workshop 7	Different flight paths for day/night flights			Y			
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces		Y				
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown			Y			Aim to minimise number of people newly overflown
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected			Y			
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise	Y					
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)	Y					
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise	Y					
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)	Y					

		Relating to limiting impacts/health impacts	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	Y					
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change			Y			
N22	Workshop 4	Minimise the negative impacts on health from night flights	Y					
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP			Y			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)			Y			
General								
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)			Y			
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits			Y			We support the principle of managed dispersal

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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	Y					
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible	Y					
N29	Workshop 9	Make use of open spaces/parks etc.			Y			
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	Y					
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change		Y				This design principle does need to recognise the need to balance noise/environment considerations
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way			Y			
E4	Workshop 3	Must not degrade air quality	Y					
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO_2 impacts			Y			This design principle does need to recognise the need to balance noise/environment considerations
E6	Workshop 7	The airspace design should deliver a net CO_2 benefit across Heathrow's operation whilst delivering noise benefits below 7000 feet	Y					Recognition of need to balance considerations

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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		Y				
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)		Y				
E9	Workshop 12	Prioritise noise over carbon			Y			This is vague, does not specify heights etc
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance			Y			
Technology			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
T1	Workshop 1	Future airspace change should use modern technology		Y				This statement doesn't really say much when used in isolation – it goes without saying really
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available		Y				
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments		Y				
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts	Y					Recognition that some technological improvements could impact negatively on communities, ie concentration

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								through PBN. This wording recognises this.
T5	Workshop 12	Minimise the impact of future change			Y			
Operational Performance								
OP1	Workshop 1	Future airspace change should enable Heathrow to make the most efficient use of its runways, subject to environmental commitments		Y				The airspace design should enable aircraft operators to optimise the use of their fleet capabilities to improve operational efficiency and environmental performance. Important to make the link between efficiencies and environmental improvements, ie less stacking
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays			Y			
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)	Y					Important 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		Y				
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)		Y				

OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints	Y					
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations			Y			
OP8	Workshop 10	Minimise impacts on other airspace users			Y			
OP9	Workshop 12	Designs should enable a reduction in stack holding		Y				
Any other design principles we should consider?								
	General comments – avoid where possible and seek to in wording, more positive wording instead, ie will do							
	Consider that with certain wording quantification would need to be added, ie adverse impact, annoyance in noise terms							
	Must achieve a fair balance between the benefits for the industry and for the people it impacts							

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name.....████████.................................. Organisation/Representing....The National Trust.....................

	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					
S2	Workshop 2	Airspace design must be safe	x					
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground	x					
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				
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 remains in accordance with the CAA's published Airspace Modernisation Strategy			x			

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
		(CAP 1711) and any current or future plans associated with it.						
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]		x				
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								
N1	Workshop 1	The design options must not create anymore noise for any single community compared to pre-COVID-19 levels			x			
N2	Workshops 3,4,6,7,9,11,12	Share the noise			x			Not clear what this principle means
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			
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities			x			
Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite		x				

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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				
Relating to respite/dispersal								
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				
N9	Workshop 5	Multiple routes for respite to be operated to a schedule			x			
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite		x				
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]		x				
N12	Workshop 7	Different flight paths for day/night flights			x			
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces		x				
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown			x			

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected			x			
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise		x				
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)		x				
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				
Relating to limiting impacts/health impacts			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				
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					

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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				
General								
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				
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits			x			
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				
N29	Workshop 9	Make use of open spaces/parks etc.				x		The National Trust is concerned that the noise impacts on its open spaces/parks in and near London should not be of greater magnitude following the airspace modernisation.
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			
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change		x				
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way		x				
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				
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			
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available		x				
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				
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			
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays			x			
			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments

OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)			x			
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule		x				
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)			x			
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			x			
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?								

Via email only to:
airspace@heathrow.com

Head of Planning and Economic Development
E-mail: ████████████████████
Direct line: ████████████
Calls may be recorded for training or monitoring
Date: 12/11/2021

Dear Sir/Madam,

Airspace Modernisation: Airspace Change Proposal Design Principles Engagement: Phase 1 Workshop

Thank you for inviting us to the Airspace Modernisation workshop and providing an opportunity for us to input into the design parameters for the modernaisation of airspace at Heathrow Airport. Please find attached a copy of the completed matrix.

As you will see, although we are grateful for the opportunity to comment on the proposed airspace changes, we are concerned that any changes that are designed to bring about an expansion in air traffic. or facilitate a future expansion in air traffic are entirely inappropriate. The Council is also concerned that many of the questions in the survey are imprecise or unclear and the results of the survey could potentially be misleading.

We are concerned about the principle of continued growth in air travel.   Despite changes in technology, aviation continues to threaten our planet as a result of global warming and currently there is no prospect that mitigation can reduce carbon emissions and address climate change

I trust the enclosed is helpful, but should you have any questions, please don't hesitate to contact me or my colleague ███████████████████████

Yours faithfully

████████████

Head of Planning and Economic Development

HEATHROW'S AIRSPACE MODERNISATION ACP

Principles suggested by Stakeholders

Name.. Organisation/Representing: Waverley Borough Council

	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					
S2	Workshop 2	Airspace design must be safe	X					
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground			X			Overflying is a function of both routes and volume of air traffic generated. While diversion of existing air traffic to minimise risk to those on the ground may be appropriate, we do not support any measures which could facilitate the expansion of air traffic.
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		We believe that the airlines should be striving to exceed what is the basic level of safety standards. In order to suggest otherwise would require a detailed analysis of the benefits for comparison

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 remains in accordance with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.		X				The highest priority principle is that the carbon footprint attributable to air traffic is reduced. We cannot agree unconditionally with CAP 1171, the requirement for more direct routes, this could have a serious and negative impact on our countryside and rural communities. Whilst cleaner fuels are very welcome, the wider issue of full declaration of aircraft emissions for all flights is not addressed.
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]		X				The proposals should also have regard to local plan policies which affect flight paths where an aircraft will be flying at less than 7000 feet above the ground. In addition to having regard to local plans and policies, design parameters should respond to the climate emergency and a switch to jobs in green offshoot industries.
Noise			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
Relating to sharing the noise								

N1	Workshop 1	The design options must not create any more noise for any single community compared to pre-COVID-19 levels	X					Whilst we strongly agree with the settlement as it stands, it does not go far enough. The noise reduction as a result in the significant diminution of air traffic at the height of the pandemic was welcome to residents in all overflown areas. We would consider pre-Covid noise levels for any single community unacceptably high in any scenario where the economy is being built back.
N2	Workshops 3,4,6,7,9,11,12	Share the noise			X			If noise levels are unacceptable, they should be reduced, rather than shared. We also consider the term 'share' to be too vague and does not appear to allow for more noise sensitive environments.
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			We should be seeking a reduction in noise levels overall rather than annoyance. The quantity of 'larger' and 'smaller' needs to be quantified, as does the level of the annoyance.
N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities				X		The main benefits of any airspace change should accrue to communities. The benefits need to be clearly defined.

Relating to aircraft flight profiles								
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite			X			This is too imprecise. What is a "suitable distance apart" and what is "valuable respite" - and for whom. 'Respite' and 'suitable' needs to be defined to be able to judge the level of intrusion and harm.
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			This needs considering on a case by case basis with key factors to be considered being emissions, noise, safety. Any additional noise and emissions needs to be outlined before a reasonable response to this question can be provided.
Relating to respite/dispersal								
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite			X			See response to N5. 'Meaningful' is subjective and would need to have clearly defined parameters.
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths			X			This design parameter does not take account of more noise sensitive areas.

N9	Workshop 5	Multiple routes for respite to be operated to a schedule			X			We are concerned that the wording is imprecise and there is a risk of multiple routes flying over more noise sensitive areas.
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite			X			These parameters would need to be defined to provide a meaningful response. The design parameter as currently worded is considered to be too imprecise.
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]			X			This does not take account of more noise sensitive areas or provide any parameters that provide clarity over the definition of 'respite'. Again, the wording is considered to be too imprecise.
N12	Workshop 7	Different flight paths for day/night flights			X			Night flights should be minimal and over open spaces. Again, this would need to have a clear idea of proposed flight paths before a reasonable response could be given.

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces	X					Open spaces can be far more noise sensitive, proposed flight paths are required before any reasonable response can be provided.
Relating to newly overflown			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
N14	Workshop 8	Avoid overflying places that aren't currently overflown	X					An analysis of the impact on each of these places would be required in order to provide a reasonable response.
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected					X	Overflying should be avoided. A reduction in the volume of air traffic is preferable to overflying new people. In addition the term 'benefits', would need to be defined together with the impact on each place affected by overflying.
Relating to noise reductions/mitigations								
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise	X					We consider that airspace should reduce noise and mitigate the impacts of noise as a tandem approach
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)	X					This would need to be in comparison with any effect on emissions.

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
N18	Workshop 7	Reduce the impacts on those most significantly affected by noise	X					If a reduction is sought it would need to be meaningful and a noticeable improvement for local communities.
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)	X					Any mitigation provided would need to be meaningful.
Relating to limiting impacts/health impacts			**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					This does not mean that the issue should simply be shifted to other communities. A reduction in noise overall should be the aim.
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change		X				This appears to shift the issue. Instead a noise reduction should be sought for all communities affected by overflying from Heathrow.
N22	Workshop 4	Minimise the negative impacts on health from night flights	X					The term 'minimise' needs to be defined. Whilst any lessening of impact would be welcomed, the overall harm may still be significant.
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP		X				No residents should experience additional noise as a result of this ACP.

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
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					A brief outline of CAP1498 is required in order to provide a reasonable response to this question.
General								
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			Respite and operational complexity should not take precedence over quality of life for people who do not or choose not to fly or for carbon emissions
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits						The design parameter is imprecise and therefore, we cannot comment.
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			See comments for N26 above. An outline of alternative routes is required in order to provide a reasonable response to this question
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible	X					
N29	Workshop 9	Make use of open spaces/parks etc.	X					
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		Full account should be taken of the impact on air quality and the volume of carbon emissions. Emissions will need

								to be fully calculated for all flights, and it is assumed that this will be done later in the process and results shared with stakeholders.
E2	Workshop 1	Minimise fuel burn, CO_2, greenhouse gases and all other contributors to climate change	X					The issue is how this can be achieved and the reason why detailed consultation with local communities and environmental organisations should occur with regard to this statement.
E3	Workshop 2	Operate flights in the most CO_2 efficient/friendly way	X					See comments above.
E4	Workshop 3	Must not degrade air quality	X					See comments above.
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO_2 impacts				X		See comment for E1.
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					The calculation of this net benefit would need to be scrutinised before a reasonable response could be provided.
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				We agree that the project as a whole should deliver net carbon reduction for Heathrow's operation, but we do not necessarily believe that noise should be, in all circumstances, the priority below 7000 feet.

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				The negative impact of CO2 emissions below 7000 feet need to be avoided. Any offsetting would need to be clearly defined.
E9	Workshop 12	Prioritise noise over carbon					X	While we disagree, we consider that there is a trade-off here. That is why consultation with local communities and independent environmental experts are important on a case-by-case basis. Our general principle is that if there is a requirement for noise abatement below 7000 feet and this requires an increase in CO2 emissions per flight, the only effective mitigation is a reduction in the number of flights to compensate.
E10	Workshop 12	Noise and CO_2 are equally important and there should be a balance			X			It is obvious that a balance needs to be struck and there is a trade off, but it cannot be said that "Noise and CO2 are equally important" when we are facing a global climate emergency. The urgent task ahead and the big challenge for the

			Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Further comments
								industry is that the current volume of air traffic is unsustainable going forward. This is a matter of degrees if there is an equally bad balance then this is of no benefit.
Technology			**Strongly Agree**	**Agree**	**Neither Agree nor Disagree**	**Disagree**	**Strongly Disagree**	**Further comments**
T1	Workshop 1	Future airspace change should use modern technology	X					The modern technology needs to be fully understood prior to providing a comprehensive response to this point. However, we note the challenge is the feasibility of new technology and as technology advances, it should not be seen as a guarantee that current emissions levels or even current volumes of air traffic should be maintained. Both should be reduced.
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available	X					See response to T1.

T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments	X					See response to T1. This will need to be balanced with quality of life and reducing the impact of climate change.
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts	X					See response to T1. We are concerned that the reference to 'greatest benefit' is too vague as a term.
T5	Workshop 12	Minimise the impact of future change	X					See response to T1. It is important to any future airspace changes compliment the FASI South programme to avoid the need to redesign the airspace again in the future.
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	Environmental commitments should be paramount whilst enabling Heathrow to make the most efficient use of its runways as far as possible.

								Nevertheless, environmental and noise considerations should be paramount and performance targets should take account of this.
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations			X			A definition of 'adjacent airport operations' is required within the design parameters to avoid confusion.
OP8	Workshop 10	Minimise impacts on other airspace users			X			It is unclear what impacts this covers.
OP9	Workshop 12	Designs should enable a reduction in stack holding	X					The reason for stack holding would need to be assessed before providing a meaningful answer to this point.

Any other design principles we should consider?								

4. Phase 2 feedback - Community Groups

Subject: Heathrow Design Principles FINAL

Date: Wednesday, 8 December 2021 at 15:29:58 Greenwich Mean Time

From: ███████

To: ███████████ DD - Airspace

CC: ██

Attachments: .eml

Dear ██

Please find attached a letter from myself as Heathrow Community Noise Forum (HCNF) Co-Ordinator, Community Noise Groups and local authority representatives who represent those communities within the HCNF and whose names are added at the end of the attached letter.

For the avoidance of doubt the HCNF represents the interests of the substantive majority of communities that surround Heathrow as well as those that are particularly affected by Heathrow aircraft movements.

We look forward to hearing from you.

Thanks in advance of your response.

Best regards,

███████████

HCNF C0-Ordinator

****

Letter to Heathrow Airport Limited
from members of
The Heathrow Community Noise Forum
8 November 2021

To ███

cc ███

Dear ████

Ref: Heathrow Airspace Modernisation (FASI South) (ACP-2021-056)
Sponsor: Heathrow
Step 1b Design Principles

This letter is sent on behalf of Community Noise Groups and local authority representatives who are members of the Heathrow Community Noise Forum and have added their names at the end of this letter.

We refer to Heathrow's presentation slides "**Airspace Modernisation: Airspace Change Proposal Design Principles Engagement: Phase 2 Workshop**" emailed to us following our attendances at the Stage 2 workshops held at the end of November/early December. This document contains Heathrow's proposed short-list of Design Principles in preparation for submission to the CAA.

We disagree with the set of short-listed Principles chosen by Heathrow and record here what we believe is a failure of the CAP 1616 engagement process between Heathrow as sponsor and ourselves as stakeholders.

1.   The Design Principles do not adequately reflect ANG17 Noise Objectives, adopted national policy which has legal effect,

2.   The process adopted by Heathrow for consulting affected communities is not fair, transparent and is potentially open to challenge as it does not reflect the 'Gunning principles' (meaningful consultation with an open mind at the formative stage with sufficient time given),

3.   There has been no dialogue or response from Heathrow to previously expressed concerns on the Principles Matrix or to the concerns raised during the Stage 2 workshops. Indeed, Heathrow says '*We are unable to share all the feedback we received during this workshop and how we have utilised it, due to time constraints*'. We have had no opportunity to examine Heathrow's interpretation of the feedback or weightings given to views of different stakeholders.

4.   Given the significance of the Stage 2 there has been insufficient time for communities to respond to the slide pack with-held from participants until after the Stage 2 workshops and the deadline for response on 8 December. One week for communities to respond to life changing proposals, when their expressed concerns have not even been mentioned, is unacceptable.

The communities affected by the proposed design changes must emphasise that they do not agree with the Design Principles as stated but remain desirous and willing to enter meaningful consultation.

We look forward to your responding to us on these matters as soon as possible given the approaching deadlines set out in the CAP 1616 portal. In the interests of sending you a letter at the earliest opportunity we have a limited list of members of the HCNF signing this letter and we would welcome, please, your response to each of us.

Yours faithfully

███████, Heathrow Community Noise Forum Co-Ordinator

███████, Co-Ordinator, HACAN
██████, Teddington Action Group
, Richmond Heathrow Campaign
██████, Windsor & Maidenhead Local Authority
, Englefield Green Action Group
████, HASRA
████, HASRA
████████, Iver Parish Council
, Plane Hell Action Group (Dulwich & surrounding areas)
████, The Windlesham Society
, AN3V, Bagshot & Lightwater
████████, Ealing Aircraft Noise Action Group

5. Phase 2 feedback - Industry Organisations/Groups

Subject: RE: Heathrow's Proposed Design Principles_Airspace Modernisation ACP

Date: Wednesday, 1 December 2021 at 17:28:44 Greenwich Mean Time

From: ███████████

To: DD - Airspace

No comments from us thanks.
Kind regards
███████████

British Gliding Association.

From: DD - Airspace <airspace@heathrow.com>
Sent: 01 December 2021 16:29
Subject: Heathrow's Proposed Design Principles_Airspace Modernisation ACP

Dear stakeholder,

After our Phase 1 workshops and subsequent feedback period to the long list of Design Principles, we have developed a set of proposed design principles for the Airspace Modernisation airspace change. We shared these proposed principles with representatives from our local communities and local authorities at a series of workshops this week and we have asked them to provide any further feedback on these before 5pm Wednesday 8 December.

We would be grateful if you could also review our proposed design principles and provide any feedback on them. **Our proposed principles are set out in the attached slides on Page 25**. The other slides set out examples of the type of feedback we received and how that feedback has been used to develop our design principles.

Please provide any comments or feedback by 5pm Wednesday 8 December via
airspace@heathrow.com

Many thanks for your continued support and engagement in this process,

███████████
Airspace, Noise & ATM Specialist

Subject: DESIGN PRINCIPLES

Date: Friday, 3 December 2021 at 10:03:42 Greenwich Mean Time

From: ███████████

To: DD - Airspace

Attachments: image001.jpg, image002.png

Good Morning Heathrow,

I agree with the Design Principles you have proposed. However, I think that there should be an additional DP in the "Our airspace design must" category. There should be due consideration made for providing harmonised routes which not only have due consideration for adjacent stakeholders routes or requirements, and other airspace users. You may wish to consider these as two separate DPs?

Regards,

███████

███████████████

Operations Technical Support Manager

███████████
██████████████████
E: ███████████████████████
W: bigginhillairport.com

London Biggin Hill Airport EGKB, Biggin Hill, Bromley TN16 3BH, UK

Main Passenger & Executive Terminal
Biggin Hill Airport

Subject: RE: Heathrow's Proposed Design Principles_Airspace Modernisation ACP

Date: Friday, 3 December 2021 at 14:10:36 Greenwich Mean Time

From: ██████████████████████████████

To: DD - Airspace

███

Thank you for your ongoing engagement regarding Heathrow's ACP. The MOD has no further feedback to offer on proposed Design Principles at this stage. RAF Northolt will respond separately to this email.

Kind regards,

███

██
██
████████████████████████████████████

From: DD - Airspace <airspace@heathrow.com>
Sent: 01 December 2021 16:29
Subject: Heathrow's Proposed Design Principles_Airspace Modernisation ACP

Dear stakeholder,

After our Phase 1 workshops and subsequent feedback period to the long list of Design Principles, we have developed a set of proposed design principles for the Airspace Modernisation airspace change. We shared these proposed principles with representatives from our local communities and local authorities at a series of workshops this week and we have asked them to provide any further feedback on these before 5pm Wednesday 8 December.

We would be grateful if you could also review our proposed design principles and provide any feedback on them. **Our proposed principles are set out in the attached slides on Page 25**. The other slides set out examples of the type of feedback we received and how that feedback has been used to develop our design principles.

Please provide any comments or feedback by 5pm Wednesday 8 December via airspace@heathrow.com

Many thanks for your continued support and engagement in this process,

████████
, Noise & ATM Specialist

RE: Heathrow's Proposed Design Principles Airspace Modernisation ACP

██████████████████████████████████

Wed 08/12/2021 13:44

To: DD – Airspace <airspace@heathrow.com>

📎 1 attachments (22 KB)
HAL DP response.docx;

Dear ████

Thank you providing NATS the opportunity to review and feedback on the design principles.

Please find attached our response.

Regards

████

Manager NATS Operational Policy
████████████████

NATS Internal

From: DD - Airspace <airspace@heathrow.com>
Sent: 01 December 2021 16:29
Subject: Heathrow's Proposed Design Principles_Airspace Modernisation ACP

Dear stakeholder,

After our Phase 1 workshops and subsequent feedback period to the long list of Design Principles, we have developed a set of proposed design principles for the Airspace Modernisation airspace change. We shared these proposed principles with representatives from our local communities and local authorities at a series of workshops this week and we have asked them to provide any further feedback on these before 5pm Wednesday 8 December.

We would be grateful if you could also review our proposed design principles and provide any feedback on them. **Our proposed principles are set out in the attached slides on Page 25**. The other slides set out examples of the type of feedback we received and how that feedback has been used to develop our design principles.

Please provide any comments or feedback by 5pm Wednesday 8 December via airspace@heathrow.com

Many thanks for your continued support and engagement in this process,

████████

	DP	NERL Response
Our airspace design must	Be safe for all stakeholders	NERL supports this design principle
	Remain in accordance with the CAA's published Airspace Modernisation Strategy and any current or future plans associated with it and all other relevant UK Policy, Legislation and Regulatory Standards. This includes preventing any worsening of local air quality due to emissions from Heathrow's aircraft movements, to remain within local authorities' limits	NERL supports this design principle
	Use noise efficient operational practices to limit and, where possible, reduce adverse impacts from aircraft noise	NERL supports this design principle, but would draw attention to the necessity that any changes do not result in an increase in network complexity or a decrease in network efficiency.
	Reduce the contribution to climate change from CO_2 emissions, and other greenhouse gases relating to Heathrow's aircraft activities* *ANG2017 states that noise is the priority below 7000ft. Providing some types of noise mitigation measures below 7000ft is likely to negatively impact CO2 emissions of aircraft in flight. However, the airspace design must still enable overall CO2 reductions for the Heathrow operation	NERL welcomes this design principle. We agree that a high priority needs to be given to the overall carbon impact from the Heathrow operation within the whole ATM Network. However, this design principle needs to recognise that the Heathrow designs will have an influence/impact on the designs of other airports and cannot be considered in isolation. The caveat of noise being the priority below 7000ft is not wholly accurate, as the ANG2017 Altitude Based Priorities states that between 4000' and 7000' noise is the priority unless the change disproportionately increases CO_2 emissions. We suggest the following change to the design principle: Reduce the contribution to climate change from CO_2 and other greenhouse gas emissions taking account both of aircraft operating from Heathrow and of the cumulative impact Heathrow designs may have on routes serving other airports*
	Enable Heathrow to make the most operationally efficient and resilient use of its existing two	NERL supports the need for operational efficiency and looks forward to working with HAL to determine what this means in practice.

	runways, to maximise benefits to all stakeholders	
And should also	Provide predictable and meaningful respite to those most affected by noise from Heathrow's movements	NERL supports the need for respite to those affected by aircraft noise.
	Avoid overflying the same communities with multiple routes including those to/from other airports	Whilst NERL understands the aim of this design principle it may not be possible to realise the optimal design without overflying areas that are used by other airports.
	Minimise the negative impacts of night flights	NERL has no comment on this design principle.
	Keep the number of people who experience an increase in noise from the future airspace design to a minimum	NERL has no comment on this design principle.
	Keep the total number of people who experience noise from the future airspace design to a minimum	NERL has no comment on this design principle.
	Ensure the efficiency of other airspace users' operations	NERL does not understand the context of the word 'efficiency' in this design principle – we suggest it needs more clarity.
	Minimise the impact to all stakeholders from future changes	Given the timescales involved in airspace change, NERL recognises the value of flexibility in the design process. However, NERL notes that future changes will be subject to their own approval processes and that future requirements cannot be relied upon to justify aspects of this change unless they are in line with the statement of need. We also note that any significant change to requirements will have the potential to impact neighbouring FASI ACPs, causing delay to the implementation of the AMS.
OTHER COMMENTS		
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Subject: RE: Heathrow's Proposed Design Principles_Airspace Modernisation ACP

Date: Tuesday, 7 December 2021 at 08:11:21 Greenwich Mean Time

From: ███████████████████████████████

To: DD - Airspace

Heathrow ACP Team,

RAF Northolt is pleased to see that the points raised during the engagement session have been captured and therefore we do not have any further comments to add to Heathrow's proposed Design Principles.
Kind Regards

███████████

███

From: DD - Airspace <airspace@heathrow.com>
Sent: 01 December 2021 09:48
Subject: Heathrow's Proposed Design Principles_Airspace Modernisation ACP

Dear stakeholder,

After our Phase 1 workshops and subsequent feedback period to the long list of Design Principles, we have developed a set of proposed design principles for the Airspace Modernisation airspace change. We shared these proposed principles with representatives from our local communities and local authorities at a series of workshops this week and we have asked them to provide any further feedback on these before 5pm Wednesday 8 December.

We would be grateful if you could also review our proposed design principles and provide any feedback on them. **Our proposed principles are set out in the attached slides on Page 25**. The other slides set out examples of the type of feedback we received and how that feedback has been used to develop our design principles.

Please provide any comments or feedback by 5pm Wednesday 8 December via airspace@heathrow.com

Many thanks for your continued support and engagement in this process,

███████, Noise & ATM Specialist

6. Phase 2 feedback - Local Authorities/Councils & Environmental Organisations

Subject: Feedback on proposed design principles for Heathrow's airspace modernisation
Date: Tuesday, 7 December 2021 at 23:21:14 Greenwich Mean Time
From: ████████████
To: DD - Airspace
CC: Chiltern Society Planning, Planning
Attachments: C0F77B2D21C84D4BAD0F07A6C682128E.png

Hello,

Thank you for sharing the slides and other information relating to the proposed design principles for Heathrow's airspace modernisation, and the opportunity to provide feedback.

This feedback is provided on behalf of the Chiltern Society – an amenity organisation with 6500-7000 members seeking to protect the wider Chilterns (the AONB and its environs) – for which I am a volunteer.

It is surprising and disappointing that no reference is made within any of the slides to Areas of Outstanding Natural Beauty, of which several, including the Chilterns AONB, are significantly affected by flights from Heathrow. CAP1616 requires that there be consideration of the impacts on AONBs, and that, where practicable, overflight below 7000ft should be minimised. Could you please clarify / confirm whether this was explained at the various workshops, and thus fed into the discussions; and whether the participants in those workshops included representatives from the statutory bodies for AONBs, or community organisations from those areas?

We would also have hoped that the proposed design principles would include, as one of the subsidiary "should also..." aims, something along the lines of "minimise impacts on Areas of Outstanding Natural Beauty and other tranquil areas". If it is not too late, we would ask you to consider this suggestion.

For the future, as the modernisation process moves through its various stages, could you please check that organisations representing the Chilterns, either the statutory Chilterns Conservation Board, or the member organisation the Chiltern Society, are on your stakeholder list for engagement. The e-mail addresses for the relevant paid Officers of these organisations are cc'd.

Regards,
████████████
Volunteer for the Chiltern Society

Sent from Mail for Windows

From: DD - Airspace
Sent: 02 December 2021 14:33
To: ████████████████████████
Subject: RE: Request clarification re Heathrow's airspace modernisation plans

Dear ████████████

Thank you for your interest in airspace modernisation at Heathrow, and my apologies for the delay in getting back to you.

We are currently at the first stage of the Civil Aviation Authority's process where we develop "design principles" for the airspace change: we will submit these to the CAA early next year and we will then begin the process of developing design options. The process will take a number of years and will involve stakeholder engagement and public consultation so that we can ensure we capture the views and priorities of potentially affected communities.

I have attached some slides that set out our proposed design principles. These have been developed following workshops with community representatives, Local Authority representatives, industry representatives and environmental groups. The proposed design principles are shown on page 25. You can respond via this email address (airspace@heathrow.com) if you would like to provide feedback or ask any questions.

We will keep our website updated with progress as we make our way through the airspace change process. You may also like to follow our progress via the CAA's portal, where you can sign up for email updates about this airspace change: Airspace change proposal public view (caa.co.uk)

Many thanks,

██

██████████   Lead for Airspace Modernisation

Heathrow

Subject: Further response to the second round of workshops - Heathrow Airspace Modernisation Design Principles

Date: Tuesday, 7 December 2021 at 18:15:01 Greenwich Mean Time

From: ████████████

To: DD - Airspace

CC: ████████████████

Dear ████████████

Just a few further comments following the second workshop session outlining the responses you received to the first workshop, otherwise please add this to the previous HSPG response letter and matrix responses to the first workshop.

a. I was pleased to see that the presentation slides and discussion suggest you are considering a fair number of our previous submitted responses.

b. At the second workshop I suggested greater clarity be added around what is meant by the heading of 'safety' (implied to mean the *acute* risks of crashing planes etc) and then how long term *chronic* 'safety' issues around health and wellbeing are addressed? HAL undertook to consider this further.

c. A statement was made in the workshop that you use the heading of 'environment' as a shorthand for climate change/decarbonisation – this also needs a bit for unpacking for greater clarity. As you will agree, there are a range of environmental impacts to consider and even balance with carbon reduction.

d. I asked you to make more explicit recognition to the need for the efficient planning of runways to ensure there is sufficient resilience and flexibility in the daily schedule to avoid late early/runners during the Night time (23.00 – 07.00). You undertook to consider this further

e. You offered a useful clarification – that 'airspace' covers 'all aircraft activities insofar as they affect flying' – thus including things on the ground such as displaced thresholds or that use of certain flight routes are restricted to certain runways etc. I remain unclear how the carbon effects of aircraft activities on the ground leading to more or less taxiing time etc are accounted for in terms of carbon? Is this part of airport operations 'basket' or as part of the total flight movement 'basket'? How will HAL present the whole balanced picture re Heathrow's total carbon emissions?

f. HAL intend to introduce full alternation on Easterly Operations – this will require some development works to taxi-ways to the Northern Runway etc. There was some uncertainty in the presentation and you undertook to provide me clarification as to the status of the Cranford agreement and the intended permitting process for the necessary development works – whether through DCO, PA or GDPO etc.

g. On 'environment' – a more defined goal for reduction may help direct partnered airports to co-ordinate better. If these carbon savings are mainly from more fuel-efficient flight paths, can we think about breaking down the principle. e.g. reducing time spent in holding stacks etc? The need for a somewhat loose principle is understood for the sake of simplicity, but this might help incentivise airports to collaborate and to record, capture and improve their data.

h. Equalities in design? In the UK, 15% of people take 70% of all flights, while nearly 50% of the population do not fly at all – highly unequal division of carbon budget. How might route design shape this?e.g. attempting to address carbon heavy routes?

i. Where the principles state maximising the benefits to 'all' stakeholders, does this seek to distribute

the benefits 'equally' or 'fairly' or on the basis of some weighted framework?

HSPG look forward to seeing the full responses to our submissions in the formal report to CAA in Q1/22. If you wish to discuss or clarify any of the submitted points do please get in touch.

Kind Regards

Lead Advisor
Heathrow Strategic Planning Group