

LEEDS BRADFORD AIRPORT FASI AIRPACE CHANGE PROPOSAL

ACP-2021-066

Stage 2A Submission Document **Annex 1- Design Principle Evaluation**

January 2026

Version	Date	
1.0	05/01/26	New document prepared for Stage 2 submission January 2026

METHODOLOGY

DP#	DP Statement	DP Component	APPROACH TO EVALUATION	MEETS	PARTIALLY MEETS	DOES NOT MEET
DP1	Importance of Safety- The airspace design and its operation must maintain or where possible enhance current levels of safety	N/A	A qualitative assessment undertaken by SME as to whether the option is expected to maintain or improve safety, whether further, achievable safety assurances will be required or whether there are issues identified which are unlikely to be able to be mitigated	Maintains existing level of safety, or improves on it	Issues identified that will require further safety assurances which seem achievable at this stage	Issues identified that would be unlikely to be able to be mitigated
DP2	Noise- The design should limit, and where practicable, reduce, the number of people overflow, the impact of noise to stakeholders on the ground and where possible periods of built-in respite should be considered.	Number of people overflow	A qualitative assessment of whether the option is expected to enable routes to laterally avoid population densities which would therefore lead to a reduction in population numbers affected by noise	Expected to enable routes to laterally avoid population densities	No Change expected or similar magnitude of impacts	Like to result in worse vertical profiles or likely to overflow more densely populated areas
		Impact of Noise	ANG states that the Lowest Observed Adverse Effect Level (LOAEL) is regarded as the point at which adverse effects begin to be seen on a community basis. This qualitative assessment considers whether there are any aspects of each option which may affect the position and size of the LOAEL and if so, whether it could be expected to increase or decrease population numbers within it. This is performed using the extent of the daytime 2018 L _{eq} 16hr contour	Option could be expected to offer a reduction in the number of people within the LOAEL, subject to detailed modelling	Option could have positive or negative effect but not possible to tell without detailed noise modelling.	Option could be expected to generate an increase in the number of people within the LOAEL, subject to detailed modelling
		Respite considered	Whether or not the route was specifically developed with respite in mind	Option was specifically designed for respite purposes	N/A	Option was not specifically designed for respite purposes
		OVERALL DP EVALUATION (Any mixture of Met, Partly met, not met = Partly met)				
DP3	Tranquillity- Where practical, route designs should limit effects upon noise sensitive areas. These may include cultural and historical assets, tranquil or rural areas, sites of care or education and AONBs.	N/A	A qualitative assessment which compares the overflight of AONBs and National Parks below 7000ft of each option compared to the baseline. Assessment does not consider overflight of cultural and historical assets, rural areas or sites of care or education as swathes are too broad	Swathe does not overfly any or overflies less AONB or National Park below 7000ft	Swathe continues to overfly AONB or National Park below 7000ft	Swathe overflies more AONB or National Park below 7000ft
DP4	Emissions and Air Quality- The proposed design should minimise CO ₂ emissions per flight.	CO ₂ emissions	A qualitative SME assessment of whether the option can be expected to reduce, increase or not change CO ₂ emissions compared to the baseline owing to the estimated track miles associated with the option. See DP8 for CCO/CDO consideration	Option expected to enable more efficient routings, reducing co ₂ emissions	No Change or Similar to the baseline	Option expected to enable more inefficient routings, increasing co ₂ emissions
		Air Quality	A qualitative statement on whether the options could be expected to affect local air quality. ANG2017 states that due to the effects of mixing and dispersion, emissions from aircraft above 1,000 feet are unlikely to have a significant impact on local air quality. If an option has a change to flightpaths below 1,000ft it will be evaluated as 'Partially Met' however further analysis will be required to determine the scale of change to local air quality. If an option has no change to flightpaths below 1000ft it will be evaluated as 'Met'.	No change below 1000ft expected therefore option is unlikely to affect local air quality	Option has potential to affect local air quality below 1000ft	N/A - Not possible to ascertain without detailed modelling
		OVERALL DP EVALUATION (Any mixture of Met, Partly met, not met = Partly met)				
DP5	Airspace Dimensions- The volume and classification of controlled airspace required for LBA should be the minimum necessary to deliver an efficient airspace design, considering the needs of all airspace users	N/A	A qualitative SME assessment of whether the option is expected to reduce, maintain or increase the volume and complexity of Controlled Airspace.	Option likely to allow a reduction in CAS	Options likely to require similar volume of CAS	Option likely to require increased volume of CAS
DP6	Airspace Complexity- The airspace design should seek to reduce complexity and bottlenecks in controlled and uncontrolled airspace and contribute to a reduction in airspace infringements.	N/A	The outcomes of DP5 will be used to evaluate this design principle on the assumption that more CAS could increase complexity and bottle necks in uncontrolled airspace and a reduction in CAS should reduce it. For reduction of complexity inside CAS, see DP8 assessment.	Evaluated in DP5 and met that design principle	Evaluated in DP5 and Partly Met that design principle	Evaluated in DP5 and did not meet that design principle
DP7	Technical Requirements- The design shall be fully compliant with PANS-OPS and UK CAA criteria to meet the technical capability requirements of aircraft using the airport.	N/A	Qualitative assessment by UK APD of whether designing a procedure within the swathe is likely to be achievable within PANS OPS	No cause of concern for APD	Potential to have some IFP design challenges	Not possible within PANS OPS
DP8	Systemisation- The new procedures will integrate with the en-route network, as per the FASI-N programme. If required, the arrival transitions shall integrate with the IAPs, deconflict with the departure procedures, reducing the requirement for tactical coordination.	N/A	Qualitative assessment of whether the departure swathe is in the required direction of NELSA/POL/MAMUL or if the Arrival stack/swathe is in the preferable network location. It is not possible to ascertain whether all departures and arrivals will be deconflicted owing to the significant number of possible combinations at this stage.	Expected to integrate with the future MTMA en-route network	Expected to integrate but not ideal	Not expected to integrate with the future MTMA en-route network
DP9	Operational Cost- Provided it does not have an adverse impact of community disturbance, procedures should be designed to optimise fuel efficiency.	N/A	Not possible to ascertain whether there is an adverse 'impact on community disturbance' as there is no approved metric for assessing such. It is likely any change will have an impact to some degree but not possible to ascertain if it would be an adverse affect. Fuel efficiency is qualitatively evaluated in DP4	N/A	N/A	N/A
DP10	AMS Realisation- This ACP must serve to further, and not conflict with, the realisation of the AMS.	N/A	The outcomes of DP1, 2, 3, 4, 5, 6, 8 are considered to assess this design principle with the exception of Do Nothing (baseline) which conflicts with the objectives of the AMS.	DP1, 2, 3, 4, 5, 6, 8 all met	DP1, 2, 3, 4, 5, 6, 8 mixture of met, partly met and not met	DP1, 2, 3, 4, 5, 6, 8 all not met
DP11	PBN- The new procedures should capitalise on as many of the potential benefits of PBN implementation as are practicable.	N/A	A qualitative SME assessment of whether the option makes use of PBN and if aircraft upgrades may be required (RF or AR)	Expected to be designed to PBN standards that do not require aircraft fleet upgrades	Expected to be designed to PBN standards that may require aircraft fleet upgrades	Does not utilise PBN

ARRIVALS

DP#	DP Statement	Component	Options										
			Baseline	System 1	System 6	System 7	System 8	System 9	System 10	System 11	RNP AR RW14	RNP AR RW32	
DP1	Importance of Safety: The airspace design and its operation must maintain or where possible enhance current levels of safety	N/A	Proven to be safe	Change will require new safety case but no show-stoppers identified at this stage	Change will require new safety case but no show-stoppers identified at this stage	Change will require new safety case but no show-stoppers identified at this stage	Change will require new safety case but no show-stoppers identified at this stage	Change will require new safety case but no show-stoppers identified at this stage	Change will require new safety case but no show-stoppers identified at this stage	Change will require new safety case but no show-stoppers identified at this stage	Change will require new safety case but no show-stoppers identified at this stage	Change will require new safety case but no show-stoppers identified at this stage	
DP2	Noise: The design should limit, where practicable, the number of people overflow, the number of stakeholders on the ground and where possible periods of built-in respite should be considered.	Number of people overflow	No Change expected	Systemised PBN approach transitions will overflow fewer people than today's swathe	Systemised PBN approach transitions will overflow fewer people than today's swathe	Systemised PBN approach transitions will overflow fewer people than today's swathe	Systemised PBN approach transitions will overflow fewer people than today's swathe	Systemised PBN approach transitions will overflow fewer people than today's swathe	Systemised PBN approach transitions will overflow fewer people than today's swathe	Systemised PBN approach transitions will overflow fewer people than today's swathe	Systemised PBN approach transitions/RP procedures will overflow fewer people than today's swathe	Systemised PBN approach transitions/RP procedures will overflow fewer people than today's swathe	
		Impact of Noise	Option not expected to have any effect on the LOAEL	Option not expected to have any effect on the LOAEL	Option not expected to have any effect on the LOAEL	Option not expected to have any effect on the LOAEL	Option not expected to have any effect on the LOAEL	Option not expected to have any effect on the LOAEL	Option not expected to have any effect on the LOAEL	Option not expected to have any effect on the LOAEL	Option could have positive or negative effect but not possible to tell without detailed noise modelling	Option could have positive or negative effect but not possible to tell without detailed noise modelling	
		Respite considered	Option was not specifically designed for respite purposes	Option was not specifically designed for respite purposes	Option was not specifically designed for respite purposes	Option was not specifically designed for respite purposes	Option was not specifically designed for respite purposes	Option was not specifically designed for respite purposes	Option was not specifically designed for respite purposes	Option was not specifically designed for respite purposes	Option was not specifically designed for respite purposes	Option was not specifically designed for respite purposes	
		OVERALL											
DP3	Transparency: Where practicable, new designs should limit effects upon noise sensitive areas. These may include cultural and historical assets, tourism and leisure sites, or areas of education and AONBs.	N/A	RWY 14 arrivals continue to overflow Yorkshire Dales NP and Nidderdale AONB below 7000ft	RWY 14 arrivals continue to overflow Yorkshire Dales NP and Nidderdale AONB below 7000ft	RWY 14 arrivals continue to overflow Yorkshire Dales NP and Nidderdale AONB below 7000ft	RWY 14 arrivals continue to overflow Yorkshire Dales NP and Nidderdale AONB below 7000ft	RWY 14 arrivals continue to overflow Yorkshire Dales NP and Nidderdale AONB below 7000ft	RWY 14 arrivals continue to overflow Yorkshire Dales NP and Nidderdale AONB below 7000ft	RWY 14 arrivals continue to overflow Yorkshire Dales NP and Nidderdale AONB below 7000ft	RWY 14 arrivals continue to overflow Yorkshire Dales NP and Nidderdale AONB below 7000ft	RWY 14 arrivals continue to overflow Yorkshire Dales NP and Nidderdale AONB below 7000ft	Swathe does not overly any AONB or National Parks below 700ft	
DP4	Emissions and Air Quality: The proposed design should minimise CO2 emissions per flight.	CO2 emissions	No Change	Similar to the baseline	Option expected to enable more efficient routings owing to straight in approaches to either end	Option expected to enable more efficient routings owing to straight in approaches to either end	Option expected to enable more efficient routings owing to straight in approaches to either end	Similar to the baseline	Option expected to enable more efficient routings owing to straight in approaches to either end	Option expected to enable more efficient routings owing to straight in approaches to either end	Option expected to enable more efficient routings owing to straight in approaches to either end	Similar to the baseline	
		Air Quality	No change below 1000ft expected therefore option is unlikely to affect local air quality	No change below 1000ft expected therefore option is unlikely to affect local air quality	No change below 1000ft expected therefore option is unlikely to affect local air quality	No change below 1000ft expected therefore option is unlikely to affect local air quality	No change below 1000ft expected therefore option is unlikely to affect local air quality	No change below 1000ft expected therefore option is unlikely to affect local air quality	No change below 1000ft expected therefore option is unlikely to affect local air quality	No change below 1000ft expected therefore option is unlikely to affect local air quality	No change below 1000ft expected therefore option is unlikely to affect local air quality	No change below 1000ft expected therefore option is unlikely to affect local air quality	
		OVERALL											
DP5	Airspace Dimensions: The volume and classification of controlled airspace must be no less than the minimum necessary to deliver an efficient airspace design, considering the needs of all airspace users	N/A	Options likely to require similar volume of CAS	Option likely to require increased volume of CAS	Option likely to require increased volume of CAS	Option likely to require increased volume of CAS	Option likely to require increased volume of CAS	Option likely to require increased volume of CAS	Option likely to require increased volume of CAS	Option likely to require increased volume of CAS	Option likely to require increased volume of CAS	Options likely to require similar volume of CAS	
DP6	Airspace Complexity: The airspace design should seek to reduce complexity and conflicts within controlled and uncontrolled airspace and contribute to a reduction in airspace infringements.	N/A	Options likely to require similar volume of CAS	Option likely to require increased volume of CAS	Option likely to require decreased volume of CAS	Option likely to require increased volume of CAS	Option likely to require increased volume of CAS	Option likely to require increased volume of CAS	Option likely to require increased volume of CAS	Option likely to require increased volume of CAS	Option likely to require increased volume of CAS	Options likely to require similar volume of CAS	
DP7	Technical Requirements: The design shall be fully compliant with PANS-OPS and ICAO standards to meet the technical capability requirements of aircraft using the airport.	N/A	No cause of concern for APD	No cause of concern for APD	No cause of concern for APD	No cause of concern for APD	No cause of concern for APD	No cause of concern for APD	No cause of concern for APD	No cause of concern for APD	No cause of concern for APD	No cause of concern for APD	
DP8	Systemisation: The new procedures will integrate with the en-route network, to support the PBN programme. If required, the arrival transitions shall integrate with the IAPs, described with the departure procedures, reducing the requirement for tactical coordination.	N/A	Not expected to integrate with the future MTMA en-route network	Expected to integrate but not ideal	Expected to integrate with the future MTMA en-route network	Expected to integrate with the future MTMA en-route network	Expected to integrate with the future MTMA en-route network	Expected to integrate with the future MTMA en-route network	Expected to integrate with the future MTMA en-route network	Expected to integrate with the future MTMA en-route network	Expected to integrate with the future MTMA en-route network	Expected to integrate with the future MTMA en-route network	
DP9	Operational Cost: Provided it does not have an adverse impact on performance, procedures should be designed to optimise fuel efficiency.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
DP10	AMIS Realisation: This ACIP must serve to further, and not conflict with, the realisation of the AMIS.	N/A	Doing nothing conflicts with the objectives of the AMIS	DP1, 2, 3, 4, 5, 6, 8 mixture of met, partly met and not met	DP1, 2, 3, 4, 5, 6, 8 mixture of met, partly met and not met	DP1, 2, 3, 4, 5, 6, 8 mixture of met, partly met and not met	DP1, 2, 3, 4, 5, 6, 8 mixture of met, partly met and not met	DP1, 2, 3, 4, 5, 6, 8 mixture of met, partly met and not met	DP1, 2, 3, 4, 5, 6, 8 mixture of met, partly met and not met	DP1, 2, 3, 4, 5, 6, 8 mixture of met, partly met and not met	DP1, 2, 3, 4, 5, 6, 8 mixture of met, partly met and not met		
DP11	PBN: PBN measures should capitalise on as many of the potential benefits of PBN implementation as are practicable.	N/A	Does not utilise PBN	Expected to be designed to PBN standards that do not require aircraft fleet upgrades	Expected to be designed to PBN standards that do not require aircraft fleet upgrades	Expected to be designed to PBN standards that do not require aircraft fleet upgrades	Expected to be designed to PBN standards that do not require aircraft fleet upgrades	Expected to be designed to PBN standards that do not require aircraft fleet upgrades	Expected to be designed to PBN standards that do not require aircraft fleet upgrades	Expected to be designed to PBN standards that do not require aircraft fleet upgrades	Expected to be designed to PBN standards that may require aircraft fleet upgrades through noting RNP/RPAR is unlikely to be required as other non-AR procedures will exist		