

# LEEDS BRADFORD AIRPORT FASI AIRSPACE 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	<b>Importance of Safety-</b> 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	<b>Noise-</b> The design should limit, and where practicable reduce, the number of people overfrown, the impact of noise to stakeholders on the ground and where possible periods of built-in respite should be considered.	<b>Number of people overfrown</b>	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 overfly more densely populated areas
		<b>Impact of Noise</b>	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 LAeq 16hr contour	Option could be expected to offer a reduction in the number of people within the LOAEL, subject to detailed modeling	Option could have positive or negative effect but not possible to tell without detailed noise modeling.	Option could be expected to generate an increase in the number of people within the LOAEL, subject to detailed modeling
		<b>Respite considered</b>	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
		<b>OVERALL DP EVALUATION</b> (Any mixture of Met, Partly met, not met = Partly met)				
DP3	<b>Tranquility-</b> 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	<b>Emissions and Air Quality-</b> The proposed design should minimise CO2 emissions per flight.	<b>CO2 emissions</b>	A qualitative SME assessment of whether the option can be expected to reduce, increase or not change CO2 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 co2 emissions	No Change or Similar to the baseline	Option expected to enable more inefficient routings, increasing co2 emissions
		<b>Air Quality</b>	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 1000ft 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
		<b>OVERALL DP EVALUATION</b> (Any mixture of Met, Partly met, not met = Partly met)				
DP5	<b>Airspace Dimensions-</b> 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	<b>Airspace Complexity-</b> 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	<b>Technical Requirements-</b> 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	<b>Systemisation-</b> 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 MTHA en-route network	Expected to integrate but not ideal	Not expected to integrate with the future MTHA en-route network
DP9	<b>Operational Cost-</b> 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	<b>AMS Realisation-</b> 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	<b>PBN-</b> 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

[illegible]

# ARRIVALS

DP#	DP Statement	Component	Baseline	Options								INP AR RW14	INP AR RW32
				System 1	System 6	System 7	System 8	System 9	System 10	System 11			
DP1	<b>Importance of Safety:</b> 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	Change will require new safety case but no show-stoppers identified at this stage
DP2	<b>Noise:</b> The design should limit, and where practicable reduce, the number of people overflown, the impact of noise to stakeholders on the ground and where possible periods of built-up respite should be considered.	Number of people overflown	No Change expected	Systemised PBN approach transitions will overfly fewer people than today's swathe	Systemised PBN approach transitions will overfly fewer people than today's swathe	Systemised PBN approach transitions will overfly fewer people than today's swathe	Systemised PBN approach transitions will overfly fewer people than today's swathe	Systemised PBN approach transitions will overfly fewer people than today's swathe	Systemised PBN approach transitions will overfly fewer people than today's swathe	Systemised PBN approach transitions will overfly fewer people than today's swathe	Systemised PBN approach transitions will overfly fewer people than today's swathe	Systemised PBN approach transitions will overfly fewer people than today's swathe	Systemised PBN approach transitions will overfly 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	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	Option was not specifically designed for respite purposes
		OVERALL											
DP3	<b>Tranquillity:</b> 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 AONB's.	N/A	RWY 14 arrivals continue to overfly Yorkshire Dales NP and Nidddale AONB below 7000ft	RWY 14 arrivals continue to overfly Yorkshire Dales NP and Nidddale AONB below 7000ft	RWY 14 arrivals continue to overfly Yorkshire Dales NP and Nidddale AONB below 7000ft	RWY 14 arrivals continue to overfly Yorkshire Dales NP and Nidddale AONB below 7000ft	RWY 14 arrivals continue to overfly Yorkshire Dales NP and Nidddale AONB below 7000ft	RWY 14 arrivals continue to overfly Yorkshire Dales NP and Nidddale AONB below 7000ft	RWY 14 arrivals continue to overfly Yorkshire Dales NP and Nidddale AONB below 7000ft	RWY 14 arrivals continue to overfly Yorkshire Dales NP and Nidddale AONB below 7000ft	RWY 14 arrivals continue to overfly Yorkshire Dales NP and Nidddale AONB below 7000ft	RWY 14 arrivals continue to overfly Yorkshire Dales NP and Nidddale AONB below 7000ft	Swathe does not overfly any AONB or National Parks below 700ft
DP4	<b>Emissions and Air Quality</b> 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	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	No change below 1000ft expected therefore option is unlikely to affect local air quality
		OVERALL											
DP5	<b>Airspace Dimensions:</b> 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	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	Option likely to require increased volume of CAS though AR containment may mitigate the need for more CAS	Options likely to require similar volume of CAS
DP6	<b>Airspace Complexity:</b> 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	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	Option likely to require increased volume of CAS though AR containment may mitigate the need for more CAS	Options likely to require similar volume of CAS
DP7	<b>Technical Requirements:</b> 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	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	No cause of concern for APD
DP8	<b>Systematisation:</b> The new procedures will integrate with the en-route network, as per the FAGIN programme. If required, the arrival transitions shall integrate with the IAPs, deconflict 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 deal	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	Expected to integrate with the future MTMA en-route network
DP9	<b>Operational Cost:</b> Provided it does not have an adverse impact of community disturbance, 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	N/A
DP10	<b>AMS Realisation:</b> This ACP must serve to further, and not conflict with, the realisation of the AMS.	N/A	Doing nothing conflicts with the objectives of the AMS.	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	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	<b>PBN:</b> The new procedures 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 do not require aircraft fleet upgrades	Expected to be designed to PBN standards that may require aircraft fleet upgrades though noting INP AR is unlikely to be mandatory as other non-AR procedures will exist	Expected to be designed to PBN standards that may require aircraft fleet upgrades though noting INP AR is unlikely to be mandatory as other non-AR procedures will exist