



Glasgow Airport FASI-N Airspace Change Proposal

Step 2A Annex A - Design Principle Evaluation

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V1.1 Submitted to the CAA in July 2022 (Please see the Change Record on CAA Airspace Change Portal for details of updates)

V1.2 Following CAA request, text changes between V1.0 and V1.1 [highlighted](#). We would recommend reading the change record document which provides context around the clarifications made.

Option Name	The airspace design and its operation must be as safe or safer than today.	Facilitate the growth in quicker, quieter and cleaner traffic by configuring the airspace to improve efficiency and meet the forecast demand for air transport.	Design the appropriate volume of controlled airspace to support commercial air transport, enabling safe, efficient access for other types of operation and release of controlled airspace that is not required.	Mitigate any future requirements for airborne holding for inbound traffic and holding on the ground pre-departure for outbound traffic.	Minimise the total adverse effects of aircraft noise and visual intrusion on physical and mental health and wellbeing.			Offer communities options for both noise concentration and noise dispersion through the use of predictable and transparent multiple route options and other respite methods that are possible within the technical ATC system, en-route network and procedural constraints.			The arrival and departure routes that serve Glasgow Airport below 7000ft should avoid noise sensitive areas and buildings, national parks, areas of outstanding natural beauty/National Scenic Areas and areas that are not currently affected by aircraft noise.			Mitigate the impacts on local communities that are currently affected by aircraft noise on final approach or the vicinity of the immediate climb out, where overflight is unavoidable.			Reduce complexity and bottlenecks in controlled and uncontrolled airspace and contribute to a reduction in airspace infringements.			Collaborate with other Scottish airports and NATS to ensure that the airspace design options are compatible with the wider programme of lower altitude and network airspace changes being coordinated by the FASJ North programme.	Routes to/from Glasgow and Edinburgh airports should be procedurally deconflicted from the ground to a preferred level in coordination with NATS Frestwick.	Minimise the growth in aircraft emissions, the further degradation in local air quality and adverse ecological impacts to address growing concerns about the impact of aviation on climate change.			Aircraft operating at Glasgow Airport should climb and descend continuously to/from at least 3000ft with a preference for the most environmentally beneficial option to be chosen, if both cannot be achieved simultaneously.	Routes should be designed to meet a RNAV1 specification as a minimum in order to gain maximum benefit of the performance capabilities of the modern aircraft fleet operating at Glasgow Airport in line with the guidance provided in CAI CAP1385 or enhanced route spacing for PBN and provide sufficient resilience and redundancy against Global Navigation Satellite System (GNSS) failure.	The GLA ACP accords with the CAA's published Airspace Modernisation Strategy (CAP1711), any current or future plans associated with it and all other relevant policies and regulatory standards.				
					Number of people overflown below 400ft (centaline to centaline)	Number of people within the GSI/IL Area contour (from a typical aircraft overflight)	Affect on frequency of overflight for those under the extended centaline within 5nm of the runway	Use of multiple routes	Mechanisms for predictable respite	Noise sensitive areas and buildings, national parks, areas of outstanding natural beauty/National Scenic Areas	Overfly new areas	Complexity in CAS	Bottleneck outside CAS	Infringements	Local Air Quality	Ecological Impacts	Climate Change	Maintain and enhance high aviation safety standards	Secure the efficient use of airspace and enable integration			Avoid flight delays by better managing the airspace network	Improve environmental performance by reducing emissions and by better managing noise	Facilitate defence and security objectives							
																											Complexity in CAS	Bottleneck outside CAS	Infringements	Local Air Quality	Ecological Impacts
RWY 05 Dep Do Nothing																										See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13		
RWY 05 Dep Option A																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 05 Dep Option B																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 05 Dep Option C																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 05 Dep Option D																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 05 Dep Option E																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 05 Dep Option F																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 05 Dep Option G																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 05 Dep Option H																											See DP1 and DP10	See DP3 and DP10	See DP2, DP4 and DP12	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP14	
RWY 05 Dep Option I																											See DP1 and DP11	See DP3 and DP11	See DP2, DP4 and DP13	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP15	

RWY 23 Dep Do Nothing																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 23 Dep Option A																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 23 Dep Option B																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 23 Dep Option C																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 23 Dep Option D																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 23 Dep Option E																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	

RWY 05 Arrv Do Nothing																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 05 Arrival Option A																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 05 Arrival Option B																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 05 Arrival Option C																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 05 Arrival Option D																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 05 Arrival Vectors only																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 05 Arrival Vectors and PBN hybrid																											See DP1 and DP10	See DP3 and DP10	See DP2, DP4 and DP12	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP14	

RWY 23 Arrv Do Nothing																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 23 Arrival Option A	DISCONTINUE																										See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 23 Arrival Option B	DISCONTINUE																										See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 23 Arrival Option C																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 23 Arrival Option D																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 23 Arrival Option E																											See DP1 and DP9	See DP3 and DP9	See DP2, DP4 and DP11	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	
RWY 23 Arrival Option F	DISCONTINUE																										See DP1 and DP10	See DP3 and DP10	See DP2, DP4 and DP12	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP14	
RWY23 Arrival Vectors only																											See DP1 and DP10	See DP3 and DP10	See DP2, DP4 and DP12	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP14	
RWY 23 Arrival Vectors and PBN hybrid																											See DP1 and DP10	See DP3 and DP10	See DP2, DP4 and DP12	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP14	

Option Name		Option Image	Option Description	Design Principle Evaluation	Option Description	Option Description	Option Description	Option Description	Option Description	Option Description	Option Description	Option Description	Option Description	Option Description	Option Description	Option Description	Option Description	Option Description	Option Description
RWY 23			This option requires a Track Adjustment on departures. These are possible within PANS OPS but in an event ACP, the CAI-IF department wanted a not before 500m RWY WP positioned at the SEI to ensure the aircraft doesn't turn before the end of the runway. PANS OPS doesn't require this. Additional assurance will be required during IF ground validation to ensure the WP is acceptable.	The design option could be contained within the existing CAS volume and also offers potential to reduce the total volume of CAS.	The SDN lighting before 50m together with the sharing of NDBRD departures across 2 of those SDN is expected to enhance Diagang's operational performance in the future.	SDN lighting before 50m together with the sharing of NDBRD departures across 2 of those SDN is expected to enhance Diagang's operational performance in the future.	SDN lighting before 50m together with the sharing of NDBRD departures across 2 of those SDN is expected to enhance Diagang's operational performance in the future.	SDN lighting before 50m together with the sharing of NDBRD departures across 2 of those SDN is expected to enhance Diagang's operational performance in the future.	SDN lighting before 50m together with the sharing of NDBRD departures across 2 of those SDN is expected to enhance Diagang's operational performance in the future.	SDN lighting before 50m together with the sharing of NDBRD departures across 2 of those SDN is expected to enhance Diagang's operational performance in the future.	SDN lighting before 50m together with the sharing of NDBRD departures across 2 of those SDN is expected to enhance Diagang's operational performance in the future.	SDN lighting before 50m together with the sharing of NDBRD departures across 2 of those SDN is expected to enhance Diagang's operational performance in the future.	SDN lighting before 50m together with the sharing of NDBRD departures across 2 of those SDN is expected to enhance Diagang's operational performance in the future.	SDN lighting before 50m together with the sharing of NDBRD departures across 2 of those SDN is expected to enhance Diagang's operational performance in the future.	SDN lighting before 50m together with the sharing of NDBRD departures across 2 of those SDN is expected to enhance Diagang's operational performance in the future.	SDN lighting before 50m together with the sharing of NDBRD departures across 2 of those SDN is expected to enhance Diagang's operational performance in the future.	SDN lighting before 50m together with the sharing of NDBRD departures across 2 of those SDN is expected to enhance Diagang's operational performance in the future.	SDN lighting before 50m together with the sharing of NDBRD departures across 2 of those SDN is expected to enhance Diagang's operational performance in the future.	SDN lighting before 50m together with the sharing of NDBRD departures across 2 of those SDN is expected to enhance Diagang's operational performance in the future.

Option Image		Option Name		Design Principle Evolution		Local Air Quality		Ecological Impacts		Climate Change		Maintain and enhance high aviation safety standards		Secure the efficient use of airspace and enable integration		Avoid flight delays by better managing the airspace network		Improve environmental performance by reducing emissions and by better managing noise		Facilitate defence and security objectives						
	RWY 05 Arrvl Do Nothing	The airspace design in a safer or safer than today with safety concerns at this time	Option is expected to maintain Glasgow's operational performance in the future	The design option could be contained within the existing CAS volume and also offer potential to reduce the total volume of CAS	Option is not expected to affect ground or airborne holding	Option is expected to remain within 23% of the number of people overflown below 4000ft (relative to baseline)	Option is expected to remain within 25% of the number of people within the ESO&A contour (from a typical aircraft overflight)	Option is expected to have no change to the frequency of overflight for those under the extended coastline within 5km of the runway	Option doesn't see the use of multiple routes to share noise however routine westbound does disperse the traffic	Option doesn't see the use of multiple routes to share noise however routine westbound does disperse the traffic	Option doesn't see the use of multiple routes to share noise however routine westbound does disperse the traffic	Option doesn't see the use of multiple routes to share noise however routine westbound does disperse the traffic	Option doesn't see the use of multiple routes to share noise however routine westbound does disperse the traffic	Option doesn't see the use of multiple routes to share noise however routine westbound does disperse the traffic	Option doesn't see the use of multiple routes to share noise however routine westbound does disperse the traffic	Option doesn't see the use of multiple routes to share noise however routine westbound does disperse the traffic	Option doesn't see the use of multiple routes to share noise however routine westbound does disperse the traffic	Option doesn't see the use of multiple routes to share noise however routine westbound does disperse the traffic	Option doesn't see the use of multiple routes to share noise however routine westbound does disperse the traffic	Option doesn't see the use of multiple routes to share noise however routine westbound does disperse the traffic	Option doesn't see the use of multiple routes to share noise however routine westbound does disperse the traffic					
	RWY 05 Arrvl Option A	No safety concerns identified as a standalone option unless use of PBN arrival routes are used in relation to provide respite. In which case the chances of the chances of human error (aircraft flying the wrong arrival, or ATC thinking the other route is used) will be considered. At this point, this assessment assumes the routes are used as single routes, not as part of an alternating system and is therefore assessed as Met.	Use of a pure PBN arrival system is expected to degrade future operational performance. This is because of the inability of ATC to provide the exact amount of spacing to the runway between gaps which is likely to lead to a reduction in the amount of ground and airborne holding during peak times.	The design option may require changes to the existing CAS boundaries but still offers potential to reduce the total volume of CAS. The arrival routes as illustrated would not quite be contained within the CAS CAE containment policy.	Use of a pure PBN arrival system is expected to increase airborne holding. This is because ATC would have to adjust the spacing between gaps in the arrival routes. This would also be more likely to provide increased spacing between arriving gaps as they can't manage catch up situations with vectors.	Option is expected to reduce the number of people overflown below 4000ft (relative to baseline) by more than 25%	Option is expected to remain within 25% of the number of people within the ESO&A contour (from a typical aircraft overflight)	Option is expected to have no change to the frequency of overflight for those under the extended coastline within 5km of the runway	Use of four PBN arrival routes does not share the noise more equitably.	This option does not include mechanisms to provide predictable respite from noise.	Option reduces the number of noise sensitive areas and buildings, national parks, areas of outstanding natural beauty/National Scenic Areas overflown below 7000ft.	Option has PBN arrival route within the existing main arrival swathe and will therefore not result in an increase in frequency of overflight of areas that are less frequently overflown today. However, side use of a PBN route will result in an increased rate of overflight for those under that route.	N/A - the mitigation is provided through SDOs with track adjustments. For arrivals, the ability for a Steeper PBN arrival into Glasgow will be investigated however, the IS will have to remain at 3.0'	Option is likely to stay the same or contribute to a noticeable increase in complexity for GLA ATC inside CAS	Option unlikely to affect bottlenecks outside CAS	The option may not be compatible with FAS North programme as revision to the flows within the SCTMA could require changes to traffic flows below 7000ft at Glasgow but depends on the option taken forward by that sponsor	All routes are procedurally deconflicted upto FL30	Option is expected to maintain the same level of local air quality emissions	The airspace design is not expected to result in any changes to ecological impacts compared to the baseline	Option is likely to maintain existing levels of emissions	Option is unlikely to affect CCO/CO performance	N/A, there's no PBN specification with vectored	See DP1 and DP2	See DP1 and DP2	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	Option not expected to affect defence and security objectives
	RWY 05 Arrvl Option B	No safety concerns identified as a standalone option unless use of PBN arrival routes are used in relation to provide respite. In which case the chances of the chances of human error (aircraft flying the wrong arrival, or ATC thinking the other route is used) will be considered. At this point, this assessment assumes the routes are used as single routes, not as part of an alternating system and is therefore assessed as Met.	Use of a pure PBN arrival system is expected to degrade future operational performance. This is because of the inability of ATC to provide the exact amount of spacing to the runway between gaps which is likely to lead to a reduction in the amount of ground and airborne holding during peak times.	The design option may require changes to the existing CAS boundaries but still offers potential to reduce the total volume of CAS. The arrival routes as illustrated would not quite be contained within the CAS CAE containment policy.	Use of a pure PBN arrival system is expected to increase airborne holding. This is because ATC would have to adjust the spacing between gaps in the arrival routes. This would also be more likely to provide increased spacing between arriving gaps as they can't manage catch up situations with vectors.	Option is expected to reduce the number of people overflown below 4000ft (relative to baseline) by more than 25%	Option is expected to remain within 25% of the number of people within the ESO&A contour (from a typical aircraft overflight)	Option is expected to have no change to the frequency of overflight for those under the extended coastline within 5km of the runway	Use of four PBN arrival routes does not share the noise more equitably.	This option does not include mechanisms to provide predictable respite from noise.	Option reduces the number of noise sensitive areas and buildings, national parks, areas of outstanding natural beauty/National Scenic Areas overflown below 7000ft.	Option has PBN arrival route within the existing main arrival swathe and will therefore not result in an increase in frequency of overflight of areas that are less frequently overflown today. However, side use of a PBN route will result in an increased rate of overflight for those under that route.	N/A - the mitigation is provided through SDOs with track adjustments. For arrivals, the ability for a Steeper PBN arrival into Glasgow will be investigated however, the IS will have to remain at 3.0'	Option is likely to stay the same or contribute to a noticeable increase in complexity for GLA ATC inside CAS	Option unlikely to affect bottlenecks outside CAS	The option may not be compatible with FAS North programme as revision to the flows within the SCTMA could require changes to traffic flows below 7000ft at Glasgow but depends on the option taken forward by that sponsor	All routes are procedurally deconflicted upto FL30	Option is expected to maintain the same level of local air quality emissions	The airspace design is not expected to result in any changes to ecological impacts compared to the baseline as no change below 2000ft	Option is likely to maintain existing levels of emissions	Option is unlikely to affect CCO/CO performance	N/A, there's no PBN specification with vectored	See DP1 and DP2	See DP1 and DP2	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	Option not expected to affect defence and security objectives
	RWY 05 Arrvl Option C	No safety concerns identified as a standalone option unless use of PBN arrival routes are used in relation to provide respite. In which case the chances of the chances of human error (aircraft flying the wrong arrival, or ATC thinking the other route is used) will be considered. At this point, this assessment assumes the routes are used as single routes, not as part of an alternating system and is therefore assessed as Met.	Use of a pure PBN arrival system is expected to degrade future operational performance. This is because of the inability of ATC to provide the exact amount of spacing to the runway between gaps which is likely to lead to a reduction in the amount of ground and airborne holding during peak times.	The design option may require changes to the existing CAS boundaries but still offers potential to reduce the total volume of CAS. The arrival routes as illustrated would not quite be contained within the CAS CAE containment policy.	Use of a pure PBN arrival system is expected to increase airborne holding. This is because ATC would have to adjust the spacing between gaps in the arrival routes. This would also be more likely to provide increased spacing between arriving gaps as they can't manage catch up situations with vectors.	Option is expected to reduce the number of people overflown below 4000ft (relative to baseline) by more than 25%	Option is expected to remain within 25% of the number of people within the ESO&A contour (from a typical aircraft overflight)	Option is expected to have no change to the frequency of overflight for those under the extended coastline within 5km of the runway	Use of four PBN arrival routes does not share the noise more equitably.	This option does not include mechanisms to provide predictable respite from noise.	Option reduces the number of noise sensitive areas and buildings, national parks, areas of outstanding natural beauty/National Scenic Areas overflown below 7000ft.	Option has PBN arrival route within the existing main arrival swathe and will therefore not result in an increase in frequency of overflight of areas that are less frequently overflown today. However, side use of a PBN route will result in an increased rate of overflight for those under that route.	N/A - the mitigation is provided through SDOs with track adjustments. For arrivals, the ability for a Steeper PBN arrival into Glasgow will be investigated however, the IS will have to remain at 3.0'	Option is likely to stay the same or contribute to a noticeable increase in complexity for GLA ATC inside CAS	Option unlikely to affect bottlenecks outside CAS	The option may not be compatible with FAS North programme as revision to the flows within the SCTMA could require changes to traffic flows below 7000ft at Glasgow but depends on the option taken forward by that sponsor	All routes are procedurally deconflicted upto FL30	Option is expected to maintain the same level of local air quality emissions	The airspace design is not expected to result in any changes to ecological impacts compared to the baseline as no change below 2000ft	Option is likely to maintain existing levels of emissions	Option is unlikely to affect CCO/CO performance	N/A, there's no PBN specification with vectored	See DP1 and DP2	See DP1 and DP2	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	Option not expected to affect defence and security objectives
	RWY 05 Arrvl Option D	No safety concerns identified as a standalone option unless use of PBN arrival routes are used in relation to provide respite. In which case the chances of the chances of human error (aircraft flying the wrong arrival, or ATC thinking the other route is used) will be considered. At this point, this assessment assumes the routes are used as single routes, not as part of an alternating system and is therefore assessed as Met.	Use of a pure PBN arrival system is expected to degrade future operational performance. This is because of the inability of ATC to provide the exact amount of spacing to the runway between gaps which is likely to lead to a reduction in the amount of ground and airborne holding during peak times.	The design option may require changes to the existing CAS boundaries but still offers potential to reduce the total volume of CAS. The arrival routes as illustrated would not quite be contained within the CAS CAE containment policy.	Use of a pure PBN arrival system is expected to increase airborne holding. This is because ATC would have to adjust the spacing between gaps in the arrival routes. This would also be more likely to provide increased spacing between arriving gaps as they can't manage catch up situations with vectors.	Option is expected to reduce the number of people overflown below 4000ft (relative to baseline) by more than 25%	Option is expected to remain within 25% of the number of people within the ESO&A contour (from a typical aircraft overflight)	Option is expected to have no change to the frequency of overflight for those under the extended coastline within 5km of the runway	Use of four PBN arrival routes does not share the noise more equitably.	This option does not include mechanisms to provide predictable respite from noise.	Option reduces the number of noise sensitive areas and buildings, national parks, areas of outstanding natural beauty/National Scenic Areas overflown below 7000ft.	Option has PBN arrival route within the existing main arrival swathe and will therefore not result in an increase in frequency of overflight of areas that are less frequently overflown today. However, side use of a PBN route will result in an increased rate of overflight for those under that route.	N/A - the mitigation is provided through SDOs with track adjustments. For arrivals, the ability for a Steeper PBN arrival into Glasgow will be investigated however, the IS will have to remain at 3.0'	Option is likely to stay the same or contribute to a noticeable increase in complexity for GLA ATC inside CAS	Option unlikely to affect bottlenecks outside CAS	The option may not be compatible with FAS North programme as revision to the flows within the SCTMA could require changes to traffic flows below 7000ft at Glasgow but depends on the option taken forward by that sponsor	All routes are procedurally deconflicted upto FL30	Option is expected to maintain the same level of local air quality emissions	The airspace design is not expected to result in any changes to ecological impacts compared to the baseline as no change below 2000ft	Option is likely to maintain existing levels of emissions	Option is unlikely to affect CCO/CO performance	N/A, there's no PBN specification with vectored	See DP1 and DP2	See DP1 and DP2	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	Option not expected to affect defence and security objectives
	RWY 05 Arrvl Vectors only	No safety concerns identified as this matches the existing concept of operation	Option is expected to cater for Glasgow's forecast demand for transport	The design option could be contained within the existing CAS volume and also offer potential to reduce the total volume of CAS	Option is not expected to affect ground or airborne holding	Option is expected to remain within 23% of the number of people overflown below 4000ft (relative to baseline)	Option is expected to remain within 25% of the number of people within the ESO&A contour (from a typical aircraft overflight)	Option is expected to have no change to the frequency of overflight for those under the extended coastline within 5km of the runway	Vectoring of arrivals is a mechanism which shares noise more equitably. However, having PBN arrival routes available is likely to result in increased concentration compared to today.	This option does not include mechanisms to provide predictable respite from noise.	Option does not affect the number of noise sensitive areas and buildings, national parks, areas of outstanding natural beauty/National Scenic Areas overflown below 7000ft.	Option is likely to stay the same or contribute to a noticeable increase in complexity for GLA ATC inside CAS	Option unlikely to affect bottlenecks outside CAS	The option may not be compatible with FAS North programme as revision to the flows within the SCTMA could require changes to traffic flows below 7000ft at Glasgow but depends on the option taken forward by that sponsor	All routes are procedurally deconflicted upto FL30	Option is expected to maintain the same level of local air quality emissions	The airspace design is not expected to result in any changes to ecological impacts compared to the baseline as no change below 2000ft	Option is likely to maintain existing levels of emissions	Option is unlikely to affect CCO/CO performance	N/A, there's no PBN specification with vectored	See DP1 and DP2	See DP1 and DP2	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	Option not expected to affect defence and security objectives		
	RWY 05 Arrvl Vectors and PBN hybrid	No safety concerns identified at this stage	Option is expected to enhance Glasgow's operational performance in the future. This is because ATC can use the PBN arrivals when traffic levels are low and this will also facilitate the use of Combiter Tower and Approach services (later in Tower)	The design option may require changes to the existing CAS boundaries but still offers potential to reduce the total volume of CAS. The arrival routes as illustrated would not quite be contained within the CAS CAE containment policy.	Option is not expected to affect ground or airborne holding	Option is expected to remain within 23% of the number of people overflown below 4000ft (relative to baseline)	Option is expected to remain within 25% of the number of people within the ESO&A contour (from a typical aircraft overflight)	Option is expected to have no change to the frequency of overflight for those under the extended coastline within 5km of the runway	Vectoring of arrivals is a mechanism which shares noise more equitably. However, having PBN arrival routes available is likely to result in increased concentration compared to today.	This option does not include mechanisms to provide predictable respite from noise.	Option does not affect the number of noise sensitive areas and buildings, national parks, areas of outstanding natural beauty/National Scenic Areas overflown below 7000ft.	Option is likely to stay the same or contribute to a noticeable increase in complexity for GLA ATC inside CAS	Option unlikely to affect bottlenecks outside CAS	The option may not be compatible with FAS North programme as revision to the flows within the SCTMA could require changes to traffic flows below 7000ft at Glasgow but depends on the option taken forward by that sponsor	All routes are procedurally deconflicted upto FL30	Option is expected to maintain the same level of local air quality emissions	The airspace design is not expected to result in any changes to ecological impacts compared to the baseline as no change below 2000ft	Option is likely to maintain existing levels of emissions	Option is unlikely to affect CCO/CO performance	The PBN arrival transitions can be designed to at least an RNAV specification although it is RNAV may deliver benefit	See DP1 and DP2	See DP1 and DP2	See DP2, DP4, DP5, DP6, DP7, DP8, DP12 and DP13	Option not expected to affect defence and security objectives		