Classification: Public



Airspace Modernisation Gatwick Airport

Step 2A

Annex B Design Principle Evaluation

DOCUMENT CONTROL

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Conclusion - Westerly Arrivals

1		1							2	3	4	5	6	6	1	7		8		9				
	Westerly Arrivals Safety by Desig					A	MS			Enhanced Navigation Standards	Limit Adverse Noise Effects	Time Based Arrival Operations	Resilience built in	Optimise Us Capat	e of Aircraft pilities	Long Term pre Adapt	edictability and tability	Dec	confliction by De	sign	Locally Tailored Designs			
	westeriy	Arrivais	Safety I	oy Design	Safety	Integration: CAS	Integration: National Security	Simplification: Capacity	Simplification: Resilience	Environment	-	-		-	Track Distance	CCO/CDO	Long term predictability	Respite	Overflight within option	Overflight of arrival and departure options	Overflight of neighbouring airports routes	-	Taken to Operational Feasibility Assessment?	Conclusion
	WA_BL				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													No	The baseline has not been taken through to the Initial Options Appraisal as it does not meet the Government's AMS, not does I address the statement of need or mable any environmental, CAS or operational benefits; on this basis, the baseline of onothing option has been discontinued. The 'do nothing' scenario will however remain present throughout the ACP for baseline comparative purposes only.
	WAA				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
	WAB				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes*	Although option WAB, which is an RMA option, did not perform as well as some of the other PEN options which the DPE, it has been taken through to the IGA as we are aware that the technology would be the technology of the technology of the technology of the technology on unlikely to be available at the port of implementation could be the technology and the shape and taken the technology and the technology and the technology and the shape and the technology and the technology and the technology at the shape and take of the RMA cannot be defined by data alone and the final arrival solution will be developed and refined to reflect the feedback from NERL around potential interactions on the eatern edge, integration with the network above 7000f, and our worklisted PBN arrival and departure options, an outcome of the DPE is that WAB and WAG (the other westerly RMA option) will be merged together.
	WAC				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
	WAD	Route A Route B Route C Route D		-	See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9							-						Yes	
	WAE	Route A Route B Route C Route D		-	See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9							-						Yes	
	WAF				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
Option	WAG				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes*	Although option WAG, which is an RMA option, did not perform as well as some of the other PBN options within the DPE, it has been taken through to the IOA as we are aware that the technology required within the arrispace above 7000 to accommodate only PBN arrises in high traffic scenarios is unlikely to be available at the point of implementation. Therefore we anticipate that any PBN option performance value data orequire an associated RMA. As the shape and size of the RIAA cannot be defined by data alone and the final arrival solution will be developed and refined to reflect the ledicable. If one VER, around potential interactions on the eastern edge, impaction with the network above 7200t, and our shortlisted PBN arrival advepture options, an outcome of the DPE is that WAB and WAG (us other westerly RIAA option) will be emerged together.
	WAH				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
	WAI	Route A Route B Route C			See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9							-						Yes	
	WAJ	Route A Route B Route C			See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9							-						Yes	
	WAK				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
	WAL				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
	WAM	Route A Route B		-	See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9							-						Yes	
	WAN				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													No	This option is identical to WAA - It was developed following Stakeholder Engagement. WAA has been taken through.
	WAO				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
	WAP				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
	WAQ				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	

Conclusion - Easterly Arrivals

				1			A	MS			2 Enhanced Navigation	3 Limit Adverse	4 Time Based Arrival	5 Resilience built	6 Optimise Us	e of Aircraft	7 Long Term pre	7 edictability and	Dec	8 confliction by Der	sian	9 Locally Tailored		
	Easterly	Arrivals	Safety b	y Design	Safety	Integration:	Integration: National	Simplification:	Simplification:	Environment	Standards	Noise Effects	Operations Only applicable to	in -	Capat Track Distance	cco/cpo	Adapt Long term	Respite	Overflight	Overflight of arrival and	Overflight of neighbouring	Designs -	Taken to IOA?	Conclusion
	EA_BL				See Design Principle 1	CAS	Security	Capacity	Resilience See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9			arrivals				predictability		within option	departure options	airports		No	The baseline has not been taken through to the Initial Options Appraisal as it does not meet the Governmen's AMS, nor does it address the statement of need or enable any environmental, CAS or operational benefits; on this basis, the baseline 'do nothing' option has been discontinued. The 'do nothing' scenario will however remain present throughout the ACP for baseline comparative purposes only.
_	EAA				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
-	EAB				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes*	Although option EAB, which is an RMA option, did not perform as well as some of the other PBN options within the DPE, it has been taken through to the IOA as we are aware that the technology required within the airspace above 7000 to accommode only PBN arrivals in high traffic scenarios as unikely to be available at the point of implementation. Therefore we anticipate that any PBN option implemented would also require an associated RMA. As the shape and size of the RNA cannot be defined by data alone and the final arrival solution will be developed and reflex to reflex the flexback from YER, lingstation with the network above 7000t, and our shortlisted PDN aming and departure options, an outcome of the DPE is that EAB and EAH (the other easting RIA option) will be merged together.
	EAC	Route A (South) Route B (North)			See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
	EAD	Route A Route B Route C Route D			See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
	EAE	Route A Route B Route C			See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
	EAF	Route A (night option) Route B (Night option)			See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
	EAG				See Design Principle 1					See Design Principle 3, 6, 7, 8 and 9													Yes	
Option	EAH				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes*	Although option EAH, which is an RMA option, did not perform as well as some of the other PEN options within the DPE, it has been taken through to the IOA as we are aware that the technology required within the arispace above 7000 to accommodate only PEN arrisks in high traffic scenarios is unikely to be available at the point of implementation. Therefore we anticipate that any PEN option implemented would also require an associated RMA. As the shape and size of the RMA cannot be defined by data alone and the final arrival solution will be developed and refined to reflect the feedback from REL, integration with the network above 7000t, and our shortisted PEN arrival and departure options, an outcome of the DPE is that EAB and EAH (the other easterly RMA option) will be merged together.
-	EAI				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
	EAJ	Route A Route B Route C Route D			See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
	EAK	Route A Route B			See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
	EAL	Route A Route B			See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
	EAM				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
	EAN				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
	EAO				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	
	EAP				See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	

Conclusion - Westerly Departures

			1								2	3	4	5	e	6	7	1		8		9			
			Safety by desigr	1.			А	MS			Enhanced Navigation	Limit Adverse Noise Effects	Arrival	Resilience built	Optimise Us Capal	e of Aircraft pilities	Long Term pre Adant	edictability and ability	Dec	onfliction by Des	sign	Locally Tailored			
	Westerly D	epartures	(Assessment base location of options t proximity of other airpo Gatwick's other rou	d on o the orts and ites)	Safety (Integration: CAS	Integration: National Security	Simplification: Capacity	Simplification: Resilience	Environment	Standards -	-	Operations Only applicable to arrivals	-	Track Distance	CCO/CDO	Long term predictability	Respite	Overlapping overflight within option	Overflight of arrival and departure	Overflight of neighbouring airports routes	Designs -	Taken to Operational Feasibility	Conclusion and progressed into Group Reference	
	WD_BL	Route 4 (Right turn to E) Route 1 (Straight ahead W) Route 7 (Straight ahead S) Route 8 (Straight ahead SE) Route 9 (Left turn to SE)		SI	See Design Principle 1		county		See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9										options			Assessment?	The baseline has not been taken through to the Initial Options Appraisal as it does not meet the Government's AMS, nor does it address the statement of need or enable any environmental, CAS or operational beneficie, on this basis, the baseline 'do nothing' option has been discontinued. The 'do nothing' scenario will however remain present throughout the ACP for baseline comparative purposes only.	
		Route A EAST/NORTH																					No	Discontinued - route not operationally viable	
	WDA	Route B WEST		Si P	See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9												-	Yes	SAM Group 1 KENET Group 4	
		Route C SOUTH																					Yes	XAMAB Group 3	
		Route A EAST/NORTH		s	See Desian				See Design	See Design												-	No	Discontinued - route not operationally viable SAM Group 2	
	WDB	Route B WEST/SOUTH		P	Principle 1				Principle 5	7, 8 and 9													Yes	KENET Group 2 XAMAB Group 4	
		Route C EAST/NORTH																					Yes	DVR Group 2 DAGGA TNT Group 2	
		Route A EAST/NORTH																					No	Discontinued - route not operationally viable	
	WDC	Route B WEST		Si P	See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	SAM Group 1 KENET Group 3	
		Route C SOUTH																					Yes	XAMAB Group 1	
		Route A EAST/NORTH																					No	Discontinued - route not operationally viable	
	WDD	Route B WEST		Si P	See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													Yes	SAM Group 1 KENET Group 3 XAMAB Group 1 Discontinued - route not operationally viable SAM Group 2 KENET Group 2 *WDD Route C is a duplicate with WDC C	
		Route C SOUTH								7,0 and 0												Ī	No*	*WDD Route C is a duplicate with WDC C	
		Period 1 Route A EAST/NORTH Period 1 Route B																					No		
		WEST/SOUTH Period 1 Route C EAST		s	See Design				See Design	See Design												-	No	This respite configuration is developed from existing configurations. Given the component outcomes of	
	WDE	Period 2 Route A (WDA) EAST/NORTH		P	Principle 1				Principle 5	7, 8 and 9													No	this DPE, this option will be discontinued at this stage however we will explore potential opportunities for respite once we have a shortlist of reconfigured options.	
		Period 2 Route B (WDA) WEST																					No		
		Period 2 Route C (WDA) SOUTH																					No		
Ī		Route A NORTH								See Design													No	Discontinued - route not operationally viable	
	NDF Daytime	Route B WEST/SOUTH		S	See Design Principle 1				See Design Principle 5	Principle 3, 6, 7, 8 and 9													Yes	SAM Group 3 XAMAB Group 4	
		Route C EAST																					Yes	DVR Group 3	
	WDF Nighttime Respite	Route A NORTH Route B WEST/SOUTH Route C EAST		Si P	See Design Principle 1				See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9													No	Given the component outcomes of this DPE and the requirement for options to be evolved to be more closely compatible with the airspace above 7000ft, this option will be discontinued at this stage however we will explore potential opportunities for respite once we have a shortlist of reconfigured options.	
		Route A NORTH																							
		Route B EAST																						5 C	
	WDG	Route C WEST		Si P	See Design Principle 1				See Design Principle 5	See Design Principle 3, 6,													Yes		
		Route D SOUTH								, o anu d															
		Route E SOUTH																							
		Route A EAST/NORTH																							
Option		Route B EAST/NORTH																							

Conclusion - Westerly Departures (continued)

WDI	н	Route C WEST	See Design Principle 1		See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9							Yes	
		Route D SOUTH												
		Route E SOUTH												
	F	Period 1 Route A (WDG) NORTH Period 1 Route B (WDG)												
WD	F	Period 1 Route C (WDG) EAST Period 2 Route A (WDA)	See Design Principle 1		See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9							No	This respite configuration is developed from two existing configurations (WDG and WDA). Given the component outcomes of this DPE, this option will be discontinued at this stage however we will explore potential opportunities for respite once we have a shortlist of reconfigured options.
	,	EAST/NORTH Period 2 Route B (WDA) WEST												
	,	SOUTH	 											
		Route A EAST/NORTH				See Design							No	Discontinued - route not operationally viable
WD.	,	Route B WEST	See Design Principle 1		See Design Principle 5	Principle 3, 6, 7, 8 and 9							Yes	SAM Group 3
		Route C SOUTH											Yes	XAMAB Group 1
		Route A EAST/NORTH											No	Discontinued - route not operationally viable
WD	ĸ	Route B WEST	See Design Principle 1		See Design Principle 5	See Design Principle 3, 6,							Yes	SAM Group 3 KENET Group 1
		Route C SOUTH				7, 8 and 9							Yes	XAMAB Group 1 DVR Group 2 DAGGA TNT Group 2
		Route A NORTH											No	Discontinued - route not operationally viable
WD	L	Route B WEST	See Design Principle 1		See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9							Yes	KENET Group 3
		Route C SOUTH/EAST											Yes	XAMAB Group 2
		Route A NORTH/EAST											No	Discontinued - route not operationally viable
WD	и	Route B WEST	See Design Principle 1		See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9							Yes	SAM Group 1 KENET Group 3
		Route C SOUTH				.,							Yes	XAMAB Group 2
	٢	Period 1 Route A (WDJ) NORTH/EAST											No	
	F	Period 1 Route B (WDJ) WEST											No	
	F	Period 1 Route C (WDJ) SOUTH	See Design		See Design	See Design							No	This respite configuration is developed from two existing configurations (WDJ and WDL). Given the
WDI	N F	Period 2 Route A (WDL) NORTH/EAST	Principle 1		Principle 5	7, 8 and 9							No	component outcomes of this DPE, this option will be discontinued at this stage however we will explore potential opportunities for respite once we have a shortlist of reconfigured options.
	f	Period 2 Route B (WDL) WEST											No	
	F	Period 2 Route C (WDL) SOUTH											No	
		Route A NORTH											No	Discontinued - route not operationally viable
WD	5	Route B WEST	See Design Principle 1		See Design Principle 5	See Design Principle 3, 6,			-				Yes	SAM Group 3 KENET Group 1
		Route C SOUTH/EAST				7, 8 and 9							Yes	XAMAB Group 1 WDO C not carried to the east due to capacity and track mileage
		Route A EAST											Yes	DVR Group 1 DAGGA TNT Group 1
WD	P I	Route B WEST/SOUTH	See Design Principle 1		See Design Principle 5	See Design Principle 3, 6, 7, 8 and 9							Yes	SAM Group 1 KENET Group 3 XAMAB Group 4
		Route C NORTH											Yes	DVR Group 3 DAGGA TNT Group 3

Conclusion - Easterly Departures

			1								2	3	4 Time Deced	5	6	6	7	7		8		9				
			Safety by (Assessment	design t based on			A	MS			Navigation Standards	Limit Adverse Noise Effects	Arrival	Resilience built in	Optimise Us Capat	se of Aircraft bilities	Long Term pre Adapt	edictability and tability	Dec	confliction by De	sign	Tailored Designs				
	Easterly De	partures	location of opt proximity of othe Gatwick's oth	tions to the er airports and her routes)	Safety	Integration: CAS	Integration: National Security	Simplification: Capacity	Simplification: Resilience	Environment	-	-	Only applicable to arrivals	-	Track Distance	CCO/CDO	Long term predictability	Respite	Overflight within option	Overflight of arrival and departure	Overflight of neighbouring airports routes	-	Taken to Operational Feasibility	Progressed into Group Reference		
		Route 3 (Left turn W)																		options			No			
	ľ	Route 6 (NE) LAM			See Design				See Design	See Design													No	The baseline has not been taken through to the Initial Options Appraisal as it does not meet the Government's AMS, nor does it address the statement of need or enable any environmental, CAS or		
	ED_BL	Route 5 E (FRANE/CLN BIG DVR)			Principle 1				Principle 5	7, 8, and 9													No	operational benefits; on this basis, the baseline 'do nothing' option has been discontinued. The 'do nothing' scenario will however remain present throughout the ACP for baseline comparative purposes colu-		
		Route 2 S (SFD)																					No	way.		
Γ		Route A NORTH																					Yes	TNT Group 4 DAGGA Group 4		
	EDA	Route B EAST			See Design Principle 1				See Design Principle 5	n Principle 3, 6,													Yes	DVR Group 5		
		Route C WEST/SOUTH																					Yes	XAMAB Group 1 SAM KENET Group 3		
		Route A NORTH																					Yes	TNT Group 4 DAGGA Group 4		
	EDB	Route B EAST			See Design Principle 1				See Design Principle 5	n Principle 3, 6,													Yes	DVR Group 5		
		Route C WEST/SOUTH																					Yes	XAMAB Group 1 SAM KENET Group 3		
		Route A NORTH																					Yes	TNT Group 4 DAGGA Group 4		
	EDC	Route B EAST			See Design Principle 1				See Design Principle 5	n Principle 3, 6,													Yes	DVR Group 3		
	İ	Route C WEST/SOUTH																					Yes	XAMAB Group 2		
		Route A NORTH																					Yes	TNT Group 4 DAGGA Group 4		
	EDD	Route B EAST			See Design Principle 1				See Design Principle 5	n Principle 3, 6,													Yes	ThT Group 4 DAGGA Group 4 DVR Group 3		
		Route C WEST/SOUTH																					Yes	XAMAB Group 2		
		Period 1 Route A NORTH													-								No			
		Period 1 Route B EAST																					No			
	İ	Period 1 Route C			See Design				See Decign	See Design													No	This respite configuration is developed from existing configurations. Given the component outcomes of		
	EDE	Period 2 Route A (EDA) NORTH			Principle 1				Principle 5	Principle 3, 6, 7, 8, and 9													No	this DPE, this option will be discontinued at this stage however we will explore potential opportunities for respite once we have a shortlist of reconfigured options.		
	İ	Period 2 Route B (EDA) EAST											-										No			
		Period 2 Route C (EDA) WEST/SOUTH																					No			
		Route A NORTH													-								Yes	TNT Group 3 DAGGA Group 3		
	EDF	Route B EAST			See Design Principle 1				See Design Principle 5	n Principle 3, 6,													Yes	DVR Group 3		
	ĺ	Route C WEST/SOUTH																					Yes	XAMAB Group 2		
		Route A NORTH																					Yes	TNT Group 4 DAGGA Group 4		
	EDG	Route B EAST/SOUTH			See Design Principle 1				See Design Principle 5	n Principle 3, 6,													Yes	DVR Group 4 XAMAB Group 4		
		Route C WEST																					Yes	SAM KENET Group 3		
		Route A WEST																								
	EDU	Route B NORTH			See Design				See Design	n Principle 2 6													Yes			
	2011	Route C EAST			Principle 1				Principle 5	in Philophe 3, 0,													165			
		Route D SOUTH																								
		Route A WEST																								
	EDI	Route B NORTH			See Design				See Design	See Design													¥			
	EDI	Route C EAST			Principle 1				Principle 5	7, 8, and 9													res			
		Route D SOUTH																								
Option		Period 1 NW (EDA) NORTH																					No			
		Period 1 SE (EDA) EAST																					No]		

Conclusion - Easterly Departures (continued)

	EDJ	Period 1 S (EDA) SOUTHWEST Period 2 WEST		See Design Principle 1		See Design Principle 5	n Principle 3, 6,							No	This respite configuration is developed from existing configurations. Given the component outcomes of this DPE; this option will be discontinued at this stage however we will explore potential opportunities for respite once we have a shortlist of reconfigured options.
		Period 2 E EAST/NORTH												No	
_		Period 2 SOUTH												No	
		Route A WEST												No	Discontinued - route not operationally viable
	EDK	Route B EAST/NORTH	_	See Design Principle 1		See Design Principle 5	Principle 3, 6, 7, 8, and 9		-					Yes	TNT Group 2 DVR Group 1 DAGGA Group 2
		Route C SOUTH												Yes	XAMAB Group 5
		Route A NORTH												Yes	TNT Group 4 DAGGA Group 5
	EDL	Route B EAST		See Design Principle 1		See Design Principle 5	See Design Principle 3, 6, 7, 8, and 9							Yes	DVR Group 5
		Route C SOUTH/WEST												Yes	XAMAB Group 1 SAM KENET Group 3
		Route A NORTH												Yes	TNT Group 4 DAGGA Group 5
	EDM	Route B EAST		See Design Principle 1		See Design Principle 5	See Design Principle 3, 6, 7, 8, and 9							Yes	DVR Group 5
		Route C SOUTH/WEST												Yes	XAMAB Group 1
		Route A WEST												Yes	SAM / KENET Group 1
	EDN	Route B NORTH/EAST		See Design Principle 1		See Design Principle 5	See Design Principle 3, 6, 7, 8, and 9							Yes	TNT Group 2 DVR Group 2 DAGGA Group 2
		Route C SOUTH												Yes	XAMAB Group 5
		Period 1 Route A (EDK) WEST												No	
		Period 1 Route B (EDK) NORTH/EAST												No	
	EDO	Period 1 Route C (EDK) SOUTH		See Design		See Design	See Design Principle 3, 6							No	This respite configuration is developed from existing configurations. Given the component outcomes of this DPF, this option will be discontinued at this stane brokever we will evolve potential opportunities.
		Period 2 Route A (EDM) NORTH		Principle 1		Principle 5	7, 8, and 9							No	for respite once we have a shortlist of reconfigured options.
		Period 2 Route B (EDM) EAST												No	
		Period Route C S (EDM) SOUTH/WEST												No	
		Route A NORTH												Yes	TNT Group 4 DAGGA Group 3
	EDP	Route B EAST		See Design Principle 1		See Design Principle 5	See Design Principle 3, 6, 7, 8, and 9							Yes	DVR Group 5
		Route C SOUTH/WEST												Yes	XAMAB Group 2
		Route A WEST												Yes	SAM KENET Group 2
	EDQ	Route B EAST		See Design Principle 1		See Design Principle 5	See Design Principle 3, 6, 7, 8, and 9							Yes	DVR Group 2
		Route C SOUTH/NORTH												Yes	TNT Group 1 DAGGA Group 1 XAMAB Group 3

Westerly Departures (Detail)

| # DP Category Image: Contrast of the second sec | PD_BL | | Route A Route B Number Route C SOUTH | WDB Route A Route A EAST/NORTH Route B WEST/SOUTH | WDC EAST/NORTH Route A (0-4000ft) Route B (0-4000ft) SOUTH

 | WDD EAST/NORTH
Route A
(0-4000ft) Route B
(0-4000ft) Route B
(0-4000ft) WEST SOUTH
 | PIROURE Fi Route J PIROURE B WEST/SDUTH | WDE | Route A NORTH/WEST Route B WEST/STH | WDF (Nighttime Respite) NORTH/VEST NORTH/VEST Route B NESTSTH | WDG Route A Route C WEST Route D Route D Route D SOUTH
 | Option WDH | | Period 1
Period 2
Period 2
Route A
Route C
EAST
SOUTH/WEST | Route A
EAST/NORTH
Route C
OUTH | WDJ | NDK Route A EAST/NORTH 0-4000ft) Route B (0-4000ft) Route C VEX Control of the control of the control
of the control | WDL Route A
Northe
Buts B
WEST South/EAST
Route C | WDM Image: Constraint of the state of | WDN | Period 2
Route A
NORTH/EAST
Od 2
e B
SOUTH
SOUTH
Period 2
Route C | WDO | WDP EAST Route B (0-4000ft) WEST/SOUTH North Route C (0-4000ft) |
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1 Safety by Design	Route 4 (Right turn to E) Route 1 (Straight ahead W) Route 7 (Straight ahead Re Gatwick's departures fly standard instrument departures (SIDs) but in order to maximise This leads to high ATC workload, often reaching capacity, due to interactions with othe Without modemisation to decrease routine ATC tactical intervention, increased traffic leads	S) Route 8 (Straight ahead SE) Route 9 (Left turn to SE) R e	Route A EASTNORTH Route B WEST Route C SOUTH te option is too close to athrow and would create litional complexity so is of operationally viable Viable however may interact with Famborough traffic that would require resolution Viable however will interact with Gatwick arrivals that would require resolution	Route A EAST/NORTH Route B WEST/SOUTH Route C EAST/NORTH Route option is too close to Heathrow and would create additional complexity so is not operationally viable. Viable however may interact with Famborough traffic that would require resolution Viable however does had potential interaction with NERL network options t would require resolution

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would require resolution.Viable however will interact
with Gatwick arrivals that
would require resolution.
Would also be viable to go
east.
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 | Route A NORTH/EAST Route B WEST Route C SOUTH Image: Comparison of the compariso | Period 1 Route A (WDJ)
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would require resolution Route op
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NERL network options that
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| Other safety | to keep ATC workload within sa | Th
result
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and
Route | he wide tum on Route A will increase interactions with any future Heathrow operation
ting in higher workload than today and increased chances of a safety event in the case
level bust. This departure configuration has routes (B v C) which diverge by less than
nd they also start their divergence later than today; this will require further investigation
d a specific safety case to achieve separation standards for 1 minute splits. Owing to
e A, this option is assessed as not meeting Safety by Design although Routes B and C
may be safe as part of a different SID grouping. | The wide tum on Route A will increase interactions with any future Heathrow operation
resulting in higher workload than today and increased chances of a safety event in the of
of a level bust. Route C for eastbound traffic is viable although there will be interaction
with Westerly arrivals that will need resolution. Owing to Route A, this option is asses
as not meeting Safety by Design although Routes B and C may be safe as part of a
different SID grouping. | The wide tum on Route A will increase interactions with any future Heathrow oper
resulting in higher workload than today and increased chances of a safety event in
of a level bust. This departure configuration has routes (A v B) which diverge by le
45° and they also start their divergence later than today; this will require further inve
and a specific safety case to achieve separation standards for 1 minute splits. O
Route A, this option is assessed as not meeting Safety by Design although Route
C may be safe as part of a different SID grouping.

 | peration
n the case
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tes B and
The wide tum on Route A will increase interactions with any future Heathrow operation
resulting in higher workload than today and increased chances of a safety event in the of
of a level bust. Owing to Route A, this option is assessed as not meeting Safety by Des-
although Routes B and C may be safe as part of a different SID grouping.
 | The wide tum on P1 Route A and P2 Route A will increase interactions with any future He
event in the case of a level bust. This departure configuration has routes (P1A v P1B and P
this will require further investigation and a specific safet
sign The use of SIDs which tum on/off at a certain time will require additional assurances. En
(aircraft flying the wrong SID, or ATC thinking the other SID is in use) will exist and this will
this option is assessed as not meeting Safety by Design although Route | Heathrow operation resulting in higher workload than today and increased chances of a safet
P2B v P2C) which diverge by less than 45° and they also start their divergence later than tod
ety case to achieve separation standards for 1 minute splits.
Even if technically possible through systems and flight planning, the chances of human erro
will require further investigation should this option progress. However, owing to both A routes
outes B and C (both periods) may be safe as part of a different SID grouping. | y
ay;
Route A will increase interactions with any future Heathrow operation resulting in hig
workload than today and increased chances of a safety event in the case of a level bu
owing to Route A, this option is assessed as not meeting Safety by Design althoug
s, Routes B and C may be safe as part of a different SID grouping | This option was specifically designed to minimise populations numbers within the 80dE
SEL which is considered indicative of impact on the 45 dB Laeq night time contour. Whil
Route A is not viable when both Heathrow and Gatwick are operating, it could be viable
when Heathrow have no movements and has been specifically designed for night time us
only, owing to the population numbers within the 80dB SEL contour. This option is therefor
considered potentially viable | B
Ist
There are potentially interactions with between Route B and westerly arrivals that would require resolution but these are contended on the safety concerns raised at this time assuming a 2 min departure separation between Route C/I
fore
 | onsidered potentially viable. No There are potentially interactions with between Route B and westerly arrivals that would require
D/E SIDs. other safety concerns raised at this time assuming a 2 min departure se | uire resolution but these are considered potentially viable. No separation between Route C/D/E SIDs.
The use of SIDs w (aircraft flying the wro | eriod 2 Route A will increase interactions with any future Heathrow operation resulting in higher workle
it. This departure configuration has routes (Period 2 A v Period 2 B) which start their divergence later t
safety case to achieve separation standards for 1 minute spli
which turn on/off at a certain time will require additional assurances. Even if technically possible througong SID, or ATC thinking the other SID is in use) will exist and this will require further investigation sh
this option is assessed as not meeting Safety by Design although all other routes may be safe | rkload than today and increased chances of a safety event in the
er than today; this will require further investigation and a specific
plits.
rough systems and flight planning, the chances of human error
should this option progress. However, owing to Period 2 Route A,
afe as part of a different SID grouping | de turn on Route A will increase interactions with any future Heathrow operation
in higher workload than today and increased chances of a safety event in the case re
bust. Owing to Route A, this option is assessed as not meeting Safety by Design
although Routes B and C may be safe as part of a different SID grouping. | The wide turn on Route A will increase interactions with any future Heathrow operation
esulting in higher workload than today and increased chances of a safety event in
the case
of a level bust. Owing to Route A, this option is assessed as not meeting Safety by Design
although Routes B and C may be safe as part of a different SID grouping. | The wide turn on Route A and the positioning of the latter part of Route B will increase
interactions with any future Heathrow operation resulting in higher workload than today and
increased chances of a safety event in the case of a level bust. Owing to Route A and
Route B, this option is assessed as not meeting Safety by Design although Route C may be
safe as part of a different SID grouping. | The wide turn on Route A will increase interactions with any future Heathrow operation
esulting in higher workload than today and increased chances of a safety event in the case
of a level bust. Owing to Route A this option is assessed as not meeting Safety by Design
although Route B and C may be safe as part of a different SID grouping. | The wide tum on Period 1 Route A and the Period 2 Route A pointing straight at Heathrow and the posi
athrow operation resulting in higher workload than today and increased chances of a safety event in the
2 Route B, this option is assessed as not meeting Safety by Design although Period 1 Routes B | tioning of the latter part of Route B will increase interactions with any future
case of a level bust. Owing to Period 1 Route A, Period 2 Route A and Period
and C and Period 2 C may be safe as part of a different SID grouping. | vill increase interactions with any future Heathrow operation resulting in higher
han today and increased chances of a safety event in the case of a level bust.
Route A, this option is assessed as not meeting Safety by Design although
Routes B and C may be safe as part of a different SID grouping. | There are potentially interactions with between Route C and westerly arrivals, Route A departures and then the Heathrow operation that would require resolution but these are considered potentially viable. |
| Safety | See Design Principle ? | 1 | See Design Principle 1 | See Design Principle 1 | See Design Principle 1

 | See Design Principle 1
 | See Desig | ign Principle 1 | See Design Principle 1 | See Design Principle 1 | See Design Principle 1
 | See Design Principle 1 | | See Design Principle 1 | | See Design Principle 1 | See Design Principle 1
 | See Design Principle 1 | See Design Principle 1 | See Design Principle 1 | | See Design Principle 1 | See Design Principle 1 |
| Integration: CAS | Current operations require the current airspace and is used as a benc | hmark to measure future potential requirements | Route not operationally
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this option has the potential to require less CAS and offer opportunities to simplify t
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the this option has the potential to require less CAS and offer opportunities to simplify the
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Taking departures in isolation, on the assumption that improved CCO to 7000ft is available this option has the potential
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boundaries | Taking departures in isolation, on the assumption that
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potential to require less CAS and offer opportunities to
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Taking departures in isolation, on the assumption that
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Based on CCO performance,
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Gatwick CAS
Taking departures in
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potential to require less CAS and offer opportunities to
simplify the boundaries | aking departures in isolation, on the assumption that improved CCO to 7000ft is availal
this option has the potential to require less CAS and offer opportunities to simplify the
boundaries |
| Integration: National
Security
AMS | No feedback has been received to suggest this option would conf
Gatwick's departures fly standard instrument departures (SIDs) but in order to maximise | flict with defence and security requirements | o feedback has been received to suggest this option would conflict with defence and security requirements | No feedback has been received to suggest this option would conflict with defence an security requirements | And No feedback has been received to suggest this option would conflict with defend security requirements

 | nce and No feedback has been received to suggest this option would conflict with defence ar security requirements
 | No feedback has been received to suggest this option | on would conflict with defence and security requirements | No feedback has been received to suggest this option would conflict with defence a security requirements | and No feedback has been received to suggest this option would conflict with defence and security requirements | No feedback has been received to suggest this option would conflict with defence and security requ
 | irements No feedback has been received to suggest this option would conflict wit | with defence and security requirements | No feedback has been received to suggest this option would conflict with defence a | e and security requirements | dback has been received to suggest this option would conflict with defence and security requirements | No feedback has been received to suggest this option would conflict with defence and security requirements
 | No feedback has been received to suggest this option would conflict with defence and security requirements | No feedback has been received to suggest this option would conflict with defence and security requirements | No feedback has been received to suggest this option would conflic | t with defence and security requirements | ack has been received to suggest this option would conflict with defence and security requirements | No feedback has been received to suggest this option would conflict with defence and security requirements |
| Simplification: Capacity | This leads to high ATC workload, often reaching capacity, due to interactions with othe
Without modernisation to decrease routine ATC tactical intervention, increased traffic le
to keep ATC workload within safe limits. This will limit | er neighbouring airport traffic flows as well as with its own arrivals.
evels with the LTMA will lead to flow restrictions and delay in order
t capacity and constrain demand. | I his option in it's current configuration would not meet current or future capacity requirements as there are only 2 viable SIDs which would be worse than today. | This option in it's current configuration would not meet current or future capacity
requirements as there are only 2 viable SIDs which would be worse than today. | I his option in it's current configuration would not meet current or future capacity requirements as there are only 2 viable SIDs which would be worse than toda

 | day. I his option in it's current configuration would not meet current or future capacity requirements as there are only 2 viable SIDs which would be worse than today.
 | This option in it's current configuration would not meet current or future capaci | city requirements as there are only 2 viable SIDs which would be worse than today. | This option in it's current configuration would not meet current or future capacity requirements as there are only 2 viable SIDs which would be worse than today. | This option is expected to meet capacity requirements in the night period subject to Heathrow being closed. | This option is expected to meet capacity requirements.
 | This option is expected to meet capacity requ | equirements. | ntion in it's current configuration would not meet current or future capacity requirements as there are or | only 2 viable SIDs which would be worse than today. | s option in it's current configuration would not meet current or future capacity
uirements as there are only 2 viable SIDs which would be worse than today. | This option in it's current configuration would not meet current or future capacity requirements as there are only 2 viable SIDs which would be worse than today.
 | I his option in it's current configuration would not meet current or future capacity requirements as there are only 2 viable SIDs which would be worse than today. | This option in it's current configuration would not meet current or future capacity requirements as there are only 2 viable SIDs which would be worse than today. | This option in it's current configuration would not meet current or future capacity requirements | as there are only 2 viable SIDs which would be worse than today. | option in it's current configuration would not meet current or future capacity rements as there are only 2 viable SIDs which would be worse than today. | This option is expected to meet capacity requirements. |
| Simplification: Resilienc | See Design Principle 5 | 5 | See Design Principle 5 | See Design Principle 5 | See Design Principle 5

 | See Design Principle 5
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| Environment | See Design Principle 3, 6, 7, | 8 and 9 | See Design Principle 3, 6, 7, 8 and 9 | See Design Principle 3, 6, 7, 8 and 9 | See Design Principle 3, 6, 7, 8 and 9

 | See Design Principle 3, 6, 7, 8 and 9
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 | See Design Principle 3, 6, 7, 8 and 9 | d 9 | See Design Principle 3, 6, 7, 8 and 9 | | See Design Principle 3, 6, 7, 8 and 9 | See Design Principle 3, 6, 7, 8 and 9
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| Enhanced
2 Navigation -
Standards | Aircraft departing from Gatwick Airport on the main runway either use PBN RNAV1 SIDs
The PBN SIDs aim to replicate the conventional routes. Gatwick's Noise Preferred Rout
. Beyond this point, owing to the limitations within the LTMA and the interactions w
controlled (vectored) by Air Traffic C
Aircraft departing from the northem runway are required to follow Gatwick's conventional
aids although aircraft operators typically have coded overlays of these procedures. Gat
and beyond this point aircraft are typically tact | s or conventional SIDs excluding R4 which are only conventional.
es (NPR) apply until either 3000ft or 4000ft depending on the route
ith aircraft to/from other airports, aircraft are typically tactically
Control (ATC).
I procedures which are defined based on ground based navigation
twick's Noise Preferred Routes (NPR) apply until 3000ft or 4000ft
ically controlled by ATC. | option is designed to adopt enhanced navigation standards. It is expected to operate
minimum standard of RNAV1 although the exact PBN specification will be explored in
her detail as we develop and refine options through the process. Use of RF would be
preferable on 180° turns. | This option is designed to adopt enhanced navigation standards. It is expected to oper
to a minimum standard of RNAV1 although the exact PBN specification will be explore
further detail as we develop and refine options through the process. Use of RF would
preferable on 180° turns. | This option is designed to adopt enhanced navigation standards. It is expected to
red in to a minimum standard of RNAV1 although the exact PBN specification will be exp
further detail as we develop and refine options through the process. Use of RF we
preferable on any 180° turns.

 | to operate This option is designed to adopt enhanced navigation standards. It is expected to operate xplored in to a minimum standard of RNAV1 although the exact PBN specification will be explore further detail as we develop and refine options through the process. Use of RF would preferable on any 180° turns.
 | erate
ed in This option is designed to adopt enhanced navigation standards. It is expected to operate
be further detail as we develop and refine options through the | ate to a minimum standard of RNAV1 although the exact PBN specification will be explored i
the process. Use of RF would be preferable on any 180° turns. | This option is designed to adopt enhanced navigation standards. It is expected to operate to a minimum standard of RNAV1 although the exact PBN specification will be explore further detail as we develop and refine options through the process. Use of RF would preferable on 180° turns. | Perate This option is designed to adopt enhanced navigation standards. It is expected to operate
to a minimum standard of RNAV1 although the exact PBN specification will be explored in
further detail as we develop and refine options through the process. Use of RF would be
preferable on 180° turns. | te
in This option is designed to adopt enhanced navigation standards. It is expected to operate to a minimum standard of RN
specification will be explored in further detail as we develop and refine options through the proc
 | IAV1 although the exact PBN This option is designed to adopt enhanced navigation standards. It is expected to operate to specification will be explored in further detail as we develop and refine options through the p | e to a minimum standard of RNAV1 although the exact PBN This option is design process. Use of RF would be preferable on any 180° turns. | igned to adopt enhanced navigation standards. It is expected to operate to a minimum standard of RN
further detail as we develop and refine options through the process. Use of RF would be | RNAV1 although the exact PBN specification will be explored in be preferable on any 180° turns. | on is designed to adopt enhanced navigation standards. It is expected to operate num standard of RNAV1 although the exact PBN specification will be explored in t further detail as we develop and refine options through the process. | This option is designed to adopt enhanced navigation standards. It is expected to operate
o a minimum standard of RNAV1 although the exact PBN specification will be
explored in
further detail as we develop and refine options through the process. | This option is designed to adopt enhanced navigation standards. It is expected to operate to a minimum standard of RNAV1 although the exact PBN specification will be explored in the further detail as we develop and refine options through the process. | This option is designed to adopt enhanced navigation standards. It is expected to operate
o a minimum standard of RNAV1 although the exact PBN specification will be explored in
further detail as we develop and refine options through the process. | nis option is designed to adopt enhanced navigation standards. It is expected to operate to a minimum
further detail as we develop and refine options t | standard of RNAV1 although the exact PBN specification will be explored in hrough the process. | n is designed to adopt enhanced navigation standards. It is expected to operate
um standard of RNAV1 although the exact PBN specification will be explored in
further detail as we develop and refine options through the process. | his option is designed to adopt enhanced navigation standards. It is expected to opera
a minimum standard of RNAV1 although the exact PBN specification will be explored
further detail as we develop and refine options through the process. Use of RF would b
preferable on 180° turns. |
| Limit
Adverse
Noise
Effects | The baseline 'do nothing' scenario would not change the noise environment at Gat
controlled (vectored) by ATC once outside the NPR. As the airspace is not modernised
within the LTMA increases, this could lead to decreased CCO pe | twick. Aircraft would continue to fly the SIDS and be tactically
, aircraft will have the same CCO performance as today. As traffic
erformance which has an impact on noise. | s option has been designed to minimise the total population overflown. As part of the
opment of the option, Sound Exposure Level (SEL) data, LAMax and overflight data has
n used to identify high performing notional flight paths. SEL data forms part of the LAed
alations which will be undertaken later in the process. LAMax and overflight data form a
secondary metric. Overflight of AONB was also considered.
In the exception of route A, CCO is expected to improve compared to the baseline (see
DP6 for further details) | This option has been designed to minimise the total population overflown. As part of
s development of the option, Sound Exposure Level (SEL) data, LAMax and overflight data
been used to identify high performing notional flight paths. SEL data forms part of the L
calculations which will be undertaken later in the process. LAMax and overflight data for
secondary metric. Overflight of AONB was also considered.
With the exception of route A, CCO performance is expected to improve compared to
baseline (see DP6 for further details) | f the This option has been designed to minimise the total population overflown. As pa
ta has development of the option, Sound Exposure Level (SEL) data, LAMax and overflight
LAeq been used to identify high performing notional flight paths. SEL data forms part of
corm a calculations which will be undertaken later in the process. LAMax and overflight da
secondary metric. Overflight of AONB was also considered.
With the exception of route A, CCO performance is expected to improve compare-
baseline (see DP6 for further details)

 | bart of the This option has been designed to minimise the total population overflown. As part of
the total has development of the option, Sound Exposure Level (SEL) data, LAMax and overflight data
f the LAeq been used to identify high performing notional flight paths. SEL data forms part of the L
lata form a calculations which will be undertaken later in the process. LAMax and overflight data for
secondary metric. Overflight of AONB was also considered.
With the exception of route A, CCO performance is expected to improve compared to the
baseline (see DP6 for further details)
 | the
a has
_Aeq
orm a
orm a
the
With the exception of route A in period 1 and period 2, CCO performance i | e development of the option, Sound Exposure Level (SEL) data, LAMax and overflight data ha
eq calculations which will be undertaken later in the process. LAMax and overflight data form
figuration offers an opportunity to mitigate potential impacts of PBN concentration.
a is expected to improve compared to the baseline (see DP6 for further details) | This option has been designed to minimise the total population overflown. As part of
development of the option, Sound Exposure Level (SEL) data, LAMax and overflight dat
been used to identify high performing notional flight paths. SEL data forms part of the
calculations which will be undertaken later in the process. LAMax and overflight data for
secondary metric. The data was focused on the night-time metrics.
With the exception of route A, CCO performance is expected to improve compared to
baseline (see DP6 for further details) | of the This option has been designed to minimise the total population overflown. As part of the ta has development of the option, Sound Exposure Level (SEL) data, LAMax and overflight data has been used to identify high performing notional flight paths. SEL data forms part of the LAe form a calculations which will be undertaken later in the process. LAMax and overflight data form secondary metric. The data was focused on the night-time metrics. CCO performance (at night) is expected to improve compared to the baseline (see DP6 for further details) | e
as This option has been designed to minimise the total population newly overflown. It is based on the existing RNAV 1 nomi
eq routes departing from Gatwick (including NPRs) however the vertical performance of these routes has been updated t
performance.
CCO performance is expected to improve compared to the baseline although for some elements of the system there are
or airports which would require further investigation (see DP6 for further details).
 | nal centrelines of the departure
o reflect continuous climb
interdependencies with other
CCO performance is expected to improve compared to the baseline although for some element
airports which would require further investigation (see DF | I on the existing RNAV 1 nominal centrelines of the departure
ese routes has been updated to reflect continuous climb
nall adjustments to the lateral flight paths would be made to
ments of the system there are interdependencies with other
DP6 for further details). | is respite option uses two configurations WDA and parts of WDG. Both of these options 'met' the De
potential impacts of PBN concentration.
With the exception of the period 2 route A, CCO performance is expected to improve compared to t | Design Principle in their respective evaluations.
Do the baseline (see DP6 for further details)
Design Principle in their respective evaluations.
Design Principle in their respective evaluations. | on was developed following stakeholder feedback. It uses DEFRA's road and rail
pping to identify areas of high ambient noise (please see the Stage 2A document r
her details). This option has not been developed using data associated with the
nd secondary noise metrics of CAP1616. There is typically a correlation between
f high ambient noise and population and therefore, in relation to the primary and
condary metrics, this option may not perform as well as other options on the
ensive list. It's performance against these metrics would require further exploration c
as part of the Initial Options Appraisal should this option progress.
e exception of route A, CCO performance is expected to improve compared to the
baseline (see DP6 for further details) | This option was developed following stakeholder feedback. It uses DEFRA's road and rail
noise mapping to identify areas of high ambient noise (please see the Stage 2A document
for further details). This option has not been developed using data associated with the
primary and secondary noise metrics of CAP1616. There is typically a correlation between
areas of high ambient noise and population and therefore, in relation to the primary and
secondary metrics, this option may not perform as well as other options on the
comprehensive list. It's performance against these metrics would require further exploration
as part of the Initial Options Appraisal should this option progress.
With the exception of route A, CCO performance is expected to improve compared to the
baseline (see DP6 for further details) | This option was developed following stakeholder feedback. It uses DEFRA's road and rail
noise mapping to identify areas of high ambient noise (please see the Stage 2A document
for further details). This option has not been developed using data
associated with the
primary and secondary noise metrics of CAP1616. There is typically a correlation between
areas of high ambient noise and population and therefore, in relation to the primary and
secondary metrics, this option may not perform as well as other options on the
comprehensive list. It's performance against these metrics would require further exploration c
as part of the Initial Options Appraisal should this option progress.
With the exception of route A and route B, CCO performance is expected to improve
compared to the baseline (see DP6 for further details) | This option was developed following stakeholder feedback. It uses DEFRA's road and rail
noise mapping to identify areas of high ambient noise (please see the Stage 2A document
for further details). This option has not been developed using data associated with the
primary and secondary noise metrics of CAP1616. There is typically a correlation between
areas of high ambient noise and population and therefore, in relation to the primary and
secondary metrics, this option may not perform as well as other options on the
omprehensive list. It's performance against these metrics would require further exploration
as part of the Initial Options Appraisal should this option progress.
With the exception of route A, CCO performance is expected to improve compared to the
baseline (see DP6 for further details) | s option was developed following stakeholder feedback. It uses DEFRA's road and rail noise mapping
further details). The two respite configurations have not been developed using data associated with t
rrelation between areas of high ambient noise and population and therefore, in relation to the primary a
the comprehensive list. The performance against these metrics would require further exploration
With the exception of the ,period 1 route A and period 2 route A and B, CCO performance is expe | to identify areas of high ambient noise (please see the Stage 2A document for
he primary and secondary noise metrics of CAP1616. There is typically a
nd secondary metrics, this option may not perform as well as other options on
n as part of the Initial Options Appraisal should this option progress.
cted to improve compared to the baseline (see DP6 for further details)
With the | tion was developed following stakeholder feedback. It uses the outputs of the
ce Design Database to balance overflight of new areas and overflight of total
The option was developed using existing overflight data, Sound Exposure Level
a, LAMax and overflight data has been used to identify high performing notional
SEL data forms part of the LAeq calculations which will be undertaken later in
the process. LAMax and overflight data form a secondary metric.
exception of route A, CCO performance is expected to improve compared to the
baseline (see DP6 for further details) | This option was developed following stakeholder feedback. It uses the outputs of the
Airspace Design Database to balance overflight of new areas and overflight of total
opulation. The option was developed using existing overflight data, Sound Exposure Le
SEL) data, LAMax and overflight data has been used to identify high performing notional
light paths between 0-4000ft before routing directly to the network exit points between 4
00ft. Small adjustments will be made to the lateral path to consider noise, however the
will be balanced with reducing fuel bum and CO2. With the exception of route A, CCO
erformance is expected to improve compared to the baseline (see DP6 for further detail |
| Time Based
4 Arrival
Operations | als | | | |

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| | Aircraft departing from Gatwick Airport on the main runway either use PBN RNAV1 SIDs are required to follow Gatwick's conventional SIDs. The conventional procedures are converted to follow Gatwick's conventional SIDs. | , or conventional SIDs. Aircraft departing from the northern runway defined based on ground based navigation aids although aircraft these procedures. | option removes dependencies on VORs although DMEs will likely still be required for | The option removes dependencies on VORs although DMEs will likely still be required | ed for The option removes dependencies on VORs although DMEs will likely still be req

 | quired for The option removes dependencies on VORs although DMEs will likely still be required
 | d for | | The option removes dependencies on VORs although DMEs will likely still be require | ed for The option removes dependencies on VORs although DMEs will likely still be required for | or
The option removes dependencies on VOPs although DMEs will likely still be required for some RNAV/1 operations. This
 | does generate a dependency of The option removes dependencies on VOPs although DMEs will likely still be required for som | ome RNAV/1 operations. This does generate a dependency on | | The optic | on removes dependencies on VORs although DMEs will likely still be required for | The option removes dependencies on VORs although DMEs will likely still be required for
 | The option removes dependencies on VORs although DMEs will likely still be required for | The option removes dependencies on VORs although DMEs will likely still be required for | | The optic | n removes dependencies on VORs although DMEs will likely still be required for The | The option removes dependencies on VORs although DMEs will likely still be required f |
| S Resilience - 5 built in - | NATS NERL are currently undergoing a rationalisation programme of ground based
procedures and therefore will also impact GAL's resilience. GAL are currently investiga
this is an interim measure until FASI i
In future, the increased volumes of traffic within the LTMA airspace will result in ind
complexity in the event of predictable op | equipment called VORs which will impact these conventional
ating RNAV substitution to mitigate VOR rationalisation however
implementation.
creased ATC and Pilot workload which will lead to additional
perational factors. | today's existing dependency on FMS overlays. The implementation of PBN SIDs from
northern runway will add resilience to Gatwick. The contribution towards systemised
pace enables enhanced controller tool support which, in the long term, is expected to
to a reduction in Controller workload in turn delivering increased operational resilience | than today's existing dependency on FMS overlays. The implementation of PBN SIDs f
the northem runway will add resilience to Gatwick. The contribution towards systemis
airspace enables enhanced controller tool support which, in the long term, is expected
lead to a reduction in Controller workload in turn delivering increased operational resilie | from than today's existing dependency on FMS overlays. The implementation of PBN S sed the northern runway will add resilience to Gatwick. The contribution towards syste airspace enables enhanced controller tool support which, in the long term, is experience. lead to a reduction in Controller workload in turn delivering increased operational re

 | SIDs from than today's existing dependency on FMS overlays. The implementation of PBN SIDs from the northern runway will add resilience to Gatwick. The contribution towards systemis airspace enables enhanced controller tool support which, in the long term, is expected to resilience. lead to a reduction in Controller workload in turn delivering increased operational resilience.
 | The option removes dependencies on VORs although DMEs will likely still be required for
than today's existing dependency on FMS overlays. The implementation of PBN SIDs fro
airspace enables enhanced controller tool support which, in the long term, is expected to
ence. | for some RNAV1 operations. This does generate a dependency on GPS but possibly no mor
from the northem runway will add resilience to Gatwick. The contribution towards systemised
to lead to a reduction in Controller workload in turn delivering increased operational resilience | than today's existing dependency on FMS overlays. The implementation of PBN SIDs
the northern runway will add resilience to Gatwick. The contribution towards systemis
airspace enables enhanced controller tool support which, in the long term, is expecte
lead to a reduction in Controller workload in turn delivering increased operational resilie | than today's existing dependency on FMS overlays. The implementation of PBN SIDs from
ised airspace enables enhanced controller tool support which, in the long term, is expected to
ience. lead to a reduction in Controller workload in turn delivering increased operational resilience | GPS but possibly no more than today's existing dependency on FMS overlays. The implementation of PBN SIDs from
resilience to Gatwick. The contribution towards systemised airspace enables enhanced controller tool support which, ir
lead to a reduction in Controller workload in turn delivering increased operational resilience
ce.
 | GPS but possibly no more than today's existing dependency on FMS overlays. The implem
resilience to Gatwick. The contribution towards systemised airspace enables enhanced con
lead to a reduction in Controller workload in turn delivering incre | The option remove
ementation of PBN SIDs from the northem runway will add
controller tool support which, in the long term, is expected to
creased operational resilience. | es dependencies on VORs although DMEs will likely still be required for some RNAV1 operations. Thi
ting dependency on FMS overlays. The implementation of PBN SIDs from the northern runway will add
enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controlle | This does generate a dependency on GPS but possibly no more
dd resilience to Gatwick. The contribution towards systemised
oller workload in tum delivering increased operational resilience.
lead to a re | by's existing dependency on FMS overlays. The implementation of PBN SIDs from them runway will add resilience to Gatwick. The contribution towards systemised enables enhanced controller tool support which, in the long term, is expected to reduction in Controller workload in turn delivering increased operational resilience. In | than today's existing dependency on FMS overlays. The implementation of PBN SIDs from
the northern runway will add resilience to Gatwick. The contribution towards
systemised
airspace enables enhanced controller tool support which, in the long term, is expected to
ead to a reduction in Controller workload in turn delivering increased operational resilience. | than today's existing dependency on FMS overlays. The implementation of PBN SIDs from the northern runway will add resilience to Gatwick. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience. In | the northern runway will add resilience to Gatwick. The contribution towards systemised
airspace enables enhanced controller tool support which, in the long term, is expected to
ead to a reduction in Controller workload in turn delivering increased operational resilience. | he option removes dependencies on VORs although DMEs will likely still be required for some RNAV1 han today's existing dependency on FMS overlays. The implementation of PBN SIDs from the northern rspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduc | operations. This does generate a dependency on GPS but possibly no more
runway will add resilience to Gatwick. The contribution towards systemised
tion in Controller workload in turn delivering increased operational resilience. lead to a re | s existing dependency on FMS overlays. The implementation of PBN SIDs from
than
the nunway will add resilience to Gatwick. The contribution towards systemised
nables enhanced controller tool support which, in the long term, is expected to
duction in Controller workload in turn delivering increased operational resilience. lead t | the root of perduction of PBN SIDs from the root of the second perduction of PBN SIDs from the root of the second perduction of PBN SIDs from the northern runway will add resilience to Gatwick. The contribution towards system is expected inspace enables enhanced controller tool support which, in the long term, is expected ad to a reduction in Controller workload in turn delivering increased operational resilien |
| Track Distance | Remain the same as today Remain the same as today Remain the same as today | Iay Remain the same as today Remain the same as today N/A | Route not operationally viable. Increased track distance when routing west to SAM and KENET Decreased track distance when routing south | N/A Route not operationally viable. Increased track distance when routing west to SAM and KENET and south Decreased track distance the east and north | ce to N/A Route not operationally viable.
N/A Route not operationally when routing west to SAM and KENET

 | stance to N/A Route not operationally viable. Decreased track distance when routing west to SAM and KENET Decreased track distance when routing west to SAM and the south
 | e to N/A Route not operationally viable. Increased track distance when routing west to SAM and KENET and south Decreased track distance to the east | to N/A Route not operationally viable. Increased track distance when routing west to SAM and KENET Decreased track distance when routing south | e N/A Route not operationally viable. Increased track distance when routing west to SAM and the east the east | ce to Decreased track distance
when routing North West to
KENET and NORTH KENET and south Decreased track distance to
the east | xo Similar to today Decreased track distance to the east Similar to today Increased track distance to the south
 | Similar to today Similar to today Decreased track distance to the east and north Similar to today | Similar to today Similar to today Similar to tod | Increased track distance when routing West/North West to SAM and KENET Also increased to South (XAMAB) Decreased track distance to the east and north N/A Route not operationally viable. Viable. | Ily Increased track distance
when routing west to SAM and
KENET. Decreased track distance
when routing south | te not operationally
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Decreased track distance
when routing west to SAM and
KENET. | N/A Route not operationally viable. Increased track distance when routing west to SAM and KENET. Decreased track distance when routing south
 | N/A Route not operationally
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but reduction to KENET. More
flights to SAM so an overall
increase in miles flown | N/A Route not operationally
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when routing west to SAM and
KENET. Decreased track distance
when routing south | ot operationally but reduction to KENET. More flights to SAM so an overall increase in miles flown N/A Rout | not operationally
viable. Increased track distance
when routing west to SAM and
KENET. Decreased track distance
when routing south. | Similar to today Similar to today when routing west to SAM and KENET. Increased track distance when routing south Decrease track distance routing north |
| 6
Optimise
Use of
Aircraft
Capabilities
CCO/CDO | The SIDs are designed with
an initial stop at 4000ft or
5000ft. These restrictions are
caused by a requirement to
deconflict the routes against
Heathrow departures.
However, the current structure
is a compromise so the inter-
dependencies between
Heathrow and other adjacent
airports in the vicinity also
affect the overall structure and
level restrictions that apply to
all the inter-dependent
airports.
The SIDs stop at 3000'
These restrictions are caused
by a requirement to deconflict
the routes against Heathrow
departures. However, the
current structure is a
compromise so the inter-
dependencies between
Heathrow and other adjacent
airports in the vicinity also
affect the overall structure and
level restrictions that apply to
all the inter-dependent
airports. | In the subset of the sector | Route not operationally
viableThis route has the potential
to achieve improved CCO
compared to the baseline
although due to
dependencies in the airspace
(most likely with Heathrow and
possibly Famborough), CCO
to FL90 may not be available.
This will be explored in further
detail should this option
progress.This left tum departure route
has the potential to achieve
CCO to FL90 subject to
integration with arrivals and
deconfliction from Heathrow
departures. | N/A Route not operationally
viable.This route has the potential
to achieve improved CCO
compared to the baseline
although due to
dependencies in the airspace
(most likely with Heathrow and
possibly Famborough), CCO
to FL90 may not be available.
This will be explored in further
detail should this option
progress.This left tum departure re
has the potential to achi
CCO to FL90 subject to
integration with arrivals
deconfliction from Heath
departures. | route
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viable.
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prossibly Famborough), CCO
to FL90 may not be available.
This will be explored in further
departures.
N/A Route not operationally
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rivals and
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M/A Route not operationally
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N/A Route not operationally
viable.
This route has the potential
to achieve improved CCO
compared to the baseline
although due to
dependencies in the airspace
(most likely with Heathrow and
possibly Famborough), CCO
to FL90 may not be available.
This will be explored in further
detail should this option
progress.
This left tum departure rou
has the potential to achieve
CCO to FL90 subject to
integration with arrivals ar
deconfliction from Heathrow
departures. | htee
we
not operationally
how N/A Route not operationally
wable. This option has the potential
to achieve CCO at night-time
as we would not anticipate
Heathrow/Famborough
interactions at this time. This option has the potential
to achieve CCO to FL9
night-time | ential
to achieve CCO at night-time
as it would only be viable
without any Heathrow traffic. | This route has the potential
to achieve improved CCO
compared to the baseline
although due to
dependencies in the airspace
(most likely with Heathrow and
possibly Biggin Hill), CCO to
FL90 may not be available.
This will be explored in further
detail should this option
progress. | This left turn departure route
has the potential to achieve improved CCO
compared to the baseline
although due to
dependencies in the airspace
(most likely with Heathrow and
possibly Biggin Hill), CCO to
FL90 may not be available.
This will be explored in further
detail should this option
progress.
 | This route has the potential
to achieve improved CCO
compared to the baseline
although due to
dependencies in the airspace
(most likely with Heathrow and
possibly Famborough), CCO
to FL90 may not be available.
This will be explored in further
detail should this option
progress.This left tum departure route
has the potential to achieve
CCO to FL90 subject to
integration with arrivals and
deconfliction from Heathrow
departures.This route has the potential
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compared to the b
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viable.
This left tum departure route
has the potential to achieve
CCO to FL90 subject to
integration with arrivals and
deconfliction from Heathrow
departures.
This route has the potential
to achieve improved CCO
compared to the baseline
although due to
dependencies in the airspace
(most likely with Heathrow and
possibly Famborough), CCO
to FL90 may not be available.
This will be explored in further
detail should this option
progress. | N/A Route not operationally
viable.
This left tum departure route
has the potential to achieve
CCO to FL90 subject to
integration with arrivals and
deconfliction from Heathrow
departures.
This route has the potential
to achieve improved CCO
compared to the baseline
although due to
dependencies in the airspace
(most likely with Heathrow and
possibly Famborough), CCO
to FL90 may not be available.
This will be explored in further
detail should this option
progress. | N/A Route not operationally
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Unlikely to achieve CCO to
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Heathrow. CCO performance
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Unlikely to be worse than in the
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to FL90 may not be available.
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detail should this option
progress. |
| Long Term | Departures currently follow the SID centrelines and associated NPRs to 3000ft/4000ft b
NPRs provide some predictability however the nature of tactical vector | efore being tactically controlled (vectored) from 3000ft/4000ft. The The th | hree PBN departure routes that form part of this option will offer long term predictability
of flight paths. | The three PBN departure routes that form part of this option will offer long term predicta of flight paths. | ability The three PBN departure routes that form part of this option will offer long term prec
of flight paths.

 | edictability The three PBN departure routes that form part of this option will offer long term predictal of flight paths.
 | bility This option offers long term predictability via PBN departure routes. The ro | routes are split into two configurations which would be alternated predictably. | The three PBN departure routes that form part of this option will offer long term predicta of flight paths. | ability
ability
This option has been developed based on night-time noise metrics and is intended to be
used as night-time configuration alongside one of the other options. This means that the
option would offer predictable respite during the night-time period for those communities
under day-time routes. The configuration of 3 PBN departure routes will offer long term
predictability. | e
e
s The five PBN departure routes that form part of this option will offer long term predictability of fligh
 | t paths. The five PBN departure routes that form part of this option will offer lon | long term predictability of flight paths. This op | ption offers long term predictability via PBN departure routes. The routes are split into two respite con | onfigurations which would be alternated predictably. | PBN departure routes that form part of this option will offer long term predictability T
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of flight paths. |
| 7
and
Adaptability
Respite | The existing departure configuration does not offer any opportunities for predictable resp
routes. Between 4-7000ft, aircraft are usually tactically controlled (vectored), and there
unpredictable noise relief/dispersion for s | oite. Between 0-4000ft, aircraft follow the SID centrelines and NPR
efore aircraft are dispersed across the airspace, providing some
some communities. | This option does not offer any respite configurations | This option does not offer any respite configurations | This option does not offer any respite configurations

 | This option does not offer any respite configurations
 | The option is based on two respite configurations each formed of three PBN departure ro
Options Appraisal sho | routes. The effectiveness of the respite configurations will be assessed as part of the Initial
hould this option progress. | This option (if operated in the daytime) does not offer any respite configurations | As a night-time option intended to be operated alongside another option, this option woul offer respite | Id This option does not offer any respite configurations
 | This option does not offer any respite config | figurations The option is base | ed on two respite configurations each formed of three PBN departure routes. The effectiveness of the
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| Overlapping overflight
within option | Within the existing operation, route 4 and route 9 turn relatively shortly after departure period before turning; this creates some overlapping areas of overflight. At the end of the opportunity for cumulative overflight from | e. Route 1, route 7 and route 8 fly straight ahead for an extended of the extended and therefore there is the n multiple routes. | er than the initial straight ahead section of flight immediately after take off, the routes
which form this option do not have overlapping areas of overflight. | Other than the initial straight ahead section of flight immediately after take off, the rou which form this option do not have overlapping areas of overflight. | utes Other than the initial straight ahead section of flight immediately after take off, the which form this option do not have overlapping areas of overflight.

 | ne routes Other than the initial straight ahead section of flight immediately after take off, the rour which form this option do not have overlapping areas of overflight.
 | tes The overlap of overflight between the period 1 and period 2 configuration me | neans that the advantages of respite configurations are not achieved for everyone | Other than the initial straight ahead section of flight immediately after take off, the rou
which form this option do not have overlapping areas of overflight. | utes Other than the initial straight ahead section of flight immediately after take off, the routes which form this option do not have overlapping areas of overflight. | o Other than the initial straight ahead section of flight immediately after take off, the routes which form this option do no overflight.
 | t have overlapping areas of Other than the initial straight ahead section of flight immediately after take off, the routes working overflight. | s which form this option do not have overlapping areas of noise, are less likely | routes share areas of cumulative overflight before splitting. This means that communities closer in to
y to gain the full benefits of the respite configuration. In addition to this, these communities will be loo
have separation in terms of overflight which will benefit communities further | to the airport, that are more likely to be significantly impacted by
located under final approach (see below). The left and right turns
er out from Gatwick. | an the initial straight ahead section of flight immediately after take off, the routes
which form this option do not have overlapping areas of overflight. | Other than the initial straight ahead section of flight immediately after take off, the routes which form this option do not have overlapping areas of overflight.
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ne airport, that are more likely to be significantly impacted by noise, are less likely to gain the full benef
ated under final approach (see below). There is also a small amount of overlap of the right turn overfligh
progress. The left turns have separation in terms of overflight which will | er options this split occurs sooner). This means that communities closer in to
its of the respite configuration. In addition to this, these communities will be
of contours which may be mitigated with further development should this option
benefit communities further out from Gatwick. | the initial straight ahead section of flight immediately after take off, the routes Othe which form this option do not have overlapping areas of overflight. | Other than the initial straight ahead section of flight immediately after take off, the route
which form this option do not have overlapping areas of overflight. |
| B Overflight of arrival and departure options 8 Deconflictio n by Design | 2019 track data shows that there are significant areas where there is overflight by arr
Routes 1 and 7 fly down RWY 08 final approach meaning those communit | ivals and departures to/from Gatwick Airport. Of particular note, N/A ties get no respite through a change in runway mode. | Route not operationally
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any benefits will likely be
marginal |
| Overflight of neighbourin
airports routes | ng There is cumulative overflight from a number of neighbouring airports, the most prevale
overfly the same areas as Heathrow depa | ent being to the North of Gatwick where Route 4 departures often N/A
artures and arrivals. | Route not operationally
viableRoutes within the Biggin Hill,
Heathrow and Famborough
areas on the ACOG mapRoutes initially within the
Biggin Hill, Famborough and
Heathrow areas on the ACOG
map. Beyond c.4000ft it is
outside of these areas. | N/A Route not operationally
viable. Routes initially within the
Biggin Hill, Famborough and
Heathrow areas on the ACOG
map. Beyond c.6000ft it is
outside of these areas. ACOG map | n Hill
h the N/A Route not operationally
viable.
N/A Route not operationally
viable.
N/A Route not operationally
viable.
Routes within the Biggin Hill,
Heathrow and Famborough
areas on the ACOG map
of these areas

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leathrow
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as. N/A Route not operationally
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N/A Route not operationally
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Routes within the Biggin Hill,
Heathrow and Famborough
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Beyond c.4000ft it is outs
of these areas.
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Beyond c.5000ft it is outside
of these areas. | N/A Route not operationally
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N/A Route not operationally
viable.
Routes within the Biggin Hill,
Heathrow and Famborough
areas on the ACOG map
Outside of these areas. | N/A Route not operationally viable. N/A Route not operationally viable. Routes within the Biggin Hill and Heathrow Airport sections of the map however this option is intended as a night ime option when Heathrow is not operating. This would require further investigation should this option progress | III and
of the
this
night
row is
ould
ation
gressRoutes within the Heathrow,
Biggin Hill, Northolt, sections
of the map; here there is
greater possibility of
cumulative impacts from
overflight however this option
is intended as a night time
option when Heathrow is not
operating. This would require
further investigation should
this option progressRoutes within the Biggin Hill
and Heathrow Airport sections
of the map however this
option is intended as a night
time option when Heathrow is
not operating. This would
require further investigation
should this option progressRoutes within the Biggin Hill
and Heathrow Airport sections
of the map however this
option is intended as a night
time option when Heathrow
should this option progressRoutes within Biggin Hill ar
Heathrow Airport areas of the
ACOG map however this
option is intended as a night
time option when Heathrow
should this option progress | Routes within the Heathrow,
Biggin Hill, and London City
sections of the map; here
there is expected to be large
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set impacts in the section of the map; here
there is expected to be large
areas of possible cumulative
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Heathrow areas on the ACOG
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ACOG mapRoutes within Biggin Hill, and
Famborough and Heathrow
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Heathrow areas on the ACOG
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Biggin Hill and Heathrow
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Biggin Hill, Famborough, and
Heathrow areas on the ACOG
map. Beyond c.5000ft it is
outside of these areas.
Beyond c.4000ft it is outside
of these areas. | he right tum departure routes
vithin the Heathrow, Biggin
II, and London City sections
of the map; here there is
spected to be large areas of
possible cumulative impacts |
| Locally
9 Tailored -
Designs | The baseline 'do nothing' scenario would not change the noise environment at Gat
controlled (vectored) by ATC once outside the NPR. Some stakeholders would prefer fo
be considered a locally tailored design. However, the broad vectoring swathes beyond
not offer opportunities to avoid noise a | twick. Aircraft would continue to fly the SIDS and be tactically
or Gatwick to remain as it is today and therefore this in itself could
the NPRs do not consider the local environment and therefore do
sensitive areas. | nis option has been designed to minimise the total population overflown between 0-
7000ft. (See DP 3 for further details). | This option has been designed to minimise the total population overflown between (
7000ft. (See DP 3 for further details). | This option has been designed to minimise the total population overflown betwe
0- 4000ft before routing directly to the network exit points between 4-7000ft. Small adju
will be made to the lateral path to consider noise, however these will be balance
reducing fuel bum and CO2.

 | veen 0 – This option has been designed to minimise the total population overflown between 0
ljustments 4000ft before routing directly to the network exit points between 4-7000ft. Small adjustm
will be made to the lateral path to consider noise, however these will be balanced wi
reducing fuel bum and CO2.
 | nents
This respite option has been designed to minimise the total po
ith | opulation overflown between 0-7000ft. (See DP 3 for further details). | This night-time respite option has been designed to minimise the total population over
between 0-7000ft. (See DP 3 for further details). | erflown This night-time respite option has been designed to minimise the total population overflow
between 0-7000ft. (See DP 3 for further details). | This option has been designed to minimise the total population newly overflown between 0-7000ft. It is based on the centrelines of the departure routes departing from Gatwick (including NPRs) however the vertical performance of these rou continuous climb performance. (See DP 3 for further details).
 | existing RNAV 1 nominal
tes has been updated to reflect
7000ft. Small adjustments will be made to the lateral path to consider noise, however the | ft before routing directly to the network exit points between 4-
these will be balanced with reducing fuel burn and CO2. | is respite option uses two configurations WDA and parts of WDG. Both of these options 'met' the De | This opti
Design Principle in their respective evaluations. noise ma | ion was developed following stakeholder feedback. It uses DEFRA's road and rail
pping to identify areas of high ambient noise (please see the Stage 2A document fo
for further details). | This option was developed following stakeholder feedback. It uses DEFRA's road and rail
noise mapping to identify areas of high ambient noise (please see the Stage 2A
document
or further details) between 0-4000ft before routing directly to the network exit points between
4-7000ft. Small adjustments will be made to the lateral path to consider noise, however
these will be balanced with reducing fuel burn and CO2. | This option was developed following stakeholder feedback. It uses DEFRA's road and rail in noise mapping to identify areas of high ambient noise (please see the Stage 2A document for for further details). | This option was developed following stakeholder feedback. It uses DEFRA's road and rail
noise mapping to identify areas of high ambient noise (please see the Stage 2A document
or further details) between 0-4000ft before routing directly to the network exit points between
4-7000ft. Small adjustments will be made to the lateral path to consider noise, however
these will be balanced with reducing fuel burn and CO2. | This respite option uses two configurations WDJ and WDL. Both of these options 'r | This o
met' the Design Principle in their respective evaluations. Airspa | tion was developed following stakeholder feedback. It uses the outputs of the A
se Design Database to balance overflight of new areas and overflight of total
population between 0-7000ft. 7000f | This option was developed following stakeholder feedback. It uses the outputs of the
Airspace Design Database to balance overflight of new areas and overflight of total
population between 0-4000ft before routing directly to the network exit points between 4
00ft. Small adjustments will be made to the lateral path to consider noise, however the
will be balanced with reducing fuel burn and CO2 |

Easterly Departures (Detail)

# DP Category	ED BI	EDA	EDB	FDC	EDD		EDE	EDE	EDG	EDH	Option	EDI		EDK	EDI	Ерм	EDN	EDO		EDP	EDO
	Route 3 (Left turn W) SAM KENNET Route 6 (NE) LAM Route 5 E (FRANE/CLN BIG DVR) Route 2 S (SFD)	D) Route A NORTH Route B EAST Route C	CWEST/SOUTH Route A NORTH Route B EAST Route C WEST/SOUTH	JTH Route A NORTH Route B - (0-4000ft) Route C (0-4000ft)	Image: House A NORTH Route B Route A NORTH Route B Route C (0-4000ft) WEST/SOUTH Route C Route A NORTH Route B EAST	Image: Second state of the second s	riod 1 Route C OUTH/WEST Period 2 Route A (EDA) NORTH Period 2 Route B (EDA) EAST Period 2 Route C (E WEST/SOUTH	EDA) Route A NORTH Route B EAST Route C WEST/SOUTH	Route A Route A NORTH Route A NORTH Route B Route A NORTH Route B EASTSOUTH	Control NORTH NORTH Route A Route C Route A WEST Route B NORTH Route C EAST Route	Ltt NORTH N	Period 1 NW (EDA) NORTH Period 1 SE (EDA) EAST Period 1 S (EDA) SOUTH/WEST	Period 2 WEST Route A Beriod 2 WEST Period 2 WEST Period 2 WEST Period 2 E EASTNORTH	Route A WEST Route B EAST/NORTH Route B EAST/NORTH Route A WEST	NORTH Route A (0-4000ft) NORTH Route B (0-4000ft) Route C (0-4000ft) Route B (0-4000ft) Route A NORTH Route B EAST Route C SOUTH/W	VEST Route A NORTH Route B EAST Route C SOUTH/WEST	EST Route A WEST Route B NORTH/EAST Route C SOUTH	Period 1 Route A (EDK) WEST Period 1 Route B (EDK) NORTH/EAST Period 1 Route C (EDK) SOUTH	Period 2 Route A (EDM) NORTH Period 2 Route B (EDM) EAST SOUTH/WEST Period 2 Route B (EDM) EAST	Current Cur	WEST EAST Route A WEST Route B EAST Route A WEST Route B EAST
Integration with airspace	Gatwick's departures fly standard instrument departures (SIDs) but in order to maximise efficiency aircraft are usu vectored after passing 3000/4000'. This leads to high ATC workload, often reaching capacity, due to interactions	Viable however may interact with Heathrow traffic that would require resolution swith	bowever does have ons with Gatwick hat would require esolution Viable however may interact with Heathrow traffic that would require resolution Viable Viable however does have interactions with Gatwing arrivals that would require resolution resolution	have wick quire Viable however may interact with Heathrow traffic that would require resolution Viable Viable Viable Viable Viable Viable Viable Viable Viable Viable Viable Viable Viable Viable to the south but r the west (owing to interact with arrivals) however of have interactions with Ga arrivals that would require resolution	Not to action loes atwick uire Viable however may interact with Heathrow traffic that would require resolution Viable Viable Viable to the south but not to the west (owing to interaction with arrivals) however does have interactions with Gatwice arrivals that would require resolution	vection bes wich wich irre Viable however may interact with Heathrow traffic that would require resolution Viable however does have interactions with Gatwick arrivals that would require resolution Viable however does have interactions with Gatwick arrivals that would require	nowever does have tions with Gatwick that would require resolution Viable however may interact with Heathrow traffic that would require resolution Viable Viable vould require resolution Viable Viable however does interactions with Gat arrivals that would require resolution	have twick quire Viable however may interact with Heathrow traffic that would require resolution Viable however does have interactions with Gatwick arrivals that would require resolution Viable to go south but not west however does have interactions with Gatwick arrivals that would require resolution	able however may interact with Heathrow traffic that would require resolution Viable however does have interactions with Gatwick arrivals that would require resolution resolution resolution	Viable however may interact with Heathrow traffic that would require resolution Viable however may interact with Heathrow traffic that would require resolution Viable how interaction	owever does have ons with Gatwick that would require resolution Viable however may interact with Heathrow traffic that would require resolution Viable however may interact with Heathrow traffic that would require resolution Viable however does h interactions with Gatw arrivals that would require resolution	have wick quire Viable however may interact with Heathrow traffic that would require resolution Viable Viable Viable arrivals that would require resolution	Viable however may interact with Heathrow traffic that would require resolution Viable Viable Viable however does have interactions with Gatwick arrivals that would require resolution	Route option is too close to Heathrow and would create additional complexity so is not operationally viable. Viable however may interact with Heathrow traffic that would require resolution Viable however does have interactions with Gatwick arrivals that would require resolution	Viable however may interact with Heathrow traffic that would require resolution Viable Viable Viable however does interactions with Ga arrivals that would re- resolution	s have atwick equire Viable however may interact with Heathrow traffic that would require resolution Viable Viable Viable however does interactions with Ga arrivals that would re resolution	have twick quire Viable however may interact with Heathrow traffic that would require resolution. Viable however does I with Heathrow traffic that would require resolution vith Gatu resolution	have vick uire Route option is too close to Heathrow and would create additional complexity so is not operationally viable.	iable however may interact with Heathrow traffic that would require resolution Viable Viable Viable Viable Viable arrivals that would require resolution	Viable however may interact with Heathrow traffic that would require resolutionViableViable however does have interactions with Gatwick arrivals that would require resolutionViable how with He would require resolution	wever may interact athrow traffic that require resolution Viable Viable Viable however does have a potential interaction with the NERL network options that would require resolution and interactions with the Gatwick arrivals that would require resolution
Design Other safety	other heighbouring airport traffic flows as well as with its own arrivals. Without modernisation to decrease routine a tactical intervention, increased traffic levels with the LTMA will lead to flow restrictions and delay in order to keep a workload within safe limits.	p ATC	Route A will interact with any future Heathrow operation but potentially with similar lev interactions as today requiring tactical intervention. The location of Heathrow's routes importance to Route A being viable. Route C will interact with Gatwick's arrivals that will need resolution. This option is considered potentially viable at this time.	This departure configuration has routes (A v B and B v C) which diverge by less than which will require further investigation and a specific safety case to achieve separat s is of standards for 1 minute splits. Route A will interact with any future Heathrow operation potentially with similar level of interactions as today requiring tactical intervention. T location of Heathrow's routes is of importance to Route A being viable. is Route C will interact with Gatwick's arrivals that will need resolution. This option is considered potentially viable at this time.	 45° This departure configuration has routes (A v B and B v C) which diverge by less than 45° which will require further investigation and a specific safety case to achieve separation standards for 1 minute splits. Route A will interact with any future Heathrow operation but potentially with similar level of interactions as today requiring tactical intervention. The location of Heathrow's routes is of importance to Route A being viable. Route C will interact with Gatwick's arrivals that will need resolution. This option is considered potentially viable at this time. 	45° on but re This departure configuration has routes (Period 1 A v B, Period 1 B v case to achieve separation standards for 1 minute splits. Some SID potentially with similar level of interactions as today requ Route C will interact with Gatwick's arriv	C and Period 2 A v B) which diverge by less than 45° which will require further investigation and a specific s also start their divergence later than today. Period 2 Route A will interact with any future Heathrow operatio ing tactical intervention. The location of Heathrow's routes is of importance to Route A being viable. Is that will need resolution. This option is considered potentially viable at this time.	safety on but Don but This departure configuration has routes (B v C) which diverge by less than 45° which will require further investigation and a specific safety case to achieve separation standards for 1 minute splits. Route C will interact with easterly arrivals that will need resolution. This option is considered potentially viable at this time.	his departure configuration has routes (A v B) which diverge by less than 45° which will uire further investigation and a specific safety case to achieve separation standards for 1 inute splits. Route C will interact with easterly arrivals that will need resolution. Route A will interact with any future Heathrow operation but potentially with similar level of teractions as today requiring tactical intervention. The location of Heathrow's routes is of mportance to Route A being viable. This option is considered potentially viable at this time.	This departure configuration has routes (B v C) which diverge by less than 45° which will require further in specific safety case to achieve separation standards for 1 minute splits. Route D will interact with easte need resolution. Route B will interact with any future Heathrow operation but potentially with similar level today requiring tactical intervention. The location of Heathrow's routes is of importance to Route B bei option is considered potentially viable at this time	investigation and a rerly arrivals that will el of interactions as eing viable. This	n and a This departure configuration has routes (Period 1 A v B) which diverge by less than 45° which diverge to a standards for 1 minute splits. Some SIDs also start their divergence later than today. Period 1 of interactions as today requiring tactical intervention. The location of He being Route C in both periods will interact with Gatwick's arrivals that will need	which will require further investigation and a specific safety case to achieve separation I Route A will interact with any future Heathrow operation but potentially with similar level of leathrow's routes is of importance to Period 1 Route A being viable. Ind resolution. This option is considered potentially viable at this time.	The wide tum on Route A will increase interactions with any future Heathrow operation resulting in higher workload than today and increased chances of a safety event in the cas of a level bust. This departure configuration has routes (B v C) which diverge by less that 45°; this will require further investigation and a specific safety case to achieve separation standards for 1 minute splits. Owing to Route A, this option is assessed as not meeting Safety by Design although Routes B and C may be safe as part of a different SID grouping	se Route A will interact with any future Heathrow operation but potentially with similar I interactions as today requiring tactical intervention. The location of Heathrow's route importance to Route A being viable. Route C will interact with easterly arrivals that w resolution. This option is considered potentially viable at this time g.	level of Route A will interact with any future Heathrow operation but potentially with similar l interactions as today requiring tactical intervention. The location of Heathrow's route vill need importance to Route A being viable. Route C will interact with easterly arrivals that w resolution. This option is considered potentially viable at this time	evel of es is of ill need will require further investigation and a specific safety case to achieve separation star for 1 minute splits. This option is considered potentially viable at this time.	re The wide tum on Period 1 Route A will increase interactions with any future Heathrow operation case of a level bust. This departure configuration has routes (Period 1 B v C) which diverge by separation standards for 1 minute splits. Period 2 Route A will interact with any future Heath intervention. The location of Heathrow's routes is of importance to Period 2 Route A being via although Period 1 Routes B and C and Period 2 A, B and	on resulting in higher workload than today and increased chances of a safety event in the less than 45°; this will require further investigation and a specific safety case to achiev row operation but potentially with similar level of interactions as today requiring tactical ole. Owing to Period 1 Route A, this option is assessed as not meeting Safety by Desig d C may be safe as part of a different SID grouping.	Route A will interact with any future Heathrow operation but potentially with similar level of interactions as today requiring tactical intervention. The location of Heathrow's routes is of importance to Route A being viable. Route C will interact with Gatwick's arrivals that will need resolution. This option is considered potentially viable at this time.	arture configuration has SIDs that diverge later than today this will require further ion and a specific safety case to achieve separation standards for 1 minute splits. are potentially interactions with between Route C and Gatwick arrivals, Route A tures and then the Heathrow operation that would require resolution but these are considered potentially viable.
Safety	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1		See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design P	Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design P	inciple 1	See Design Principle 1	See Design Principle 1
		Taking departures in isolation, on the assumption that improved CCO to	7000ft is available Taking departures in isolation, on the assumption that improved CCO to 7000ft is avai	ailable Taking departures in isolation, on the assumption that improved CCO to 7000ft is avai	lable Taking departures in isolation, on the assumption that improved CCO to 7000ft is available	able Taking departures in isolation. on the assumption that improved CCO	o 7000ft is available Taking departures in isolation, on the assumption that improved CCO to 7000ft is ava	ailable Taking departures in isolation, on the assumption that improved CCO to 7000ft is available	king departures in isolation, on the assumption that improved CCO to 7000ft is available					Taking departures in isolation, on the assumption that	Taking departures in isolation, on the assumption that improved CCO to 7000ft is a	vailable Taking departures in isolation, on the assumption that improved CCO to 7000ft is av	railable Taking departures in isolation, on the assumption that improved CCO to 7000ft is ava	ilable		Taking departures in isolation, on the assumption that improved CCO to 7000ft is available Taking de	departures in isolation, on the assumption that improved CCO to 7000ft is available
Integration: CAS	Current operations require the current airspace and is used as a benchmark to measure future potential requireme	this option has the potential to require less CAS and offer opportunitie boundaries	es to simplify the this option has the potential to require less CAS and offer opportunities to simplify t boundaries	y the this option has the potential to require less CAS and offer opportunities to simplify to boundaries	the this option has the potential to require less CAS and offer opportunities to simplify the boundaries	this option has the potential to require less CAS and offer opportun boundaries	ies to simplify the this option has the potential to require less CAS and offer opportunities to simplify boundaries	y the this option has the potential to require less CAS and offer opportunities to simplify the boundaries	this option has the potential to require less CAS and offer opportunities to simplify the boundaries	Taking departures in isolation, on the assumption that improved CCO to 7000ft is available this option hat require less CAS and offer opportunities to simplify the boundaries	has the potential to Taking departures in isolation, on the assumption that improved CCO to 7000ft is available this option has the potent require less CAS and offer opportunities to simplify the boundaries	ntial to Taking departures in isolation, on the assumption that improved CCO to 7000ft is available boundar	e this option has the potential to require less CAS and offer opportunities to simplify the aries	N/A Route not operationally viable. improved CCO to 7000ft is available this option has the potential to require less CAS and offer opportunities to simplify the boundaries	this option has the potential to require less CAS and offer opportunities to simplified boundaries	ify the this option has the potential to require less CAS and offer opportunities to simplify boundaries	this option has the potential to require less CAS and offer opportunities to simplify boundaries	the N/A Route not operationally Taking departures in isolation, on the assumption that improv viable. opportu	ed CCO to 7000ft is available this option has the potential to require less CAS and offer inities to simplify the boundaries	this option has the potential to require less CAS and offer opportunities to simplify the this option has the potential to require less CAS and offer opportunities to simplify the boundaries	on has the potential to require less CAS and offer opportunities to simplify the boundaries
Integration: National Security AMS	No feedback has been received to suggest this option would conflict with defence and security requirements	ts No feedback has been received to suggest this option would conflict w security requirements	with defence and No feedback has been received to suggest this option would conflict with defence a security requirements	and No feedback has been received to suggest this option would conflict with defence a security requirements	nd No feedback has been received to suggest this option would conflict with defence and security requirements	nd No feedback has been received	o suggest this option would conflict with defence and security requirements	No feedback has been received to suggest this option would conflict with defence and security requirements	No feedback has been received to suggest this option would conflict with defence and security requirements	No feedback has been received to suggest this option would conflict with defence and security re	requirements No feedback has been received to suggest this option would conflict with defence and security requirements	No feedback has been received to suggest this option w	vould conflict with defence and security requirements	No feedback has been received to suggest this option would conflict with defence and security requirements	No feedback has been received to suggest this option would conflict with defence security requirements	e and No feedback has been received to suggest this option would conflict with defence security requirements	e and No feedback has been received to suggest this option would conflict with defence security requirements	and No feedback has been received to suggest this option we	ould conflict with defence and security requirements	No feedback has been received to suggest this option would conflict with defence and security requirements	dback has been received to suggest this option would conflict with defence and security requirements
Simplification: Capacity	Gatwick's departures fly standard instrument departures (SIDs) but in order to maximise efficiency aircraft are usu vectored after passing 3000/4000'. This leads to high ATC workload, often reaching capacity, due to interactions other neighbouring airport traffic flows as well as with its own arrivals. Without modernisation to decrease routine a tactical intervention, increased traffic levels with the LTMA will lead to flow restrictions and delay in order to keep a workload within safe limits. This will limit capacity and constrain demand.	sually is with e ATC p ATC p ATC requirements due to the combined WEST/SOUTH SID.	ture capacity This option in it's current configuration would not meet current or future capacity requirements due to the combined WEST/SOUTH SID.	y This option in it's current configuration would not meet current or future capacity requirements due to the combined WEST/SOUTH SID.	This option in it's current configuration would not meet current or future capacity requirements due to the combined WEST/SOUTH SID.	This option in it's current configuration would	ot meet current or future capacity requirements due to the combined WEST/SOUTH SID.	This option in it's current configuration would not meet current or future capacity requirements due to the combined WEST/SOUTH SID.	This option in it's current configuration would not meet current or future capacity requirements due to the combined EAST/SOUTH SID.	This option is expected to meet capacity requirements.	This option is expected to meet capacity requirements.	This option in it's current configuration would not meet current or future	re capacity requirements due to the combined WEST/SOUTH SID.	This option in it's current configuration would not meet current or future capacity requirements as there are only 2 viable SIDs which would be worse than today.	This option in it's current configuration would not meet current or future capaci requirements due to the combined WEST/SOUTH SID.	ity This option in it's current configuration would not meet current or future capaci requirements due to the combined WEST/SOUTH SID.	ty This option in it's current configuration would not meet current or future capacity requirements due to the combined EAST/NORTH SID.	This option in it's current configuration would not meet current or future capacity re	quirements as there are only 2 viable SIDs which would be worse than today.	This option in it's current configuration would not meet current or future capacity This requirements due to the combined WEST/SOUTH SID.	option in it's current configuration would not meet current or future capacity requirements due to the combined SOUTH/NORTH SID.
Simplification: Resilience	ence See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5		See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design P	Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design P	inciple 5	See Design Principle 5	See Design Principle 5
Environment	See Design Principle 3, 6, 7, 8, and 9 Aircraft departing from Gatwick Airport on the main runway either use PBN RNAV1 SIDs, or conventional SIDs. The	See Design Principle 3, 6, 7, 8, and 9	See Design Principle 3, 6, 7, 8, and 9	See Design Principle 3, 6, 7, 8, and 9	See Design Principle 3, 6, 7, 8, and 9		See Design Principle 3, 6, 7, 8, and 9	See Design Principle 3, 6, 7, 8, and 9	See Design Principle 3, 6, 7, 8, and 9	See Design Principle 3, 6, 7, 8, and 9	See Design Principle 3, 6, 7, 8, and 9	See Design Principle	e 3, 6, 7, 8, and 9	See Design Principle 3, 6, 7, 8, and 9	See Design Principle 3, 6, 7, 8, and 9	See Design Principle 3, 6, 7, 8, and 9	See Design Principle 3, 6, 7, 8, and 9	See Design Principle	3, 6, 7, 8, and 9	See Design Principle 3, 6, 7, 8, and 9	See Design Principle 3, 6, 7, 8, and 9
Enhanced 2 Navigation - Standards	SIDs aim to replicate the conventional routes. Gatwick's Noise Preferred Routes (NPR) apply until 3000ft or 400 depending on the route (For more information about Gatwick's baseline, please see our Stage 2A document. For details of the NPRs, please see the eAIP). Beyond this point, owing to the limitations within the LTMA and the intera with aircraft to/from other airports, aircraft are typically tactically controlled (vectored) by ATC. Aircraft departing from the northem runway are required to follow Gatwick's conventional procedures which are def based on ground based navigation aids although aircraft operators typically have coded overlays of these procedu Gatwick's Noise Preferred Routes (NPR) apply until either 3000ft or 4000ft and beyond this point aircraft are typic tactically controlled by ATC.	This option is designed to adopt enhanced navigation standards. It is extended to a minimum standard of RNAV1 although the exact PBN specification of further detail as we develop and refine options through the process. Use preferable on 180° turns.	xpected to operate This option is designed to adopt enhanced navigation standards. It is expected to operate will be explored in to a minimum standard of RNAV1 although the exact PBN specification will be explored further detail as we develop and refine options through the process. Use of RF would preferable on 180° turns.	perate ored in Id be further detail as we develop and refine options through the process.	This option is designed to adopt enhanced navigation standards. It is expected to operate ed in to a minimum standard of RNAV1 although the exact PBN specification will be explored in further detail as we develop and refine options through the process.	rate This option is designed to adopt enhanced navigation standards. It i further detail as we develop and re	expected to operate to a minimum standard of RNAV1 although the exact PBN specification will be explor ne options through the process. Use of RF would be preferable on 180° tums.	red in to a minimum standard of RNAV1 although the exact PBN specification will be explored in further detail as we develop and refine options through the process.	his option is designed to adopt enhanced navigation standards. It is expected to operate a minimum standard of RNAV1 although the exact PBN specification will be explored in urther detail as we develop and refine options through the process. Use of RF would be preferable on 180° turns.	This option is designed to adopt enhanced navigation standards. It is expected to operate to a minim RNAV1 although the exact PBN specification will be explored in further detail as we develop and refine o process. Use of RF would be preferable on 180° turns.	mum standard of This option is designed to adopt enhanced navigation standards. It is expected to operate to a minimum standard options through the RNAV1 although the exact PBN specification will be explored in further detail as we develop and refine options throug process. Use of RF would be preferable on 180° turns.	rd of ugh the further detail as we develop and refine options through the	o a minimum standard of RNAV1 although the exact PBN specification will be explored in process. Use of RF would be preferable on 180° turns.	This option is designed to adopt enhanced navigation standards. It is expected to operat to a minimum standard of RNAV1 although the exact PBN specification will be explored i further detail as we develop and refine options through the process.	This option is designed to adopt enhanced navigation standards. It is expected to a to a minimum standard of RNAV1 although the exact PBN specification will be expl further detail as we develop and refine options through the process. Use of RF woo preferable on 180° turns.	operate This option is designed to adopt enhanced navigation standards. It is expected to a lored in to a minimum standard of RNAV1 although the exact PBN specification will be expl uld be further detail as we develop and refine options through the process. Use of RF woo preferable on 180° turns.	pperate This option is designed to adopt enhanced navigation standards. It is expected to optioned in to a minimum standard of RNAV1 although the exact PBN specification will be exploited by further detail as we develop and refine options through the process. Use of RF woul preferable on 180° turns.	berate red in d be This option is designed to adopt enhanced navigation standards. It is expected to operate to further detail as we develop and refine options through the	a minimum standard of RNAV1 although the exact PBN specification will be explored ir process. Use of RF would be preferable on 180° turns.	This option is designed to adopt enhanced navigation standards. It is expected to operate to a minimum standard of RNAV1 although the exact PBN specification will be explored in further detail as we develop and refine options through the process.	on is designed to adopt enhanced navigation standards. It is expected to operate hum standard of RNAV1 although the exact PBN specification will be explored in letail as we develop and refine options through the process. Use of RF would be preferable on any 180° turns.
Limit 3 Adverse Noise Effects	The baseline 'do nothing' scenario would not change the noise environment at Gatwick. Aircraft would continue to Noise Preferred Routes (NPRs) and be tactically controlled (vectored) by ATC following the end of the routes. As airspace is not modernised, aircraft will be prevented from continuously climbing to higher altitudes. As traffic with LTMA increases, this could lead to decreased CCO performance which has an impact on noise.	o fly the development of the option, Sound Exposure Level (SEL) data, LAMax and been used to identify high performing notional flight paths. SEL data form calculations which will be undertaken later in the process. LAMax and ove secondary metric. Overflight of AONB was also considere With the exception of route A in this option, CCO performance is expe compared to the baseline (see DP6 for further details)	wwn. As part of the This option has been designed to minimise the total population overflown. As part of I overflight data has development of the option, Sound Exposure Level (SEL) data, LAMax and overflight dat ns part of the LAeq been used to identify high performing notional flight paths. SEL data forms part of the reflight data form a calculations which will be undertaken later in the process. LAMax and overflight data for ed. secondary metric. Overflight of AONB was also considered. With the exception of route A in this option, CCO performance is expected to improve compared to the baseline (see DP6 for further details)	of the This option has been designed to minimise the total population overflown. As part of ata has development of the option, Sound Exposure Level (SEL) data, LAMax and overflight dat e LAeq been used to identify high performing notional flight paths. SEL data forms part of the form a calculations which will be undertaken later in the process. LAMax and overflight data secondary metric. Overflight of AONB was also considered. With the exception of route A in this option, CCO performance is expected to impro compared to the baseline (see DP6 for further details)	This option has been designed to minimise the total population overflown. As part of the a has development of the option, Sound Exposure Level (SEL) data, LAMax and overflight data ha LAeq been used to identify high performing notional flight paths. SEL data forms part of the LAer form a calculations which will be undertaken later in the process. LAMax and overflight data form secondary metric. Overflight of AONB was also considered. With the exception of route A in this option, CCO performance is expected to improve compared to the baseline (see DP6 for further details)	the has Aeq been used to identify high performing notional flight paths. SEL data f second With the exception of the period 1 route A and period 2 route A in	own. As part of the development of the option, Sound Exposure Level (SEL) data, LAMax and overflight data rms part of the LAeq calculations which will be undertaken later in the process. LAMax and overflight data ry metric. Overflight of AONB was also considered. this option, CCO performance is expected to improve compared to the baseline (see DP6 for further details	This option has been designed to minimise the total population overflown. As part of the development of the option, Sound Exposure Level (SEL) data, LAMax and overflight data has d been used to identify high performing notional flight paths. SEL data forms part of the LAeq t calculations which will be undertaken later in the process. LAMax and overflight data form a secondary metric. CCO performance is expected to improve compared to the baseline (see DP6 for further details)	his option has been designed to minimise the total population overflown. As part of the relopment of the option, Sound Exposure Level (SEL) data, LAMax and overflight data has en used to identify high performing notional flight paths. SEL data forms part of the LAeq culations which will be undertaken later in the process. LAMax and overflight data form a secondary metric. Overflight of AONB was also considered. CCO performance is expected to improve compared to the baseline (see DP6 for further details)	This option has been designed to minimise the total population newly overflown. It is based on the ex nominal centrelines of the departure routes departing from Gatwick (including NPRs) however the vertica these routes has been updated to reflect continuous climb performance. CCO performance is expected to improve compared to the baseline (see DP6 for further det	Existing RNAV 1 cal performance of these routes has been updated to reflect continuous climb performance. Beyond 4000ft, aircraft fly directly to the net etails) CCO performance is expected to improve compared to the baseline (see DP6 for further details)	V 1 nce of etwork CCO performance is expected to improve compare ts.	f these options 'met' the Design Principle in their respective evaluations. red to the baseline (see DP6 for further details)	This option was developed following stakeholder feedback. It uses DEFRA's road and rai noise mapping to identify areas of high ambient noise (please see the Stage 2A document for further details). This option has not been developed using data associated with the primary and secondary noise metrics of CAP1616. There is typically a correlation betwee areas of high ambient noise and population and therefore, in relation to the primary and secondary metrics, this option may not perform as well as other options on the comprehensive list. It's performance against these metrics would require further exploration as part of the Initial Options Appraisal should this option progress. With the exception of the north west route in this option, CCO performance is expected to improve compared to the baseline (see DP6 for further details)	 This option was developed following stakeholder feedback. It uses DEFRA's road a noise mapping to identify areas of high ambient noise (please see the Stage 2A do for further details). This option has not been developed using data associated wit primary and secondary noise metrics of CAP1616. There is typically a correlation be areas of high ambient noise and population and therefore, in relation to the primar secondary metrics, this option may not perform as well as other options on the comprehensive list. It's performance against these metrics would require further explain as part of the Initial Options Appraisal should this option progress. With the exception of the north west route in this option, CCO performance is expecting improve compared to the baseline (see DP6 for further details) 	and rail This option was developed following stakeholder feedback. It uses DEFRA's road a noise mapping to identify areas of high ambient noise (please see the Stage 2A do for further details). This option has not been developed using data associated wit primary and secondary noise metrics of CAP1616. There is typically a correlation be areas of high ambient noise and population and therefore, in relation to the primar secondary metrics, this option may not perform as well as other options on the comprehensive list. It's performance against these metrics would require further expl as part of the Initial Options Appraisal should this option progress. CCO performance is expected to improve compared to the baseline (see DP6 for fr details)	nd rail This option was developed following stakeholder feedback. It uses DEFRA's road an noise mapping to identify areas of high ambient noise (please see the Stage 2A doct for further details). This option has not been developed using data associated with primary and secondary noise metrics of CAP1616. There is typically a correlation bef areas of high ambient noise and population and therefore, in relation to the primary secondary metrics, this option may not perform as well as other options on the comprehensive list. It's performance against these metrics would require further explo- as part of the Initial Options Appraisal should this option progress. CCO performance is expected to improve compared to the baseline (see DP6 for fun- details)	d rail ument the ween This option was developed following stakeholder feedback. It uses DEFRA's road and rail nois and further details). The two respite configurations have not been developed using data associate these metrics would require further exploration as part of the ration With the expectation of the Period 1 and period 2 route A, CCO performance is the	e mapping to identify areas of high ambient noise (please see the Stage 2A document i d with the primary and secondary noise metrics of CAP1616 and its performance agains e Initial Options Appraisal should this option progress. expected to improve compared to the baseline (see DP6 for further details)	This option was developed following stakeholder feedback. It uses the outputs of the Airspace Design Database to balance overflight of new areas and overflight of total population. The option was developed using existing overflight data, Sound Exposure Level (SEL) data, LAMax and overflight data has been used to identify high performing notional flight paths. SEL data forms part of the LAeq calculations which will be undertaken later in the process. LAMax and overflight data form a secondary metric. CCO performance is expected to improve compared to the baseline (see DP6 for further details)	otion was developed following stakeholder feedback. It uses the outputs of the ace Design Database to balance overflight of new areas and overflight of total n. The option was developed using existing overflight data, Sound Exposure Level ata, LAMax and overflight data has been used to identify high performing notional aths between 0-4000ft before routing directly to the network exit points between 4- mall adjustments will be made to the lateral path to consider noise, however these alanced with reducing fuel burn and CO2. CCO performance is expected to improve compared to the baseline (see DP6 for further details)
Time Based 4 Arrival Only applicable to arrivals Operations	ivals																				
5 Resilience built in -	Aircraft departing from Gatwick Airport on the main runway either use PBN RNAV1 SIDs, or conventional SIDs. Air departing from the northem runway are required to follow Gatwick's conventional SIDs. The conventional procedure defined based on ground based navigation aids although aircraft operators typically have coded overlays of thes procedures. NATS NERL are currently undergoing a rationalisation programme of ground based equipment called VORs which impact these conventional procedures and therefore will also impact GAL's resilience. GAL are currently investiga RNAV substitution to mitigate VOR rationalisation however this is an interim measure until FASI implementatio In future, the increased volumes of traffic within the LTMA airspace will result in increased ATC and Pilot workload will lead to additional complexity in the event of predictable operational factors.	Aircraft irres are lese ch will igating tion. d which	still be required for t possibly no more of PBN SIDs from vards systemised rm, is expected to rrational resilience.	red for The option removes dependencies on VORs although DMEs will likely still be require o more some RNAV1 operations. This does generate a dependency on GPS but possibly no r s from than today's existing dependency on FMS overlays. The implementation of PBN SIDs nised the northem runway will add resilience to Gatwick. The contribution towards systemis ted to airspace enables enhanced controller tool support which, in the long term, is expected lience. lead to a reduction in Controller workload in turn delivering increased operational resilient	d for The option removes dependencies on VORs although DMEs will likely still be required for some RNAV1 operations. This does generate a dependency on GPS but possibly no more than today's existing dependency on FMS overlays. The implementation of PBN SIDs from the northem runway will add resilience to Gatwick. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to ence. lead to a reduction in Controller workload in turn delivering increased operational resilience	for nore rom ed i to nce. The option removes dependencies on VORs although DMEs will like than today's existing dependency on FMS overlays. The implement airspace enables enhanced controller tool support which, in the long	y still be required for some RNAV1 operations. This does generate a dependency on GPS but possibly no tion of PBN SIDs from the northem runway will add resilience to Gatwick. The contribution towards systemi term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resili	more ised ence. The option removes dependencies on VORs although DMEs will likely still be required for some RNAV1 operations. This does generate a dependency on GPS but possibly no more than today's existing dependency on FMS overlays. The implementation of PBN SIDs from the northem runway will add resilience to Gatwick. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience. In	he option removes dependencies on VORs although DMEs will likely still be required for me RNAV1 operations. This does generate a dependency on GPS but possibly no more an today's existing dependency on FMS overlays. The implementation of PBN SIDs from he northem runway will add resilience to Gatwick. The contribution towards systemised rspace enables enhanced controller tool support which, in the long term, is expected to d to a reduction in Controller workload in turn delivering increased operational resilience.	The option removes dependencies on VORs although DMEs will likely still be required for some RNAV1 does generate a dependency on GPS but possibly no more than today's existing dependency on FMS implementation of PBN SIDs from the northem runway will add resilience to Gatwick. The contribution to airspace enables enhanced controller tool support which, in the long term, is expected to lead to a redu workload in turn delivering increased operational resilience.	11 operations. This The option removes dependencies on VORs although DMEs will likely still be required for some RNAV1 operations. does generate a dependency on GPS but possibly no more than today's existing dependency on FMS overlays. The owards systemised implementation of PBN SIDs from the northem runway will add resilience to Gatwick. The contribution towards system uction in Controller airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience.	 This The option removes dependencies on VORs although DMEs will likely still be required for scenarised than today's existing dependency on FMS overlays. The implementation of PBN SIDs from t airspace enables enhanced controller tool support which, in the long term, is expected to lead 	ome RNAV1 operations. This does generate a dependency on GPS but possibly no more the northem runway will add resilience to Gatwick. The contribution towards systemised ad to a reduction in Controller workload in turn delivering increased operational resilience.	The option removes dependencies on VORs although DMEs will likely still be required for some RNAV1 operations. This does generate a dependency on GPS but possibly no mor than today's existing dependency on FMS overlays. The implementation of PBN SIDs from the northem runway will add resilience to Gatwick. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience	The option removes dependencies on VORs although DMEs will likely still be require some RNAV1 operations. This does generate a dependency on GPS but possibly n than today's existing dependency on FMS overlays. The implementation of PBN SIE the northern runway will add resilience to Gatwick. The contribution towards syster airspace enables enhanced controller tool support which, in the long term, is expect the dot a reduction in Controller workload in turn delivering increased operational res	tired for the option removes dependencies on VORs although DMEs will likely still be required some RNAV1 operations. This does generate a dependency on GPS but possibly n Ds from than today's existing dependency on FMS overlays. The implementation of PBN SIE the northern runway will add resilience to Gatwick. The contribution towards syster cted to silience. lead to a reduction in Controller workload in turn delivering increased operational res	red for o more o more osome RNAV1 operations. This does generate a dependency on GPS but possibly no than today's existing dependency on FMS overlays. The implementation of PBN SIDs nised the northem runway will add resilience to Gatwick. The contribution towards system airspace enables enhanced controller tool support which, in the long term, is expect ilience. lead to a reduction in Controller workload in turn delivering increased operational resil	ed for more s from ised ed to ience. The option removes dependencies on VORs although DMEs will likely still be required for so than today's existing dependency on FMS overlays. The implementation of PBN SIDs from t airspace enables enhanced controller tool support which, in the long term, is expected to lear ience.	me RNAV1 operations. This does generate a dependency on GPS but possibly no more ne northem runway will add resilience to Gatwick. The contribution towards systemised d to a reduction in Controller workload in turn delivering increased operational resilience	The option removes dependencies on VORs although DMEs will likely still be required for some RNAV1 operations. This does generate a dependency on GPS but possibly no more than today's existing dependency on FMS overlays. The implementation of PBN SIDs from the northem runway will add resilience to Gatwick. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience. lead to a reduction	on removes dependencies on VORs although DMEs will likely still be required for AV1 operations. This does generate a dependency on GPS but possibly no more by's existing dependency on FMS overlays. The implementation of PBN SIDs from hem runway will add resilience to Gatwick. The contribution towards systemised e enables enhanced controller tool support which, in the long term, is expected to reduction in Controller workload in turn delivering increased operational resilience.
Optimise Use of Aircraft Capabilities	Remain as per today Remain as per today Remain as per today Remain as per today	oday Similar to today Similar to today when routin KENE	ed track distance ng west to SAM and Similar to today Similar to today when routing west to SAI ET and south	ance AM and b Similar to today AM and AM and Similar to today SAM and tener SAM and KENET	uting sk Similar to today Increased track distance est to Similar to today when routing east distance when routing west to SAM and KENET	ting Similar to today Similar to today St to Similar to today Similar to today	o today when routing , increased track when routing west to Mand KENET Mand KENET	ance AM and Similar to today th Similar to today When routing east SAM and KENET SAM and KENET	Similar to today Increased track distance when routing east and south KENET	Similar to today Similar to today Increased track distance when routing east Similar to today	nilar to today Similar to today Similar to today Similar to today Similar to today	Similar to today Similar to today Increased track distance when routing west to SAM and KENET and south Image: Similar to today Similar to today Image: Similar to today Image: Similar to today Similar to today Image: Similar to today Image: Similar to today Similar to today Image: Similar to today Image: Similar to today Similar to today Image: Similar to today Image: Similar to today Similar to today Image: Similar to today Image: Similar to today Similar to today Image: Similar to today Image: Similar to today Similar to today Image: Similar to today Image: Similar to today Similar to today Image: Similar to today Image: Similar to today Similar to today Image: Similar to today Image: Similar to today Similar to today Image: Similar to today Image: Similar to today Similar to today Image: Similar to today Image: Similar to today Similar to today Image: Similar to today Image: Similar to today Similar to today Image: Similar to today Image: Similar to today Similar to today Image: Similar to today Image: Similar to today Si	Similar to today when routing west to the east Similar to today and north	N/A Route not operationally viable. Similar track miles when routing north, increased track miles when routing east Increase in track distance to the south Increase Increase Increase Increase Increase Increase	to Similar to today Similar to today KENET increased r when routing sou	when Mand Miles Jith. Similar to today Similar to today When routing west to S KENET and sou	ance Increased track miles when AM and routing west to SAM and the KENET. Similar track miles when routing east in track distar the south	Ince to N/A Route not operationally viable. Similar track miles when routing north, increased track miles when routing east Increase in track distance to the south Increase	Similar to today Similar to today when routing west to SAM a KENET and south	nd Similar to today Similar to today Similar to today Similar to today when routing South, increased track miles Sir when routing West	nilar to today Similar to today Similar to today when routing south, reduced track miles when routing north
CCO/CDO	In current operations although a few departures (South bounds off Runway 08) have unrestricted climb to 6000' most other departure SID routes are designed with an initial stop at 4000ft or 5000ft. These restrictions are predominal caused by a requirement to deconflict the routes against Heathrow arrivals and departures. However, the current str is a compromise so the inter-dependencies between Heathrow and other adjacent airports in the vicinity also affect overall structure and level restrictions that apply to all the inter-dependent airports.	This route has the potential to achieve improved CCO compared to the baseline assuming improved CCO for Heathrow departures although CCO to FL90 may not be available.	This route has the potential to achieve cCO to achieve cCO to compared to the baseline assuming improved CCO for Heathrow departures and higher arrivals although CCO to FL90 may not be available. This departure route has potential to achieve CCO to FL90 may not be available.	as the CO to achieve improved CCO compared to the baseline assuming improved CCO for Heathrow departures and higher arrivals although CCO to FL90 may not be available.	This route has the potential to achieve improved CCO compared to the baseline assuming improved CCO for Heathrow departures and higher arrivals although CCO to FL90 may not be available.	the D to ion This departure route has potential to achieve CCO to FL90. This departure route has potential to achieve CCO to FL90. FL90.	This route has the potential to achieve improved CCO compared to the baseline assuming improved CCO for Heathrow departures although CCO to FL90 may not be available.	has the CCO to pration throw departures and higher arrivals although CCO to FL90 may not be available.	s route has the potential to achieve improved CCO compared to the baseline suming improved CCO for leathrow departures and ther arrivals although CCO FL90 may not be available.	This route has the potential to achieve improved CCO compared to the baseline assuming improved CCO for Heathrow departures although CCO to FL90 may not be available.	arture route has the to achieve improved CCO compared to the baseline assuming improved CCO for vith arrivals CCO to FL90 may not be available. This route has the potential to achieve improved CCO compared to the baseline assuming improved CCO for Heathrow departures although CCO to FL90 may not be available. This departure route has potential to achieve CCO to FL90. This departure route has potential to achieve CCO to FL90. With arrivals	This route has the potential to achieve improved CCO compared to the baseline assuming improved CCO for Heathrow departures although CCO to FL90 may not be available.	This route has the potential to achieve improved CCO compared to the baseline assuming improved CCO for Heathrow departures although CCO to FL90 may not be available.	 N/A Route not operationally viable. N/A Route not operationally viable. 	This route has the potential to achieve improved CCO compared to the baseline assuming improved CCO for Heathrow departures although CCO to FL90 may not be available.	has the CCO to gration athrow departures although CCO to FL90 may not be available.	This route has the potential to achieve improved CCO compared to the baseline assuming improved CCO for Heathrow departures although CCO to FL90 may not be available.	as the CO to ation viable. This route has the potential to achieve improved CCO compared to the baseline assuming improved CCO for Heathrow departures although CCO to FL90 may not be available. This departure route has the potential to achieve CCO to FL90 subject to integration with arrivals	This departure route has the potential to achieve improved CCO compared to the baseline source of the baseline sou	This route has the potential to achieve improved CCO compared to the baseline assuming improved CCO for Heathrow departures although CCO to FL90 may not be available.	This departure route has potential to achieve CCO to g improved CCO for departures although o FL90 may not be available.
Long term predictability	Departures currently follow the SID centrelines and associated NPRs to 3000ft/4000ft before being tactically contra (vectored) from 3000ft/4000ft. The NPRs provide some predictability however the nature of tactical vectoring result	ntrolled ults in The three PBN departure routes that form part of this option will offer long of flight paths	g term predictability The three PBN departure routes that form part of this option will offer long term predicta of flight paths.	tability The three PBN departure routes that form part of this option will offer long term predicta of flight paths.	ability The three PBN departure routes that form part of this option will offer long term predictabilit of flight paths.	bility This option offers long term predictability via PBN de	arture routes. The routes are split into two configurations which would be alternated predictably.	This option has been developed based on night-time noise metrics and is intended to be used as night-time configuration alongside one of the other options. This means that the option would offer predictable respite during the night-time period for those communities	e three PBN departure routes that form part of this option will offer long term predictability of flight paths.	The four PBN departure routes that form part of this option will offer long term predictability of flig	light paths. The four PBN departure routes that form part of this option will offer long term predictability of flight paths.	This option offers long term predictability via PBN departure routes. The routes a	are split into two respite configurations which would be alternated predictably.	The three PBN departure routes that form part of this option will offer long term predictabili of flight paths.	ity The three PBN departure routes that form part of this option will offer long term predic of flight paths.	ictability The three PBN departure routes that form part of this option will offer long term predi of flight paths.	ctability The three PBN departure routes that form part of this option will offer long term predict of flight paths.	ability This option offers long term predictability via PBN departure routes. The routes ar	e split into two respite configurations which would be alternated predictably.	The three PBN departure routes that form part of this option will offer long term predictability The three of flight paths.	PBN departure routes that form part of this option will offer long term predictability of flight paths.
7 7 7 and Adaptability	The existing departure configuration does not offer any opportunities for predictable respite. Between 0-4000ft, air	aircraft						predictability.													
Respite	follow the SID centrelines and there is therefore also no opportunity for unpredictable noise relief. Between 4-700 aircraft are tactically controlled (vectored), and therefore aircraft are dispersed across the airspace, providing sor unpredictable noise relief/dispersion for some communities.	000ft, This option does not offer any respite configurations	This option does not offer any respite configurations	This option does not offer any respite configurations	This option does not offer any respite configurations	The option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed of the option is based on two respite configurations each formed on two respite configurations each f	ee PBN departure routes. The effectiveness of the respite configurations will be assessed as part of the Ir tions Appraisal should this option progress.	hitial As a night-time option intended to be operated alongside another option, this option would offer respite	This option does not offer any respite configurations	This option does not offer any respite configurations	This option does not offer any respite configurations	The option is based on two respite configurations each formed of three PBN departure route Options Appraisal should	es. The effectiveness of the respite configurations will be assessed as part of the Initial d this option progress.	This option does not offer any respite configurations	This option does not offer any respite configurations	This option does not offer any respite configurations	This option does not offer any respite configurations	The option is based on two respite configurations each formed of three PBN departure route Options Appraisal should	s. The effectiveness of the respite configurations will be assessed as part of the Initial this option progress.	This option does not offer any respite configurations	This option does not offer any respite configurations
Operflight within anti-	Within the existing operation, routes 3, 6, 9 and 2 separate relatively shortly after departure. At the end of the NPRs, a	s, aircraft Other than the initial straight ahead section of flight immediately after ta	ake off, the routes Other than the initial straight ahead section of flight immediately after take off, the rou	Other than the initial straight ahead section of flight immediately after take off, the rou	Other than the initial straight ahead section of flight immediately after take off, the routes	Within each period configuration, other than the initial straight ahe overflight. When considering the respite configurations together, the straight and the st	d section of flight immediately after take off, the routes which form this option do not have overlapping area ht tum routes and the straight ahead routes share areas of cumulative overflight before soliting. This most	of Other than the initial straight ahead section of flight immediately after take off, the routes	ther than the initial straight ahead section of flight immediately after take off, the routes	Other than the initial straight ahead section of flight immediately after take off, the routes which form th	this option do not Other than the initial straight ahead section of flight immediately after take off, the routes which form this option do	o not Overlap of overflight between the period 1 and period 2 configuration means the	at the advantages of respite configurations are not gained at lower altitudes	Other than the initial straight ahead section of flight immediately after take off, the routes	o Other than the initial straight ahead section of flight immediately after take off, the	routes Other than the initial straight ahead section of flight immediately after take off, the	outes Other than the initial straight ahead section of flight immediately after take off, the ro	utes The straight ahead routes share areas of cumulative overflight before splitting. This means the	at communities closer in to the airport, that are more likely to be significantly impacted b	y Other than the initial straight ahead section of flight immediately after take off, the routes Other that	nan the initial straight ahead section of flight immediately after take off, the routes
Overflight of arrival and departure options 8 Deconflictio n by Design	d There are significant areas where there is overflight by arrivals and departures to/from Gatwick Airport.	. which form this option do not have overlapping areas of over The left tum departure routes away from the westerly final approach and the arrivals options. The left tum departure routes away from the westerly final approach and the arrivals options.	rflight. which form this option do not have overlapping areas of overflight. urm departure wraps nd there is some ive overflight with erly arrival options; expected to be d as it will require tion investigation mement once the of arrival options is In terms of the pproaches, the right a way from the saway from the parade s, the right turm departure routes a way from the westerly final approach and the arrivals options. The left turm departure routes away from the westerly final approach and the arrivals options. The left turm departure routes away from the westerly final approach and the arrivals options. The left turm departure routes away from the westerly final approach and the arrivals options. The left turm departure routes away from the westerly final approach and the arrivals options. The left turm departure routes away from the westerly final approach and the arrivals options. The left turm departure routes away from the westerly final approach and the arrivals options. The left turm departure routes away from the westerly final approach and the arrivals options. The left turm departure routes away from the westerly final approach and the arrivals options. The left turm departure routes away from the westerly arrival options; this would be difficult to avoid however could be refined when the shortlist of options	which form this option do not have overlapping areas of overflight. which form this option do not have overlapping areas of overflight. The left tum departure routes away from the westerly final approach and the arrivals options. the e right the base-leg sections of the arrival options; this would be difficult to avoid however could be refined when the shortlist of options is known.	A from here I here here at c. 6 away from the westerly final approach and the arrival options. The left tum departure routes away from the westerly final approach and the arrival options; this would be arrival options; this would be arrival options; this would be refined when the shortlist of options is known. The straight ahead departure turns away from final approach significantly reducing cumulative overflight. It would create cumulative overflight with the base-leg sections of the arrival options; this would be difficult to avoid however could be refined when the shortlist of options is known.	from here the t to the left turn departure routes away from the westerly final approach and the arrivals options. The straight ahead departure turns away from final approach significantly reducing cumulative overflight. It would create cumulative overflight with the base-leg sections of the arrival options; this would be difficult to avoid however could be refined when the shortlist of options is known.	tum tums away from erly approach There tential for small ve impacts with the invals options at c.6 powever there may be ities to mitigate this tions evolve through ess and the shortlist s options is known.	which form this option do not have overlapping areas of overflight. which form this option do not have overlapping areas of overflight. The left turn departure routes away from the westerly final approach and the arrivals options. The left turn departure routes away from the westerly final approach and the arrivals options. The straight ahead departure which turns to the south-west turns away from final approach significantly reducing cumulative overflight. It crosses the down wind and base-leg sections of some of the arrival options; this would be difficult to avoid however could be refined when the shortlist of options	which form this option do not have overlapping areas of overflight. The straight ahead departure turns away from final approach significantly reducing cumulative overflight. It would create cumulative overflight. It would create cumulative overflight with the base-leg sections of the arrival options; this would be difficult to avoid however could be refined when the shortlist of options is known. In terms of the westerly approaches, the right turn turns away from the westerly approaches, the right turn turns away from the shortlist of options is known.	The wrap around left tum tums away from westerly approaches. The straight ahead track that tums to the north-east tums away from final approach. There is a very small amount of cumulative overflight with one arrival option (WAD) at higher altitudes which could be refined should these options progress. The straight ahead departure initially continues along the final approach track before tuming south-east; this creates more cumulative overflight than the options above that tum away from final approach. After the tum the departure crosses the base- leg and down-wind sections of some of the arrival option; this would be difficult to avoid however could be refined The right tu the westerly approach action of some of the arrival option; this would be difficult to avoid however could be refined	um tums away from dy approach There tential for small ne impacts with the arrivals options at owever there may be ties to mitigate this ions evolve through ss and the shortlist a options is known.	The straight ahead departure turns away from final approach significantly reducing cumulative overflight along the final approach track. It would however create cumulative overflight with the base-leg sections of the westerly amival options; this would be difficult to avoid however could be refined turns away from the was of the westerly amival options is known.	The left tum departure routes away from the westerly final approach and the arrivals options. The left tum departure routes away from the westerly final approach and the arrivals options. The left tum departure routes away from the westerly final approach and the arrivals options. The straight ahead departure tums away from final approach significantly reducing cumulative overflight along the final approach track It would however create cumulative overflight with base-leg sections of the westerly arrival options; this would be difficult to avoid however could be refined when the shortlist of options	which form this option do not have overlapping areas of overflight.	The straight ahead track that tums to the north-east tums away from final approach. There is a very small amount of cumulative overflight with one arrival option (WAD) at higher altitudes which could be refined should these options progress. The straight ahead track continues along the final approach before turning to the north east which results in a high amount of cumulative overflight along final amount of cumulative overflight with the three components of the northery	re wraps g west, for some nt with options; o be require igation se the tions is f the right the right the right the right the right the straight ahead departure initially continues along the final approach track before tuming south-east; this creates more cumulative overflight than the options that tum away from final approach approach. There is a very small amount of cumulative overflight with one arrival option (WAD) at higher altitudes which could be the right the right the right the right the options that progress. the vest option do not have overlapping areas of overflight. The straight ahead departure initially continues along the final approach track before tum away from final approach. After the tum the departure options; this would be difficult to avoid however could be of arrivals options is light.	which form this option do not have overlapping areas of overflight.which form this option do not have overlapping areas of overflight.which form this option do not have overlapping areas of overflight.at this may be ate this through hortlist rown.The wrap around left turn may be ate this through hortlist rown.The wrap around left turn turns away from westerly approaches.The wrap around left turn turns away from tinal approach act turns approaches.The wrap around left turn turns away from tinal approach act turns approaches.The wrap around left turn turns away from tinal approach<	wraps moise, are less likely to gain the full benefits of the respite configuration. In additional state is the state of the respite configuration. In additional state is the state of the respite configuration. In additional state is the state of the respite configuration. In additional state is the state of the respite configuration. In additional state is the state of the respite configuration. In additional state is the state of the respite configuration. In additional state is the state of the respite configuration. In additional state is the state of the respite configuration. In additional state is the state of the respite configuration. In additional state is the state of the respite configuration. In additional state is the state of the respite configuration. In additional state is the state of the respite configuration. In additional state is the state of the respite configuration. In additional state is the state of the respite configuration. In additional state is the state of the respite configuration. In additional state is the state of the respite configuration. 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The option (WAD) at higher altitudes which could be refined should these options that tu	which form this option do not have overlapping areas of overflight.rap around left turn away from westerly approaches.The straight ahead track that turns to the north-east turns away from final approach. When routing east, between 4 7000ft there is a very small amount of cumulative overflight with one arrival option (WAD) at higher altitudes which could be refined should these options progress.The right turn turns away from the right turn turns away from the right turn turns away from the westerly approach if routing to the south between 4 7000ft, there is potential for small cumulative impacts with the westerly arrivals options at c.7000ft however there may be opportunities to mitigate this as the options evolve through the process and the shortlist of arrivals options is known. If routing west, there could be
Overflight of neighbouring airports routes	Iring There is cumulative overflight from a number of neighbouring airports, the most prevalent being Heathrow.	Routes within the Heathrow, Biggin Hill, and London City sections of the map; here there is expected to be large areas of possible cumulative impactsRoutes within the Biggin Hill and Heathrow areas of the ACOG mapRoutes in Biggin Hill areas on Beyond c.6 of the	Initially within the lill and Heathrow or the ACOG map.Routes within the Heathrow, Biggin Hill, and London City sections of the map; here there is expected to be large areas of possible cumulative impactsRoutes within the Biggin Hill and Heathrow areas of the ACOG mapRoutes initially within the Biggin Hill and Heathrow of these areas.	n. 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In the arrow nap at side N/A Route not operationally viable. N/A Route not operationally viable. Routes within the Heathrow, Biggin Hill, and London City sections of the map; here there is expected to be large areas on the ACOG map. Beyond c.6000ft it is outside of these areas.	Routes within the Heathrow, biggin Hill, and London City sections of the map; here here is expected to be large eas of possible cumulative impacts	Routes within the Heathrow, Biggin Hill, and London City sections of the map; here there is expected to be large areas of possible cumulative impactsRoutes within the Biggin Hill and Heathrow areas of the ACOG mapRoutes initially within the Biggin Hill and Heathrow areas on the ACOG map. Beyond c.6000ft it is outside of these areas.Routes within the Biggin Hill and Heathrow areas of possible cumulative section	within the Heathrow, Hill, and London City ns of the map; here expected to be large f possible cumulative impactsRoutes within the Biggin Hill, London City and Heathrow areas of the ACOG mapRoutes initially within the Biggin Hill and Heathrow areas on the ACOG map. If routing south or west between 4-7000ft, beyond c.6000ft it is outside of these areas.
Locally 9 Tailored - Designs	The baseline 'do nothing' scenario would not change the noise environment at Gatwick. Aircraft would continue to SIDS and be tactically controlled (vectored) by ATC once outside the NPR. Some stakeholders would prefer for Gatwick remain as it is today and therefore this in itself could be considered a locally tailored design. However, the broad vec swathes beyond the NPRs do not consider the local environment and therefore do not offer opportunities to avoid result of sensitive areas.	to fly the atwick to vectoring d noise	own between 0- This option has been designed to minimise the total population overflown between 7000ft. (See DP 3 for further details).	This option has been designed to minimise the total population overflown between 0 4000ft before routing directly to the network exit points between 4-7000ft. Small adjustn will be made to the lateral path to consider noise, however these will be balanced w reducing fuel burn and CO2.	 This option has been designed to minimise the total population overflown between 0 – 4000ft before routing directly to the network exit points between 4-7000ft. Small adjustments will be made to the lateral path to consider noise, however these will be balanced with reducing fuel burn and CO2. 	- ents This respite option has been designed to r	inimise the total population overflown between 0-7000ft. (See DP 3 for further details).	This night-time respite option has been designed to minimise the total population overflown between 0-7000ft. (See DP 3 for further details).	This option has been designed to minimise the total population overflown between 0- 7000ft. (See DP 3 for further details).	This option has been designed to minimise the total population newly overflown between 0-7000ft. It is existing RNAV 1 nominal centrelines of the departure routes departing from Gatwick (including NPRs) has performance of these routes has been updated to reflect continuous climb performance. (See DP 3 for	t is based on the nowever the vertical or further details). This option has been designed to minimise population newly overflown between 0 – 4000ft before routing directly to network exit points between 4-7000ft. Small adjustments will be made to the lateral path to consider noise, however the will be balanced with reducing fuel burn and CO2.	to the r these This respite option uses two configurations EDA and parts of EDH. Both of t	these options 'met' the Design Principle in their respective evaluations.	This option was developed following stakeholder feedback. It uses DEFRA's road and rai noise mapping to identify areas of high ambient noise between 0-7000ft (please see the Stage 2A document for further details).	This option was developed following stakeholder feedback. It uses DEFRA's road a noise mapping to identify areas of high ambient noise (please see the Stage 2A do for further details) between 0-4000ft before routing directly to the network exit points b 4-7000ft. Small adjustments will be made to the lateral path to consider noise, how these will be balanced with reducing fuel burn and CO2.	and rail between noise mapping to identify areas of high ambient noise between 0-7000ft. (please so Stage 2A document for further details).	This option was developed following stakeholder feedback. It uses DEFRA's road an noise mapping to identify areas of high ambient noise (please see the Stage 2A door for further details) between 0-4000ft before routing directly to the network exit points be 4-7000ft. Small adjustments will be made to the lateral path to consider noise, how these will be balanced with reducing fuel burn and CO2.	d rail ument tween This respite option uses two configurations EDK and EDM. Both of thes ever	e options 'met' the Design Principle in their respective evaluations.	This option was developed following stakeholder feedback. It uses the outputs of the Airspace Design Database to balance overflight of new areas and overflight of total population.	tion was developed following stakeholder feedback. It uses the outputs of the ace Design Database to balance overflight of new areas and overflight of total on between 0-4000ft before routing directly to the network exit points between 4- mall adjustments will be made to the lateral path to consider noise, however these will be balanced with reducing fuel burn and CO2

Gatwick FASI-S ACP Stage 2A DPE Annex B Westerly Arrivals (Detail)

#DPCategoryImage: DPImage: DP <th>WA_BL</th> <th>WAA</th> <th>WAB</th> <th>WAC Mac Refine 0.000111</th> <th>WAD WAD WAD Route A Route A Route A Route A Route B Route A Route B Route C</th> <th>WAE WAE WAE Route A Route A Route B Route C Route D</th> <th>WAF</th> <th>WAG</th> <th>WAH WAH W</th> <th>WAI Mail Mail Route A Route A Route B</th> <th>WAJ WAJ W</th> <th>WAK</th> <th>WAL Route A (64000t)</th> <th>WAM WAM WAM Boute B Route A Route B</th> <th>WAN Image: Constraint of the second secon</th> <th>WAO</th> <th>WAP</th> <th>WAQ</th>	WA_BL	WAA	WAB	WAC Mac Refine 0.000111	WAD WAD WAD Route A Route A Route A Route A Route B Route A Route B Route C	WAE WAE WAE Route A Route A Route B Route C Route D	WAF	WAG	WAH W	WAI Mail Mail Route A Route A Route B	WAJ Waj W	WAK	WAL Route A (64000t)	WAM WAM WAM Boute B Route A Route B	WAN Image: Constraint of the second secon	WAO	WAP	WAQ
Integration with airsp 1 Safety by Design	Vectoring of arrivals is currently achieved safely with busy but steady workload. Airspace constraints due to Heathrow SIDs generate more workload for Gatwick Approach and Gatwick Approach are also required to work the left turn (WIZAD) departures as they are not laterally separated from the arrival paths.	Viable however does have interactions with Gatwick departures th would require resolution	Viable however the eastern edge may have interactions with th broad arrival flow (above 7000ft) which would require refinement and does have interactions with Gatwick departures that would require resolution	Viable however depending on the network above 7000ft, this opti may have interactions with Gatwick departures that would requir resolution.	Viable but only on a tactical basis due to inevitable interactions with Heathrow, Gatwick departures and maybe Biggin Hill trafficViable but only on a tactical basis due to inevitable interactions with Heathrow, Gatwick departures and maybe Biggin Hill trafficViable however does have interactions with Gatwick departures that would require resolutionViable however does have interactions with Gatwick departures that would require resolution	 Viable but only on a tactical basis due to inevitable interactions with Heathrow, Gatwick departures and maybe Biggin Hill traffic Viable but only on a tactical basis due to inevitable interactions with Heathrow, Gatwick departures and maybe Biggin Hill traffic Viable but only on a tactical basis due to inevitable interactions with Heathrow, Gatwick departures and maybe Biggin Hill traffic Viable but only on a tactical basis due to inevitable interactions with Heathrow, Gatwick departures and maybe Biggin Hill traffic 	Viable however does have interactions with Gatwick departures that would require resolution	Viable however does have interactions with Gatwick departures that would require resolution	Viable however depending on the network above 7000ft, this option may have interactions with Gatwick departures that would require resolution.	ble however does have teractions with Gatwick departures that would require resolution Viable however does have interactions with Gatwick departures that would require resolution require resolution require resolution	Viable however does have interactions with Gatwick departures that would require resolution Viable however does have interactions with Gatwick departures that would require resolution Viable however depending on the network above 7000ft, this option may have interactions with Gatwick departures that would require resolution	Viable however does have interactions with Gatwick departures that would require resolution	Viable however depending on the network above 7000ft, this option may have interactions with Gatwick departures that would require resolution.	Viable however does have interactions with Gatwick departures that would require resolution The higher the number of available approaches, the higher the	e Viable however does have interactions with Gatwick departures that would require resolution	Viable however depending on the network above 7000ft, this option may have interactions with Gatwick departures that would require resolution.	Viable however does have interactions with Gatwick departures that would require resolution	s Viable however does have interactions with Gatwick departures that would require resolution
Other safety Safety	See Design Principle 1	No safety concerns with the use of a single PBN approach transiti onto final approach, assuming adequate separation from all oth routes See Design Principle 1	on er No safety concerns with the use of a vectoring area for all arrival See Design Principle 1	No safety concerns with the use of a single PBN approach transiti Is. No safety concerns with the use of a single PBN approach transiti Is. onto final approach, assuming adequate separation from all oth routes See Design Principle 1	ion The higher the number of available approaches, the higher the chances of error by ATC or Pilots. Additional assurance work would be required to generate acceptable safety argument. This is envisaged to be achievable but would require further investigation should this option progress. See Design Principle 1	The higher the number of available approaches, the higher the chances of error by ATC or Pilots. Additional assurance work would be required to generate acceptable safety argument. This is envisaged to be achievable buy would require further investigation should this option progress.	No safety concerns with the use of a single PBN approach transition onto final approach, assuming adequate separation from all other routes	No safety concerns with the use of a vectoring area for all arrivals. See Design Principle 1	No safety concerns with the use of a single PBN approach transition onto final approach, assuming adequate separation from all other routes See Design Principle 1	he higher the number of available approaches, the higher the chances of error by TC or Pilots. Additional assurance work would be required to generate acceptable safety argument. This is envisaged to be achievable but would require further investigation should this option progress. See Design Principle 1	The higher the number of available approaches, the higher the chances of error by ATC or Pilots. Additional assurance work would be required to generate acceptable safety argument. This is envisaged to be achievable but would require further investigation should this option progress. See Design Principle 1	No safety concerns with the use of a single PBN approach transition onto final approach, assuming adequate separation from all other routes See Design Principle 1	No safety concerns with the use of a single PBN approach transition onto final approach, assuming adequate separation from all other routes See Design Principle 1	chances of error by ATC or Pilots. Additional assurance work would required to generate acceptable safety argument. This is envisage to be achievable but would require further investigation should th option progress. See Design Principle 1	be No safety concerns with the use of a single PBN approach transition onto final approach, assuming adequate separation from all other routes See Design Principle 1	No safety concerns with the use of a single PBN approach transition onto final approach, assuming adequate separation from all other routes	New safety assurances would be required for the RNP-AR arrival which have not yet been implemented in the UK. Not all aircraf will be capable of such an arrival so this route would have to be used in conjunction with another option See Design Principle 1	Is New safety assurances would be required for the RNP-AR arrivals ft which have not yet been implemented in the UK. Not all aircraft will be capable of such an arrival so this route would have to be used in conjunction with another option See Design Principle 1
Integration: CAS	Current operations require the current airspace and is used as a benchmark to measure future potential requirements	Taking arrivals in isolation, on the assumption that improved CD from 7000ft is available this option has the potential to require le CAS and offer opportunities to simplify the boundaries	Taking arrivals in isolation, on the assumption that improved CE from 7000ft is available this option has the potential to require lo CAS and offer opportunities to simplify the boundaries	DO Taking arrivals in isolation, on the assumption that improved CD from 7000ft is available this option has the potential to require le CAS and offer opportunities to simplify the boundaries	Taking arrivals in isolation, on the assumption that improved CDO from 7000ft is available this option has the potential to require less CAS and offer opportunities to simplify the boundaries. However the higher the number o arrival routes, the lower the chances of CAS release	Taking arrivals in isolation, on the assumption that improved CDO from 7000ft is available this option has the potential to require less CAS and offer opportunities to simplify the boundaries. However the higher the number of arrival routes, the lower the chances of CAS release	Taking arrivals in isolation, on the assumption that improved CDO from 7000ft is available this option has the potential to require less CAS and offer opportunities to simplify the boundaries	aking arrivals in isolation, on the assumption that improved CDO from 000ft is available this option has the potential to require less CAS and offer opportunities to simplify the boundaries	Taking arrivals in isolation, on the assumption that improved CDO from 7000ft is available this option has the potential to require less CAS and offer opportunities to simplify the boundaries. However the higher the number of arrival routes, the lower the chances of CAS release	Taking arrivals in isolation, on the assumption that improved CDO from 7000ft is railable this option has the potential to require less CAS and offer opportunities to plify the boundaries. However the higher the number of arrival routes, the lower the chances of CAS release	Taking arrivals in isolation, on the assumption that improved CDO from 7000ft is available this option has the potential to require less CAS and offer opportunities to simplify the boundaries. However the higher the number of arrival routes, the lower the chances of CAS release	Taking arrivals in isolation, on the assumption that improved CDO from 7000ft is available this option has the potential to require less CAS and offer opportunities to simplify the boundaries	Taking arrivals in isolation, on the assumption that improved CDO from 7000ft is available this option has the potential to require less CAS and offer opportunities to simplify the boundaries	Taking arrivals in isolation, on the assumption that improved CDC from 7000ft is available this option has the potential to require le CAS and offer opportunities to simplify the boundaries. However th higher the number of arrival routes, the lower the chances of CAS release	O Taking arrivals in isolation, on the assumption that improved CDO from the 7000ft is available this option has the potential to require less CAS an offer opportunities to simplify the boundaries	Taking arrivals in isolation, on the assumption that improved CDO from 7000ft is available this option has the potential to require less CAS and offer opportunities to simplify the boundaries	Taking arrivals in isolation, on the assumption that improved CDO from 7000ft is available this option has the potential to require less CAS and offer opportunities to simplify the boundaries	Taking arrivals in isolation, on the assumption that improved CDO from 7000ft is available this option has the potential to require less CAS and offer opportunities to simplify the boundaries
Integration: Nation Security AMS	No feedback has been received to suggest this option would conflict with defence and security requirements	No feedback has been received to suggest this option would confl with defence and security requirements	lict No feedback has been received to suggest this option would conf with defence and security requirements	flict No feedback has been received to suggest this option would conf with defence and security requirements	flict No feedback has been received to suggest this option would conflict with defence and security requirements	No feedback has been received to suggest this option would conflict with defence and security requirements	No feedback has been received to suggest this option would conflict with No defence and œcurity requirements	o feedback has been received to suggest this option would conflict with defence and security requirements	n No feedback has been received to suggest this option would conflict with defence and security requirements	feedback has been received to suggest this option would conflict with defence and security requirements	No feedback has been received to suggest this option would conflict with defence and security requirements	No feedback has been received to suggest this option would conflict with defence and security requirements	No feedback has been received to suggest this option would conflict with defence and security requirements	No feedback has been received to suggest this option would confli with defence and security requirements	ict No feedback has been received to suggest this option would conflict with defence and security requirements	No feedback has been received to suggest this option would conflict with defence and security requirements	No feedback has been received to suggest this option would conflict with defence and security requirements	No feedback has been received to suggest this option would conflict with defence and security requirements
Simplification: Capa	Doing nothing with Gatwick's arrivals will constrain options for Gatwick's SIDs and the wider LTMA network design. No change to arrivals at Gatwick will inhibit AMS benefits associated with the wider programme.	The introduction of a PBN transition is expected to meet capaci requirements so long as ATC retain the ability to vector arrivals ensure accurate and safe final approach spacing. Without the abi to vector, this option would impact capacity.	ty to A modernised RMA compatible with the airspace above 7000ft expected to meet capacity requirements.	The introduction of a PBN transition is expected to meet capaci requirements so long as ATC retain the ability to vector arrivals ensure accurate and safe final approach spacing. Without the abi to vector, this option would impact capacity.	The introduction of a PBN transition is expected to meet capacity requirements so long as ATC retain the ability to vector arrivals to ensure accurate and safe final approach spacing. Without the ability to vector, this option would impact capacity.	The introduction of a PBN transition is expected to meet capacity requirements so long as ATC retain the ability to vector arrivals to ensure accurate and safe final approach spacing. Without the ability to vector, this option would impact capacity.	The introduction of a PBN transition is expected to meet capacity requirements so long as ATC retain the ability to vector arrivals to ensure accurate and safe final approach spacing. Without the ability to vector, this option would impact capacity.	A modernised RMA compatible with the airspace above 7000ft is expected to meet capacity requirements.	The introduction of a PBN transition is expected to meet capacity requirements so long as ATC retain the ability to vector arrivals to ensure accurate and safe final approach spacing. Without the ability to vector, this option would impact capacity.	e introduction of PBN transitions is expected to meet capacity requirements so long ATC retain the ability to vector arrivals to ensure accurate and safe final approach spacing. Without the ability to vector, this option would impact capacity.	The introduction of PBN transitions is expected to meet capacity requirements so long as ATC retain the ability to vector arrivals to ensure accurate and safe final approach spacing. Without the ability to vector, this option would impact capacity.	The introduction of a PBN transition is expected to meet capacity requirements so long as ATC retain the ability to vector arrivals to ensure accurate and safe final approach spacing. Without the ability to vector, this option would impact capacity.	The introduction of a PBN transition is expected to meet capacity requirements so long as ATC retain the ability to vector arrivals to ensure accurate and safe final approach spacing. Without the ability to vector, this option would impact capacity.	The introduction of a PBN transition is expected to meet capacit requirements so long as ATC retain the ability to vector arrivals to ensure accurate and safe final approach spacing. Without the abil to vector, this option would impact capacity.	The introduction of a PBN transition is expected to meet capacity requirements so long as ATC retain the ability to vector arrivals to ensure accurate and safe final approach spacing. Without the ability to vector, this option would impact capacity.	The introduction of a PBN transition is expected to meet capacity requirements so long as ATC retain the ability to vector arrivals to ensure accurate and safe final approach spacing. Without the ability to vector, this option would impact capacity.	This arrival option would utilise a type of PBN called RNP-AR. Not all aircraft and crews are able to fly RNP-AR and therefore the route would need to be operated alongside other arrival options.	This arrival option would utilise a type of PBN called RNP-AR. Not all aircraft and crews are able to fly RNP-AR and therefore the route would need to be operated alongside other arrival options.
Simplification: Resilie	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5	See Design Principle 5
		This antion offers and DDN arrival muta forwarded arrival a W		This option offers one PBN arrival route for westerly arrivals. We	e				This antian offen and DDN arrival must fermated versions 100	See Design Plinciple 3, 0, 7, 6 and 9	This option offers three DPN errivel mutes for workedly errivels that could be energed as	This option offers one PBN arrival route for westerly arrivals. We	This option offers one PBN arrival route for westerly arrivals. We	This option offers two PBN arrival routes for westerly arrivals that	t	This option offers one PBN arrival route for westerly arrivals. We	This option offers one PBN arrival route for westerly arrivals. We anticipate that at the point of implementation, the technology	This option offers one PBN arrival route for westerly arrivals. We anticipate that at the point of implementation, the technology
Enhanced 2 Navigation - Standards	Aircraft arriving at Gatwick Airport are tactically controlled (vectored) by ATC onto final approach. There are no defined routes to follow and aircraft are provided with instructions from Air Traffic Control who ensure the aircraft are safely spaced whilst being directed to land at Gatwick. The majority of aircraft use the Instrument Landing System (ILS) to land at Gatwick although RNP and LOC/DME approaches are also available.	anticipate that at the point of implementation, the technology required from the airspace network above 7000ft to facilitate sing track PBN arrivals during periods of high traffic will not be availab and ATC will be required to vector arrivals during busy periods. T extent of this vectoring will be explored in further detail as we develop and refine options through the process.	This option is based on a vectoring area (known as a Radar Manoeuvring area) that is intended to be used in conjunction wi one of the PBN options. Solely tactically controlling (vectoring aircraft does not make effective use of enhanced navigation standards.	anticipate that at the point of implementation, the technology required from the airspace network above 7000ft to facilitate sing track PBN arrivals during periods of high traffic will not be available and ATC will be required to vector arrivals. The extent of this vectoring will require further information from NERL and will be explored in further detail as we develop and refine options through the process.	This option offers four PBN arrival routes for westerly arrivals that could be operated as part of a respite configuration. We anticipate that at the point of implementation, the technology required from the airspace network above 7000 to facilitate single track PBN arrivals during periods of high traffic will not be available and ATC will be required to vector arrivals. The extent of this vectoring will require further information from NERL and will be explored in further detail as we develop and refine options through the process.	n. This option offers four PBN arrival routes for westerly arrivals that could be operated as part of a respite configuration. We anticipate that at the point of implementation, the technology required from the airspace network above 7000 to facilitate single track PBN arrivals during periods of high traffic will not be available and ATC will be required to vector arrivals. The extent of this vectoring will require further information from NERL and will be explored in further detail as we develop and refine options through the process.	This option offers one PBN arrival route for westeny arrivals. We anticipate that at the point of implementation, the technology required from the airspace network above 7000ft to facilitate single track PBN arrivals during periods of high traffic will not be available and ATC will be required to vector arrivals. The extent of this vectoring will require further information from NERL and will be explored in further detail as we develop and refine options through the process.	This option is based on a vectoring area (known as a Radar Manoeuvring area) that is intended to be used in conjunction with one f the PBN options. Solely tactically controlling (vectoring) aircraft does not make effective use of enhanced navigation standards.	arrivals during periods of high traffic will not be available and ATC will be required to vector arrivals. The extent of this vectoring will require further information from NERL and will be explored in further detail as we develop and refine options through the process.	rt of a respite configuration. We anticipate that at the point of implementation, the chnology required from the airspace network above 7000ft to facilitate single track PBN arrivals during periods of high traffic will not be available and ATC will be quired to vector arrivals. The extent of this vectoring will require further information om NERL and will be explored in further detail as we develop and refine options through the process.	part of a respite configuration. We anticipate that at the point of implementation, the technology required from the airspace network above 7000ft to facilitate single track PBN arrivals during periods of high traffic will not be available and ATC will be required to vector arrivals. The extent of this vectoring will require further information from NERL and will be explored in further detail as we develop and refine options through the process.	anticipate that at the point of implementation, the technology required from the airspace network above 7000ft to facilitate single track PBN arrivals during periods of high traffic will not be available and ATC will be required to vector arrivals. The extent of this vectoring will require further information from NERL and will be explored in further detail as we develop and refine options through the process.	anticipate that at the point of implementation, the technology required from the airspace network above 7000ft to facilitate single track PBN arrivals during periods of high traffic will not be available and ATC will be required to vector arrivals. The extent of this vectoring will require further information from NERL and will be explored in further detail as we develop and refine options through the process.	could be operated as part of a respite configuration. We anticipat that at the point of implementation, the technology required from airspace network above 7000ft to facilitate single track PBN arriva during periods of high traffic will not be available and ATC will b required to vector arrivals. The extent of this vectoring will requir further information from NERL and will be explored in further deta as we develop and refine options through the process.	te the anticipate that at the point of implementation, the technology require from the airspace network above 7000ft to facilitate single track PBN arrivals during periods of high traffic will not be available and ATC wi be required to vector arrivals. The extent of this vectoring will require further information from NERL and will be explored in further detail a we develop and refine options through the process.	anticipate that at the point of implementation, the technology required from the airspace network above 7000ft to facilitate single track PBN arrivals during periods of high traffic will not be available and ATC will be required to vector arrivals. The extent of this vectoring will require further information from NERL and will be explored in further detail as we develop and refine options through the process.	single track PBN arrivals during periods of high traffic will not be available and ATC will be required to vector arrivals. The exten of this vectoring will require further information from NERL and will be explored in further detail as we develop and refine options through the process. In addition to this, this option is designed to RNP-AR specification. Not all aircraft and crews are able to fly RNP-AR and therefore these routes would need to be operated alongside other arrival options.	 required from the airspace network above 7000ft to facilitate single track PBN arrivals during periods of high traffic will not be available and ATC will be required to vector arrivals. The extent of this vectoring will require further information from NERL and will be explored in further detail as we develop and refine options through the process. In addition to this, this option is designed to RNP-AR specification. Not all aircraft and crews are able to fly RNP-AR and therefore these routes would need to be operated alongside other arrival options.
Limit Adverse Noise Effects	The baseline 'do nothing' scenario would not change the noise environment at Gatwick. Aircraft would continue to be tactically controlled (vectored) by ATC before joining the final approach. As the airspace is not modernised, aircraft may be prevented from continuously descending. As traffic within the LTMA increases, this could lead to decreased CDO performance which has an impact on noise.	This option has been designed to minimise the total population overflown. As the Sound Exposure Level (SEL) contour is locate along the final approach track, overflight contours were used to identify high performing notional flight paths. CDO is expected to improve compared to the baseline.	This option is a Radar Manoeuvring Area (RMA) that has been designed to minimise the total population overflown. As the Sou Exposure Level (SEL) contour is located along the final approace track, overflight contours were used to identify high performing notional flight paths which could then define a potential vectorin area. Compared to pure PBN tracks, an RMA will deliver differen noise benefits and impacts owing to dispersion created by the vectoring swathes. The nature/frequency/location of the vectorin which may be required will be explored in further detail once th shortlist of options is known. CDO is expected to improve compared to the baseline.	This option has been designed to minimise the total population overflown between 0-4000ft. As the Sound Exposure Level (SEI contour is located along the final approach track, overflight conto were used to identify high performing notional flight paths. Beyo 4000ft, aircraft fly directly to the network entry/exit points althoug small adjustments to the lateral flight paths would be made to consider noise impacts. CDO is expected to improve compared to the baseline.	This respite option has been designed to minimise the total population overflown. As the Sound Exposure Level (SEL) contour is located along the final approach track, overflight contours were used to identify high performing notional flight paths. CDO is expected to improve compared to the baseline although for the northern elements of the arrival system the are interdependencies with other airports which would require further investigation (see DP6 for further details).	This respite option has been designed to minimise the total population overflown. As the Sound Exposure Level (SEL) contour is located along the final approach track, overflight contours were used to identify high performing notional flight paths. CDO is expected to improve compared to the baseline although for the northern elements of the arrival system the are interdependencies with other airports which would require further investigation (see DP6 for further details).	This option has been designed to minimise the population newly overflown. As the Sound Exposure Level (SEL) contour is located along the final approach track, population newly overflown contours and data were used to identify high performing notional flight paths. CDO is expected to improve compared to the baseline.	his option is a Radar Manoeuvring Area (RMA) that has been designed to minimise the population newly overflown. As the Sound Exposure Level (SEL) contour is located along the final approach track, population newly overflown contours were used to identify high performing notional flight paths which could then define a potential vectoring area. Compared to pure PBN tracks, an RMA will deliver lifferent noise benefits and impacts owing to dispersion created by the ectoring swathes. The nature/frequency/location of the vectoring which may be required will be explored in further detail once the shortlist of options is known. CDO is expected to improve compared to the baseline.	This option has been designed to minimise population newly overflown between 0-4000ft. As the Sound Exposure Level (SEL) contour is located along the final approach track, , population newly overflown contours were used to identify high performing notional flight paths. Beyond 4000ft, aircraft fly directly to the network entry/exit points although small adjustments to the lateral flight paths would be made to consider noise impacts. CDO is expected to improve compared to the baseline.	s respite option has been designed to minimise population newly overflown. As the Sound Exposure Level (SEL) contour is located along the final approach track, opulation newly overflown contours were used to identify high performing notional flight paths. CDO is expected to improve compared to the baseline.	This respite option has been designed to minimise population newly overflown. As the Sound Exposure Level (SEL) contour is located along the final approach track, population newly overflown contours were used to identify high performing notional flight paths. CDO is expected to improve compared to the baseline.	This option has been designed to balance the population newly overflown and the total population overflown and join the final approach between 7-9nm. As the Sound Exposure Level (SEL) contour is located along the final approach track, population newly overflown contours and total population overflown contours were used to identify high performing notional flight paths. CDO is expected to improve compared to the baseline.	This option has been designed to balance the population newly overflown and the total population overflown between 0-40000ft and join the final approach between 7-9nm. As the Sound Exposure Level (SEL) contour is located along the final approach track, population newly overflown contours and total population overflown contours were used to identify high performing notional flight paths. Beyond 4000ft, aircraft fly directly to the network entry/exit points although small adjustments to the lateral flight paths would be made to consider noise impacts. CDO is expected to improve compared to the baseline.	This respite option has been designed to balance the population newly overflown and the total population overflown. The Sound Exposure Level (SEL) contour is located along the final approach track, so population newly overflown contours and total populatio overflown contours were used to identify high performing notional flight paths. CDO is expected to improve compared to the baseline.	This option has been designed to balance the population newly overflown and the total population overflown. As the Sound Exposure Level (SEL) contour is located along the final approach track, population newly overflown contours and total population overflown contours were used to identify high performing notional flight paths. CDO is expected to improve compared to the baseline.	This option has been designed to balance the population newly overflown and the total population overflown between 0-40000ft As the Sound Exposure Level (SEL) contour is located along the final approach track, population newly overflown contours and total population overflown contours were used to identify high performing notional flight paths. Beyond 4000ft, aircraft fly directly to the network entry/exit points although small adjustments to the lateral flight paths would be made to conside noise impacts. CDO is expected to improve compared to the baseline.	This option was developed following stakeholder feedback. It uses DEFRA's road and rail noise mapping to identify areas of high ambient noise (please see the Stage 2A document for further details). This option has not been developed using data associated with the primary and secondary noise metrics of CAP1616. There is typically a correlation between areas of high ambient noise and population and therefore, in relation to the primary and secondary metrics, this option may not perform as well as other options on the comprehensive list. It's performance against these metrics would require further exploration as part o the Initial Options Appraisal should this option progress. CCO performance is expected to improve compared to the baseline.	This option was developed following stakeholder feedback. It uses DEFRA's road and rail noise mapping to identify areas of high ambient noise between 0-40000ft. (please see the Stage 2A document for further details). This option has not been developed using data associated with the primary and secondary noise metrics of CAP1616. There is typically a correlation between areas of high ambient noise and population and therefore, in relation to the primary and secondary metrics, this option may not perform as well as other options on the comprehensive list. It's performance against these metrics would require further exploration as part of the Initial Options Appraisal should this option progress. CCO performance is expected to improve compared to the baseline.
Time Based A Arrival Operations	Today, Gatwick's arrivals are tactically controlled (vectored) by ATC, and Gatwick use an Arrival Manager (AMANs) system. Tactically controlling (vectoring) aircraft does enable air traffic controllers to space aircraft effectively, however it reduces the accuracy of time based arrival technology and systemised sequencing.	This single track PBN option has been designed to be compatible with time based arrival operations. The implementation on time based arrivals is dependent on a number of factors including the technology available from aircraft and the airspace network above 7000ft. At this stage in the process, the airspace above 7000ft is so being developed as part of Stage 2 of NERL's ACP and the availability to implement time based arrivals will be explored in further detail as NERL and GAL progress through the airspace change process.	This option is based on a vectoring area (known as a Radar Manoeuvring area) that is intended to be used in conjunction wi one of the PBN options. Solely tactically controlling (vectoring aircraft does enable air traffic controllers to space aircraft effective however it reduces the accuracy of time based arrival technolog and systemised sequencing.	This single track PBN option has been designed to be compatible with time based arrival operations. The implementation on time based arrivals is dependent on a number of factors including the technology available from aircraft and the airspace network about 7000ft. At this stage in the process, the airspace above 7000ft is as being developed as part of Stage 2 of NERL's ACP and the availability to implement time based arrivals will be explored in further detail as NERL and GAL progress through the airspace change process.	This option has been designed to be compatible with time based arrivals operations however owing to the respite configurations, there will be further technical investigation required in order to understand how the different routes with differing track lengths, can be integrated with time based arrival technology sequencing. The implementation on time based arrivals is dependent on a number of factors including the technology available from aircraft and the airspace network above 7000ft. At this stage in the process, the airspace above 7000ft is still being developed as pa of Stage 2 of NERL's ACP and the availability to implement time based arrivals will be explored in further detail a NERL and GAL progress through the airspace change process.	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At this stage in the cess, the airspace above 7000ft is still being developed as part of Stage 2 of NERL's CP and the availability to implement time based arrivals will be explored in further detail as NERL and GAL progress through the airspace change process.	This option has been designed to be compatible with time based arrivals operations however owing to the respite configurations, there will be further technical investigation required in order to understand how the different routes, with differing track lengths, can be integrated with time based arrival technology sequencing. The implementation on time based arrivals is dependent on a number of factors including the technology available from aircraft and the airspace network above 7000ft. At this stage in the process, the airspace above 7000ft is still being developed as part of Stage 2 of NERL's ACP and the availability to implement time based arrivals will be explored in further detail as NERL and GAL progress through the airspace change process.	This single track PBN option has been designed to be compatible with time based arrival operations. The implementation on time based arrivals is dependent on a number of factors including the technology available from aircraft and the airspace network above 7000ft. At this stage in the process, the airspace above 7000ft is still being developed as part of Stage 2 of NERL's ACP and the availability to implement time based arrivals will be explored in further detail as NERL and GAL progress through the airspace change process.	This single track PBN option has been designed to be compatible with time based arrival operations. 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At this stage in the process, the airspace above 7000ft is st being developed as part of Stage 2 of NERL's ACP and the availability to implement time based arrivals will be explored in further detail as NERL and GAL progress through the airspace char process.	d ere ind This single track PBN option has been designed to be compatible wit time based arrival operations. The implementation on time based arrivals is dependent on a number of factors including the technology available from aircraft and the airspace network above 7000ft. At this over stage in the process, the airspace above 7000ft is still being develope as part of Stage 2 of NERL's ACP and the availability to implement time based arrivals will be explored in further detail as NERL and GA progress through the airspace change process.	This single track PBN option has been designed to be compatible with time based arrival operations. The implementation on time based arrivals is dependent on a number of factors including the technology available from aircraft and the airspace network above 7000ft. At this stage in the process, the airspace above 7000ft is still being developed as part of Stage 2 of NERL'S ACP and the availability to implement time based arrivals will be explored in further detail as NERL and GAL progress through the airspace change process.	This single track PBN option has been designed to be compatible with time based arrival operations. The implementation on time based arrivals is dependent on a number of factors including the technology available from aircraft and the airspace network above 7000ft. At this stage in the process, the airspace above 7000ft is still being developed as part of Stage 2 of NERL's ACP and the availability to implement time based arrivals will be explored in further detail as NERL and GAL progress through the airspace change process.	This single track PBN option has been designed to be compatible with time based arrival operations. The implementation on time based arrivals is dependent on a number of factors including the technology available from aircraft and the airspace network above 7000ft. At this stage in the process, the airspace above 7000ft is still being developed as part of Stage 2 of NERL's ACP and the availability to implement time based arrivals will be explored in further detail as NERL and GAL progress through the airspace change process.
5 Resilience - built in	Aircraft arriving at Gatwick are tactically controlled (vectored) by ATC onto final approach. There are no defined routes to follow, and aircraft are provided with instructions from Air Traffic Control who ensure the aircraft are safely spaced whilst being directed to land at Gatwick. The initial approach procedures (without radar control) are dependent on conventional navigation aids that are due to be withdrawn as part of NERL's VOR rationalisation programme. NATS NERL are currently undergoing a rationalisation programme of ground based equipment called VORs which will impact these conventional procedures and therefore will also impact GAL's resilience. GAL are currently investigating RNAV substitution to mitigate VOR rationalisation however this is an interim measure until FASI implementation. In future, the increased volumes of traffic within the LTMA airspace will result in increased ATC and Pilot workload which will lead to additional complexity in the event of predictable operational factors.	This option removes Gatwick's dependencies on conventional ground based navigation aids for the IAPs without radar control RNP and ILS approaches are already available at Gatwick but th option would introduce a PBN transition to these instrument approaches. A single PBN route does not provide any alternative PBN routes the event of operational disruption but it is expected that ATC w manage aircraft via tactical controlling which subject to the airspa above 7000ft also being modernised, is expected to be resilient The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead a reduction in Controller workload in turn delivering increased operational resilience.	The use of vectoring within a RMA allows operational flexibility a resilience. Subject to the airspace above 7000ft also being modernised to accommodate future increases in traffic within th LTMA, it is anticipated that this radar area will be resilient to operational disruption. Although tactical control may be resilier other options which offer multiple PBN routes may provide additional resilience and reduce ATC workload compared to th option. This option will no remove Gatwick's dependencies on conventional ground based nav aids for IAPs without radar control	 This option removes Gatwick's dependencies on conventional ground based navigation aids for the IAPs without radar control RNP and ILS approaches are already available at Gatwick but th option would introduce a PBN transition to these instrument approaches. A single PBN route does not provide any alternative PBN routes the event of operational disruption but it is expected that ATC w manage aircraft via tactical controlling which subject to the airspat above 7000ft also being modernised, is expected to be resilient. The contribution towards systemised airspace enables enhance controller tool support which, in the long term, is expected to lead a reduction in Controller workload in turn delivering increased operational resilience. 	I. his This option removes Gatwick's dependencies on conventional ground based navigation aids for the IAPs without radar control. RNP and ILS approaches are already available at Gatwick but this option would introduce a PBN transitions to these instrument approaches. The availability of the four routes provides ATC with alternative routes in the event of operational disruption however it's also expected that ATC will manage aircraft via tactical controlling which subject to the airspace above 7000f also being modernised, is expected to be resilient. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience.	This option removes Gatwick's dependencies on conventional ground based navigation aids for the IAPs without radar control. RNP and ILS approaches are already available at Gatwick but this option would introduce a PBN transitions to these instrument approaches. The availability of the four routes provides ATC with alternative routes in the event of operational disruption howev it's also expected that ATC will manage aircraft via tactical controlling which subject to the airspace above 7000f also being modernised, is expected to be resilient. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience.	This option removes Gatwick's dependencies on conventional ground based navigation aids for the IAPs without radar control. RNP and ILS approaches are already available at Gatwick but this option would introduce a PBN transition to these instrument approaches. A single PBN route does not provide any alternative PBN routes in the event of operational disruption but it is expected that ATC will manage aircraft via tactical controlling which subject to the airspace above 7000ft also being modernised, is expected to be resilient. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience.	The use of vectoring within a RMA allows operational flexibility and esilience. Subject to the airspace above 7000ft also being modernised to accommodate future increases in traffic within the LTMA, it is nticipated that this radar area will be resilient to operational disruption Although tactical control may be resilient, other options which offer nultiple PBN routes may provide additional resilience and reduce ATC vorkload compared to this option. This option will no remove Gatwicks dependencies on conventional ground based nav aids for IAPs without radar control.	This option removes Gatwick's dependencies on conventional ground based navigation aids for the IAPs without radar control. RNP and ILS approaches are already available at Gatwick but this option would introduce a PBN transition to these instrument approaches. A single PBN route does not provide any alternative PBN routes in the event of operational disruption but it is expected that ATC will manage aircraft via tactical controlling which subject to the airspace above 7000ft also being modernised, is expected to be resilient. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience.	s option removes Gatwick's dependencies on conventional ground based navigation s for the IAPs without radar control. RNP and ILS approaches are already available at Gatwick but this option would introduce a PBN transitions to these instrument approaches. e availability of the three routes provides ATC with alternative routes in the event of perational disruption however it's also expected that ATC will manage aircraft via tical controlling which subject to the airspace above 7000ft also being modernised, is expected to be resilient. e contribution towards systemised airspace enables enhanced controller tool support ch, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience.	 This option removes Gatwick's dependencies on conventional ground based navigation aids for the IAPs without radar control. RNP and ILS approaches are already available at Gatwick but this option would introduce a PBN transitions to these instrument approaches. The availability of the three routes provides ATC with alternative routes in the event of operational disruption however it's also expected that ATC will manage aircraft via tactical controlling which subject to the airspace above 7000ft also being modernised, is expected to be resilient. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience. 	This option removes Gatwick's dependencies on conventional ground based navigation aids for the IAPs without radar control. RNP and ILS approaches are already available at Gatwick but this option would introduce a PBN transition to these instrument approaches. A single PBN route does not provide any alternative PBN routes in the event of operational disruption but it is expected that ATC will manage aircraft via tactical controlling which subject to the airspace above 7000ft also being modernised, is expected to be resilient. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience.	This option removes Gatwick's dependencies on conventional ground based navigation aids for the IAPs without radar control. RNP and ILS approaches are already available at Gatwick but this option would introduce a PBN transition to these instrument approaches. A single PBN route does not provide any alternative PBN routes in the event of operational disruption but it is expected that ATC will manage aircraft via tactical controlling which subject to the airspace above 7000ft also being modernised, is expected to be resilient. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience.	This option removes Gatwick's dependencies on conventional group based navigation aids for the IAPs without radar control. RNP an ILS approaches are already available at Gatwick but this option would introduce a PBN transitions to these instrument approaches. The availability of the two routes provides ATC with alternative rou in the event of operational disruption however it's also expected th ATC will manage aircraft via tactical controlling which subject to the airspace above 7000ft also being modernised, is expected to be resilient. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead a reduction in Controller workload in turn delivering increased operational resilience.	This option removes Gatwick's dependencies on conventional ground based navigation aids for the IAPs without radar control. RNP and ILS approaches are already available at Gatwick but this option would introduce a PBN transition to these instrument approaches. A single PBN route does not provide any alternative PBN routes in the event of operational disruption but it is expected that ATC will manag aircraft via tactical controlling which subject to the airspace above 7000ft also being modernised, is expected to be resilient. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience.	This option removes Gatwick's dependencies on conventional ground based navigation aids for the IAPs without radar control. RNP and ILS approaches are already available at Gatwick but this option would introduce a PBN transition to these instrument approaches. A single PBN route does not provide any alternative PBN routes in the event of operational disruption but it is expected that ATC will manage aircraft via tactical controlling which subject to the airspace above 7000ft also being modernised, is expected to be resilient. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience.	 This option uses a type of PBN called RNP-AR which would only be available to airlines and crews approved to fly RNP-AR procedures. Therefore, an alternative PBN procedure would need to be available in order to offer full resilience and remove dependencies for Gatwick's IAPs without radar control. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience. 	 y This option uses a type of PBN called RNP-AR which would only be available to airlines and crews approved to fly RNP-AR procedures. Therefore, an alternative PBN procedure would need to be available in order to offer full resilience and remove dependencies for Gatwick's IAPs without radar control. d The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience.
Optimise Use of 6	Track mileage will remain the same as today	This option has the potential to reduce track miles compared to a average baseline arrival track	an This option is expected to maintain similar levels of track miles the baseline	to This option has the potential to reduce track miles compared to a average baseline arrival track	an This route has the potential to reduce track miles compared to an average baseline arrival track if aircraft arriving from the north are tactically managed by ATC This route has the potential increase in track mileage	This route has the potential to reduce track miles compared to an average baseline arrival track if aircraft arriving from the north are tactically managed by ATC	I This option has the potential to marginally increase track miles compared to an average baseline arrival track	This option is expected to maintain similar levels of track miles to the baseline	This option has the potential to reduce track miles compared to an average baseline arrival track	s route has the potential o increase track miles impared to an average baseline arrival track wever if used equally in njunction with Route B and Route C, then ulatively there would be ncrease in track mileage	This option has the potential to reduce track miles compared to an average baseline arrival track. If used equally in conjunction with Route B and Route C, then cumulatively track mileage would be similar to the baseline arrival to the baseline arrival to the baseline arrival to the baseline arrival to the baseline arrival to the baseline arrival to the baseline arrival to the baseline arrival to the baseline arrival to the baseline arrival to the baseline arrival to the baseline arrival to the baseline arrival track mileage would be similar to the baseline arrival to the baseline arrival to the baseline arrival track mileage would be similar to the baseline arrival track mileage would be similar to the baseline arrival to the baseline arrival track mileage would be similar to the baseline arrival to the baseline arrival to the baseline arrival track mileage would be similar to the baseline arrival to the baseline arrival to the baseline arrival to the baseline arrival track mileage would be similar to the baseline arrival to the baseline arrival to the baseline arrival track mileage would be similar to the baseline arrival track mileage would be similar to the baseline arrival track mileage would be similar to the baseline arrival track mileage would be similar to the baseline arrival track mileage would be similar to the baseline arrival track mileage would be similar to the baseline arrival track mileage would be similar to the baseline arrival track mileage would be similar to the baseline arrival track mileage would be similar to the baseline arrival track mileage would be similar to the baseline arrival track mileage would be similar to the baseline arrival track mileage would be similar to the baseline arrival track mileage would be similar to the baseline arrival track mileage would be similar to the baseline arrival track mileage would be similar to the baseline arrival track mileage would be similar to the baseline arrival track mileage would be similar to the baseline arrival track mileage would be s	This option has the potential to reduce track miles compared to an average baseline arrival track	This option has the potential to reduce track miles compared to an average baseline arrival track	This option has the potential to reduce track miles compared to an average baseline arrival track	to o an k This option has the potential to reduce track miles compared to an average baseline arrival track	This option has the potential to reduce track miles compared to an average baseline arrival track	This option has the potential to reduce track miles compared to an average baseline arrival track	This option has the potential to reduce track miles compared to an average baseline arrival track
CCO/CDO	In current operations almost all Westerly arrivals are given an opportunity to follow CDO from 6000ft. Aircraft are vectored from the holding stacks (normally at FL70 or FL80) and positioned in the traffic pattern within a defined two- dimensional area known as a Radar Manoeuvring Area. Most arrivals are given the chance to follow CDO from FL70 (unless, because of their position in the traffic pattern they are too close to another aircraft also at FL70). However, unless traffic conditions are very quiet opportunities for CDO above FL70 are limited by aircraft holding in the stacks at FL80 and higher. In the future, as traffic in the LTMA increase, opportunities for CDO may be reduced.	t This option has the potential to achieve CDO from FL90 subject integration with the NERL design and separation from Gatwick SI	to This option has the potential to achieve CDO from FL90 subject Ds integration with the NERL design and separation from Gatwick S	t to This option has the potential to achieve CDO from FL90 subject integration with the NERL design and separation from Gatwick SI	Unlikely to achieve CDO from FL90 due to interdependencies between Heathrow, Gatwick departures and maybe Biggin Hill traffic	al DUnlikely to achieve CDO from FL90 due to interdependencies between Heathrow, Gatwick departures and maybe Biggin Hill trafficUnlikely to achieve CDO from FL90 due to interdependencies between Heathrow, Gatwick departures and maybe Biggin Hill trafficThis route has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDsThis route has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs	This option has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs	This option has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs	This option has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs s	s route has the potential achieve CDO from FL90 oject to integration with the NERL design and eparation from Gatwick SIDs. This route has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs. SIDs. SIDs. SIDs.	This route has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs.This route has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs.This route has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs.This route has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs.	This option has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs.	This option has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs.	This route has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs.	This option has the potential to achieve CDO from FL90 subject to ign integration with the NERL design and separation from Gatwick SIDs. IDs.	This option has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs.	This option has the potential to achieve CDO from FL90 subjec to integration with the NERL design and separation from Gatwick SIDs.	ct This option has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs.
Long Term predictabilit y and Adaptability	Aircraft arriving at Gatwick Airport are tactically controlled (vectored) by ATC onto ity final approach and therefore, other than once on final approach, there is no long term predictability of flight paths.	This option offers long term predictability via one PBN arrival rou however it is anticipated that at the point of implementation, tactivectoring will also be required and therefore there would be perior of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000f	This option is based on a vectoring area (known as a Radar Manoeuvring area) that is intended to be used in conjunction wi one of the PBN options. Solely tactically controlling (vectoring aircraft does not offer long term predictability.	This option offers long term predictability via one PBN arrival rou however it is anticipated that at the point of implementation, tactivectoring will also be required and therefore there would be perior of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000f	This option offers long term predictability via four PBN arrival routes which could be used in respite configurations however it is anticipated that at the point of implementation, tactical vectoring will also be required and therefore there would be periods of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000ft.	This option offers long term predictability via four PBN arrival routes which could be used in respite configurations however it is anticipated that at the point of implementation, tactical vectoring will also be required and therefore there would be periods of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000ft.	This option offers long term predictability via one PBN arrival route however it is anticipated that at the point of implementation, tactical vectoring will also be required and therefore there would be periods of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000ft.	This option is based on a vectoring area (known as a Radar Manoeuvring area) that is intended to be used in conjunction with one f the PBN options. Solely tactically controlling (vectoring) aircraft does not offer long term predictability.	This option offers long term predictability via one PBN arrival route however it is anticipated that at the point of implementation, tactical vectoring will also be required and therefore there would be periods of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000ft.	is option offers long term predictability via three PBN arrival routes which could be used in respite configurations however it is anticipated that at the point of olementation, tactical vectoring will also be required and therefore there would be periods of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000ft	This option offers long term predictability via three PBN arrival routes which could be used in respite configurations however it is anticipated that at the point of implementation, tactical vectoring will also be required and therefore there would be periods of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000ft	This option offers long term predictability via one PBN arrival route however it is anticipated that at the point of implementation, tactical vectoring will also be required and therefore there would be periods of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000ft.	This option offers long term predictability via one PBN arrival route however it is anticipated that at the point of implementation, tactical vectoring will also be required and therefore there would be periods of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000ft.	This option offers long term predictability via two PBN arrival rout which could be used in respite configurations however it is anticipated that at the point of implementation, tactical vectoring v also be required and therefore there would be periods of unpredictability. This will be explored in further as we receive furth information from NERL around the airspace above 7000ft	This option offers long term predictability via one PBN arrival route however it is anticipated that at the point of implementation, tactical vectoring will also be required and therefore there would be periods of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000ft.	This option offers long term predictability via one PBN arrival route however it is anticipated that at the point of implementation, tactical vectoring will also be required and therefore there would be periods of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000ft.	This option offers long term predictability via one PBN arrival route however it is anticipated that at the point of implementation, tactical vectoring will also be required and therefore there would be periods of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000ft.	This option offers long term predictability via one PBN arrival route however it is anticipated that at the point of implementation, tactical vectoring will also be required and therefore there would be periods of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000ft.
Respite	Aircraft arriving at Gatwick Airport are tactically controlled (vectored) by ATC onto final approach and therefore, other than once on final approach, there is no long term predictability of flight paths. Tactically controlling (vectoring) aircraft creates dispersion which offers some unpredictable noise relief.	A single PBN route does not offer any predictable respite configurations however the use of tactical vectoring at peak perio may offer some noise relief through dispersion. This will be explor in further detail as part of the Initial Options Appraisal should th option progress.	This option is based on a vectoring area (known as a Radar Manoeuvring area) that is intended to be used in conjunction wi one of the PBN options. Solely tactically controlling (vectoring aircraft does not offer long term predictability however the dispers from the vectoring does offer some noise relief.	A single PBN route does not offer any predictable respite configurations however the use of tactical vectoring at peak perio may offer some noise relief through dispersion. This will be explo in further detail as part of the Initial Options Appraisal should th option progress.	This option offers four routes which could be used in a respite configuration. Details of this will be explored in furth detail as part of the Initial Options Appraisal should this option progress.	er This option offers four routes which could be used in a respite configuration. Details of this will be explored in furth detail as part of the Initial Options Appraisal should this option progress.	A single PBN route does not offer any predictable respite configurations however the use of tactical vectoring at peak periods may offer some noise relief through dispersion. This will be explored in further detail as part of the Initial Options Appraisal should this option progress.	This option is based on a vectoring area (known as a Radar Manoeuvring area) that is intended to be used in conjunction with one f the PBN options. Solely tactically controlling (vectoring) aircraft does not offer long term predictability however the dispersion from the vectoring does offer some noise relief.	A single PBN route does not offer any predictable respite configurations however the use of tactical vectoring at peak periods may offer some noise relief through dispersion. This will be explored in further detail as part of the Initial Options Appraisal should this option progress.	s option offers three routes which could be used in a respite configuration. Details of will be explored in further detail as part of the Initial Options Appraisal should this option progress.	f This option offers three routes which could be used in a respite configuration. Details of this will be explored in further detail as part of the Initial Options Appraisal should this option progress.	A single PBN route does not offer any predictable respite configurations however the use of tactical vectoring at peak periods may offer some noise relief through dispersion. This will be explored in further detail as part of the Initial Options Appraisal should this option progress.	A single PBN route does not offer any predictable respite configurations however the use of tactical vectoring at peak periods may offer some noise relief through dispersion. This will be explored in further detail as part of the Initial Options Appraisal should this option progress.	This option offers two routes which could be used in a respite configuration. Details of this will be explored in further detail as pa of the Initial Options Appraisal should this option progress.	A single PBN route does not offer any predictable respite configuration however the use of tactical vectoring at peak periods may offer some noise relief through dispersion. This will be explored in further detail a part of the Initial Options Appraisal should this option progress.	A single PBN route does not offer any predictable respite configurations however the use of tactical vectoring at peak periods may offer some noise relief through dispersion. This will be explored in further detail as part of the Initial Options Appraisal should this option progress.	A single PBN route does not offer any predictable respite configurations however the use of tactical vectoring at peak periods may offer some noise relief through dispersion. This will be explored in further detail as part of the Initial Options Appraisal should this option progress.	A single PBN route does not offer any predictable respite configurations however the use of tactical vectoring at peak periods may offer some noise relief through dispersion. This will be explored in further detail as part of the Initial Options Appraisal should this option progress.
Overflight within opt	Within the existing operation, aircraft arriving at Gatwick Airport are tactically controlled (vectored) by ATC onto final approach. There are no defined routes to follow and aircraft are provided with instructions from Air Traffic Control who ensure the aircraft are safely spaced whilst being directed to land at Gatwick. This leads to broad swathes of flight tracks across the airspace.	This option offers one PBN arrival route and therefore there is n cumulative overflight within the option itself.	This option offers a RMA which means that aircraft would be tactically controlled. This would lead to swathes of flight paths ac the airspace which would some overlapping areas of overflight however the dispersion would help to mitigate any impacts.	cross This option offers one PBN arrival route and therefore there is n t cumulative overflight within the option itself.	This option offers four PBN arrival routes that can be used in a respite configuration. Other than once aircraft have joined the final approach, there is no cumulative overflight within the option itself although there may be some small overlapping areas of overflight as aircraft turn to join the final approach.	This option offers four PBN arrival routes that can be used in a respite configuration. Other than once aircraft have joined the final approach, there is no cumulative overflight within the option itself although there may be some small overlapping areas of overflight as aircraft turn to join the final approach.	This option offers one PBN arrival route and therefore there is no cumulative overflight within the option itself.	This option offers a RMA which means that aircraft would be tactically controlled. This would lead to swathes of flight paths across the airspace.	This option offers one PBN arrival route and therefore there is no cumulative overflight within the option itself.	This option offers three PBN arrival routes which could be used in a respite nfiguration. From 7000ft, there are some areas of overflight overlap before aircraft n onto base leg - here the routes are separated until turning to join final approach.	This option offers three PBN arrival routes which could be used in a respite configuration. The two most easterly routes share some cumulative overflight before turning onto final approach, owing to the lateral proximity of the routes.	This option offers one PBN arrival route and therefore there is no cumulative overflight within the option itself.	This option offers one PBN arrival route and therefore there is no cumulative overflight within the option itself.	This option offers two PBN arrival routes which could be used in a respite configuration. Other than once aircraft have joined the fina approach, there is no cumulative overflight within the option itsel	a al This option offers one PBN arrival route and therefore there is no cumulative overflight within the option itself.	This option offers one PBN arrival route and therefore there is no cumulative overflight within the option itself.	This option offers one PBN arrival route and therefore there is no cumulative overflight within the option itself.	This option offers one PBN arrival route and therefore there is no cumulative overflight within the option itself.
8 Deconflictio n by Design Overflight of arrival a departure options	nd Owing to the vectoring swathes there are significant areas where there is overflight by arrivals and departures to/from Gatwick Airport.	The straight ahead / south easterly routes that form components the easterly departure options all cross this arrival option, howev owing to this option being formed of a single PBN track, the area cumulative overflight will be minimal and could be refined once shortlist of departure options is known. It is anticipated that tactical vectoring of arrivals would still be required and this has the opportunity to increase cumulative impa the nature and frequency of this vectoring will be investigated in further detail should the option progress and as part of this, poten mitigations/refinements could be identified.	of er This option shares cumulative overflight with some components of the westerly departure options (mainly the wrap around left tum departures). This would require deconfliction and therefore it is anticipated that the impacts of cumulative overflight may be able be mitigated. In terms of the easterly departures, the area of the indicative RMA overflies the same areas as the majority of the straight ahead departure routes and some parts of the right turn tial departures at higher altitudes.	The straight ahead / south easterly routes that form components the easterly departure options all cross this arrival option, howev owing to this option being formed of a single PBN track, the area cumulative overflight will be minimal and could be refined once shortlist of departure options is known. It is anticipated that tactical vectoring of arrivals would still be required and this has the opportunity to increase cumulative impa the nature and frequency of this vectoring will be investigated i further detail should the option progress and as part of this, poten mitigations/refinements could be identified.	The north-easterly components of the easterly departure options cross the northerly arrival paths however owing to this option being formed of a single PBN tracks, the area of cumulative overflight will be minimal and could be a of refined once the shortlist of departure options is known. As a result of respite configurations, any frequency of cumulative overflight will be decreased compared to the single route PBN options. It is anticipated that tactical vectoring of arrivals would that in still be required and this has the opportunity to increase cumulative impacts; the nature and frequency of this vectoring will be investigated in further detail should the option progress and as part of this, potential mitigations/refinements could be identified.	The north-easterly components of the easterly departure options cross the northerly arrival paths however owing to this option being formed of a single PBN tracks, the area of cumulative overflight will be minimal and could be refined once the shortlist of departure options is known. Compared to the other respite configuration WAD, this option avoids more of the easterly departure routes. As a result of respite configurations, any frequency of cumulative overflight will be decreased compared to the single route PBN options. It is anticipated that tactical vectoring of arrivals would still be required and this has the opportunity to increase cumulative impacts; the nature and frequency of this vectoring will be investigated in further detail should the option progress and as part of this, potential mitigations/refinements could be identified.	 The straight ahead / south easterly routes that form components of the easterly departure options all cross this arrival option, however owing to this option being formed of a single PBN track, the area of cumulative overflight will be minimal and could be refined once the shortlist of departure options is known. It is anticipated that tactical vectoring of arrivals would still be required and this has the opportunity to increase cumulative impacts; the nature and frequency of this vectoring will be investigated in further detail should the option progress and as part of this, potential mitigations/refinements could be identified. 	This option does not overfly the same areas as the westerly departure options although there are some potential conflicts above 7000ft which ay require refinement once the shortlist of options is known. In terms o the easterly departures, the area of the indicative RMA overflies the same areas as the majority of the straight ahead departure routes and some parts of the right turn departures at higher altitudes.	The straight ahead / south easterly routes that form components of the easterly departure options all cross this arrival option, however owing to this option being formed of a single PBN track, the area of cumulative overflight will be minimal and could be refined once the shortlist of departure options is known. It is anticipated that tactical vectoring of arrivals would still be required and this has the opportunity to increase cumulative impacts; the nature and frequency of this vectoring will be investigated in further detail should the option progress and as part of this, potential mitigations/refinements could be identified.	The straight ahead / south easterly routes that form components of the easterly eparture options cross the three respite routes, however owing to this option being med of a single PBN tracks, the area of cumulative overflight will be minimal and uld be refined once the shortlist of departure options is known. As a result of respite offigurations, any frequency of cumulative overflight will be decreased compared to the single route PBN options. anticipated that tactical vectoring of arrivals would still be required and this has the portunity to increase cumulative impacts; the nature and frequency of this vectoring vill be investigated in further detail should the option progress and as part of this, potential mitigations/refinements could be identified.	The straight ahead / south easterly routes that form components of the easterly departure options cross the three respite routes, however owing to this option being formed of a single PBN tracks, the area of cumulative overflight will be minimal and could be refined once the shortlist of departure options is known. As a result of respite configurations, any frequency of cumulative overflight will be decreased compared to the single route PBN options. It is anticipated that tactical vectoring of arrivals would still be required and this has the opportunity to increase cumulative impacts; the nature and frequency of this vectoring will be investigated in further detail should the option progress and as part of this, potential mitigations/refinements could be identified.	The straight ahead / south easterly routes that form components of the easterly departure options all cross this arrival option as well as the latter parts of some of the right turn departures, however owing to this option being formed of a single PBN track, the area of cumulative overflight will be minimal and could be refined once the shortlist of departure options is known. It is anticipated that tactical vectoring of arrivals would still be required and this has the opportunity to increase cumulative impacts; the nature and frequency of this vectoring will be investigated in further detail should the option progress and as part of this, potential mitigations/refinements could be identified.	The straight ahead / south easterly routes that form components of the easterly departure options all cross this arrival option as well as the latter parts of some of the right tum departures, however owing to this option being formed of a single PBN track, the area of cumulative overflight will be minimal and could be refined once the shortlist of departure options is known. It is anticipated that tactical vectoring of arrivals would still be required and this has the opportunity to increase cumulative impacts; the nature and frequency of this vectoring will be investigated in further detail should the option progress and as part of this, potential mitigations/refinements could be identified.	The straight ahead / south easterly routes that form components of the easterly departure options cross the three respite routes, however owing to this option being formed of a single PBN tracks, the area cumulative overflight will be minimal and could be refined once to shortlist of departure options is known. As a result of respite configurations, any frequency of cumulative overflight will be decreased compared to the single route PBN options. It is anticipated that tactical vectoring of arrivals would still be required and this has the opportunity to increase cumulative impact the nature and frequency of this vectoring will be investigated in further detail should the option progress and as part of this, potent mitigations/refinements could be identified.	of ver of the sterly departure options all cross this arrival option as well as the latter parts of some of the right turn departures, however owing to this option being formed of a single PBN track, the area of cumulative overflight will be minimal and could be refined once the shortlist of departure options is known. It is anticipated that tactical vectoring of arrivals would still be require and this has the opportunity to increase cumulative impacts; the natur and frequency of this vectoring will be investigated in further detail should the option progress and as part of this, potential mitigations/refinements could be identified.	The straight ahead / south easterly routes that form components of the easterly departure options all cross this arrival option as well as the latter parts of some of the right turn departures, however owing to this option being formed of a single PBN track the area of cumulative overflight will be minimal and could be refined once the shortlist of departure options is known. It is anticipated that tactical vectoring of arrivals would still be required and this has the opportunity to increase cumulative impacts; the nature and frequency of this vectoring will be investigated in further detail should the option progress and as part of this, potential mitigations/refinements could be identified	The straight ahead / south easterly routes that form components of the easterly departure options all cross this arrival option as well as the latter parts of some of the right turn departures, however owing to this option being formed of a single PBN track, the area of cumulative overflight will be minimal and could be refined once the shortlist of departure options is known Tactical vectoring of arrivals would still be required and this has the opportunity to increase cumulative impacts; the nature and frequency of this vectoring will be investigated in further detail should the option progress and as part of this, potential mitigations/refinements could be identified.	This option does not overfly the same areas as the westerly departure options. The straight ahead / south easterly routes that form components of the easterly departure options all cross this arrival option as well as the latter parts of some of the right tum departures, however owing to this option being formed of a single PBN track, the area of cumulative overflight will be minimal and could be refined once the shortlist of departure options is known. Tactical vectoring of arrivals would still be required and this has the opportunity to increase cumulative impacts; the nature and frequency of this vectoring will be investigated in further detail should the option progress and as part of this, potential mitigations/refinements could be identified.
Overflight of neighbouring airpo routes	IS	Routes within the Biggin Hill and Heathrow Airport areas of the ACOG map.	Routes within the Biggin Hill and Heathrow Airport areas of the ACOG map.	e Routes within the Biggin Hill and Heathrow Airport areas of the ACOG map.	e The northerly arrival components route within the Biggin Hill, London City and Heathrow Airport areas of the ACOG map. The southerly arrival components route within the Biggin Hill and Heathrow Airport areas of the ACOG map	n Hill, London City and Heathrow Airport areas of the ACOG map. The southerly arrival components are initially outside the ACOG map.	Routes within the Biggin Hill and Heathrow Airport areas of the ACOG map.	Routes within the Biggin Hill and Heathrow Airport areas of the ACOG map.	Routes within the Biggin Hill and Heathrow Airport areas of the ACOG map.	Routes within the Biggin Hill and Heathrow Airport areas of the ACOG map.	Routes within the Biggin Hill and Heathrow Airport areas of the ACOG map.	Routes within the Biggin Hill and Heathrow Airport areas of the ACOG map.	Routes within the Biggin Hill and Heathrow Airport areas of the ACOG map.	Routes initially outside the ACOG map between c.7-6500ft. Then routes within the Biggin Hill and Heathrow Airport areas of the ACOG map.	Routes within the Biggin Hill and Heathrow Airport areas of the ACOC map.	Routes within the Biggin Hill and Heathrow Airport areas of the ACOG map.	Routes initially outside the ACOG map between c.7-6000ft. Then routes within the Biggin Hill and Heathrow Airport areas o the ACOG map.	Routes initially outside the ACOG map between c.7-6000ft. of Then routes within the Biggin Hill and Heathrow Airport areas of the ACOG map.
Locally 9 Tailored - Designs	The baseline 'do nothing' scenario would not change the noise environment at Gatwick. Aircraft would continue to be tactically controlled (vectored) by ATC before joining the final approach. Some stakeholders would prefer for Gatwick to remain as it is today and therefore this in itself could be considered a locally tailored design. However, the broad vectoring swathes do not take into account the local environment and therefore do not offer opportunities to avoid noise sensitive areas.	This option has been designed to minimise the total population overflown between 0-7000ft. (See DP 3 for further details).	This option is a Radar Manoeuvring Area (RMA) that has been designed to minimise the total population overflown. As the Sou Exposure Level (SEL) contour is located along the final approace track, overflight contours were used to identify high performing notional flight paths which could then define a potential vectori area. Compared to pure PBN tracks, an RMA will deliver differe noise benefits and impacts owing to dispersion created by the vectoring swathes. The nature/frequency/location of the vectoring which may be required will be explored in further detail once the shortlist of options is known. Should this option progress, later in process there will be opportunities to develop the option further tailor to local circumstances however compared to PBN paths, the opportunities would be reduced.	n und ch g ing ent te ng fourt from has been designed to minimise the total population overflown between 0-4000ft and route directly from the network en point from 7000ft-4000ft. (See DP 3 for further details). the the to ese	This respite option has been designed to minimise the total population overflown between 0-7000ft. (See DP 3 for further details).	r This respite option has been designed to minimise the total population overflown between 0-7000ft. (See DP 3 fo further details).	w This option has been designed to minimise the population newly overflown between 0-7000ft. (See DP 3 for further details).	This Radar Manoeuvring Area (RMA) has been designed to minimise population newly overflown. As the Sound Exposure Level (SEL) contour is located along the final approach track, overflight contours vere used to identify high performing notional flight paths which could then define a potential vectoring area. Compared to pure PBN tracks, and RMA will deliver different noise benefits and impacts owing to dispersion created by the vectoring swathes. The nature/frequency/location of the vectoring which may be required will be explored in further detail once the shortlist of options is known. Should this option progress, later in the process there will be opportunities to develop the option further to tailor to local circumstances however compared to PBN paths, these opportunities would be reduced.	This option has been designed to minimise the population newly overflown between 0-4000ft and route directly from the network entry point from 7000ft-4000ft. (See DP 3 for further details).	This respite option has been designed to minimise population newly overflown between 0-7000ft. (See DP 3 for further details).	This respite option has been designed to minimise population newly overflown between 0-7000ft. (See DP 3 for further details).	This option has been designed to balance the population newly overflown and the total population overflown and join the final approach between 7-9nm. (See DP 3 for further details).	This option has been designed to minimise the population newly overflown between 0-4000ft and route directly from the network entry point from 7000ft-4000ft. (See DP 3 for further details).	This respite option has been designed to balance the populatior newly overflown and the total population overflown between 0- 7000ft. (See DP 3 for further details)	This option has been designed to balance the population newly overflown and the total population overflown between 0-7000ft. (See DP 3 for further details)	This option has been designed to balance the population newly overflown and the total population overflown between 0-4000ft and route directly from the network entry point from 7000ft- 4000ft. Small adjustments will be made to the lateral path to consider noise, however these will be balanced with reducing fuel burn and CO2.	This option was developed following stakeholder feedback. It uses DEFRA's road and rail noise mapping to identify areas of high ambient noise (please see the Stage 2A document for further details).	This option was developed following stakeholder feedback. It uses DEFRA's road and rail noise mapping to identify areas of high ambient noise (please see the Stage 2A document for further details) between 0-4000ft before routing directly to the network exit points between 4-7000ft. Small adjustments will be made to the lateral path to consider noise, however these will be balanced with reducing fuel burn and CO2.

Easterly Arrivals (Detail)

# DP Category Image: Comparison of the second s	EA_BL		EAB	EAC FAC 0.4000th 0.400	EAD Image: Constrained state Image: Constrained state Route A Route B	EAE FAE Route D Route A Route B Route A Route B Route A	EAF FAF Route A (night option) EAF Route B (Night option)	EAG	EAH EAH U U U U U U U U U U U U U U U U U U U	EAI	EAJ	EAK EAK FAK Guite A Route D Route A Route A Route A Route A	EAL EAL EAL Moute A Noute B	EAM	EAN	EAO	EAP
Integration with a	Vectoring of arrivals is currently achieved safely with busy but steady workload. Airspace constraints due to Heathrow SIDs generate more worklo for Gatwick Approach and Gatwick Approach are also required to work the I turn (WIZAD) departures as they are not laterally separated from the arriva	Viable	Viable but likely to be interactions with Farnborough traffic to resolve which may require refinement	Viable but only on a tactical basis due to inevitable interactions with Heathrow and Farnborough traffic	Viable but likely to be interactions with Farnborough traffic to resolve	Viable however does have interactions with Gatwick departures that would require resolution resolution vith Gatwick departures that would require resolution resolution vith Gatwick	Viable however does have interactions with Gatwick departures that would require resolution	Viable however does have interactions with Gatwick departures that would require resolution	Viable however does have interactions with Gatwick departures that w require resolution	ould Viable however depending on the network above 7000ft, this option may have interactions with Gatwick departures that would require resolution.	Viable however depending on the network above 7000ft, this option may have interactions with Gatwick departures that would require resolution. Viable however does have interactions with Gatwick departures that would require resolution	ve Viable however does have interactions with Gatwick uire departures that would require resolution Viable but likely to be interactions with Farnborough traffic to resolve interactions with Farnborough traffic to resolve	Viable however does have interactions with Gatwick departures that would require resolution Viable however does have interactions with Gatwick departure that would require resolution	es Viable	Viable however depending on the network above 7000ft, this opt may have interactions with Gatwick departures that would requ resolution.	ion ire Viable however does have interactions with Gatwick departures th would require resolution	nat Viable however does have interactions with Gatwick departures that would require resolution
Other safe	paths.	No safety concerns with the use of a single PBN approach transition onto approach, assuming adequate separation from all other routes	o final No safety concerns with the use of a vectoring area for all arriva though this area may not be separated from the existing Farnborough STARs	The higher the number of available approaches, the higher the chances of error by ATC or Pilots. Additional assurance work would be required to generate acceptable safety argument. This is envisaged to be achievable but would require further investigation should this option progress.	The higher the number of available approaches, the higher the chances of error by ATC work would be required to generate acceptable safety argument. This is envisaged to be further investigation should this option progress. Route A may not be separated from the	or Pilots. Additional assurance achievable but would require existing Farnborough STARs	or The higher the number of available approaches, the higher the chances of error by ATC or Pilots. Additional assurance work would be required to generate acceptable safety argument. This is envisaged to be achievable but would require further investigation should this option progress.	or No safety concerns with the use of a single PBN approach transition onto final approach, assuming adequate separation from all other routes	⁰ No safety concerns with the use of a vectoring area for all arrivals.	No safety concerns with the use of a single PBN approach transition onto final approach, assuming adequate separation from all other routes	The higher the number of available approaches, the higher the chances of error by AT work would be required to generate acceptable safety argument. This is envisaged to further investigation should this option progress.	C or Pilots. Additional assurance be achievable but would require but would require to be achievable but would require to be achievable safety argument. This is envisaged to be achievable but would require further investigation should this option progress. this area may not be separated from the existing Farnborough STARs	of The higher the number of available approaches, the higher the chances of error by ATC or Pilots. Additional assurance work would be required to generate acceptable safety argument. This is envisaged to be achievable but would require further investigation should this option progress.	of No safety concerns with the use of a single PBN approach trans onto final approach, assuming adequate separation from all ot routes	ition No safety concerns with the use of a single PBN approach trans onto final approach, assuming adequate separation from all oth routes	ition which have not yet been implemented in the UK. Not all aircraft w be capable of such an arrival so this route would have to be used conjunction with another option	New safety assurances would be required for the RNP-AR arrivals which have not yet been implemented in the UK. Not all aircraft will be capable of such an arrival so this route would have to be used in conjunction with another option
Safety	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1	See Design Principle 1
Integration: C	AS Current operations require the current airspace and is used as a benchman to measure future potential requirements	Taking arrivals in isolation, on the assumption that improved CDO from 7 is available this option has the potential to require less CAS and offer opportunities to simplify the boundaries	7000ft Taking arrivals in isolation, on the assumption that improved CE from 7000ft is available this option has the potential to require le CAS and offer opportunities to simplify the boundaries	Taking arrivals in isolation, on the assumption that improved CDO from 7000ft is available this option has the potential to require less CAS and offer opportunities to simplify the boundaries. However the higher the number of arrival routes, the lower the chances of CAS release	Taking arrivals in isolation, on the assumption that improved CDO from 7000ft is available require less CAS and offer opportunities to simplify the boundaries. However the higher the lower the chances of CAS release	this option has the potential to enumber of arrival routes, the boundaries. However the higher the number of arrival routes, the lower the chances of CAS release	Taking arrivals in isolation, on the assumption that improved CDO from 7000ft available this option has the potential to require less CAS and offer opportunitie to simplify the boundaries. However the higher the number of arrival routes, th lower the chances of CAS release	Taking arrivals in isolation, on the assumption that improved CDO from 7000ft is available this option has the potential to require less CAS and offer opportunities to simplify the boundaries	Taking arrivals in isolation, on the assumption that improved CDO fro 7000ft is available this option has the potential to require less CAS and opportunities to simplify the boundaries	Taking arrivals in isolation, on the assumption that improved CDO from offer 7000ft is available this option has the potential to require less CAS and offer opportunities to simplify the boundaries	Taking arrivals in isolation, on the assumption that improved CDO from 7000ft is availar require less CAS and offer opportunities to simplify the boundaries. However the higher lower the chances of CAS release	ble this option has the potential to the number of arrival routes, the offer opportunities to simplify the boundaries. However the higher the number of arrival routes, the lower the chances of CAS release	Taking arrivals in isolation, on the assumption that improved CDO from 7000ft is available this option has the potential to require less CAS and offer opportunities to simplify the boundaries. However the higher the number of arrival routes, the lower the chances of CAS release	Taking arrivals in isolation, on the assumption that improved C from 7000ft is available this option has the potential to require le CAS and offer opportunities to simplify the boundaries	Taking arrivals in isolation, on the assumption that improved CI from 7000ft is available this option has the potential to require le CAS and offer opportunities to simplify the boundaries	Taking arrivals in isolation, on the assumption that improved CD from 7000ft is available this option has the potential to require les CAS and offer opportunities to simplify the boundaries	Taking arrivals in isolation, on the assumption that improved CDO from 7000ft is available this option has the potential to require less CAS and offer opportunities to simplify the boundaries
Integration: Na Security	tional No feedback has been received to suggest this option would conflict with defence and security requirements	No feedback has been received to suggest this option would conflict w defence and security requirements The introduction of a PBN transition is expected to meet capacity	No feedback has been received to suggest this option would conflict with defence and security requirements A medemiced DMA compatible with the simples above 7000ft	d No feedback has been received to suggest this option would conflict with defence and security requirements The introduction of PBN transitions is expected to meet capacity	No feedback has been received to suggest this option would conflict with defence a	ATC retain the ability to vector The introduction of PBN transitions is expected to meet capacity requirements so long a	 No feedback has been received to suggest this option would conflict with defence and security requirements The introduction of PBN transitions is expected to meet capacity requirements 	No feedback has been received to suggest this option would conflict with defence and security requirements Is The introduction of a PBN transition is expected to meet capacity	No feedback has been received to suggest this option would conflict w defence and security requirements	No feedback has been received to suggest this option would conflict with defence and security requirements The introduction of a PBN transition is expected to meet capacity requirements	No feedback has been received to suggest this option would conflict with defence The introduction of PBN transitions is expected to meet capacity requirements so long	e and security requirements No feedback has been received to suggest this option would conflict w defence and security requirements The introduction of PBN transitions is expected to meet capacity requirements co long as ATC rotain the ability to vector arrivels to expect	h No feedback has been received to suggest this option would conflict with defence and security requirements The introduction of PBN transitions is expected to meet capacity requirements so long as ATC retain the ability to vector arrivals to appure	h No feedback has been received to suggest this option would con- with defence and security requirements The introduction of a PBN transition is expected to meet capac	Inflict No feedback has been received to suggest this option would corwith defence and security requirements ity The introduction of a PBN transition is expected to meet capacity	ity This arrival option would utilise a type of PBN called RNP-AR.	Iict No feedback has been received to suggest this option would conflict with defence and security requirements This arrival option would utilise a type of PBN called RNP-AR.
Simplification: C	apacity Doing nothing with Gatwick's arrivals will constrain options for Gatwick's SI and the wider LTMA network design.	See Design Principle 5	A modernised RMA compatible with the airspace above 7000ft expected to meet capacity requirements.	It is requirements so long as ATC retain the ability to vector arrivals to ensure accurate and safe final approach spacing. Without the ability to vector, this option would impact capacity.	arrivals to ensure accurate and safe final approach spacing. Without the ability to vect capacity.	ATC retain the ability to vector arrivals to ensure accurate and safe final approach spacin Without the ability to vector, this option would impact capacity.	ng. so long as ATC retain the ability to vector arrivals to ensure accurate and safe final approach spacing. Without the ability to vector, this option would impact capacity.	e requirements so long as ATC retain the ability to vector arrivals to ensure accurate and safe final approach spacing. Without the ability to vector, this option would impact capacity.	a Modernised RMA compatible with the airspace above 7000ft is expension to meet capacity requirements.	cted requirements so long as ATC retain the ability to vector arrivals to ensure accurate and safe final approach spacing. Without the ability to vector, this option would impact capacity.	arrivals to ensure accurate and safe final approach spacing. Without the ability to vicapacity.	ector, this option would impact accurate and safe final approach spacing. Without the ability to vector, the option would impact capacity.	requirements so long as ATC retain the ability to vector arrivals to ensure accurate and safe final approach spacing. Without the ability to vector, thi option would impact capacity.	e requirements so long as ATC retain the ability to vector arrivals ensure accurate and safe final approach spacing. Without the a to vector, this option would impact capacity.	to requirements so long as ATC retain the ability to vector arrivals oility ensure accurate and safe final approach spacing. Without the al to vector, this option would impact capacity.	Not all aircraft and crews are able to fly RNP-AR and therefore the route would need to be operated alongside other arrival options.	Not all aircraft and crews are able to fly RNP-AR and therefore the route would need to be operated alongside other arrival options.
Environme	nt See Design Principle 3, 6, 7, 8 and 9	See Design Principle 3, 6, 7, 8 and 9	See Design Principle 3, 6, 7, 8 and 9	See Design Principle 3, 6, 7, 8 and 9	See Design Principle 3, 6, 7, 8 and 9	See Design Principle 3, 6, 7, 8 and 9	See Design Principle 3, 6, 7, 8 and 9	See Design Principle 3, 6, 7, 8 and 9	See Design Principle 3, 6, 7, 8 and 9	See Design Principle 3, 6, 7, 8 and 9	See Design Principle 3, 6, 7, 8 and 9	See Design Principle 3, 6, 7, 8 and 9	See Design Principle 3, 6, 7, 8 and 9	See Design Principle 3, 6, 7, 8 and 9	See Design Principle 3, 6, 7, 8 and 9	See Design Principle 3, 6, 7, 8 and 9	See Design Principle 3, 6, 7, 8 and 9
	Aircraft arriving at Gatwick Airport are tactically controlled (vectored) by AT	This option offers one PBN arrival route for easterly arrivals. We anticip that at the point of implementation, the technology required from the airsp	pate pace This option is based on a vectoring area (known as a Radar	This option offers two PBN arrival route for easterly arrivals; one from the north and one from the south. We anticipate that at the point of implementation, the technology required from the airspace	This option offers four PBN arrival routes for easterly arrivals that could be operated as pa	t of a respite configuration. We	This option offers two PBN arrival route for easterly arrivals; one from the nort and one from the south. We anticipate that at the point of implementation, the	th This option offers one PBN arrival route for easterly arrivals. We anticipate that at the point of implementation, the technology required from the	te	This option offers one PBN arrival route for easterly arrivals. We anticipate that at the point of implementation, the technology required from the	This option offers four PBN arrival routes for easterly arrivals that could be operated as	This option offers two PBN arrival routes for easterly arrivals that could operated as part of a respite configuration. We anticipate that at the po	be This option offers two PBN arrival routes for easterly arrivals that could be operated as part of a respite configuration. We anticipate that at the poin	This option offers one PBN arrival route for easterly arrivals. V anticipate that at the point of implementation, the technology req	/e This option offers one PBN arrival route for easterly arrivals. W lired anticipate that at the point of implementation, the technology requ	This option offers one PBN arrival route for westerly arrivals. We anticipate that at the point of implementation, the technology required from the airspace network above 7000ft to facilitate sing track PBN arrivals during periods of high traffic will not be availab	e This option offers one PBN arrival route for westerly arrivals. We anticipate that at the point of implementation, the technology required from the airspace network above 7000ft to facilitate single track PBN arrivals during periods of high traffic
Enhanced 2 Navigation - Standards	onto final approach. There are no defined routes to follow and aircraft are provided with instructions from Air Traffic Control who ensure the aircraft a safely spaced whilst being directed to land at Gatwick. The majority of aircr use the Instrument Landing System (ILS) to land at Gatwick although RNP a LOC/DME approaches are also available.	e network above 7000ft to facilitate single track PBN arrivals during period high traffic will not be available and ATC will be required to vector arrivals extent of this vectoring will require further information from NERL and wi explored in further detail as we develop and refine options through the process.	Is of Manoeuvring area) that is intended to be used in conjunction with the one of the PBN options. Solely tactically controlling (vectoring aircraft does not make effective use of enhanced navigation e standards.	with g) point of implementation, the technology required from the airspace network above 7000ft to facilitate single track PBN arrivals during periods of high traffic will not be available and ATC will be required to vector arrivals. The extent of this vectoring will require further information from NERL and will be explored in further detail as we develop and refine options through the process.	anticipate that at the point of implementation, the technology required from the airspace no PBN arrivals during periods of high traffic will not be available and ATC will be required to this vectoring will require further information from NERL and will be explored in further do options through the process.	etwork above 7000ft to facilitate part of a respite configuration. We anticipate that at the point of implementation, the technology required from the airspace network above 7000ft to facilitate PBN arrivals technology required from the airspace network above 7000ft to facilitate PBN arrivals during periods of high traffic will not be available and ATC will be required to vector arrival. The extent of this vectoring will require further information from NERL and will be explore in further detail as we develop and refine options through the process.	technology required from the airspace network above 7000ft to facilitate single track PBN arrivals during periods of high traffic will not be available and ATC w be required to vector arrivals. The extent of this vectoring will require further information from NERL and will be explored in further detail as we develop and refine options through the process.	airspace network above 7000ft to facilitate single track PBN arrivals during periods of high traffic will not be available and ATC will be required to vector arrivals. The extent of this vectoring will require further information from NERL and will be explored in further detail as we develop and refine options through the process.	area) that is intended to be used in conjunction with one of the PBN opt Solely tactically controlling (vectoring) aircraft does not make effective of enhanced navigation standards.	airspace network above 7000ft to facilitate single track PBN arrivals during periods of high traffic will not be available and ATC will be required to vector arrivals. The extent of this vectoring will require further information from NERL and will be explored in further detail as we develop and refine options through the process.	anticipate that at the point of implementation, the technology required from the airspace PBN arrivals during periods of high traffic will not be available and ATC will be required this vectoring will require further information from NERL and will be explored in furthe options through the process.	network above 7000ft to facilitate to vector arrivals. The extent of detail as we develop and refine vectoring will require further information from NERL and will be explored further detail as we develop and refine be available and ATC will be required to vector arrivals. The extent of the vectoring will require further information from NERL and will be explored further detail as we develop and refine options through the process.	of implementation, the technology required from the airspace network above 7000ft to facilitate PBN arrivals during periods of high traffic will no be available and ATC will be required to vector arrivals. The extent of this vectoring will require further information from NERL and will be explored i further detail as we develop and refine options through the process.	from the airspace network above 7000ft to facilitate single track arrivals during periods of high traffic will not be available and ATC be required to vector arrivals. The extent of this vectoring will red further information from NERL and will be explored in further deta we develop and refine options through the process.	PBN from the airspace network above 7000ft to facilitate single track F will arrivals during periods of high traffic will not be available and ATC uire be required to vector arrivals. The extent of this vectoring will req further information from NERL and will be explored in further deta we develop and refine options through the process.	PBN and ATC will be required to vector arrivals. The extent of this vectoring will require further information from NERL and will be explored in further detail as we develop and refine options throug the process. In addition to this, this option is designed to RNP-A specification. Not all aircraft and crews are able to fly RNP-AR ar therefore these routes would need to be operated alongside othe arrival options.	will not be available and ATC will be required to vector arrivals. The extent of this vectoring will require further information from NERL and will be explored in further detail as we develop and refine options through the process. In addition to this, this option is designed to RNP-AR specification. Not all aircraft and crews are able to fly RNP-AR and therefore these routes would need to be operated alongside other arrival options.
3 Limit Adverse - Noise - Effects	The baseline 'do nothing' scenario would not change the noise environment Gatwick. Aircraft would continue to be tactically controlled (vectored) by AT before joining the final approach. As the airspace is not modernised, aircra may be prevented from continuously descending. As traffic within the LTM increases, this could lead to decreased CDO performance which has an impact on noise.	This option has been designed to minimise the total population overflow Overflight contours were used to identify high performing notional flight pa CDO is expected to improve compared to the baseline.	This option is a Radar Manoeuvring Area (RMA) that has beer designed to minimise the total population overflown. Overfligh contours were used to identify high performing notional flight par which could then define a potential vectoring area. Compared t pure PBN tracks, an RMA will deliver different noise benefits ar impacts owing to dispersion created by the vectoring swathes The nature/frequency/location of the vectoring which may be required will be explored in further detail once the shortlist of options is known. CDO is expected to improve compared to the baseline.	 This option has been designed to minimise the total population overflown between 0-4000ft. Overflight contours were used to identify high performing notional flight paths. Beyond 4000ft, aircraft fly directly to the network entry/exit points although small adjustments to the lateral flight paths would be made to consider noise impacts. CDO is expected to improve compared to the baseline although for the northern elements of the arrival system there are interdependencies with other airports which would require further investigation (see DP6 for further details). 	This respite option has been designed to minimise the total population overflown. Over identify high performing notional flight paths. CDO is expected to improve compared to the baseline.	flight contours were used to Contours were used to identify high performing notional flight paths. CDO is expected to improve compared to the baseline.	ight This respite option has been designed to minimise the total population overflow Overflight contours were used to identify high performing notional flight paths. CDO is expected to improve compared to the baseline.	vn. Population has been designed to minimise the population newly overflown. Population newly overflown contours and data were used to identify high performing notional flight paths. CDO is expected to improve compared to the baseline.	This option is a Radar Manoeuvring Area (RMA) that has been designe minimise the population newly overflown. As the Sound Exposure Le (SEL) contour is located along the final approach track, population ne overflown contours were used to identify high performing notional flig paths which could then define a potential vectoring area. Compared to PBN tracks, an RMA will deliver different noise benefits and impacts ov to dispersion created by the vectoring swathes. The nature/frequency/location of the vectoring which may be required will explored in further detail once the shortlist of options is known. CDO is expected to improve compared to the baseline.	be be be be be be be be be be be be be b	This respite option has been designed to minimise population newly overflown. As th contour is located along the final approach track, population newly overflown conto performing notional flight paths. CDO is expected to improve compared to the baseline	e Sound Exposure Level (SEL) urs were used to identify high	This respite option has been designed to balance the population newly overflown and the total population overflown. The Sound Exposure Level (SEL) contour is located along the final approach track, so population newly overflown contours and total population overflown contours were used to identify high performing notional flight paths. CDO is expected to improve compared to the baseline.	This option has been designed to balance the population new overflown and the total population overflown. As the Sound Expo Level (SEL) contour is located along the final approach track population newly overflown contours and total population overflo contours were used to identify high performing notional flight pa CDO is expected to improve compared to the baseline.	Y sure with sound Exposure Level (SEL) contour is located along the fi approach track, population newly overflown contours and tota population overflown contours were used to identify high perform notional flight paths. Beyond 4000ft, aircraft fly directly to the netw entry/exit points although small adjustments to the lateral flight pa- would be made to consider noise impacts. CDO is expected to improve compared to the baseline.	This option was developed following stakeholder feedback. It use DEFRA's road and rail noise mapping to identify areas of high ambient noise (please see the Stage 2A document for further details). This option has not been developed using data associate with the primary and secondary noise metrics of CAP1616. There typically a correlation between areas of high ambient noise and population and therefore, in relation to the primary and secondar metrics, this option may not perform as well as other options on t comprehensive list. It's performance against these metrics woul require further exploration as part of the Initial Options Appraisa should this option progress. CCO performance is expected to improve compared to the baseline.	This option was developed following stakeholder feedback. It uses DEFRA's road and rail noise mapping to identify areas of high ambient noise between 0-40000ft. (please see the Stage 2A document for further details). This option has not been developed using data associated with the primary and secondary noise metrics of CAP1616. There is typically a correlation between areas of high ambient noise and population and therefore, in relation to the primary and secondary metrics, this option may not perform as well as other options on the comprehensive list. It's performance against these metrics would require further exploration as part of the Initial Options Appraisal should this option progress. CCO performance is expected to improve compared to the baseline.
Time Based 4 Arrival Operations Only applicable to	Today, Gatwick's arrivals are tactically controlled (vectored) by ATC, and Gatwick use an Arrival Manager (AMANs) system. Tactically controlling (vectoring) aircraft does enable air traffic controllers to space aircraft effectively, however it reduces the accuracy of time based arrival technolog and systemised sequencing.	This single track PBN option has been designed to be compatible with ti based arrival operations. The implementation on time based arrivals i dependent on a number of factors including the technology available fro aircraft and the airspace network above 7000ft. At this stage in the proce the airspace above 7000ft is still being developed as part of Stage 2 of NE ACP and the availability to implement time based arrivals will be explore further detail as NERL and GAL progress through the airspace chang process.	time is This option is based on a vectoring area (known as a Radar Manoeuvring area) that is intended to be used in conjunction wi one of the PBN options. Solely tactically controlling (vectoring aircraft does enable air traffic controllers to space aircraft effectively, however it reduces the accuracy of time based arriv technology and systemised sequencing.	This option has been designed to be compatible with time based arrivals operations however owing to the configuration (northern and southern route), there will be further technical investigation required in order to understand how the different routes, with differing track lengths, can be integrated with time based arrival technology sequencing. The implementation on time based arrivals is dependent on a number of factors including the technology available from aircraft and the airspace network above 7000ft. At this stage in the process, the airspace above 7000ft is still being developed as part of Stage 2 of NERL's ACP and the availability to implement time based arrivals will be explored in further detail as NERL and GAL progress through the airspace change process.	This option has been designed to be compatible with time based arrivals operations h configurations, there will be further technical investigation required in order to understand differing track lengths, can be integrated with time based arrival technology sequencing based arrivals is dependent on a number of factors including the technology available fr network above 7000ft. At this stage in the process, the airspace above 7000ft is still being NERL's ACP and the availability to implement time based arrivals will be explored in fur progress through the airspace change process.	This option has been designed to be compatible with time based arrivals operations how the different routes, with The implementation on time om aircraft and the airspace developed as part of Stage 2 of her detail as NERL and GAL with differing track lengths, can integrated with time based arrival technology sequencing. The implementation on time based arrivals is dependent on a number of factors including the technology available fro aircraft and the airspace network above 7000ft. At this stage in the process, the airspace above 7000ft is still being developed as part of Stage 2 of NERL's ACP and the availabil to implement time based arrivals will be explored in further detail as NERL and GAL progress through the airspace change process.	This option has been designed to be compatible with time based arrivals operations however owing to the configuration (northern and southern route), there will be further technical investigation required in order to understand how the different routes, with differing track lengths, can be integrated with time base arrival technology sequencing. The implementation on time based arrivals is dependent on a number of factors including the technology available from aircra and the airspace network above 7000ft. At this stage in the process, the airspar above 7000ft is still being developed as part of Stage 2 of NERL's ACP and the availability to implement time based arrivals will be explored in further detail as NERL and GAL progress through the airspace change process.	This single track PBN option has been designed to be compatible with time based arrival operations. The implementation on time based arrivals is dependent on a number of factors including the technology available from aircraft and the airspace network above 7000ft. At this stage in the process the airspace above 7000ft is still being developed as part of Stage 2 of NERL's ACP and the availability to implement time based arrivals will be explored in further detail as NERL and GAL progress through the airspace change process.	This option is based on a vectoring area (known as a Radar Manoeuv area) that is intended to be used in conjunction with one of the PBN opt Solely tactically controlling (vectoring) aircraft does enable air traffic controllers to space aircraft effectively, however it reduces the accurac time based arrival technology and systemised sequencing.	This single track PBN option has been designed to be compatible with time based arrival operations. The implementation on time based arrivals is dependent on a number of factors including the technology available from aircraft and the airspace network above 7000ft. At this stage in the process, the airspace above 7000ft is still being developed as part of Stage 2 of NERL's ACP and the availability to implement time based arrivals will be explored in further detail as NERL and GAL progress through the airspace change process.	This option has been designed to be compatible with time based arrivals operations configurations, there will be further technical investigation required in order to underst differing track lengths, can be integrated with time based arrival technology sequenci based arrivals is dependent on a number of factors including the technology availabl network above 7000ft. At this stage in the process, the airspace above 7000ft is still bei NERL's ACP and the availability to implement time based arrivals will be explored in progress through the airspace change process.	however owing to the respite ind how the different routes, with ng. The implementation on time from aircraft and the airspace ng developed as part of Stage 2 of iurther detail as NERL and GAL Stage 2 of NERL's ACP and the availability to implement time based arrivals will be explored in further detail as NERL and GAL progress through the airspace change process.	This option has been designed to be compatible with time based arrivals operations however owing to the respite configurations, there will be further technical investigation required in order to understand how the different routes, with differing track lengths, can be integrated with time based arrival technology sequencing. The implementation on time based arrivals is dependent on a number of factors including the technology ge available from aircraft and the airspace network above 7000ft. At this stag of in the process, the airspace above 7000ft is still being developed as part of Stage 2 of NERL's ACP and the availability to implement time based arrivals will be explored in further detail as NERL and GAL progress through the airspace change process.	This single track PBN option has been designed to be compat with time based arrival operations. The implementation on tim based arrivals is dependent on a number of factors including t technology available from aircraft and the airspace network ab 7000ft. At this stage in the process, the airspace above 7000ft is being developed as part of Stage 2 of NERL's ACP and the of availability to implement time based arrivals will be explored in fu detail as NERL and GAL progress through the airspace chang process.	ble This single track PBN option has been designed to be compatil with time based arrival operations. The implementation on tim based arrivals is dependent on a number of factors including the technology available from aircraft and the airspace network about still 7000ft. At this stage in the process, the airspace above 7000ft is being developed as part of Stage 2 of NERL's ACP and the availability to implement time based arrivals will be explored in fur detail as NERL and GAL progress through the airspace change process.	This single track PBN option has been designed to be compatible with time based arrival operations. The implementation on time based arrivals is dependent on a number of factors including the technology available from aircraft and the airspace network abov 7000ft. At this stage in the process, the airspace above 7000ft is still being developed as part of Stage 2 of NERL's ACP and the availability to implement time based arrivals will be explored in further detail as NERL and GAL progress through the airspace change process.	This single track PBN option has been designed to be compatible with time based arrival operations. The implementation on time based arrivals is dependent on a number of factors including the technology available from aircraft and the airspace network above 7000ft. At this stage in the process, the airspace above 7000ft is still being developed as part of Stage 2 of NERL's ACP and the availability to implement time based arrivals will be explored in further detail as NERL and GAL progress through the airspace change process.
5 Resilience - built in -	Aircraft arriving at Gatwick are tactically controlled (vectored) by ATC onto fi approach. There are no defined routes to follow, and aircraft are provided w instructions from Air Traffic Control who ensure the aircraft are safely spac whilst being directed to land at Gatwick. The initial approach procedures (without radar control) are dependent on conventional navigation aids that a due to be withdrawn as part of NERL's VOR rationalisation programme. NA NERL are currently undergoing a rationalisation programme of ground base equipment called VORs which will impact these conventional procedures a therefore will also impact GAL's resilience. GAL are currently investigating RNAV substitution to mitigate VOR rationalisation however this is an interim measure until FASI implementation. In future, the increased volumes of traffic within the LTMA airspace will result in increased ATC and Pilot workload which will lead to additional complexity the event of predictable operational factors.	This option removes Gatwick's dependencies on conventional ground be navigation aids for the IAPs without radar control. RNP and ILS approace are already available at Gatwick but this option would introduce a PBf transition to these instrument approaches. A single PBN route does not provide any alternative PBN routes in the eve operational disruption but it is expected that ATC will manage aircraft v tactical controlling which subject to the airspace above 7000ft also bei modernised, is expected to be resilient. The contribution towards systemised airspace enables enhanced control tool support which, in the long term, is expected to lead to a reduction Controller workload in turn delivering increased operational resilience	The use of vectoring within a RMA allows operational flexibility a resilience. Subject to the airspace above 7000ft also being modernised to accommodate future increases in traffic within t LTMA, it is anticipated that this radar area will be resilient to operational disruption. Although tactical control may be resilier other options which offer multiple PBN routes may provide additional resilience and reduce ATC workload compared to th option. This option will no remove Gatwick's dependencies or conventional ground based nav aids for IAPs without radar control	 This option removes Gatwick's dependencies on conventional ground based navigation aids for the IAPs without radar control. RNP and ILS approaches are already available at Gatwick but this option would introduce a PBN transition to these instrument approaches. A single PBN route does not provide any alternative PBN routes in the event of operational disruption but it is expected that ATC will manage aircraft via tactical controlling which subject to the airspace above 7000ft also being modernised, is expected to be resilient. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience. 	This option removes Gatwick's dependencies on conventional ground based navigation a control. RNP and ILS approaches are already available at Gatwick but this option would these instrument approaches. The availability of the four routes provides ATC with alternative routes in the event of ope also expected that ATC will manage aircraft via tactical controlling which subject to the air modernised, is expected to be resilient. The contribution towards systemised airspace enables enhanced controller tool suppor expected to lead to a reduction in Controller workload in turn delivering increased	A hids for the IAPs without radar introduce a PBN transitions to rational disruption however it's space above 7000ft also being rt which, in the long term, is operational resilience.	This option removes Gatwick's dependencies on conventional ground based navigation aids for the IAPs without radar control. RNP and ILS approaches ar already available at Gatwick but this option would introduce a PBN transition to these instrument approaches. A single PBN route does not provide any alternative PBN routes in the event of operational disruption but it is expected that ATC will manage aircraft via tactic controlling which subject to the airspace above 7000ft also being modernised, expected to be resilient. The contribution towards systemised airspace enables enhanced controller workload in turn delivering increased operational resilience.	 This option removes Gatwick's dependencies on conventional ground based navigation aids for the IAPs without radar control. RNP and ILS approaches are already available at Gatwick but this option would introduce a PBN transition to these instrument approaches. A single PBN route does not provide any alternative PBN routes in the even of operational disruption but it is expected that ATC will manage aircraft via tactical controlling which subject to the airspace above 7000ft also being modernised, is expected to be resilient. The contribution towards systemised airspace enables enhanced controlle tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience. 	The use of vectoring within a RMA allows operational flexibility and resilience. Subject to the airspace above 7000ft also being modernise accommodate future increases in traffic within the LTMA, it is anticipa that this radar area will be resilient to operational disruption. Althoug tactical control may be resilient, other options which offer multiple PE routes may provide additional resilience and reduce ATC workload compared to this option. This option will no remove Gatwick's dependencies on conventional ground based nav aids for IAPs witho radar control.	 This option removes Gatwick's dependencies on conventional ground based navigation aids for the IAPs without radar control. RNP and ILS approaches are already available at Gatwick but this option would introduce a PBN transition to these instrument approaches. A single PBN route does not provide any alternative PBN routes in the event of operational disruption but it is expected that ATC will manage aircraft via tactical controlling which subject to the airspace above 7000ft also being modernised, is expected to be resilient. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience. 	This option removes Gatwick's dependencies on conventional ground based navigatio control. RNP and ILS approaches are already available at Gatwick but this option wou these instrument approaches. The availability of the four routes provides ATC with alternative routes in the event of or also expected that ATC will manage aircraft via tactical controlling which subject to the modernised, is expected to be resilient. The contribution towards systemised airspace enables enhanced controller tool sup expected to lead to a reduction in Controller workload in turn delivering increas	This option removes Gatwick's dependencies on conventional ground based navigation aids for the IAPs without radar control. RNP and ILS approaches are already available at Gatwick but this option would introduce a PBN transitions to these instrument approaches. The availability of the two routes provides ATC with alternative routes i the event of operational disruption however it's also expected that ATC i manage aircraft via tactical controlling which subject to the airspace abor 7000ft also being modernised, is expected to be resilient. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience.	This option removes Gatwick's dependencies on conventional ground based navigation aids for the IAPs without radar control. RNP and ILS approaches are already available at Gatwick but this option would introduce a PBN transitions to these instrument approaches. The availability of the two routes provides ATC with alternative routes in the event of operational disruption however it's also expected that ATC with manage aircraft via tactical controlling which subject to the airspace abov 7000ft also being modernised, is expected to be resilient. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience.	This option removes Gatwick's dependencies on conventional ground based navigation aids for the IAPs without radar controls. RNP and ILS approaches are already available at Gatwick but is option would introduce a PBN transition to these instrument approaches. A single PBN route does not provide any alternative PBN route the event of operational disruption but it is expected that ATC is manage aircraft via tactical controlling which subject to the airsp above 7000ft also being modernised, is expected to be resilied. The contribution towards systemised airspace enables enhance controller tool support which, in the long term, is expected to lead a reduction in Controller workload in turn delivering increased operational resilience.	 This option removes Gatwick's dependencies on conventional ground based navigation aids for the IAPs without radar control RNP and ILS approaches are already available at Gatwick but the option would introduce a PBN transition to these instrument approaches. A single PBN route does not provide any alternative PBN routes the event of operational disruption but it is expected that ATC we manage aircraft via tactical controlling which subject to the airspected to be resilier The contribution towards systemised airspace enables enhance controller tool support which, in the long term, is expected to lea a reduction in Controller workload in turn delivering increased operational resilience. 	This option uses a type of PBN called RNP-AR which would only available to airlines and crews approved to fly RNP-AR procedure Therefore, an alternative PBN procedure would need to be availal in order to offer full resilience and remove dependencies for Gatwick's IAPs without radar control. The contribution towards systemised airspace enables enhance controller tool support which, in the long term, is expected to lead a reduction in Controller workload in turn delivering increased operational resilience.	 be This option uses a type of PBN called RNP-AR which would only be available to airlines and crews approved to fly RNP-AR procedures. Therefore, an alternative PBN procedure would need to be available in order to offer full resilience and remove dependencies for Gatwick's IAPs without radar control. The contribution towards systemised airspace enables enhanced controller tool support which, in the long term, is expected to lead to a reduction in Controller workload in turn delivering increased operational resilience.
Track Distar	ice Track mileage will remain the same as today	This option has the potential to reduce track miles compared to an averabaseline arrival track	age This option is expected to maintain similar levels of track miles the baseline	s to reduce track miles compared to an average baseline arrival track if aircraft arriving from the north are tactically managed by ATC	This route has the potential to increase track miles compared to an average baseline arrival track	This route has the potential to decrease track miles compared to an average baseline arrival track (however the cumulative impact of all 4 routes results in an overall increase in track mileage)	I to This route has the potential to increase track miles compared to an average baseline arrival track ack This route has the potential to reduce track miles compared to an average baseline arrival track from the north are tactically managed by ATC	e Pg This option has the potential to reduce track miles compared to an average baseline arrival track	ge This option is expected to maintain similar levels of track miles to th baseline	This option has the potential to reduce track miles compared to an average baseline arrival track	This route has the potential to increase track miles compared to an average baseline arrival track This route has the potential to increase track miles compared to an average baseline arrival track (however the cumulativ impact of all 4 routes resu in an overall increase in tr mileage)	I to This route has the potential to decrease track miles compared to an average baseline arrival track (however the cumulative impact of all 4 routes results in an overall increase in track mileage)	This route has the potential to increase track miles compared to an average baseline arrival track (however the cumulative impact of both routes results in an overall decrease in track mileage)	This option has the potential to increase track miles compared t average baseline arrival track	o an This option has the potential to reduce track miles compared to average baseline arrival track	an This option has the potential to reduce track miles compared to a average baseline arrival track	an This option has the potential to reduce track miles compared to an average baseline arrival track
6 Optimise Use of Aircraft Capabilities CCO/CDO	In current operations almost all Easterly arrivals are given an opportunity t follow CDO from 6000ft. Aircraft are vectored from the holding stacks (normally at FL70 or FL80) and positioned in the traffic pattern within a defin two-dimensional area known as a Radar Manoeuvring Area (RMA). During Runway 08 operations allowing aircraft to carry out full CDO is more challenging than the Westerly operation as the Easterly RMA requires arriva to be below 5000ft in an area to the SW of Gatwick. This is to ensure separation from other aircraft operating in the London TMA. Most arrivals a given the chance to follow CDO from FL70 (unless, because of their positi in the traffic pattern they are too close to another aircraft also at FL70). However, unless traffic conditions are very quiet opportunities for CDO abo FL70 are limited by aircraft holding in the stacks at FL80 and higher. In the future, as traffic in the LTMA increase, opportunities for CDO below 7000f may be reduced.	This option has the potential to achieve CDO from FL90 subject to integra with the NERL design and separation from Gatwick SIDs, Heathrow SIDs Farnborough traffic	ration s and s and SIDs, Heathrow SIDs and Farnborough traffic	Ct to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs, Heathrow SIDs and Farnborough traffic Unlikely to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs, Heathrow SIDs and Farnborough traffic	This route has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs, Heathrow SIDs and Farnborough traffic	 This route has the potential to achieve CDO from FL90 subject to integration with the subject to integration with the SIDs, Heathrow from Gatwick SIDs, Heathrow from Gatwick SIDs, Heathrow from Gatwick SIDs, Heathrow from Gatwick SIDs and Farnborough traffic SIDs and Farnborough traff	This route is expected to achieve CDO from FL90 owing to its use during the night only. This route is expected to achieve CDO from FL90 owing to its use during the night only.	DO This option has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs, Heathrow SIDs and Farnborough traffic	This option has the potential to achieve CDO from FL90 subject to integration with the Farnborough options and NERL design.	This option has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs, Heathrow SIDs and Farnborough traffic	This route has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs, Heathrow SIDs and Farnborough traffic	Il to This route has the potential to achieve CDO from FL90 the subject to integration with the ion NERL design and separation row from Gatwick SIDs, Heathrow ffic SIDs and Farnborough traffic	This route has the potential to achieve CDO from FL90 subject to integration with the NERL design and separation from Gatwick SIDs, Heathrow SIDs and Farnborough traffic	This option has the potential to achieve CDO from FL90 subject integration with the NERL design and separation from Gatwick S Heathrow SIDs and Farnborough traffic	t to This option has the potential to achieve CDO from FL90 subjec IDs, integration with the NERL design and separation from Gatwick S Heathrow SIDs and Farnborough traffic	t to IDs, This route has the potential to achieve CDO from FL90 subject t integration with the NERL design.	This route has the potential to achieve CDO from FL90 subject to integration with the NERL design.
Long Term 7 predictability Adaptability	Aircraft arriving at Gatwick Airport are tactically controlled (vectored) by AT onto final approach and therefore, other than once on final approach, there no long term predictability of flight paths. Tactically controlling (vectoring) aircraft creates dispersion and therefore it does offer unpredictable noise relief.	This option offers long term predictability via one PBN arrival route however is anticipated that at the point of implementation, tactical vectoring will als required and therefore there would be periods of unpredictability. This wi explored in further as we receive further information from NERL around airspace above 7000ft.	ver it so be ill be the the the solution is based on a vectoring area (known as a Radar Manoeuvring area) that is intended to be used in conjunction wi one of the PBN options. Solely tactically controlling (vectoring aircraft does not offer long term predictability.	r vith g) This option offers long term predictability via two PBN arrival routes however it is anticipated that at the point of implementation, tactical vectoring will also be required and therefore there would be periods of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000ft.	This option offers long term predictability via four PBN arrival routes which could be us however it is anticipated that at the point of implementation, tactical vectoring will also be would be periods of unpredictability. This will be explored in further as we receive further i the airspace above 7000ft.	ed in respite configurations e required and therefore there information from NERL around This option offers long term predictability via three PBN arrival routes which could be use NERL around This option offers long term predictability via three PBN arrival routes which could be use in respite configurations however it is anticipated that at the point of implementation, tactical vectoring will also be required and therefore there would be periods of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000ft.	ed This option has been developed based on night-time noise metrics and is intended to be used as night-time configuration alongside one of the other arriv options. This means that the option would offer predictable respite during the night-time period for those communities under day-time routes. The extent of the respite will depend on the daytime configuration. The configuration of 2 PBN arrival routes will offer long term predictability. As traffic levels are lower at nigh it is anticipated that vectoring would be required less frequently.	val This option offers long term predictability via one PBN arrival route however it is anticipated that at the point of implementation, tactical vectoring will also be required and therefore there would be periods of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000ft.	er This option is based on a vectoring area (known as a Radar Manoeuv area) that is intended to be used in conjunction with one of the PBN opt Solely tactically controlling (vectoring) aircraft does not offer long ten predictability.	This option offers long term predictability via one PBN arrival route however it is anticipated that at the point of implementation, tactical vectoring will also be required and therefore there would be periods of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000ft.	This option offers long term predictability via four PBN arrival routes which could be however it is anticipated that at the point of implementation, tactical vectoring will also would be periods of unpredictability. This will be explored in further as we receive furth the airspace above 7000ft.	used in respite configurations be required and therefore there er information from NERL around therefore there would be periods of unpredictability. This will be explored further as we receive further information from NERL around the airspa above 7000ft.	 This option offers long term predictability via two PBN arrival routes which could be used in respite configurations however it is anticipated that at the point of implementation, tactical vectoring will also be required and therefore there would be periods of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000ft. 	This option offers long term predictability via one PBN arrival ro however it is anticipated that at the point of implementation, tac vectoring will also be required and therefore there would be per of unpredictability. This will be explored in further as we receiv further information from NERL around the airspace above 700	ute This option offers long term predictability via one PBN arrival ro however it is anticipated that at the point of implementation, tact vectoring will also be required and therefore there would be perior of unpredictability. This will be explored in further as we receiv further information from NERL around the airspace above 7000	ute This option offers long term predictability via one PBN arrival rou ical however it is anticipated that at the point of implementation, tactic ods vectoring will also be required and therefore there would be perior of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000f	te cal ds t. This option offers long term predictability via one PBN arrival route however it is anticipated that at the point of implementation, tactical vectoring will also be required and therefore there would be periods of unpredictability. This will be explored in further as we receive further information from NERL around the airspace above 7000ft.
Respite	Aircraft arriving at Gatwick Airport are tactically controlled (vectored) by AT onto final approach and therefore, other than once on final approach, there no long term predictability of flight paths. Tactically controlling (vectoring) aircraft creates dispersion which offers some unpredictable noise relief.	C A single PBN route does not offer any predictable respite configuration however the use of tactical vectoring at peak periods may offer some no relief through dispersion. This will be explored in further detail as part of Initial Options Appraisal should this option progress.	This option is based on a vectoring area (known as a Radar Manoeuvring area) that is intended to be used in conjunction wi one of the PBN options. Solely tactically controlling (vectoring aircraft does not offer long term predictability however the dispersion from the vectoring does offer unpredictable noise reli	r A single PBN route does not offer any predictable respite configurations however the use of tactical vectoring at peak periods may offer some noise relief through dispersion. This will be explored in further detail as part of the Initial Options Appraisal should this option progress.	This option offers four routes which could be used in a respite configuration. Details of this as part of the Initial Options Appraisal should this option progre	will be explored in further detail This option offers four routes which could be used in a respite configuration. Details of the will be explored in further detail as part of the Initial Options Appraisal should this option progress.	This option has been developed based on night-time noise metrics and is intended to be used as night-time configuration alongside one of the other arriv options. This means that the option would offer predictable respite during the night-time period for those communities under day-time routes.	A single PBN route does not offer any predictable respite configurations however the use of tactical vectoring at peak periods may offer some noise relief through dispersion. This will be explored in further detail as part of the Initial Options Appraisal should this option progress.	This option is based on a vectoring area (known as a Radar Manoeuv area) that is intended to be used in conjunction with one of the PBN opt Solely tactically controlling (vectoring) aircraft does not offer long tern predictability however the dispersion from the vectoring does offer unpredictable noise relief.	ring tions. m A single PBN route does not offer any predictable respite configurations however the use of tactical vectoring at peak periods may offer some noise relief through dispersion. This will be explored in further detail as part of the Initial Options Appraisal should this option progress.	This option offers four routes which could be used in a respite configuration. Details of t as part of the Initial Options Appraisal should this option pro	nis will be explored in further detail gress. This option offers two routes which could be used in a respite configuration. Details of this will be explored in further detail as part of t Initial Options Appraisal should this option progress.	This option offers two routes which could be used in a respite configuration. Details of this will be explored in further detail as part of the Initial Options Appraisal should this option progress.	A single PBN route does not offer any predictable respite configurations however the use of tactical vectoring at peak per may offer some noise relief through dispersion. This will be expl in further detail as part of the Initial Options Appraisal should th option progress.	A single PBN route does not offer any predictable respite configurations however the use of tactical vectoring at peak peri may offer some noise relief through dispersion. This will be explo in further detail as part of the Initial Options Appraisal should th option progress.	A single PBN route does not offer any predictable respite configurations however the use of tactical vectoring at peak perio may offer some noise relief through dispersion. This will be explored in further detail as part of the Initial Options Appraisal should this option progress.	A single PBN route does not offer any predictable respite configurations however the use of tactical vectoring at peak periods may offer some noise relief through dispersion. This will be explored in further detail as part of the Initial Options Appraisal should this option progress.
Overflight within	option Within the existing operation, aircraft arriving at Gatwick Airport are tactical controlled (vectored) by ATC onto final approach. There are no defined rout to follow and aircraft are provided with instructions from Air Traffic Control w ensure the aircraft are safely spaced whilst being directed to land at Gatwice. This leads to broad swathes of flight tracks across the airspace.	This option offers one PBN arrival route and therefore there is no cumula overflight within the option itself.	ative This option offers a RMA which means that aircraft would be tactically controlled. This would lead to swathes of flight paths across the airspace which would some overlapping areas of overflight however the dispersion would help to mitigate any impacts.	This option offers two PBN arrival routes. Other than once aircraft have joined the final approach, there is no cumulative overflight within the option itself.	This option offers four PBN arrival routes which could be used in a respite configuration. joined the final approach, there is minimal cumulative overflight within the option itself at turn onto final approach.	Other than once aircraft have the point where aircraft would Other than once aircraft have joined the final approach, there is no cumulative overfligh within the option itself.	on. This option offers two PBN arrival routes. Other than once aircraft have joined the final approach, there is no cumulative overflight within the option itself.	d This option offers one PBN arrival route and therefore there is no cumulative overflight within the option itself.	This option offers a RMA which means that aircraft would be tactical controlled. This would lead to swathes of flight paths across the airspa which would some overlapping areas of overflight however the dispers would help to mitigate any impacts.	Ily ace sion This option offers one PBN arrival route and therefore there is no cumulative overflight within the option itself.	This option offers four PBN arrival routes which could be used in a respite configuration areas of overflight overlap before aircraft turn onto base leg - here the routes are se approach.	on. From 7000ft, there are some parated until turning to join final there is no cumulative overflight within the option itself.	te This option offers two PBN arrival routes which could be used in a respite configuration. Other than once aircraft have joined the final approach, there is no cumulative overflight within the option itself.	This option offers one PBN arrival route and therefore there is cumulative overflight within the option itself.	no This option offers one PBN arrival route and therefore there is cumulative overflight within the option itself.	This option offers one PBN arrival route and therefore there is no cumulative overflight within the option itself.	o This option offers one PBN arrival route and therefore there is no cumulative overflight within the option itself.
8 Deconflictio n by Design Overflight of arri departure opt	val and overflight by arrivals and departures to/from Gatwick Airport.	The straight ahead / south westerly routes that form components of th westerly departure options cross this arrival option, however owing to t option being formed of a single PBN track, the area of cumulative overflig be minimal and could be refined once the shortlist of departure options known. It is anticipated that tactical vectoring of arrivals would still be required and has the opportunity to increase cumulative impacts; the nature and frequ of this vectoring will be investigated in further detail should the option prog and as part of this, potential mitigations/refinements could be identified	he his ht will s is d this iency gress d.	The straight ahead / south westerly routes that form components of the westerly departure options cross the southerly arrival option, however owing to this option being formed of a single PBN track, the area of cumulative overflight will be minimal and could be refined once the shortlist of departure options is known. The northerly arrival route largely avoids the westerly departure options with the exception of some cumulative overflight with WAL which may be refined if the option is progressed. It is anticipated that tactical vectoring of arrivals would still be required and this has the opportunity to increase cumulative impacts; the nature and frequency of this vectoring will be investigated in further detail should the option progress and as part of this, potential mitigations/refinements could be identified.	The straight ahead / south westerly routes that form components of the westerly departur routes, however owing to this option being formed of a single PBN tracks, the area of cum and could be refined once the shortlist of departure options is known. As a result of respite of cumulative overflight will be decreased compared to the single route It is anticipated that tactical vectoring of arrivals would still be required and this has the op impacts; the nature and frequency of this vectoring will be investigated in further detail sho part of this, potential mitigations/refinements could be identified	This option largely does not overfly the same areas as the easterly departure options however there are some conflicts between some of the right turn wrap around easterly departures and the third respite route. This would require deconfliction and therefore it anticipated that the impacts of cumulative overflight may be able to be mitigated. In term of westerly departures, the straight ahead / south westerly routes that form components the westerly departure options cross the three respite routes, however owing to this options. PBN options. Sortunity to increase cumulative overflight will be minimal ar could be refined once the shortlist of departure options is known. As a result of respite configurations, any frequency of cumulative overflight will be decreased compared to the single route PBN options. It is anticipated that tactical vectoring of arrivals would still be required and this has the opportunity to increase cumulative impacts; the nature and frequency of this vectoring vectoring vectoring to increase in the option progress and as part of this, potential mitigations/refinements could be identified.	Y is ns of ion nd a e will a b b ion nd a to the to the to to to to to to to to to to to to to	This option largely does not overfly the same areas as the easterly departure options however there are some conflicts between some of the right turn wrap around easterly departures and the route. This would require deconfliction and therefore it is anticipated that the impacts of cumulative overflight may be able to be mitigated. The straight ahead / south westerly routes that form components of the westerly departure options cross this arrival option, however owing to this option being formed of a single PBN track, the area of cumulative overflight will be minimal and could be refined once the shortlist of departure options is known. It is anticipated that tactical vectoring of arrivals would still be required and this has the opportunity to increase cumulative impacts; the nature and frequency of this vectoring will be investigated in further detail should the option progress and as part of this, potential mitigations/refinements could be identified.	e This option largely does not overfly the same areas as the easterly departure options however there are some conflicts between some of right turn wrap around easterly departures and the RMA. In terms of t westerly departures, the area of the indicative RMA overflies the sam areas as the majority of the straight ahead departure routes and some of the left turn departures at higher altitudes.	This option largely does not overfly the same areas as the easterly departure options however there are some conflicts between some of the right turn wrap around easterly departures and the route. This would require deconfliction and therefore it is anticipated that the impacts of cumulative overflight may be able to be mitigated. The straight ahead / south westerly routes that form components of the westerly departure options cross this arrival option, however owing to this option being formed of a single PBN track, the area of cumulative overflight will be minimal and could be refined once the shortlist of departure options is known. It is anticipated that tactical vectoring of arrivals would still be required and this has the opportunity to increase cumulative impacts; the nature and frequency of this vectoring will be investigated in further detail should the option progress and as part of this, potential mitigations/refinements could be identified.	This option largely does not overfly the same areas as the easterly departure options I between some of the right turn wrap around easterly departures and the route. This therefore it is anticipated that the impacts of cumulative overflight may be able to be mi westerly routes that form components of the westerly departure options cross the four this option being formed of a single PBN tracks, the area of cumulative overflight will once the shortlist of departure options is known. As a result of respite configuration: overflight will be decreased compared to the single route PBN It is anticipated that tactical vectoring of arrivals would still be required and this has the impacts; the nature and frequency of this vectoring will be investigated in further detail s part of this, potential mitigations/refinements could be iden	The straight ahead / south westerly routes that form components of the westerly departure options cross the two respite routes, however owing to eminimal and could be refined, any frequency of cumulative options. Deportunity to increase cumulative inhould the option progress and as iffied.	This option largely does not overfly the same areas as the easterly departure options however there are some conflicts between some of the right turn wrap around easterly departures and the route. This would require deconfliction and therefore it is anticipated that the impacts of cumulative overflight may be able to be mitigated. The straight ahead / south westerly routes that form components of the westerly departure options cross the two respite routes, however owing to this option being formed of a single PBN tracks, the area of cumulative overflight will be minimal and could be refined once the shortlist of departure options is known. As a result of respite configurations, any frequency of cumulative overflight will be decreased compared to the single route PBN options. It is anticipated that tactical vectoring of arrivals would still be required and frequency of this vectoring will be investigated in further detail should the option progress and as part of this, potential mitigations/refinements coul be identified.	The straight ahead / south westerly routes that form component the westerly departure options share cumulative overflight along final approach and also cross this option at around 6-7000ft However owing to this option being formed of a single PBN trackarea of cumulative overflight will be minimal and could be refine once the shortlist of departure options is known. It is anticipated tactical vectoring of arrivals would still be required and this has opportunity to increase cumulative impacts; the nature and frequing of this vectoring will be investigated in further detail should the oprogress and as part of this, potential mitigations/refinements components.	s of the straight ahead / south westerly routes that form component the westerly departure options share cumulative overflight along final approach and also cross this option at around 6-7000ft. However owing to this option being formed of a single PBN track area of cumulative overflight will be minimal and could be refin- once the shortlist of departure options is known. It is anticipated tactical vectoring of arrivals would still be required and this has opportunity to increase cumulative impacts; the nature and frequ- of this vectoring will be investigated in further detail should the op progress and as part of this, potential mitigations/refinements co- be identified.	This option largely does not overfly the same areas as the easter departure options however there are some conflicts between som of the right turn wrap around easterly departures and the route. Th would require deconfliction and therefore it is anticipated that the impacts of cumulative overflight may be able to be mitigated. This arrival option shares some cumulative overflight with some the westerly left turn departure route options however owing to th option being formed of a single PBN track, the area of cumulative overflight will be minimal and could be refined once the shortlist departure options is known. It is anticipated that tactical vectoring of arrivals would still be required and this has the opportunity to increase cumulative impacts; the nature and frequency of this vectoring will be investigated in further detail should the option progress and as pa of this, potential mitigations/refinements could be identified.	 This option largely does not overfly the same areas as the easterly departure options however there are some conflicts between some of the right turn wrap around easterly departures and the route at around 7000ft. This would require deconfliction and therefore it is anticipated that the impacts of cumulative overflight may be able to be mitigated. This arrival option shares some cumulative overflight with some of the westerly left turn departure route options however owing to this option being formed of a single PBN track, the area of cumulative overflight will be minimal and could be refined once the shortlist of departure options is known. It is anticipated that tactical vectoring of arrivals would still be required and this has the opportunity to increase cumulative impacts; the nature and frequency of this vectoring will be investigated in further detail should the option progress and as part of this, potential mitigations/refinements could be identified.
Overflight of neigl airports	Nouring	Routes initially outside the ACOG map between c.7-6500ft. Then routes w the Farnborough, Heathrow Airport and Biggin Hill areas of the ACOG m	within nap. Routes initially outside the ACOG map between c.7-6500ft. The routes within the Farnborough, Heathrow Airport and Biggin Hi areas of the ACOG map.	hen Hill Routes initially outside the ACOG map between c.7-5000ft. Then routes within the Farnborough, Heathrow Airport and Biggin Hill areas of the ACOG map. Routes within the Biggin Hill, Farnborough, and Heathrow section of the ACOG map; here there is expected to be large areas of possible cumulative impacts	Routes within the Biggin Hill, Farnborough and Heathrow Airport areas of the ACOG map.Routes within the Biggin Hill, Farnborough and Heathrow Airport areas of the ACOG map.Routes initially outside the ACOG map between c.7- 5000ft. Then routes within the Farnborough, Heathrow Airport and Biggin Hill areas of the ACOG map.	Routes initially outside the ACOG map between c.7- 4000ft. Then routes within the Farnborough, Heathrow Airport and Biggin Hill areas of the ACOG map.Routes initially outside the ACOG map between c.7- 5000ft. Then routes within the Farnborough, Heathrow Airport and Biggin Hill areas of the ACOG map.Routes initially outside the ACOG map between c.7- 5000ft. Then routes within the Farnborough, Heathrow Airport and Biggin Hill areas of the ACOG map.Routes initially outside the ACOG map between c.7- 5000ft. Then routes within the Farnborough, Heathrow Airport and Biggin Hill areas of the ACOG map.Routes initially outside the ACOG map between c.7- 5000ft. Then routes within the Farnborough, Heathrow Airport and Biggin Hill areas of the ACOG map.Routes initially outside the ACOG map between c.7- 5000ft. Then routes within the Farnborough, Heathrow Airport and Biggin Hill areas of the ACOG map.Routes initially outside the ACOG map between c.7- 5000ft. 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Routes within the Biggin Hill, Farnborough, and Heathrow section of the ACOG map; here there is expect to be large areas of possible cumulati impacts	of Routes initially outside the ACOG map between c.7-3500ft. Then routes within the Farnborough, Heathrow Airport and Biggin Hill areas of the ACOG ive map.	Routes initially outside the ACOG map between c.7-3500ft. Then rou NG within the Farnborough, Heathrow Airport and Biggin Hill areas of the Ad map.	tes Routes initially outside the ACOG map between c.7-3500ft. Then routes COG within the Farnborough, Heathrow Airport and Biggin Hill areas of the ACOG map.	Routes initially outside the ACOG map between c.7- 6000ft. Then routes within the Farnborough, Heathrow Airport and Biggin Hill areas of the ACOG map.Routes initially outside the ACOG map between c.7- 5000ft. Then routes within the Farnborough, Heathrow Airport and Biggin Hill areas of the ACOG map.Routes initially outside the ACOG map between c.7- 4000ft. 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Routes initially outside the ACOG map between c.7-6500ft. Th routes within the Farnborough, Heathrow Airport and Biggin Hill a of the ACOG map.	en Routes initially outside the ACOG map between c.7-5000ft. Th reas routes within the Farnborough, Heathrow Airport and Biggin Hill a of the ACOG map.	en Routes initially in the Biggin Hill area, before routing outside the ACOG areas between c.6-4000ft. Then routes within the Heathro Airport and Biggin Hill areas of the ACOG map.	Routes initially outside the ACOG map between c.7-3000ft. W Then routes within the Heathrow Airport and Biggin Hill areas of the ACOG map.
Locally 9 Tailored - Designs	The baseline 'do nothing' scenario would not change the noise environment Gatwick. Aircraft would continue to be tactically controlled (vectored) by AT before joining the final approach. Some stakeholders would prefer for Gatwi to remain as it is today and therefore this in itself could be considered a loca tailored design. However, the broad vectoring swathes do not take into account the local environment and therefore do not offer opportunities to avo noise sensitive areas.	at C k Ily This option has been designed to minimise the total population overflow between 0-7000ft. (See DP 3 for further details).	This option is a Radar Manoeuvring Area (RMA) that has beer designed to minimise the total population overflown. As the Sou Exposure Level (SEL) contour is located along the final approace track, overflight contours were used to identify high performing notional flight paths which could then define a potential vectorin area. Compared to pure PBN tracks, an RMA will deliver differen noise benefits and impacts owing to dispersion created by the vectoring swathes. The nature/frequency/location of the vectorin which may be required will be explored in further detail once the shortlist of options is known. Should this option progress, later the process there will be opportunities to develop the option furth to tailor to local circumstances however compared to PBN path these opportunities would be reduced.	This option has been designed to minimise the total population overflown between 0-4000ft and route directly from the network entry point from 7000ft-4000ft. (See DP 3 for further details). the r in ther ths,	This respite option has been designed to minimise the total population overflown between details).	0-7000ft. (See DP 3 for further This respite option has been designed to minimise the total population overflown betwee 0-7000ft. (See DP 3 for further details).	en This night-time respite option has been designed to minimise the total populatio overflown between 0-7000ft. (See DP 3 for further details).	on This option has been designed to minimise the population newly overflown between 0-7000ft. (See DP 3 for further details).	This Radar Manoeuvring Area (RMA) has been designed to minimis population newly overflown. As the Sound Exposure Level (SEL) conto located along the final approach track, overflight contours were used identify high performing notional flight paths which could then define potential vectoring area. Compared to pure PBN tracks, an RMA will de different noise benefits and impacts owing to dispersion created by t vectoring swathes. The nature/frequency/location of the vectoring wh may be required will be explored in further detail once the shortlist of op is known. Should this option progress, later in the process there will opportunities to develop the option further to tailor to local circumstance however compared to PBN paths, these opportunities would be reduce	This option has been designed to minimise population newly overflown beliver he iich tions be ces sed.	This respite option has been designed to minimise population newly overflown between details).	n 0-7000ft. (See DP 3 for further This respite option has been designed to balance the population newl overflown and the total population overflown. (See DP 3 for further detai	This respite option has been designed to balance the population newly s). overflown and the total population overflown. (See DP 3 for further details	This option has been designed to balance the population new overflown and the total population overflown. (See DP 3 for furt details).	This option has been designed to balance the population new overflown and the total population overflown between 0-4000ft a route directly from the network entry point from 7000ft-4000ft. Sr adjustments will be made to the lateral path to consider noise however these will be balanced with reducing fuel burn and CC	Y nd nall DEFRA's road and rail noise mapping to identify areas of high ambient noise (please see the Stage 2A document for further details).	This option was developed following stakeholder feedback. It uses DEFRA's road and rail noise mapping to identify areas of high ambient noise (please see the Stage 2A document for further details) between 0-4000ft before routing directly to the network exit points between 4-7000ft. Small adjustments will be made to the lateral path to consider noise, however these will be balanced with reducing fuel burn and CO2.