FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly Baseline

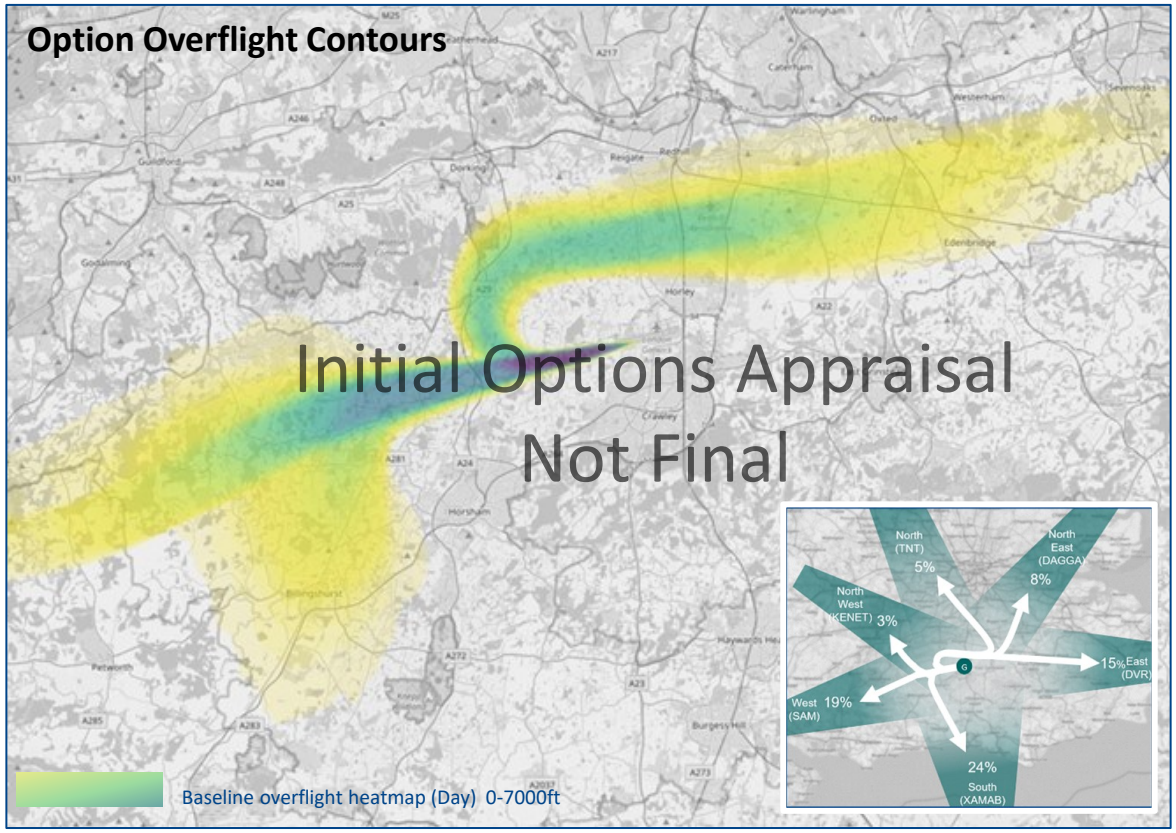
Description

XAMAB departures fly straight ahead for 10.5nm before turning left (south).SAM/KENET departures fly straight ahead before turning south. DAGGA/TNT/DVR departures fly straight ahead for 2.3nm before turning right (north) and wrapping around towards the east. WIZAD departures are available on a tactical basis - these departures fly straight ahead for 2.3nm before turning left (south) and wrapping around towards the west.

Noise (Qualitative)

In the baseline, the DVR/DAGGA/TNT departures all turn to the right, resulting in cumulative impacts for those overflown by all three routes (also overflown by easterly SAM/KENET departures). The XAMAB/SAM/KENET departures fly straight ahead along the extended runway centreline which results in cumulative impacts for those living under the easterly final approach.

Overflight Illustration



Airspace Modernisation Strategy

Doing nothing with westerly departures will not align with the AMS. It will not enable any environmental benefits, increase airspace capacity, reduce noise impacts or maximise benefits from NERL's re-design of the LTMA. No change and therefore no ACP submission will not enable enhancements to safety, enhance integration or reductions in the volume of controlled airspace.

Safety

At the current traffic levels there are no safety concerns however future traffic growth could lead to increased complexity and workload for ATC and Pilots. This could lead to traffic levels within the LTMA being capped or increased ground holding, in order to maintain safety.

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly Baseline

Indicative Partial System Performance

Noise	*Population*	Difference to Baseline
LOAEL (Day)	6079	n/a
LOAEL (Night)	5242	n/a
N65 (20)	8004	n/a
N60 (5)	24317	n/a

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	1.3	n/a

Emissions	Qualitative Conclusion
Fuel Burn & Greenhouse Gas	*No change*

Economic	Qualitative Conclusion
Commercial Airlines	*No change*
General Aviation	*No change*

General Aviation	Qualitative Conclusion
Controlled Airspace Volume	*No change*
GA Access	*No change*

Capacity / Resilience	Qualitative Conclusion
Capacity / Resilience	*No change*

Costs	Qualitative Conclusion
Commercial Airlines Training	*No costs identified*
Commercial Airlines Other	*No costs identified*
Airport / ANSP Infrastructure	*No costs identified*
Airport / ANSP Operational	*Costs identified*
Airport / ANSP Deployment	*n/a*

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly Baseline

Option Routes	Noise				Air Quality	Tranquillity	Biodiversity (RAMSAR, SEC, SPA, SSSI overflown between 0-1640ft		Fuel Burn & Greenhouse Gas Emissions
	Overflight Daytime (1) (Population)	Overflight Nighttime (1) (Population)	Population Newly overflown (Day) (1)	Population Newly overflown (Night) (1)			Number of sites overflown between 0-1640ft	Area (km2) of sites overflown between 0-1640ft	
DVR	67515	22206	n/a	n/a	No	62.8	0	0	71.2
XAMAB	25209	5576	n/a	n/a	No	0	0	0	72.6
SAM	16287	5274	n/a	n/a	No	16.4	0	0	61.3
KENET	17455	0	n/a	n/a	No	4.9	0	0	63.0
DAGGA	76183	8496	n/a	n/a	No	28.8	0	0	72.8
TNT	37576	0	n/a	n/a	No	8.5	0	0	153.0

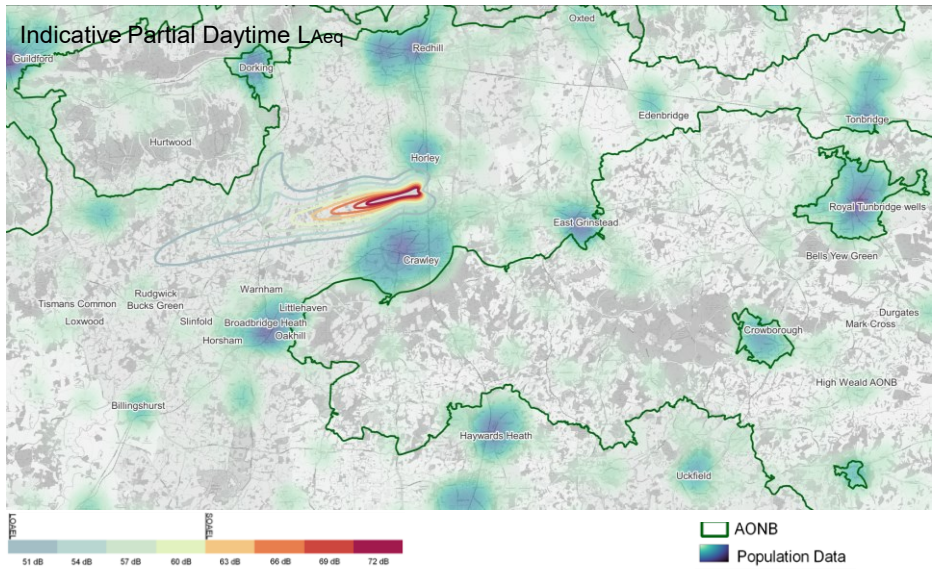
Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
DVR	At the current traffic levels there are no safety concerns however future traffic growth could lead to increased complexity and workload for ATC and Pilots. This could lead to traffic levels within the LTMA being capped or increased ground holding, in order to maintain safety.	Routes to/from Gatwick shares interdependencies with Heathrow, Biggin Hill, Southampton, Farnborough, London City, Southend and Northolt. Without changes to Gatwick's routes, enhancements to the wider LTMA could be constrained.	*Baseline (n/a)*
XAMAB			
SAM			
KENET			
DAGGA			
TNT			

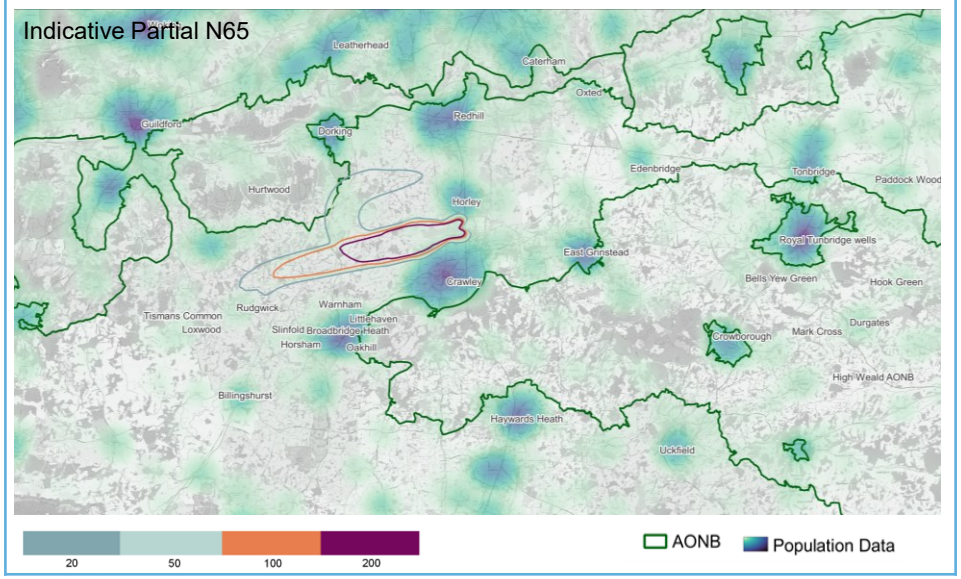
FASI-S ACP Initial Options Appraisal Dashboard

Option

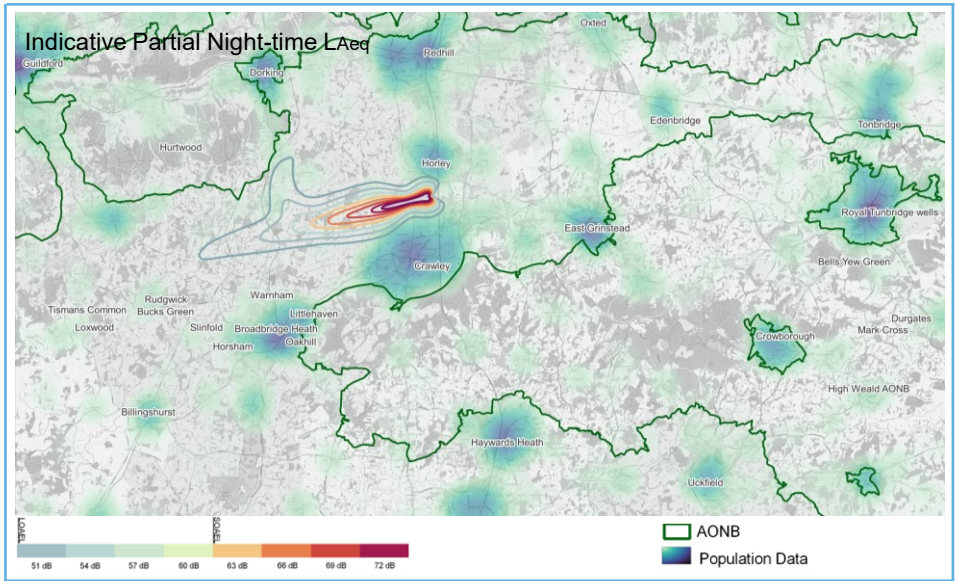
Departure Westerly Baseline

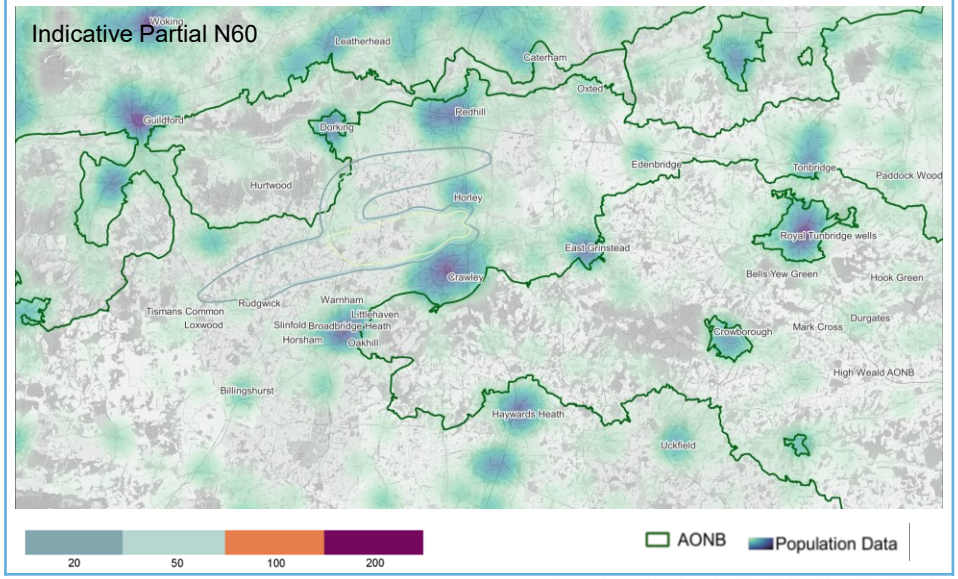
Day





Night





FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 1

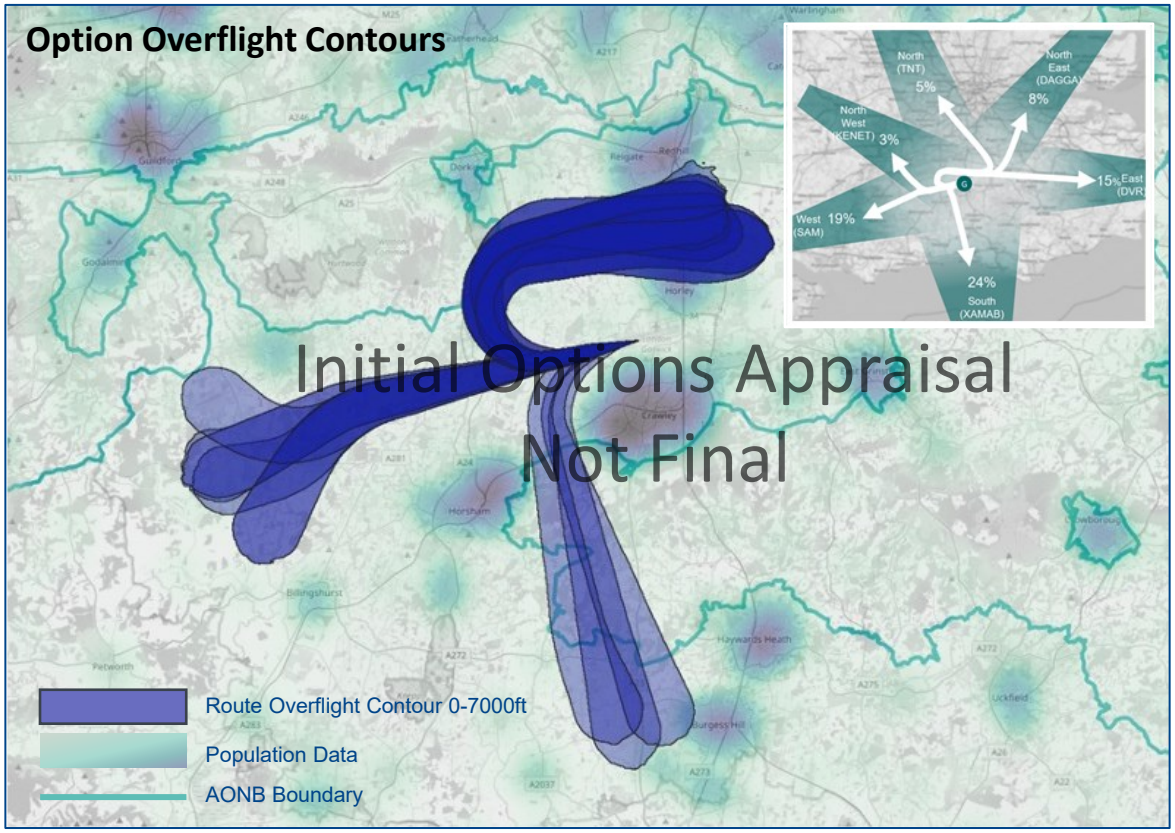
Description

DAGGA/TNT/SAM/KENET/DVR are broadly similar to the baseline however some routes turn at different distances compared to the baseline and there is some variation in the routes. XAM departures would turn left earlier than the baseline.

Noise (Qualitative)

The XAMAB departures turn earlier than in the baseline and this reduces the cumulative affects for those communities currently living under the easterly final approach and the straight ahead sections of the westerly departures however it does introduce overflight over areas not regularly overflown in the baseline. The earlier turn would require changes to Gatwick's existing NPRs.
In the baseline, westerly departures fly the NPRs and are then typically vectored. This option is expected to result in greater levels of concentration along routes.
It is expected that departures will achieve improved CCO performance although this is subject to integration with neighbouring airports and the network airspace above 7000ft.

Overflight Illustration



Airspace Modernisation Strategy

This option is expected to increase population experiencing adverse noise effects whereas there are other options which better align with the AMS objectives by performing either similarly or better than the baseline in terms of population within the indicative partial LOAEL. PBN departures are however expected to be used as part of wider a system design where they could enable simplification, integration, safety and efficiency enhancements.

Safety

No significant safety concerns raised at this stage although new / revised safety assurances may be required. An acceptable safety argument is envisaged to be achievable subject to further investigation should this option progress.

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 1

Indicative Partial System Performance (Westerly System 1 and 1.2)

Noise	*Population*	Difference to Baseline
LOAEL (Day)	7214 / 7207	+1135 / +1128
LOAEL (Night)	5371 / 5181	+129 / -61
N65 (20)	9203 / 9869	+1199 / +1865
N60 (5)	24445 / 27002	+128 / +2685

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	11.1 / 13.4	+9.8 km²

Emissions	Qualitative Conclusion
Fuel Burn & Greenhouse Gas	*Expected positive compared to baseline*

Economic	Qualitative Conclusion
Commercial Airlines	*Expected positive compared to baseline*
General Aviation	*Expected positive compared to baseline*

General Aviation	Qualitative Conclusion
Controlled Airspace Volume	*Expected positive compared to baseline*
GA Access	*Expected positive compared to baseline*

Capacity / Resilience	Qualitative Conclusion
Capacity / Resilience	*Expected positive compared to baseline*

Costs	Qualitative Conclusion
Commercial Airlines Training	No costs identified
Commercial Airlines Other	No costs identified
Airport / ANSP Infrastructure	*Costs identified*
Airport / ANSP Operational	*Costs identified*
Airport / ANSP Deployment	*Costs identified*

LONDON GATWICK

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 1

Option Routes	Noise				Air Quality	Tranquillity	Biodiversity (RAMSAR, SEC, SPA, SSSI overflown between 0-1640ft		Fuel Burn & Greenhouse Gas Emissions
	Overflight Daytime (1) (Population)	Overflight Nighttime (1) (Population)	Population Newly overflown (Day) (1)	Population Newly overflown (Night) (1)			Number of sites overflown between 0-1640ft	Area (km2) of sites overflown between 0-1640ft	
W DAGGA Group 1 WDG A	14812	14812	10472	14812	No	1.6	0	0	67.1
W DAGGA Group 1 WDG A 2	19348	19348	15230	19348	No	0	0	0	65.5
W DAGGA Group 1 WDH A	14757	14757	10293	14757	No	1.6	0	0	68.7
W DAGGA Group 1 WDH A 2	11027	11027	6216	11027	No	0	0	0	68.6
W DAGGA Group 1 WDP A	11377	11377	7053	11377	No	1.4	0	0	68.8
W DVR Group 1 WDG A	14812	14812	6927	7127	No	1.6	0	0	71.7
W DVR Group 1 WDG A 2	19348	19348	14071	14167	No	0	0	0	72.5
W DVR Group 1 WDH A	14757	14757	6681	6881	No	1.6	0	0	71.4
W DVR Group 1 WDH A 2	11027	11027	4925	5021	No	0	0	0	70.3
W DVR Group 1 WDP A	11377	11377	4094	4271	No	1.4	0	0	71.1
W KENET Group 2 WDB B	3687	0	3687	3687	No	0	0	0	65.1
W KENET Group 2 WDD B	3742	0	3742	3742	No	0	0	0	56.6
W KENET Group 2 WDG C	4096	0	4096	4096	No	0	0	0	62.2
W KENET Group 2 WDH C	3663	0	3663	3663	No	0	0	0	57.8
W SAM Group 2 WDB B	3687	3687	2360	2881	No	0	0	0	49.1
W SAM Group 2 WDD B	6078	6078	2873	5272	No	0	0	0	46.2
W TNT Group 1 WDG A	14812	0	14812	14812	No	1.6	0	0	150.4
W TNT Group 1 WDG A 2	19348	0	19348	19348	No	0	0	0	145.3
W TNT Group 1 WDH A	17835	0	17835	17835	No	1.6	0	0	139.2
W TNT Group 1 WDH A 2	11027	0	11027	11027	No	0	0	0	154.1
W TNT Group 1 WDH A 3	14757	0	14757	14757	No	1.6	0	0	153.0
W TNT Group 1 WDP A	11377	0	11377	11377	No	1.4	0	0	153.4
W XAMAB Group 1 WDC C	3135	3135	3135	3135	Lateral change below 1000ft	20.3	0	0	63.3
W XAMAB Group 1 WDK C	5741	5741	5741	5741	Lateral change below 1000ft	27	0	0	62.7
W XAMAB Group 1 WDO C	4306	4306	4306	4306	Lateral change below 1000ft	22.4	0	0	62.6

LONDON GATWICK

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 1

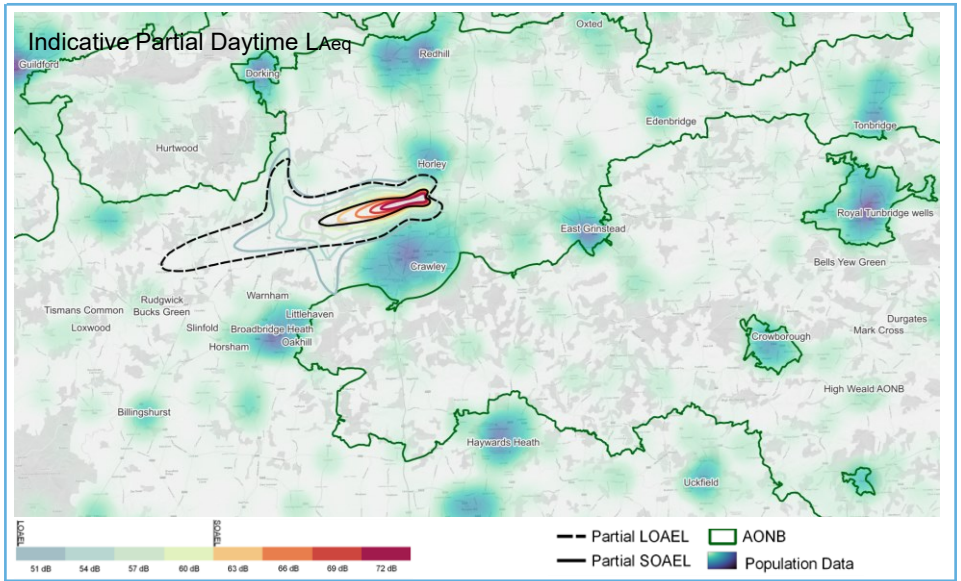
Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W DAGGA Group 1 WDG A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	X Option Discontinued
W DAGGA Group 1 WDG A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	
W DAGGA Group 1 WDH A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Not viable due to interactions with Heathrow and wider LTMA traffic flows.	
W DAGGA Group 1 WDH A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	
W DAGGA Group 1 WDP A	First turn c.2nm. No other safety concerns identified with this route.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	
W DVR Group 1 WDG A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDG A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDH A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDH A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDP A	First turn c.2nm. No other safety concerns identified with this route.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W KENET Group 2 WDB B	Track adjustment required (Offset departure)	Shares interdepdencies with Heathrow and Farnborough	
W KENET Group 2 WDD B	Track adjustment required (Offset departure)	Shares interdepdencies with Heathrow and Farnborough	
W KENET Group 2 WDG C	No IFP issues identified	Shares interdepdencies with Heathrow and Farnborough	
W KENET Group 2 WDH C	No IFP issues identified	Shares interdepdencies with Heathrow and Farnborough	
W SAM Group 2 WDB B	Track adjustment required (Offset departure)	Shares interdepdencies with Heathrow and Farnborough	
W SAM Group 2 WDD B	Track adjustment required (Offset departure)	Shares interdepdencies with Heathrow and Farnborough	
W TNT Group 1 WDG A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W TNT Group 1 WDG A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W TNT Group 1 WDH A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Not viable due to interactions with Heathrow and wider LTMA traffic flows.	
W TNT Group 1 WDH A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W TNT Group 1 WDH A 3	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W TNT Group 1 WDP A	First turn c.2nm. No other safety concerns identified with this route.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W XAMAB Group 1 WDC C	First turn radius c.2nm. 1nm before first turn. No other safety concerns identified with this route.	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 1 WDK C	First turn radius c.2nm. 0.6nm before first turn. No other safety concerns identified with this route.	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 1 WDO C	First turn radius c.2.1nm however also offset departure.	No interdependencies with other airports identified although would share with Gatwick arrivals	

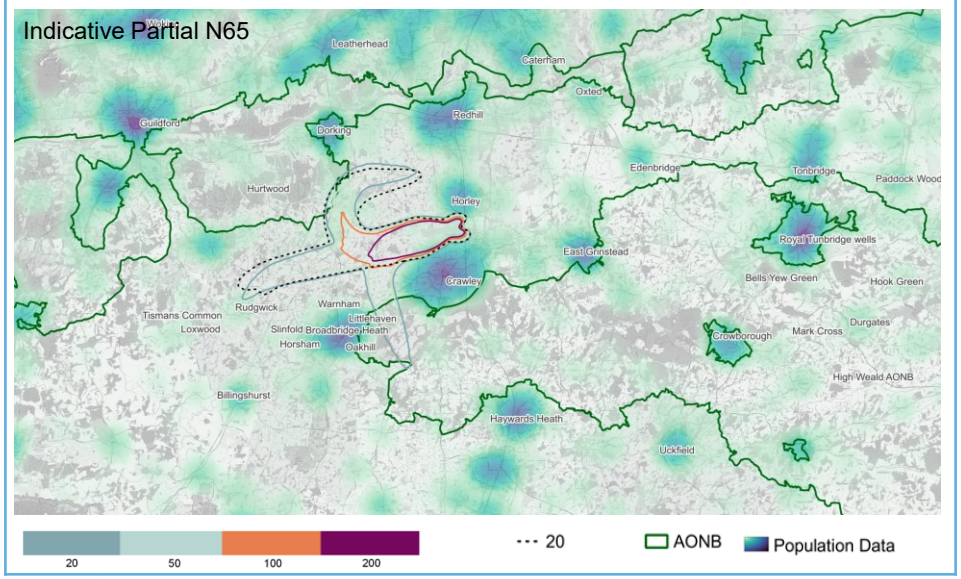
FASI-S ACP Initial Options Appraisal Dashboard

Option

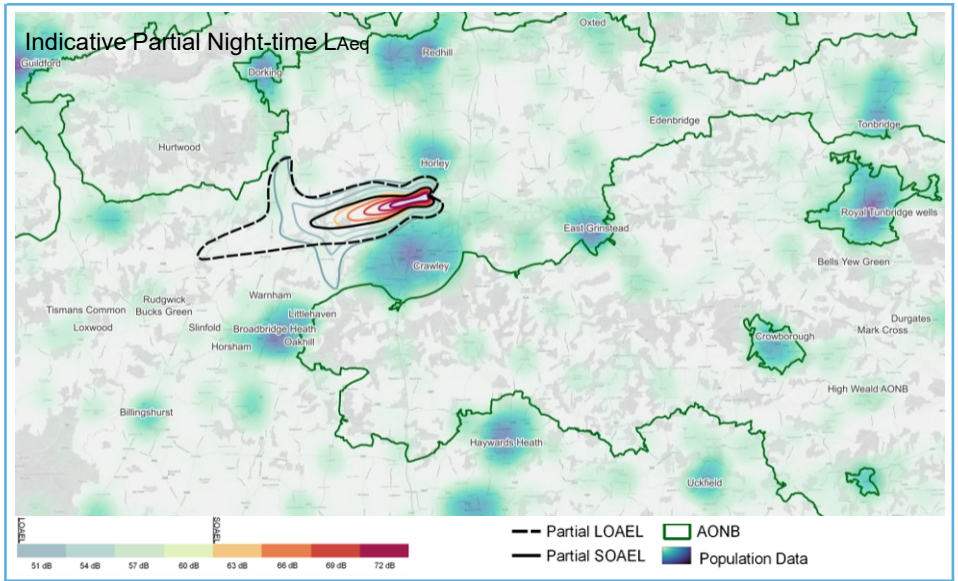
Departure Westerly System 1

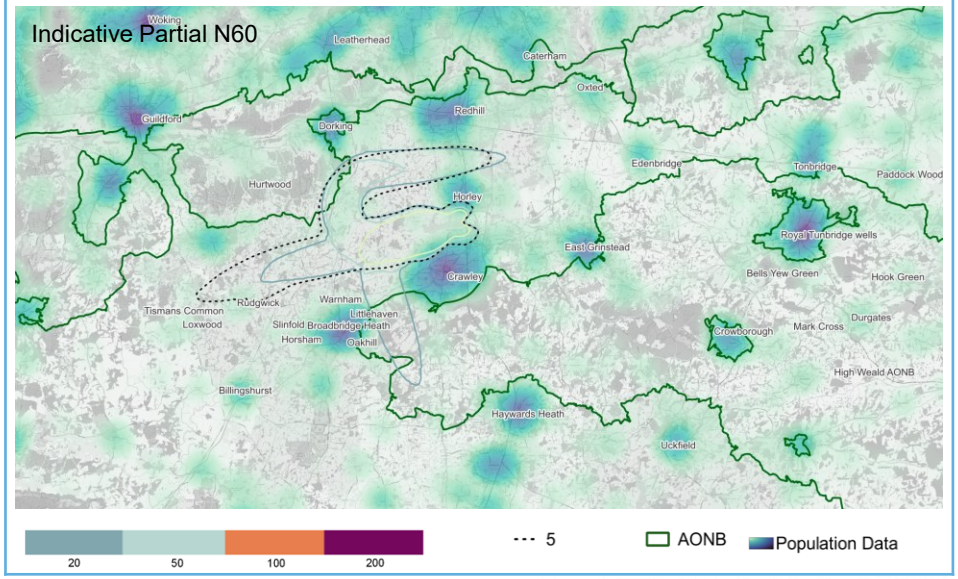
Day





Night



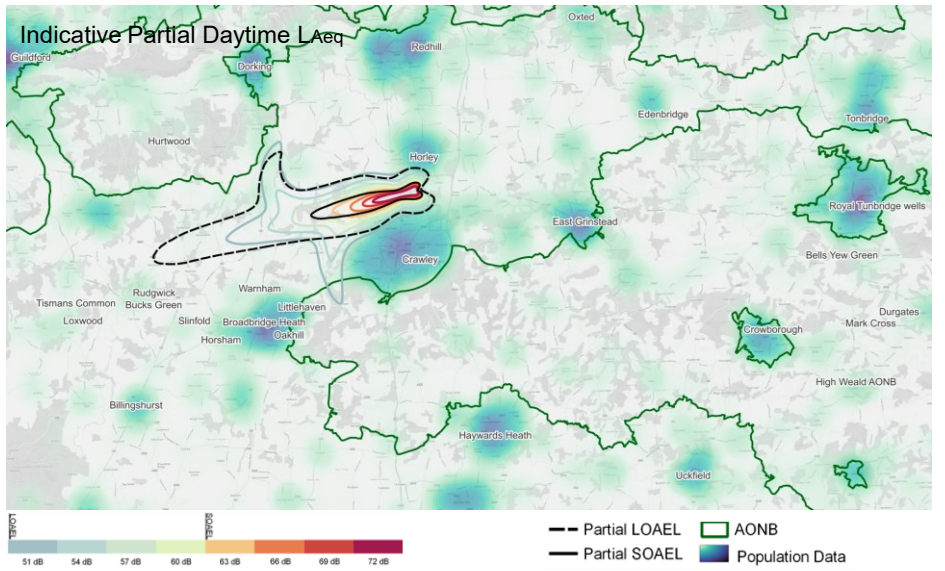


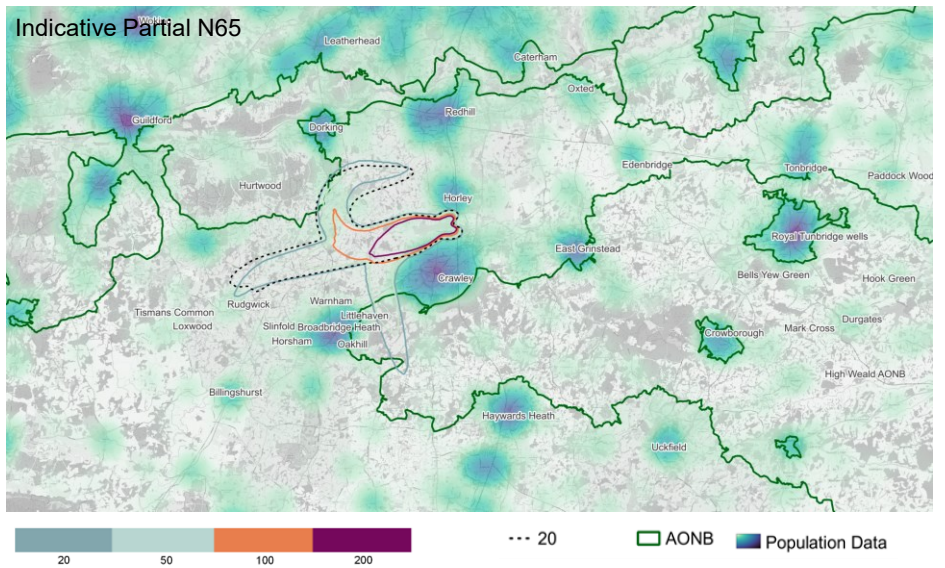
FASI-S ACP Initial Options Appraisal Dashboard

Option

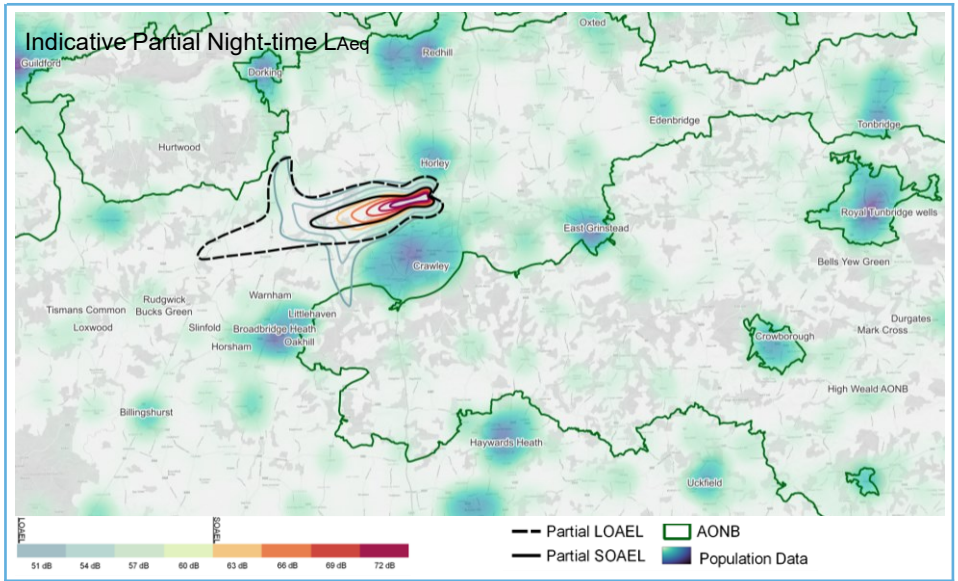
Departure Westerly System 1.2

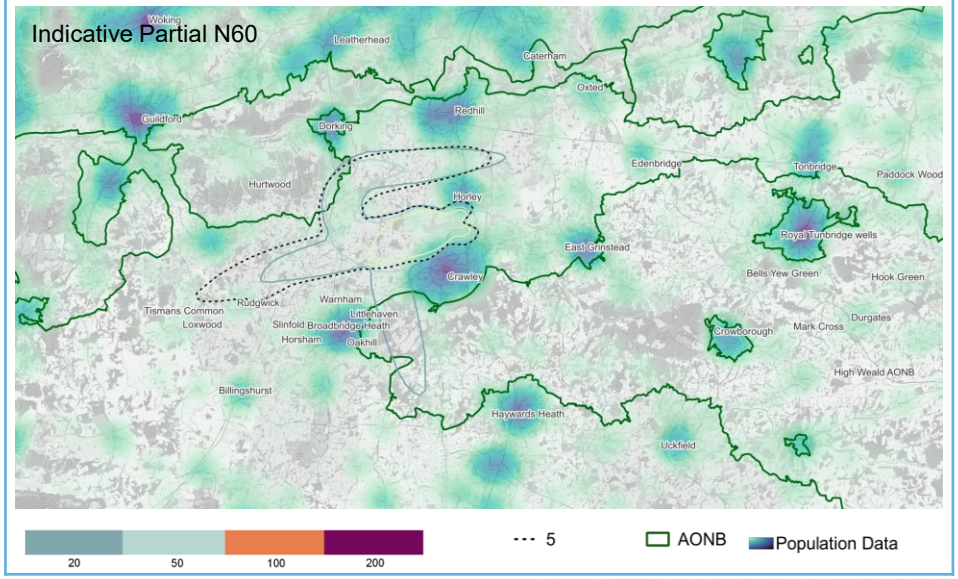
Day





Night





FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 2

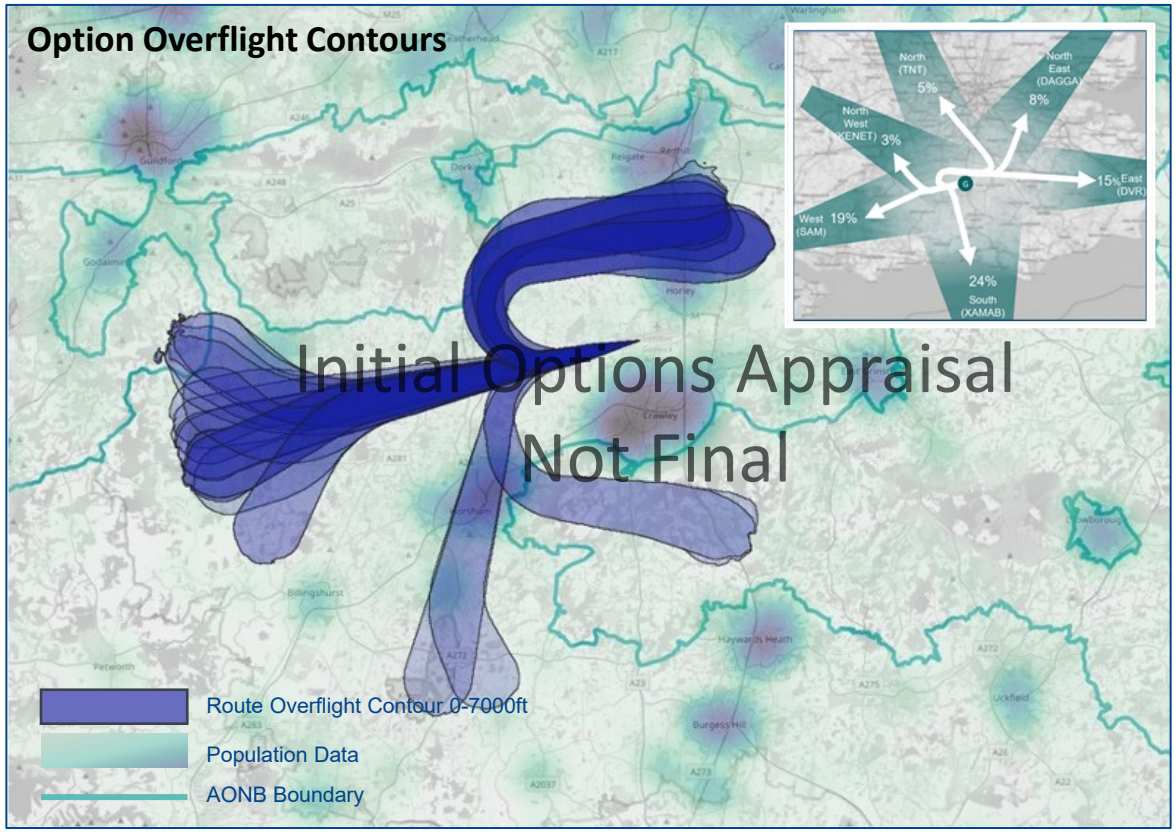
Description

DAGGA/TNT/SAM/KENET/DVR are broadly similar today however some routes turn at different distances compared to the baseline and there is some variation in the routes. XAM departures would turn left (south) earlier than the baseline with some routes turning towards the south-east before tracking south.

Noise (Qualitative)

The XAMAB departures turn earlier than in the baseline and this reduces the cumulative affects for those communities currently living under the easterly final approach and the straight ahead sections of the westerly departures however it does introduce overflight over areas not regularly overflown in the baseline. The earlier turn would require changes to Gatwick's existing NPRs.
In the baseline, westerly departures fly the NPRs and are then typically vectored. This option is expected to result in greater levels of concentration along routes.
It is expected that departures will achieve improved CCO performance although this is subject to integration with neighbouring airports and the network airspace above 7000ft.

Overflight Illustration



Airspace Modernisation Strategy

Supports the AMS through the implementation of PBN departures which would be for noise and environmental mitigation purposes as set out in the Government's Air Navigation Guidance. PBN departures are expected to be used in conjunction with arrivals as part of wider a system design which could enable simplification, integration, safety and efficiency enhancements.

Safety

No significant safety concerns raised at this stage although new / revised safety assurances may be required. An acceptable safety argument is envisaged to be achievable subject to further investigation should this option progress.

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 2

Indicative Partial System Performance

Noise	*Population*	Difference to Baseline
LOAEL (Day)	6685	+606
LOAEL (Night)	4686	-556
N65 (20)	24579	+16575
N60 (5)	53388	+29071

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	2.1	0.8km²

Emissions	Qualitative Conclusion
Fuel Burn & Greenhouse Gas	*Expected positive compared to baseline*

Economic	Qualitative Conclusion
Commercial Airlines	*Expected positive compared to baseline*
General Aviation	*Expected positive compared to baseline*

General Aviation	Qualitative Conclusion
Controlled Airspace Volume	*Expected positive compared to baseline*
GA Access	*Expected positive compared to baseline*

Capacity / Resilience	Qualitative Conclusion
Capacity / Resilience	*Expected positive compared to baseline*

Costs	Qualitative Conclusion
Commercial Airlines Training	No costs identified
Commercial Airlines Other	No costs identified
Airport / ANSP Infrastructure	*Costs identified*
Airport / ANSP Operational	*Costs identified*
Airport / ANSP Deployment	*Costs identified*

LONDON GATWICK

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 2

Option Routes	Noise				Air Quality	Tranquillity	Biodiversity (RAMSAR, SEC, SPA, SSSI overflown between 0-1640ft		Fuel Burn & Greenhouse Gas Emissions
	Overflight Daytime (1) (Population)	Overflight Nighttime (1) (Population)	Population Newly overflown (Day) (1)	Population Newly overflown (Night) (1)			Number of sites overflown between 0-1640ft	Area (km2) of sites overflown between 0-1640ft	
W DAGGA Group 1 WDG A	14812	14812	10472	14812	No	1.6	0	0	67.1
W DAGGA Group 1 WDG A 2	19348	19348	15230	19348	No	0	0	0	65.5
W DAGGA Group 1 WDH A	14757	14757	10293	14757	No	1.6	0	0	68.7
W DAGGA Group 1 WDH A 2	11027	11027	6216	11027	No	0	0	0	68.6
W DAGGA Group 1 WDP A	11377	11377	7053	11377	No	1.4	0	0	68.8
W DVR Group 1 WDG A	14812	14812	6927	7127	No	1.6	0	0	71.7
W DVR Group 1 WDG A 2	19348	19348	14071	14167	No	0	0	0	72.5
W DVR Group 1 WDH A	14757	14757	6681	6881	No	1.6	0	0	71.4
W DVR Group 1 WDH A 2	11027	11027	4925	5021	No	0	0	0	70.3
W DVR Group 1 WDP A	11377	11377	4094	4271	No	1.4	0	0	71.1
W KENET Group 2 WDB B	3687	0	0	0	No	0	0	0	65.1
W KENET Group 2 WDD B	3742	0	0	0	No	0	0	0	56.6
W KENET Group 2 WDG C	4096	0	0	0	No	0	0	0	62.2
W KENET Group 2 WDH C	3663	0	0	0	No	0	0	0	57.8
W KENET Group 3 WDC B	2133	0	0	0	No	4.4	0	0	56.0
W KENET Group 3 WDL B	5637	0	0	0	No	5.1	0	0	56.6
W KENET Group 3 WDM B	6567	0	0	0	No	5.9	0	0	55.7
W KENET Group 3 WDP B	3534	0	0	0	No	5.6	0	0	55.8
W SAM Group 1 WDA B	2649	2649	356	1811	No	0	0	0	47.4
W SAM Group 1 WDC B	2583	2583	323	1745	No	0	0	0	45.9
W SAM Group 1 WDG C	4096	4096	251	3258	No	0	0	0	46.1
W SAM Group 1 WDH C	3805	3805	224	2967	No	0	0	0	46.0
W SAM Group 1 WDM B	2719	2719	1316	2005	No	0	0	0	46.1
W SAM Group 1 WDP B	2423	2423	711	1695	No	0	0	0	46.0
W SAM Group 2 WDB B	3687	3687	2360	2881	No	0	0	0	49.1
W SAM Group 2 WDD B	6078	6078	2873	5272	No	0	0	0	46.2

LONDON GATWICK

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 2

Option Routes	Noise				Air Quality	Tranquillity	Biodiversity (RAMSAR, SEC, SPA, SSSI overflown between 0-1640ft		Fuel Burn & Greenhouse Gas Emissions
	Overflight Daytime (1) (Population)	Overflight Nighttime (1) (Population)	Population Newly overflown (Day) (1)	Population Newly overflown (Night) (1)			Number of sites overflown between 0-1640ft	Area (km2) of sites overflown between 0-1640ft	
W TNT Group 1 WDG A	14812	0	0	0	No	1.6	0	0	150.4
W TNT Group 1 WDG A 2	19348	0	0	0	No	0	0	0	145.3
W TNT Group 1 WDH A	17835	0	0	0	No	1.6	0	0	139.2
W TNT Group 1 WDH A 2	11027	0	0	0	No	0	0	0	154.1
W TNT Group 1 WDH A 3	14757	0	0	0	No	1.6			153.0
W TNT Group 1 WDP A	11377	0	0	0	No	1.4	0	0	153.4
W XAMAB Group 2 WDG E	15991	15991	15840	15840	No	38.3	0	0	72.4
W XAMAB Group 2 WDH E	15919	15919	15768	15768	No	37.8	0	0	67.6
W XAMAB Group 2 WDL C	45708	45708	45603	45603	No	0	0	0	67.8
W XAMAB Group 2 WDM C	45789	45789	45684	45684	No	0	0	0	65.8

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FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 2

Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W DAGGA Group 1 WDG A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	X Option Discontinued
W DAGGA Group 1 WDG A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	
W DAGGA Group 1 WDH A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Not viable due to interactions with Heathrow and wider LTMA traffic flows.	
W DAGGA Group 1 WDH A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	
W DAGGA Group 1 WDP A	First turn c.2nm. No other safety concerns identified with this route.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	
W DVR Group 1 WDG A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDG A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDH A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDH A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDP A	First turn c.2nm. No other safety concerns identified with this route.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W KENET Group 2 WDB B	Track adjustment required (Offset departure)	Shares interdepdencies with Heathrow and Farnborough	
W KENET Group 2 WDD B	Track adjustment required (Offset departure)	Shares interdepdencies with Heathrow and Farnborough	
W KENET Group 2 WDG C	No IFP issues identified	Shares interdepdencies with Heathrow and Farnborough	
W KENET Group 2 WDH C	No IFP issues identified	Shares interdepdencies with Heathrow and Farnborough	
W KENET Group 3 WDC B	No IFP issues identified	Shares interdepdencies with Heathrow and Farnborough	
W KENET Group 3 WDL B	No IFP issues identified	Shares interdepdencies with Heathrow and Farnborough	
W KENET Group 3 WDM B	No IFP issues identified	Shares interdepdencies with Heathrow and Farnborough	
W KENET Group 3 WDP B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdepdencies with Heathrow and Farnborough	
W SAM Group 1 WDA B	No IFP issues identified	Shares interdepdencies with Heathrow and Farnborough	
W SAM Group 1 WDC B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdepdencies with Heathrow and Farnborough	
W SAM Group 1 WDG C	No IFP issues identified	Shares interdepdencies with Heathrow and Farnborough	
W SAM Group 1 WDH C	No IFP issues identified	Shares interdepdencies with Heathrow and Farnborough	
W SAM Group 1 WDM B	No IFP issues identified	Shares interdepdencies with Heathrow and Farnborough	
W SAM Group 1 WDP B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdepdencies with Heathrow and Farnborough	
W SAM Group 2 WDB B	Track adjustment required (Offset departure)	Shares interdepdencies with Heathrow and Farnborough	
W SAM Group 2 WDD B	Track adjustment required (Offset departure)	Shares interdepdencies with Heathrow and Farnborough	

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 2

Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W TNT Group 1 WDG A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	X Option Discontinued
W TNT Group 1 WDG A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W TNT Group 1 WDH A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Not viable due to interactions with Heathrow and wider LTMA traffic flows.	
W TNT Group 1 WDH A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W TNT Group 1 WDH A 3	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W TNT Group 1 WDP A	First turn c.2nm. No other safety concerns identified with this route.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W XAMAB Group 2 WDG E	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although as based on existing RNAV SID nominal, precedent does exist.	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	
W XAMAB Group 2 WDH E	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although as based on existing RNAV SID nominal, precedent does exist.	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	
W XAMAB Group 2 WDL C	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 2 WDM C	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	

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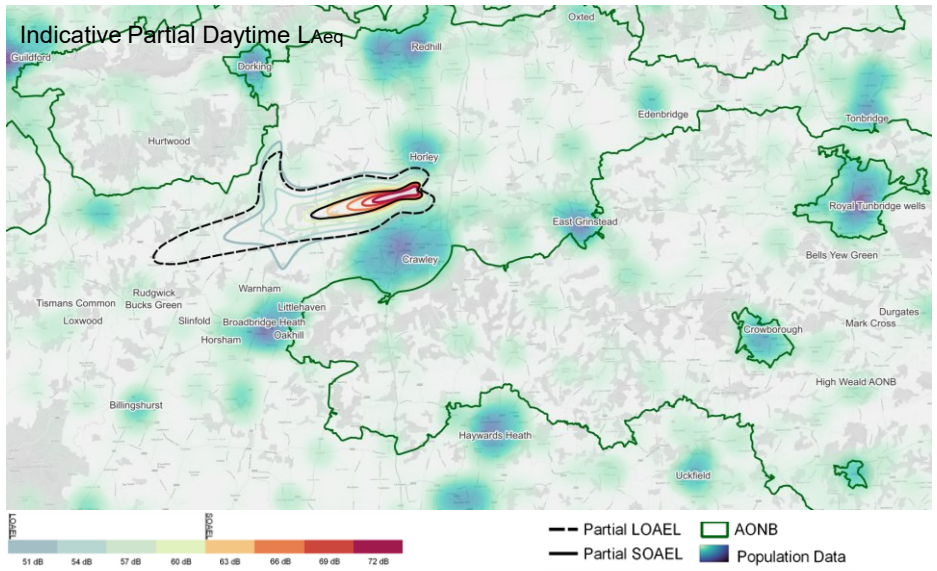
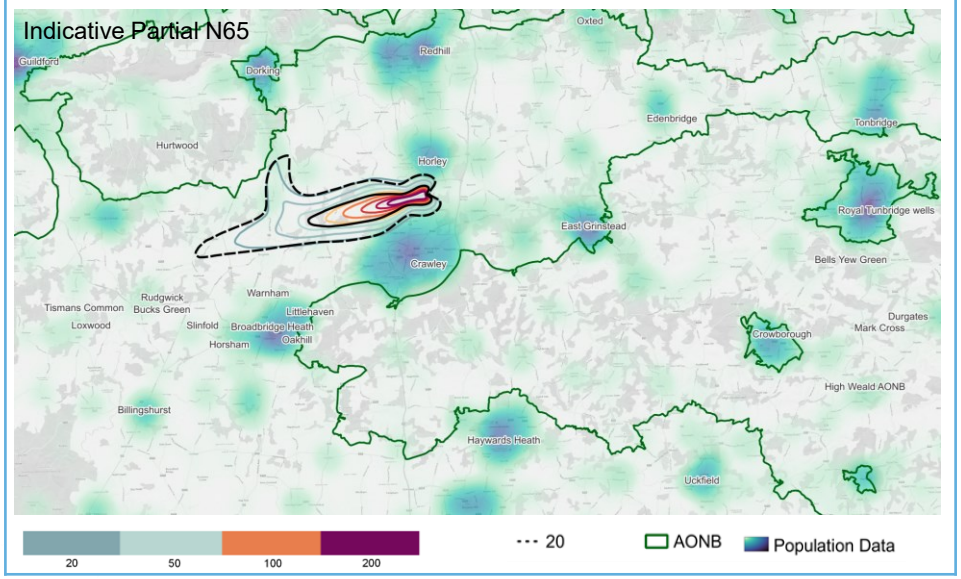
Option

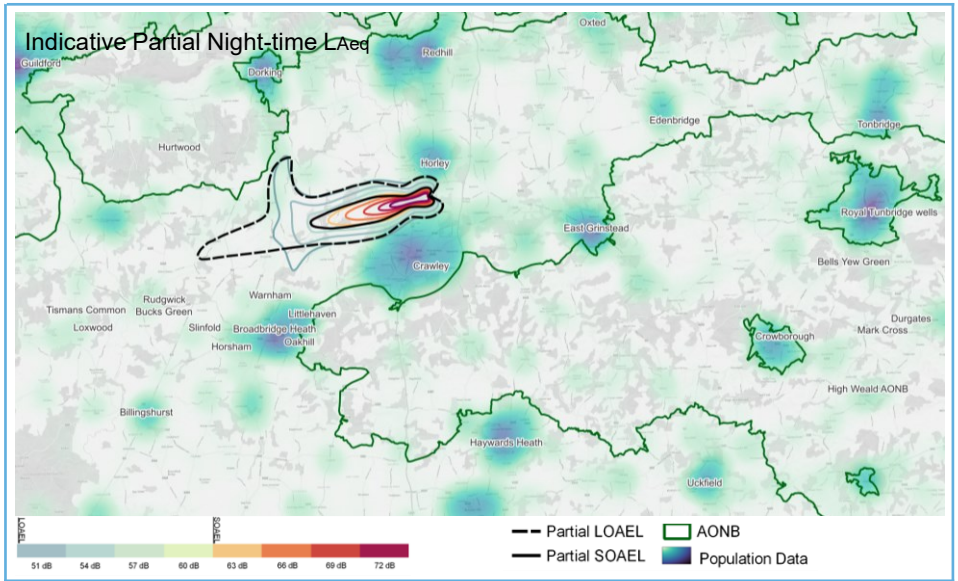
Departure Westerly System 2

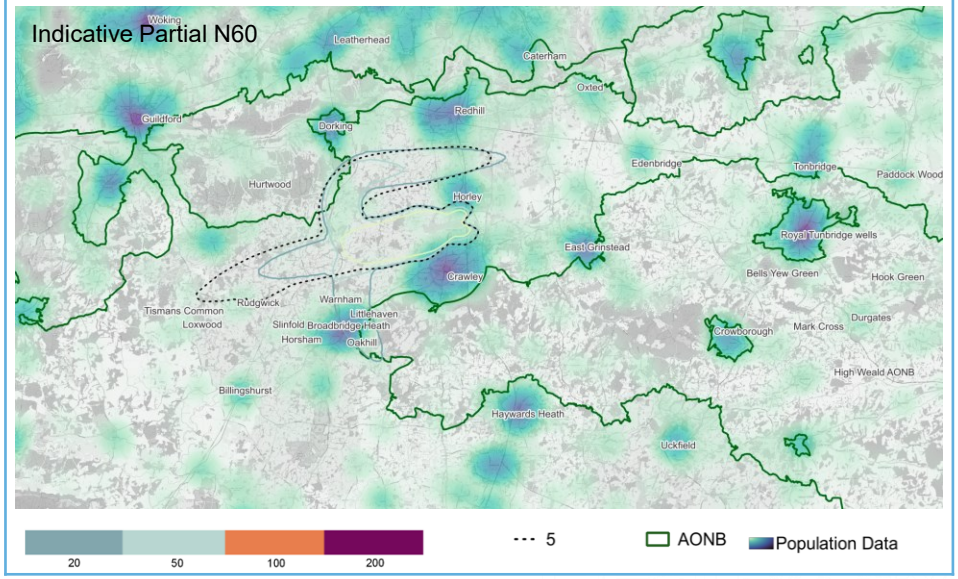
Day





Night





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Option

Departure Westerly System 3

Description

SAM/KENET are broadly similar to today however there is some variation in the routes. XAM departures would turn earlier than the baseline towards the south west before turning again to track south. Rather than turning right, the DAGGA/TNT/DVR departures would turn left before wrapping around and heading north (DAGGA/TNT) and west (DVR).

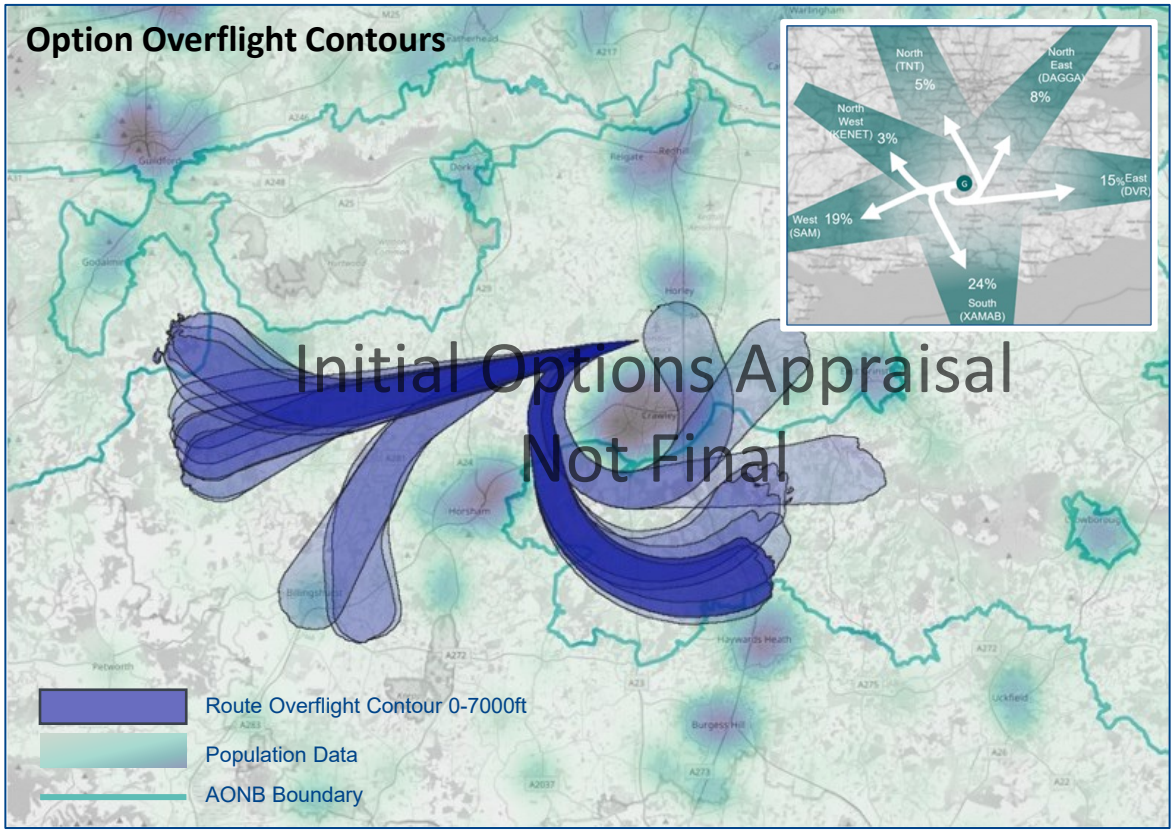
Noise (Qualitative)

This option routes the DAGGA/TNT/DVR departures to the left rather than right which introduces overflight in areas not routinely overflown by westerly departures today. Changes to Gatwick's existing NPRs would be required. The XAMAB departures turn earlier than in the baseline and this reduces the cumulative affects for those communities currently living under the easterly final approach and the straight ahead sections of the westerly departures however it does introduce overflight over areas not regularly overflown in the baseline. In the baseline, westerly departures fly the NPRs and are then typically vectored. This option is expected to result in greater levels of concentration along routes. It is expected that departures will achieve improved CCO performance, and the left turn DVR/DAGGA/TNT departures may achieve better CCO performance than the right turn options although this is subject to integration with neighbouring airports and the network airspace above 7000ft.

Airspace Modernisation Strategy

Supports the AMS through the implementation of PBN departures which would be for noise and environmental mitigation purposes as set out in the Government's Air Navigation Guidance. PBN departures are expected to be used in conjunction with arrivals as part of wider a system design which could enable simplification, integration, safety and efficiency enhancements.

Overflight Illustration



Safety

No significant safety concerns raised at this stage although new / revised safety assurances may be required. An acceptable safety argument is envisaged to be achievable subject to further investigation should this option progress.

This system mostly avoids traffic routing low over the northern half of the CTR and CTA. This is an area routinely busy with GA traffic and therefore avoiding this area provides mitigation for any infringement events.

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Option

Departure Westerly System 3

Indicative Partial System Performance

Noise	*Population*	Difference to Baseline
LOAEL (Day)	6286	+207
LOAEL (Night)	4768	-474
N65 (20)	6921	-1083
N60 (5)	20704	-3613

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	19.4	+18.1 km²

Emissions	Qualitative Conclusion
Fuel Burn & Greenhouse Gas	*Expected positive compared to baseline*

Economic	Qualitative Conclusion
Commercial Airlines	*Expected positive compared to baseline*
General Aviation	*Expected positive compared to baseline*

General Aviation	Qualitative Conclusion
Controlled Airspace Volume	*Expected positive compared to baseline*
GA Access	*Expected positive compared to baseline*

Capacity / Resilience	Qualitative Conclusion
Capacity / Resilience	*Expected positive compared to baseline*

Costs	Qualitative Conclusion
Commercial Airlines Training	No costs identified
Commercial Airlines Other	No costs identified
Airport / ANSP Infrastructure	*Costs identified*
Airport / ANSP Operational	*Costs identified*
Airport / ANSP Deployment	*Costs identified*

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FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 3

Option Routes	Noise				Air Quality	Tranquillity	Biodiversity (RAMSAR, SEC, SPA, SSSI overflown between 0-1640ft		Fuel Burn & Greenhouse Gas Emissions
	Overflight Daytime (1) (Population)	Overflight Nighttime (1) (Population)	Population Newly overflown (Day) (1)	Population Newly overflown (Night) (1)			Number of sites overflown between 0-1640ft	Area (km2) of sites overflown between 0-1640ft	
W DAGGA Group 2 WDB C	4710	4710	4710	4710	No	41.1	0	0	73.6
W DAGGA Group 2 WDB C 2	4710	4710	4710	4710	No	41.1	0	0	72.8
W DAGGA Group 2 WDK C	19488	19488	19488	19488	No	24.2	0	0	67.0
W DVR Group 2 WDB C	4710	4710	4710	4710	No	41.1	0	0	71.0
W DVR Group 2 WDB C 1	6211	6211	6211	6211	No	39.9	0	0	73.5
W DVR Group 2 WDB C 2	4370	4370	4370	4370	No	45.6	0	0	72.5
W DVR Group 2 WDB C 3	3836	3836	3836	3836	No	45.8	0	0	73.5
W DVR Group 2 WDB C 4	4376	4376	4376	4376	No	46.7	0	0	71.7
W DVR Group 2 WDK C	3918	3918	3918	3918	No	48.3	0	0	67.5
W KENET Group 3 WDC B	2133	0	2133	0	No	4.4	0	0	56.0
W KENET Group 3 WDL B	5637	0	5637	0	No	5.1	0	0	56.6
W KENET Group 3 WDM B	6567	0	6567	0	No	5.9	0	0	55.7
W KENET Group 3 WDP B	3534	0	3534	0	No	5.6	0	0	55.8
W SAM Group 1 WDA B	2649	2649	356	1811	No	0	0	0	47.4
W SAM Group 1 WDC B	2583	2583	323	1745	No	0	0	0	45.9
W SAM Group 1 WDG C	4096	4096	251	3258	No	0	0	0	46.1
W SAM Group 1 WDH C	3805	3805	224	2967	No	0	0	0	46.0
W SAM Group 1 WDM B	2719	2719	1316	2005	No	0	0	0	46.1
W SAM Group 1 WDP B	2423	2423	711	1695	No	0	0	0	46.0
W TNT Group 2 WDB C	4710	0	4710	0	No	41.1	0	0	155.3
W TNT Group 2 WDB C 2	4710	0	4710	0	No	41.1	0	0	151.8
W TNT Group 2 WDK C	34048	0	34048	0	No	22.3	0	0	141.4
W XAMAB Group 3 WDA C	4628	4628	4260	4360	Lateral change below 1000ft	0	0	0	69.5
W XAMAB Group 3 WDA C 2	11769	11769	11451	11523	Lateral change below 1000ft	0	0	0	71.1
W XAMAB Group 3 WDA C 3	4747	4747	4429	4501	Lateral change below 1000ft climb	0	0	0	69.8

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FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 3

Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W DAGGA Group 2 WDB C	No IFP issues identified	Left turn DAGGA departures reduce interdependencies with Heathrow, Biggin Hill and London City as the turn to the south allows aircraft to gain altitude before routing north. However this does introduce interdependencies between Gatwick's arrivals. The routes will also continue to share interdependencies with these airports.	✓
W DAGGA Group 2 WDB C 2	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network. Left turn DAGGA departures reduce interdependencies with Heathrow, Biggin Hill, and London City as the turn to the south allows aircraft to gain altitude before routing north however the route will still share interdependencies with these airports.	✓
W DAGGA Group 2 WDK C	First turn radius c.2nm followed by 2.2nm turn. This is within the parameters of IFP design however would require further IFP development and flyability testing.	This route would have significant and prohibitive interdependencies with the Heathrow arrival mechanism, and potentially with Biggin Hill traffic.	✗
W DVR Group 2 WDB C	No IFP issues identified	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	✗
W DVR Group 2 WDB C 1	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	✓
W DVR Group 2 WDB C 2	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	✓
W DVR Group 2 WDB C 3	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	✓
W DVR Group 2 WDB C 4	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	✓
W DVR Group 2 WDK C	First turn radius c.2nm followed by 2.2nm turn. C.0.6nm to first turn.	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	✗
W KENET Group 3 WDC B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	✓
W KENET Group 3 WDL B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	✓
W KENET Group 3 WDM B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	✓
W KENET Group 3 WDP B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	✓

LONDON GATWICK

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 3

Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W SAM Group 1 WDA B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	✓
W SAM Group 1 WDC B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	✓
W SAM Group 1 WDG C	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	✓
W SAM Group 1 WDH C	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	✓
W SAM Group 1 WDM B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	✓
W SAM Group 1 WDP B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	✓
W TNT Group 2 WDB C	No IFP issues identified	Left turn TNT departures reduce interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt as the turn to the south allows aircraft to gain altitude before routing north. However this does introduce interdependencies between Gatwick's arrivals. The routes will also continue to share interdependencies with these airports.	✓
W TNT Group 2 WDB C 2	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network. Left turn TNT departures reduce interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt as the turn to the south allows aircraft to gain altitude before routing north however the route will still share interdependencies with these airports.	✓
W TNT Group 2 WDK C	First turn radius c.2nm followed by 2.2nm turn. This is within the parameters of IFP design however would require further IFP development and flyability testing.	This route would have significant and prohibitive interdependencies with the Heathrow arrival mechanism, and potentially with Biggin Hill traffic.	✗
W XAMAB Group 3 WDA C	First turn at c.3.2nm. No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	✓
W XAMAB Group 3 WDA C 2	First turn at c.3.2nm. No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	✓
W XAMAB Group 3 WDA C 3	First turn at c.3.2nm. No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	✓

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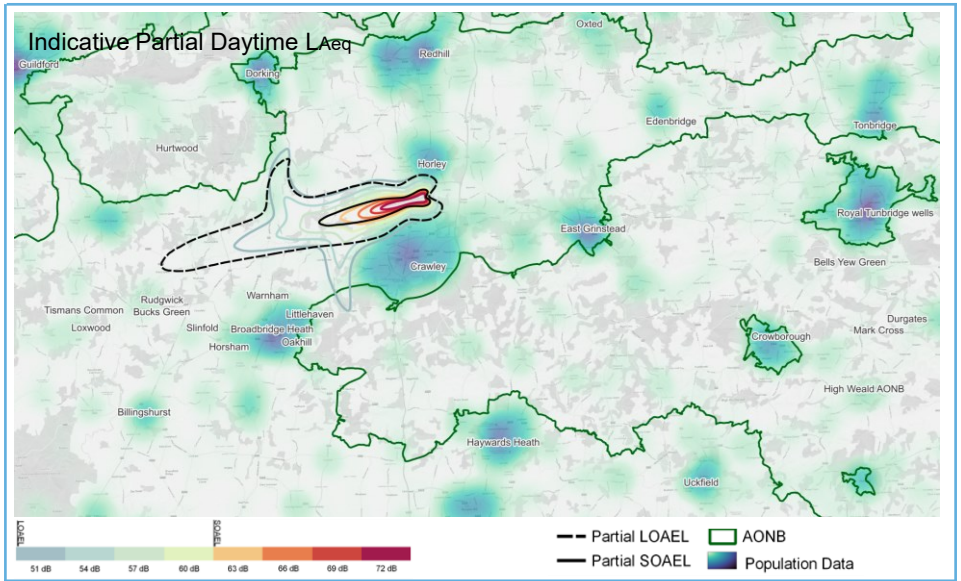
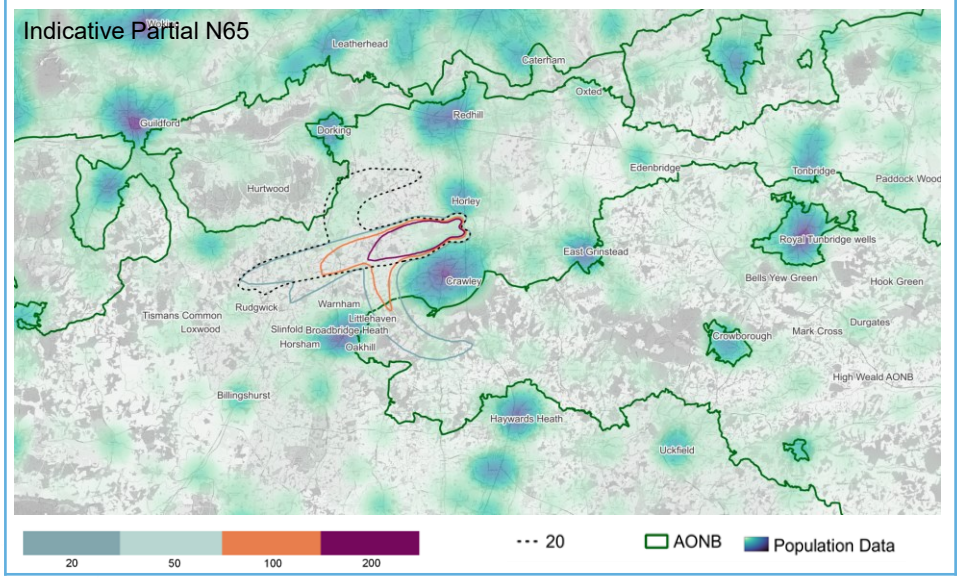
Option

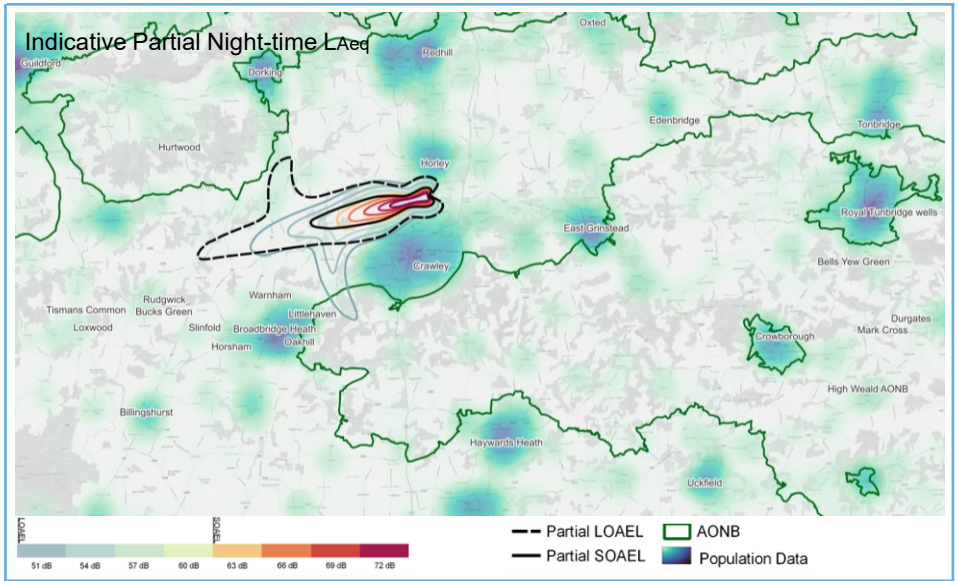
Departure Westerly System 3

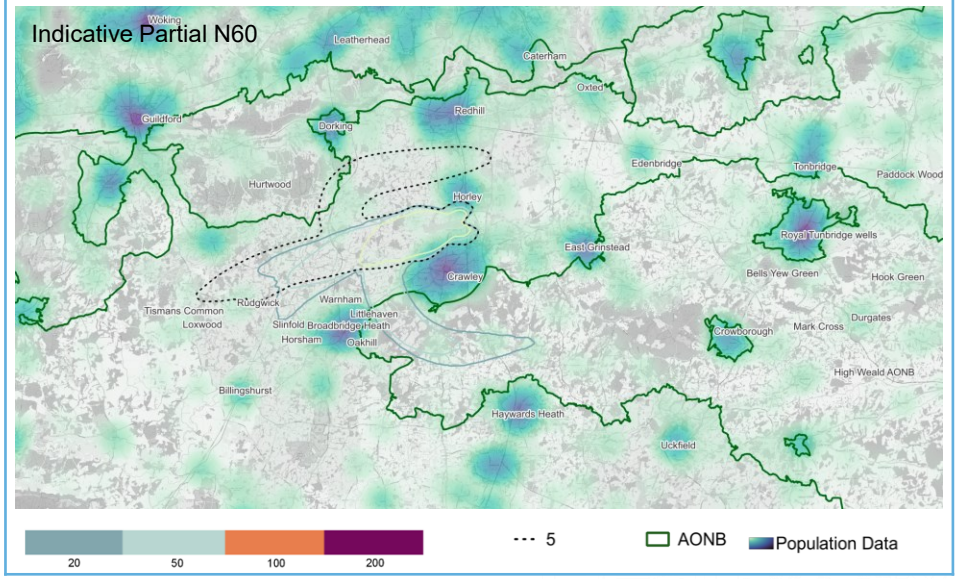
Day





Night





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Option

Departure Westerly System 4

Description

SAM/KENET are broadly similar to today however there is some variation in the routes. XAM departures would turn earlier than the baseline towards the south west before turning again to track south. Rather than turning right (north), the DAGGA/TNT/DVR departures would turn left before wrapping around and heading north (DAGGA/TNT) and west (DVR).

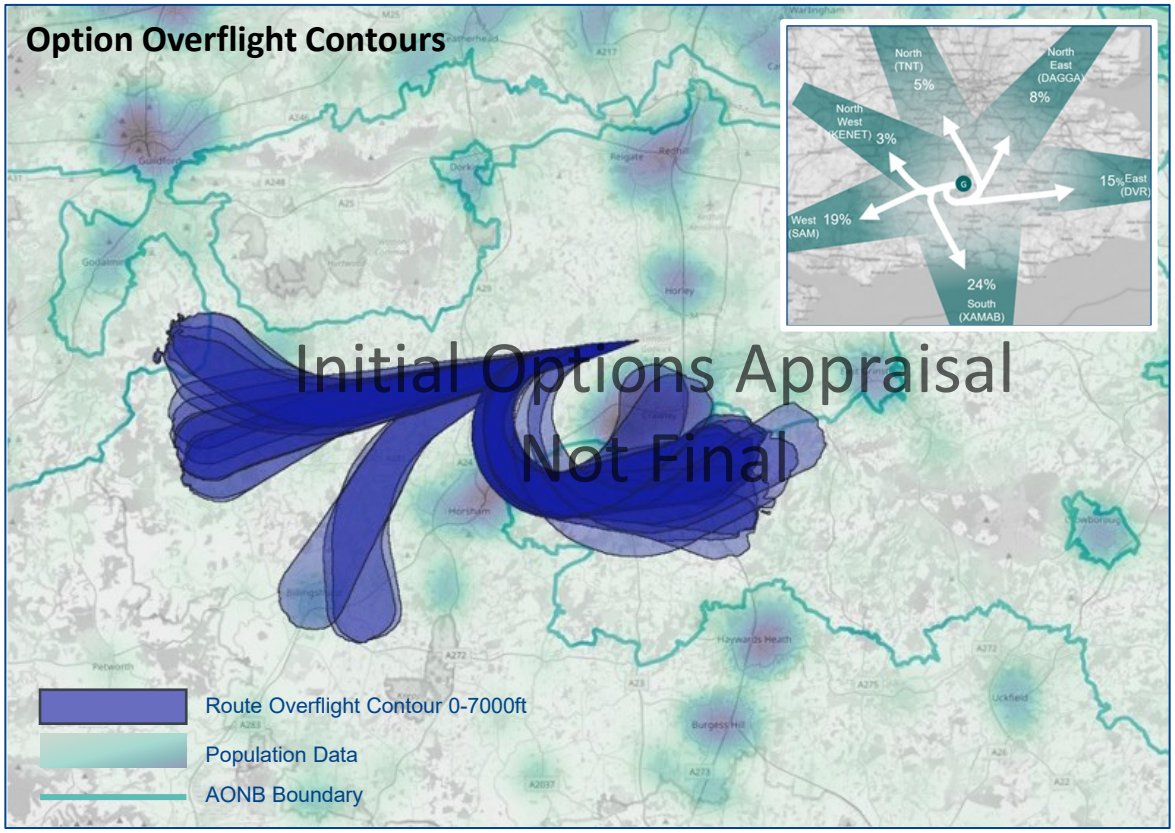
Noise (Qualitative)

This option routes the DAGGA/TNT/DVR departures to the left rather than right which introduces overflight in areas not routinely overflown by westerly departures today. Changes to Gatwick's existing NPRs would be required. The XAMAB departures turn earlier than in the baseline and this reduces the cumulative affects for those communities currently living under the easterly final approach and the straight ahead sections of the westerly departures however it does introduce overflight over areas not regularly overflown in the baseline. In the baseline, westerly departures fly the NPRs and are then typically vectored. This option is expected to result in greater levels of concentration along routes. It is expected that departures will achieve improved CCO performance, and the left turn DVR/DAGGA/TNT departures may achieve better CCO performance than the right turn options although this is subject to integration with neighbouring airports and the network airspace above 7000ft.

Airspace Modernisation Strategy

Supports the AMS through the implementation of PBN departures which would be for noise and environmental mitigation purposes as set out in the Government's Air Navigation Guidance. PBN departures are expected to be used in conjunction with arrivals as part of wider a system design which could enable simplification, integration, safety and efficiency enhancements.

Overflight Illustration



Safety

No significant safety concerns raised at this stage although new / revised safety assurances may be required. An acceptable safety argument is envisaged to be achievable subject to further investigation should this option progress.

This system avoids traffic routing low over the northern half of the CTR and CTA. This is an area routinely busy with GA traffic and therefore avoiding this area provides mitigation for any infringement events.

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 4

Indicative Partial System Performance (Westerly System 4 and 4.2)

Noise	*Population*	Difference to Baseline
LOAEL (Day)	5695 / 5527	-384 / -552
LOAEL (Night)	4287 / 4292	-955 / -950
N65 (20)	23887 / 22986	+15883 / +14982
N60 (5)	41051 / 23854	+16734 / -463

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	7.2 / 10.7	+5.9 / +9.4km²

Emissions	Qualitative Conclusion
Fuel Burn & Greenhouse Gas	*Expected positive compared to baseline*

Economic	Qualitative Conclusion
Commercial Airlines	*Expected positive compared to baseline*
General Aviation	*Expected positive compared to baseline*

General Aviation	Qualitative Conclusion
Controlled Airspace Volume	*Expected positive compared to baseline*
GA Access	*Expected positive compared to baseline*

Capacity / Resilience	Qualitative Conclusion
Capacity / Resilience	*Expected positive compared to baseline*

Costs	Qualitative Conclusion
Commercial Airlines Training	No costs identified
Commercial Airlines Other	No costs identified
Airport / ANSP Infrastructure	*Costs identified*
Airport / ANSP Operational	*Costs identified*
Airport / ANSP Deployment	*Costs identified*

LONDON GATWICK

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 4

Option Routes	Noise				Air Quality	Tranquillity	Biodiversity (RAMSAR, SEC, SPA, SSSI overflown between 0-1640ft		Fuel Burn & Greenhouse Gas Emissions
	Overflight Daytime (1) (Population)	Overflight Nighttime (1) (Population)	Population Newly overflown (Day) (1)	Population Newly overflown (Night) (1)			Number of sites overflown between 0-1640ft	Area (km2) of sites overflown between 0-1640ft	
W DAGGA Group 3 WDP C	93028	93028	92951	93028	No	18.7	0	0	70.1
W DVR Group 3 WDB C5	4469	4469	4469	4469	No	43.3	0	0	69.8
W DVR Group 3 WIOA 1	5393	5393	5393	5393	No	47.1	0	0	71.3
W DVR Group 3 WDF C	14528	14528	14451	14451	No	39	0	0	70.8
W DVR Group 3 WDF C 2	14631	14631	14554	14554	No	40.2	0	0	72.3
W DVR Group 3 WDG B	16527	16527	16404	16450	No	38.2	0	0	71.7
W DVR Group 3 WDG B 1	26841	26841	26716	26762	No	35.4	0	0	72.6
W DVR Group 3 WDG B 2	20035	20035	19912	19958	No	37	0	0	71.9
W DVR Group 3 WDH B	15948	15948	15825	15871	No	38.6	0	0	71.0
W DVR Group 3 WDP C	26430	26430	26305	26351	No	35.2	0	0	71.3
W DVR Group 3 WDP C 1	26841	26841	26716	26762	No	35.4	0	0	72.6
W DVR Group 3 WDP C 3	26031	26031	25906	25952	No	35.7	0	0	72.5
W KENET Group 3 WDC B	2133	0	2133	0	No	4.4	0	0	56.0
W KENET Group 3 WDL B	5637	0	5637	0	No	5.1	0	0	56.6
W KENET Group 3 WDM B	6567	0	6567	0	No	5.9	0	0	55.7
W KENET Group 3 WDP B	3534	0	3534	0	No	5.6	0	0	55.8
W SAM Group 1 WDA B	2649	2649	356	1811	No	0	0	0	47.4
W SAM Group 1 WDC B	2583	2583	323	1745	No	0	0	0	45.9
W SAM Group 1 WDG C	4096	4096	251	3258	No	0	0	0	46.1
W SAM Group 1 WDH C	3805	3805	224	2967	No	0	0	0	46.0
W SAM Group 1 WDM B	2719	2719	1316	2005	No	0	0	0	46.1
W SAM Group 1 WDP B	2423	2423	711	1695	No	0	0	0	46.0
W TNT Group 3 WDP C	89775	0	89775	0	No	18.4	0	0	142.9
W XAMAB Group 3 WDA C	4628	4628	4260	4360	Lateral change below 1000ft	0	0	0	69.5
W XAMAB Group 3 WDA C 2	11769	11769	11451	11523	Lateral change below 1000ft	0	0	0	71.1
W XAMAB Group 3 WDA C 3	4747	4747	4429	4501	Lateral change below 1000ft	0	0	0	69.8

Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W DAGGA Group 3 WDP C	This route offers a 270° track change and the turn radius sit close to the defined regulatory limits. It would require further IFP development and flight testing to understand the viability.	This route would have significant and prohibitive interdependencies with the Heathrow arrival mechanism, and potentially with Biggin Hill traffic.	✗
W DVR Group 3 WDB C5	First turn at c.1nm with a c2nm radius, followed immediately by another turn with a c.3nm radius.	Additional option developed with the aim of reducing interdependencies with arrivals	✓ (Incorporated into WS3)
W DVR Group 3 WIOA 1	First turn at c1nm with a wrap around turn (c.2.5nm radius)	Additional option developed with the aim of reducing interdependencies with arrivals	✓ (Incorporated into WS3)
W DVR Group 3 WDF C	First turn at c.2nm with a wrap around turn (c.2nm in radius)	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	✗
W DVR Group 3 WDF C 2	First turn at c.2nm with a wrap around turn (c.2nm in radius)	Evolved from WDF C to better integrate with arrivals and the wider airspace network.	✓ (Incorporated into WS3)
W DVR Group 3 WDG B	No IFP issues identified	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	✗
W DVR Group 3 WDG B 1	No IFP issues identified	Evolved from WDG B to better integrate with arrivals and the wider airspace network.	✓ (Incorporated into WS3)
W DVR Group 3 WDG B 2	No IFP issues identified	Evolved from WDG B to better integrate with arrivals and the wider airspace network.	✓ (Incorporated into WS3)
W DVR Group 3 WDH B	No IFP issues identified	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	✗
W DVR Group 3 WDP C	The first turn occurs after 2nm however it is a 180° with a c.2nm turn radius. Within the regulatory limits but may need flyability testing and further IFP development.	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	✗
W DVR Group 3 WDP C 1	The first turn occurs after 2nm however it is a 180° with a c.2nm turn radius. Within the regulatory limits but may need flyability testing and further IFP development.	Evolved from WDP C to better integrate with arrivals and the wider airspace network.	✓ (Incorporated into WS3)
W DVR Group 3 WDP C 3	The first turn occurs after 2nm however it is a 180° with a c.2nm turn radius. Within the regulatory limits but may need flyability testing and further IFP development.	Evolved from WDP C to better integrate with arrivals and the wider airspace network.	✓ (Incorporated into WS3)
W KENET Group 3 WDC B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	✗
W KENET Group 3 WDL B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	✗
W KENET Group 3 WDM B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	✗
W KENET Group 3 WDP B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	✗

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Option

Departure Westerly System 4

Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W SAM Group 1 WDA B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	X
W SAM Group 1 WDC B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	X
W SAM Group 1 WDG C	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	X
W SAM Group 1 WDH C	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	X
W SAM Group 1 WDM B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	X
W SAM Group 1 WDP B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	X
W TNT Group 3 WDP C	This route offers a 270° track change and the turn radius sit close to the defined regulatory limits. It would require further IFP development and flight testing to understand the viability.	This route would have significant and prohibitive interdependencies with the Heathrow arrival mechanism, and potentially with Biggin Hill traffic.	X
W XAMAB Group 3 WDA C	First turn at c.3.2nm. No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	X
W XAMAB Group 3 WDA C 2	First turn at c.3.2nm. No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	X
W XAMAB Group 3 WDA C 3	First turn at c.3.2nm. No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	X

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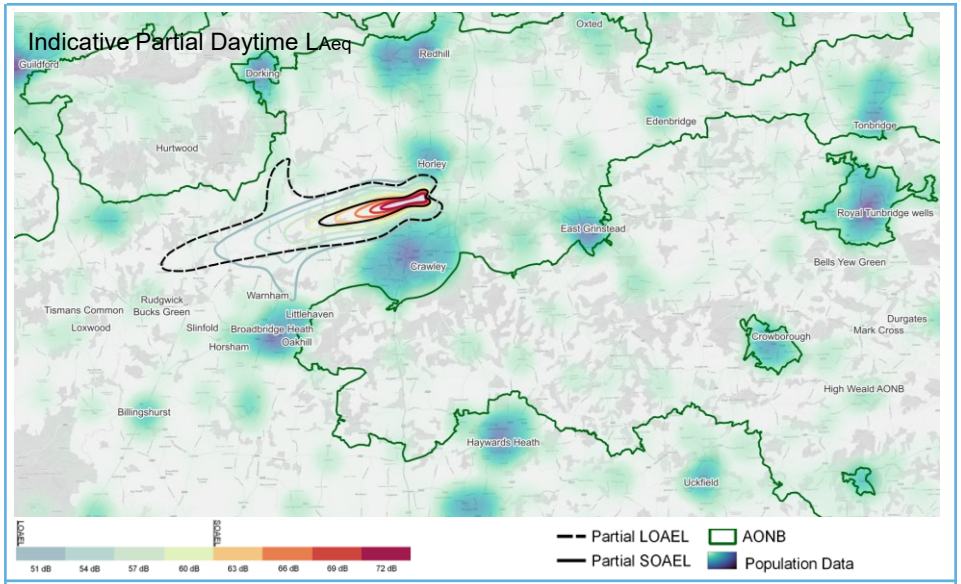
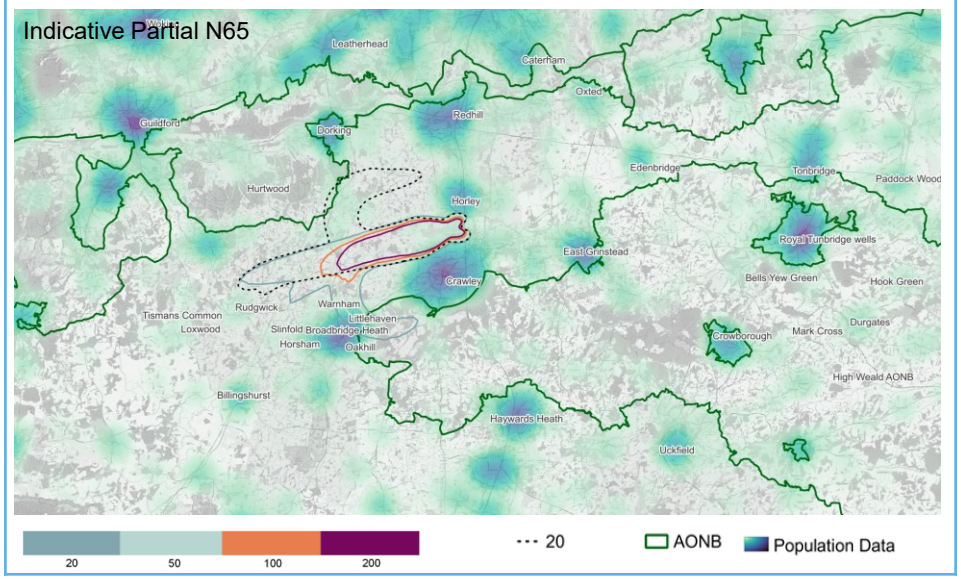
Option

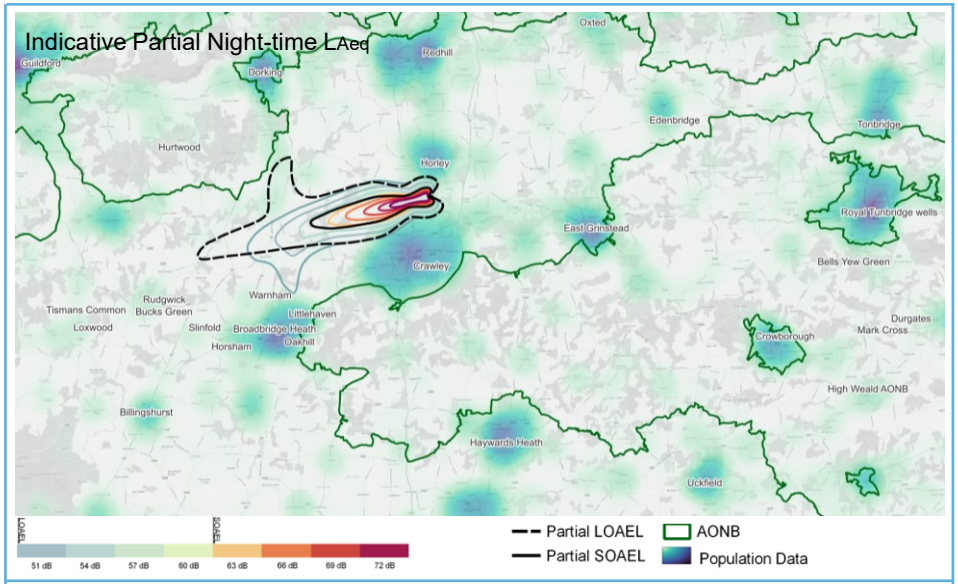
Departure Westerly System 4

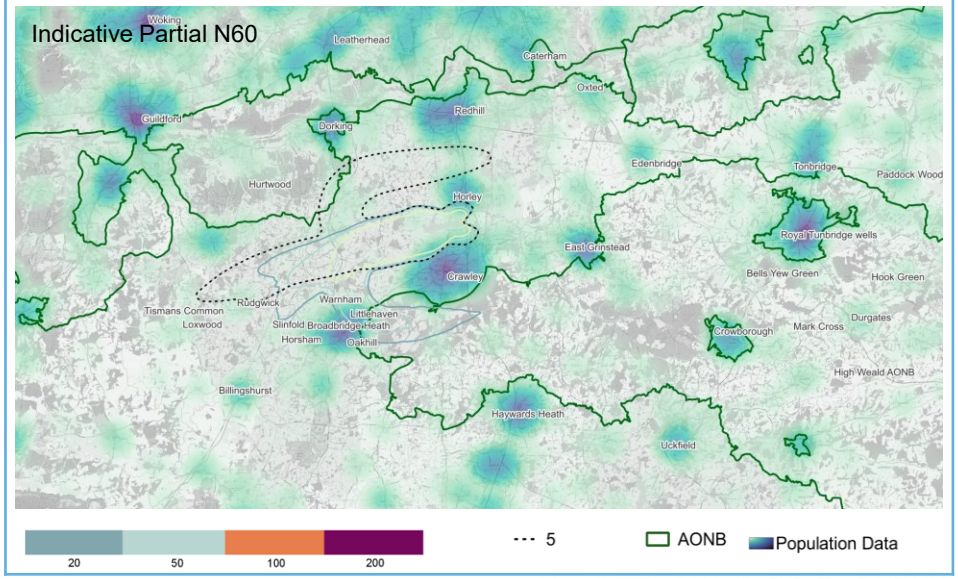
Day



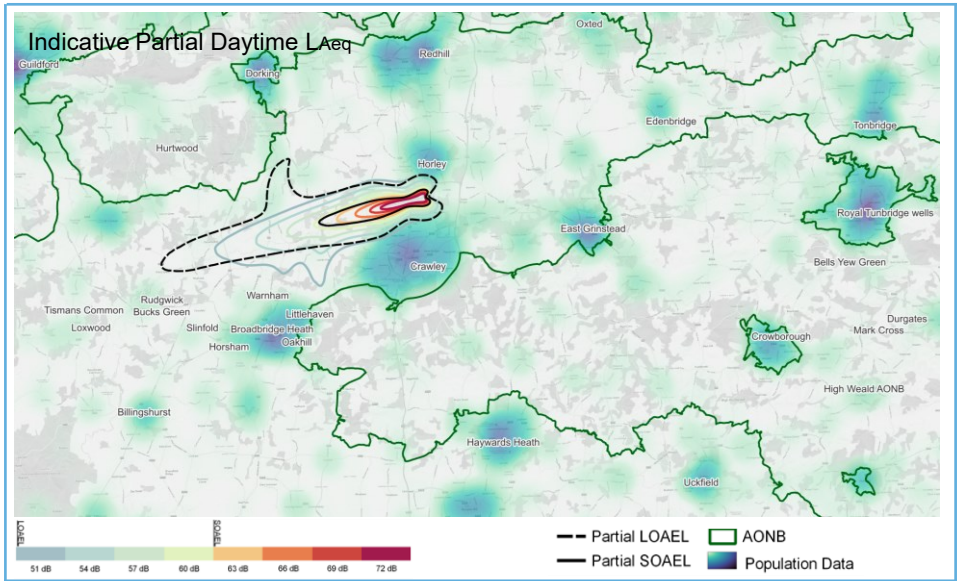


Night





Day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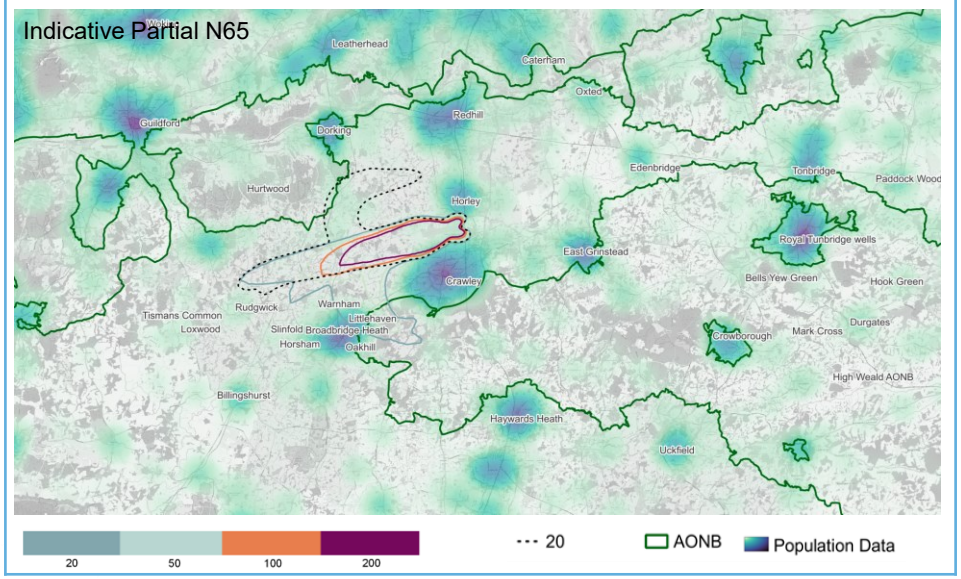
Guildford
Dorking
Oxted
Redhill
Hurtwood
Edenbridge
Tonbridge
Horley
Royal Tunbridge wells
East Grinstead
Crawley
Bells Yew Green
Tismans Common
Rudgwick
Bucks Green
Warnham
Littlehaven
Loxwood
Slinfold
Broadbridge Heath
Horsham
Oakhill
Crowborough
Durgates
Mark Cross
High Weald AONB
Billingshurst
Haywards Heath
Uckfield
LOAEL
SOAEL
51 dB
54 dB
57 dB
60 dB
63 dB
66 dB
69 dB
72 dB
Partial LOAEL
Partial SOAEL
AONB
Population Data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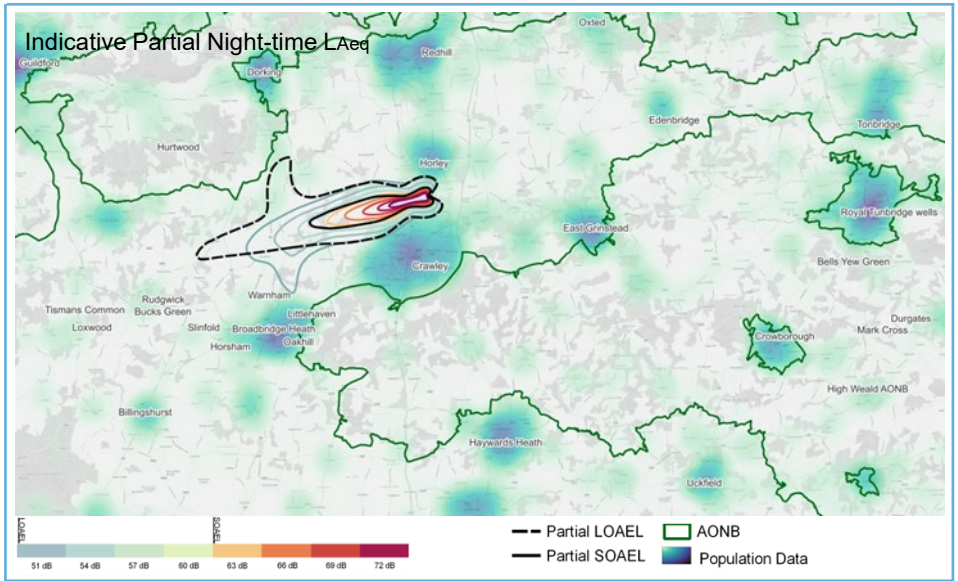
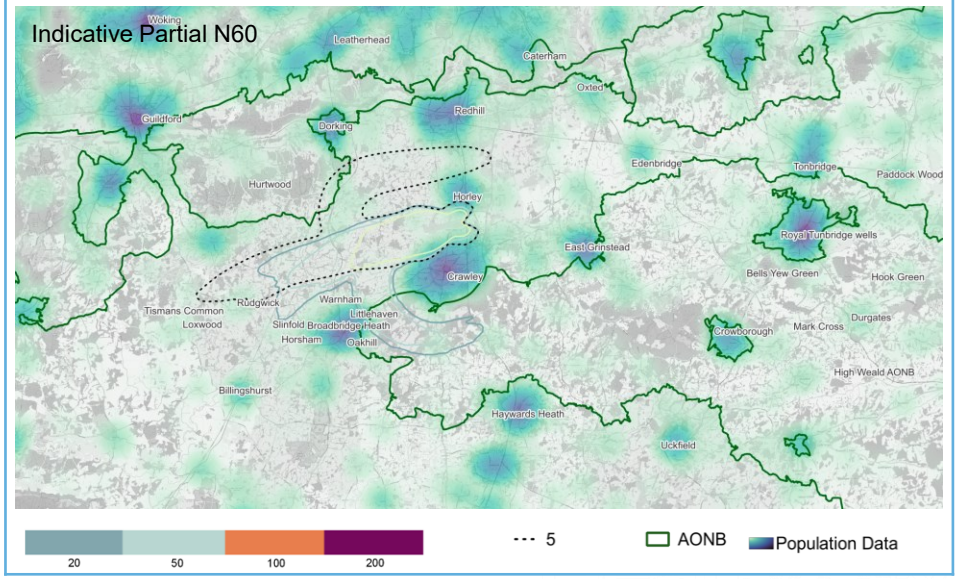
Caterham
Guildford
Dorking
Oxted
Redhill
Hurtwood
Edenbridge
Tonbridge
Paddock Wood
Horley
Royal Tunbridge wells
East Grinstead
Crawley
Bells Yew Green
Hook Green
Tismans Common
Rudgwick
Warnham
Littlehaven
Loxwood
Slinfold
Broadbridge Heath
Horsham
Oakhill
Crowborough
Mark Cross
Durgates
High Weald AONB
Billingshurst
Haywards Heath
Uckfield
20
50
100
200
20
AONB
Population Data

Night


Indicative Partial Night-time LAeq
Guildford
Dorking
Oxted
Redhill
Hurtwood
Edenbridge
Tonbridge
Horley
Royal Tunbridge wells
East Grinstead
Crawley
Bells Yew Green
Tismans Common
Rudgwick
Bucks Green
Warnham
Littlehaven
Loxwood
Slinfold
Broadbridge Heath
Horsham
Oakhill
Crowborough
Durgates
Mark Cross
High Weald AONB
Billingshurst
Haywards Heath
Uckfield
LOAEL
SOAEL
51 dB
54 dB
57 dB
60 dB
63 dB
66 dB
69 dB
72 dB
Partial LOAEL
Partial SOAEL
AONB
Population Data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Leatherhead
Caterham
Guildford
Dorking
Oxted
Redhill
Hurtwood
Edenbridge
Tonbridge
Paddock Wood
Horley
Royal Tunbridge wells
East Grinstead
Crawley
Bells Yew Green
Hook Green
Tismans Common
Rudgwick
Warnham
Littlehaven
Loxwood
Slinfold
Broadbridge Heath
Horsham
Oakhill
Crowborough
Mark Cross
Durgates
High Weald AONB
Billingshurst
Haywards Heath
Uckfield
20
50
100
200
5
AONB
Population Data

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Option

Departure Westerly System 5 (Majority of DVR turn right)

Description

SAM/KENET are broadly similar to today however there is some variation in the routes. XAM departures would turn earlier than the baseline towards the south-west before turning again to track south. Rather than turning right (north), the DAGGA/TNT departures would turn left before wrapping around and heading north. In this configuration, the majority of DVR departures turn right similar to today and a small percentage would turn left (south) and wrap around to the west.

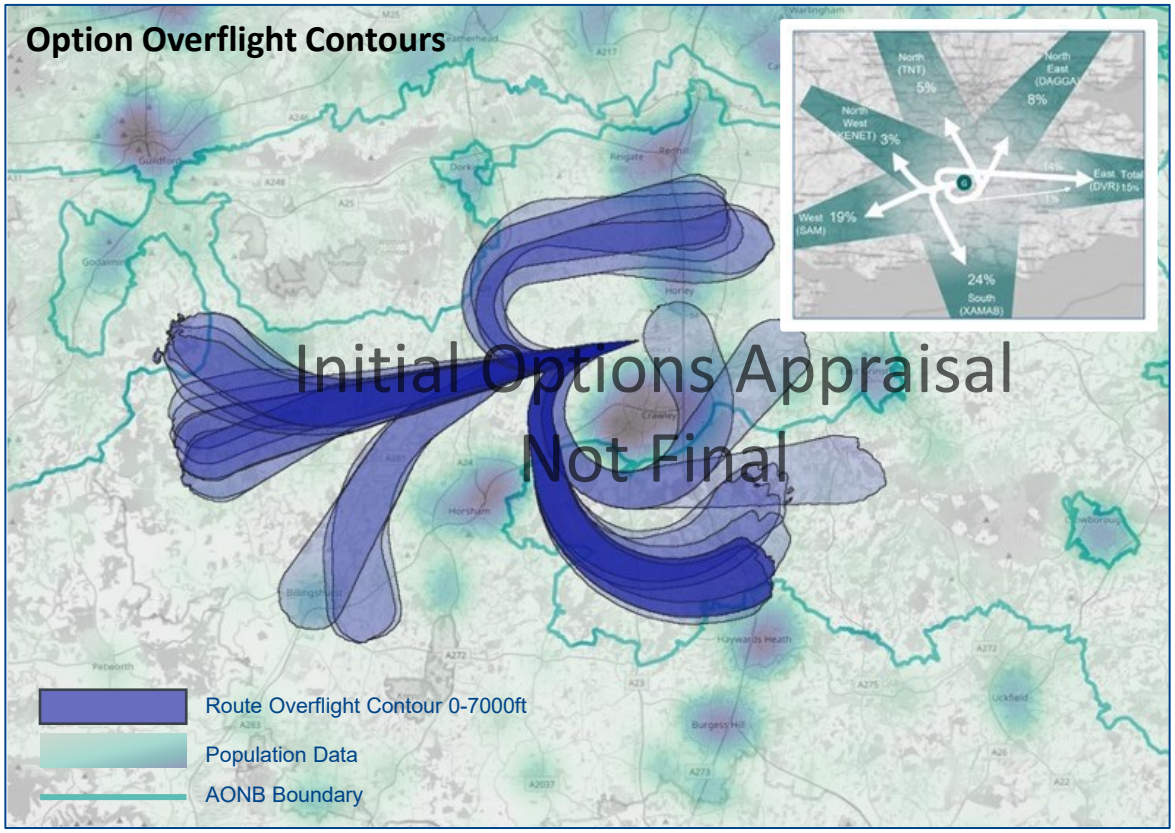
Noise (Qualitative)

This option routes the DAGGA/TNT/DVR departures to the left rather than right which introduces overflight in areas not routinely overflown by westerly departures today. Changes to Gatwick's existing NPRs would be required. The XAMAB departures turn earlier than in the baseline and this reduces the cumulative affects for those communities currently living under the easterly final approach and the straight ahead sections of the westerly departures however it does introduce overflight over areas not regularly overflown in the baseline. In the baseline, westerly departures fly the NPRs and are then typically vectored. This option is expected to result in greater levels of concentration along routes. It is expected that departures will achieve improved CCO performance, and the left turn DVR/DAGGA/TNT departures may achieve better CCO performance than the right turn options although this is subject to integration with neighbouring airports and the network airspace above 7000ft.

Airspace Modernisation Strategy

Supports the AMS through the implementation of PBN departures which would be for noise and environmental mitigation purposes as set out in the Government's Air Navigation Guidance. PBN departures are expected to be used in conjunction with arrivals as part of wider a system design which could enable simplification, integration, safety and efficiency enhancements.

Overflight Illustration



Safety

No significant safety concerns raised at this stage although new / revised safety assurances may be required. An acceptable safety argument is envisaged to be achievable subject to further investigation should this option progress.

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Option

Departure Westerly System 5 (Majority of DVR turn right)

Indicative Partial System Performance

Noise	*Population*	Difference to Baseline
LOAEL (Day)	5883	-196
LOAEL (Night)	3865	-1377
N65 (20)	9537	+1533
N60 (5)	19670	-4647

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	16.9	+15.6 km²

Emissions	Qualitative Conclusion
Fuel Burn & Greenhouse Gas	*Expected positive compared to baseline*

Economic	Qualitative Conclusion
Commercial Airlines	*Expected positive compared to baseline*
General Aviation	*Expected positive compared to baseline*

General Aviation	Qualitative Conclusion
Controlled Airspace Volume	*Expected positive compared to baseline*
GA Access	*Expected positive compared to baseline*

Capacity / Resilience	Qualitative Conclusion
Capacity / Resilience	*Expected positive compared to baseline*

Costs	Qualitative Conclusion
Commercial Airlines Training	No costs identified
Commercial Airlines Other	No costs identified
Airport / ANSP Infrastructure	*Costs identified*
Airport / ANSP Operational	*Costs identified*
Airport / ANSP Deployment	*Costs identified*

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Option

Departure Westerly System 5 (Majority of DVR turn right)

Option Routes	Noise				Air Quality	Tranquillity	Biodiversity (RAMSAR, SEC, SPA, SSSI overflown between 0-1640ft		Fuel Burn & Greenhouse Gas Emissions
	Overflight Daytime (1) (Population)	Overflight Nighttime (1) (Population)	Population Newly overflown (Day) (1)	Population Newly overflown (Night) (1)			Number of sites overflown between 0-1640ft	Area (km2) of sites overflown between 0-1640ft	
W DAGGA Group 2 WDB C	4710	4710	4710	4710	No	41.1	0	0	73.6
W DAGGA Group 2 WDB C 2	4710	4710	4710	4710	No	41.1	0	0	72.8
W DAGGA Group 2 WDK C	19488	19488	19488	19488	No	24.2	0	0	67.0
W DVR Group 1 WDG A	14812	14812	6927	7127	No	1.6	0	0	71.7
W DVR Group 1 WDG A 2	19348	19348	14071	14167	No	0	0	0	72.5
W DVR Group 1 WDH A	14757	14757	6681	6881	No	1.6	0	0	71.4
W DVR Group 1 WDH A 2	11027	11027	4925	5021	No	0	0	0	70.3
W DVR Group 1 WDP A	11377	11377	4094	4271	No	1.4	0	0	71.1
W DVR Group 2 WDB C	4710	4710	4710	4710	No	41.1	0	0	71.0
W DVR Group 2 WDB C 1	6211	6211	6211	6211	No	39.9	0	0	73.5
W DVR Group 2 WDB C 2	4370	4370	4370	4370	No	45.6	0	0	72.5
W DVR Group 2 WDB C 3	3836	3836	3836	3836	No	45.8	0	0	73.5
W DVR Group 2 WDB C 4	4376	4376	4376	4376	No	46.7	0	0	71.7
W DVR Group 2 WDK C	3918	3918	3918	3918	No	48.3	0	0	67.5
W KENET Group 3 WDC B	2133	0	2133	0	No	4.4	0	0	56.0
W KENET Group 3 WDL B	5637	0	5637	0	No	5.1	0	0	56.6
W KENET Group 3 WDM B	6567	0	6567	0	No	5.9	0	0	55.7
W KENET Group 3 WDP B	3534	0	3534	0	No	5.6	0	0	55.8
W SAM Group 1 WDA B	2649	2649	356	1811	No	0	0	0	47.4
W SAM Group 1 WDC B	2583	2583	323	1745	No	0	0	0	45.9
W SAM Group 1 WDG C	4096	4096	251	3258	No	0	0	0	46.1
W SAM Group 1 WDH C	3805	3805	224	2967	No	0	0	0	46.0
W SAM Group 1 WDM B	2719	2719	1316	2005	No	0	0	0	46.1
W SAM Group 1 WDP B	2423	2423	711	1695	No	0	0	0	46.0
W TNT Group 2 WDB C	4710	0	4710	0	No	41.1	0	0	155.3
W TNT Group 2 WDB C 2	4710	0	4710	0	No	41.1	0	0	151.8
W TNT Group 2 WDK C	34048	0	34048	0	No	22.3	0	0	141.4
W XAMAB Group 3 WDA C	4628	4628	4260	4360	Change below 1000ft	0	0	0	69.5
W XAMAB Group 3 WDA C 2	11769	11769	11451	11523	Change below 1000ft	0	0	0	71.1
W XAMAB Group 3 WDA C 3	4747	4747	4429	4501	Change below 1000ft	0	0	0	69.8

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Option

Departure Westerly System 5 (Majority of DVR turn right)

Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W DAGGA Group 2 WDB C	No IFP issues identified	Left turn DAGGA departures reduce interdependencies with Heathrow, Biggin Hill and London City as the turn to the south allows aircraft to gain altitude before routing north. However this does introduce interdependencies between Gatwick's arrivals. The routes will also continue to share interdependencies with these airports.	✓
W DAGGA Group 2 WDB C 2	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network. Left turn DAGGA departures reduce interdependencies with Heathrow, Biggin Hill, and London City as the turn to the south allows aircraft to gain altitude before routing north however the route will still share interdependencies with these airports.	✓
W DAGGA Group 2 WDK C	First turn radius c.2nm followed by 2.2nm turn. This is within the parameters of IFP design however would require further IFP development and flyability testing.	This route would have significant and prohibitive interdependencies with the Heathrow arrival mechanism, and potentially with Biggin Hill traffic.	✗
W DVR Group 1 WDG A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	✓
W DVR Group 1 WDG A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	✓
W DVR Group 1 WDH A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	✓
W DVR Group 1 WDH A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	✓
W DVR Group 1 WDP A	First turn c.2nm. No other safety concerns identified with this route.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	✓
W DVR Group 2 WDB C	No IFP issues identified	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	✗
W DVR Group 2 WDB C 1	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	✓
W DVR Group 2 WDB C 2	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	✓
W DVR Group 2 WDB C 3	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	✓
W DVR Group 2 WDB C 4	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	✓
W DVR Group 2 WDK C	First turn radius c.2nm followed by 2.2nm turn. C.0.6nm to first turn.	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	✗
W KENET Group 3 WDC B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	✓
W KENET Group 3 WDL B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	✓
W KENET Group 3 WDM B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	✓
W KENET Group 3 WDP B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	✓

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Option

Departure Westerly System 5 (Majority of DVR turn right)

Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W SAM Group 1 WDA B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	✓ Option continued
W SAM Group 1 WDC B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDG C	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDH C	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDM B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDP B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	
W TNT Group 2 WDB C	No IFP issues identified	Left turn TNT departures reduce interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt as the turn to the south allows aircraft to gain altitude before routing north. However this does introduce interdependencies between Gatwick's arrivals. The routes will also continue to share interdependencies with these airports.	
W TNT Group 2 WDB C 2	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network. Left turn TNT departures reduce interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt as the turn to the south allows aircraft to gain altitude before routing north however the route will still share interdependencies with these airports.	
W TNT Group 2 WDK C	First turn radius c.2nm followed by 2.2nm turn. This is within the parameters of IFP design however would require further IFP development and flyability testing.	This route would have significant and prohibitive interdependencies with the Heathrow arrival mechanism, and potentially with Biggin Hill traffic.	
W XAMAB Group 3 WDA C	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 3 WDA C 2	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 3 WDA C 3	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	

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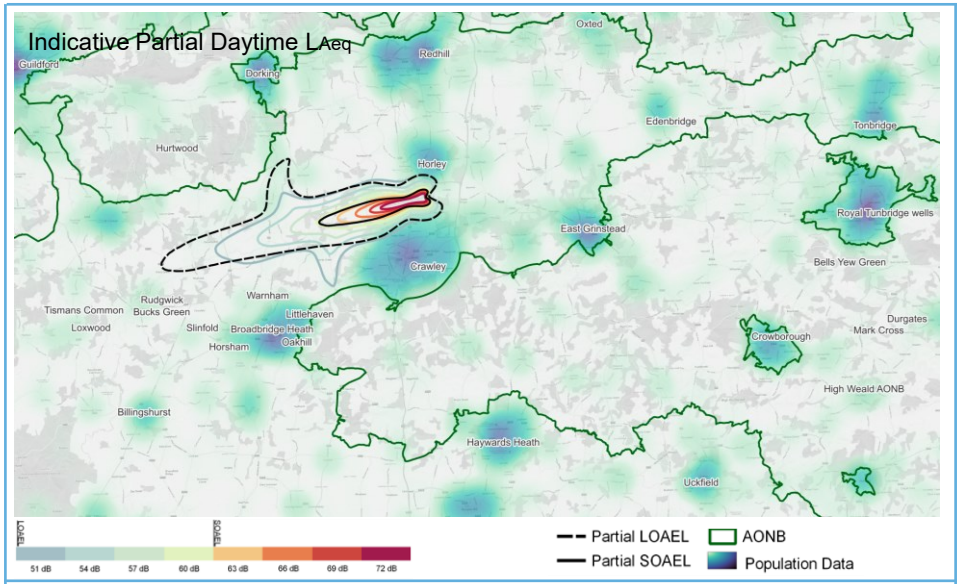
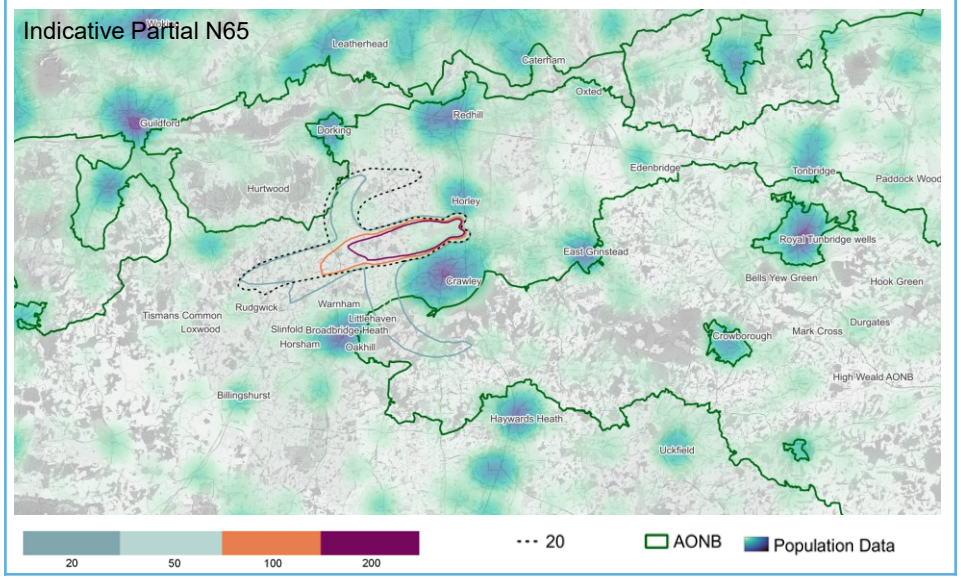
Option

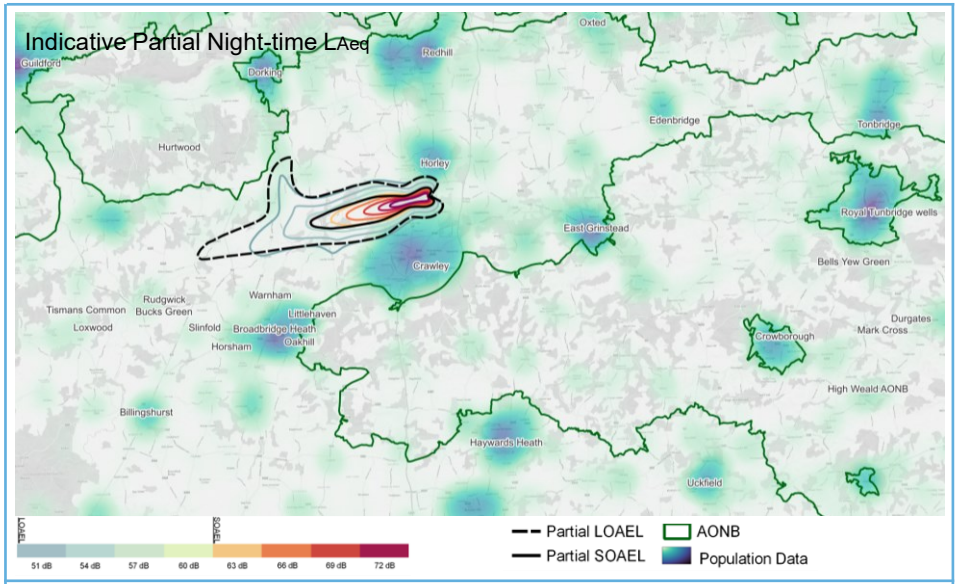
Departure Westerly System 5 (Majority of DVR turn right)

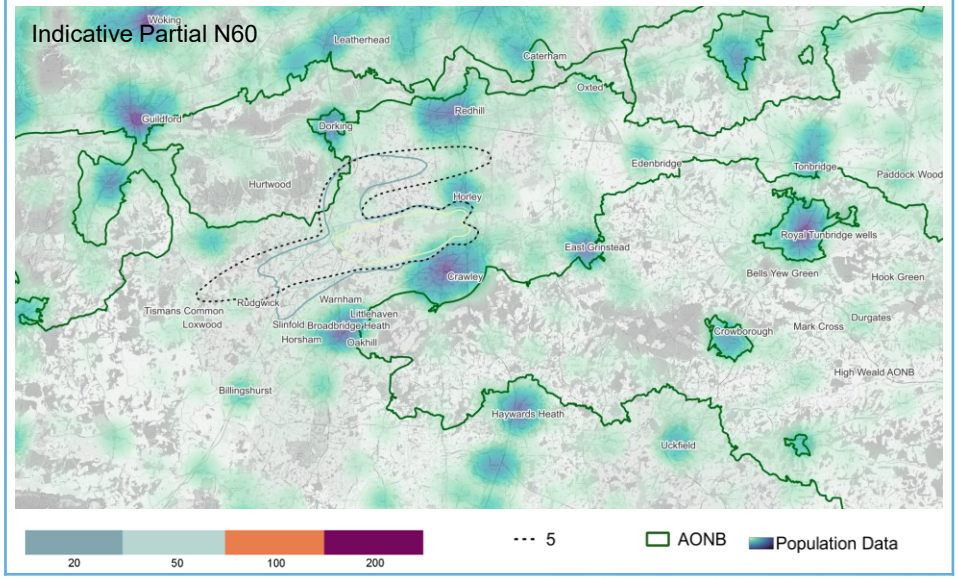
Day





Night





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Option

Departure Westerly System 5 (Majority of DVR turn left)

Description

SAM/KENET are broadly similar to today however there is some variation in the routes. XAM departures would turn earlier than the baseline towards the south-west before turning again to track south. Rather than turning right (north), the DAGGA/TNT departures would turn left before wrapping around and heading north. In this configuration, the majority of DVR departures would turn left (south) rather than right as they do today. A small percentage would continue to turn right (north).

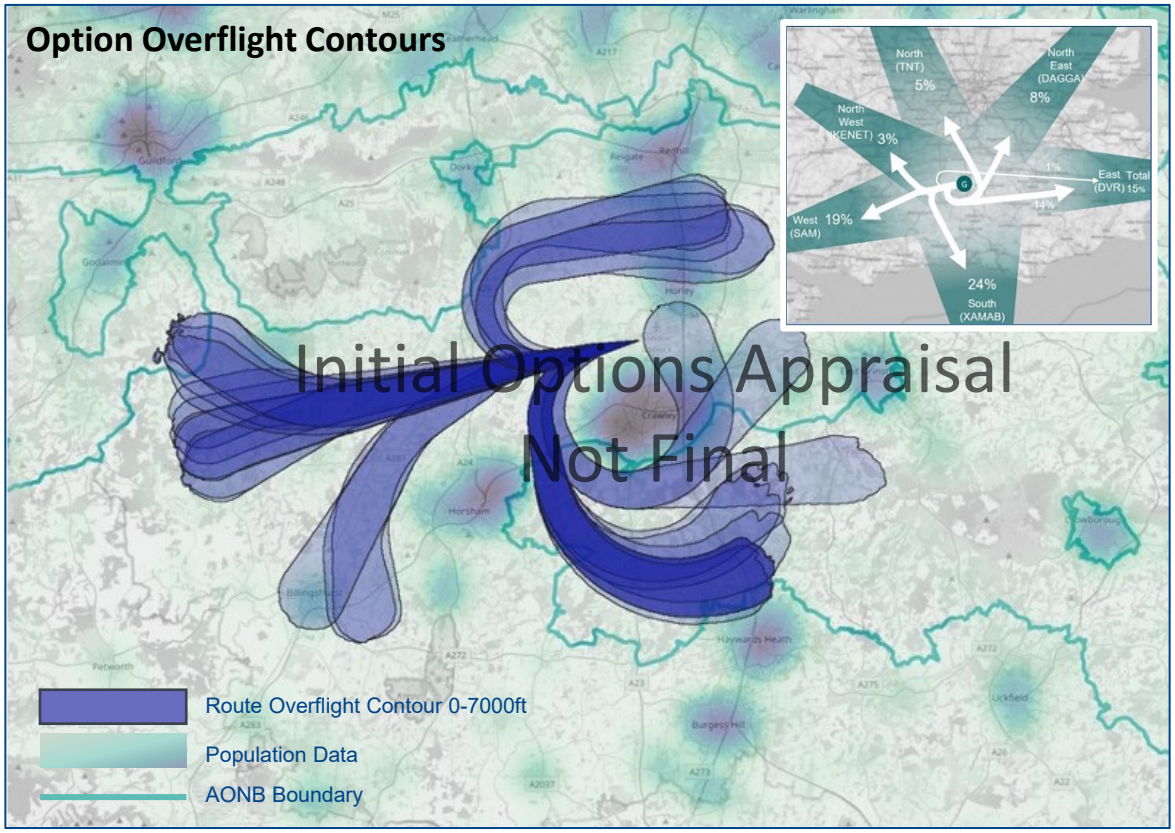
Noise (Qualitative)

This option routes the majority of DVR departures similarly to today however the DAGGA/TNT departures turn left and wrap around before routing north / northwest. During busy periods, there would also be a tactical DVR route that turns left. This shares some traffic between the areas to the north and south of the airport however this does mean that it introduces overflight in areas not routinely overflown by westerly departures today. The XAMAB departures turn earlier than in the baseline and this reduces the cumulative affects for those communities currently living under the easterly final approach and the straight ahead sections of the westerly departures however it does introduce overflight over areas not regularly overflown in the baseline. Changes to Gatwick's existing NPRs would be required. In the baseline, westerly departures fly the NPRs and are then typically vectored. This option is expected to result in greater levels of concentration along routes. It is expected that departures will achieve improved CCO performance, and the left turn DVR/DAGGA/TNT departures may achieve better CCO performance than the right turn options although this is subject to integration with neighbouring airports and the network airspace above 7000ft.

Airspace Modernisation Strategy

Supports the AMS through the implementation of PBN departures which would be for noise and environmental mitigation purposes as set out in the Government's Air Navigation Guidance. PBN departures are expected to be used in conjunction with arrivals as part of wider a system design which could enable simplification, integration, safety and efficiency enhancements.

Overflight Illustration



Safety

Left turn DAGGA/TNT and the right turn DVR departures introduce cross over tracks at similar altitudes however as it is between the tactical route and only 5% of DVR route usage this is far less likely to occur than in the alternative scenario. Further safety work would be required in order to ensure these could be operated in a way that safely deconflicts the departures.

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Option

Departure Westerly System 5 (Majority of DVR turn left)

Indicative Partial System Performance

Noise	*Population*	Difference to Baseline
LOAEL (Day)	6286	+207
LOAEL (Night)	4717	-525
N65 (20)	6921	-1083
N60 (5)	20568	-3749

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	19.3	+18 km²

Emissions	Qualitative Conclusion
Fuel Burn & Greenhouse Gas	*Expected positive compared to baseline*

Economic	Qualitative Conclusion
Commercial Airlines	*Expected positive compared to baseline*
General Aviation	*Expected positive compared to baseline*

General Aviation	Qualitative Conclusion
Controlled Airspace Volume	*Expected positive compared to baseline*
GA Access	*Expected positive compared to baseline*

Capacity / Resilience	Qualitative Conclusion
Capacity / Resilience	*Expected positive compared to baseline*

Costs	Qualitative Conclusion
Commercial Airlines Training	No costs identified
Commercial Airlines Other	No costs identified
Airport / ANSP Infrastructure	*Costs identified*
Airport / ANSP Operational	*Costs identified*
Airport / ANSP Deployment	*Costs identified*

LONDON GATWICK

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 5 (Majority of DVR turn left)

Option Routes	Noise				Air Quality	Tranquillity	Biodiversity (RAMSAR, SEC, SPA, SSSI overflown between 0-1640ft		Fuel Burn & Greenhouse Gas Emissions
	Overflight Daytime (1) (Population)	Overflight Nighttime (1) (Population)	Population Newly overflown (Day) (1)	Population Newly overflown (Night) (1)			Number of sites overflown between 0-1640ft	Area (km2) of sites overflown between 0-1640ft	
W DAGGA Group 2 WDB C	4710	4710	4710	4710	No	41.1	0	0	73.6
W DAGGA Group 2 WDB C 2	4710	4710	4710	4710	No	41.1	0	0	72.8
W DAGGA Group 2 WDK C	19488	19488	19488	19488	No	24.2	0	0	67.0
W DVR Group 1 WDG A	14812	14812	6927	7127	No	1.6	0	0	71.7
W DVR Group 1 WDG A 2	19348	19348	14071	14167	No	0	0	0	72.5
W DVR Group 1 WDH A	14757	14757	6681	6881	No	1.6	0	0	71.4
W DVR Group 1 WDH A 2	11027	11027	4925	5021	No	0	0	0	70.3
W DVR Group 1 WDP A	11377	11377	4094	4271	No	1.4	0	0	71.1
W DVR Group 2 WDB C	4710	4710	4710	4710	No	41.1	0	0	71.0
W DVR Group 2 WDB C 1	6211	6211	6211	6211	No	39.9	0	0	73.5
W DVR Group 2 WDB C 2	4370	4370	4370	4370	No	45.6	0	0	72.5
W DVR Group 2 WDB C 3	3836	3836	3836	3836	No	45.8	0	0	73.5
W DVR Group 2 WDB C 4	4376	4376	4376	4376	No	46.7	0	0	71.7
W DVR Group 2 WDK C	3918	3918	3918	3918	No	48.3	0	0	67.5
W KENET Group 3 WDC B	2133	0	2133	0	No	4.4	0	0	56.0
W KENET Group 3 WDL B	5637	0	5637	0	No	5.1	0	0	56.6
W KENET Group 3 WDM B	6567	0	6567	0	No	5.9	0	0	55.7
W KENET Group 3 WDP B	3534	0	3534	0	No	5.6	0	0	55.8
W SAM Group 1 WDA B	2649	2649	356	1811	No	0	0	0	47.4
W SAM Group 1 WDC B	2583	2583	323	1745	No	0	0	0	45.9
W SAM Group 1 WDG C	4096	4096	251	3258	No	0	0	0	46.1
W SAM Group 1 WDH C	3805	3805	224	2967	No	0	0	0	46.0
W SAM Group 1 WDM B	2719	2719	1316	2005	No	0	0	0	46.1
W SAM Group 1 WDP B	2423	2423	711	1695	No	0	0	0	46.0
W TNT Group 2 WDB C	4710	0	4710	0	No	41.1	0	0	155.3
W TNT Group 2 WDB C 2	4710	0	4710	0	No	41.1	0	0	151.8
W TNT Group 2 WDK C	34048	0	34048	0	No	22.3	0	0	141.4
W XAMAB Group 3 WDA C	4628	4628	4260	4360	Change below 1000ft	0	0	0	69.5
W XAMAB Group 3 WDA C 2	11769	11769	11451	11523	Change below 1000ft	0	0	0	71.1
W XAMAB Group 3 WDA C 3	4747	4747	4429	4501	Change below 1000ft	0	0	0	69.8

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FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 5 (Majority of DVR turn left)

Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W DAGGA Group 2 WDB C	No IFP issues identified	Left turn DAGGA departures reduce interdependencies with Heathrow, Biggin Hill and London City as the turn to the south allows aircraft to gain altitude before routing north. However this does introduce interdependencies between Gatwick's arrivals. The routes will also continue to share interdependencies with these airports.	✓
W DAGGA Group 2 WDB C 2	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network. Left turn DAGGA departures reduce interdependencies with Heathrow, Biggin Hill, and London City as the turn to the south allows aircraft to gain altitude before routing north however the route will still share interdependencies with these airports.	✓
W DAGGA Group 2 WDK C	First turn radius c.2nm followed by 2.2nm turn. This is within the parameters of IFP design however would require further IFP development and flyability testing.	This route would have significant and prohibitive interdependencies with the Heathrow arrival mechanism, and potentially with Biggin Hill traffic.	✗
W DVR Group 1 WDG A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	✓
W DVR Group 1 WDG A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	✓
W DVR Group 1 WDH A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	✓
W DVR Group 1 WDH A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	✓
W DVR Group 1 WDP A	First turn c.2nm. No other safety concerns identified with this route.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	✓
W DVR Group 2 WDB C	No IFP issues identified	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	✗
W DVR Group 2 WDB C 1	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	✓
W DVR Group 2 WDB C 2	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	✓
W DVR Group 2 WDB C 3	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	✓
W DVR Group 2 WDB C 4	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	✓
W DVR Group 2 WDK C	First turn radius c.2nm followed by 2.2nm turn. C.0.6nm to first turn.	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	✗
W KENET Group 3 WDC B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	✓
W KENET Group 3 WDL B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	✓
W KENET Group 3 WDM B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	✓
W KENET Group 3 WDP B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	✓

Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W SAM Group 1 WDA B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	✓ Option continued
W SAM Group 1 WDC B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDG C	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDH C	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDM B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDP B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	
W TNT Group 2 WDB C	No IFP issues identified	Left turn TNT departures reduce interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt as the turn to the south allows aircraft to gain altitude before routing north. However this does introduce interdependencies between Gatwick's arrivals. The routes will also continue to share interdependencies with these airports.	
W TNT Group 2 WDB C 2	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network. Left turn TNT departures reduce interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt as the turn to the south allows aircraft to gain altitude before routing north however the route will still share interdependencies with these airports.	
W TNT Group 2 WDK C	First turn radius c.2nm followed by 2.2nm turn. This is within the parameters of IFP design however would require further IFP development and flyability testing.	This route would have significant and prohibitive interdependencies with the Heathrow arrival mechanism, and potentially with Biggin Hill traffic.	
W XAMAB Group 3 WDA C	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 3 WDA C 2	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 3 WDA C 3	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	

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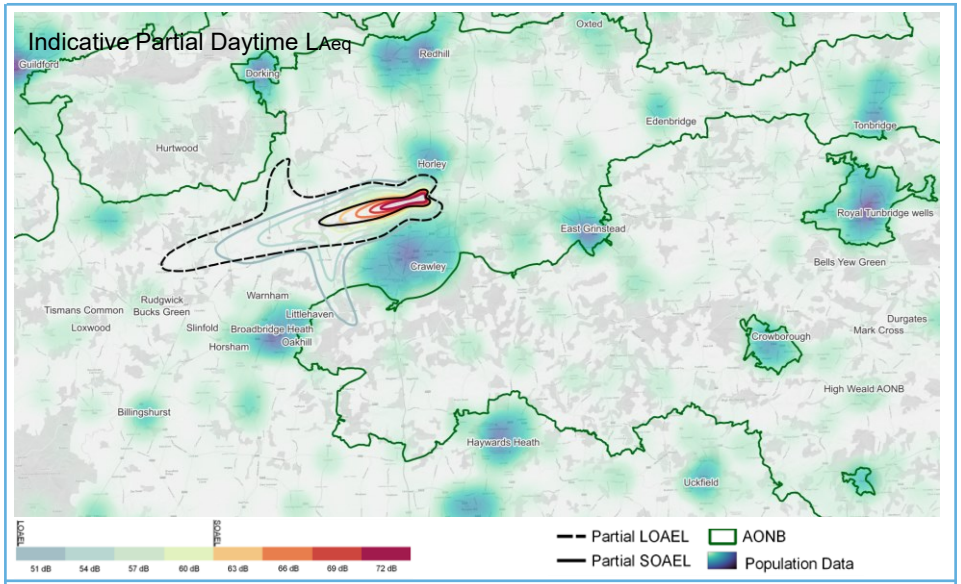
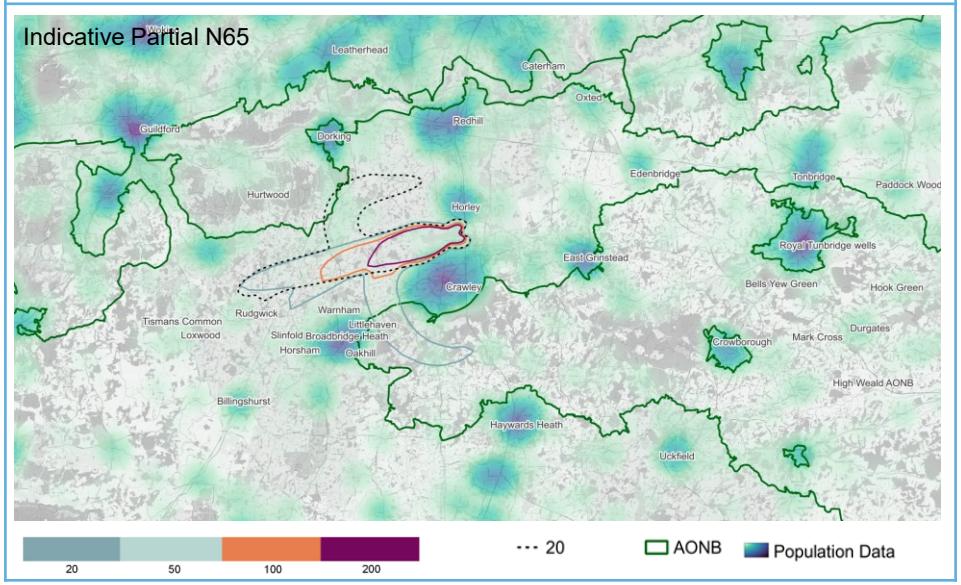
Option

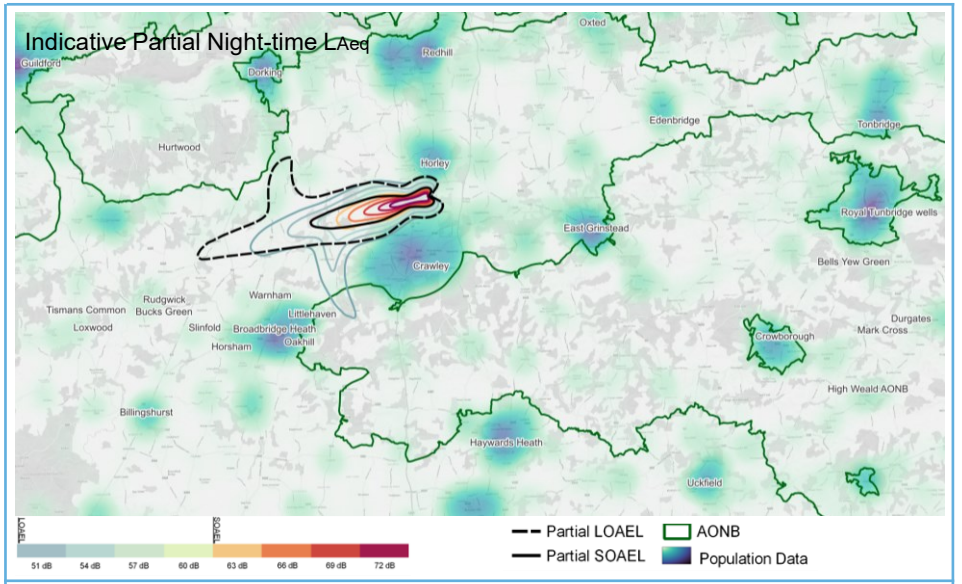
Departure Westerly System 5 (Majority of DVR turn left)

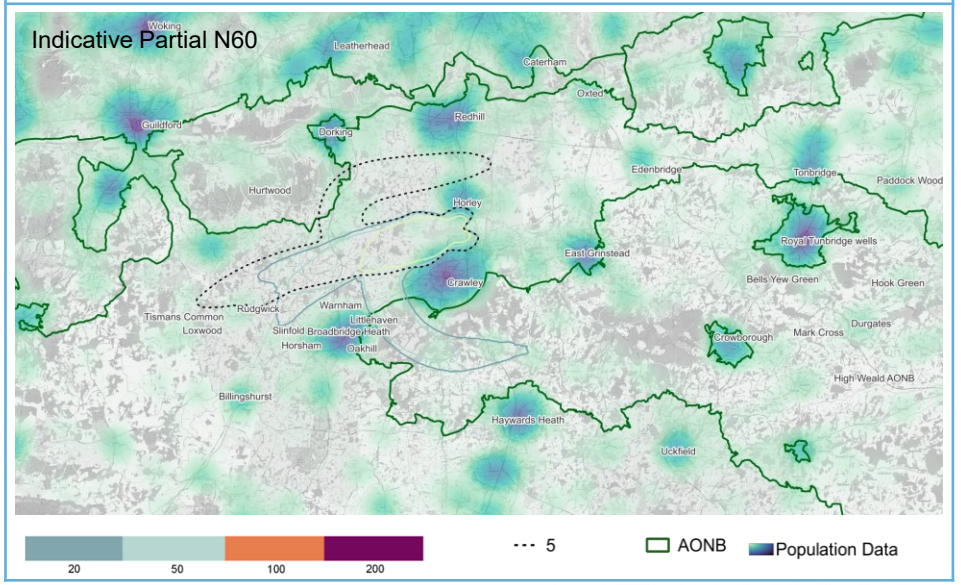
Day





Night





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Option

Departure Westerly System 6 (Majority of DVR turn right)

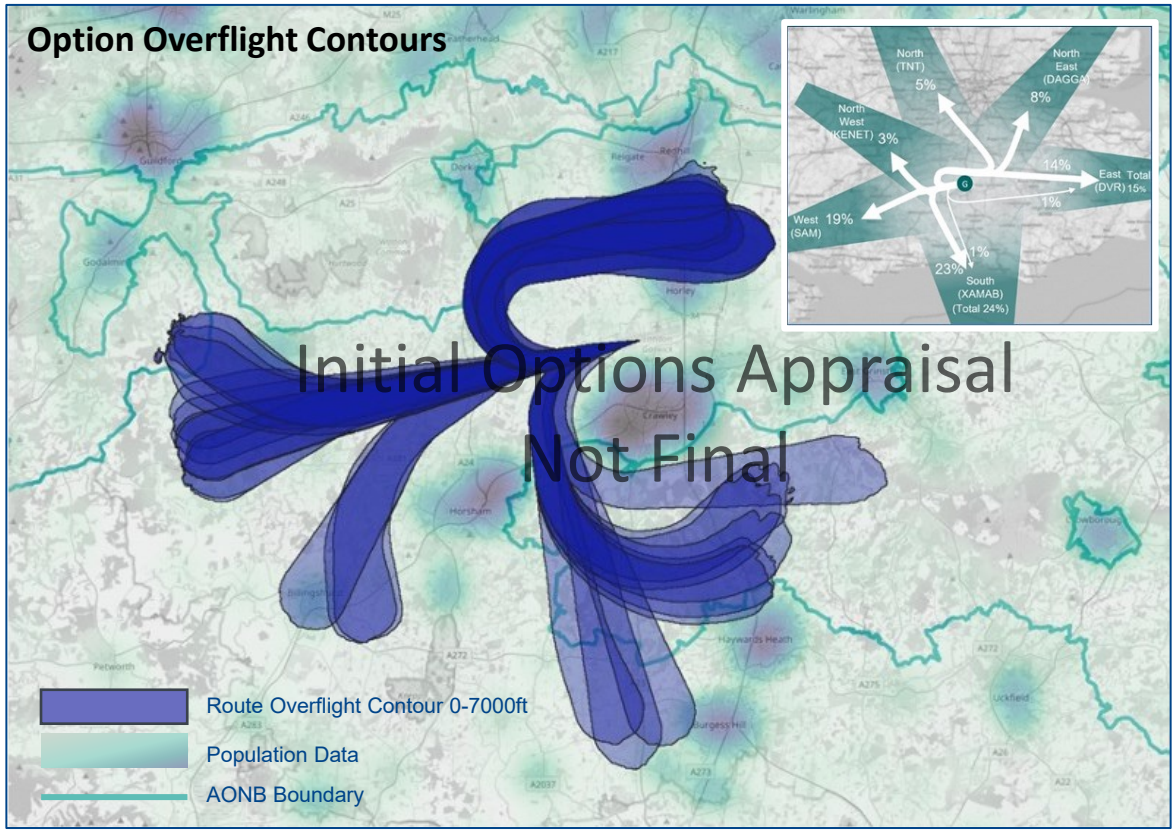
Description

SAM/KENET are broadly similar to today however there is some variation in the routes. There are two groups of XAM departures. In this configuration the majority would turn earlier than the baseline towards the south west before turning again to track south. A small percentage would make an early turn to the south and route directly south. The DAGGA/TNT and the majority of DVR departures are broadly similar today however some routes turn at different distances compared to the baseline and there is some variation in the routes. A small percentage of DVR departures would turn left (south).

Noise (Qualitative)

This option routes the majority of DVR/DAGGA/TNT departures similarly to today. During busy periods, there would also be a tactical DVR route that turns left. The XAMAB departures turn earlier than in the baseline and this reduces the cumulative affects for those communities currently living under the easterly final approach and the straight ahead sections of the westerly departures however it does introduce overflight over areas not regularly overflown in the baseline. There is also an early turn XAMAB departure available on a tactical basis. Changes to Gatwick's existing NPRs would be required. In the baseline, westerly departures fly the NPRs and are then typically vectored. This option is expected to result in greater levels of concentration along routes. It is expected that departures will achieve improved CCO performance subject to integration with neighbouring airports and the network airspace above 7000ft.

Overflight Illustration



Airspace Modernisation Strategy

This option is expected to increase population experiencing adverse noise effects whereas there are other options which better align with the AMS objectives by performing either similarly or better than the baseline in terms of population within the indicative partial LOAEL. PBN departures are however expected to be used as part of wider a system design where they could enable simplification, integration, safety and efficiency enhancements.

Safety

No significant safety concerns raised at this stage although new / revised safety assurances may be required. An acceptable safety argument is envisaged to be achievable subject to further investigation should this option progress.

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Option

Departure Westerly System 6 (Majority of DVR turn right)

Indicative Partial System Performance (Westerly System 6 and 6.2 – Majority of DVR turn right)

Noise	*Population*	Difference to Baseline
LOAEL (Day)	6772 / 6759	+693 / +680
LOAEL (Night)	4723 / 4727	-519 / -515
N65 (20)	7697 / 7697	-307
N60 (5)	23203 / 23216	-1114 / -1101

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	1.4 / 1.4	+0.1 km²

Emissions	Qualitative Conclusion
Fuel Burn & Greenhouse Gas	*Expected positive compared to baseline*

Economic	Qualitative Conclusion
Commercial Airlines	*Expected positive compared to baseline*
General Aviation	*Expected positive compared to baseline*

General Aviation	Qualitative Conclusion
Controlled Airspace Volume	*Expected positive compared to baseline*
GA Access	*Expected positive compared to baseline*

Capacity / Resilience	Qualitative Conclusion
Capacity / Resilience	*Expected positive compared to baseline*

Costs	Qualitative Conclusion
Commercial Airlines Training	No costs identified
Commercial Airlines Other	No costs identified
Airport / ANSP Infrastructure	*Costs identified*
Airport / ANSP Operational	*Costs identified*
Airport / ANSP Deployment	*Costs identified*

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FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 6 (Majority of DVR turn right)

Option Routes	Noise				Air Quality	Tranquillity	Biodiversity (RAMSAR, SEC, SPA, SSSI overflown between 0-1640ft		Fuel Burn & Greenhouse Gas Emissions
	Overflight Daytime (1) (Population)	Overflight Nighttime (1) (Population)	Population Newly overflown (Day) (1)	Population Newly overflown (Night) (1)			Number of sites overflown between 0-1640ft	Area (km2) of sites overflown between 0-1640ft	
W DAGGA Group 1 WDG A	14812	14812	10472	14812	No	1.6	0	0	67.1
W DAGGA Group 1 WDG A 2	19348	19348	15230	19348	No	0	0	0	65.5
W DAGGA Group 1 WDH A	14757	14757	10293	14757	No	1.6	0	0	68.7
W DAGGA Group 1 WDH A 2	11027	11027	6216	11027	No	0	0	0	68.6
W DAGGA Group 1 WDP A	11377	11377	7053	11377	No	1.4	0	0	68.8
W DVR Group 1 WDG A	14812	14812	6927	7127	No	1.6	0	0	71.7
W DVR Group 1 WDG A 2	19348	19348	14071	14167	No	0	0	0	72.5
W DVR Group 1 WDH A	14757	14757	6681	6881	No	1.6	0	0	71.4
W DVR Group 1 WDH A 2	11027	11027	4925	5021	No	0	0	0	70.3
W DVR Group 1 WDP A	11377	11377	4094	4271	No	1.4	0	0	71.1
W DVR Group 2 WDB C	4710	4710	4710	4710	No	41.1	0	0	71.0
W DVR Group 2 WDB C 1	6211	6211	6211	6211	No	39.9	0	0	73.5
W DVR Group 2 WDB C 2	4370	4370	4370	4370	No	45.6	0	0	72.5
W DVR Group 2 WDB C 3	3836	3836	3836	3836	No	45.8	0	0	73.5
W DVR Group 2 WDB C 4	4376	4376	4376	4376	No	46.7	0	0	71.7
W DVR Group 2 WDK C	3918	3918	3918	3918	No	48.3	0	0	67.5
W KENET Group 3 WDC B	2133	0	2133	0	No	4.4	0	0	56.0
W KENET Group 3 WDL B	5637	0	5637	0	No	5.1	0	0	56.6
W KENET Group 3 WDM B	6567	0	6567	0	No	5.9	0	0	55.7
W KENET Group 3 WDP B	3534	0	3534	0	No	5.6	0	0	55.8

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Option

Departure Westerly System 6 (Majority of DVR turn right)

Option Routes	Noise				Air Quality	Tranquillity	Biodiversity (RAMSAR, SEC, SPA, SSSI overflown between 0-1640ft		Fuel Burn & Greenhouse Gas Emissions
	Overflight Daytime (1) (Population)	Overflight Nighttime (1) (Population)	Population Newly overflown (Day) (1)	Population Newly overflown (Night) (1)			Number of sites overflown between 0-1640ft	Area (km2) of sites overflown between 0-1640ft	
W SAM Group 1 WDA B	2649	2649	356	1811	No	0	0	0	47.4
W SAM Group 1 WDC B	2583	2583	323	1745	No	0	0	0	45.9
W SAM Group 1 WDG C	4096	4096	251	3258	No	0	0	0	46.1
W SAM Group 1 WDH C	3805	3805	224	2967	No	0	0	0	46.0
W SAM Group 1 WDM B	2719	2719	1316	2005	No	0	0	0	46.1
W SAM Group 1 WDP B	2423	2423	711	1695	No	0	0	0	46.0
W TNT Group 1 WDG A	14812	0	14812	0	No	1.6	0	0	150.4
W TNT Group 1 WDG A 2	19348	0	19348	0	No	0	0	0	145.3
W TNT Group 1 WDH A	17835	0	17835	0	No	1.6	0	0	139.2
W TNT Group 1 WDH A 2	11027	0	11027	0	No	0	0	0	154.1
W TNT Group 1 WDH A 3	14757	0	14757	0	No	1.6	0	0	153.0
W TNT Group 1 WDP A	11377	0	11377	0	No	1.4	0	0	153.4
W XAMAB Group 1 WDC C	3135	3135	3135	3135	Change below 1000ft	20.3	0	0	63.3
W XAMAB Group 1 WDK C	5741	5741	5741	5741	Change below 1000ft	27	0	0	62.7
W XAMAB Group 1 WDO C	4306	4306	4306	4306	Change below 1000ft	22.4	0	0	62.6
W XAMAB Group 3 WDA C	4628	4628	4260	4360	Change below 1000ft	0	0	0	69.5
W XAMAB Group 3 WDA C 2	11769	11769	11451	11523	Change below 1000ft	0	0	0	71.1
W XAMAB Group 3 WDA C 3	4747	4747	4429	4501	Change below 1000ft	0	0	0	69.8

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Option

Departure Westerly System 6 (Majority of DVR turn right)

Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W DAGGA Group 1 WDG A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	X Option Discontinued
W DAGGA Group 1 WDG A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	
W DAGGA Group 1 WDH A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Not viable due to interactions with Heathrow and wider LTMA traffic flows.	
W DAGGA Group 1 WDH A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	
W DAGGA Group 1 WDP A	First turn c.2nm. No other safety concerns identified with this route.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	
W DVR Group 1 WDG A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDG A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDH A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDH A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDP A	First turn c.2nm. No other safety concerns identified with this route.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 2 WDB C	No IFP issues identified	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	
W DVR Group 2 WDB C 1	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	
W DVR Group 2 WDB C 2	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	
W DVR Group 2 WDB C 3	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	
W DVR Group 2 WDB C 4	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	
W DVR Group 2 WDK C	First turn radius c.2nm followed by 2.2nm turn. C.0.6nm to first turn.	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	
W KENET Group 3 WDC B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W KENET Group 3 WDL B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W KENET Group 3 WDM B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W KENET Group 3 WDP B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	

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Option

Departure Westerly System 6 (Majority of DVR turn right)

Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W KENET Group 3 WDC B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	X Option Discontinued
W KENET Group 3 WDL B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W KENET Group 3 WDM B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W KENET Group 3 WDP B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDA B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDC B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDG C	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDH C	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDM B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDP B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	
W TNT Group 1 WDG A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W TNT Group 1 WDG A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W TNT Group 1 WDH A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Not viable due to interactions with Heathrow and wider LTMA traffic flows.	
W TNT Group 1 WDH A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W TNT Group 1 WDH A 3	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W TNT Group 1 WDP A	First turn c.2nm. No other safety concerns identified with this route.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W XAMAB Group 1 WDC C	First turn c.2nm. 1nm before first turn. No other safety concerns identified with this route.	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 1 WDK C	First turn c.2nm. 0.6nm before first turn. No other safety concerns identified with this route.	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 1 WDO C	First turn radius c.2.1nm however also offset departure.	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 3 WDA C	First turn at c.3.2nm. No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 3 WDA C 2	First turn at c.3.2nm. No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 3 WDA C 3	First turn at c.3.2nm. No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	

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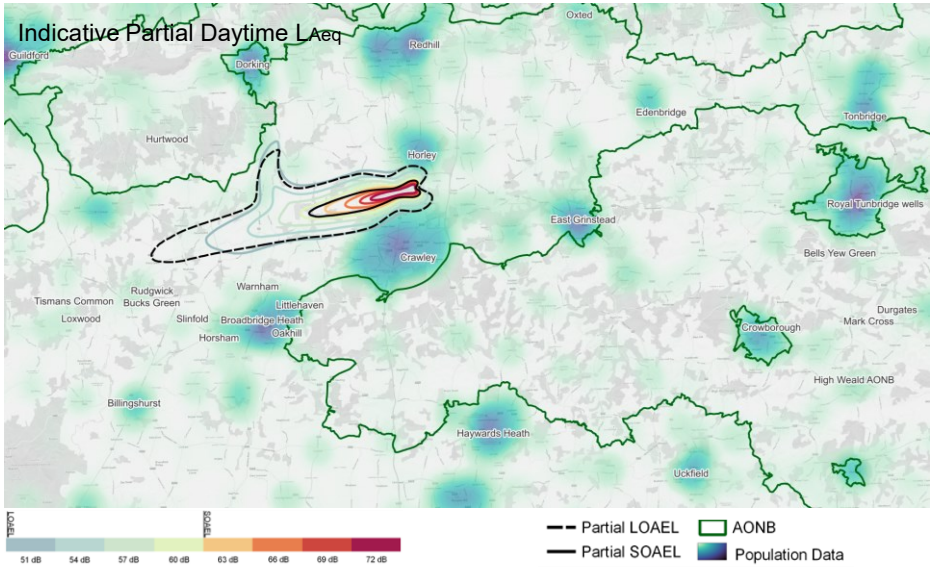
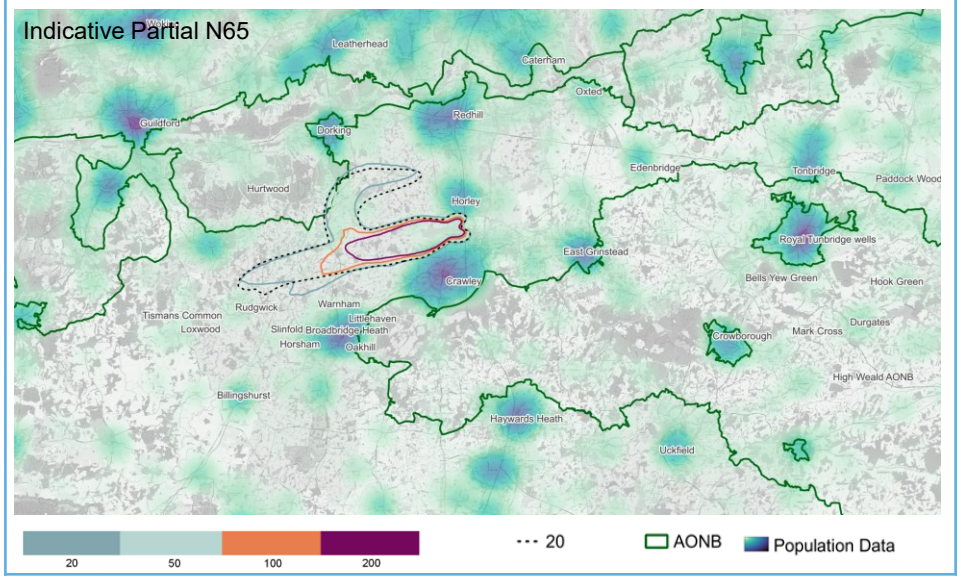
Option

Departure Westerly System 6 (Majority of DVR turn right)

Day





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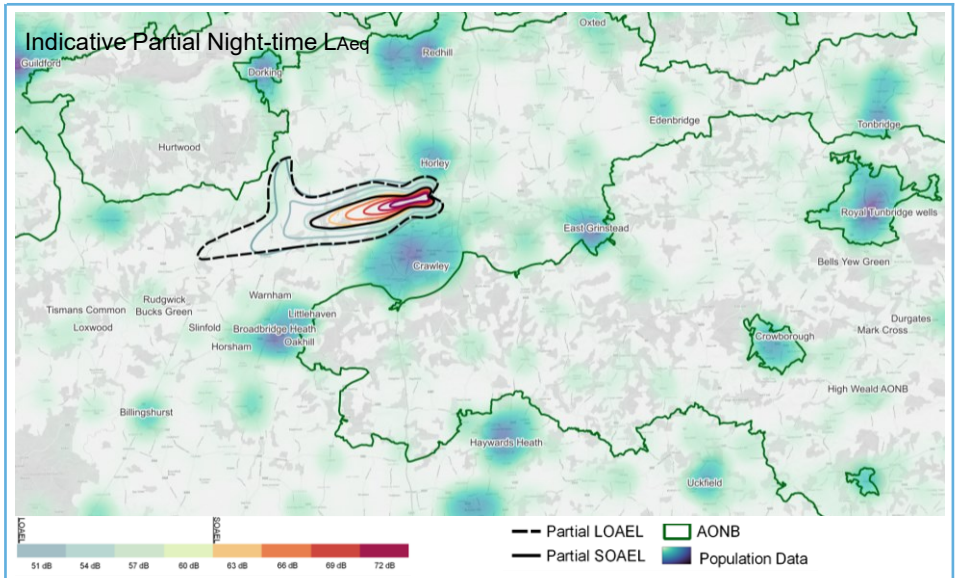

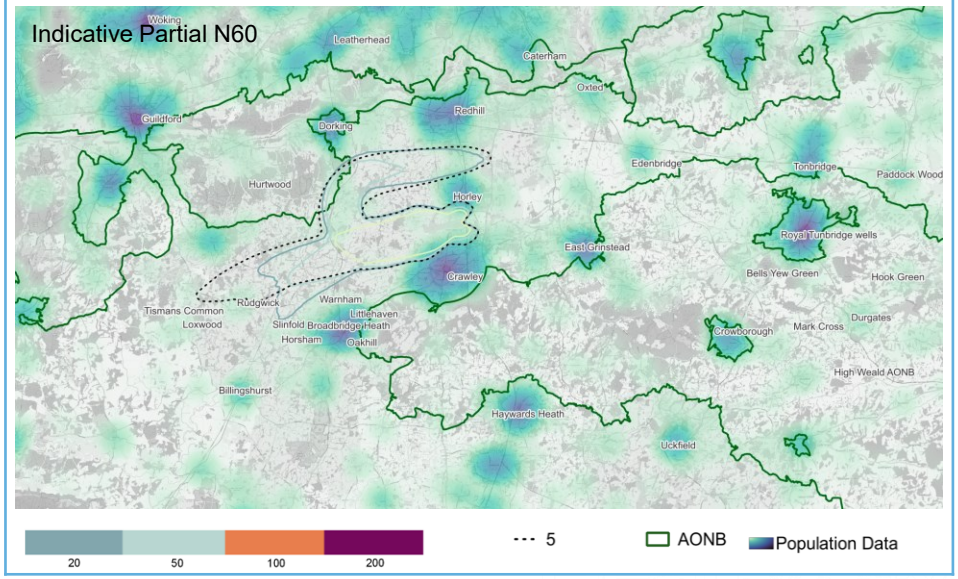

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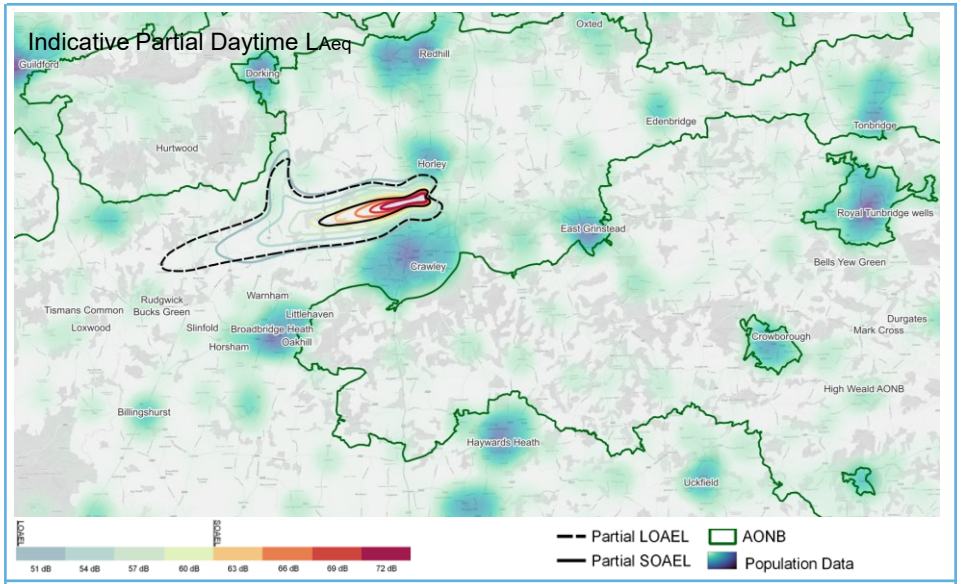
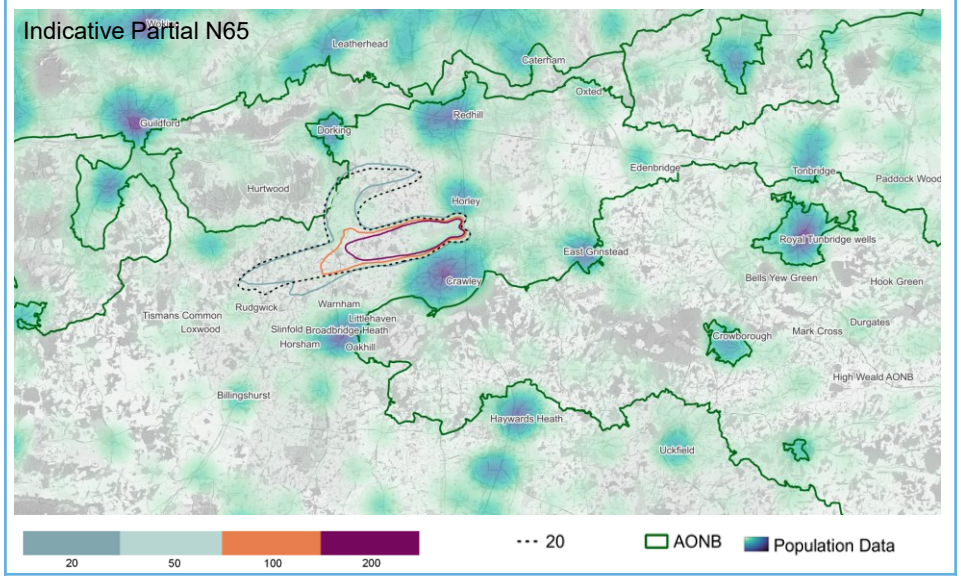
Option

Departure Westerly System 6.2 (Majority of DVR turn right)

Day





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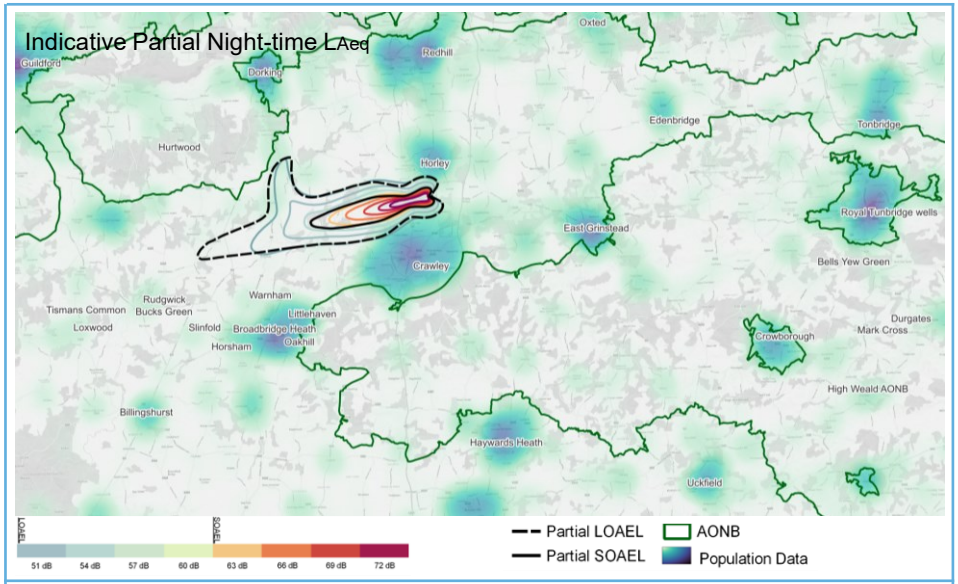

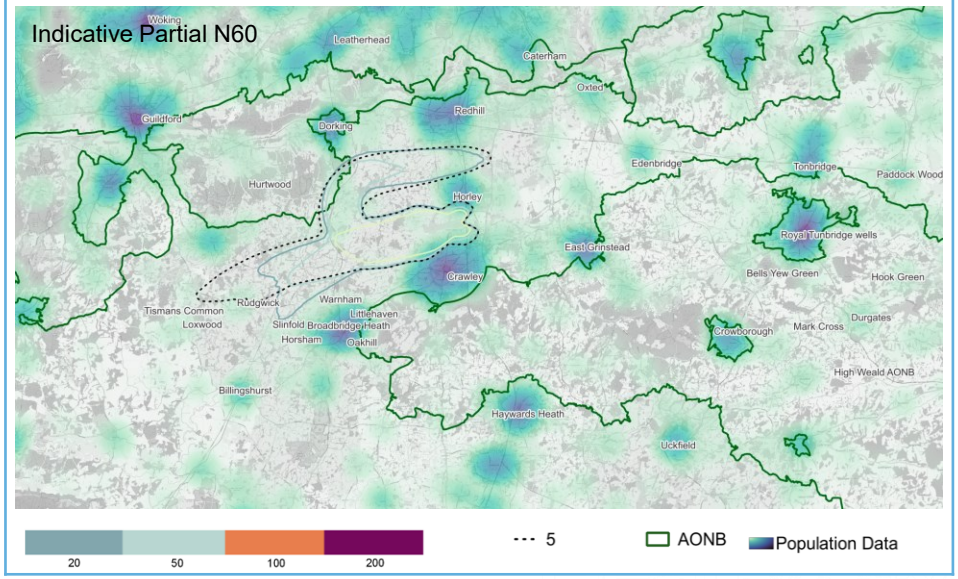

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Option

Departure Westerly System 6 (Majority of DVR turn left)

Description

SAM/KENET are broadly similar to today however there is some variation in the routes. There are two groups of XAM departures. In this configuration the majority would turn earlier than the baseline towards the south west before turning again to track south. A small percentage would make an early turn to the south and route directly south. The DAGGA/TNT and a small percentage of DVR departures are broadly similar today however some routes turn at different distances compared to the baseline and there is some variation in the routes. The majority of DVR departures would turn left (south) rather than north as they do today.

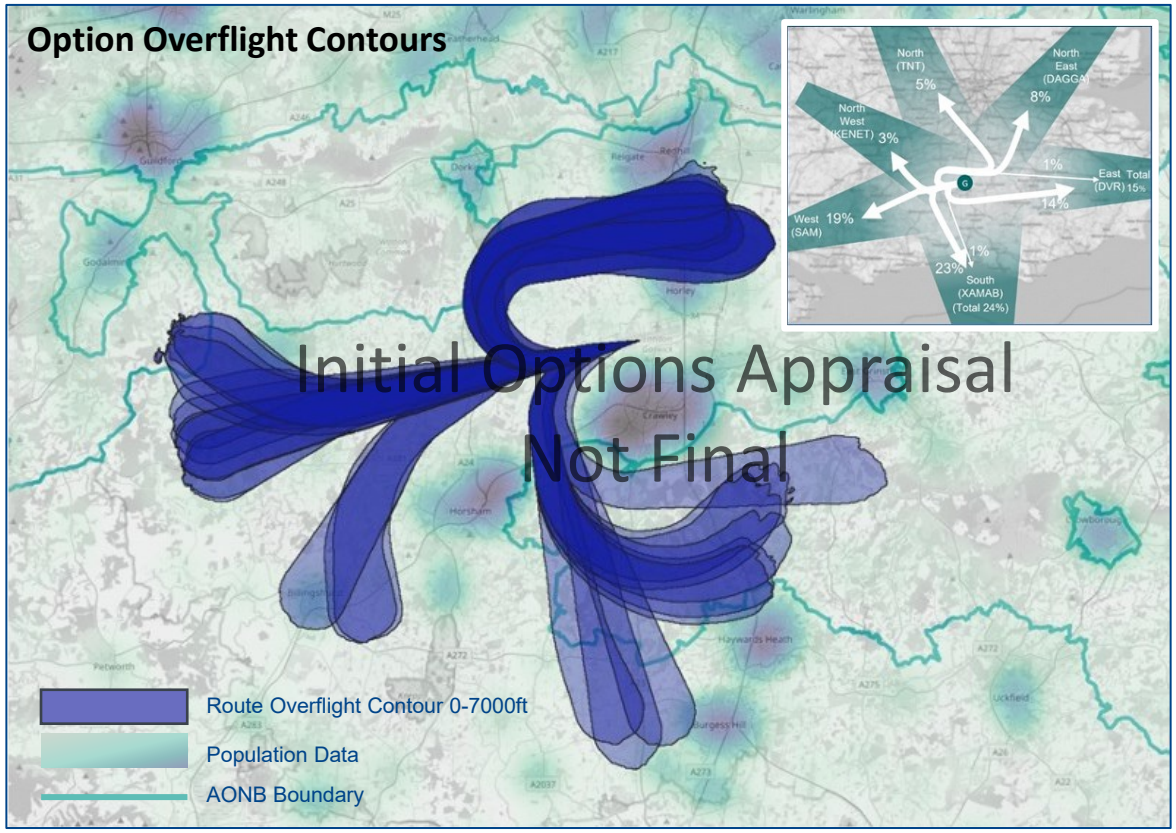
Noise (Qualitative)

This option routes the majority of DVR departures to the left rather than right and the DAGGA/TNT departures continue to turn right as they do today. By splitting the DVR/DAGGA/TNT departures there is greater shareing of noise however this introduces overflight in areas not routinely overflown by westerly departures today. Changes to Gatwick's existing NPRs would be required. During busy periods, there would also be a tactical DVR route that turns right. The XAMAB departures turn earlier than in the baseline and this reduces the cumulative affects for those communities currently living under the easterly final approach and the straight ahead sections of the westerly departures however it does introduce overflight over areas not regularly overflown in the baseline. There is also an early turn XAMAB departure available on a tactical basis In the baseline, westerly departures fly the NPRs and are then typically vectored. This option is expected to result in greater levels of concentration along routes. It is expected that departures will achieve improved CCO performance, and the left turn DVR departures may achieve better CCO performance than the right turn options although this is subject to integration with neighbouring airports and the network airspace above 7000ft.

Airspace Modernisation Strategy

Supports the AMS through the implementation of PBN departures which would be for noise and environmental mitigation purposes as set out in the Government's Air Navigation Guidance. PBN departures are expected to be used in conjunction with arrivals as part of wider a system design which could enable simplification, integration, safety and efficiency enhancements.

Overflight Illustration



Safety

No significant safety concerns raised at this stage although new / revised safety assurances may be required. An acceptable safety argument is envisaged to be achievable subject to further investigation should this option progress.

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Option

Departure Westerly System 6 (Majority of DVR turn left)

Indicative Partial System Performance (Westerly System 6 and 6.2 – Majority of DVR turn left)

Noise	*Population*	Difference to Baseline
LOAEL (Day)	5891 / 5855	-188 / -224
LOAEL (Night)	4591 / 4618	-651 / -624
N65 (20)	8849 / 8853	+845 / +849
N60 (5)	18484 / 18484	-5833

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	8.9 / 9.1	+7.6 / +7.8 km²

Emissions	Qualitative Conclusion
Fuel Burn & Greenhouse Gas	*Expected positive compared to baseline*

Economic	Qualitative Conclusion
Commercial Airlines	*Expected positive compared to baseline*
General Aviation	*Expected positive compared to baseline*

General Aviation	Qualitative Conclusion
Controlled Airspace Volume	*Expected positive compared to baseline*
GA Access	*Expected positive compared to baseline*

Capacity / Resilience	Qualitative Conclusion
Capacity / Resilience	*Expected positive compared to baseline*

Costs	Qualitative Conclusion
Commercial Airlines Training	No costs identified
Commercial Airlines Other	No costs identified
Airport / ANSP Infrastructure	*Costs identified*
Airport / ANSP Operational	*Costs identified*
Airport / ANSP Deployment	*Costs identified*

LONDON GATWICK

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Option

Departure Westerly System 6 (Majority of DVR turn left)

Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W DAGGA Group 1 WDG A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	✓ Option continued
W DAGGA Group 1 WDG A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	
W DAGGA Group 1 WDH A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Not viable due to interactions with Heathrow and wider LTMA traffic flows.	
W DAGGA Group 1 WDH A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	
W DAGGA Group 1 WDP A	First turn c.2nm. No other safety concerns identified with this route.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	
W DVR Group 1 WDG A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDG A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDH A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDH A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDP A	First turn c.2nm. No other safety concerns identified with this route.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 2 WDB C	No IFP issues identified	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	
W DVR Group 2 WDB C 1	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	
W DVR Group 2 WDB C 2	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	
W DVR Group 2 WDB C 3	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	
W DVR Group 2 WDB C 4	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	
W DVR Group 2 WDK C	First turn radius c.2nm followed by 2.2nm turn. C.0.6nm to first turn.	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	
W KENET Group 3 WDC B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W KENET Group 3 WDL B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W KENET Group 3 WDM B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W KENET Group 3 WDP B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	

Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W KENET Group 3 WDC B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	✓ Option continued
W KENET Group 3 WDL B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W KENET Group 3 WDM B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W KENET Group 3 WDP B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDA B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDC B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDG C	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDH C	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDM B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDP B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	
W TNT Group 1 WDG A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W TNT Group 1 WDG A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W TNT Group 1 WDH A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Not viable due to interactions with Heathrow and wider LTMA traffic flows.	
W TNT Group 1 WDH A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W TNT Group 1 WDH A 3	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W TNT Group 1 WDP A	First turn c.2nm. No other safety concerns identified with this route.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W XAMAB Group 1 WDC C	First turn c.2nm. 1nm before first turn. No other safety concerns identified with this route.	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 1 WDK C	First turn c.2nm. 0.6nm before first turn. No other safety concerns identified with this route.	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 1 WDO C	First turn radius c.2.1nm however also offset departure.	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 3 WDA C	First turn at c.3.2nm. No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 3 WDA C 2	First turn at c.3.2nm. No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 3 WDA C 3	First turn at c.3.2nm. No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	

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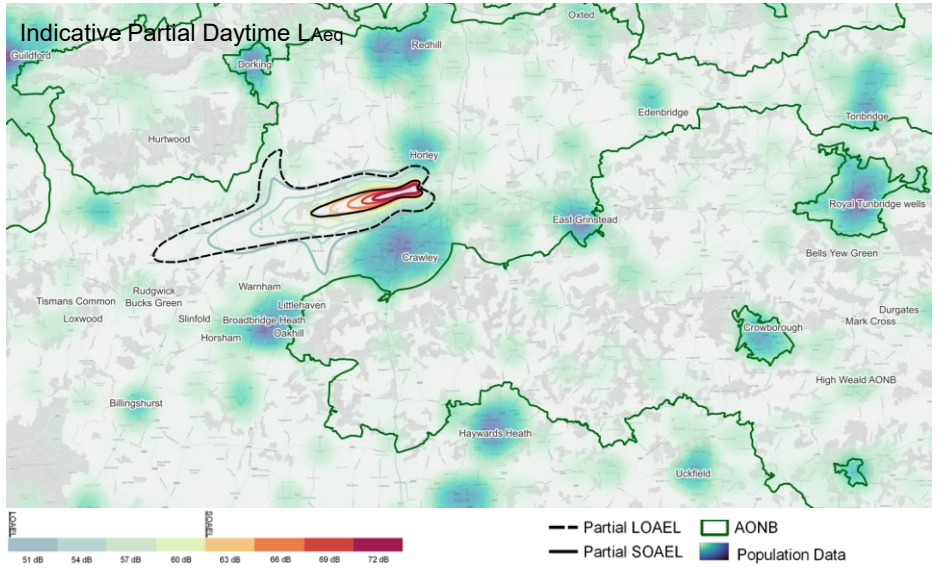
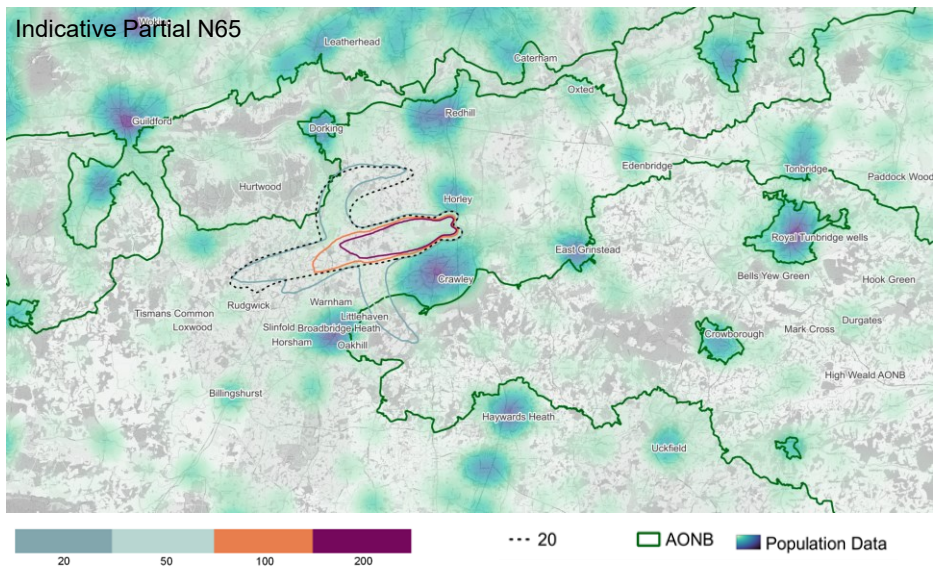
Option

Departure Westerly System 6 (Majority of DVR turn left)

Day





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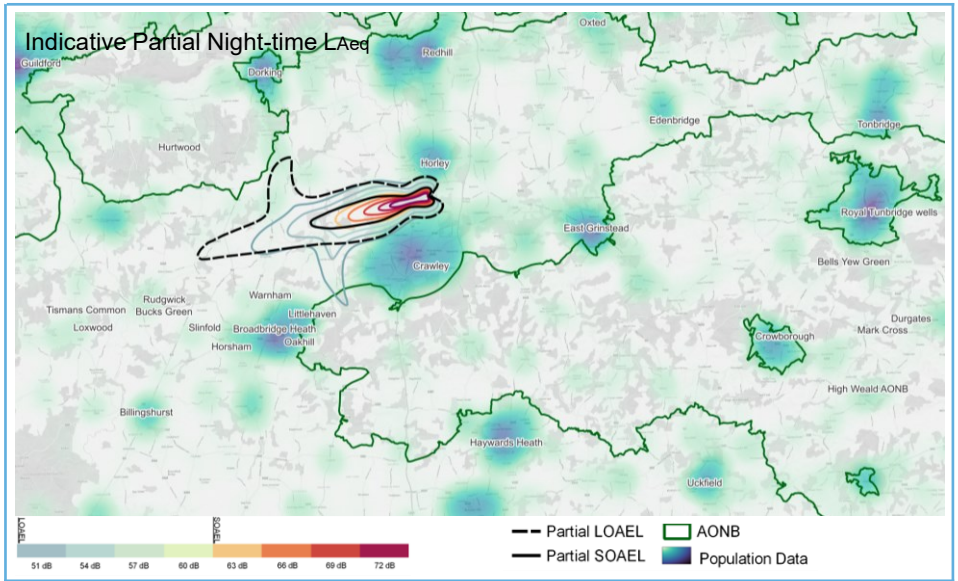

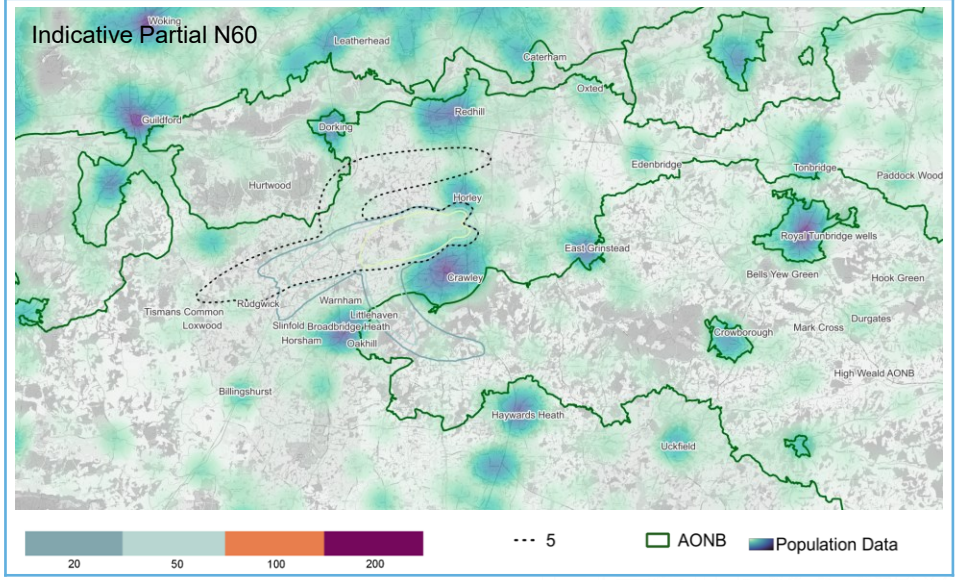

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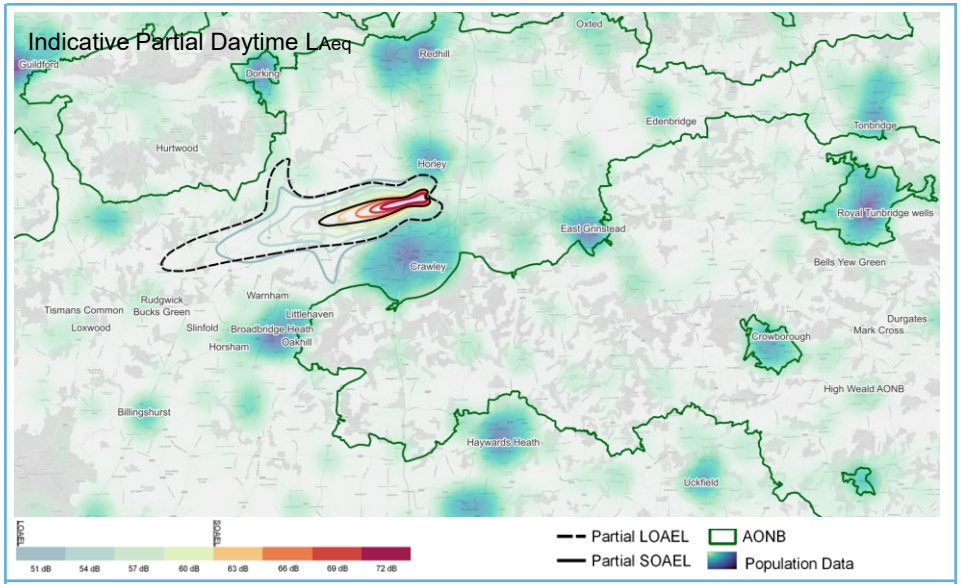
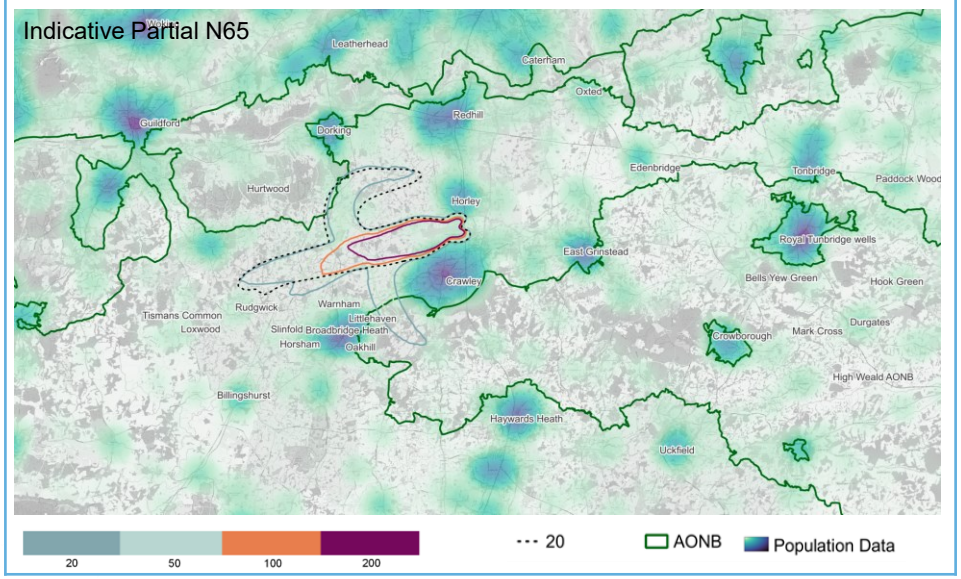
Option

Departure Westerly System 6.2 (Majority of DVR turn left)

Day





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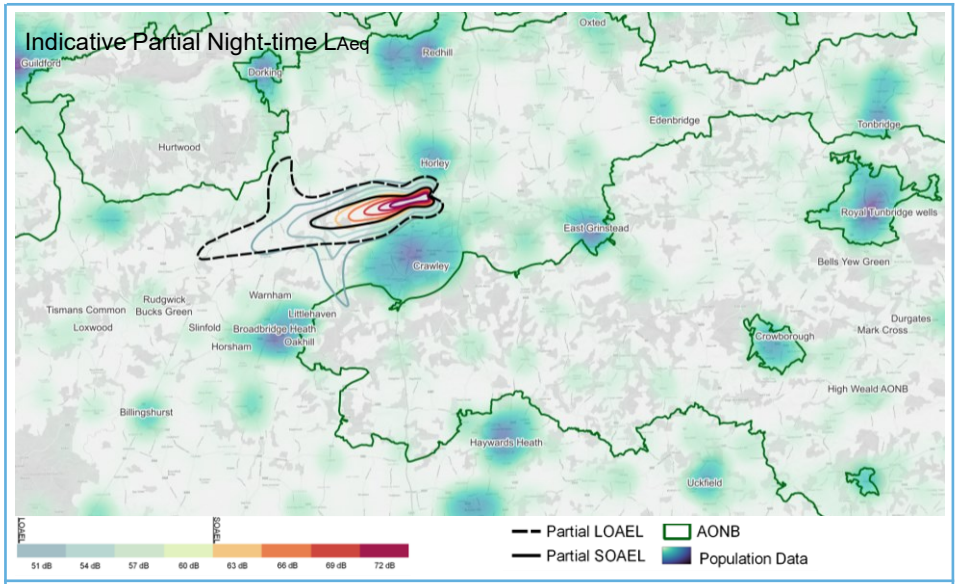

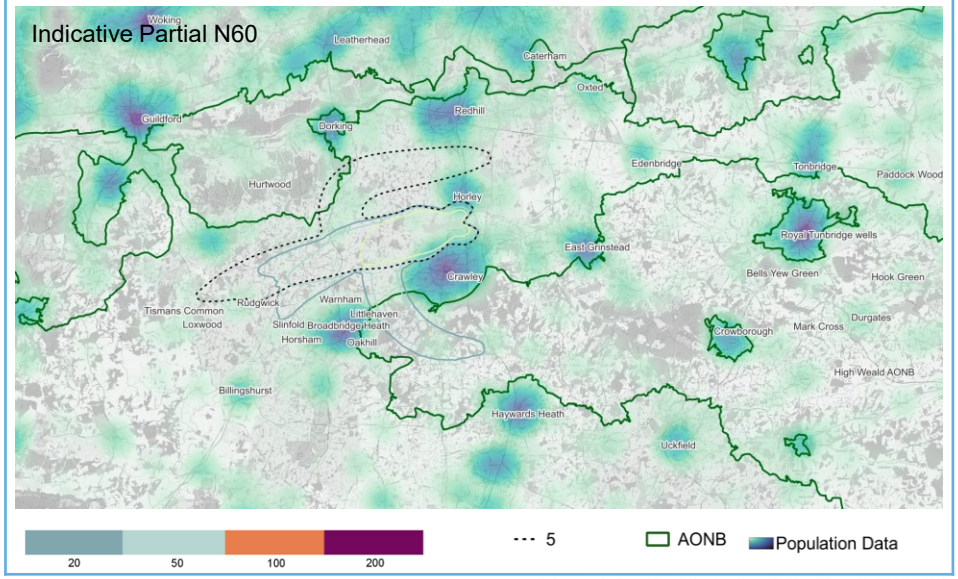

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Option

Departure Westerly System 6 (XAM immediate left, DVR right)

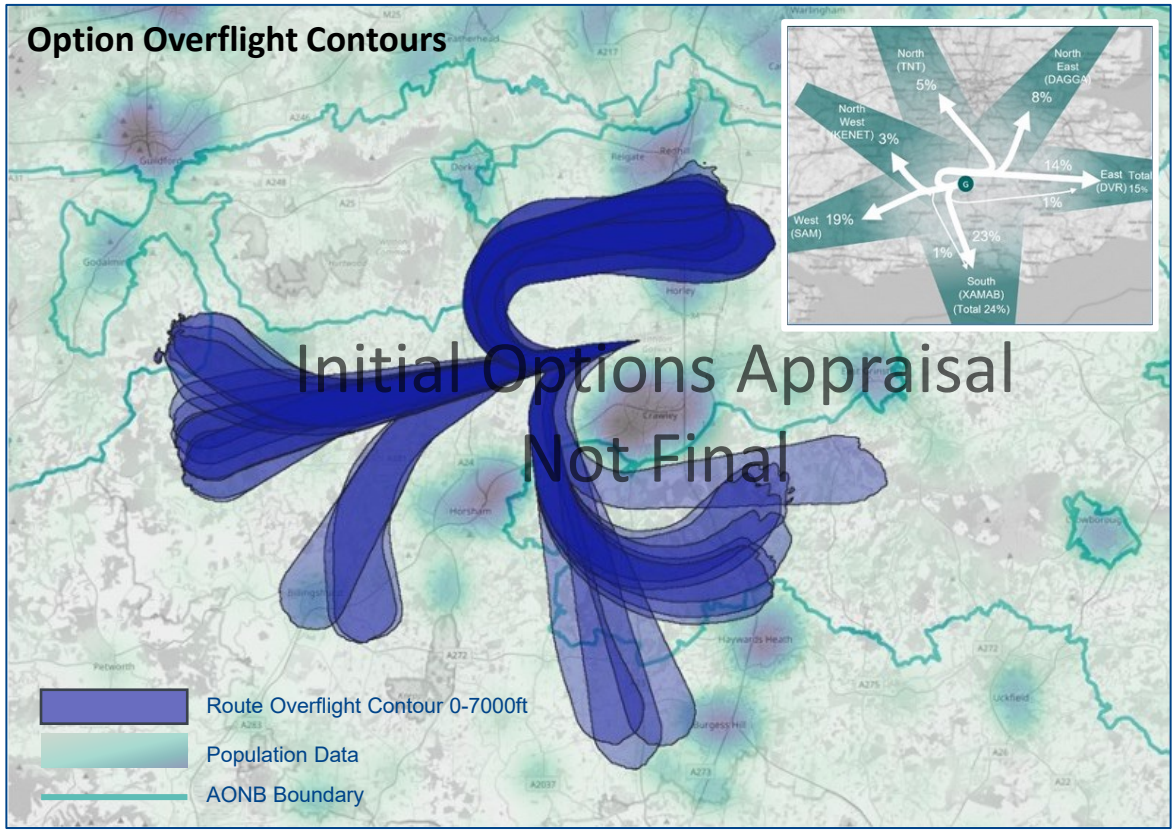
Description

SAM/KENET are broadly similar to today however there is some variation in the routes. There are two groups of XAM departures. In this configuration the majority would make an early turn to the south and route directly south. A small percentage would turn towards the south west before turning again to track south. The DAGGA/TNT and the majority of DVR departures are broadly similar today however some routes turn at different distances compared to the baseline and there is some variation in the routes. A small percentage of DVR departures would turn left (south).

Noise (Qualitative)

This option routes the majority of DVR/DAGGA/TNT departures similarly to today. During busy periods, there would also be a tactical DVR route that turns left. The majority of XAMAB departures turn almost immediately after departure (far earlier than in the baseline) and this reduces the cumulative affects for those communities currently living under the easterly final approach and the straight ahead sections of the westerly departures however it does introduce overflight over areas not regularly overflown in the baseline. There is also a later turning XAMAB departure available on a tactical basis which may provide a small amount of sharing of noise.
Changes to Gatwick's existing NPRs would be required.
In the baseline, westerly departures fly the NPRs and are then typically vectored. This option is expected to result in greater levels of concentration along routes. It is expected that departures will achieve improved CCO performance subject to integration with neighbouring airports and the network airspace above 7000ft.

Overflight Illustration



Airspace Modernisation Strategy

This option is expected to increase population experiencing adverse noise effects whereas there are other options which better align with the AMS objectives by performing either similarly or better than the baseline in terms of population within the indicative partial LOAEL. PBN departures are however expected to be used as part of wider a system design where they could enable simplification, integration, safety and efficiency enhancements.

Safety

No significant safety concerns raised at this stage although new / revised safety assurances may be required. An acceptable safety argument is envisaged to be achievable subject to further investigation should this option progress.

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 6 (XAM immediate left, DVR right)

Indicative Partial System Performance (Westerly System 6 and 6.2 – Majority of DVR turn right, XAM immediately turn left)

Noise	*Population*	Difference to Baseline
LOAEL (Day)	7189 / 7035	+1110 / +956
LOAEL (Night)	5209 / 4973	-33 / -269
N65 (20)	8634 / 9238	+630 / +1234
N60 (5)	21644 / 26387	-153 / +2070

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	9.8 / 12.2	+8.5 / 10.9 km²

Emissions	Qualitative Conclusion
Fuel Burn & Greenhouse Gas	*Expected positive compared to baseline*

Economic	Qualitative Conclusion
Commercial Airlines	*Expected positive compared to baseline*
General Aviation	*Expected positive compared to baseline*

General Aviation	Qualitative Conclusion
Controlled Airspace Volume	*Expected positive compared to baseline*
GA Access	*Expected positive compared to baseline*

Capacity / Resilience	Qualitative Conclusion
Capacity / Resilience	*Expected positive compared to baseline*

Costs	Qualitative Conclusion
Commercial Airlines Training	No costs identified
Commercial Airlines Other	No costs identified
Airport / ANSP Infrastructure	*Costs identified*
Airport / ANSP Operational	*Costs identified*
Airport / ANSP Deployment	*Costs identified*

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FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 6
(XAM immediate left, DVR right)

Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W DAGGA Group 1 WDG A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	X Option Discontinued
W DAGGA Group 1 WDG A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	
W DAGGA Group 1 WDH A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Not viable due to interactions with Heathrow and wider LTMA traffic flows.	
W DAGGA Group 1 WDH A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	
W DAGGA Group 1 WDP A	First turn c.2nm. No other safety concerns identified with this route.	Shares interdependencies with Heathrow, Biggin Hill, and London City.	
W DVR Group 1 WDG A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDG A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDH A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDH A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 1 WDP A	First turn c.2nm. No other safety concerns identified with this route.	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W DVR Group 2 WDB C	No IFP issues identified	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	
W DVR Group 2 WDB C 1	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	
W DVR Group 2 WDB C 2	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	
W DVR Group 2 WDB C 3	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	
W DVR Group 2 WDB C 4	No IFP issues identified	Evolved from WDB C to better integrate with arrivals and the wider airspace network.	
W DVR Group 2 WDK C	First turn radius c.2nm followed by 2.2nm turn. C.0.6nm to first turn.	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	
W KENET Group 3 WDC B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W KENET Group 3 WDL B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W KENET Group 3 WDM B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W KENET Group 3 WDP B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	

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FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 6
(XAM immediate left, DVR right)

Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W KENET Group 3 WDC B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	X Option Discontinued
W KENET Group 3 WDL B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W KENET Group 3 WDM B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W KENET Group 3 WDP B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDA B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDC B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDG C	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDH C	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDM B	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow	
W SAM Group 1 WDP B	First turn at c.1.2nm (very small - more like a track adjustment than a turn). No other safety concerns identified with this route.	Shares interdependencies with Farnborough and Heathrow	
W TNT Group 1 WDG A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W TNT Group 1 WDG A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W TNT Group 1 WDH A	The first turn requires a c.1.7nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Not viable due to interactions with Heathrow and wider LTMA traffic flows.	
W TNT Group 1 WDH A 2	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W TNT Group 1 WDH A 3	The first turn requires a c.1.5nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W TNT Group 1 WDP A	First turn c.2nm. No other safety concerns identified with this route.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
W XAMAB Group 1 WDC C	First turn c.2nm. 1nm before first turn. No other safety concerns identified with this route.	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 1 WDK C	First turn c.2nm. 0.6nm before first turn. No other safety concerns identified with this route.	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 1 WDO C	First turn radius c.2.1nm however also offset departure.	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 3 WDA C	First turn at c.3.2nm. No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 3 WDA C 2	First turn at c.3.2nm. No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
W XAMAB Group 3 WDA C 3	First turn at c.3.2nm. No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	

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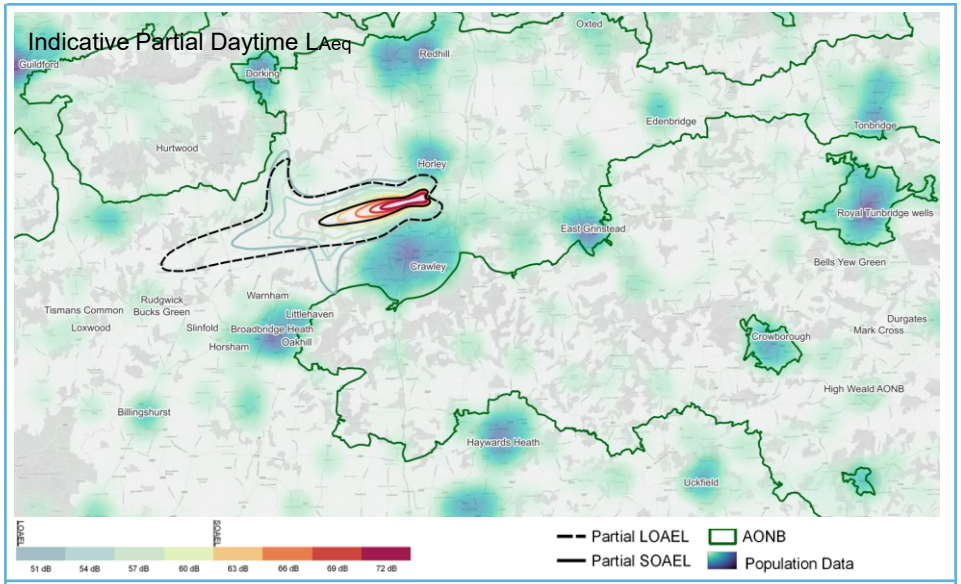
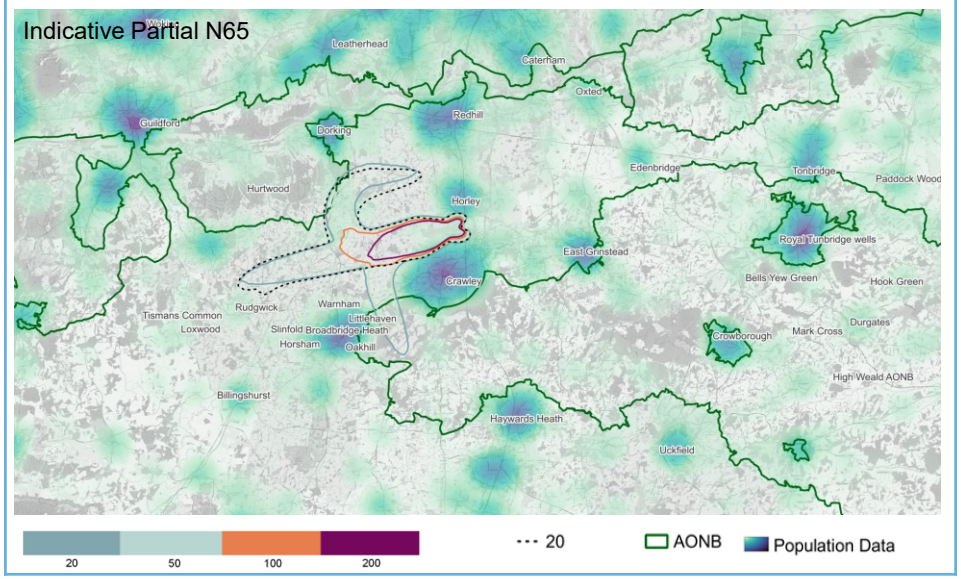
Option

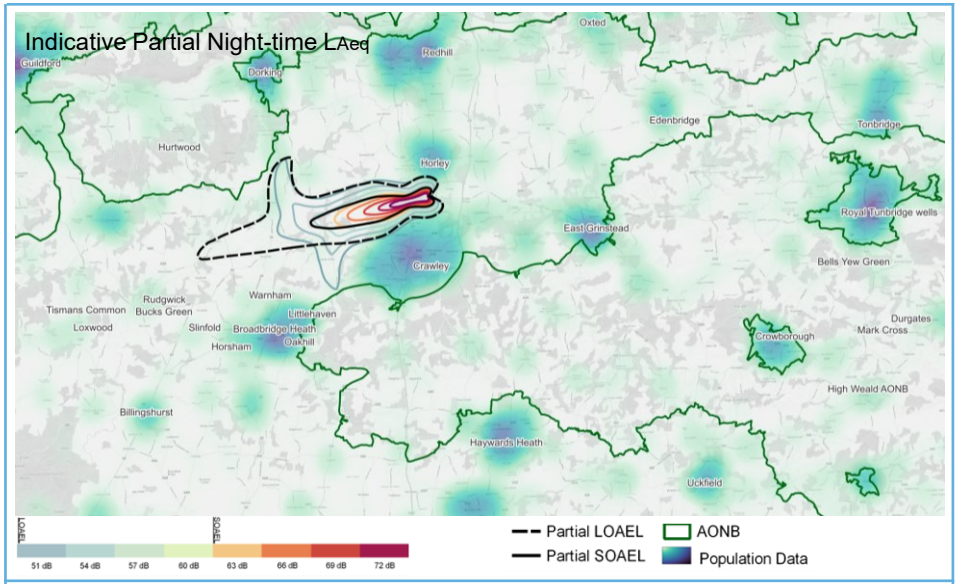
Departure Westerly System 6 (XAM immediate left, DVR right)

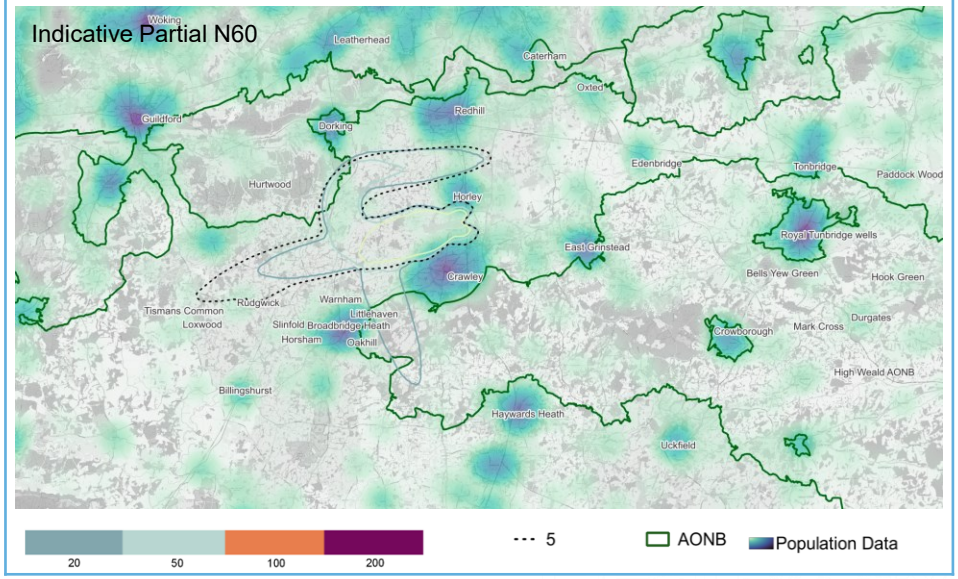
Day





Night





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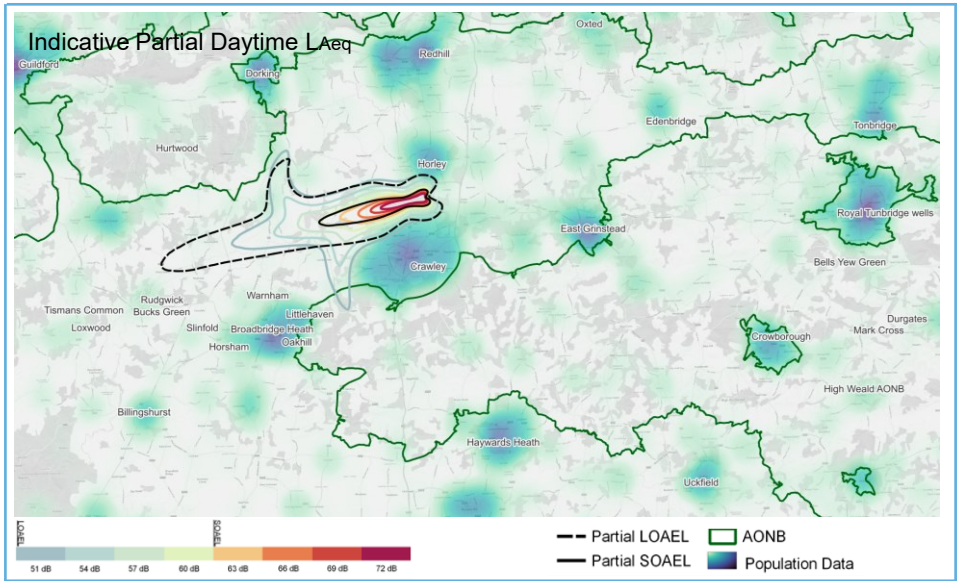
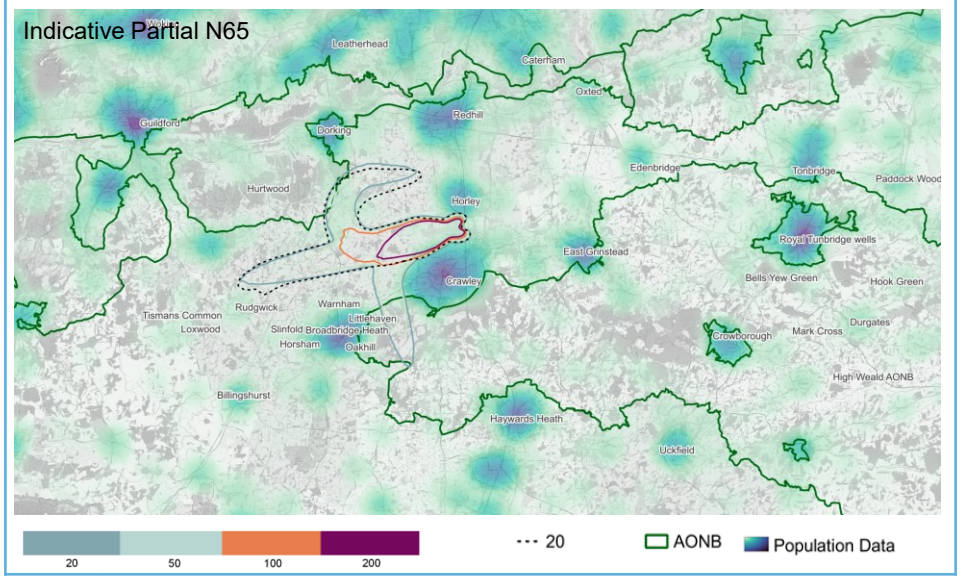
Option

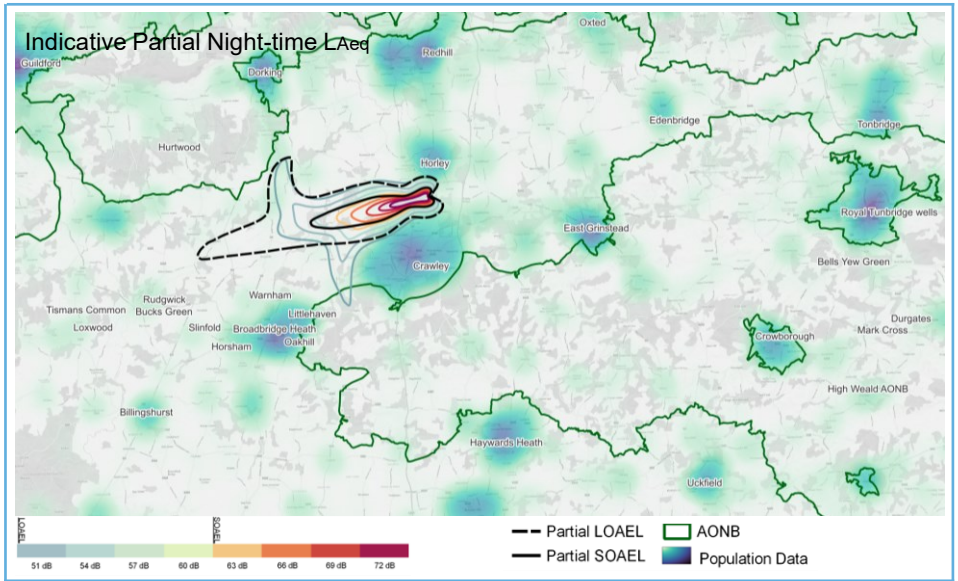
Departure Westerly System 6.2 (XAM immediate left, DVR right)

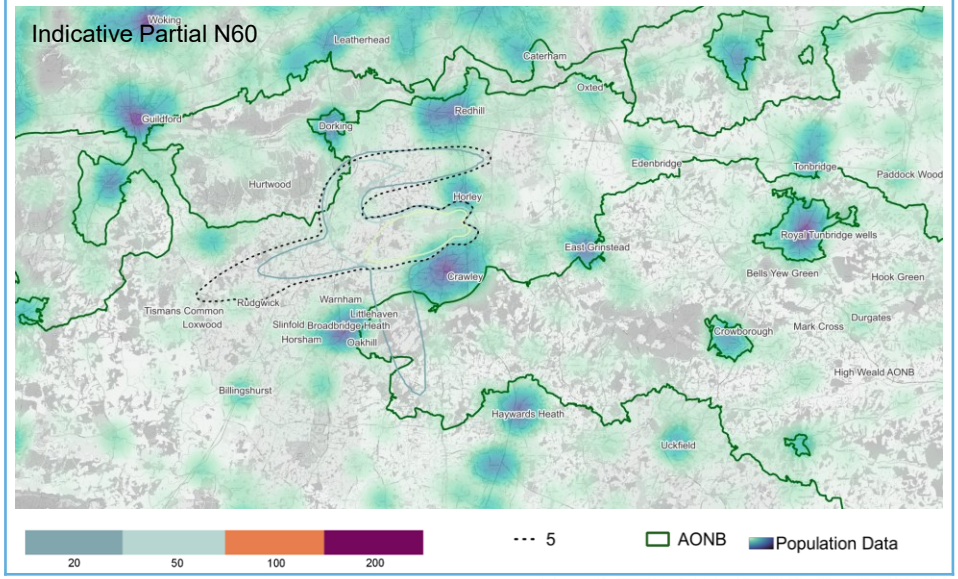
Day





Night





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Option

Departure Westerly System 7 (Majority of DVR turn right)

Description

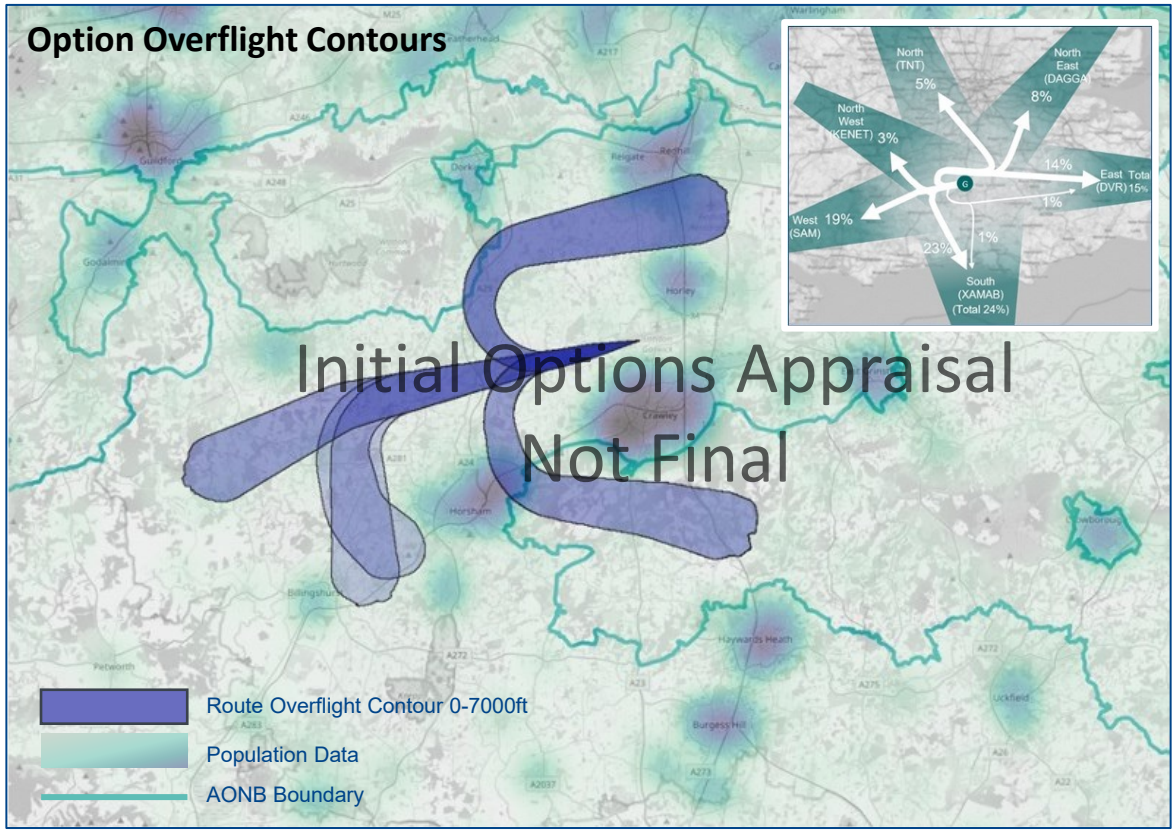
This option uses the existing procedure centrelines however it introduces an additional route to the south which initially follows the WIZAD track and would be available to a small percentage of XAMAB traffic.

Noise (Qualitative)

This option uses the existing procedure centrelines however compared to today, aircraft would follow full PBN procedures rather than being vectored beyond the NPR. This is why some noise metrics perform differently to the baseline. There are routes to XAMAB and DVR which would be available on a tactical basis which would provide a small amount of noise sharing.

This option would continue to see the cumulative effects of the right turn DVR/DAGGA/TNT departures. The XAMAB/SAM/KENET departures would continue to fly along the same track as the easterly approach also leading to cumulative impacts.

Overflight Illustration



Airspace Modernisation Strategy

This option is expected to increase population experiencing adverse noise effects whereas there are other options which better align with the AMS objectives by performing either similarly or better than the baseline in terms of population within the indicative partial LOAEL. PBN departures are however expected to be used as part of wider a system design where they could enable simplification, integration, safety and efficiency enhancements.

Safety

No significant safety concerns raised at this stage although new / revised safety assurances may be required. An acceptable safety argument is envisaged to be achievable subject to further investigation should this option progress.

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 7 (Majority of DVR turn right)

Indicative Partial System Performance

Noise	*Population*	Difference to Baseline
LOAEL (Day)	7468	+1389
LOAEL (Night)	5234	+8
N65 (20)	7585	-419
N60 (5)	25528	+1211

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	2.9	+1.6 km²

Emissions	Qualitative Conclusion
Fuel Burn & Greenhouse Gas	*Expected positive compared to baseline*

Economic	Qualitative Conclusion
Commercial Airlines	*Expected positive compared to baseline*
General Aviation	*Expected positive compared to baseline*

General Aviation	Qualitative Conclusion
Controlled Airspace Volume	*Expected positive compared to baseline*
GA Access	*Expected positive compared to baseline*

Capacity / Resilience	Qualitative Conclusion
Capacity / Resilience	*Expected positive compared to baseline*

Costs	Qualitative Conclusion
Commercial Airlines Training	No costs identified
Commercial Airlines Other	No costs identified
Airport / ANSP Infrastructure	*Costs identified*
Airport / ANSP Operational	*Costs identified*
Airport / ANSP Deployment	*Costs identified*

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FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 7 (Majority of DVR turn right)

Option Routes	Noise				Air Quality	Tranquillity	Biodiversity (RAMSAR, SEC, SPA, SSSI overflown between 0-1640ft		Fuel Burn & Greenhouse Gas Emissions
	Overflight Daytime (1) (Population)	Overflight Nighttime (1) (Population)	Population Newly overflown (Day) (1)	Population Newly overflown (Night) (1)			Number of sites overflown between 0-1640ft	Area (km2) of sites overflown between 0-1640ft	
W WDG A DAGGA	14812	14812	10472	14812	No	1.6	0	0	67.1
W WDG A DVR	14812	14812	6927	7127	No	1.6	0	0	71.7
W WDG B DVR 2	16527	16527	16404	16450	No	38.2	0	0	71.7
W WDG C KENET	4096	0	4096	0	No	0	0	0	62.2
W WDG C SAM	4096	4096	251	3258	No	0	0	0	46.1
W WDG A TNT	14812	0	14812	0	No	1.6	0	0	150.0
W WDG D XAM	4011	4011	3029	3150	No	0	0	0	71.0
W WDG E XAM	5359	5359	2899	4458	No	0	0	0	71.3
W WDG B XAM	15991	15991	15840	15840	No	38.3	0	0	72.4

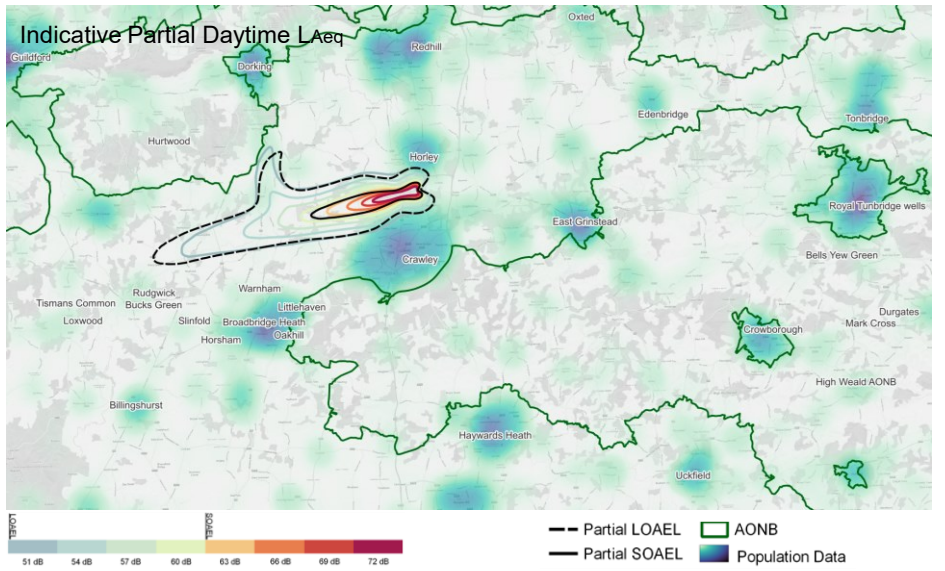
Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W WDG A DAGGA	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill, and London City.	X Option Discontinued
W WDG A DVR	No IFP issues identified	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W WDG B DVR 2	No IFP issues identified	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	
W WDG C KENET	No IFP issues identified	Shares interdepdencies with Heathrow and Farnborough	
W WDG C SAM	No IFP issues identified	Shares interdepdencies with Heathrow and Farnborough	
W WDG A TNT	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill, and London City.	
W WDG D XAM	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow although these occur mostly above 7000ft.	
W WDG E XAM	No IFP issues identified	Shares interdependencies with arrivals. Also interdependencies between Farnborough and Heathrow although these mostly occur above 7000ft.	
W WDG B XAM	No IFP issues identified	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	

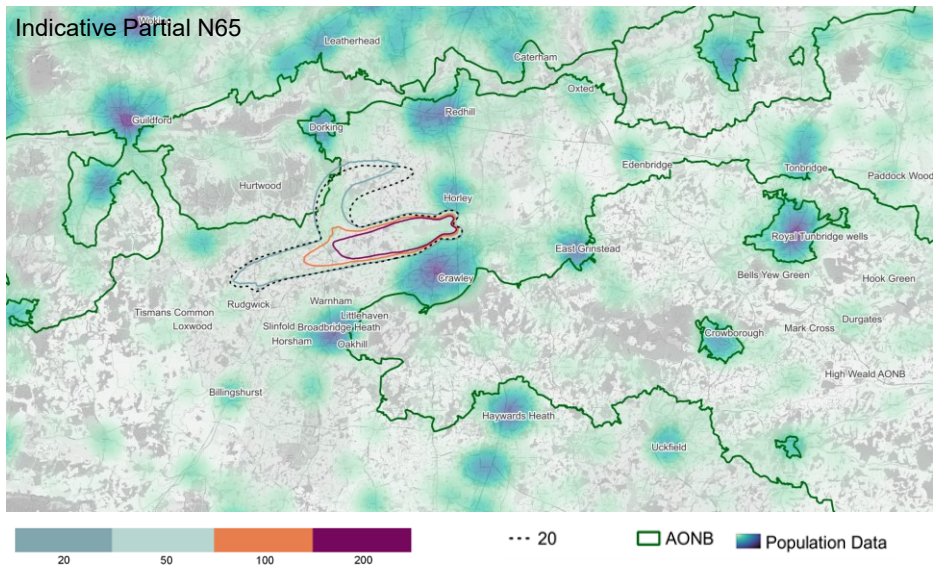
FASI-S ACP Initial Options Appraisal Dashboard

Option

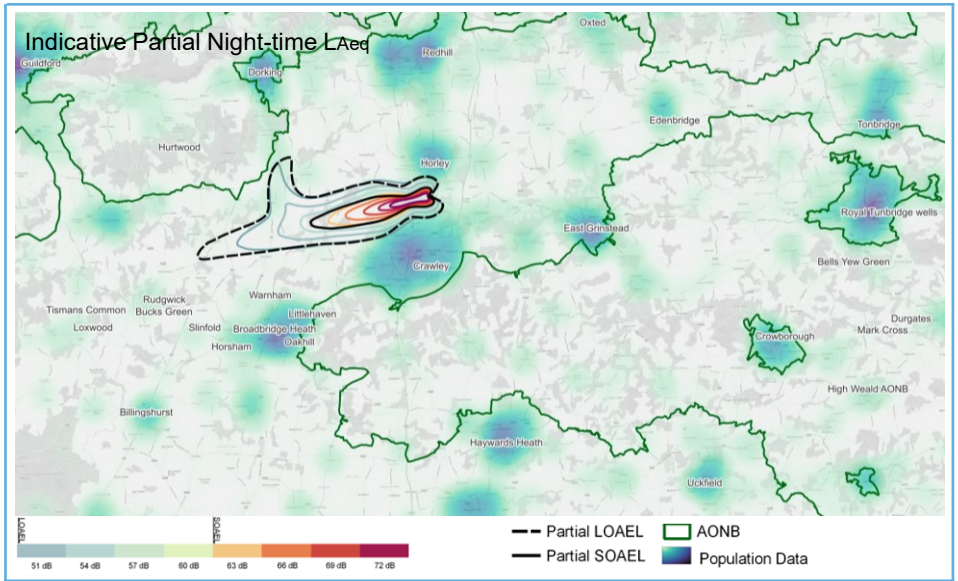
Departure Westerly System 7 (Majority of DVR turn right)

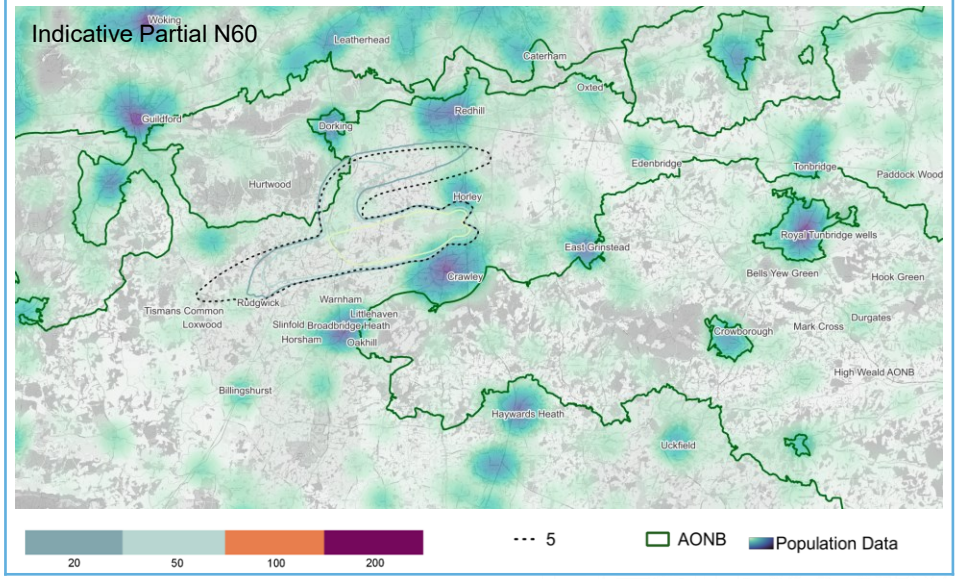
Day





Night





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Option

Departure Westerly System 7 (Majority of DVR turn left)

Description

This option uses the existing procedure centrelines however the majority of DVR traffic would now turn left and fly the WIZAD route. It also introduces an additional route to the south which initially follows the WIZAD track and would be available to a small percentage of XAMAM traffic.

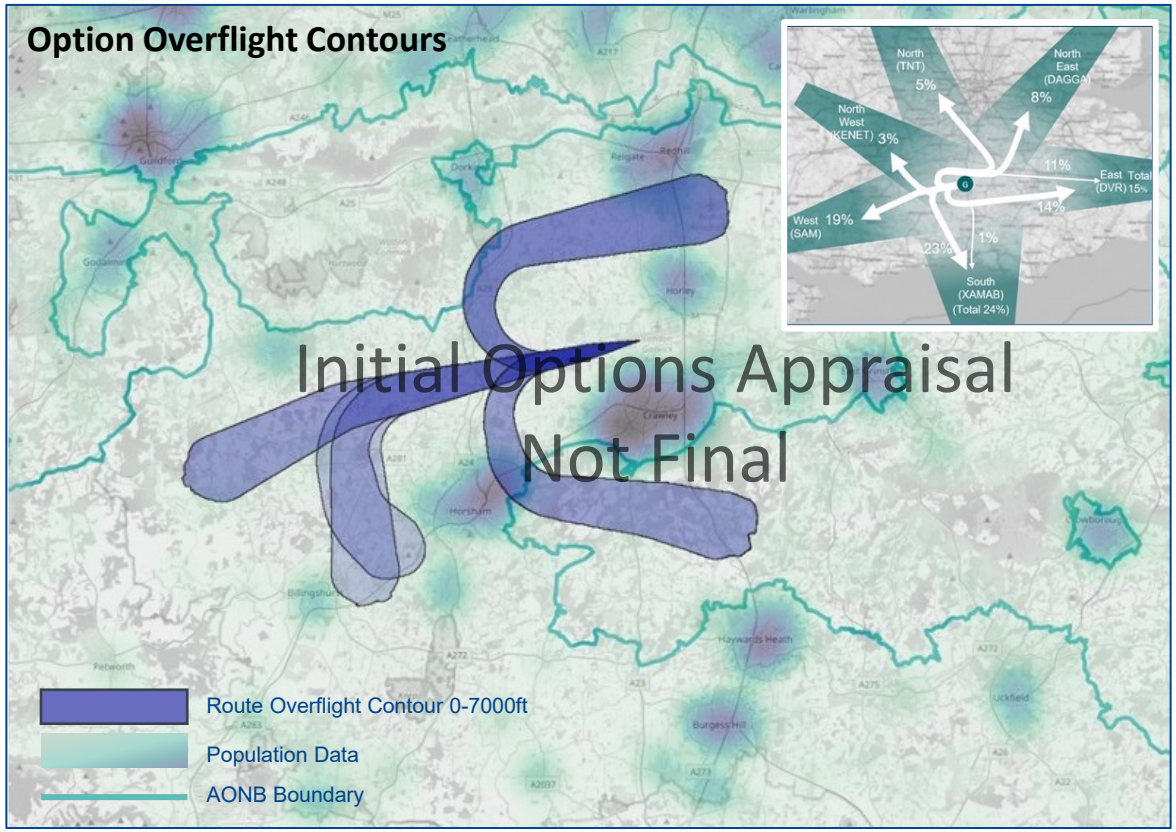
Noise (Qualitative)

This option routes the majority of DVR departures to the left rather than right and the DAGGA/TNT departures continue to turn right as they do today. By splitting the DVR/DAGGA/TNT departures there is greater shareing of noise however this introduces overflight in areas not routinely overflown by westerly departures today.
There are routes to XAMAB and DVR which would be available on a tactical basis which would provide a small amount of noise sharing. The XAMAB/SAM/KENET departures would continue to fly along the same track as the easterly approach leading to cumulative impacts.
It is expected that departures will achieve improved CCO performance, and the left turn DVR departures may achieve better CCO performance than the right turn options although this is subject to integration with neighbouring airports and the network airspace above 7000ft.

Airspace Modernisation Strategy

Supports the AMS through the implementation of PBN departures which would be for noise and environmental mitigation purposes as set out in the Government's Air Navigation Guidance. PBN departures are expected to be used in conjunction with arrivals as part of wider a system design which could enable simplification, integration, safety and efficiency enhancements.

Overflight Illustration



Safety

No significant safety concerns raised at this stage although new / revised safety assurances may be required. An acceptable safety argument is envisaged to be achievable subject to further investigation should this option progress.

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 7 (Majority of DVR turn left)

Indicative Partial System Performance

Noise	*Population*	Difference to Baseline
LOAEL (Day)	5787	-292
LOAEL (Night)	4051	-1191
N65 (20)	14569	+6565
N60 (5)	36327	+12010

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	3.2	+1.9 km²

Emissions	Qualitative Conclusion
Fuel Burn & Greenhouse Gas	*Expected positive compared to baseline*

Economic	Qualitative Conclusion
Commercial Airlines	*Expected positive compared to baseline*
General Aviation	*Expected positive compared to baseline*

General Aviation	Qualitative Conclusion
Controlled Airspace Volume	*Expected positive compared to baseline*
GA Access	*Expected positive compared to baseline*

Capacity / Resilience	Qualitative Conclusion
Capacity / Resilience	*Expected positive compared to baseline*

Costs	Qualitative Conclusion
Commercial Airlines Training	No costs identified
Commercial Airlines Other	No costs identified
Airport / ANSP Infrastructure	*Costs identified*
Airport / ANSP Operational	*Costs identified*
Airport / ANSP Deployment	*Costs identified*

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FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 7 (Majority of DVR turn left)

Option Routes	Noise				Air Quality	Tranquillity	Biodiversity (RAMSAR, SEC, SPA, SSSI overflown between 0-1640ft		Fuel Burn & Greenhouse Gas Emissions
	Overflight Daytime (1) (Population)	Overflight Nighttime (1) (Population)	Population Newly overflown (Day) (1)	Population Newly overflown (Night) (1)			Number of sites overflown between 0-1640ft	Area (km2) of sites overflown between 0-1640ft	
W WDG A DAGGA	14812	14812	10472	14812	No	1.6	0	0	67.1
W WDG A DVR	14812	14812	6927	7127	No	1.6	0	0	71.7
W WDG B DVR 2	16527	16527	16404	16450	No	38.2	0	0	71.7
W WDG C KENET	4096	0	4096	0	No	0	0	0	62.2
W WDG C SAM	4096	4096	251	3258	No	0	0	0	46.1
W WDG A TNT	14812	0	14812	0	No	1.6	0	0	150.0
W WDG D XAM	4011	4011	3029	3150	No	0	0	0	71.0
W WDG E XAM	5359	5359	2899	4458	No	0	0	0	71.3
W WDG B XAM	15991	15991	15840	15840	No	38.3	0	0	72.4

Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W WDG A DAGGA	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill, and London City.	X Option Discontinued
W WDG A DVR	No IFP issues identified	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W WDG B DVR 2	No IFP issues identified	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	
W WDG C KENET	No IFP issues identified	Shares interdepdencies with Heathrow and Farnborough	
W WDG C SAM	No IFP issues identified	Shares interdepdencies with Heathrow and Farnborough	
W WDG A TNT	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill, and London City.	
W WDG D XAM	No IFP issues identified	Shares interdependencies with Farnborough and Heathrow although these occur mostly above 7000ft.	
W WDG E XAM	No IFP issues identified	Shares interdependencies with arrivals. Also interdependencies between Farnborough and Heathrow although these mostly occur above 7000ft.	
W WDG B XAM	No IFP issues identified	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	

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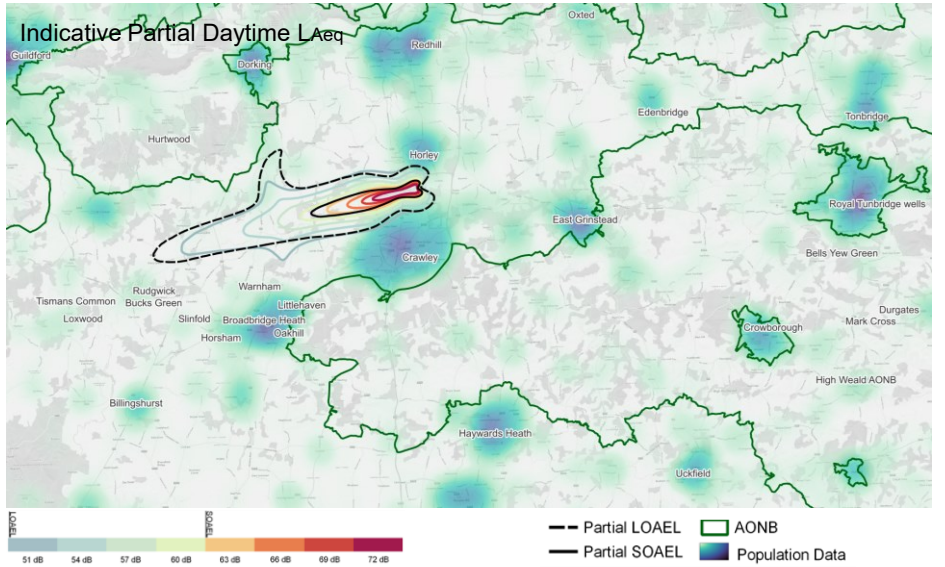
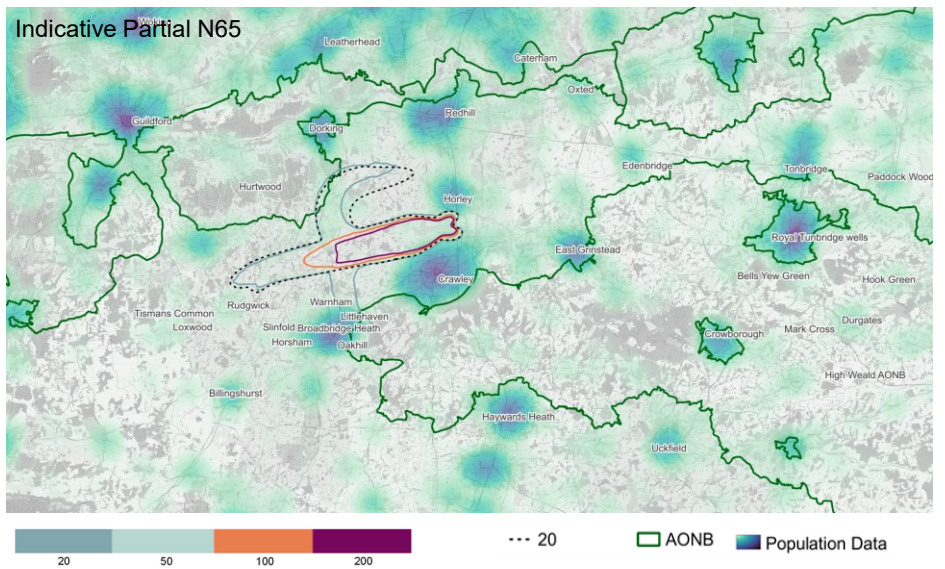
Option

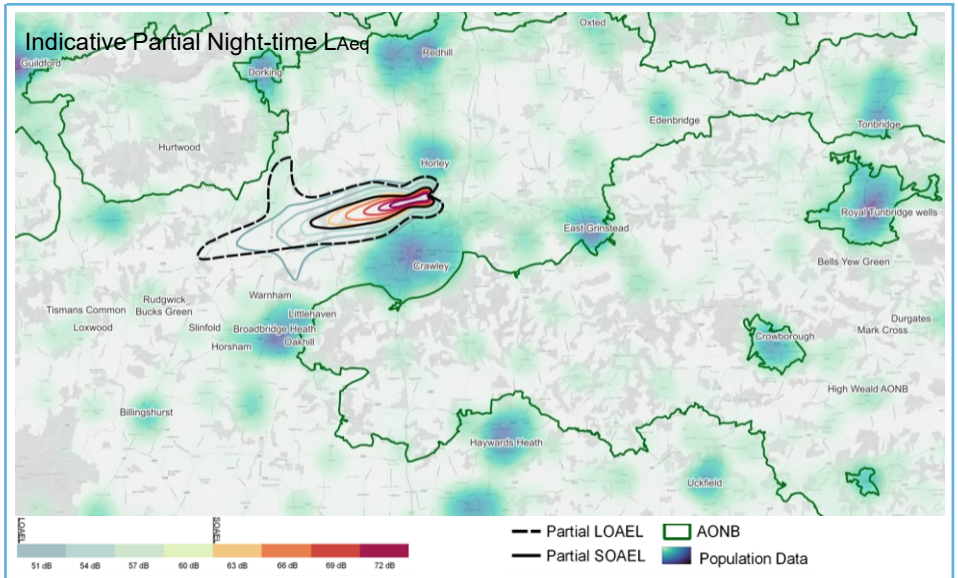
Departure Westerly System 7 (Majority of DVR turn left)

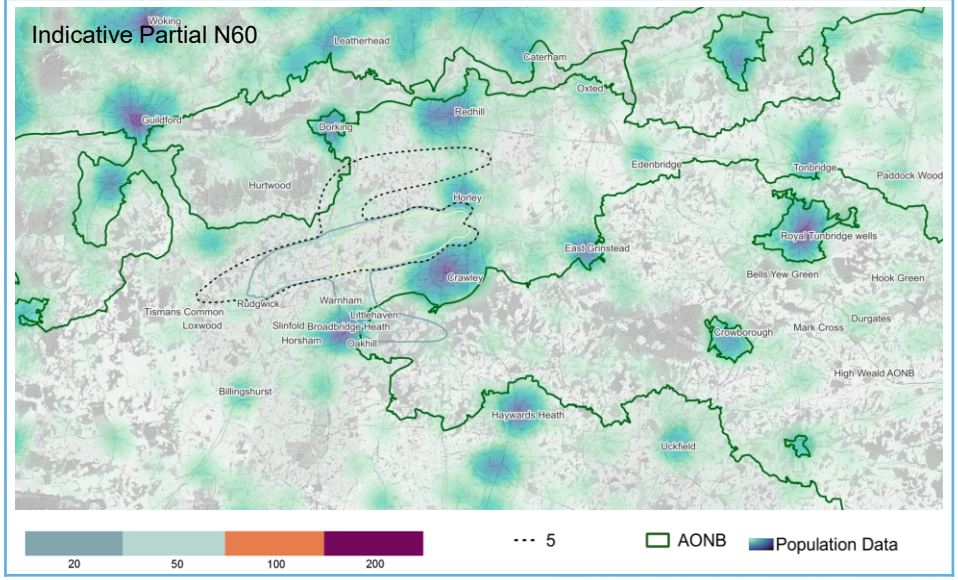
Day





Night





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Option

Departure Westerly System 8 (Majority of DVR turn right)

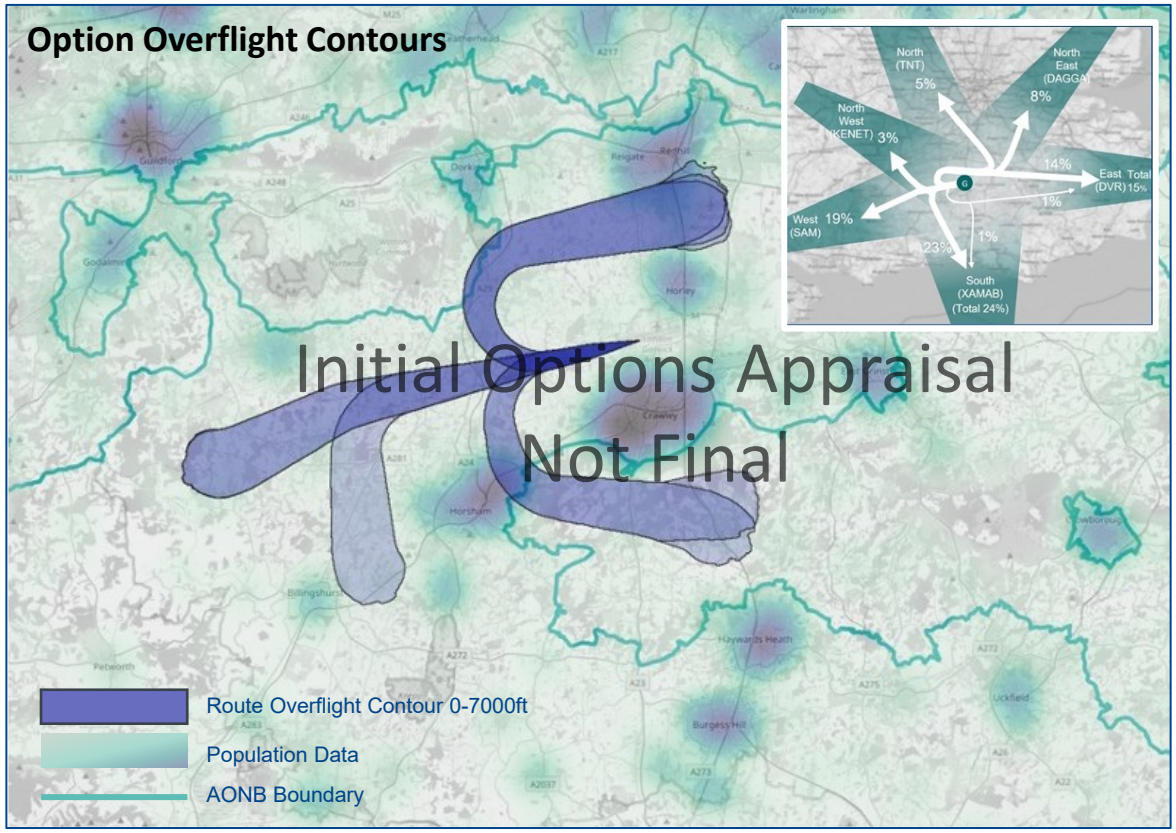
Description

This option uses the existing procedure centrelines from 0-4000ft. It introduces an additional route to the south which initially follows the WIZAD track and would be available to a small percentage of XAMAM traffic.

Noise (Qualitative)

This option uses the existing procedure centrelines from 0-4000ft however compared to today, aircraft would follow full PBN procedures rather than being vectored beyond the NPR. This is why some noise metrics perform differently to the baseline. There are routes to XAMAB and DVR which would be available on a tactical basis which would provide a small amount of noise sharing. This option would continue to see the cumulative effects of the right turn DVR/DAGGA/TNT departures. The XAMAB/SAM/KENET departures would continue to fly along the same track as the easterly approach also leading to cumulative impacts.

Overflight Illustration



Airspace Modernisation Strategy

This option is expected to increase population experiencing adverse noise effects whereas there are other options which better align with the AMS objectives by performing either similarly or better than the baseline in terms of population within the indicative partial LOAEL. PBN departures are however expected to be used as part of wider a system design where they could enable simplification, integration, safety and efficiency enhancements.

Safety

No significant safety concerns raised at this stage although new / revised safety assurances may be required. An acceptable safety argument is envisaged to be achievable subject to further investigation should this option progress.

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FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 8 (Majority of DVR turn right)

Indicative Partial System Performance

Noise	*Population*	Difference to Baseline
LOAEL (Day)	7468	+1389
LOAEL (Night)	5234	-8
N65 (20)	7585	-419
N60 (5)	25528	+1211

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	2.9	+1.6 km²

Emissions	Qualitative Conclusion
Fuel Burn & Greenhouse Gas	*Expected positive compared to baseline*

Economic	Qualitative Conclusion
Commercial Airlines	*Expected positive compared to baseline*
General Aviation	*Expected positive compared to baseline*

General Aviation	Qualitative Conclusion
Controlled Airspace Volume	*Expected positive compared to baseline*
GA Access	*Expected positive compared to baseline*

Capacity / Resilience	Qualitative Conclusion
Capacity / Resilience	*Expected positive compared to baseline*

Costs	Qualitative Conclusion
Commercial Airlines Training	No costs identified
Commercial Airlines Other	No costs identified
Airport / ANSP Infrastructure	*Costs identified*
Airport / ANSP Operational	*Costs identified*
Airport / ANSP Deployment	*Costs identified*

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FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 8 (Majority of DVR turn right)

Option Routes	Noise				Air Quality	Tranquillity	Biodiversity (RAMSAR, SEC, SPA, SSSI overflown between 0-1640ft		Fuel Burn & Greenhouse Gas Emissions
	Overflight Daytime (1) (Population)	Overflight Nighttime (1) (Population)	Population Newly overflown (Day) (1)	Population Newly overflown (Night) (1)			Number of sites overflown between 0-1640ft	Area (km2) of sites overflown between 0-1640ft	
W WDH A DAGGA	14812	14812	10472	14812	No	1.6	0	0	65.6
W WDH A DVR	14757	14757	6681	6881	No	1.6	0	0	71.4
W WDH B DVR	15948	15948	15825	15871	No	38.6	0	0	71.0
W WDH C KENET	3663	0	3663	0	No	0	0	0	57.8
W WDH C SAM	3805	3805	224	2967	No	0	0	0	46.0
W WDH A TNT	17835	0	17835	0	No	1.6	0	0	139.2
W WDH E XAM	4186	4186	3204	3325	No	0	0	0	70.2
W WDH B XAM	15919	15919	15768	15768	No	37.8	0	0	67.6

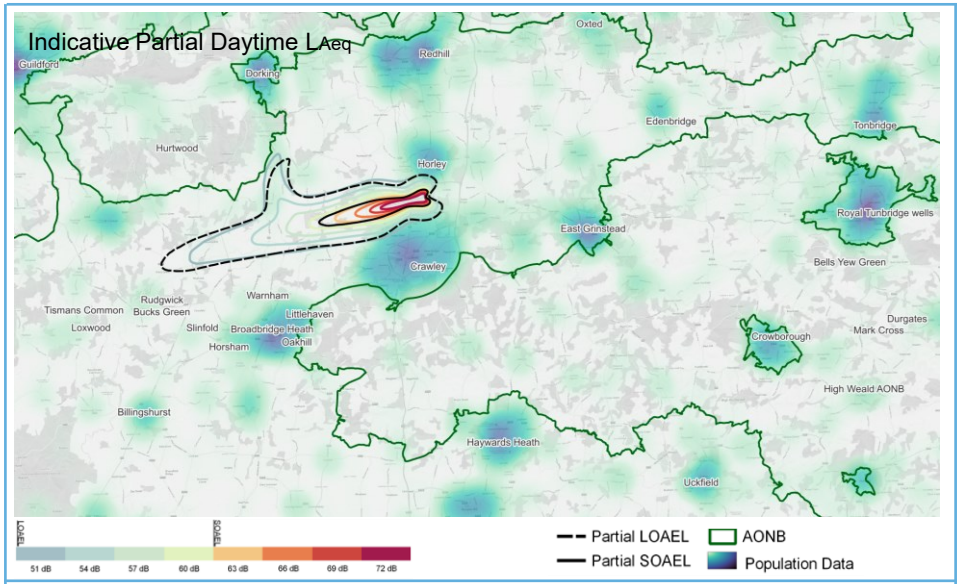
Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W WDH A DAGGA	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill, and London City.	X Option Discontinued
W WDH A DVR	No IFP issues identified	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W WDH B DVR	No IFP issues identified	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	
W WDH C KENET	No IFP issues identified	Shares interdepdencies with Heathrow and Farnborough	
W WDH C SAM	No IFP issues identified	Shares interdepdencies with Heathrow and Farnborough	
W WDH A TNT	No IFP issues identified	Not viable due to interactions with Heathrow and wider LTMA traffic flows.	
W WDH E XAM	No IFP issues identified	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	
W WDH B XAM	No IFP issues identified	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	

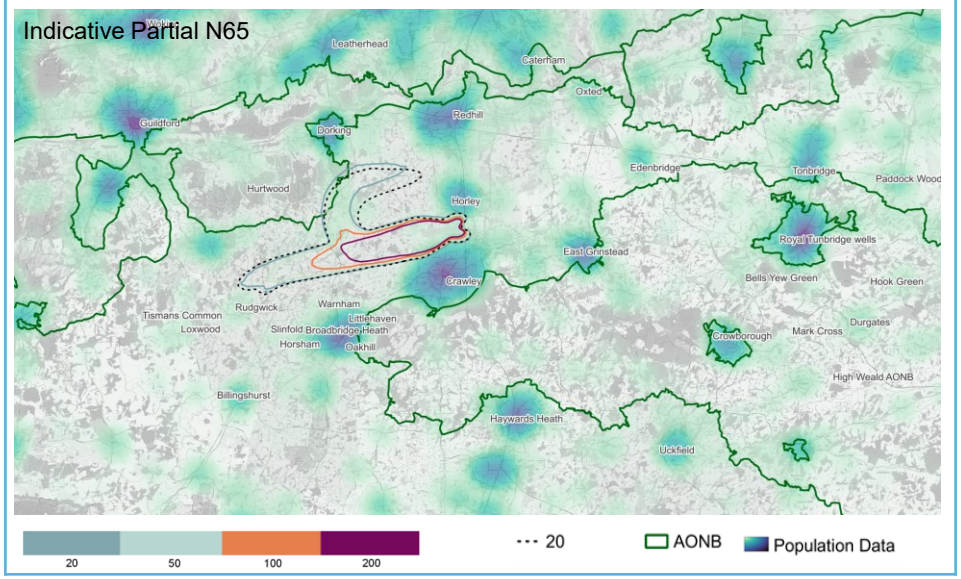
FASI-S ACP Initial Options Appraisal Dashboard

Option

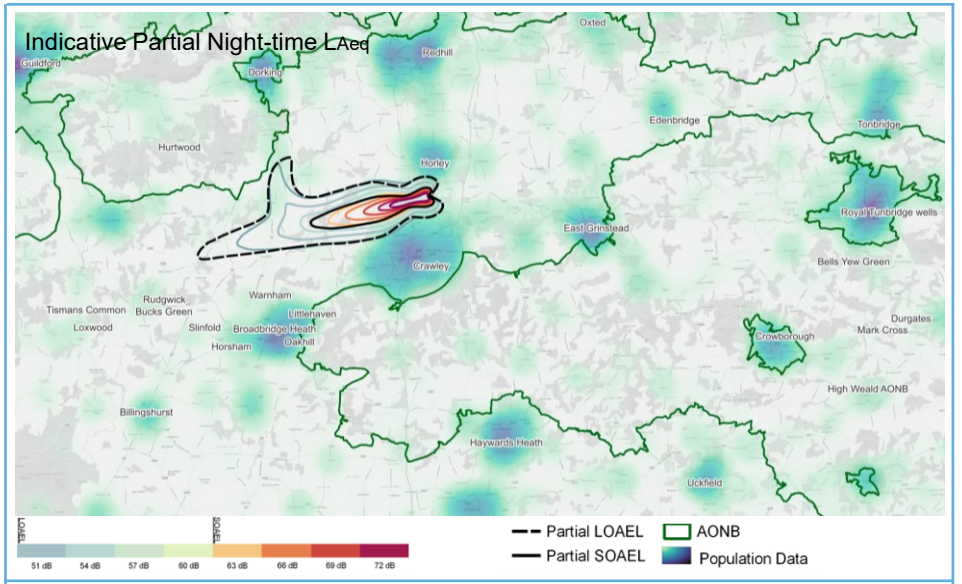
Departure Westerly System 8 (Majority of DVR turn right)

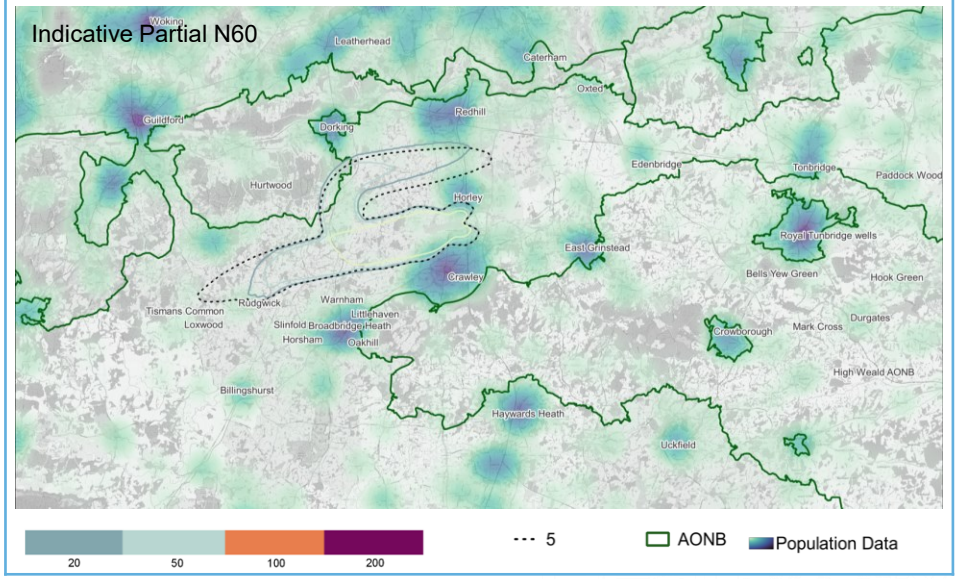
Day





Night





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FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 8 (Majority of DVR turn left)

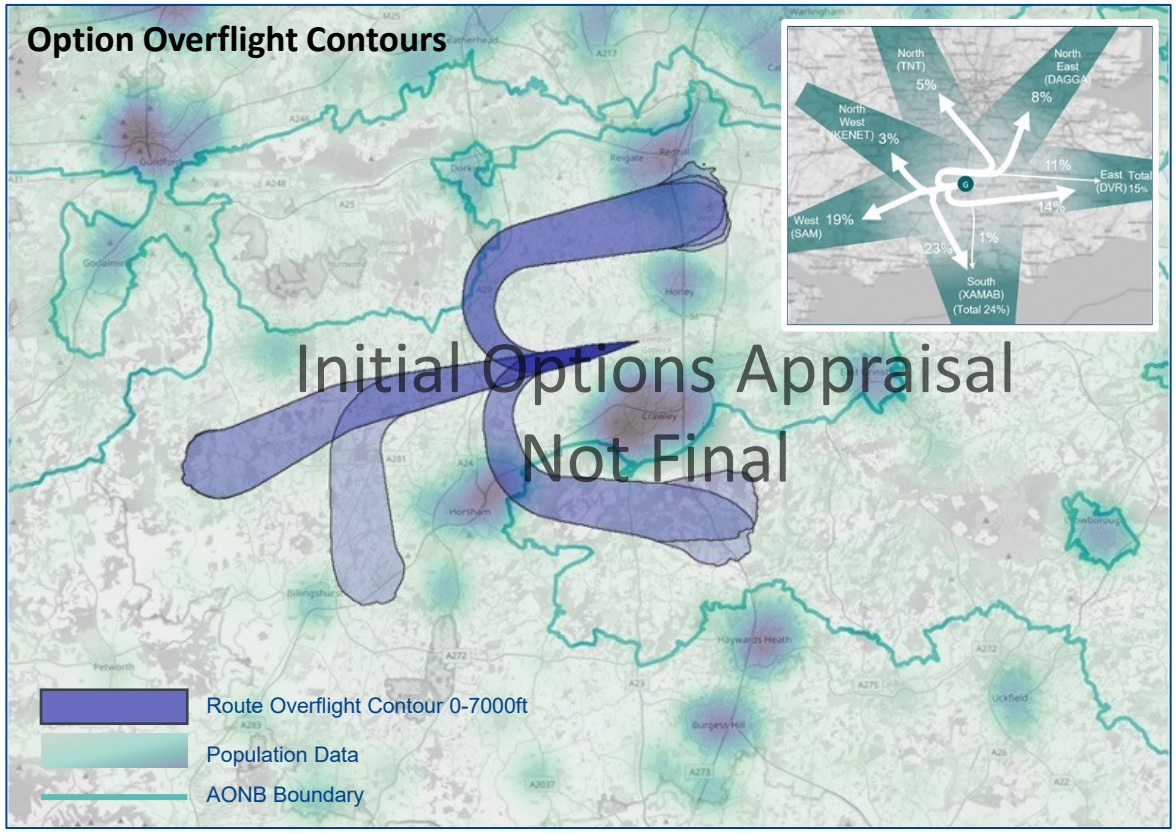
Description

This option uses the existing procedure centrelines from 0-4000ft however the majority of DVR traffic would now turn left and fly the WIZAD route. It also introduces an additional route to the south which initially follows the WIZAD track and would be available to a small percentage of XAMAM traffic.

Noise (Qualitative)

This option routes the majority of DVR departures to the left rather than right and the DAGGA/TNT departures continue to turn right as they do today. By splitting the DVR/DAGGA/TNT departures there is greater sharing of noise however this introduces overflight in areas not routinely overflown by westerly departures today.
There are routes to XAMAB and DVR which would be available on a tactical basis which would provide a small amount of noise sharing. The XAMAB/SAM/KENET departures would continue to fly along the same track as the easterly approach leading to cumulative impacts.
It is expected that departures will achieve improved CCO performance, and the left turn DVR departures may achieve better CCO performance than the right turn options although this is subject to integration with neighbouring airports and the network airspace above 7000ft.

Overflight Illustration



Airspace Modernisation Strategy

Supports the AMS through the implementation of PBN departures which would be for noise and environmental mitigation purposes as set out in the Government's Air Navigation Guidance. PBN departures are expected to be used in conjunction with arrivals as part of wider a system design which could enable simplification, integration, safety and efficiency enhancements.

Safety

No significant safety concerns raised at this stage although new / revised safety assurances may be required. An acceptable safety argument is envisaged to be achievable subject to further investigation should this option progress.

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 8 (Majority of DVR turn left)

Indicative Partial System Performance

Noise	*Population*	Difference to Baseline
LOAEL (Day)	5787	-292
LOAEL (Night)	4070	-1172
N65 (20)	14569	+6565
N60 (5)	36436	12119

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	3.3	+2 km²

Emissions	Qualitative Conclusion
Fuel Burn & Greenhouse Gas	*Expected positive compared to baseline*

Economic	Qualitative Conclusion
Commercial Airlines	*Expected positive compared to baseline*
General Aviation	*Expected positive compared to baseline*

General Aviation	Qualitative Conclusion
Controlled Airspace Volume	*Expected positive compared to baseline*
GA Access	*Expected positive compared to baseline*

Capacity / Resilience	Qualitative Conclusion
Capacity / Resilience	*Expected positive compared to baseline*

Costs	Qualitative Conclusion
Commercial Airlines Training	No costs identified
Commercial Airlines Other	No costs identified
Airport / ANSP Infrastructure	*Costs identified*
Airport / ANSP Operational	*Costs identified*
Airport / ANSP Deployment	*Costs identified*

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FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 8 (Majority of DVR turn left)

Option Routes	Noise				Air Quality	Tranquillity	Biodiversity (RAMSAR, SEC, SPA, SSSI overflown between 0-1640ft		Fuel Burn & Greenhouse Gas Emissions
	Overflight Daytime (1) (Population)	Overflight Nighttime (1) (Population)	Population Newly overflown (Day) (1)	Population Newly overflown (Night) (1)			Number of sites overflown between 0-1640ft	Area (km2) of sites overflown between 0-1640ft	
W WDH A DAGGA	14812	14812	10472	14812	No	1.6	0	0	65.6
W WDH A DVR	14757	14757	6681	6881	No	1.6	0	0	71.4
W WDH B DVR	15948	15948	15825	15871	No	38.6	0	0	71.0
W WDH C KENET	3663	0	3663	0	No	0	0	0	57.8
W WDH C SAM	3805	3805	224	2967	No	0	0	0	46.0
W WDH A TNT	17835	0	17835	0	No	1.6	0	0	139.2
W WDH E XAM	4186	4186	3204	3325	No	0	0	0	70.2
W WDH B XAM	15919	15919	15768	15768	No	37.8	0	0	67.6

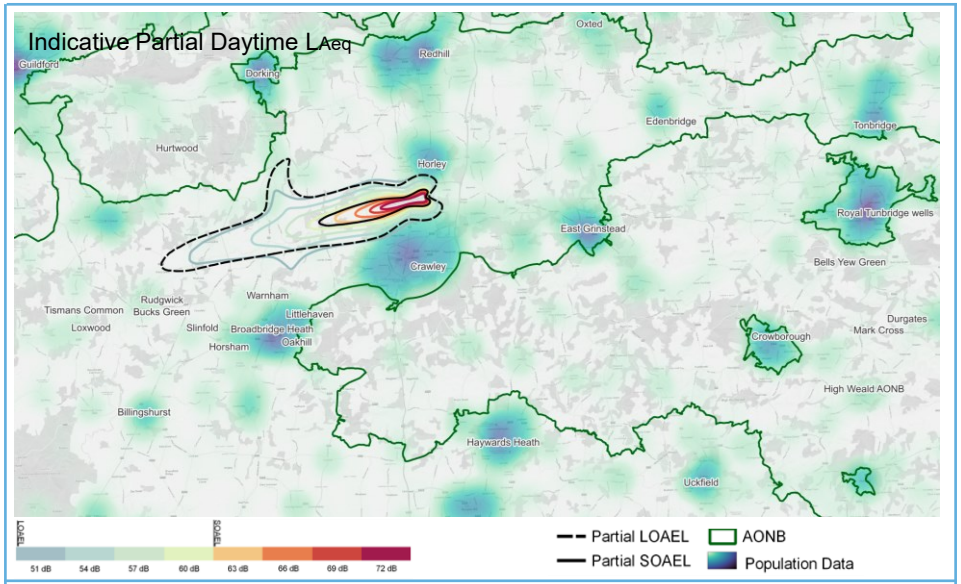
Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
W WDH A DAGGA	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill, and London City.	X Option Discontinued
W WDH A DVR	No IFP issues identified	Shares interdependences with Heathrow, Biggin Hill, and potentially London City	
W WDH B DVR	No IFP issues identified	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	
W WDH C KENET	No IFP issues identified	Shares interdepdencies with Heathrow and Farnborough	
W WDH C SAM	No IFP issues identified	Shares interdepdencies with Heathrow and Farnborough	
W WDH A TNT	No IFP issues identified	Not viable due to interactions with Heathrow and wider LTMA traffic flows.	
W WDH E XAM	No IFP issues identified	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	
W WDH B XAM	No IFP issues identified	Prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. Also, significant issues with integration of the departures into the network airspace.	

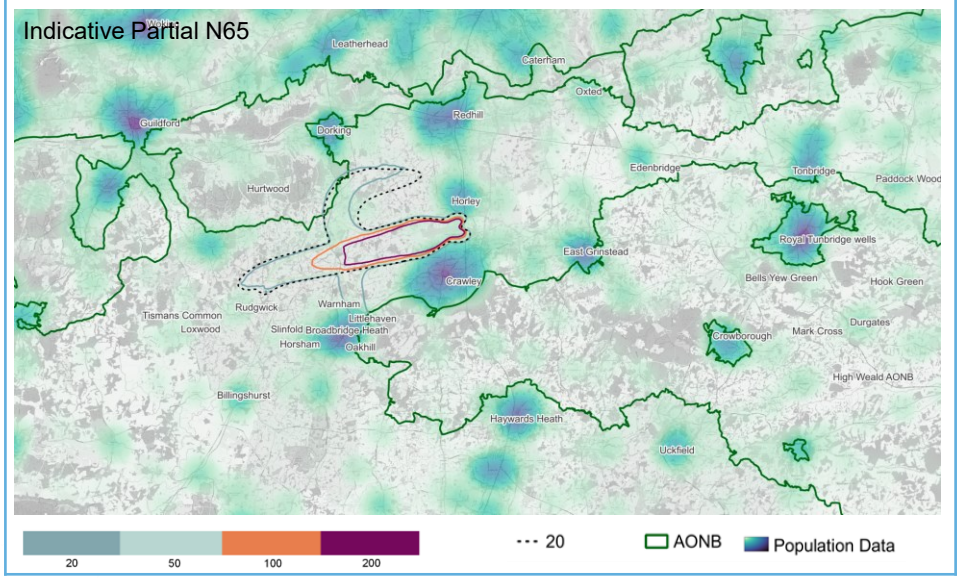
FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Westerly System 8 (Majority of DVR turn left)

Day





Night