FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly Baseline

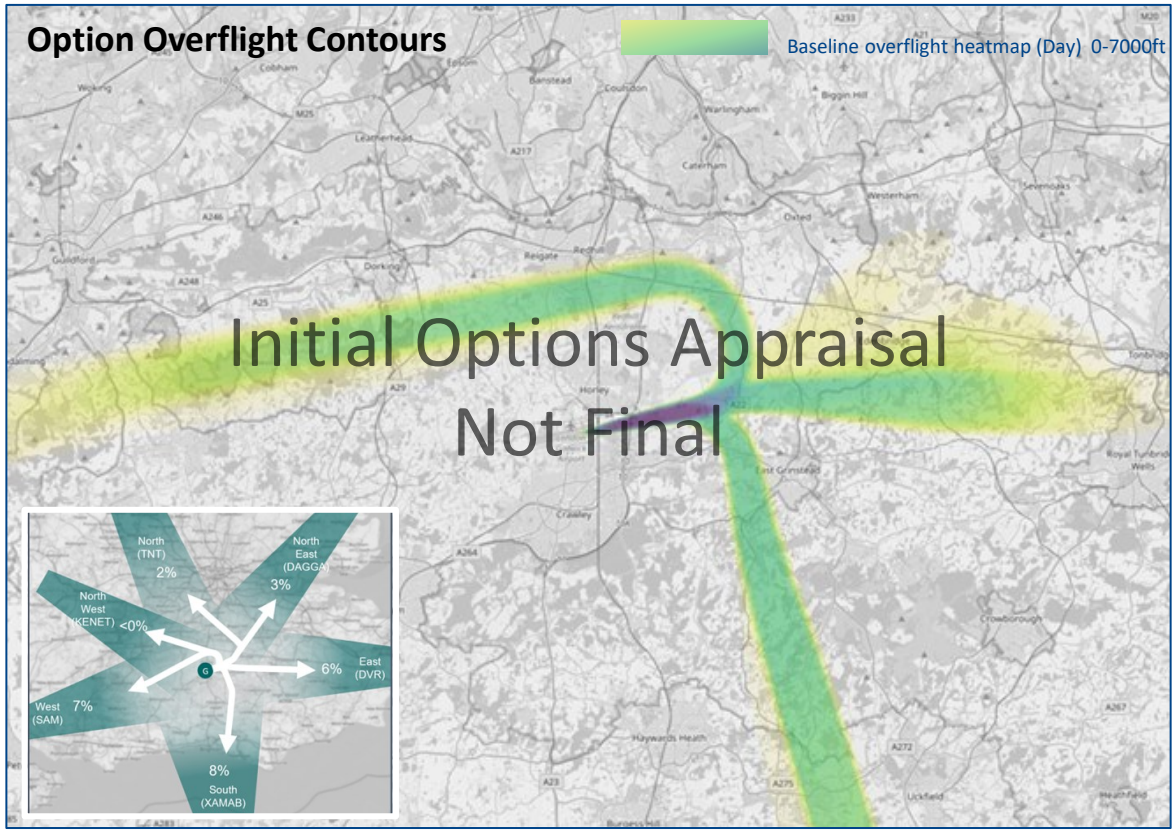
Description

SAM/KENET departures fly straight ahead for 3.5nm before turning left and wrapping around towards the west. TNT departures fly straight ahead for 3.7nm before turning north east. Owing to integrating traffic within the LTMA, these departures are routinely vectored beyond the initial straight ahead segment and may not immediately turn to the north east after the NPR. DAGGA departures fly straight ahead for 3.5nm before turning left to intercepting a radial from DVR. XAMAB departures fly straight ahead for 2.5nm before turning right (south)

Noise

In the baseline, the SAM/KENET departures turn left which creates some cumulative overflight over areas which are also overflown by westerly DVR/DAGGA/TNT departures. The XAMAB, DVR, DAGGA/TNT departures all fly straight ahead along the extended runway centreline for 2.5nm/3.5nm before turning which creates some cumulative impacts for those living under the westerly final approach.

Overflight Illustration



Airspace Modernisation Strategy

Doing nothing with easterly 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.

LONDON GATWICK

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly Baseline

Indicative Partial System Performance

Noise	*Population*	Difference to Baseline
LOAEL (Day)	3429	n/a
LOAEL (Night)	3190	n/a
N65 (20)	13762	n/a
N60 (5)	15593	n/a

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	0.4	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*

LONDON GATWICK

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly Baseline

Option Routes	Noise				Air Quality	Tranquillity (Overflight)	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	
E_DVR	29552	8144	n/a	n/a	No change	72	0	0	59.5
E_XAMAB	43061	11021				51.2			64.6
E_SAM	64094	25029				119.7			76.0
E_KENET	21543	0				13.6			73.6
E_DAGGA	17480	0				59.4			65.1
E_TNT	19771	0				26			149.7

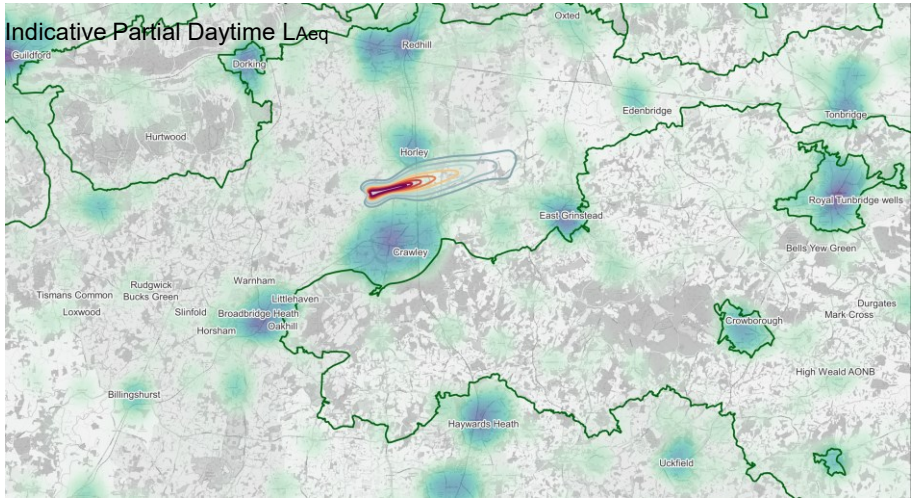
Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
E_DVR E_XAMAB E_SAM E_KENET E_DAGGA E_TNT	At the current traffic levels there are no safety concerns however future traffic growth could lead to increased complexity and workload for ATC and Pilots. This could lead to traffic levels 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)*

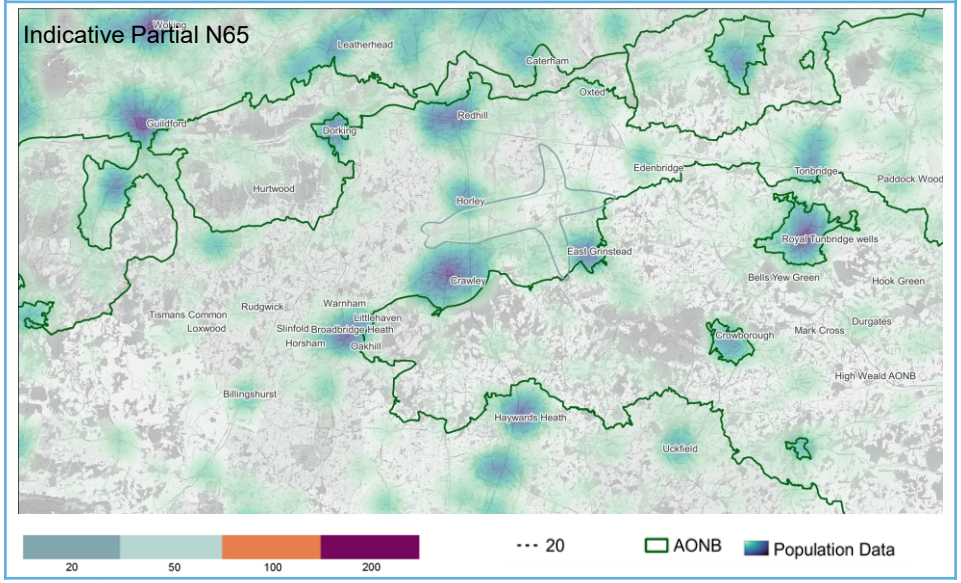
FASI-S ACP Initial Options Appraisal Dashboard

Option

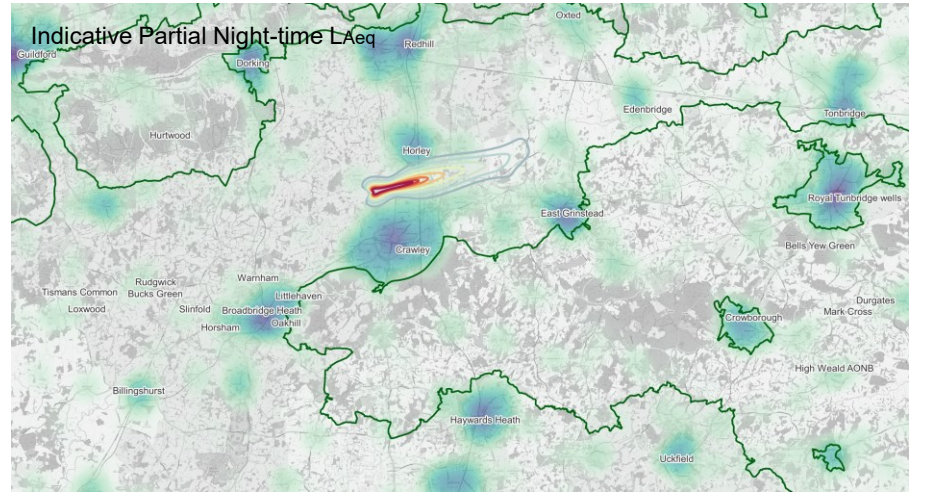
Departure Easterly Baseline

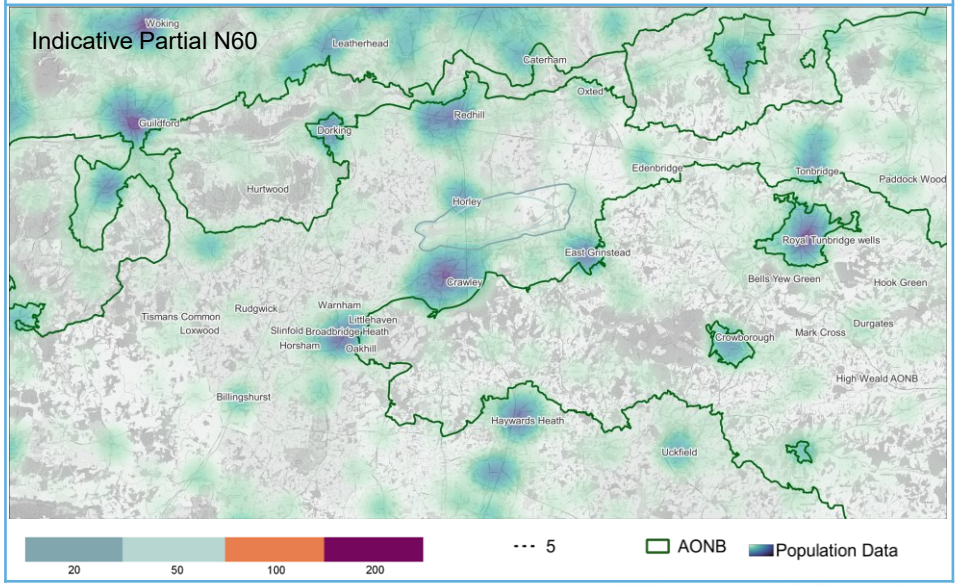
Day





Night





FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly System 1

Description

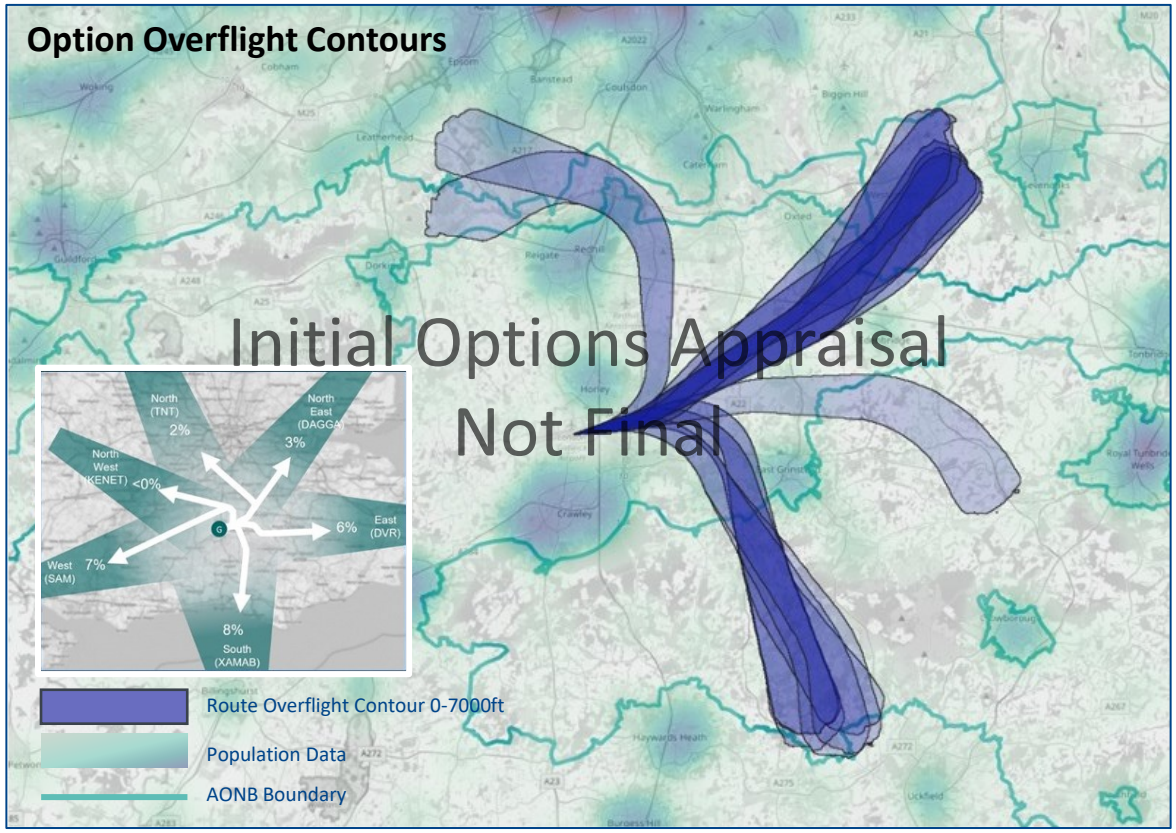
SAM KENET departures would turn left earlier than in the baseline and aircraft would fly further north before turning west. XAMAB departures turn right earlier than the baseline. DVR departures would initially fly a similar track before turning south at around 8.5nm. DAGGA/TNT departures would turn left earlier than the baseline.

Noise

The SAM/KENET, DAGGA/TNT and XAMAB departures turn earlier than in the baseline and this reduces the cumulative affects for those communities currently living under the westerly final approach and the straight ahead sections of the easterly departures however it does introduce overflight over areas not regularly overflown in the baseline. The earlier turns would require changes to Gatwick's existing NPRs.

In the baseline, the vast majority of easterly departures fly a PBN route however some vectoring does occur. This option therefore may result in greater 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 Easterly System 1

Indicative Partial System Performance

Noise	*Population*	Difference to Baseline
LOAEL (Day)	6292	+2863
LOAEL (Night)	3293	+103
N65 (20)	12089	-1673
N60 (5)	14158	-1437

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	0	-0.4km²

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	*Potential for positive compared to baseline*
GA Access	*Potential for 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 Easterly System 1

Option Routes	Noise				Air Quality	Tranquillity (Overflight)	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	
E DAGGA Group 4 EDA A	8280	8280	8280	8280	No	25.9	0	0	56.3
E DAGGA Group 4 EDB A	12369	12369	12369	12369	No	25.3	0	0	56.1
E DAGGA Group 4 EDC A	5669	5669	5669	5669	No	23.9	0	0	56.4
E DAGGA Group 4 EDD A	8150	8150	8150	8150	No	24.9	0	0	56.3
E DAGGA Group 4 EDG A	5719	5719	5719	5719	No	24.6	0	0	56.5
E DVR Group 4 EDG B	7143	7143	6641	7143	No	35.2	0	0	62.9
E KENET Group 1 EDN A	29723	0	29723	0	Lateral change below 1000ft	8.5	0	0	61.4
E SAM Group 1 EDN A	19616	19616	19243	19616	Lateral change below 1000ft	19.5	0	0	59.4
E TNT Group 4 EDA A	8280	0	8280	0	No	25.9	0	0	144.4
E TNT Group 4 EDB A	12369	0	12369	0	No	25.3	0	0	145.2
E TNT Group 4 EDC A	5669	0	5669	0	No	23.9	0	0	145.8
E TNT Group 4 EDD A	8150	0	8150	0	No	24.9	0	0	145.6
E TNT Group 4 EDG A	5719	0	5719	0	No	24.6	0	0	144.5
E XAMAB Group 2 EDC C	7527	7527	6354	7527	Lateral change below 1000ft	37.3	0	0	63.3
E XAMAB Group 2 EDD C	8283	8283	6379	8283	Lateral change below 1000ft	38.1	0	0	63.1
E XAMAB Group 2 EDF C	5799	5799	2198	5799	No	37.4	0	0	63.9
E XAMAB Group 2 EDH D	6775	6775	1167	6775	No	36.3	0	0	64.1
E XAMAB Group 2 EDI D	6775	6775	1167	6775	No	36.2	0	0	64.0
E XAMAB Group 2 EDP C	5969	5969	1544	5969	No	37.5	0	0	63.6

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly System 1

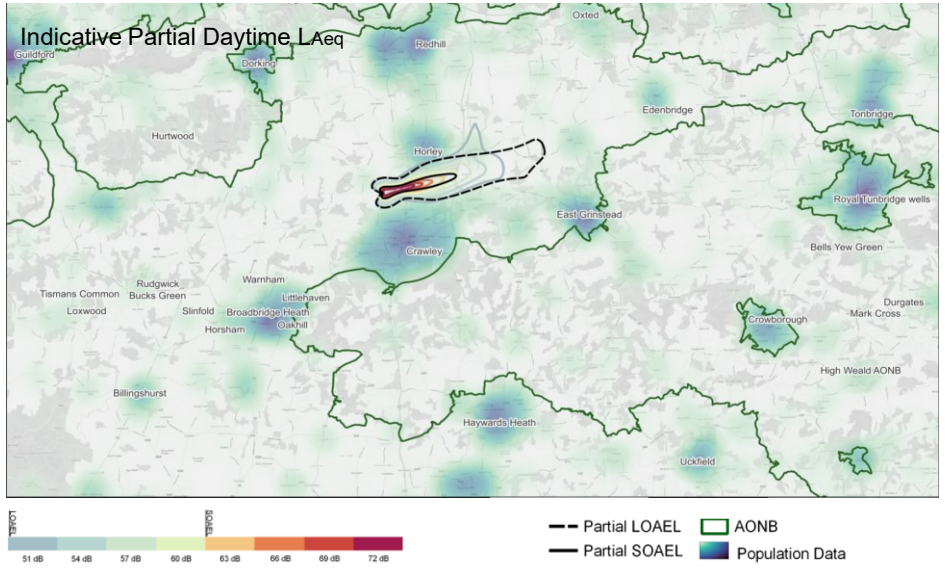
Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
E DAGGA Group 4 EDA A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	X Option discontinued
E DAGGA Group 4 EDB A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DAGGA Group 4 EDC A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DAGGA Group 4 EDD A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DAGGA Group 4 EDG A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DVR Group 4 EDG B	No IFP issues identified	Shares interdependencies with Heathrow and Biggin Hill	
E KENET Group 1 EDN A	The first turn at c.0.5nm requires a c.1.8nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow and Biggin Hill	
E SAM Group 1 EDN A	The first turn at c.0.5nm requires a c.1.8nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares interdependencies with Heathrow and Biggin Hill	
E TNT Group 4 EDA A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E TNT Group 4 EDB A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E TNT Group 4 EDC A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E TNT Group 4 EDD A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E TNT Group 4 EDG A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E XAMAB Group 2 EDC C	First turn at c.0.8nm	No interdependencies with other airports identified although would share with Gatwick arrivals	
E XAMAB Group 2 EDD C	First turn at c.0.8nm	No interdependencies with other airports identified although would share with Gatwick arrivals	
E XAMAB Group 2 EDF C	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
E XAMAB Group 2 EDH D	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
E XAMAB Group 2 EDI D	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
E XAMAB Group 2 EDP C	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	

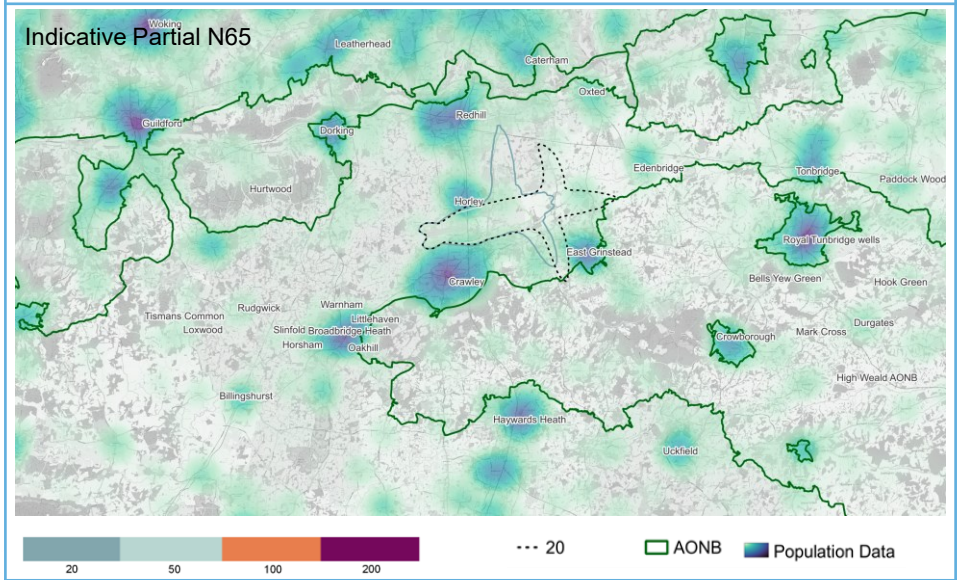
FASI-S ACP Initial Options Appraisal Dashboard

Option

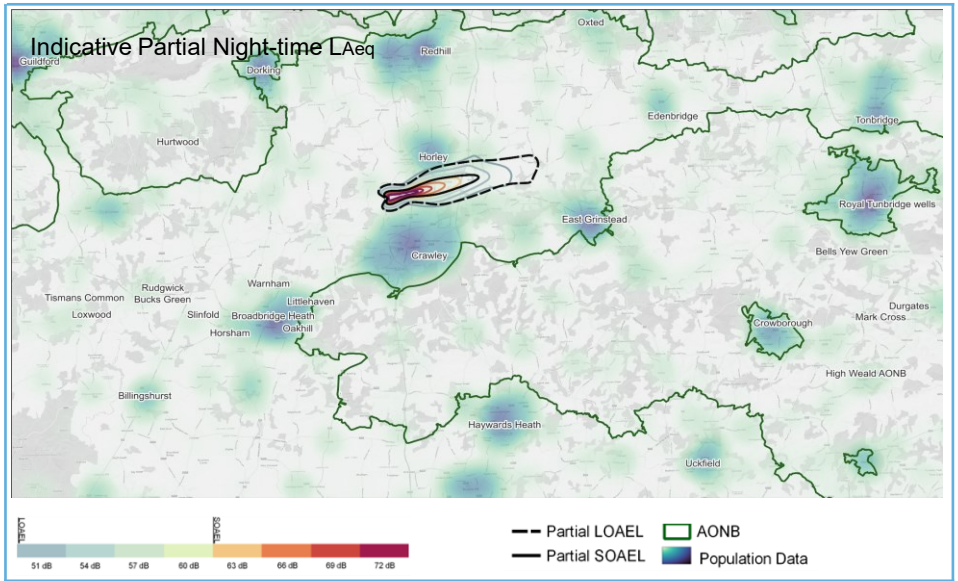
Departure Easterly System 1

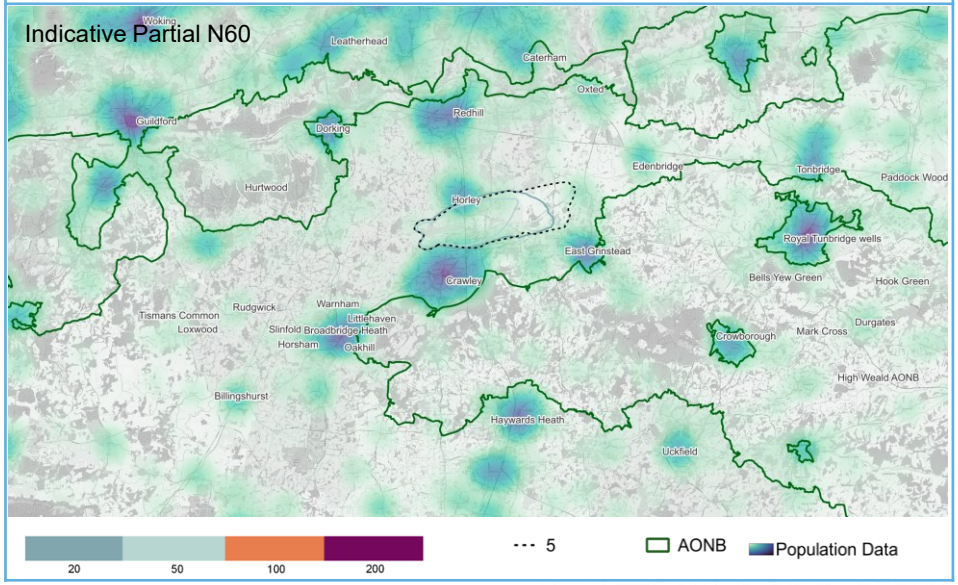
Day





Night





FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly System 2

Description

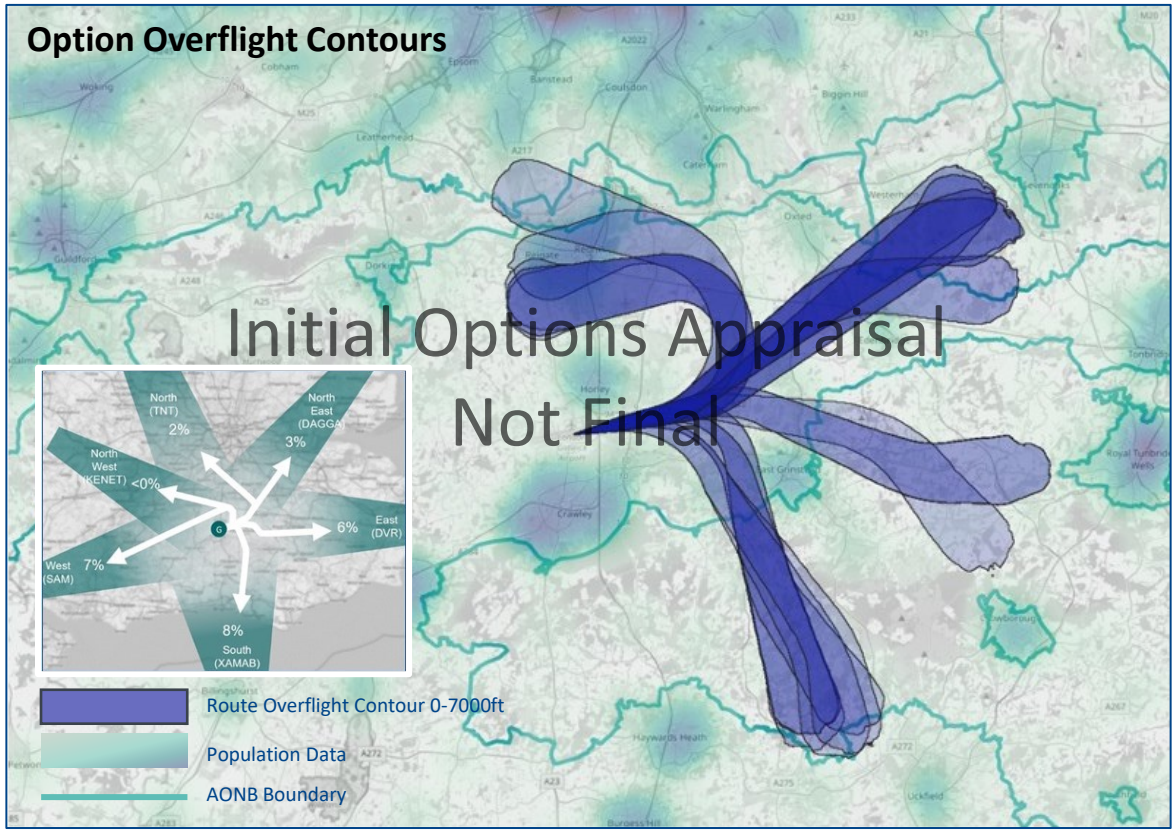
SAM KENET departures would turn left earlier than in the baseline. XAMAB departures turn right earlier than the baseline. DVR departures, rather than flying straight ahead, would turn towards the south east before routing east. DAGGA/TNT departures would turn left earlier than the baseline.

Noise

The SAM/KENET, DAGGA/TNT and XAMAB departures turn earlier than in the baseline and this reduces the cumulative affects for those communities currently living under the westerly final approach and the straight ahead sections of the easterly departures however it does introduce overflight over areas not regularly overflown in the baseline. The earlier turns would require changes to Gatwick's existing NPRs.

In the baseline, the vast majority of easterly departures fly a PBN route however some vectoring does occur. This option therefore may result in greater 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 Easterly System 2

Indicative Partial System Performance

Noise	*Population*	Difference to Baseline
LOAEL (Day)	3121	-308
LOAEL (Night)	2768	-402
N65 (20)	10116	-3646
N60 (5)	14292	-1301

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	0	-0.4km²

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	*Potential for positive compared to baseline*
GA Access	*Potential for 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 Easterly 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	
E DAGGA Group 3 EDF A	4127	4127	4127	4127	No	11.2	0	0	59.3
E DAGGA Group 3 EDF A 2	3789	3789	3789	3789	No	26.3	0	0	60.9
E DAGGA Group 3 EDH B	5346	5346	5346	5346	No	25	0	0	59.4
E DAGGA Group 3 EDI B	5489	5489	5489	5489	No	22.9	0	0	56.6
E DAGGA Group 3 EDP A	4890	4890	4890	4890	No	24.7	0	0	56.7
E DVR Group 3 EDC B	5795	5795	5508	5795	No	39.3	0	0	59.7
E DVR Group 3 EDD B	5704	5704	5417	5704	No	39.3	0	0	59.7
E DVR Group 3 EDF B	5839	5839	5596	5839	No	39.2	0	0	61.2
E KENET Group 2 EDH A	29292	0	29292	0	No	0	0	0	66.1
E KENET Group 2 EDI A	30698	0	30698	0	No	0	0	0	64.5
E KENET Group 2 EDQ A	33453	0	33453	0	No	10.4	0	0	63.8
E SAM Group 2 EDH A	29292	29292	15076	29292	No	0	0	0	60.1
E SAM Group 2 EDI A	28705	28705	14489	28705	No	0	0	0	60.0
E SAM Group 2 EDQ A	63307	63307	56108	63307	No	1.5	0	0	60.6
E TNT Group 3 EDF A	4127	0	4127	0	No	11.2	0	0	151.7
E TNT Group 3 EDF A 2	3789	0	3789	0	No	26.3	0	0	153.6
E TNT Group 3 EDH B	5346	0	5346	0	No	25	0	0	151.0
E TNT Group 3 EDI B	5489	0	5489	0	No	22.9	0	0	144.5
E TNT Group 3 EDP A	4890	0	4890	0	No	24.7	0	0	147.5
E XAMAB Group 2 EDC C	7527	7527	6354	7527	Lateral change below 1000ft	37.3	0	0	63.3
E XAMAB Group 2 EDD C	8283	8283	6379	8283	Lateral change below 1000ft	38.1	0	0	63.1
E XAMAB Group 2 EDF C	5799	5799	2198	5799	No	37.4	0	0	63.9
E XAMAB Group 2 EDH D	6775	6775	1167	6775	No	36.3	0	0	64.1
E XAMAB Group 2 EDI D	6775	6775	1167	6775	No	36.2	0	0	64.0
E XAMAB Group 2 EDP C	5969	5969	1544	5969	No	37.5	0	0	63.6

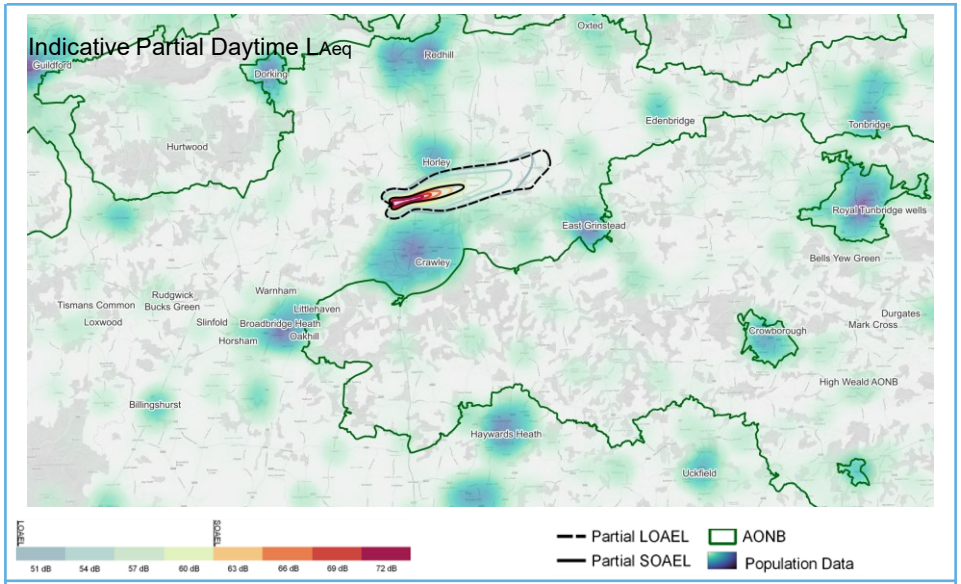
Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
E DAGGA Group 3 EDF A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	✓ Option continued
E DAGGA Group 3 EDF A 2	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DAGGA Group 3 EDH B	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DAGGA Group 3 EDI B	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DAGGA Group 3 EDP A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DVR Group 3 EDC B	No IFP issues identified	Shares interdependencies with Heathrow and Biggin Hill	
E DVR Group 3 EDD B	No IFP issues identified	Shares interdependencies with Heathrow and Biggin Hill	
E DVR Group 3 EDF B	No IFP issues identified	Shares interdependencies with Heathrow and Biggin Hill	
E KENET Group 2 EDH A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and potentially Northolt	
E KENET Group 2 EDI A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and potentially Northolt	
E KENET Group 2 EDQ A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and potentially Northolt	
E SAM Group 2 EDH A	No IFP issues identified	Shares interdependencies with Heathrow and Biggin Hill	
E SAM Group 2 EDI A	No IFP issues identified	Shares interdependencies with Heathrow and Biggin Hill	
E SAM Group 2 EDQ A	No IFP issues identified	Shares interdependencies with Heathrow and Biggin Hill	
E TNT Group 3 EDF A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
E TNT Group 3 EDF A 2	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
E TNT Group 3 EDH B	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
E TNT Group 3 EDI B	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
E TNT Group 3 EDP A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
E XAMAB Group 2 EDC C	First turn at c.0.8nm	No interdependencies with other airports identified although would share with Gatwick arrivals	
E XAMAB Group 2 EDD C	First turn at c.0.8nm	No interdependencies with other airports identified although would share with Gatwick arrivals	
E XAMAB Group 2 EDF C	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
E XAMAB Group 2 EDH D	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
E XAMAB Group 2 EDI D	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
E XAMAB Group 2 EDP C	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	

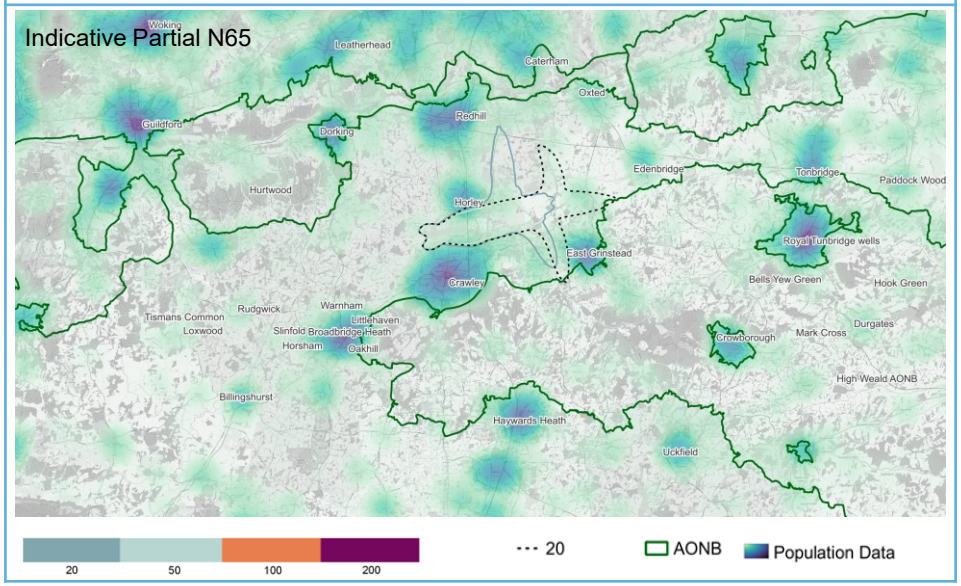
FASI-S ACP Initial Options Appraisal Dashboard

Option

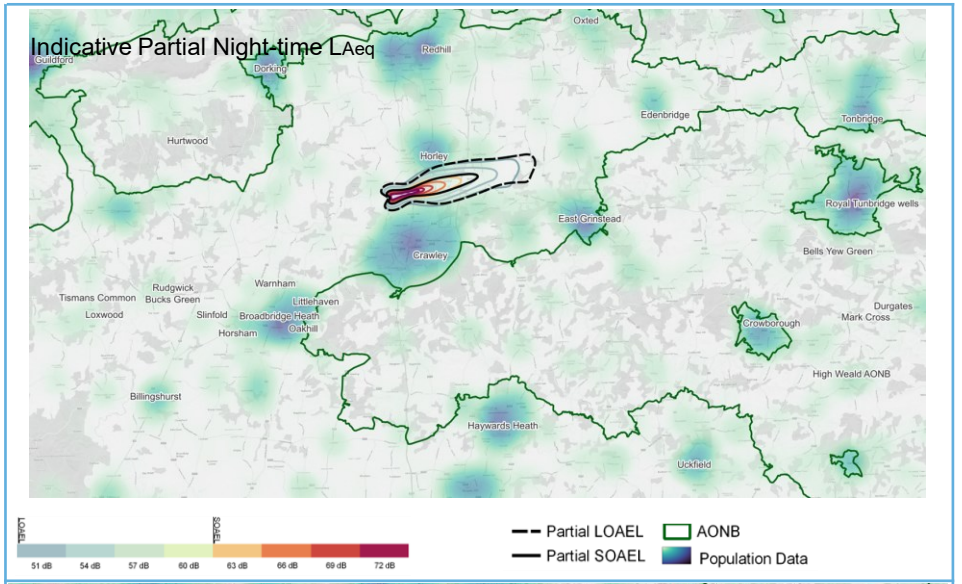
Departure Easterly System 2

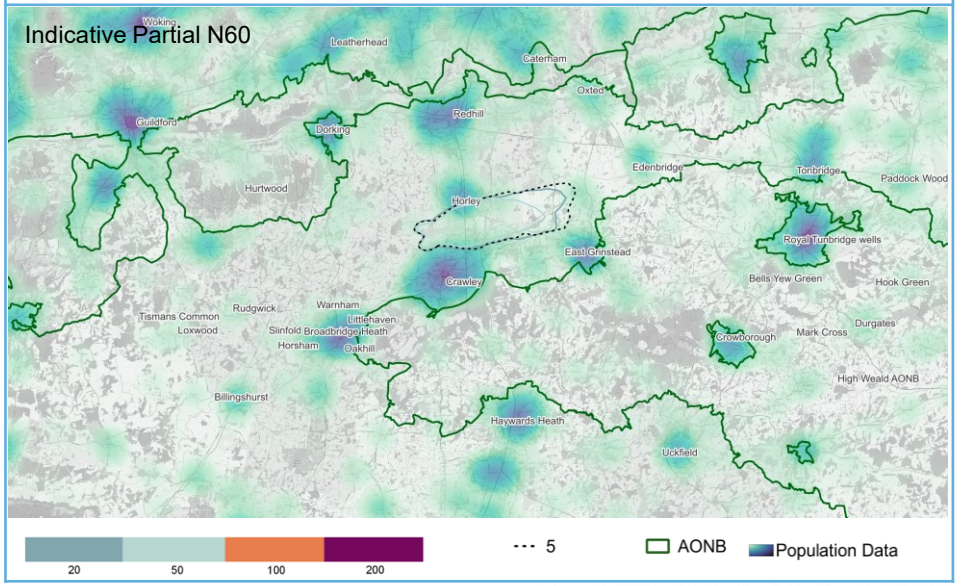
Day





Night





FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly System 3

Description

SAM KENET departures would turn right before wrapping around and routing to the west/north west whereas today these departures turn left. XAM departures would turn earlier than today, tracking towards the south east before turning south. DVR departures would fly straight ahead before turning north and then routing towards the east. DAGGA/TNT departures would turn earlier today and route north east.

Noise

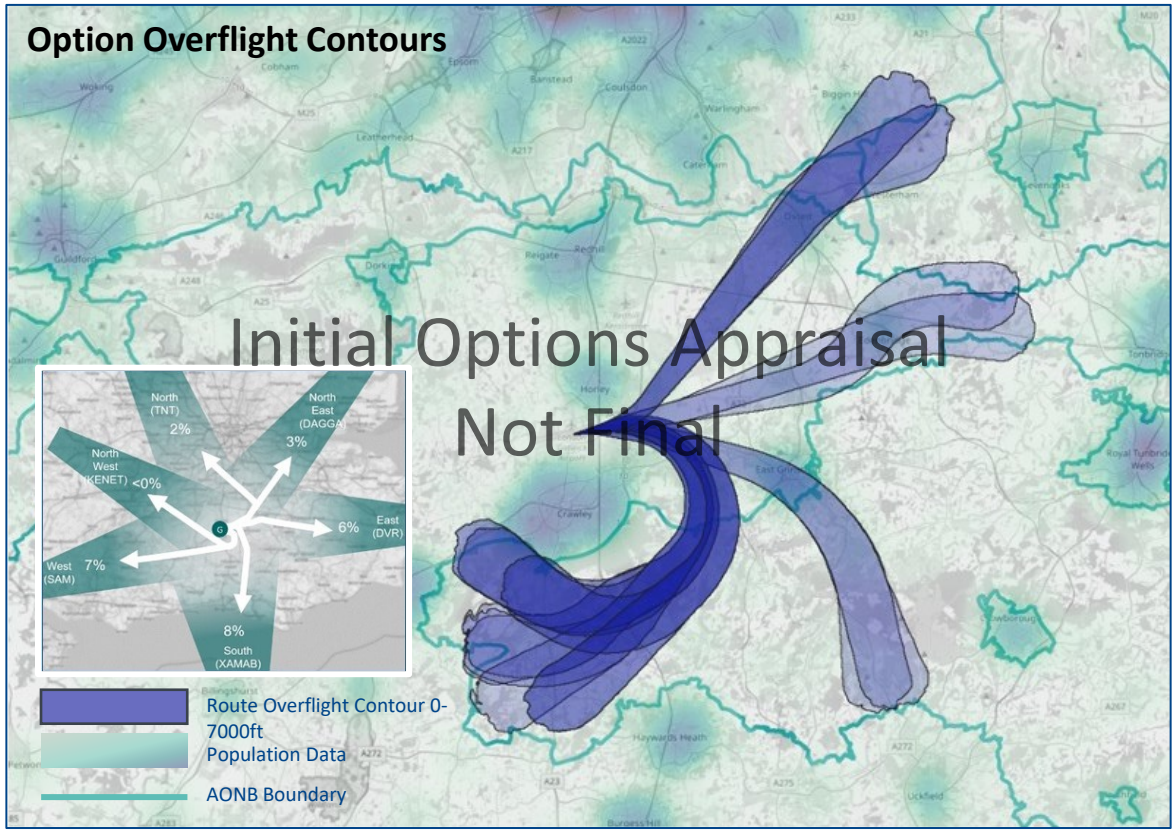
The SAM/KENET, DAGGA/TNT and XAMAB departures turn earlier than in the baseline and this reduces the cumulative affects for those communities currently living under the westerly final approach and the straight ahead sections of the easterly departures however it does introduce overflight over areas not regularly overflown in the baseline. The earlier turns would require changes to Gatwick's existing NPRs. The SAM/KENET departures turning right means that the communities to the north of Gatwick currently overflown by easterly and westerly departures, may have reduced overflight depending on the westerly departure option chosen. This does however mean that communities to the south of Gatwick, not typically overflown by easterly departures in the baseline, would be overflown.

In the baseline, the majority of easterly departures fly a PBN route however some vectoring does occur. This option therefore may result in greater 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.

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.

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 option removes the left turn SAM/KENET SIDs. This would potentially reduce proximity of Gatwick departures with GA in the Redhill-Dorking area.

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly System 3

Indicative Partial System Performance

Noise	*Population*	Difference to Baseline
LOAEL (Day)	4096	+667
LOAEL (Night)	3009	-91
N65 (20)	19547	+5785
N60 (5)	17621	+2028

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	1.4	+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	*Potential for positive compared to baseline*
GA Access	*Potential for 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 Easterly 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	
E DAGGA Group 5 EDL A	18930	18930	18930	18930	Lateral change below 1000ft	14.9	0	0	55.8
E DAGGA Group 5 EDM A	15406	15406	15406	15406	Lateral change below 1000ft	25.1	0	0	56.3
E DVR Group 2 EDN B	15460	15460	14958	15460	No	7.4	0	0	60.4
E DVR Group 2 EDQ B	15596	15596	15193	15596	No	4.6	0	0	59.7
E KENET Group 3 EDA C	8900	0	8900	8900	Lateral change below 1000ft	43.1	0	0	71.6
E KENET Group 3 EDA EDB C	10385	0	10385	0	Lateral change below 1000ft	43.5	0	0	70.4
E KENET Group 3 EDG C	9378	0	9378	0	Lateral change below 1000ft	42	0	0	66.8
E KENET Group 3 EDG C 2	12463	0	12463	0	Lateral change below 1000ft	40.3	0	0	68.9
E KENET Group 3 EDL C	10080	0	10080	0	Lateral change below 1000ft	41.7	0	0	68.2
E KENET Group 3 EDL C 2	12835	0	12835	0	Lateral change below 1000ft	41.2	0	0	69.2
E SAM Group 3 EDA C	8900	8900	8683	8900	Lateral change below 1000ft	43.1	0	0	58.5
E SAM Group 3 EDA C 2	10385	10385	10168	10385	Lateral change below 1000ft	43.5	0	0	58.9
E SAM Group 3 EDB C	8900	8900	8683	8900	Lateral change below 1000ft	43.1	0	0	58.7
E SAM Group 3 EDG C	8669	8669	8622	8669	Lateral change below 1000ft	43.2	0	0	55.9
E SAM Group 3 EDG C 2	12463	12463	12416	12463	Lateral change below 1000ft	40.3	0	0	55.6
E SAM Group 3 EDL C	10432	10432	10324	10432	Lateral change below 1000ft	40.9	0	0	56.5
E SAM Group 3 EDL C 2	12835	12835	12727	12835	Lateral change below 1000ft	41.2	0	0	57.2
E TNT Group 5 EDL A	18924	0	18924	0	Lateral change below 1000ft	14.9	0	0	143.6
E TNT Group 5 EDM A	15406	0	15406	0	Lateral change below 1000ft	25.1	0	0	144.4
E XAMAB Group 5 EDK C	32521	32521	30408	32521	Lateral change below 1000ft	37.5	0	0	64.6
E XAMAB Group 5 EDN C	32575	32575	30462	32575	Lateral change below 1000ft	37.4	0	0	64.5

LONDON GATWICK

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly System 3

Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
E DAGGA Group 5 EDL A	First turn at c.0.6nm.	Shares interdependencies with Heathrow, Biggin Hill and London City.	X Option discontinued
E DAGGA Group 5 EDM A	First turn at c.0.6nm.	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DVR Group 2 EDN B	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DVR Group 2 EDQ B	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E KENET Group 3 EDA 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.	
E KENET Group 3 EDA EDB C	No IFP issues identified	Evolved from EDA and EDB C to better integrate with arrivals and the wider airspace network.	
E KENET Group 3 EDG C	This route offers an offset departure followed by a 270° track change and a turn radius close to the defined regulatory limits. It would require further IFP development and flight testing to understand the viability.	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.	
E KENET Group 3 EDG C 2	This route offers an offset departure followed by a 270° track change and a turn radius close to the defined regulatory limits. It would require further IFP development and flight testing to understand the viability.	Evolved from EDG C to better integrate with arrivals and the wider airspace network.	
E KENET Group 3 EDL C	First turn at c.0.7nm followed by 180° track change and a further two turns shortly after. This is achievable in IFP design however may be more flyable without the middle section adjusted to remove the turn to the south; this could be explored should this route progress to Stage 3.	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.	
E KENET Group 3 EDL C 2	No IFP issues identified	Evolved from EDL C to better integrate with arrivals and the wider airspace network.	
E SAM Group 3 EDA 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.	
E SAM Group 3 EDA C 2	No IFP issues identified	Evolved from EDA and EDB C to better integrate with arrivals and the wider airspace network.	
E SAM Group 3 EDB C	Turn at c.0.9nm followed by 180° 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.	
E SAM Group 3 EDG C	This route offers an offset departure followed by a 270o track change and a turn radius close to the defined regulatory limits. It would require further IFP development and flight testing to understand the viability.	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.	
E SAM Group 3 EDG C 2	This route offers an offset departure followed by a 270° track change and a turn radius close to the defined regulatory limits. It would require further IFP development and flight testing to understand the viability.	Evolved from EDG C to better integrate with arrivals and the wider airspace network.	
E SAM Group 3 EDL C	First turn at c.0.7nm followed by 180° track change and a further two turns shortly after. This is achievable in IFP design however may be more flyable without the middle section adjusted to remove the turn to the south; this could be explored should this route progress to Stage 3.	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.	
E SAM Group 3 EDL C 2	No IFP issues identified	Evolved from EDL C to better integrate with arrivals and the wider airspace network.	
E TNT Group 5 EDL A	First turn at c.0.6nm.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
E TNT Group 5 EDM A	First turn at c.0.6nm.	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
E XAMAB Group 5 EDK C	First turn at 0.5nm	No interdependencies with other airports identified although would share with Gatwick arrivals	
E XAMAB Group 5 EDN C	First turn at 0.5nm	No interdependencies with other airports identified although would share with Gatwick arrivals	

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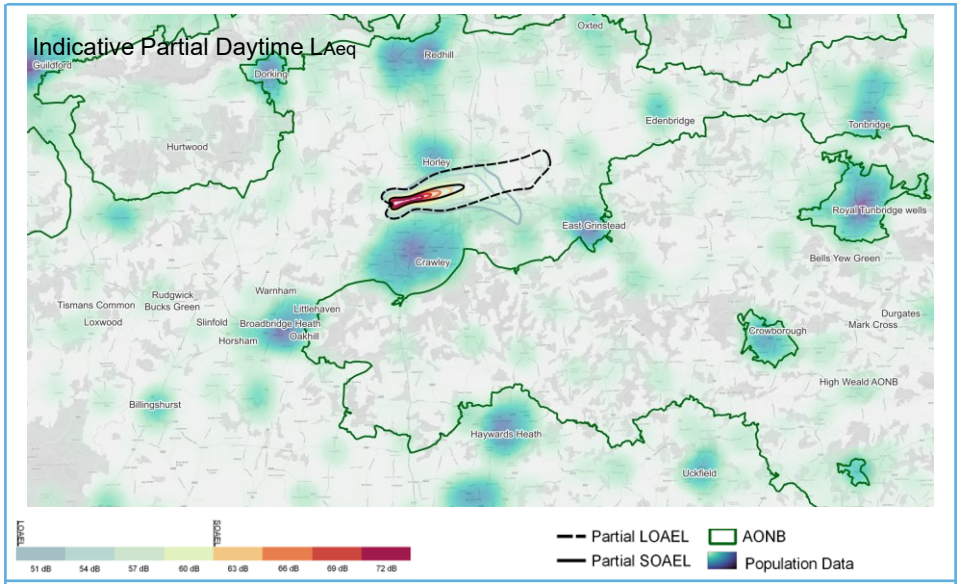
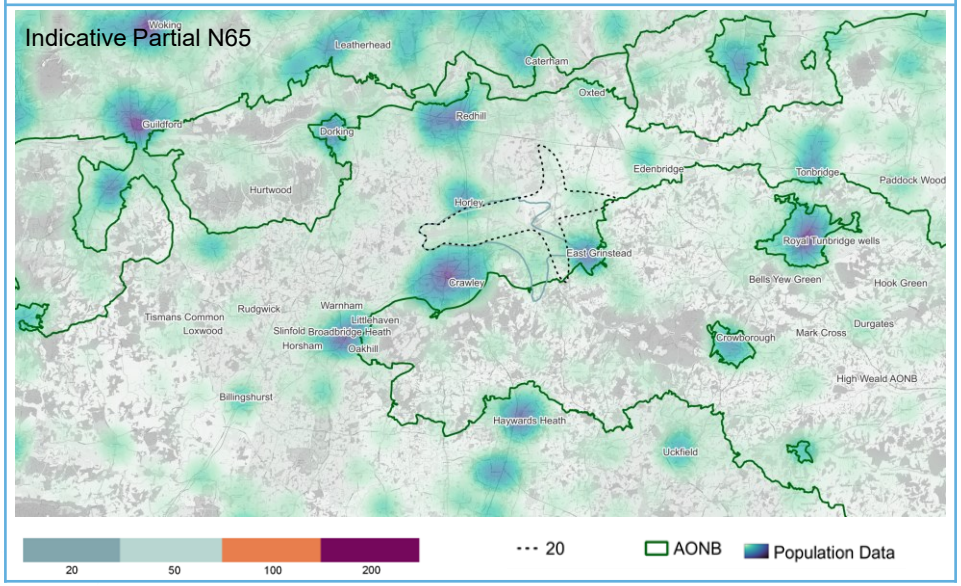
Option

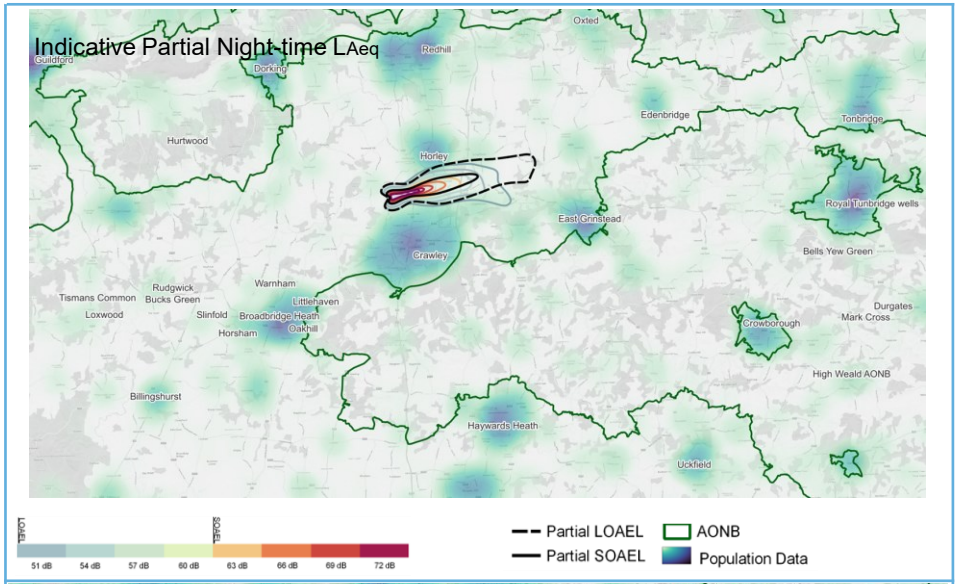
Departure Easterly System 3

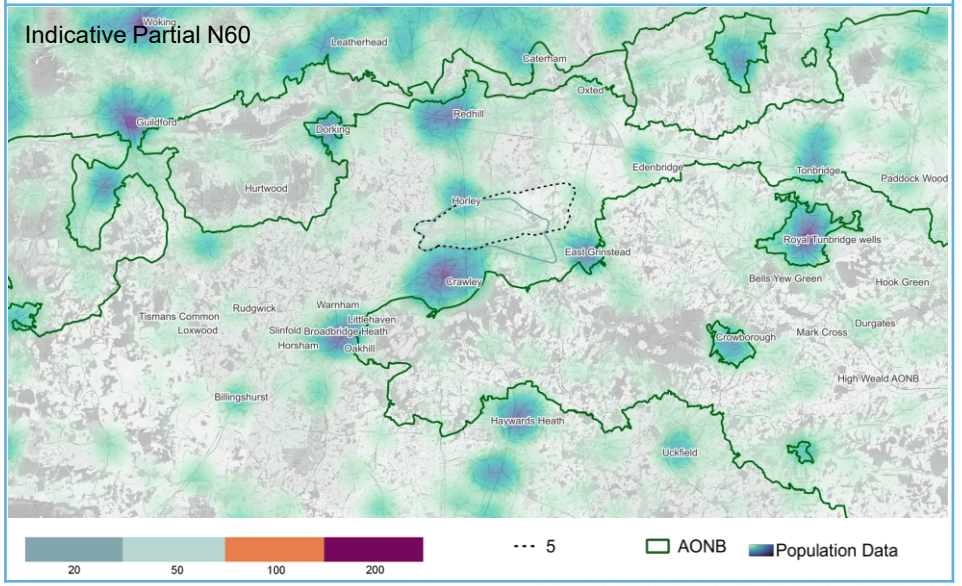
Day





Night





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Option

Departure Easterly System 4

Description

SAM KENET departures would turn right before wrapping around and routing to the west/north west whereas today these departures turn left. XAM departures would turn earlier than today, tracking towards the south east before turning south. DVR departures would fly broadly the same as today. DAGGA/TNT departures would turn earlier today and route north east.

Noise

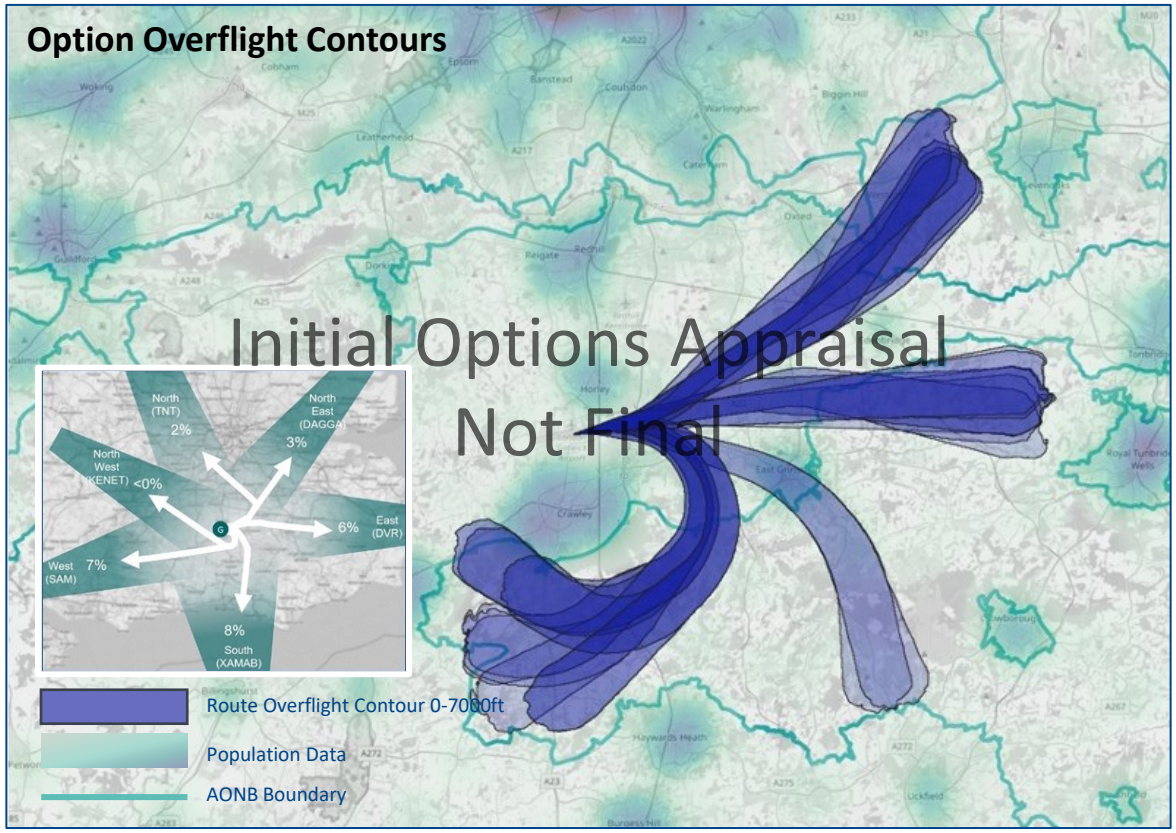
The SAM/KENET, DAGGA/TNT and XAMAB departures turn earlier than in the baseline and this reduces the cumulative affects for those communities currently living under the westerly final approach and the straight ahead sections of the easterly departures however it does introduce overflight over areas not regularly overflown in the baseline. The earlier turns would require changes to Gatwick's existing NPRs. The SAM/KENET departures turning right means that the communities to the north of Gatwick currently overflown by easterly and westerly departures, may have reduced overflight depending on the westerly departure option chosen. This does however mean that communities to the south of Gatwick, not typically overflown by easterly departures in the baseline, would be overflown.

In the baseline, the vast majority of easterly departures fly a PBN route however some vectoring does occur. This option therefore may result in greater 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.

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.

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 Easterly System 4

Indicative Partial System Performance

Noise	*Population*	Difference to Baseline
LOAEL (Day)	3891	+462
LOAEL (Night)	3088	-102
N65 (20)	18955	+5193
N60 (5)	17693	+2100

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	1.4	+1 km²

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

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

General Aviation	Qualitative Conclusion
Controlled Airspace Volume	*Potential for positive compared to baseline*
GA Access	*Potential for 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 Easterly 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	
E DAGGA Group 4 EDA A	8280	8280	8280	8280	No	25.9	0	0	56.3
E DAGGA Group 4 EDB A	12369	12369	12369	12369	No	25.3	0	0	56.1
E DAGGA Group 4 EDC A	5669	5669	5669	5669	No	23.9	0	0	56.4
E DAGGA Group 4 EDD A	8150	8150	8150	8150	No	24.9	0	0	56.3
E DAGGA Group 4 EDG A	5719	5719	5719	5719	No	24.6	0	0	56.5
E DVR Group 5 EDA B	6624	6624	6181	6624	No	34.8	0	0	59.3
E DVR Group 5 EDB B	6476	6476	6033	6476	No	34.6	0	0	59.3
E DVR Group 5 EDH C	7467	7467	6965	7467	No	34.8	0	0	59.3
E DVR Group 5 EDI C	7467	7467	6965	7467	No	34.8	0	0	59.3
E DVR Group 5 EDL B	7811	7811	7309	7811	No	33.9	0	0	59.4
E DVR Group 5 EDM B	8238	8238	7736	8238	No	34.7	0	0	59.6
E DVR Group 5 EDP B	5882	5882	5572	5882	No	36.7	0	0	59.2
E KENET Group 3 EDA C	8900	0	8900	0	Lateral change below 1000ft	43.1	0	0	71.6
E KENET Group 3 EDA EDB C	10385	0	10385	0	Lateral change below 1000ft	43.5	0	0	70.4
E KENET Group 3 EDG C	9378	0	9378	0	Lateral change below 1000ft	42	0	0	66.8
E KENET Group 3 EDG C 2	12463	0	12463	0	Lateral change below 1000ft	40.3	0	0	68.9
E KENET Group 3 EDL C	10080	0	10080	0	Lateral change below 1000ft	41.7	0	0	68.2
E KENET Group 3 EDL C 2	12835	0	12835	0	Lateral change below 1000ft	41.2	0	0	69.2
E SAM Group 3 EDA C	8900	8900	8683	8900	Lateral change below 1000ft	43.1	0	0	58.5
E SAM Group 3 EDA C 2	10385	10385	10168	10385	Lateral change below 1000ft	43.5	0	0	58.9
E SAM Group 3 EDB C	8900	8900	8683	8900	Lateral change below 1000ft	43.1	0	0	58.7
E SAM Group 3 EDG C	8669	8669	8622	8669	Lateral change below 1000ft	43.2	0	0	55.9
E SAM Group 3 EDG C 2	12463	12463	12416	12463	Lateral change below 1000ft	40.3	0	0	55.6
E SAM Group 3 EDL C	10432	10432	10324	10432	Lateral change below 1000ft	40.9	0	0	56.5
E SAM Group 3 EDL C 2	12835	12835	12727	12835	Lateral change below 1000ft	41.2	0	0	57.2

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Option

Departure Easterly 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	
E TNT Group 4 EDA A	8280	0	8280	0	No	25.9	0	0	144.4
E TNT Group 4 EDB A	12369	0	12369	0	No	25.3	0	0	145.2
E TNT Group 4 EDC A	5669	0	5669	0	No	23.9	0	0	145.8
E TNT Group 4 EDD A	8150	0	8150	0	No	24.9	0	0	145.6
E TNT Group 4 EDG A	5719	0	5719	0	No	24.6	0	0	144.5
E XAMAB Group 5 EDK C	32521	32521	30408	32521	No	37.5	0	0	64.6
E XAMAB Group 5 EDN C	32575	32575	30462	32575	No	37.4	0	0	64.5

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FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly System 4

Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
E DAGGA Group 4 EDA A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	X Option discontinued
E DAGGA Group 4 EDB A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DAGGA Group 4 EDC A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DAGGA Group 4 EDD A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DAGGA Group 4 EDG A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DVR Group 5 EDA B	No IFP issues identified	Shares interdependencies with Biggin Hill.	
E DVR Group 5 EDB B	No IFP issues identified	Shares interdependencies with Biggin Hill.	
E DVR Group 5 EDH C	No IFP issues identified	Shares interdependencies with Biggin Hill.	
E DVR Group 5 EDI C	No IFP issues identified	Shares interdependencies with Biggin Hill.	
E DVR Group 5 EDL B	No IFP issues identified	Shares interdependencies with Biggin Hill.	
E DVR Group 5 EDM B	No IFP issues identified	Shares interdependencies with Biggin Hill.	
E DVR Group 5 EDP B	No IFP issues identified	Shares interdependencies with Biggin Hill.	
E KENET Group 3 EDA 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.	
E KENET Group 3 EDA EDB C	No IFP issues identified	Evolved from EDA and EDB C to better integrate with arrivals and the wider airspace network.	
E KENET Group 3 EDG C	This route offers an offset departure followed by a 270° track change and a turn radius close to the defined regulatory limits. It would require further IFP development and flight testing to understand the viability.	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.	
E KENET Group 3 EDG C 2	This route offers an offset departure followed by a 270° track change and a turn radius close to the defined regulatory limits. It would require further IFP development and flight testing to understand the viability.	Evolved from EDG C to better integrate with arrivals and the wider airspace network.	
E KENET Group 3 EDL C	First turn at c.0.7nm followed by 180° track change and a further two turns shortly after. This is achievable in IFP design however may be more flyable without the middle section adjusted to remove the turn to the south; this could be explored should this route progress to Stage 3.	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.	
E KENET Group 3 EDL C 2	No IFP issues identified	Evolved from EDL C to better integrate with arrivals and the wider airspace network.	
E SAM Group 3 EDA 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.	
E SAM Group 3 EDA C 2	No IFP issues identified	Evolved from EDA and EDB C to better integrate with arrivals and the wider airspace network.	
E SAM Group 3 EDB C	Turn at c.0.9nm followed by 180° 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.	
E SAM Group 3 EDG C	This route offers an offset departure followed by a 270o track change and a turn radius close to the defined regulatory limits. It would require further IFP development and flight testing to understand the viability.	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.	
E SAM Group 3 EDG C 2	This route offers an offset departure followed by a 270° track change and a turn radius close to the defined regulatory limits. It would require further IFP development and flight testing to understand the viability.	Evolved from EDG C to better integrate with arrivals and the wider airspace network.	
E SAM Group 3 EDL C	First turn at c.0.7nm followed by 180° track change and a further two turns shortly after. This is achievable in IFP design however may be more flyable without the middle section adjusted to remove the turn to the south; this could be explored should this route progress to Stage 3.	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.	
E SAM Group 3 EDL C 2	No IFP issues identified	Evolved from EDL C to better integrate with arrivals and the wider airspace network.	
E TNT Group 4 EDA A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
E TNT Group 4 EDB A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
E TNT Group 4 EDC A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
E TNT Group 4 EDD A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
E TNT Group 4 EDG A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
E XAMAB Group 5 EDK C	First turn at 0.5nm	No interdependencies with other airports identified although would share with Gatwick arrivals	
E XAMAB Group 5 EDN C	First turn at 0.5nm	No interdependencies with other airports identified although would share with Gatwick arrivals	

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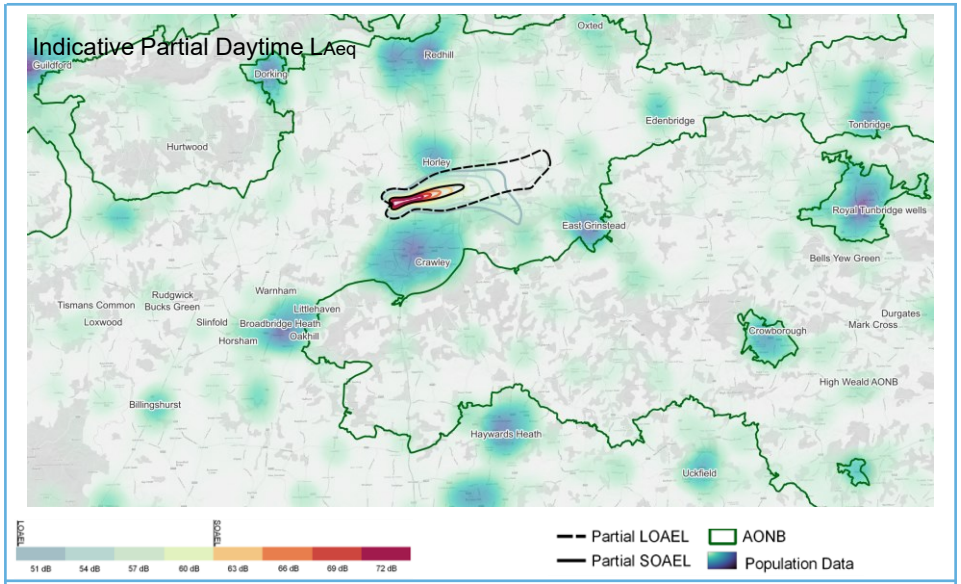
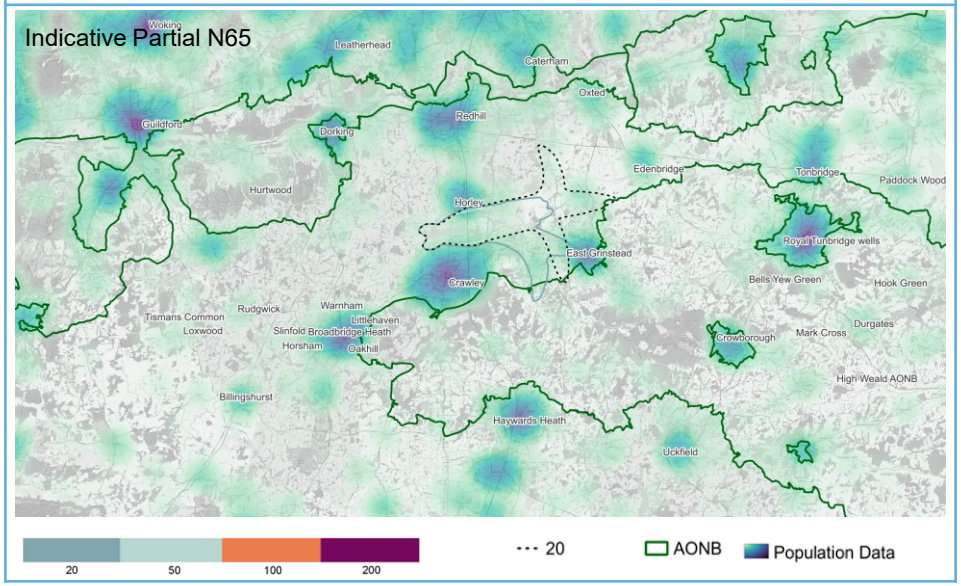
Option

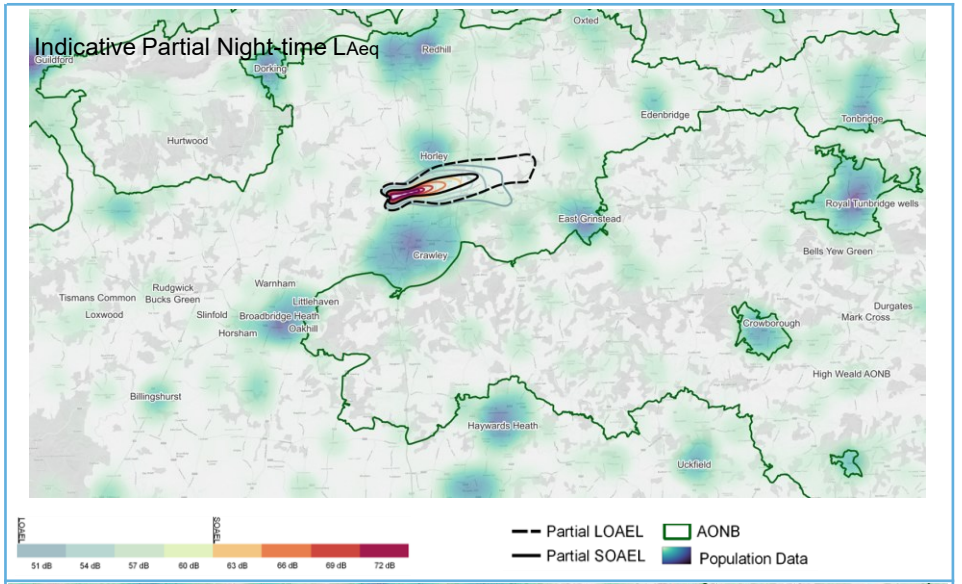
Departure Easterly System 4

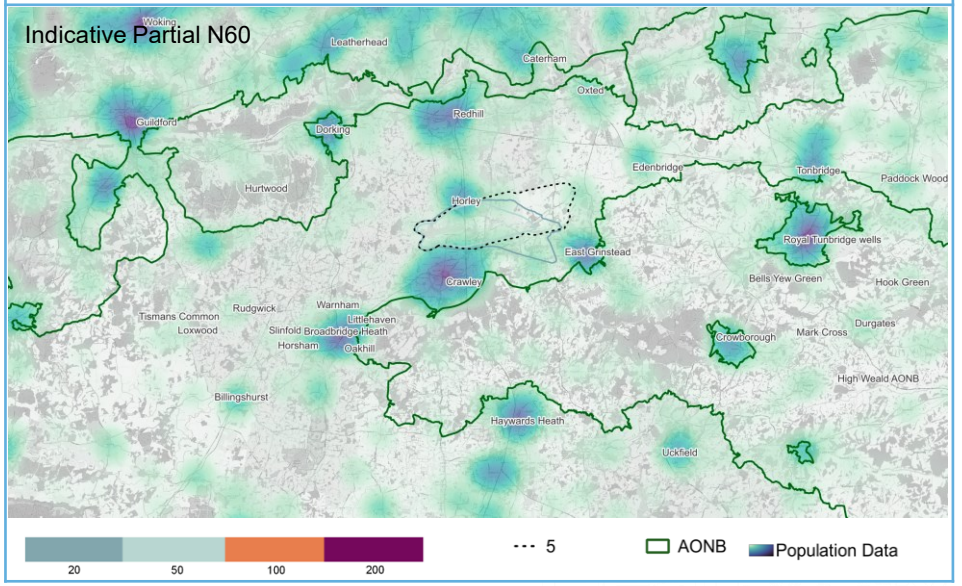
Day





Night





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Option

Departure Easterly System 5

Description

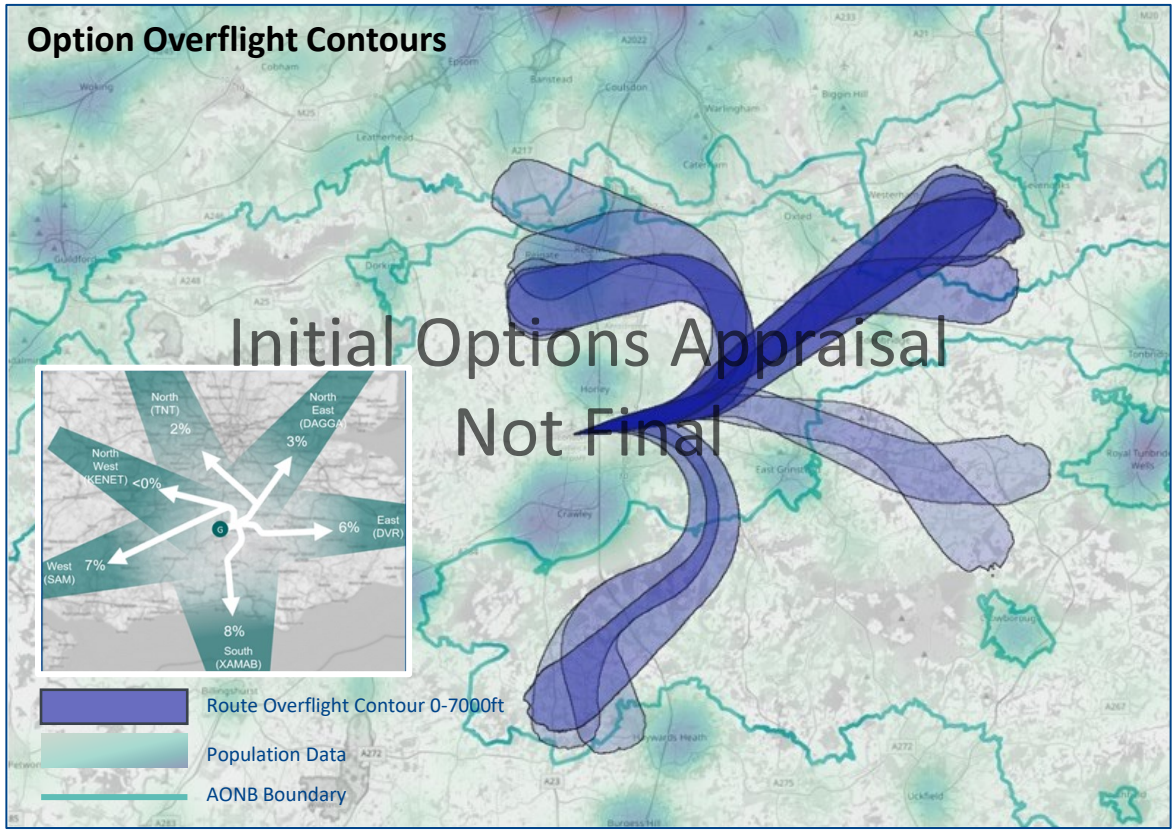
SAM KENET departures would turn left earlier than in the baseline. DVR departures, rather than flying straight ahead, would turn towards the south east before routing east. DAGGA/TNT departures would turn left earlier than the baseline. XAMAB departures turn right earlier than the baseline and route towards the south west before turning south.

Noise

The SAM/KENET, DVR, DAGGA/TNT and XAMAB departures turn earlier than in the baseline and this reduces the cumulative affects for those communities currently living under the westerly final approach and the straight ahead sections of the easterly departures however it does introduce overflight over areas not regularly overflown in the baseline. The earlier turns would require changes to Gatwick's existing NPRs.

In the baseline, the vast majority of easterly departures fly a PBN route however some vectoring does occur. This option therefore may result in greater 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 Easterly System 5

Indicative Partial System Performance

Noise	*Population*	Difference to Baseline
LOAEL (Day)	3196	-233
LOAEL (Night)	2799	-391
N65 (20)	15688	+1926
N60 (5)	14706	-887

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	0.5	+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	*Potential for positive compared to baseline*
GA Access	*Potential for 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 Easterly System 5

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	
E DAGGA Group 3 EDF A	4127	4127	4127	4127	No	11.2	0	0	59.3
E DAGGA Group 3 EDF A 2	3789	3789	3789	3789	No	26.3	0	0	60.9
E DAGGA Group 3 EDH B	5346	5346	5346	5346	No	25	0	0	59.4
E DAGGA Group 3 EDH B	5346	5346	5346	5346	No	25	0	0	59.4
E DAGGA Group 3 EDI B	5489	5489	5489	5489	No	22.9	0	0	56.6
E DAGGA Group 3 EDP A	4890	4890	4890	4890	No	24.7	0	0	56.7
E DVR Group 3 EDD B	5704	5704	5417	5704	No	39.3	0	0	59.7
E DVR Group 3 EDF B	5839	5839	5596	5839	No	39.2	0	0	61.2
E KENET Group 2 EDH A	29292	0	29292	0	No	0	0	0	66.1
E KENET Group 2 EDI A	30698	0	30698	0	No	0	0	0	64.5
E KENET Group 2 EDQ A	33453	0	33453	0	No	10.4	0	0	63.8
E SAM Group 2 EDH A	29292	29292	15076	29292	No	0	0	0	60.1
E SAM Group 2 EDI A	28705	28705	14489	28705	No	0	0	0	60.0
E SAM Group 2 EDQ A	63307	63307	56108	63307	No	1.5	0	0	60.6
E TNT Group 3 EDF A	4127	0	4127	0	No	11.2	0	0	151.7
E TNT Group 3 EDF A 2	3789	0	3789	0	No	26.3	0	0	153.6
E TNT Group 3 EDH B	5346	0	5346	0	No	25	0	0	151.0
E TNT Group 3 EDI B	5489	0	5489	0	No	22.9	0	0	144.5
E TNT Group 3 EDP A	4890	0	4890	0	No	24.7	0	0	147.5
E XAMAB Group 1 EDA C	8900	8900	8666	8900	Lateral change below 1000ft	43.1	0	0	70.9
E XAMAB Group 1 EDB C	8900	8900	8666	8900	Lateral change below 1000ft	43.1	0	0	70.7
E XAMAB Group 1 EDL C	12535	12535	12422	12535	Lateral change below 1000ft	38.3	0	0	65.1
E XAMAB Group 1 EDM C	9297	9297	9184	9297	Lateral change below 1000ft	42.2	0	0	66.0

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FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly System 5

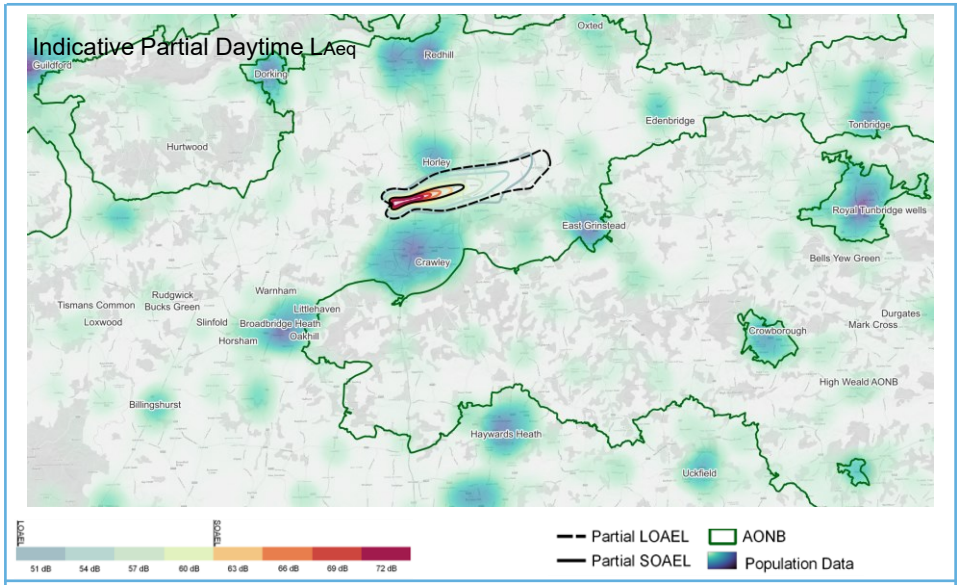
Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
E DAGGA Group 3 EDF A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	X Option discontinued
E DAGGA Group 3 EDF A 2	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DAGGA Group 3 EDH B	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DAGGA Group 3 EDH B	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DAGGA Group 3 EDI B	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DAGGA Group 3 EDP A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DVR Group 3 EDD B	No IFP issues identified	Shares interdependencies with Heathrow and Biggin Hill	
E DVR Group 3 EDF B	No IFP issues identified	Shares interdependencies with Heathrow and Biggin Hill	
E KENET Group 2 EDH A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and potentially Northolt	
E KENET Group 2 EDI A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and potentially Northolt	
E KENET Group 2 EDQ A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and potentially Northolt	
E SAM Group 2 EDH A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and potentially Northolt	
E SAM Group 2 EDI A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and potentially Northolt	
E SAM Group 2 EDQ A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and potentially Northolt	
E TNT Group 3 EDF A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E TNT Group 3 EDF A 2	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E TNT Group 3 EDH B	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E TNT Group 3 EDI B	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E TNT Group 3 EDP A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E XAMAB Group 1 EDA 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.	
E XAMAB Group 1 EDB 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.	
E XAMAB Group 1 EDL C	First turn at 0.7nm followed by 180° 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.	
E XAMAB Group 1 EDM C	First turn at 0.7nm followed by 180° 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.	

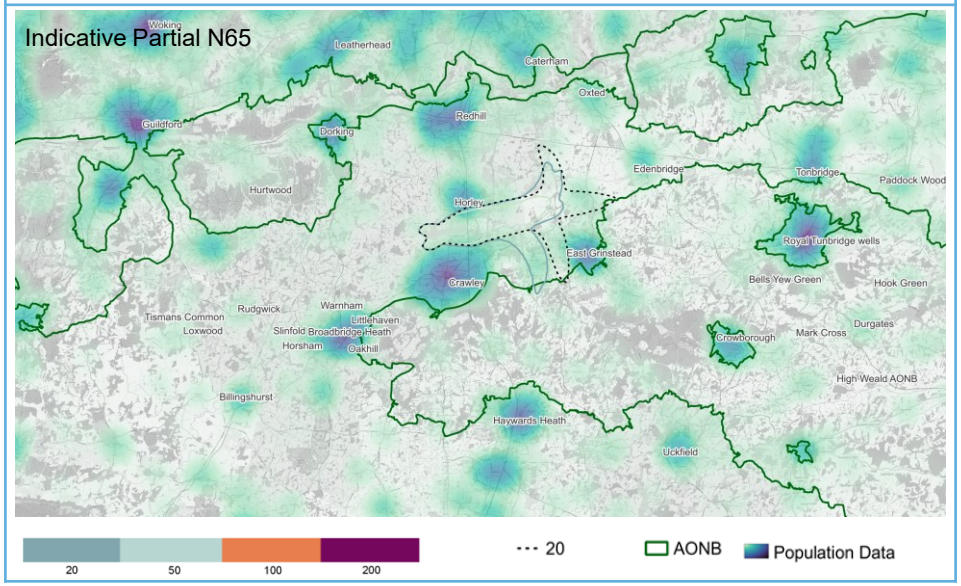
FASI-S ACP Initial Options Appraisal Dashboard

Option

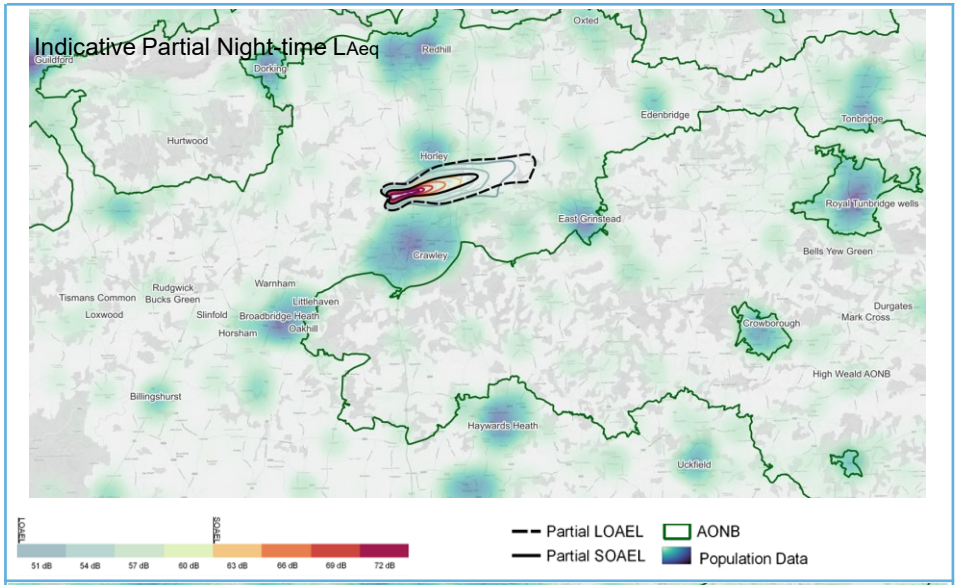
Departure Easterly System 5

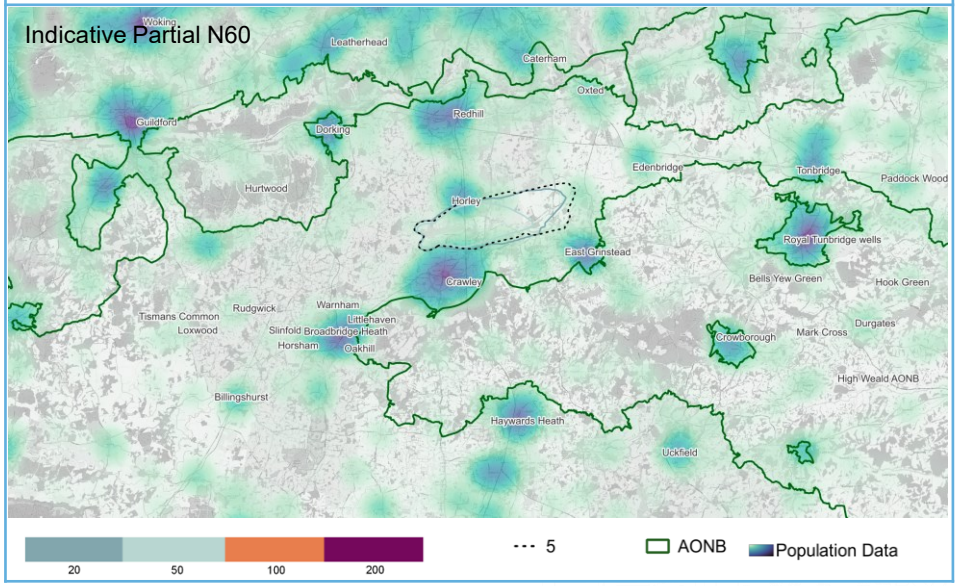
Day





Night





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Option

Departure Easterly System 6

Description

SAM KENET departures would turn left earlier than in the baseline and aircraft would fly further north before turning west. XAM departures would turn earlier than today, tracking towards the south east before turning south. DVR departures would fly broadly the same as today. DAGGA/TNT departures would turn right before wrapping around towards the north, this is different from today where the departures fly straight ahead before turning to the north east.

Noise

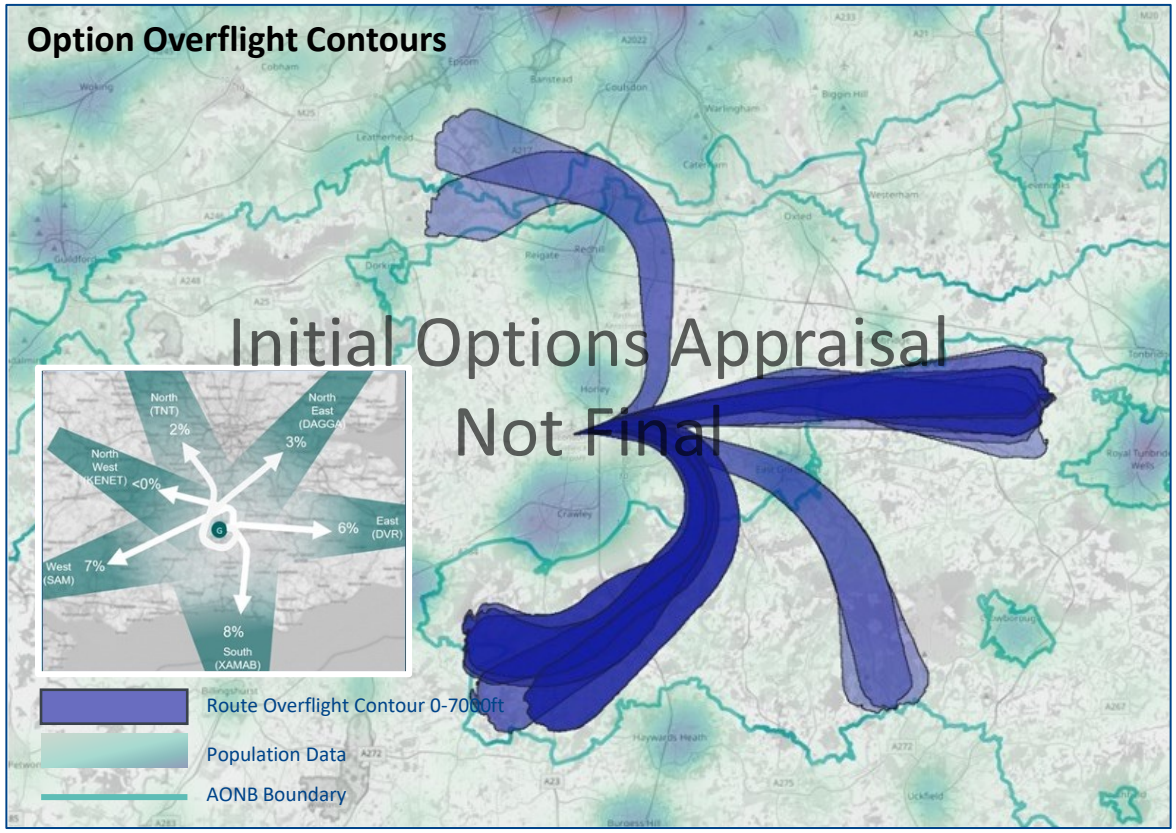
The SAM/KENET, DAGGA/TNT and XAMAB departures turn earlier than in the baseline and this reduces the cumulative affects for those communities currently living under the westerly final approach and the straight ahead sections of the easterly departures however it does introduce overflight over areas not regularly overflown in the baseline. The earlier turns would require changes to Gatwick's existing NPRs. The DAGGA/TNT turning right means that communities to the south of Gatwick, not typically overflown by easterly departures in the baseline, would be overflown.

In the baseline, the vast majority of easterly departures fly a PBN route however some vectoring does occur. This option therefore may result in greater 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.

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.

Overflight Illustration



Safety

Left turn SAM/KENET and the right turn DAGGA/TNT departures introduce cross over tracks at similar altitudes. Further safety work would be required in order to ensure these could be operated in a way that safely deconflicts the departures.

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly System 6

Indicative Partial System Performance (Easterly System 6 and 6.2)

Noise	*Population*	Difference to Baseline
LOAEL (Day)	4052 / 4470	+623 / +1041
LOAEL (Night)	3049 / 3030	-141 / -60
N65 (20)	16952 / 18080	+3190 / +4318
N60 (5)	17083 / 16900	+1490 / +1307

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	0 / 0	-0.4 km²

Emissions	Qualitative Conclusion
Fuel Burn & Greenhouse Gas	*Impacts identified*

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

General Aviation	Qualitative Conclusion
Controlled Airspace Volume	*Potential for positive compared to baseline*
GA Access	*Potential for 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 Easterly System 6

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	
E DAGGA (KENET Group 3) Group 6 EDA EDB C	8900	8900	8900	8900	Lateral change below 1000ft	43.1	0	0	87.3
E DAGGA (KENET Group 3) Group 6 EDG C	9378	9378	9378	9378	Lateral change below 1000ft	42	0	0	86.2
E DAGGA (KENET Group 3) Group 6 EDL C	10080	10080	10080	10080	Lateral change below 1000ft	41.7	0	0	86.1
E DAGGA (SAM Group 3) Group 6 EDA C	8900	8900	8900	8900	Lateral change below 1000ft	43.1	0	0	92.7
E DAGGA (SAM Group 3) Group 6 EDB C	8900	8900	8900	8900	Lateral change below 1000ft	43.1	0	0	92.8
E DAGGA (SAM Group 3) Group 6 EDG C	8669	8669	8669	8669	Lateral change below 1000ft	43.2	0	0	92.9
E DAGGA (SAM Group 3) Group 6 EDL C	10432	10432	10432	10432	Lateral change below 1000ft	40.9	0	0	93.0
E DVR Group 5 EDA B	6624	6624	6181	6624	No	34.8	0	0	59.3
E DVR Group 5 EDB B	6476	6476	6033	6476	No	34.6	0	0	59.3
E DVR Group 5 EDH C	7467	7467	6965	7467	No	34.8	0	0	59.3
E DVR Group 5 EDI C	7467	7467	6965	7467	No	34.8	0	0	59.3
E DVR Group 5 EDL B	7811	7811	7309	7811	No	33.9	0	0	59.4
E DVR Group 5 EDM B	8238	8238	7736	8238	No	34.7	0	0	59.6
E DVR Group 5 EDP B	5882	5882	5572	5882	No	36.7	0	0	59.2
E KENET Group 1 EDN A	29723	0	29723	0	Lateral change below 1000ft	8.5	0	0	61.4
E SAM Group 1 EDN A	19616	19616	19243	19616	Lateral change below 1000ft	19.5	0	0	59.4
E TNT (KENET Group 3) Group 6 EDA EDB C	8900	0	8900	0	Lateral change below 1000ft	43.1	0	0	151.6
E TNT (KENET Group 3) Group 6 EDG C	9378	0	9378	0	Lateral change below 1000ft	42	0	0	147.6
E TNT (KENET Group 3) Group 6 EDL C	10080	0	10080	0	Lateral change below 1000ft	41.7	0	0	147.5
E TNT (SAM Group 3) Group 6 EDG C	8669	0	8669	0	Lateral change below 1000ft	43.2	0	0	154.8
E TNT (SAM Group 3) Group 6 EDL C	10432	0	10432	0	Lateral change below 1000ft	40.9	0	0	152.7
E XAMAB Group 5 EDK C	32521	32521	30408	32521	Lateral change below 1000ft	37.5	0	0	64.6
E XAMAB Group 5 EDN C	32575	32575	30462	32575	Lateral change below 1000ft	37.4	0	0	64.5

LONDON GATWICK

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly System 6

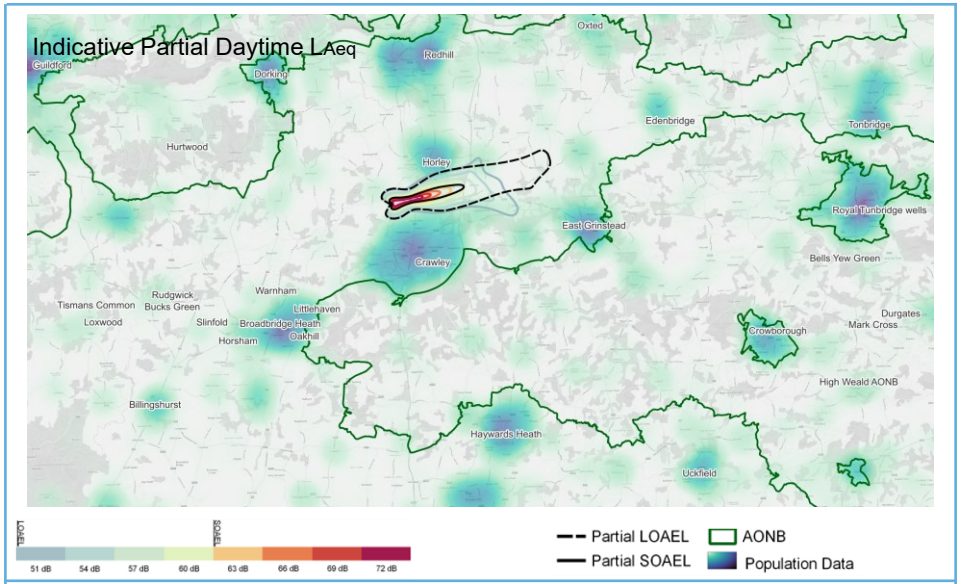
Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
E DAGGA (KENET Group 3) Group 6 EDA EDB C	No IFP issues identified	The right turn DAGGA/TNT departures introduce prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. It may be possible to evolve the DAGGA/TNT routes within this option to better integrate with arrivals as seen with some of the right turn SAM/KENET routes in other options. This could be explored in further detail at Stage 3 should the outcomes of the IOA suggest it would be beneficial to do so. A right turn DAGGA departure allows aircraft to climb higher, reducing interdependencies with other LTMA airports however NERL have noted significant issues with integration of the departures into the network airspace.	✗ Option discontinued
E DAGGA (KENET Group 3) Group 6 EDG C	This route offers an offset departure followed by a 270° track change and a turn radius close to the defined regulatory limits. It would require further IFP development and flight testing to understand the viability.		
E DAGGA (KENET Group 3) Group 6 EDL C	First turn at c.0.7nm followed by 180° track change and a further two turns shortly after. This is achievable in IFP design however may be more flyable without the middle section adjusted to remove the turn to the south; this could be explored should this route progress to Stage 3.		
E DAGGA (SAM Group 3) Group 6 EDA C	No IFP issues identified		
E DAGGA (SAM Group 3) Group 6 EDB C	Turn at c.0.9nm followed by 180° turn.		
E DAGGA (SAM Group 3) Group 6 EDG C	This route offers an offset departure followed by a 270° track change and a turn radius close to the defined regulatory limits. It would require further IFP development and flight testing to understand the viability.		
E DAGGA (SAM Group 3) Group 6 EDL C	First turn at c.0.7nm followed by 180° track change and a further two turns shortly after. This is achievable in IFP design however may be more flyable without the middle section adjusted to remove the turn to the south; this could be explored should this route progress to Stage 3.		
E DVR Group 5 EDA B	No IFP issues identified	Shares interdependencies with Heathrow and Biggin Hill	
E DVR Group 5 EDB B	No IFP issues identified	Shares interdependencies with Heathrow and Biggin Hill	
E DVR Group 5 EDH C	No IFP issues identified	Shares interdependencies with Heathrow and Biggin Hill	
E DVR Group 5 EDI C	No IFP issues identified	Shares interdependencies with Heathrow and Biggin Hill	
E DVR Group 5 EDL B	No IFP issues identified	Shares interdependencies with Heathrow and Biggin Hill	
E DVR Group 5 EDM B	No IFP issues identified	Shares interdependencies with Heathrow and Biggin Hill	
E DVR Group 5 EDP B	No IFP issues identified	Shares interdependencies with Heathrow and Biggin Hill	
E KENET Group 1 EDN A	The first turn at c.0.5nm requires a c.1.8nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares prohibitive interdependencies with Heathrow and Biggin and would not integrate into the wider network airspace above 7000ft.	
E SAM Group 1 EDN A	The first turn at c.0.5nm requires a c.1.8nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares prohibitive interdependencies with Heathrow and Biggin and would not integrate into the wider network airspace above 7000ft.	
E TNT (KENET Group 3) Group 6 EDA EDB C	No IFP issues identified	The right turn DAGGA/TNT departures introduce prohibitive interdependencies with arrivals which would lead to significant constraints on either the departure route and/or arrivals. It may be possible to evolve the DAGGA/TNT routes within this option to better integrate with arrivals as seen with some of the right turn SAM/KENET routes in other options. This could be explored in further detail at Stage 3 should the outcomes of the IOA suggest it would be beneficial to do so. A right turn DAGGA departure allows aircraft to climb higher, reducing interdependencies with other LTMA airports however NERL have noted significant issues with integration of the departures into the network airspace.	
E TNT (KENET Group 3) Group 6 EDG C	This route offers an offset departure followed by a 270° track change and a turn radius close to the defined regulatory limits. It would require further IFP development and flight testing to understand the viability.		
E TNT (KENET Group 3) Group 6 EDL C	First turn at c.0.7nm followed by 180° track change and a further two turns shortly after. This is achievable in IFP design however may be more flyable without the middle section adjusted to remove the turn to the south; this could be explored should this route progress to Stage 3.		
E TNT (SAM Group 3) Group 6 EDG C	This route offers an offset departure followed by a 270° track change and a turn radius close to the defined regulatory limits. It would require further IFP development and flight testing to understand the viability.		
E TNT (SAM Group 3) Group 6 EDL C	First turn at c.0.7nm followed by 180° track change and a further two turns shortly after. This is achievable in IFP design however may be more flyable without the middle section adjusted to remove the turn to the south; this could be explored should this route progress to Stage 3.		
E XAMAB Group 5 EDK C	First turn at 0.5nm	No interdependencies with other airports identified although would share with Gatwick arrivals	
E XAMAB Group 5 EDN C	First turn at 0.5nm	No interdependencies with other airports identified although would share with Gatwick arrivals	

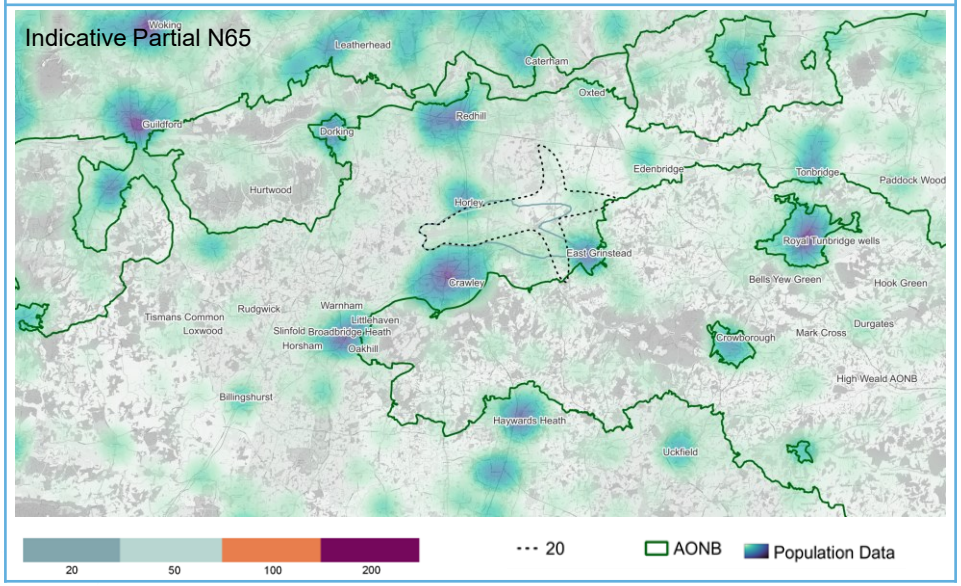
FASI-S ACP Initial Options Appraisal Dashboard

Option

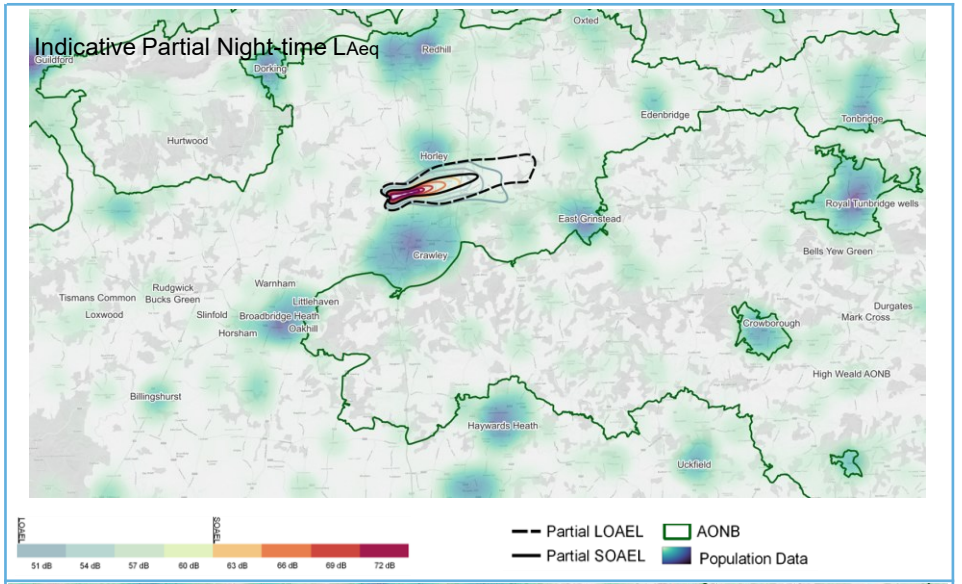
Departure Easterly System 6

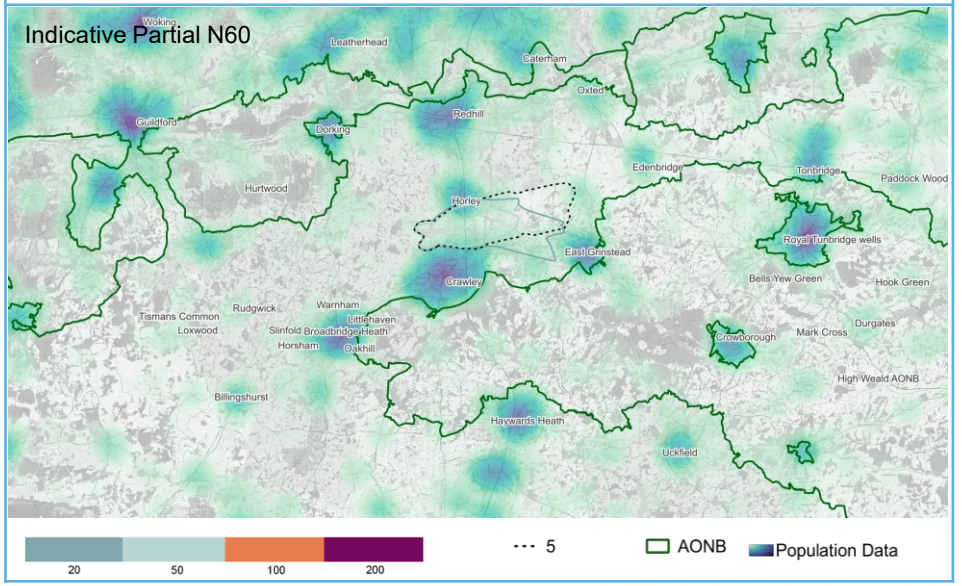
Day





Night





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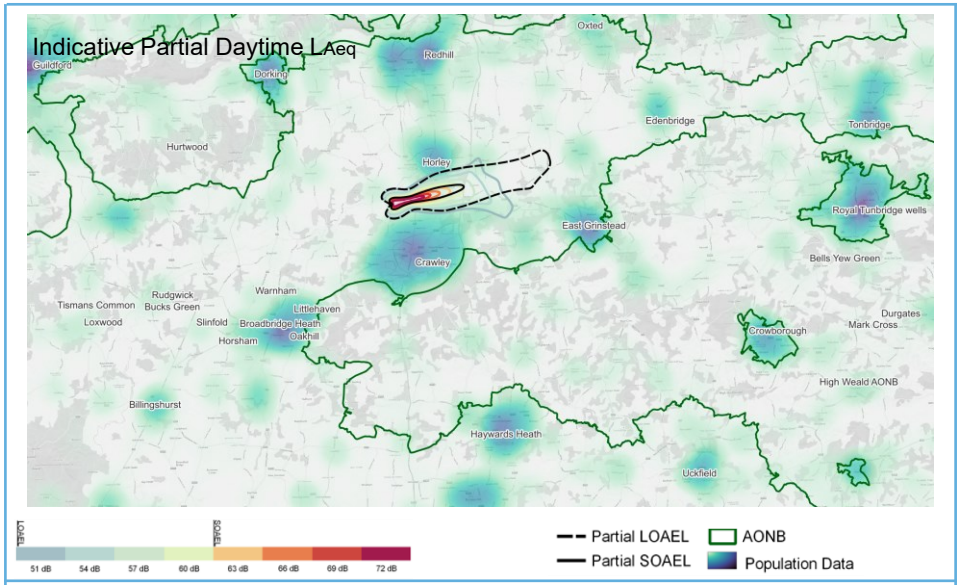
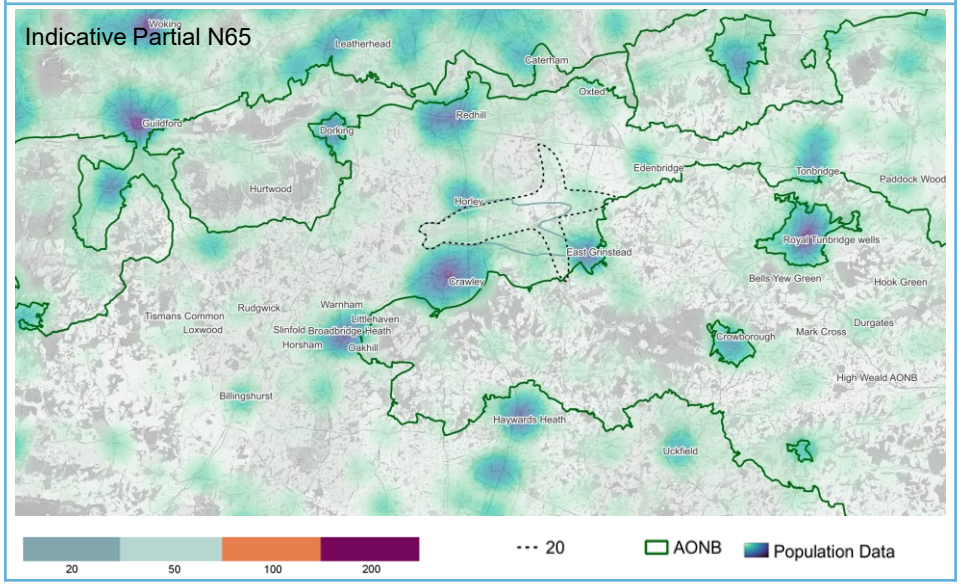
Option

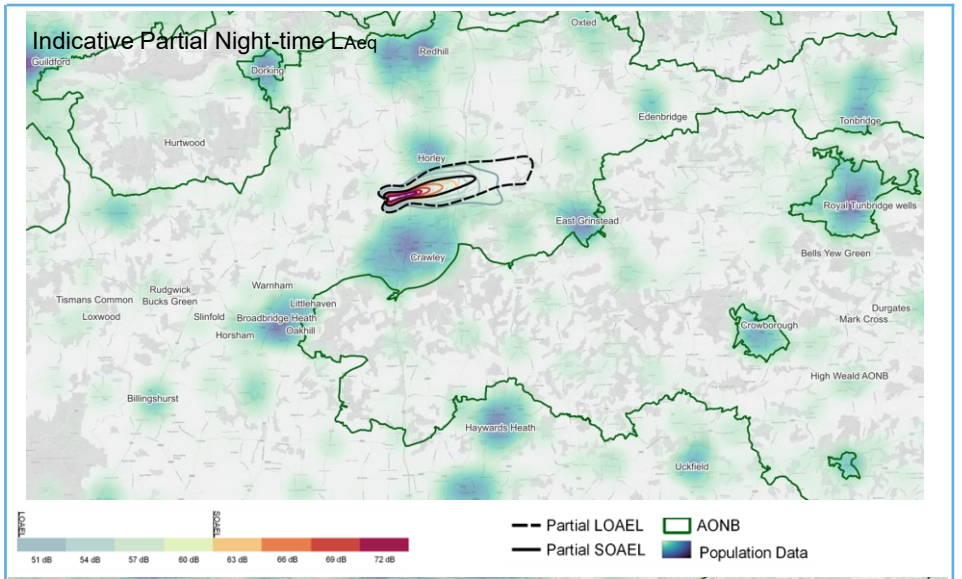
Departure Easterly System 6.2

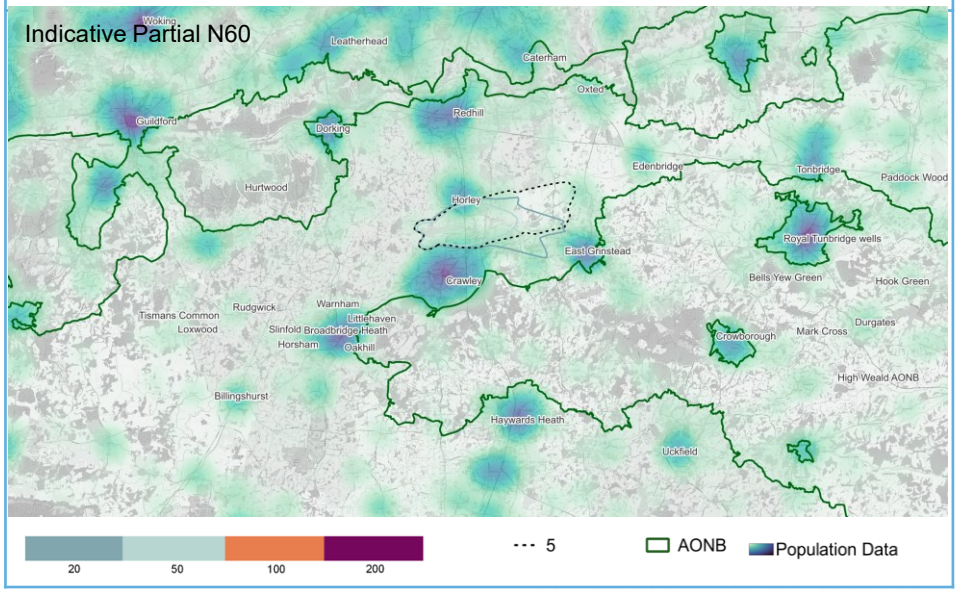
Day





Night





FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly System 7

Description

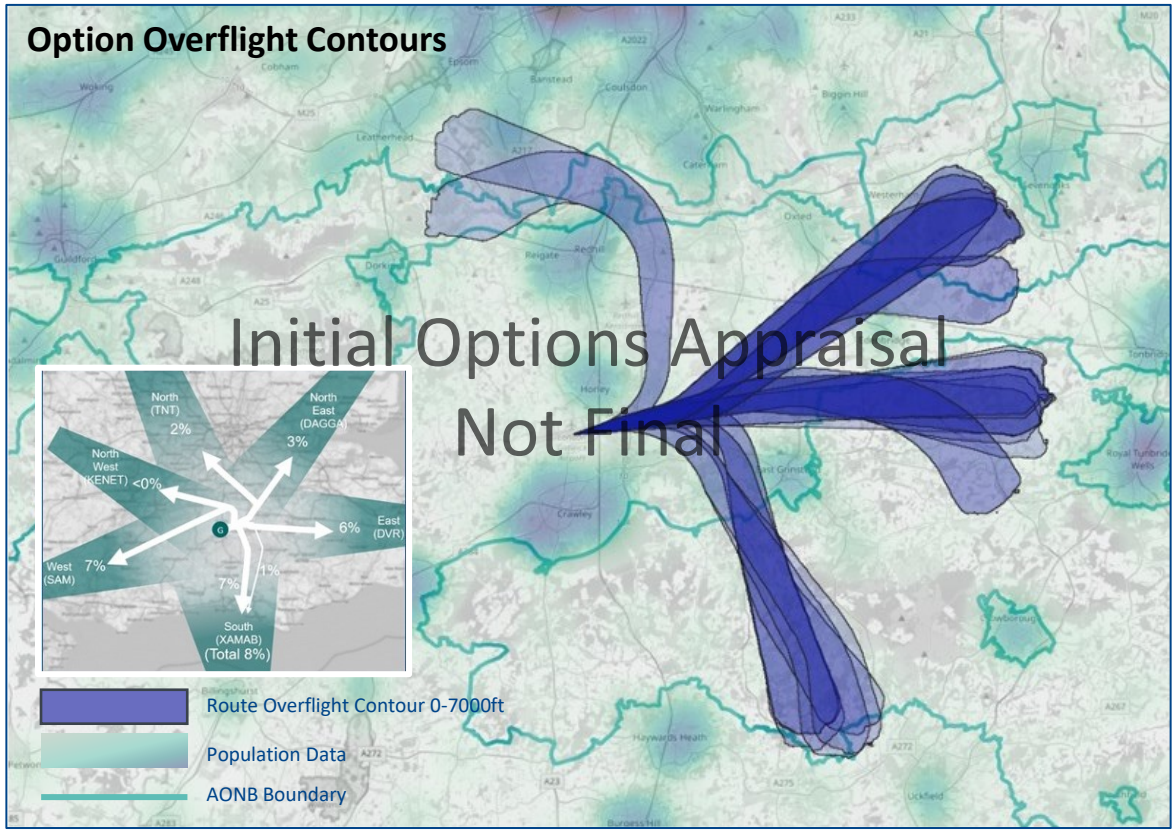
SAM KENET departures would turn left earlier than in the baseline and aircraft would fly further north before turning west. There are two groups of XAM departures; the first turns earlier than today and tracks south, the second flies straight ahead for longer than the baseline before turning south. The majority of the DVR routes are broadly similar to today however there is one route which turns towards the south east before tracking east. DAGGA/TNT are broadly similar today however there are some routes which turn at different distances compared to the baseline.

Noise

The SAM/KENET, DAGGA/TNT and the majority of XAMAB departures turn earlier than in the baseline and this reduces the cumulative affects for those communities currently living under the westerly final approach and the straight ahead sections of the easterly departures however it does introduce overflight over areas not regularly overflown in the baseline. The earlier turns would require changes to Gatwick's existing NPRs. The additional route to XAM offers a tactical option for busy periods and therefore may provide a small amount of noise relief for those under the XAM route however this does route along the extended centre-line.

In the baseline, the vast majority of easterly departures fly a PBN route however some vectoring does occur. This option therefore may result in greater 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 Easterly System 7

Indicative Partial System Performance

Noise	*Population*	Difference to Baseline
LOAEL (Day)	6193	+2764
LOAEL (Night)	3268	+78
N65 (20)	12099	-1663
N60 (5)	14436	-1157

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	0	-0.4 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	*Potential for positive compared to baseline*
GA Access	*Potential for 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 Easterly System 7

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	
E DAGGA Group 3 EDF A	4127	4127	4127	4127	No	11.2	0	0	59.3
E DAGGA Group 3 EDF A 2	3789	3789	3789	3789	No	26.3	0	0	60.9
E DAGGA Group 3 EDH B	5346	5346	5346	5346	No	25	0	0	59.4
E DAGGA Group 3 EDH B	5346	5346	5346	5346	No	25	0	0	59.4
E DAGGA Group 3 EDI B	5489	5489	5489	5489	No	22.9	0	0	56.6
E DAGGA Group 3 EDP A	4890	4890	4890	4890	No	24.7	0	0	56.7
E DVR Group 4 EDG B	7143	7143	6641	7143	No	35.2	0	0	62.9
E DVR Group 5 EDA B	6624	6624	6181	6624	No	34.8	0	0	59.3
E DVR Group 5 EDB B	6476	6476	6033	6476	No	34.6	0	0	59.3
E DVR Group 5 EDH C	7467	7467	6965	7467	No	34.8	0	0	59.3
E DVR Group 5 EDI C	7467	7467	6965	7467	No	34.8	0	0	59.3
E DVR Group 5 EDL B	7811	7811	7309	7811	No	33.9	0	0	59.4
E DVR Group 5 EDM B	8238	8238	7736	8238	No	34.7	0	0	59.6
E DVR Group 5 EDP B	5882	5882	5572	5882	No	36.7	0	0	59.2
E KENET Group 1 EDN A	29723	0	29723	0	Lateral change below 1000ft	8.5	0	0	61.4
E SAM Group 1 EDN A	19616	19616	19243	19616	Lateral change below 1000ft	19.5	0	0	59.4
E TNT Group 3 EDF A	4127	0	4127	0	No	11.2	0	0	151.7
E TNT Group 3 EDF A 2	3789	0	3789	0	No	26.3	0	0	153.6
E TNT Group 3 EDH B	5346	0	5346	0	No	25	0	0	151.0
E TNT Group 3 EDI B	5489	0	5489	0	No	22.9	0	0	144.5
E TNT Group 3 EDP A	4890	0	4890	0	No	24.7	0	0	147.5
E XAMAB Group 2 EDC C	7527	7527	6354	7527	Lateral change below 1000ft	37.3	0	0	63.3
E XAMAB Group 2 EDD C	8283	8283	6379	8283	Lateral change below 1000ft	38.1	0	0	63.1
E XAMAB Group 2 EDF C	5799	5799	2198	5799	No	37.4	0	0	63.9
E XAMAB Group 2 EDH D	6775	6775	1167	6775	No	36.3	0	0	64.1
E XAMAB Group 2 EDI D	6775	6775	1167	6775	No	36.2	0	0	64.0
E XAMAB Group 2 EDP C	5969	5969	1544	5969	No	37.5	0	0	63.6
E XAMAB Group 4 EDG B	7143	7143	6581	7143	No	35.2	0	0	70.6

LONDON GATWICK

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly System 7

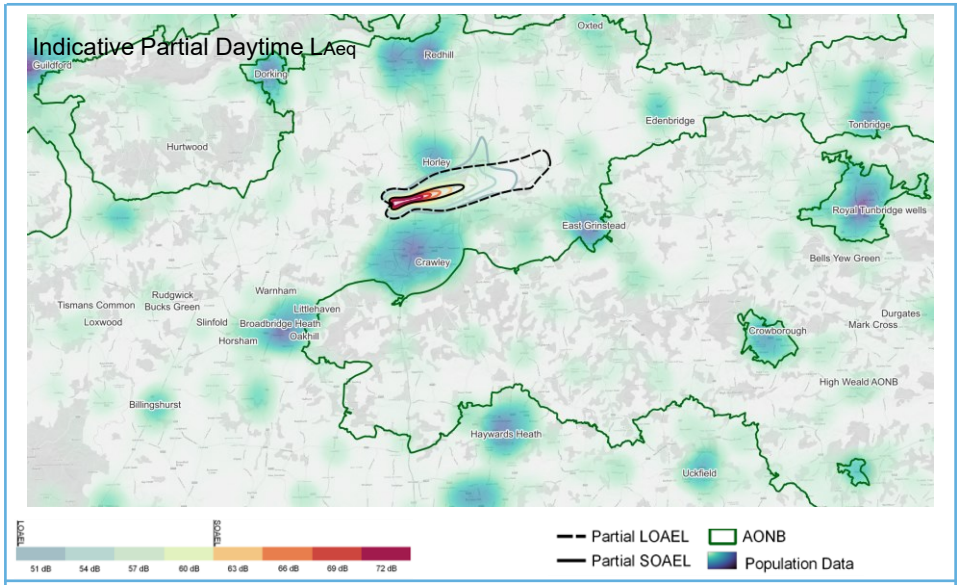
Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
E DAGGA Group 3 EDF A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	✗ Option discontinued
E DAGGA Group 3 EDF A 2	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DAGGA Group 3 EDH B	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DAGGA Group 3 EDH B	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DAGGA Group 3 EDI B	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DAGGA Group 3 EDP A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E DVR Group 4 EDG B	No IFP issues identified	Shares interdependencies with Biggin Hill.	
E DVR Group 5 EDA B	No IFP issues identified	Shares interdependencies with Biggin Hill.	
E DVR Group 5 EDB B	No IFP issues identified	Shares interdependencies with Biggin Hill.	
E DVR Group 5 EDH C	No IFP issues identified	Shares interdependencies with Biggin Hill.	
E DVR Group 5 EDI C	No IFP issues identified	Shares interdependencies with Biggin Hill.	
E DVR Group 5 EDL B	No IFP issues identified	Shares interdependencies with Biggin Hill.	
E DVR Group 5 EDM B	No IFP issues identified	Shares interdependencies with Biggin Hill.	
E DVR Group 5 EDP B	No IFP issues identified	Shares interdependencies with Biggin Hill.	
E KENET Group 1 EDN A	The first turn at c.0.5nm requires a c.1.8nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares prohibitive interdependencies with Heathrow and Biggin and would not integrate into the wider network airspace above 7000ft.	
E SAM Group 1 EDN A	The first turn at c.0.5nm requires a c.1.8nm radius which is below the minimum 2nm recommended by PANS OPS although precedent does exist within the UK.	Shares prohibitive interdependencies with Heathrow and Biggin and would not integrate into the wider network airspace above 7000ft.	
E TNT Group 3 EDF A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E TNT Group 3 EDF A 2	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E TNT Group 3 EDH B	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E TNT Group 3 EDI B	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E TNT Group 3 EDP A	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E XAMAB Group 2 EDC C	First turn at c.0.8nm	No interdependencies with other airports identified although would share with Gatwick arrivals	
E XAMAB Group 2 EDD C	First turn at c.0.8nm	No interdependencies with other airports identified although would share with Gatwick arrivals	
E XAMAB Group 2 EDF C	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
E XAMAB Group 2 EDH D	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
E XAMAB Group 2 EDI D	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
E XAMAB Group 2 EDP C	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	
E XAMAB Group 4 EDG B	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	

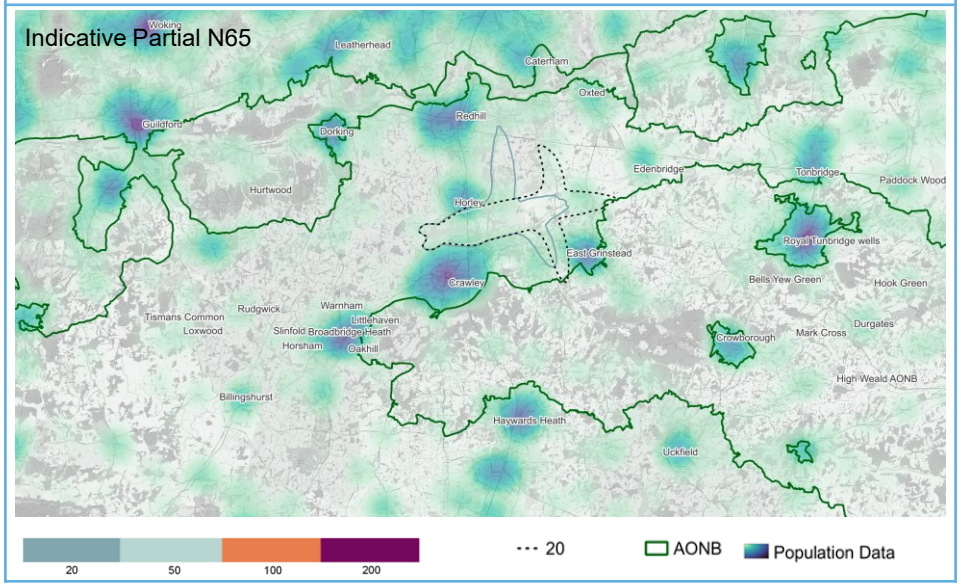
FASI-S ACP Initial Options Appraisal Dashboard

Option

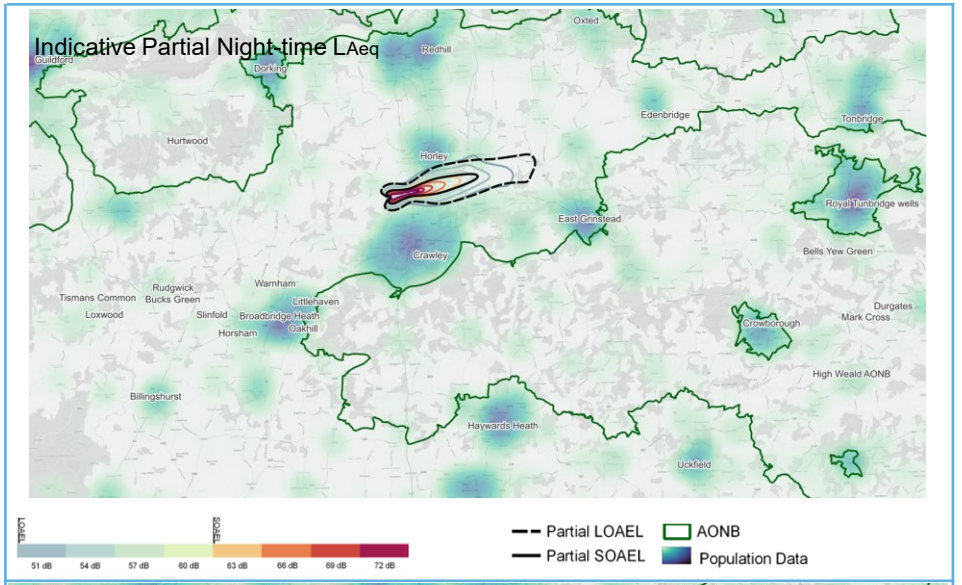
Departure Easterly System 7

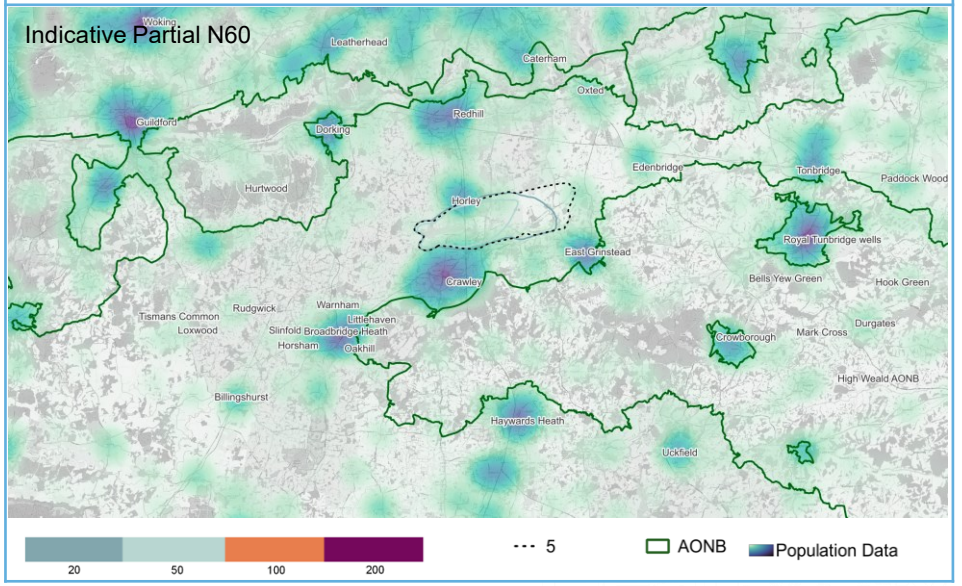
Day





Night





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Option

Departure Easterly System 8

Description

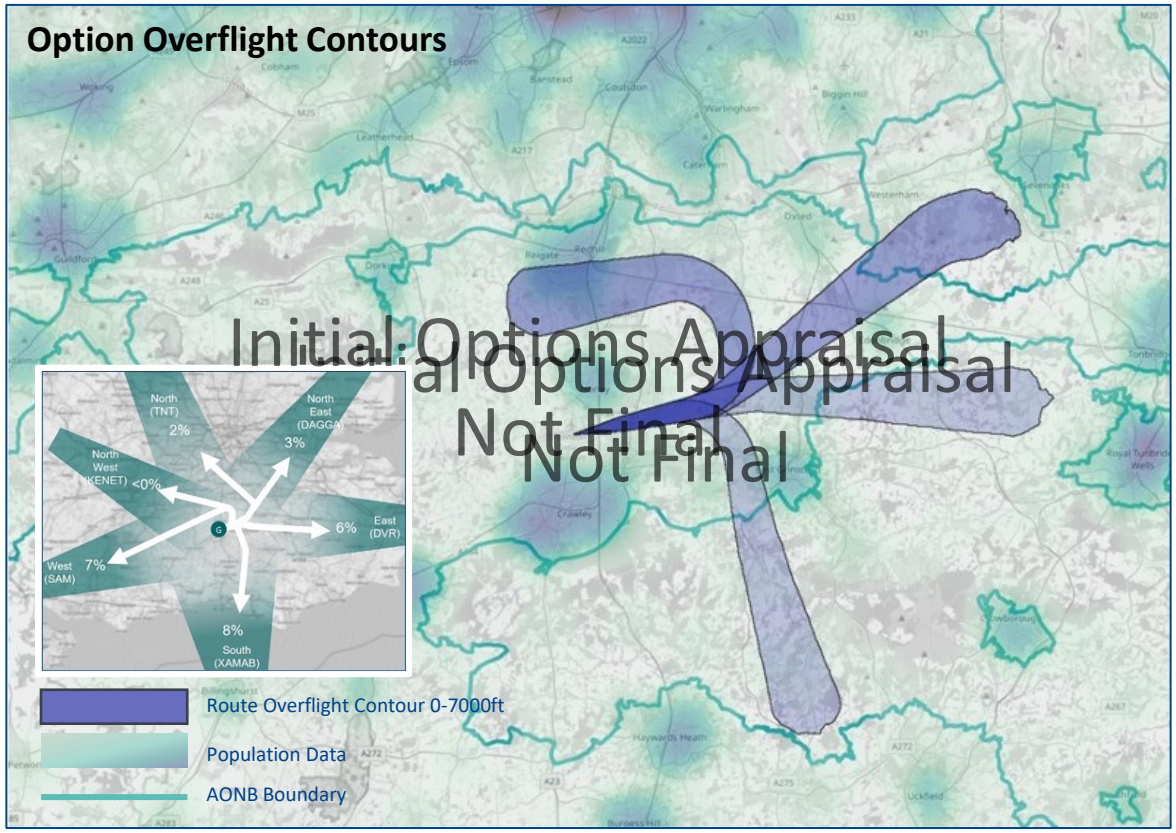
This option is based on the baseline RNAV1 centrelines from 0-7000ft.

Noise

In the baseline, the vast majority of easterly departures fly a PBN route however some vectoring does occur. This option therefore may result in greater 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.

LONDON GATWICK

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly System 8

Indicative Partial System Performance

Noise	*Population*	Difference to Baseline
LOAEL (Day)	3324	-105
LOAEL (Night)	2832	-358
N65 (20)	9467	-4295
N60 (5)	14749	-844

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	0	-0.4 km²

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

Economic	Qualitative Conclusion
Commercial Airlines	*No change*
General Aviation	*Expected positive compared to baseline*

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

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	*Costs identified*
Airport / ANSP Operational	*Costs identified*
Airport / ANSP Deployment	*Costs identified*

LONDON GATWICK

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly System 8

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	
E EDH A KENET	29292	0	29292	29292	No	0	0	0	66.1
E EDH A SAM	29292	29292	15076	29292	No	0	0	0	60.1
E EDH B DAGGA	5346	5346	5346	5346	No	25	0	0	59.4
E EDH B TNT	5346	0	5346	5346	No	25	0	0	151.0
E EDH C DVR	7467	7467	6965	7467	No	34.8	0	0	59.3
E EDH D XAM	6775	6775	1167	6775	No	36.3	0	0	64.1

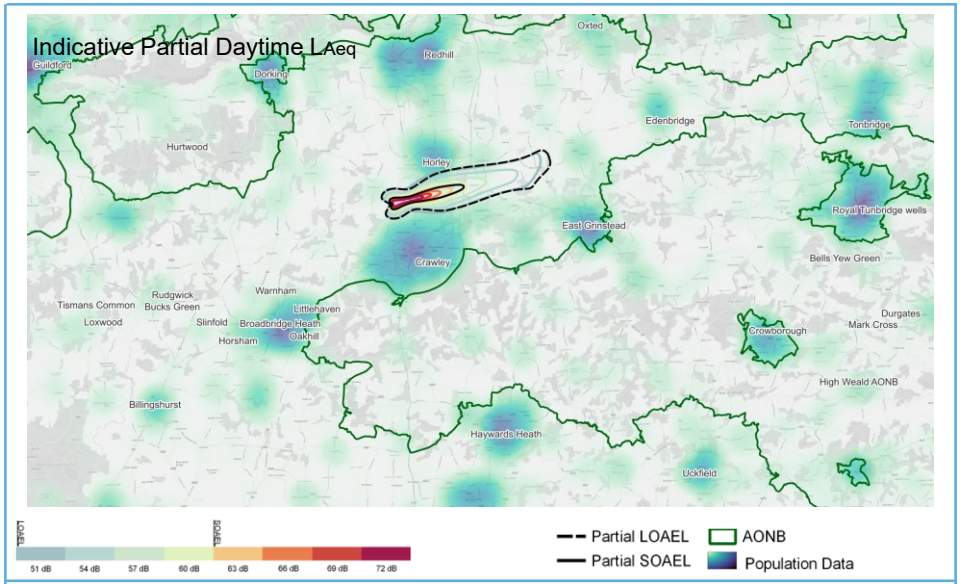
Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
E EDH A KENET	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and potentially Northolt	✓ Option continued
E EDH A SAM	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and potentially Northolt	
E EDH B DAGGA	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E EDH B TNT	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill, London City and potentially Northolt	
E EDH C DVR	No IFP issues identified	Shares interdependencies with Biggin Hill.	
E EDH D XAM	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	

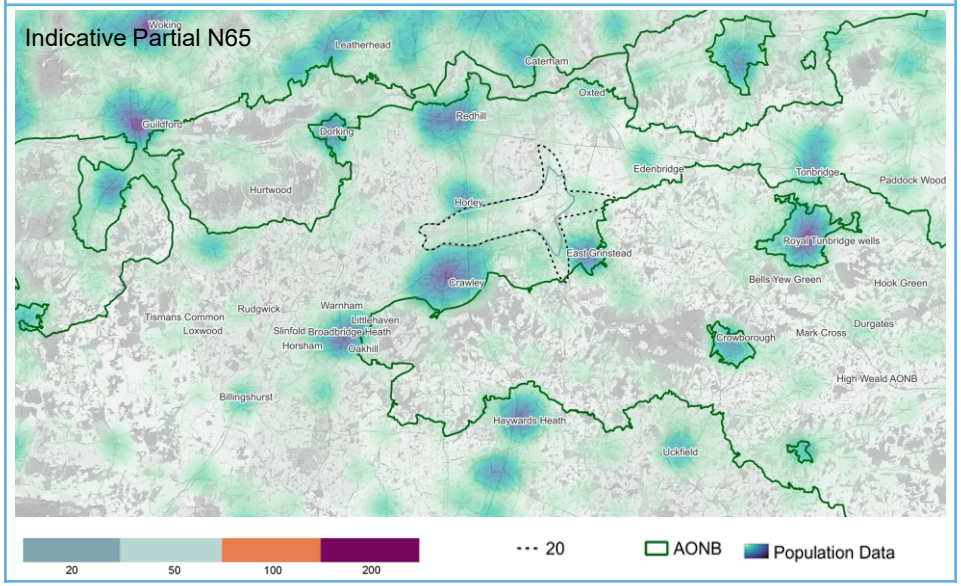
FASI-S ACP Initial Options Appraisal Dashboard

Option

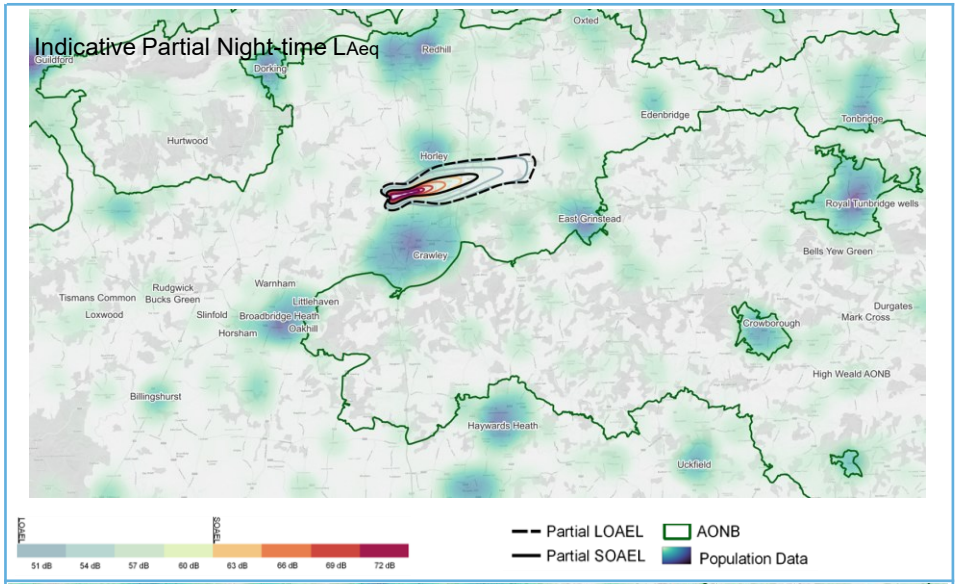
Departure Easterly System 8

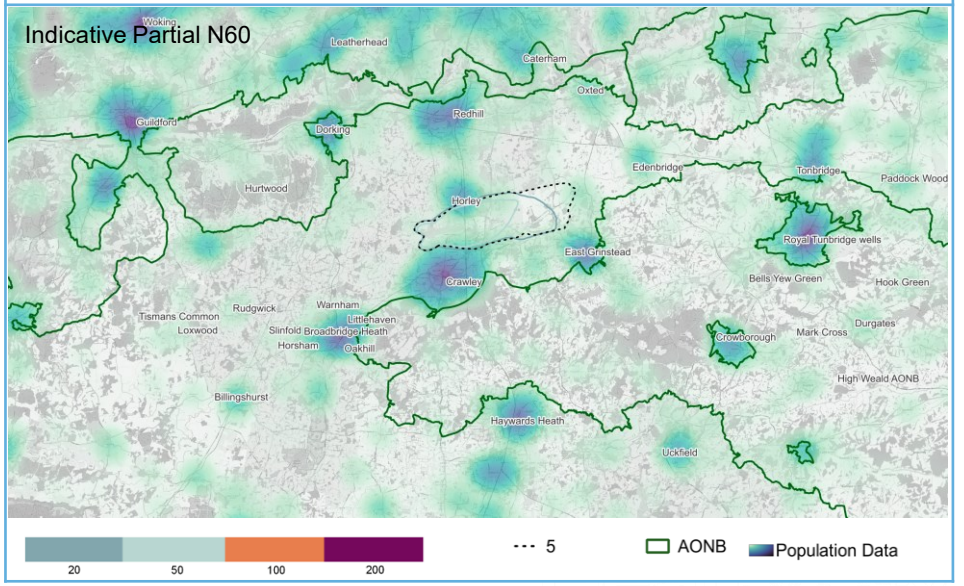
Day





Night





FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly System 9

Description

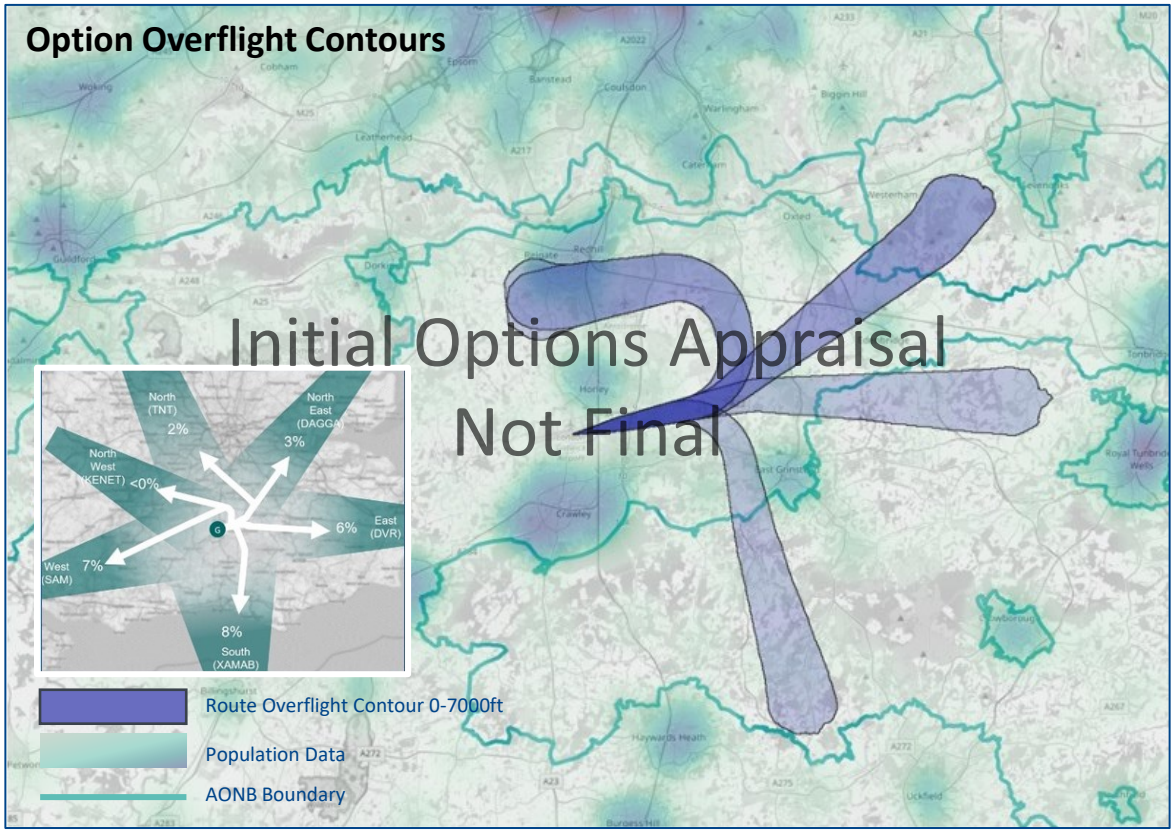
This option is based on the baseline RNAV1 centrelines however beyond 4000ft aircraft fly directly to the network exit points

Noise

In the baseline, the vast majority of easterly departures fly a PBN route however some vectoring does occur. This option therefore may result in greater 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.

LONDON GATWICK

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly System 9

Indicative Partial System Performance

Noise	*Population*	Difference to Baseline
LOAEL (Day)	3324	-105
LOAEL (Night)	2832	-358
N65 (20)	9467	-4295
N60 (5)	14749	-844

Tranquillity	Area *(KM²)*	Difference to Baseline
AONB - N65 (20)	0	-0.4km²

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	*Potential for positive compared to baseline*
GA Access	*Potential for 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*

FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly System 9

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	
E EDI A KENET	30698	0	30698	0	No	0	0	0	64.5
E EDI A SAM	28705	28705	14489	28705	No	0	0	0	60.0
E EDI B DAGGA	5489	5489	5489	5489	No	22.9	0	0	56.6
E EDI B TNT	5489	0	5489	0	No	22.9	0	0	144.5
E EDI C DVR	7467	7467	6965	7467	No	34.8	0	0	59.3
E EDI D XAM	6775	6775	1167	6775	No	36.2	0	0	64.0

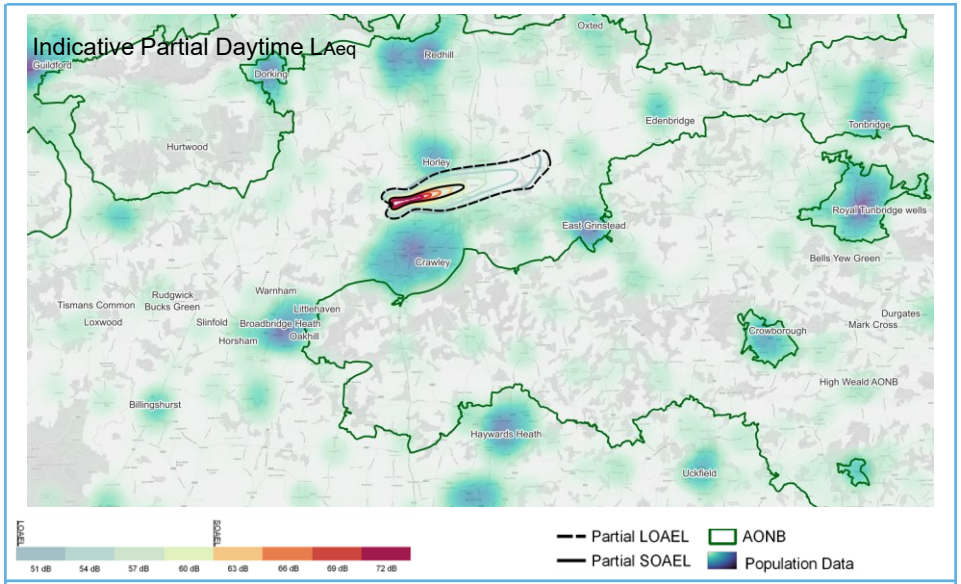
Option Routes	Safety	Interdependencies, conflicts & trade-offs	Continued?
E EDI A KENET	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and potentially Northolt	✓ Option continued
E EDI A SAM	No IFP issues identified	Shares interdependencies with Heathrow and Biggin Hill	
E EDI B DAGGA	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City.	
E EDI B TNT	No IFP issues identified	Shares interdependencies with Heathrow, Biggin Hill and London City and potentially Northolt	
E EDI C DVR	No IFP issues identified	Shares interdependencies with Biggin Hill.	
E EDI D XAM	No IFP issues identified	No interdependencies with other airports identified although would share with Gatwick arrivals	

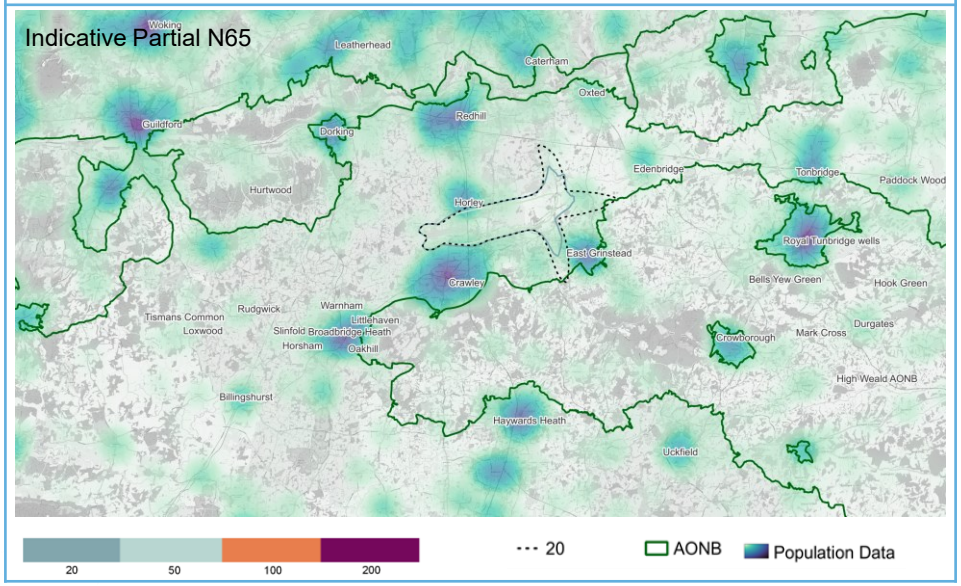
FASI-S ACP Initial Options Appraisal Dashboard

Option

Departure Easterly System 9

Day





Night