APPENDIX C – STAKEHOLDER FEEDBACK RECEIVED

BRITISH HELICOPTER ASSOCIATION

From: [redacted]
Sent: 22 July 2019 12:53
To: [redacted]
Subject: RE: Heathrow - Compton 09L/R Standard Instrument Departure - Airspace Change

[redacted]

Thank you for sight of the Design Principles and the BHA has no comments at the stage besides saying that we support the No1 principle being safety.

Yours

[redacted]

[redacted]
Chief Executive
British Helicopter Association
Graham Suite
Fairoaks Airport
Chobham
Surrey. GU24 8HU

SURREY COUNTY COUNCIL

From: [redacted]
Sent: 25 July 2019 08:54
To: [redacted]
Cc: [redacted]
Subject: RE: Compton departure route Workshop 1 – request for feedback

Hi [redacted]

Please find feedback from Surrey County Council below.

Kind regards

[redacted]

As a stakeholder in all airspace change consultation processes, Surrey County Council's primary interest is the wellbeing of local communities and the minimisation of the impacts on residents of airport operations – particularly with regard to noise and air pollution.

Set out below are high level principles that the Council advocates through all airspace change processes:

- Surrey County Council supports a multiple pathways approach if it would provide more opportunity for meaningful respite for those communities overflown.

- Concentrated flightpaths with no respite are not acceptable. Respite must be provided for both existing overflown residents as well as any newly overflown residents,

- New flight paths should provide for long-term predictability for those finding themselves overflown and include the provision of respite

- In combination effects for residents must be considered for all airspace change processes. This means that proposals must be assessed in the context of noise impacts of existing flight paths to/from Heathrow as well as other airports.

- Options to route flight paths over less sensitive land uses should be explored to reduce impacts on residents.

- In accordance with national advice, noise should be the environmental priority up to 7,000 feet.

- New operating procedures such as steeper take-offs as well as steeper landings and their impact on noise distribution should be explored

We continue to stress that every effort must be made to ensure that Surrey communities likely to be affected are kept informed of airspace change proposals and that a reasonable period of time is provided for response to consultation.

Response by: **ROYAL BOROUGH OF WINDSOR & MAIDENHEAD**

Design Principles Proposed by Community Groups	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Multiple routes are a must	x						
Routes should be as far apart as possible & stay apart as long as practicable & the noise impacts distributed evenly across them	x						For there to be valued respite there should be a 9dB difference between the rotes
Those that already suffer should not suffer any more than this; use N metrics or suite of metrics to measure this		x					
The different routes should 'split' as soon as possible, but keep away from other routes and don't get them any closer & minimise numbers of people significantly affected below 1000ft		x					
Where possible, do not overfly communities who are not already within the existing CPT 09 departure swathe below 6000ft			x				The plan should focus on causing annoyance to the fewest number of people as possible by dispersion and not concentration. In the past we hardly noticed Compton and that should be the aim with this change.
Routes should be designed so controllers don't have to routinely intervene below 6000ft			x				There is a tension here between community annoyance and work for NATs. A balance must be reached
Avoid overflying communities with multiple routes in the same runway configuration	x						
Don't overfly those communities who are currently overflown by Heathrow's westerly SIDs below 4000ft, with a CPT09 SID below 4000ft			x				

Don't be constrained by existing NPR or the current definition of an NPR							The NPR should not compromise what might be the best solution.
Enable Continuous Climb							
Noise should take the priority up to 6000ft	x						
Minimise fuel/CO2 above 6000ft							With PBN noise should remain the priority to 10,000ft

Design Principles Proposed by Local Authorities	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Climb as fast as possible	x						
Multiple (& enough) flight paths sufficiently spaced to make a difference	x						
Equitably share the noise and frequency of overflight	x						
Where possible, fly over open spaces not residential areas	x						
Take into account other routes, do not overfly the same communities below 4000ft on easterly vs westerly operations. Do this by imposing a minimum 4000ft point or a maximum noise threshold		x					
Route alternation should be predictable		x					
Do not degrade current air quality	x						
Don't increase noise more for those already significantly affected	x						

WOKING BOROUGH COUNCIL

[redacted]
Community Stakeholder Manager – Airspace
Heathrow
The Compass Centre
Nelson Road
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TW6 2GW

Civic Offices
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Woking
Surrey GU21 6YL

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22 July 2019

Dear Mr [redacted]

Heathrow – Compton design principle engagement

Thank you for giving Woking Borough Council the opportunity to comment on the above. You will recall that earlier this year Heathrow Airport Limited consulted on its airspace and future operations. I have attached a copy of the Council's response to the consultation. There was a parallel consultation at that time on how to make better use of the existing runways using the Independent Parallel Approaches. This is likely to have a bearing on the use of the airspace. You will notice that the principles set out in this earlier consultation, which the Council commented on are broadly similar to the ones highlighted in the Compton design principle engagement. The Council's response should therefore be read in conjunction with this letter.

Generally, the Council would be concerned to ensure that the potential noise effects of the proposed new Compton departure routes on local residents and business are reduced to an absolute minimum level that is practically and technically feasible to achieve. Woking falls within the 'potential impacted area'. Whilst this consultation is part of the initial stages to help determine the principles that will guide the development of the final routes, there is no doubt that the outcome will result in the concentration of departures below 7,000 feet. The Council would find it unacceptable if this exacerbates the current aircraft noise in the area.

The Council would also wish to ensure that there is maximum respite period for local residents and businesses, especially during the night.

Overall, I would question the immediate need for the changes to the Compton departure route given that there is going to be a complete redesign of Heathrow's airspace and flight paths when the third runway becomes operational in 2026 and changes to the Compton route is not due for approval until 2022. Residents and businesses need certainty and as such the number of changes proposed in such a short time would not be helpful.

I would like to confirm that Woking did attend the workshop on 23 May 2019 at the Holiday Inn, and will be aiming to attend the future workshops.

I hope you find this helpful.

Yours sincerely,

[redacted]

Planning Policy Manager

Response by: [redacted] – HCNF Member representing Surrey County Council

Design Principles Proposed by Community Groups	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Multiple routes are a must	y						
Routes should be as far apart as possible & stay apart as long as practicable & the noise impacts distributed evenly across them		y					
Those that already suffer should not suffer any more than this; use N metrics or suite of metrics to measure this	y						Residents in Elmbridge, particularly Molesey, Dittons and Esher already suffer from departures on Easterlies not from Compton Route. They should not get additional overflights from this change
The different routes should 'split' as soon as possible, but keep away from other routes and don't get them any closer & minimise numbers of people significantly affected below 1000ft	y						
Where possible, do not overfly communities who are not already within the existing CPT 09 departure swathe below 6000ft	y						Including those already overflown by other routes
Routes should be designed so controllers don't have to routinely intervene below 6000ft	y						
Avoid overflying communities with multiple routes in the same runway configuration	y						A must
Don't overfly those communities who are currently overflown by Heathrow's westerly SIDs below 4000ft, with a CPT09 SID below 4000ft	y						
Don't be constrained by existing NPR or the current definition of an NPR		y					
Enable Continuous Climb	y						

Noise should take the priority up to 6000ft	y						
Minimise fuel/CO2 above 6000ft			y				

Design Principles Proposed by Local Authorities	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Climb as fast as possible		y					
Multiple (& enough) flight paths sufficiently spaced to make a difference	y						
Equitably share the noise and frequency of overflight	y						Include impact of other routes on same operations
Where possible, fly over open spaces not residential areas	y						
Take into account other routes, do not overfly the same communities below 4000ft on easterly vs westerly operations. Do this by imposing a minimum 4000ft point or a maximum noise threshold	y						Also exclude overflying those overflown on other routes in the same configuration
Route alternation should be predictable		y					
Do not degrade current air quality			y				
Don't increase noise more for those already significantly affected	Y						

Design Principles Proposed by HSPG	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Should factor in ambient/background noise (using the BS4142 methodology)				y			
Should aim to define 'Respite' for this ACP so we can assess our options against that benchmark		y					

Please add any additional Design Principles to consider	Comments
Do not overfly world heritage sites such as Hampton Court Palace.	
Do not route new Compton PBN routes over those communities which are already overflown by departures on other routes on Easterlies from Southern runway (in Elmbridge, eg Molesey, Thames/Long Ditton and Esher)	
Route over non built-up areas (such as reservoirs) where possle	

HPSG CORE TEAM

From: [redacted]
Sent: 29 July 2019 09:03
To: [redacted]
Cc: [redacted]
Subject: Compton Route consultation

Dear Sir/Madam

No further comments to add at this stage to those made at the first round workshop

Kind Regards

[redacted]

[redacted]

Lead Advisor Spatial Planning
Heathrow Strategic Planning Group

[redacted]

Response by: [redacted] **(Elmbridge Borough Council)**

Design Principles Proposed by Community Groups	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Multiple routes are a must			X				We would like to see a greater level of detail on the ground level impacts and more data.
Routes should be as far apart as possible & stay apart as long as practicable & the noise impacts distributed evenly across them			X				We would like to see a greater level of detail on the ground level impacts and more data.
Those that already suffer should not suffer any more than this; use N metrics or suite of metrics to measure this			X				We would like to see a greater level of detail on the ground level impacts and more data.
The different routes should 'split' as soon as possible, but keep away from other routes and don't get them any closer & minimise numbers of people significantly affected below 1000ft			X				We would like to see a greater level of detail on the ground level impacts and more data.
Where possible, do not overfly communities who are not already within the existing CPT 09 departure swathe below 6000ft			X				We would like to see a greater level of detail on the ground level impacts and more data.
Routes should be designed so controllers don't have to routinely intervene below 6000ft			X				We would like to see a greater level of detail on the ground level impacts and more data.
Avoid overflying communities with multiple routes in the same runway configuration			X				We would like to see a greater level of detail on the ground level impacts and more data.

Don't overfly those communities who are currently overflown by Heathrow's westerly SIDs below 4000ft, with a CPT09 SID below 4000ft			X				We would like to see a greater level of detail on the ground level impacts and more data.
Don't be constrained by existing NPR or the current definition of an NPR			X				We would like to see a greater level of detail on the ground level impacts and more data.
Enable Continuous Climb			X				We would like to see a greater level of detail on the ground level impacts and more data.
Noise should take the priority up to 6000ft			X				We would like to see a greater level of detail on the ground level impacts and more data.
Minimise fuel/CO2 above 6000ft			X				We would like to see a greater level of detail on the ground level impacts and more data.

Design Principles Proposed by Local Authorities	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Climb as fast as possible			X				We would like to see a greater level of detail on the ground level impacts and more data.
Multiple (& enough) flight paths sufficiently spaced to make a difference			X				We would like to see a greater level of detail on the ground level impacts and more data.

Equitably share the noise and frequency of overflight			X				We would like to see a greater level of detail on the ground level impacts and more data.
Where possible, fly over open spaces not residential areas			X				We would like to see a greater level of detail on the ground level impacts and more data.
Take into account other routes, do not overfly the same communities below 4000ft on easterly vs westerly operations. Do this by imposing a minimum 4000ft point or a maximum noise threshold			X				We would like to see a greater level of detail on the ground level impacts and more data.
Route alternation should be predictable			X				We would like to see a greater level of detail on the ground level impacts and more data.
Do not degrade current air quality			X				We would like to see a greater level of detail on the ground level impacts and more data.
Don’t increase noise more for those already significantly affected			X				We would like to see a greater level of detail on the ground level impacts and more data.

Response by: **UKFSC (NATMAC)**

Design Principles Proposed by Community Groups	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Multiple routes are a must			X				
Routes should be as far apart as possible & stay apart as long as practicable & the noise impacts distributed evenly across them		X					
Those that already suffer should not suffer any more than this; use N metrics or suite of metrics to measure this	X						
The different routes should 'split' as soon as possible, but keep away from other routes and don't get them any closer & minimise numbers of people significantly affected below 1000ft		X					
Where possible, do not overfly communities who are not already within the existing CPT 09 departure swathe below 6000ft			X				
Routes should be designed so controllers don't have to routinely intervene below 6000ft	X						
Avoid overflying communities with multiple routes in the same runway configuration				X			
Don't overfly those communities who are currently overflown by Heathrow's westerly SIDs below 4000ft, with a CPT09 SID below 4000ft				X			
Don't be constrained by existing NPR or the current definition of an NPR		X					
Enable Continuous Climb	X						
Noise should take the priority up to 6000ft			X				
Minimise fuel/CO2 above 6000ft		X					

Design Principles Proposed by Local Authorities	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments

Climb as fast as possible		X					
Multiple (& enough) flight paths sufficiently spaced to make a difference							
Equitably share the noise and frequency of overflight	X						
Where possible, fly over open spaces not residential areas	X						
Take into account other routes, do not overfly the same communities below 4000ft on easterly vs westerly operations. Do this by imposing a minimum 4000ft point or a maximum noise threshold				X			
Route alternation should be predictable			X				
Do not degrade current air quality	X						
Don't increase noise more for those already significantly affected		X					

Design Principles Proposed by HSPG	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Should factor in ambient/background noise (using the BS4142 methodology)			X				
Should aim to define 'Respite' for this ACP so we can assess our options against that benchmark		X					

Response by: **London Luton Airport Operations Limited**

Design Principles Proposed by Community Groups	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Multiple routes are a must		X					Respite routes should be considered as per CAP 1616.
Routes should be as far apart as possible & stay apart as long as practicable & the noise impacts distributed evenly across them			X				Routes should be adequately separated to provide respite, but should also be mindful of the current airspace and other airspace users and if this will require additional airspace.
Those that already suffer should not suffer any more than this; use N metrics or suite of metrics to measure this		X					Cumulative effects should be analysed as part of CAP 1616, although not sure this is a robust DP as the meaning of 'suffer' is subjective.
The different routes should 'split' as soon as possible, but keep away from other routes and don't get them any closer & minimise numbers of people significantly affected below 1000ft			X				Similar to previously, by providing respite this may increase the airspace required and Heathrow should be mindful of other airspace users.
Where possible, do not overfly communities who are not already within the existing CPT 09 departure swathe below 6000ft			X				This should be considered locally.
Routes should be designed so controllers don't have to routinely intervene below 6000ft	X						This provides predictability to communities, ATC, other

							airspace users and operators.
Avoid overflying communities with multiple routes in the same runway configuration		X					Cumulative effects should be considered, as well as those from other airports.
Don't overfly those communities who are currently overflown by Heathrow's westerly SIDs below 4000ft, with a CPT09 SID below 4000ft		X					Cumulative effects should be considered, as well as those from other airports.
Don't be constrained by existing NPR or the current definition of an NPR			X				By designing routes outside of current NPR this may have noise benefits, but may also effect other airspace users. These should be considered together.
Enable Continuous Climb	X						This is beneficial to all.
Noise should take the priority up to 6000ft			X				This should be considered locally
Minimise fuel/CO2 above 6000ft			X				This should be considered locally.

Design Principles Proposed by Local Authorities	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Climb as fast as possible	X						This has benefits for other airspace users as it free's up lower level airspace and doesn't constrain others routes.
Multiple (& enough) flight paths sufficiently spaced to make a difference			X				Routes should be adequately separated to provide respite, but should

							also be mindful of the current airspace and other airspace users and if this will require additional airspace.
Equitably share the noise and frequency of overflight			X				Should be considered locally.
Where possible, fly over open spaces not residential areas			X				Should be considered locally.
Take into account other routes, do not overfly the same communities below 4000ft on easterly vs westerly operations. Do this by imposing a minimum 4000ft point or a maximum noise threshold		X					Cumulative effects should be considered, as well as those from other airports.
Route alternation should be predictable		X					Any form of respite/alternation should be predictable for communities, other airspace users and operators.
Do not degrade current air quality		X					
Don't increase noise more for those already significantly affected			X				Should be considered locally, also 'significantly affected' should be defined to ensure a robust DP.

Design Principles Proposed by HSPG	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Should factor in ambient/background noise (using the BS4142 methodology)			X				Should be considered locally.

Should aim to define 'Respite' for this ACP so we can assess our options against that benchmark		X					Respite should be defined as there are multiple options, but not sure the wording is considered a DP and is more of a process.

Please add any additional Design Principles to consider	Comments
Keep CAS requirements to a minimum.	Any change to the CAS will affect other airspace users.
Should avoid overflying communities with multiple routes, including those from other airports, below 7,000ft.	Cumulative effects of routes from other airports should be considered too.

[redacted] – ENGLEFIED GREEN ACTION GROUP

From: [redacted]
Sent: 01 August 2019 11:33
To: [redacted]
Cc: [redacted]
Subject: re: Compton departure route Workshop 1 – request for feedback

There is strong opposition to this ACP on the grounds of concentrated flight paths, given the debacle in 2014 of the aborted trials; as before, it can only end in civil unrest and huge political fallout.

To determine the community reaction to this ACP a trial, similar to 2014, is imperative.

Key Points:

- This will be the very first ever permanent PBN (Precision Based Navigation) route, out of Heathrow, on the easterly Compton departure route, affecting Englefield Green, Egham, Virginia Water, etc.
- The existing Compton SID (Standard Instrument Departure), see Fig. 1, has not been flown for 30 years[1]
- Up to June 2014 the flown Compton SID, see Fig. 3, did not impinge on Englefield Green, Egham, Virginia Water, etc. instead flying to the east of the M25 and south of the M3, flying over Addlestone in Runnymede Borough.
- In June 2014, **without public consultation**, the flown Compton SID was moved, see Fig. 4, to the west of the M25 and north of the M3, bringing flights over Englefield Green, Egham, Virginia Water and away from previously overflown Addlestone.
- In December 2018 Heathrow's proposed ACP (Airspace Change Proposal) SON (Statement of Need) was published[2] on the CAA website, with revised SON and preliminary documents published in March 2019 and the potentially affected area, see Fig. 6.
    - Analysis of these documents shows that it is of great benefit to the aviation industry, being the first ever permanent PBN (Precision Based Navigation) out of Heathrow, since the aborted PBN trial flights in 2014.
    - However for communities it could not be more alarming, the 2014 PBN trials created public uproar wherever it was experienced, for up to 30 miles from Heathrow, and in this new proposal if a single flight path just 10's of meters wide would be created, thus concentrating flights, which currently inhabit a swathe in excess of 10km, to 1000 times those of today, creating a 'Noise Sewer' and blighting communities under it **permanently,** making it unfit for human habitation.

Historical easterly operations Compton SIDs (Standard Instrument Departure) and NPR (Noise Preference Route)

The diagram below shows the existing easterly operations Compton SIDs (Standard Instrument Departure) and NPR (Noise Preference Route). It covers the southern end of Englefield Green from roughly Bond Street southwards – see expanded diagram below, Fig. 2 – but hasn't been flown for 30 years, according to Heathrow's ACP submission.

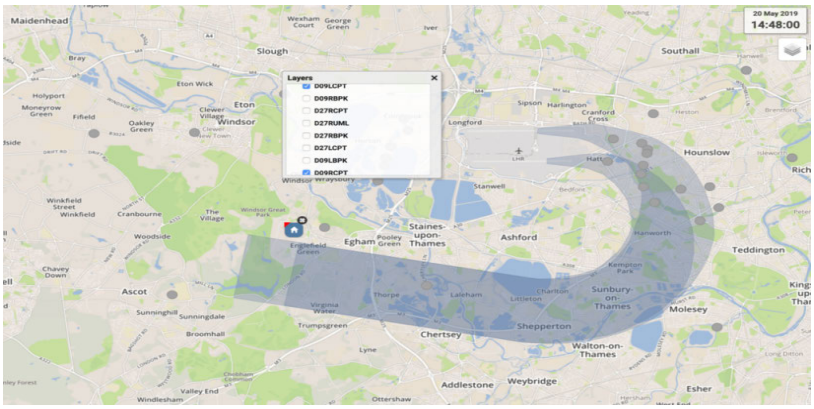


Fig. 1 Existing easterly operations departure Compton SIDs

Expanding the above figure below to show the extent to which Englefield Green should be affected if the existing Compton SID was adhered to, extending from Bond Street at the southern end of Englefield Green to Virginia Water further south.

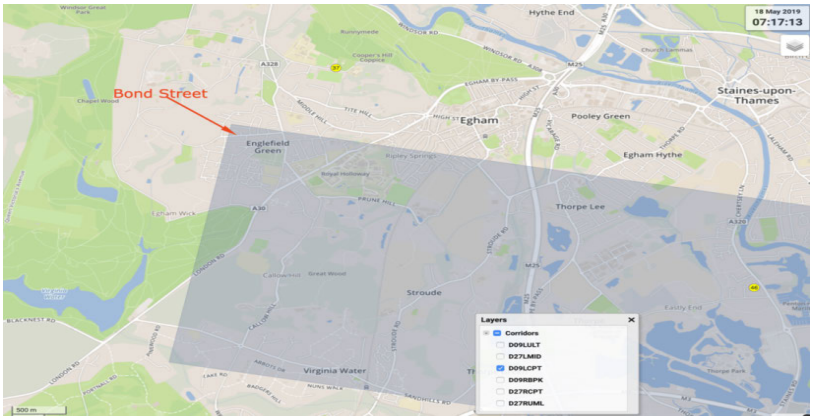


Fig. 2 The expanded diagram shows the extent of the Compton SID on easterly operations within the context of Englefield Green. The swathe or width of an NPR is 3km and as seen above the width covers from Bond Street in Englefield Green to 3km southwards to Virginia Water.

Compton SID prior to June 2014

As established by an FOI (Freedom of Information) request, the aircraft tracks on the easterly Compton SID prior to June 2014, (which completely avoided Englefield Green, Virginia Water, in fact the majority of Runnymede Borough) where NATS (National Air Traffic Services), without public consultation, altered the flight path bringing it over Englefield Green, see Fig. 4.

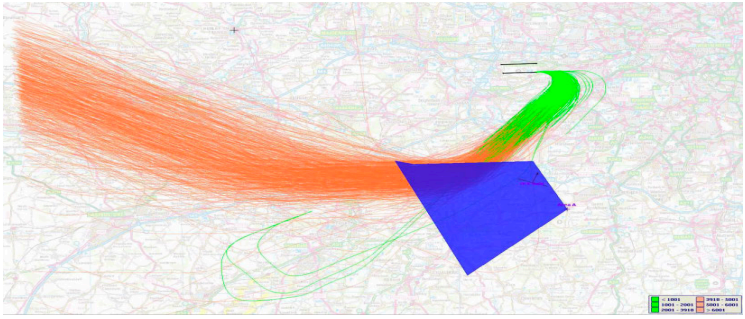


Fig.3 The diagram above, obtained by an FOI request, shows the aircraft tracks on the easterly Compton SID prior to June 2014, (completely avoiding Englefield Green, Virginia Water, in fact the majority of Runnymede Borough).

Compton SID post June 2014

Without public consultation NATS altered the Compton SID flight path to directly fly over Englefield Green, Egham, Virginia Water, etc.

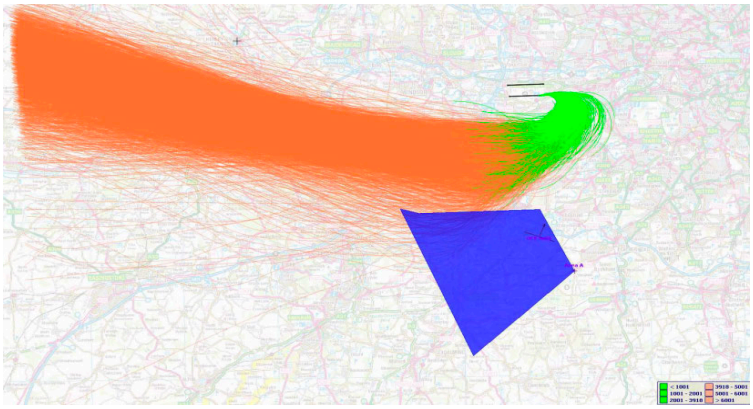


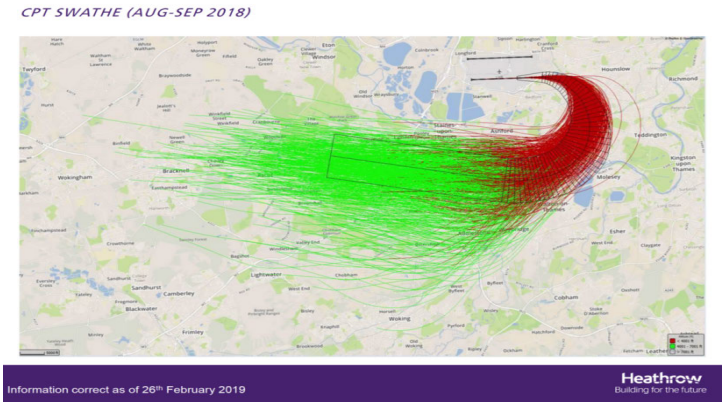
Fig. 4 The diagram above shows the post June 2014 tracks that now cross Englefield Green, Egham, Virginia Water, etc. Prior to June 2014 these areas were not affected by the easterly Compton SID, see Fig. 3.

New Compton SID ACP[2] (Airspace Change Proposal) – ID ACP-2018-85

Below is an extract from Heathrow's ACP powerpoint submission on the CAA website in *italics*

Step 1a : Assess Requirements

The current Compton (CPT) Departure routes (SIDs) from both runways on easterlies have not been flown for over 30 years. As the number of flights using Heathrow Airport increased, the route became challenging to manage because of their proximity to the Ockham holding stack and the Heathrow Airport arrival flow to the south of the airport.



Fi**g. 5** The above diagram shows aircraft tracks using the defined easterly Compton SID (superimposed) and NPR for the August – September 2018 period. As can be seen aircraft tracks are not contained in the 3km NPR swathe. This is the norm for the Compton SID after the June 2014 unconsulted change.

Potentially Affected Area

This area entirely covers Englefield Green and indeed the whole of Runnymede Borough. Currently aircraft are dispersed along a corridor width of 10km or so, see Fig 4. and Fig. 5, providing natural dispersion and non-concentrated flights. As proposed by Heathrow's ACP, if this corridor is replaced by a single concentrated PBN route 10's of meters wide, thus concentrating aircraft by a 1000 times, those under this concentrated PBN route area will be living in, what the CAA CEO termed, 'a Noise Sewer', effectively unfit for human habitation.

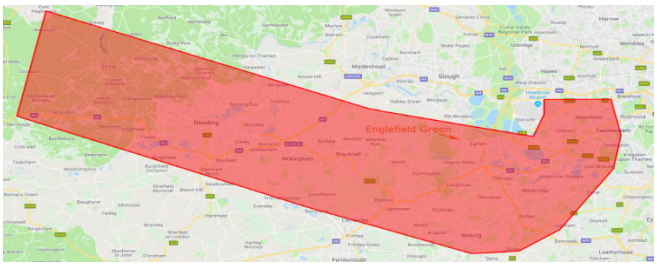


Fig. 6 Easterly Compton ACP Proposal

This is the area which may be affected by this airspace change depending on its development. This area may change as the proposal is developed. (from CAA ACP website) Below in *italics* is an extract from the ACP documentation

ISSUES, OPPORTUNITIES AND CONSIDERATIONS ARISING FROM PROPOSED CHANGE[1,2]

Issues

- *Will mean changes to aircraft noise for some communities*
- *Possible consultation fatigue and confusion: similar communities for CPT, Expansion and IPA*

Opportunities

- *Will significantly reduce the need for controllers to manually direct aircraft*
- *Will ensure aircraft fly this route in a more consistent, predictable way*
- *Will allow aircraft to stay within the NPR*
- *Potential opportunity to explore PBN respite options for SIDs (depending on design principles and technical possibilities)*

Considerations

- *Will likely require a new NPR*
- *Limited life-span ~ 4 years. Expansion airspace design will replace this CPT SID in 2026*

Community Perspective

As can be seen from an extract of Heathrow's ACP submission powerpoint (*in italics above) the 'Opportunities' section*, there are considerable benefits for the industry, but the *'Issues' section, 'Will mean changes to aircraft noise for some communities',* characteristically underplays, as always by Heathrow, the price communities will pay of being under, potentially, a single PBN concentrated flight path, with all aircraft travelling along the exact same flight path just 10's of meters wide, creating a 'Noise Sewer' for people blighted under this morally indefensible proposal.

With a single PBN flight path, this will be infinitely worse than existing distributed flight tracks, which in this case currently span some 10km or more in width, i.e. the aircraft will be 1000 times more concentrated than they currently are!!

[redacted] (Englefield Green Action Group)

Response by: **Honourable Company of Air Pilots** – compiled by [redacted] Director of Aviation Affairs

Design Principles Proposed by Community Groups	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Multiple routes are a must			X				
Routes should be as far apart as possible & stay apart as long as practicable & the noise impacts distributed evenly across them		X					
Those that already suffer should not suffer any more than this; use N metrics or suite of metrics to measure this			X				The principle should be to 'share' where possible.
The different routes should 'split' as soon as possible, but keep away from other routes and don't get them any closer & minimise numbers of people significantly affected below 1000ft		X					
Where possible, do not overfly communities who are not already within the existing CPT 09 departure swathe below 6000ft				X			This would concentrate all impacts on those already impacted – it would be better to share where possible.
Routes should be designed so controllers don't have to routinely intervene below 6000ft	X						Reduced ATC intervention should also provide for lower flight deck workload when following the standard procedure without amendment
Avoid overflying communities with multiple routes in the same runway configuration			X				
Don't overfly those communities who are currently overflown by Heathrow's westerly SIDs below 4000ft, with a CPT09 SID below 4000ft		X					
Don't be constrained by existing NPR or the current definition of an NPR	X						So new route options will not be constrained by old thinking

Enable Continuous Climb	X						THIS IS OUR MOST IMPORTANT PRINCIPLE
Noise should take the priority up to 6000ft				X			The principle should be to allow Climb as fast as possible
Minimise fuel/CO2 above 6000ft				X			The principle should be to allow Climb as fast as possible

Design Principles Proposed by Local Authorities	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Climb as fast as possible	X						Prioritizing continuous climb and best climb angle should maximise fuel efficiency and reduce both surface noise and overall emissions
Multiple (& enough) flight paths sufficiently spaced to make a difference		X					However, this should not be at the expense of additional complexity for ATC and flight deck crews
Equitably share the noise and frequency of overflight		X					
Where possible, fly over open spaces not residential areas	X						However, this must be balanced against (and does not over-ride) the need to keep the impact of emissions, etc. at an overall minimum
Take into account other routes, do not overfly the same communities below 4000ft on easterly vs westerly operations. Do this by imposing a minimum 4000ft point or a maximum noise threshold			X				

Route alternation should be predictable	X						This assists crews and ATC as well as the over-flown population
Do not degrade current air quality							
Don't increase noise more for those already significantly affected		X					There should be a degree of spreading out additional aircraft noise, rather than simply overlaying existing levels

Design Principles Proposed by HSPG	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Should factor in ambient/background noise (using the BS4142 methodology)						X	Although noise levels are cumulative, each source should be assessed and mitigated as necessary.
Should aim to define 'Respite' for this ACP so we can assess our options against that benchmark			X				

Please add any additional Design Principles to consider	Comments
Should prioritize 'continuous climb' over 'continuous descent'	Continuous climb provides the greatest environmental benefit
Should not introduce complexity to flight deck procedures during departure (or, for other routes that may be affected by any change, arrival)	Procedural changes should not result in additional flight deck workload or uncertainty

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Response by: **NATS commenting as an air traffic control technical specialist**

Design Principles Proposed by Community Groups	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Multiple routes are a must						X	See additional DP commentary re equitable distribution of noise impacts (bottom of this response)
Routes should be as far apart as possible & stay apart as long as practicable & the noise impacts distributed evenly across them						X	See additional DP commentary re equitable distribution of noise impacts (bottom of this response)
Those that already suffer should not suffer any more than this; use N metrics or suite of metrics to measure this						X	CAP1616 and DfT's air navigation guidance to the CAA on its environmental objectives 2017 (known as "ANG") already defines the process governing airspace change and appropriate metrics.
The different routes should 'split' as soon as possible, but keep away from other routes and don't get them any closer & minimise numbers of people significantly affected below 1000ft						X	See additional DP commentary re equitable distribution of noise impacts (bottom of this response)
Where possible, do not overfly communities who are not already within the existing CPT 09 departure swathe below 6000ft		X					In line with DfT ANG,para 3.3(b).
Routes should be designed so controllers don't have to routinely intervene below 6000ft	X						This implies the need to use modern navigation technology to define the departure route(s), known as Performance Based Navigation or PBN. NATS agrees with the principle, but suggest the wording should be "The route should use the highest appropriate modern navigation standard".
Avoid overflying communities with multiple routes in the same runway configuration			X				Should be reworded "Minimise" rather than "Avoid", allowing for future design options to be evaluated and ranked rather than immediately discarded if there is any

							partial failure to comply. See also additional DP commentary.
Don't overfly those communities who are currently overflown by Heathrow's westerly SIDs below 4000ft, with a CPT09 SID below 4000ft						X	Essentially the same DP as above. See additional DP commentary.
Don't be constrained by existing NPR or the current definition of an NPR		X					The current NPRs and their definition are generally regarded as being out of date. This may contradict DPs re overflight of communities previously not/rarely overflown, thus different priorities should be assigned to mutually exclusive DPs.
Enable Continuous Climb		X					Should be reworded "Maximise" instead of "Enable", allowing for future design options to be evaluated and ranked rather than immediately discarded if there is any partial failure to comply.
Noise should take the priority up to 6000ft			X				Safety should be the highest priority, including ATC workload. This could be a high priority, but always one rung below safety. Suggested wording "Minimise noise impacts below 6000ft". See additional DP commentary.
Minimise fuel/CO2 above 6000ft		X					Generally in line with DfT ANG,para 3.3(c) and (d).

Design Principles Proposed by Local Authorities	**Strongly Agree**	**Agree**	**Neither Agree or Disagree**	**Disagree**	**Strongly Disagree**	**Should not be considered**	**Comments**
Climb as fast as possible			X				Exercise caution: to maximise climb rate, aircraft may need to increase power settings on the runway and at low altitudes, which may contribute to low-altitude noise, local air quality and increased greenhouse gas emissions. Also may increase engine wear and servicing costs for aircraft operators. See previous "continuous climb" DP.

Multiple (& enough) flight paths sufficiently spaced to make a difference							See additional DP commentary re equitable distribution of noise impacts (bottom of this response)
Equitably share the noise and frequency of overflight							See additional DP commentary re equitable distribution of noise impacts (bottom of this response)
Where possible, fly over open spaces not residential areas			X				
Take into account other routes, do not overfly the same communities below 4000ft on easterly vs westerly operations. Do this by imposing a minimum 4000ft point or a maximum noise threshold							Contains multiple prescriptive methods. See additional DP commentary re equitable distribution of noise impacts (bottom of this response)
Route alternation should be predictable						X	This DP predetermines a multiple-route design solution which would be outside CAP1616. See additional DP commentary re equitable distribution of noise impacts (bottom of this response)
Do not degrade current air quality						X	The impact of an airspace design on air quality is generally negligible, see DfT ANG para 3.28 for details.
Don't increase noise more for those already significantly affected		X					In line with DfT ANG,para 3.3(b), see previous similar DP.

Design Principles Proposed by HSPG	**Strongly Agree**	**Agree**	**Neither Agree or Disagree**	**Disagree**	**Strongly Disagree**	**Should not be considered**	**Comments**
Should factor in ambient/background noise (using the BS4142 methodology)						X	The CAA's CAP1616 is the process governing airspace changes such as this, associated with the DfT's ANG which defines the environmental metrics. It would not be appropriate to include different metrics or processes outside these two documents.
Should aim to define 'Respite' for this ACP so we can assess our options against that benchmark						X	This is not a DP.

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Please add any additional Design Principles to consider	Comments
There are 22 DPs listed, with some similar to others, and several addressing versions of the same primary concern. The intent of many DPs seems to be the equitable distribution of noise impacts. Several suggested DPs attempt to prescribe methods of achieving that concept. These DPs should not go into detail on any particular prescriptive method, and the wording should focus on the outcome, along with a qualifier such as "maximise the equitable distribution of noise impacts" suffixed by a general concept if necessary. There should be fewer DPs, each dealing with a single general subject. If a DP contains too many clauses, there will be design options which meet one part of a DP and not the other. This would allow design options to be focussed, consistently worded, and more easily qualitatively evaluated under CAP1616 Step 2B.	
From an air traffic control / airspace technical design point of view, the focus on multiple routes may cause issues when design options are evaluated against DPs under CAP1616 Step 2B. Existing airspace and traffic flows will constrain the region within which the route(s) could realistically be placed and it is not reasonable to expect to move other flows due to all the consequential impacts. It may not be possible for one or more design options to meet DPs which demand multiple routes. Likewise, a design option with only one route may be appropriate and meet the majority of DPs, and should not be discounted.	
Please add an appropriate DP of higher priority than all others concerning the maintaining or improving standards of aviation safety. This should be a "golden DP", always the highest priority. It would encompass technical regulations concerning flight procedure design, and operational complexity with regard to air traffic control workload (not considering the new design in isolation, but in combination with adjacent flows and procedures). However the simple general DP would not need to specify these subjects.	

Response by: ..[redacted] – **Bracknell Forest Council**

Design Principles Proposed by Community Groups	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Multiple routes are a must	X						
Routes should be as far apart as possible & stay apart as long as practicable & the noise impacts distributed evenly across them	X						
Those that already suffer should not suffer any more than this; use N metrics or suite of metrics to measure this			X				
The different routes should 'split' as soon as possible, but keep away from other routes and don't get them any closer & minimise numbers of people significantly affected below 1000ft	X						
Where possible, do not overfly communities who are not already within the existing CPT 09 departure swathe below 6000ft	X						
Routes should be designed so controllers don't have to routinely intervene below 6000ft			X				
Avoid overflying communities with multiple routes in the same runway configuration	X						
Don't overfly those communities who are currently overflown by Heathrow's westerly SIDs below 4000ft, with a CPT09 SID below 4000ft			X				
Don't be constrained by existing NPR or the current definition of an NPR			X				
Enable Continuous Climb			X				
Noise should take the priority up to 6000ft	X						
Minimise fuel/CO2 above 6000ft			x				

Design Principles Proposed by Local Authorities	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Climb as fast as possible			X				
Multiple (& enough) flight paths sufficiently spaced to make a difference	X						
Equitably share the noise and frequency of overflight			X				
Where possible, fly over open spaces not residential areas		X					
Take into account other routes, do not overfly the same communities below 4000ft on easterly vs westerly operations. Do this by imposing a minimum 4000ft point or a maximum noise threshold		X					
Route alternation should be predictable		X					
Do not degrade current air quality	X						
Don't increase noise more for those already significantly affected	X						

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Response by: [redacted] - HCEB

Design Principles Proposed by Community Groups	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Multiple routes are a must			✓				
Routes should be as far apart as possible & stay apart as long as practicable & the noise impacts distributed evenly across them		✓					
Those that already suffer should not suffer any more than this; use N metrics or suite of metrics to measure this		✓					
The different routes should 'split' as soon as possible, but keep away from other routes and don't get them any closer & minimise numbers of people significantly affected below 1000ft		✓					
Where possible, do not overfly communities who are not already within the existing CPT 09 departure swathe below 6000ft		✓					
Routes should be designed so controllers don't have to routinely intervene below 6000ft		✓					
Avoid overflying communities with multiple routes in the same runway configuration		✓					
Don't overfly those communities who are currently overflown by Heathrow's westerly SIDs below 4000ft, with a CPT09 SID below 4000ft		✓					
Don't be constrained by existing NPR or the current definition of an NPR			✓				
Enable Continuous Climb			✓				
Noise should take the priority up to 6000ft	✓						
Minimise fuel/CO2 above 6000ft	✓						
Design Principles Proposed by Local Authorities	**Strongly Agree**	**Agree**	**Neither Agree or Disagree**	**Disagree**	**Strongly Disagree**	**Should not be considered**	**Comments**

Climb as fast as possible		✓					
Multiple (& enough) flight paths sufficiently spaced to make a difference		✓					
Equitably share the noise and frequency of overflight		✓					
Where possible, fly over open spaces not residential areas	✓						
Take into account other routes, do not overfly the same communities below 4000ft on easterly vs westerly operations. Do this by imposing a minimum 4000ft point or a maximum noise threshold		✓					
Route alternation should be predictable		✓					
Do not degrade current air quality	✓						
Don't increase noise more for those already significantly affected	✓						

MOD

From: [redacted]
Sent: 05 August 2019 12:43
To: [redacted]
Subject: RE: Heathrow - Compton 09L/R Standard Instrument Departure - Airspace Change

Thanks for your email – PSA matrix on behalf of the MOD. The MOD has no specific comment at this time but welcomes further engagement on this ACP as it progresses.

Many thanks,

Regards

[redacted]

[redacted] | Sqn Ldr | SO2 Airspace Plans | Defence Airspace and Air Traffic Management | CAA Aviation House | Gatwick, RH6 0YR | Civilian Telephone: [redacted] | MOD Net: [redacted] | E-Mail: [redacted]

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Response by: **Ministry of Defence**

Design Principles Proposed by Community Groups	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Multiple routes are a must			x				
Routes should be as far apart as possible & stay apart as long as practicable & the noise impacts distributed evenly across them			X				
Those that already suffer should not suffer any more than this; use N metrics or suite of metrics to measure this			X				
The different routes should 'split' as soon as possible, but keep away from other routes and don't get them any closer & minimise numbers of people significantly affected below 1000ft			X				
Where possible, do not overfly communities who are not already within the existing CPT 09 departure swathe below 6000ft			X				
Routes should be designed so controllers don't have to routinely intervene below 6000ft			X				
Avoid overflying communities with multiple routes in the same runway configuration			x				
Don't overfly those communities who are currently overflown by Heathrow's westerly SIDs below 4000ft, with a CPT09 SID below 4000ft			x				
Don't be constrained by existing NPR or the current definition of an NPR			x				
Enable Continuous Climb			X				
Noise should take the priority up to 6000ft			X				
Minimise fuel/CO2 above 6000ft			X				

Design Principles Proposed by Local Authorities	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Climb as fast as possible			X				

Multiple (& enough) flight paths sufficiently spaced to make a difference			X				
Equitably share the noise and frequency of overflight			X				
Where possible, fly over open spaces not residential areas			X				
Take into account other routes, do not overfly the same communities below 4000ft on easterly vs westerly operations. Do this by imposing a minimum 4000ft point or a maximum noise threshold			X				
Route alternation should be predictable			X				
Do not degrade current air quality			X				
Don't increase noise more for those already significantly affected			X				

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Response by: Officers Response: [redacted] – Runnymede Borough Council (RBC)

Design Principles Proposed by Community Groups	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Multiple routes are a must			X				
Routes should be as far apart as possible & stay apart as long as practicable & the noise impacts distributed evenly across them			X				In the RBC expectations of the Heathrow Expansion, RBC is in favour of distributing the noise impacts as far as possible including new overflying of previously unaffected communities
Those that already suffer should not suffer any more than this; use N metrics or suite of metrics to measure this		X					
The different routes should 'split' as soon as possible, but keep away from other routes and don't get them any closer & minimise numbers of people significantly affected below 1000ft		X					
Where possible, do not overfly communities who are not already within the existing CPT 09 departure swathe below 6000ft			X				
Routes should be designed so controllers don't have to routinely intervene below 6000ft			X				
Avoid overflying communities with multiple routes in the same runway configuration		X					
Don't overfly those communities who are currently overflown by Heathrow's westerly SIDs below 4000ft, with a CPT09 SID below 4000ft			X				
Don't be constrained by existing NPR or the current definition of an NPR		X					
Enable Continuous Climb			X				
Noise should take the priority up to 6000ft	X						
Minimise fuel/CO2 above 6000ft			X				

Design Principles Proposed by Local Authorities	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Climb as fast as possible		X					
Multiple (& enough) flight paths sufficiently spaced to make a difference		X					
Equitably share the noise and frequency of overflight		X					
Where possible, fly over open spaces not residential areas		X					With the provision to take account of recreational value of open spaces
Take into account other routes, do not overfly the same communities below 4000ft on easterly vs westerly operations. Do this by imposing a minimum 4000ft point or a maximum noise threshold		X					
Route alternation should be predictable		X					
Do not degrade current air quality		X					
Don't increase noise more for those already significantly affected		X					

DISCLAIMER: The information contained within this document does not constitute a formal position of Runnymede Borough Council and does not necessarily reflect a final view. It is provided to you to facilitate discussions with Heathrow Airport and feedback on your developing proposals. The incomplete and preliminary nature of the information should be recognised when reviewing this material. Runnymede Borough Council will not accept or assume any responsibility or liability for the accuracy or correctness of the information or of any figures provided, or any assumptions that may be drawn from them.

Response by: ……VIRGIN ATLANTIC AIRWAYS……

Design Principles Proposed by Community Groups	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Multiple routes are a must				X			Multiple routes add complexity to flight planning and aircraft FMS navigation databases.
Routes should be as far apart as possible & stay apart as long as practicable & the noise impacts distributed evenly across them			X				
Those that already suffer should not suffer any more than this; use N metrics or suite of metrics to measure this		X					
The different routes should 'split' as soon as possible, but keep away from other routes and don't get them any closer & minimise numbers of people significantly affected below 1000ft			X				
Where possible, do not overfly communities who are not already within the existing CPT 09 departure swathe below 6000ft			X				
Routes should be designed so controllers don't have to routinely intervene below 6000ft	X						
Avoid overflying communities with multiple routes in the same runway configuration		X					
Don't overfly those communities who are currently overflown by Heathrow's westerly SIDs below 4000ft, with a CPT09 SID below 4000ft			X				
Don't be constrained by existing NPR or the current definition of an NPR			X				
Enable Continuous Climb	X						
Noise should take the priority up to 6000ft			X				
Minimise fuel/CO2 above 6000ft	X						

Design Principles Proposed by Local Authorities	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Climb as fast as possible			X				
Multiple (& enough) flight paths sufficiently spaced to make a difference			X				
Equitably share the noise and frequency of overflight			X				
Where possible, fly over open spaces not residential areas		X					
Take into account other routes, do not overfly the same communities below 4000ft on easterly vs westerly operations. Do this by imposing a minimum 4000ft point or a maximum noise threshold			X				
Route alternation should be predictable		X					
Do not degrade current air quality		X					
Don't increase noise more for those already significantly affected		X					

Design Principles Proposed by HSPG	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Should factor in ambient/background noise (using the BS4142 methodology)		X					
Should aim to define 'Respite' for this ACP so we can assess our options against that benchmark		X					

Please add any additional Design Principles to consider	Comments
All routes should be designed to achieve the best efficiency and the lowest noise impact - as a balance. All routes must be flyable by all the projected fleet of aircraft operating at LHR	

Designs must take into account the range of aircraft weights, radius of turn and climb capabilities, for the flights that will use the proposed Compton SIDs.	
Designs should not impose undue limitations on other routes linked to LHR and adjacent airports, for example Arrival routes into LHR.	

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Response by: [redacted] Delta Airlines Technical Pilot Airspace and Design

Design Principles Proposed by Community Groups	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Multiple routes are a must	EM						
Routes should be as far apart as possible & stay apart as long as practicable & the noise impacts distributed evenly across them			EM				
Those that already suffer should not suffer any more than this; use N metrics or suite of metrics to measure this			EM				
The different routes should 'split' as soon as possible, but keep away from other routes and don't get them any closer & minimise numbers of people significantly affected below 1000ft				EM			
Where possible, do not overfly communities who are not already within the existing CPT 09 departure swathe below 6000ft			EM				
Routes should be designed so controllers don't have to routinely intervene below 6000ft	EM						
Avoid overflying communities with multiple routes in the same runway configuration			EM				
Don't overfly those communities who are currently overflown by Heathrow's westerly SIDs below 4000ft, with a CPT09 SID below 4000ft			EM				
Don't be constrained by existing NPR or the current definition of an NPR			EM				
Enable Continuous Climb	EM						
Noise should take the priority up to 6000ft				EM			Efficient climb has the lowest MACRO noise impact.
Minimise fuel/CO2 above 6000ft	EM						

Design Principles Proposed by Local Authorities	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Climb as fast as possible	EM						Quietest MACRO profile
Multiple (& enough) flight paths sufficiently spaced to make a difference		EM					
Equitably share the noise and frequency of overflight			EM				Let the community decide this, then design.
Where possible, fly over open spaces not residential areas			EM				Look for environmental dangers…Water has birds! The environment is sensitive to noise as well as humans are.
Take into account other routes, do not overfly the same communities below 4000ft on easterly vs westerly operations. Do this by imposing a minimum 4000ft point or a maximum noise threshold				EM			Best routes should be considered.
Route alternation should be predictable	EM						
Do not degrade current air quality		EM					
Don't increase noise more for those already significantly affected			EM				

Design Principles Proposed by HSPG	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Should factor in ambient/background noise (using the BS4142 methodology)	EM						
Should aim to define 'Respite' for this ACP so we can assess our options against that benchmark			EM				

UNITED AIRLINES

Hello [redacted]

Thanks for the reminder.

Apart from the standard safety consideration of de-confliction with other aircraft, I imagine our interest is that the new east runway departure procedures employ automation and efficiently establish aircraft on a westerly or north-westerly track with a continuous climb.

[redacted]

[redacted]

Regional Manager Int'l ATC Operations

N.Atlantic, UK, Europe, mid-East and Africa

United Airlines.

ANNEX 2

HEATHROW'S COMPTON 09L/R AIRSPACE CHANGE PROPOSAL

Design Principle Matrix

Response by: TAG

Design Principles Proposed by Community Groups	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Multiple routes are a must	x						As present noise footprint is dispersed
Routes should be as far apart as possible & stay apart as long as practicable & the noise impacts distributed evenly across them	x						This is several statements; routes should be designed to reproduce existing spread of noise
Those that already suffer should not suffer any more than this; use N metrics or suite of metrics to measure this	x						Again, several statements - generally yes – unless proven mitigation options are available
The different routes should 'split' as soon as possible, but keep away from other routes and don't get them any closer & minimise numbers of people significantly affected below 1000ft	x						Again, several statements - generally yes – unless proven mitigation options are available. Planes should rise to 1000ft by the airport boundary or close to this point so very few people are affected
Where possible, do not overfly communities who are not already within the existing CPT 09 departure swathe below 6000ft	x						
Routes should be designed so controllers don't have to routinely intervene below 6000ft							Not seemingly a community concern?
Avoid overflying communities with multiple routes in the same runway configuration	x						

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Don't overfly those communities who are currently overflown by Heathrow's westerly SIDs below 4000ft, with a CPT09 SID below 4000ft	x						
Don't be constrained by existing NPR or the current definition of an NPR	x						
Enable Continuous Climb	x						
Noise should take the priority up to 6000ft	x						
Minimise fuel/CO2 above 6000ft	x						

Design Principles Proposed by Local Authorities	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Climb as fast as possible	x						
Multiple (& enough) flight paths sufficiently spaced to make a difference	x						
Equitably share the noise and frequency of overflight	x						
Where possible, fly over open spaces not residential areas			x				Unfair if people next to parks/open spaces then get the noise
Take into account other routes, do not overfly the same communities below 4000ft on easterly vs westerly operations. Do this by imposing a minimum 4000ft point or a maximum noise threshold	x						
Route alternation should be predictable			x				Depends on what route options exist?
Do not degrade current air quality			x				Noise should be the priority (as according to Heathrow ground transport creates the most pollution)
Don't increase noise more for those already significantly affected			x				What does' significantly affected' mean? Agree if statement is 'Don't

ANNEX 2

							increase noise for those affected unless proven mitigation is possible’

Please add any additional Design Principles to consider	Comments
Planes must use full take-off thrust to 1500ft to get as high as possible as quick as possible (i.e. NADP1)	
Planes must use reduced climb thrust (over populations) and keep flaps out to at least 3000ft (i.e. NADP1)	
Planes must use reduced climb thrust (over populations) and keep flaps out to at 4500ft or higher (i.e. NADP1 extended)	
SID should design routes for different plane types – For Narrow bodied planes - set minimum heights of 1500ft at boundary fence (~4km from SoR)	Each type of plane would only require 1 route so no issue with memory for on board computers
SID should design routes for different plane types – For 2 engined wide bodied planes - set minimum heights of 1500ft just beyond boundary fence (~4.5km from SoR)	
SID should design routes for different plane types – For 4 engined planes - set minimum heights of 1500ft at beyond boundary fence (~5km from SoR) but in principle close as possible to boundary fence	

Key considerations for Compton redesign based on latest evidence

Teddington Action Group (TAG)

[redacted] & [redacted]

Context - Existing and New 'Quieter' Planes are fundamentally noisy and disturb people on the ground

Table 3: Departure Lmax levels by aircraft grouping

Height (ft)	Turbo-prop	50 seat regional jet	70-90 seat regional jet	125-180 seat single-aisle 2-eng jet	250 seat twin-aisle 2-eng jet	300-350 seat twin-aisle jet	400 seat 4-eng jet	500 seat 4-eng jet
1000-2000	78-71	78-70	85-75	85-75	92-83	90-81	92-84	91-84
2000-3000	71-67	70-65	75-68	75-70	83-77	81-75	84-79	84-80
3000-4000	67-64	65-60	68-64	70-66	77-73	75-71	79-75	80-76
4000-5000	64-62	60-57	64-61	66-63	73-69	71-67	75-72	76-73
5000-6000	62-60	57-55	61-58	63-60	69-66	67-64	72-69	73-71
6000-7000	60-58		58-56	60-59	66-64	64-62	69-67	71-68
7000-8000	58-56		56-56	59-58	64-61	62-60	67-64	68-66
8000-9000	56-56		56-55	58-57	61-59	60-58	64-62	66-65
9000-10000	56-55			57-56	59-58	58-57	62-60	65-63
10000-11000				56-56	58-57	57-56	60-60	63-62
11000-12000				56-56	57-56	56-55	60-59	62-60
12000-13000				56-55	56-56		59-58	60-59
13000-14000					56-55		58-58	59-58
14000-15000							58-57	58-55
15000-16000							57-57	
16000-17000							57-57	

From NATS Website / CAA Ancon Model

Less than 65dB e.g. day-time measure

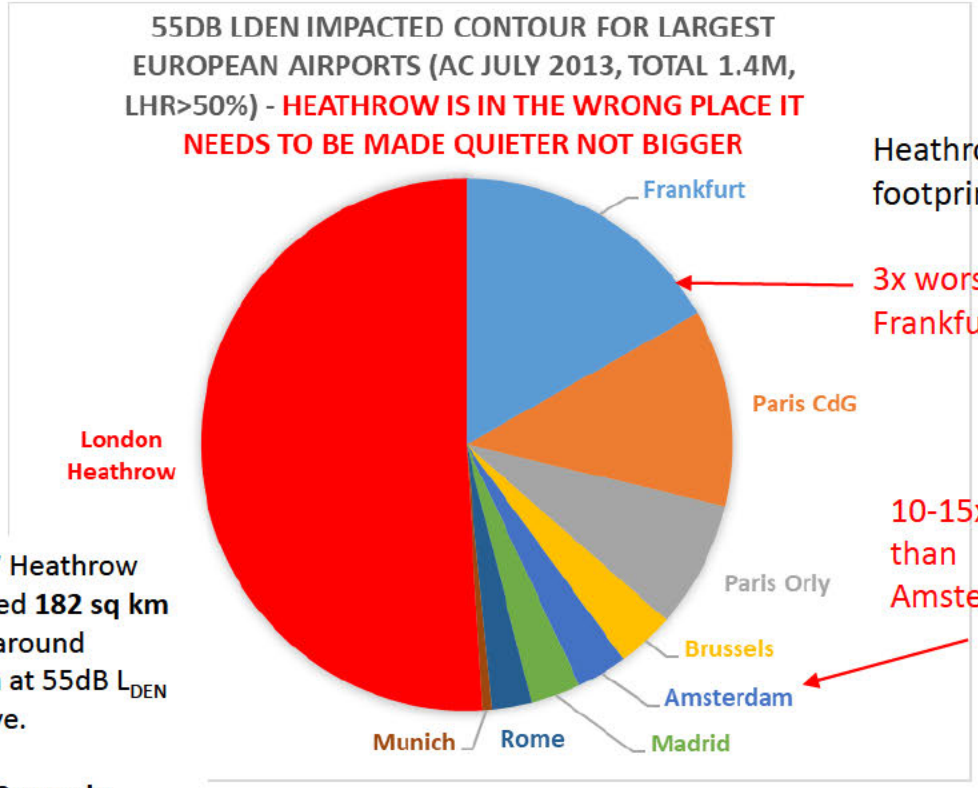
- Narrow bodied twin A320 type to 4,500ft
- Wide Bodies Twin 777 type to 6,000ft
- Quad Engine A380 to 7,500ft

Less than 60dB e.g. night-time measure

- Narrow bodied twin A320 type to 6,000ft
- Wide Bodies Twin 777 type to 8,000ft
- Quad Engine A380 to 10,000ft

Conclusion - need to get planes above these heights to reduce annoyance

Context - Heathrow vs European Airports



Heathrow noise footprint is;

3x worse than Frankfurt

10-15x worse than Amsterdam

In 2017 Heathrow Impacted **182 sq km** in and around London at 55dB L_{DEN} or above.

699,600 people are being impacted at this level

CEO of Heathrow Airports Limited - John Holland-Kaye, answers to TSC questions (5th February 2018)

Q447 [redacted] *I absolutely agree that we should be doing everything we can to minimise noise on the ground.*

Q448 [redacted] *We absolutely need to do everything we can to minimise the impact of noise on the ground, both with expansion and in our normal operation.*

http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/transport-committee/airports-national-policy-statement/oral/77959.html

As Heathrow, Frankfurt and Amsterdam all have similar amounts of air traffic movements

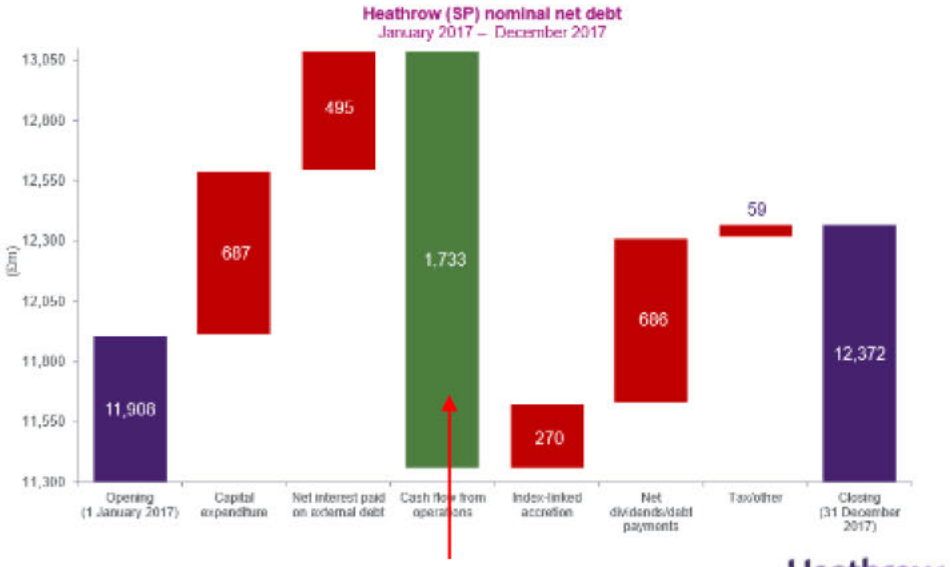
This shows Heathrow's noise performance is the worst in Europe at **every level as it impacts so many people**

[redacted] **agrees Heathrow must do everything to minimise noise on the ground in our normal operation**

Economic Arguments

- Economic arguments are often used by Heathrow and Airlines not to implement noise improvement measures but these need to be set in context;

Operating cash flow significantly exceeds capital expenditure and interest payments



Heathrow generates £1.7bpa cash flow
Paid to shareholders or bond holders

BBC News 22nd July 2019

Rising profits

British Airways is part of International Airlines Group (IAG), which also owns Spanish carrier Iberia. Last year, it reported a pre-tax profit of €3bn, up almost 9.8% on the previous year.
British Airways contributed £1.96bn to that, up 8.7% on 2017.
It also rewarded investors with a total dividend pay-out of €1.3bn.

Meanwhile – Health impacts from noise fall on the cash strapped NHS and communities who have no choices or financial compensation. The DfT WebTAG tool puts the negative cost of noise to the NHS & Communities at ~£400mpa

The reason for change

- From workshop documents

'As a result of the poor tracking keeping compliance on the Compton departures, for example, around 44% compared with 97% on all of Heathrow's other departure routes - the DfT has instructed Heathrow to take measures to improve the track keeping, and the CAA has requested that Heathrow address the issue of a long-term trial'*

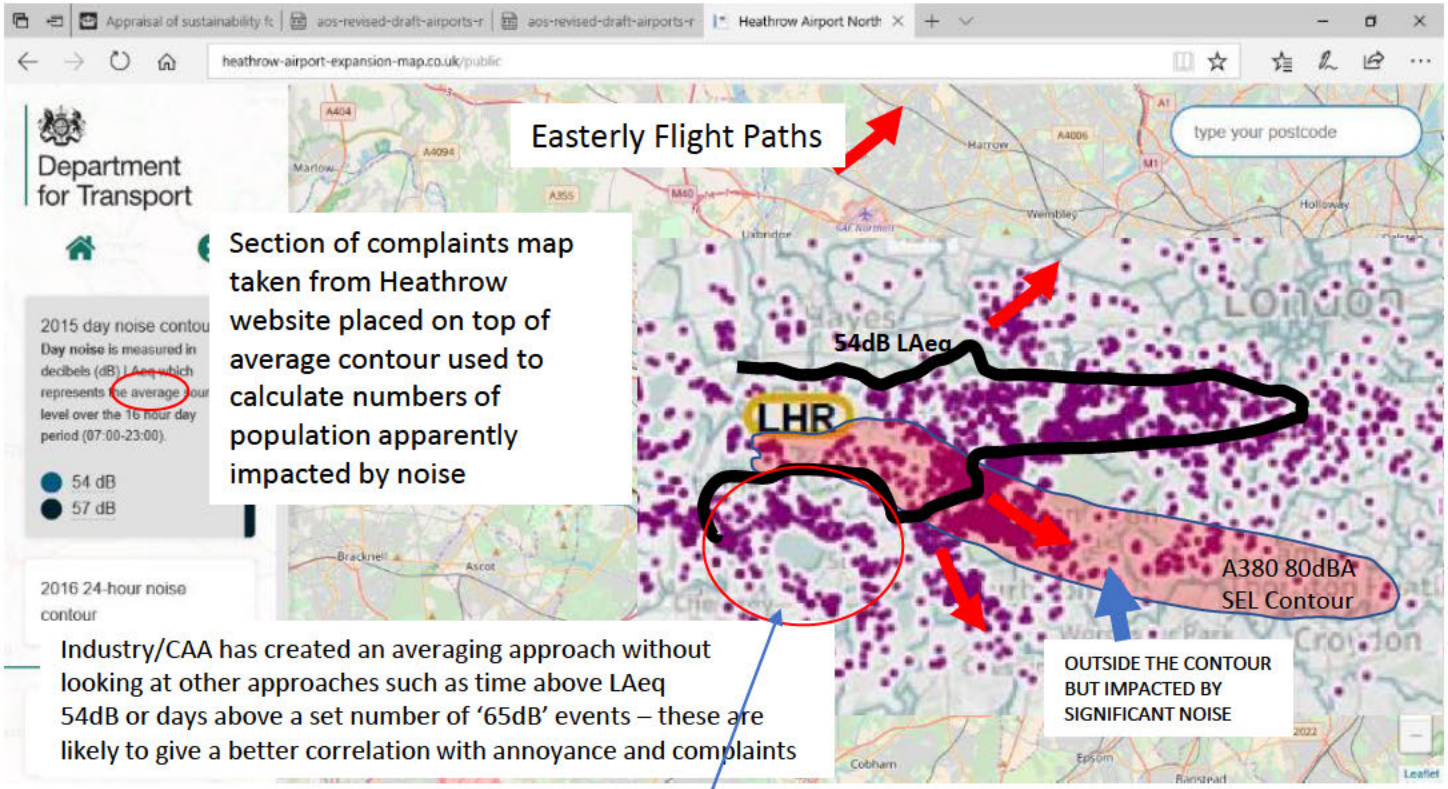
To inform Decisions more analysis should be shared e.g.;

- Have complaints been analysed by Heathrow or the DfT specifically for the Compton route?
- What are the level of complaints – how many are about track keeping or just loudness, time etc?
- Are they outside the NPR impact zone - note airplanes have a 2.5-3.5km 'sideways' impact zone during departure
- Where are noise contours (LAeq/N65) for Compton?

Slide 54 from previous TAG presentation

Average noise contours hide impacts as shown by complaints

The industry is required to publish noise annoyance contours (black line below) and complaint maps (purple dots). Communities have had to combine these to show that many complaints are outside the 54dB L_{Aeq} annoyance contour suggesting the metrics which average noise over time are not suitable to characterise real annoyance from plane noise.



Compton Route Impacts ?
Looks to be outside 54dB LAeq

Compton Proposal

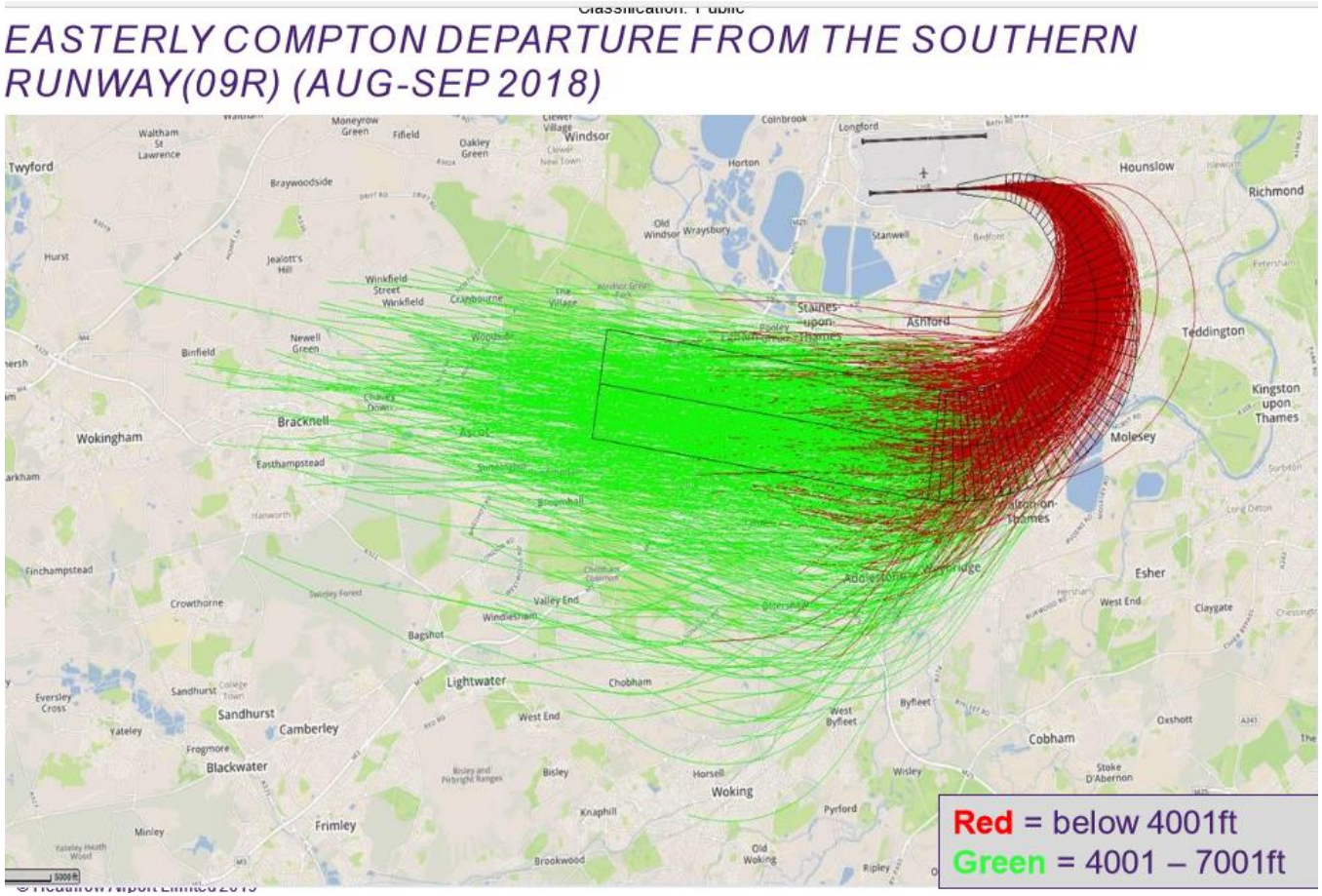
- Heathrow want to introduce PBN
- Concentrating flights has met with universal problems (1) – this must be avoided at all costs

From Workshop documents 'The general direction of the new easterly Compton departure route will be broadly similar to today but if approved, this change will result in the concentration of these Compton departures below 7,000ft because this route will be using Performance Based Navigation(PBN)technology.'

- All evidence now points to making airspace changes increases annoyance by 6-9dB in LAeq terms or to have the same annoyance levels flights must be reduced by 400%-800% (2)
- According to Heathrow's CEO it wants to avoid increased annoyance and therefore to maintain similar numbers of flights it must aim to reproduce the existing noise footprint

(1) See Appendix Section 1
(2) See Appendix Section 2

One way to look at today's Compton Route is that it shows excellent dispersion



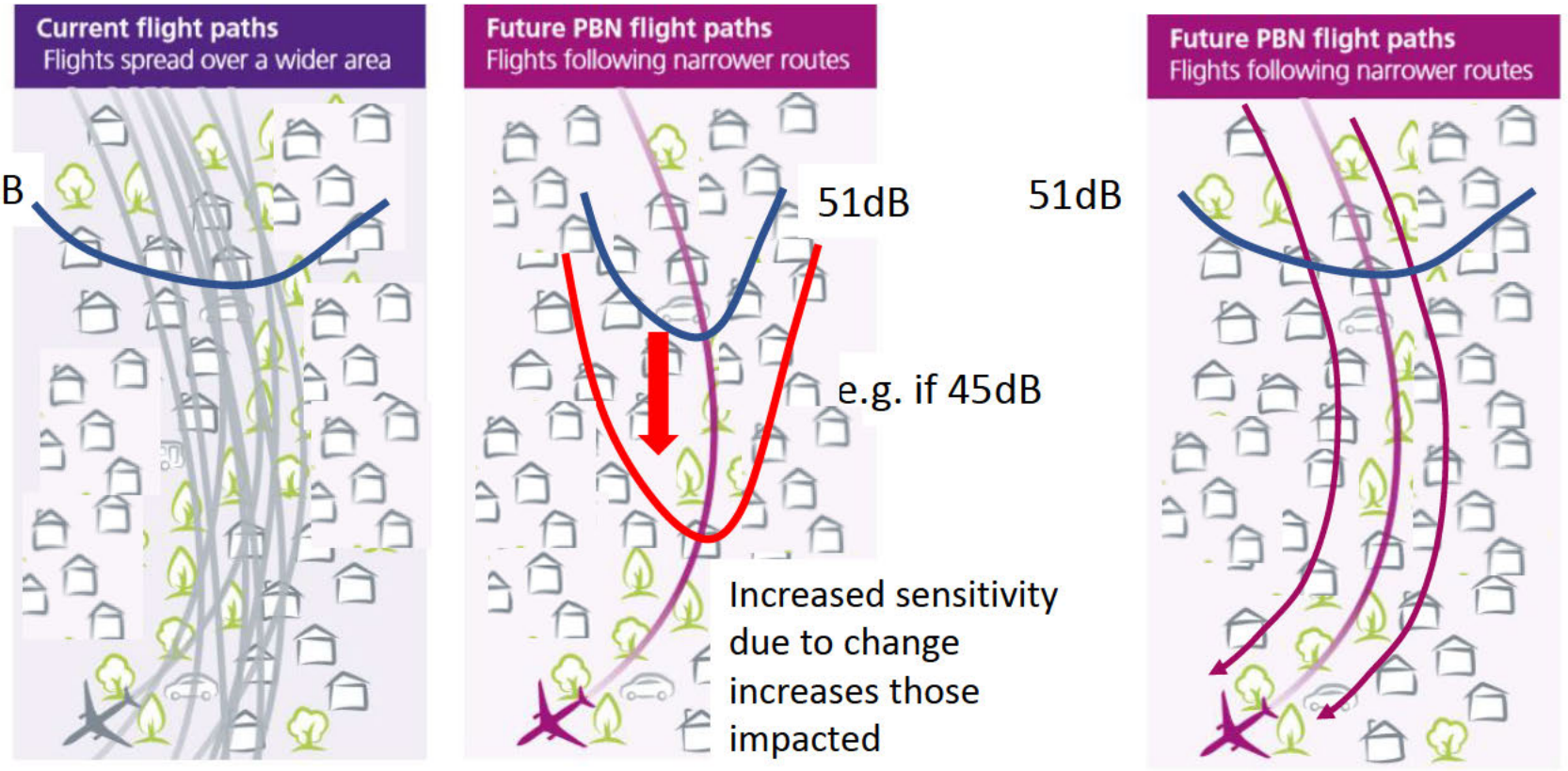
To support decision making – the present noise footprint needs to be known
This should be modelled but consider an indicative approach on next slide

Why PBN does not work over high population densities

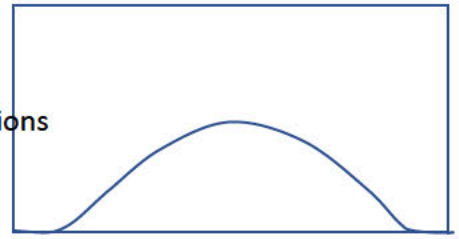
e.g. Compton Today

e.g. Unacceptable Compton single PBN

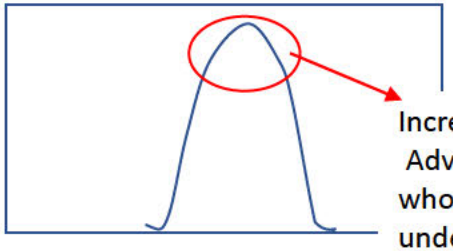
e.g. Possible route forward?



Noise Distributions



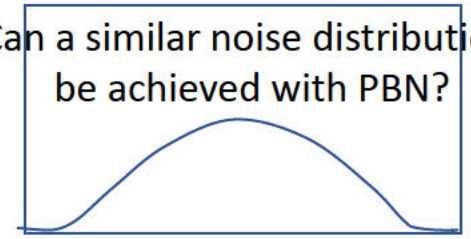
Today



Possible future – major change

Increased Significant Adverse Impacts - who will want to live under a PBN route?

Can a similar noise distribution be achieved with PBN?



Similar to Today?

THIS CANNOT BE MITIGATED OVER POPULATIONS

Figure is indicative

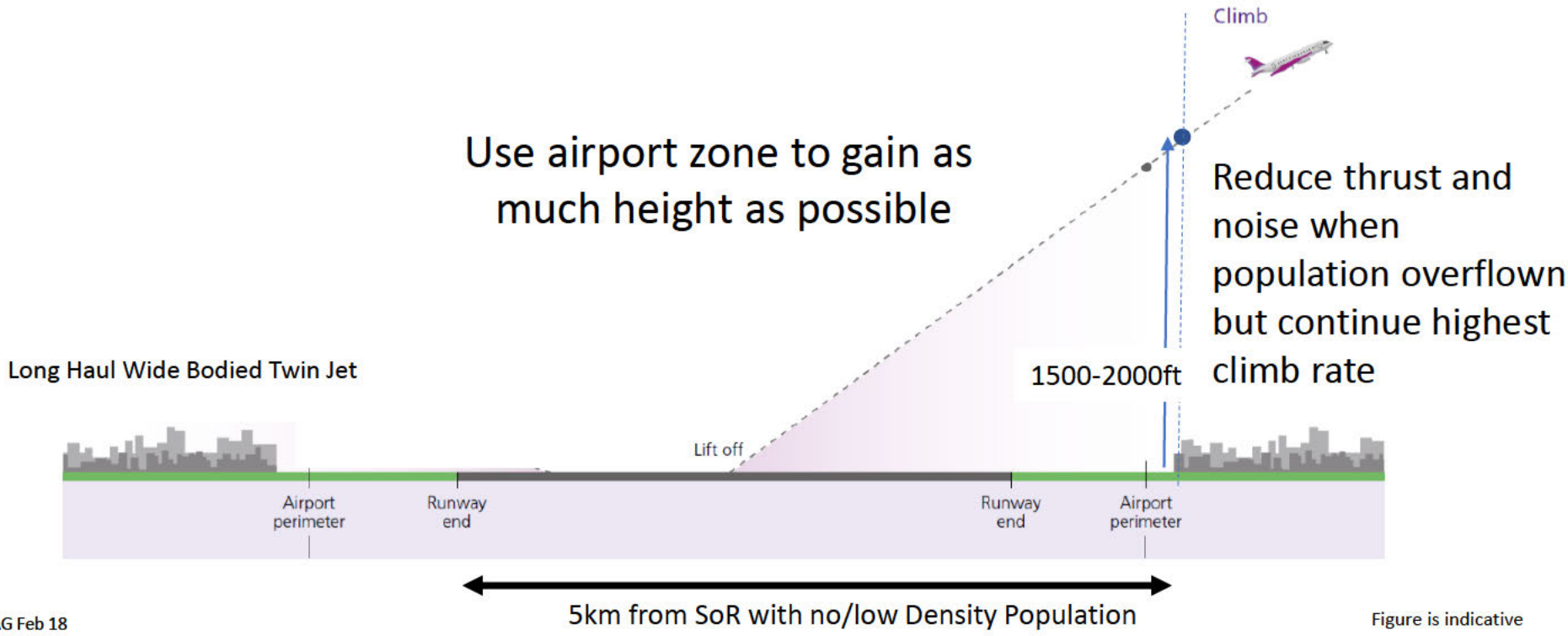
How can Heathrow avoid annoying more people and reduce existing annoyance?

- As a single PBN will not work, what are the alternatives?
- Reproducing a similar noise footprint is key
- Obvious option is to use 2-4 SID routes within existing footprint, the question then is how to use these?
  - equally dispersed (how to manage, each plane will need all routes in onboard computer)
  - used at different time periods (can be defined in SID but issues as above)
  - one for each plane type (would need to reproduce existing footprint, advantage only 1 route per plane)
  -…..
- No extension of the existing noise footprint should be considered – a simple rule would be that 'No community presently overflown should ever see any increase in any noise metric* from today's position unless impacts can be mitigated (with proven measures)'
  - **This would mean communities can trust adverse changes will not take place.**
- If aircraft are not causing major annoyance by being outside of the present NPR (from analysis of complaints) then consider widening NPR but with controls on numbers of aircraft down each new route to maintain dispersion and similar footprint
- 'Question to consider is whether these routes should be in the existing NPR or need to be spreads wider and NPR extended to recreate todays footprint
- To reduce annoyance modernisation of height profiles should be introduced to get as high as possible so that loudness is reduced as soon as possible (see next slides)
- All new flight path design should have increased heights (see next slides)

* Noise metrics defined using DfT/Govt recommended metrics & WHO levels; sound energy levels (L_{Aeq} & L_{den}, L_{Aeq} night), and importantly noise events (N70, N65 & N60, event levels tbc) using average and single mode metrics

Summary – 'Common Sense' approach can reduce noise around Heathrow

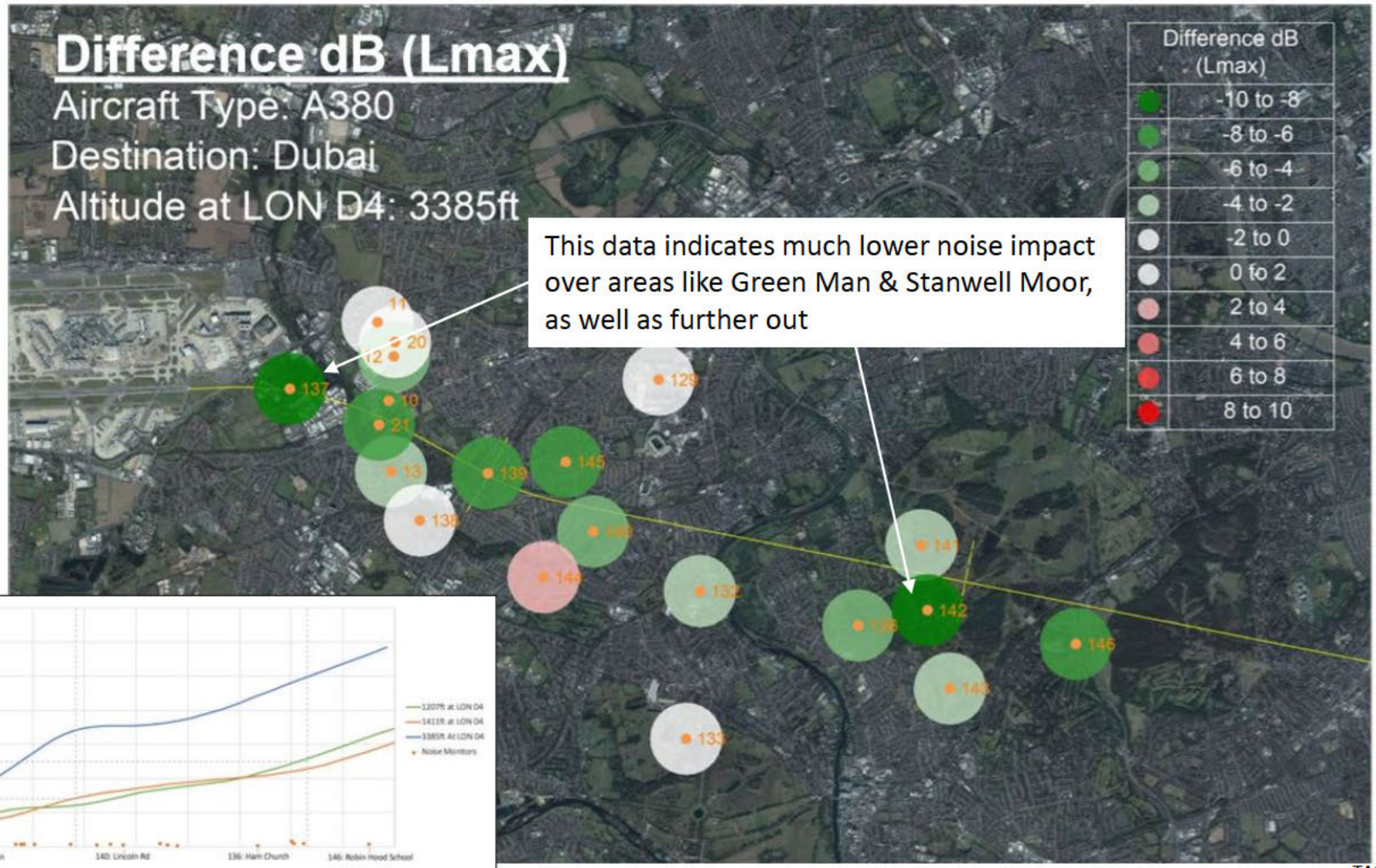
(this approach uses ICAO approved NADP1)



TAG Feb 18

Figure is indicative

Real data shows flying higher reduces noise levels – this is equivalent to a 20yr ‘new generation’ of aircraft



TAG Feb 1

Modelling shows positive noise impacts to those worst affected and with no other mitigation options

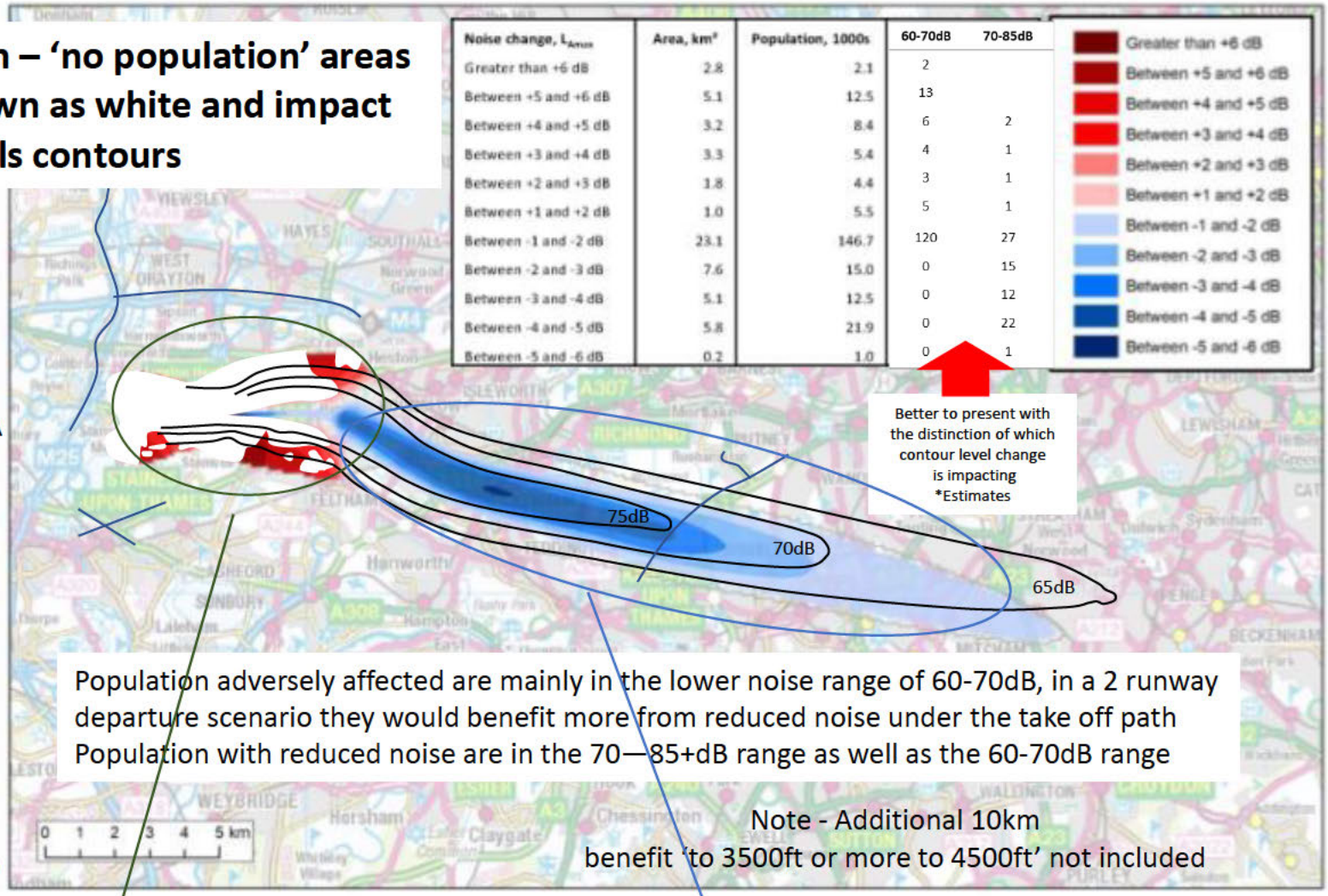
With – 'no population' areas shown as white and impact levels contours

Noise change, $L_{Aeq,16h}$	Area, km²	Population, 1000s	60-70dB	70-85dB
Greater than +6 dB	2.8	2.1	2	
Between +5 and +6 dB	5.1	12.5	13	
Between +4 and +5 dB	3.2	8.4	6	2
Between +3 and +4 dB	3.3	5.4	4	1
Between +2 and +3 dB	1.8	4.4	3	1
Between +1 and +2 dB	1.0	5.5	5	1
Between -1 and -2 dB	23.1	146.7	120	27
Between -2 and -3 dB	7.6	15.0	0	15
Between -3 and -4 dB	5.1	12.5	0	12
Between -4 and -5 dB	5.8	21.9	0	22
Between -5 and -6 dB	0.2	1.0	0	1

Greater than +6 dB
Between +5 and +6 dB
Between +4 and +5 dB
Between +3 and +4 dB
Between +2 and +3 dB
Between +1 and +2 dB
Between -1 and -2 dB
Between -2 and -3 dB
Between -3 and -4 dB
Between -4 and -5 dB
Between -5 and -6 dB

Better to present with the distinction of which contour level change is impacting
*Estimates

A380 Analysis From CAA



Population adversely affected are mainly in the lower noise range of 60-70dB, in a 2 runway departure scenario they would benefit more from reduced noise under the take off path
Population with reduced noise are in the 70—85+dB range as well as the 60-70dB range

Note - Additional 10km benefit 'to 3500ft or more to 4500ft' not included

TAG June 19

If fully insulated – any change in loudness is attenuated (red becomes light red) or houses can be purchased if desired by owners

Those in Heathrow's hinterland, and worst affected by noise under the direct flightpath with no other mitigation options benefit from reduced noise

Some planes are safety flying to 4500ft with flaps out

A380 noise differences for NADP 1 and NADP 2 procedures

- Since one A380 operator uses both NADP 1 and NADP 2 departures from Heathrow to a single destination, and therefore at similar take-off weights, their noise measurements serve as a useful dataset for comparing one NADP procedure against the other.

Many Planes get to 3500ft using NADP1
Some to 4500ft

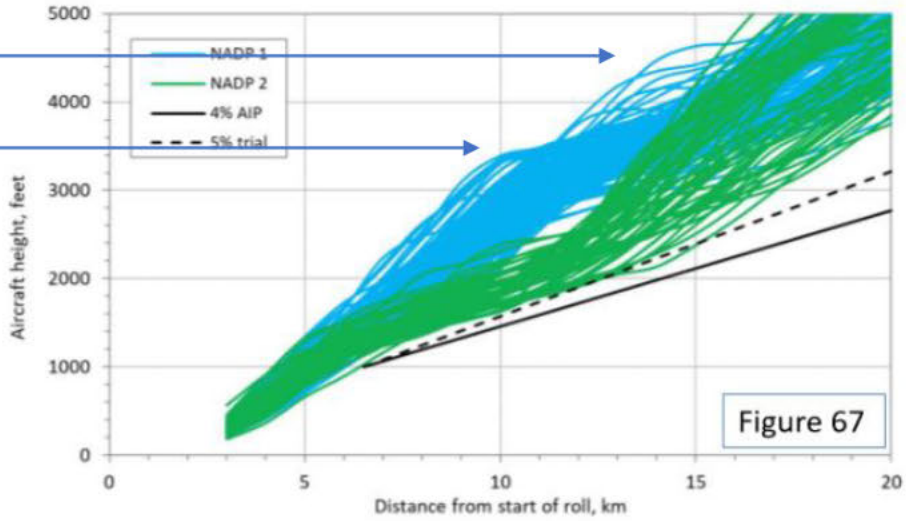
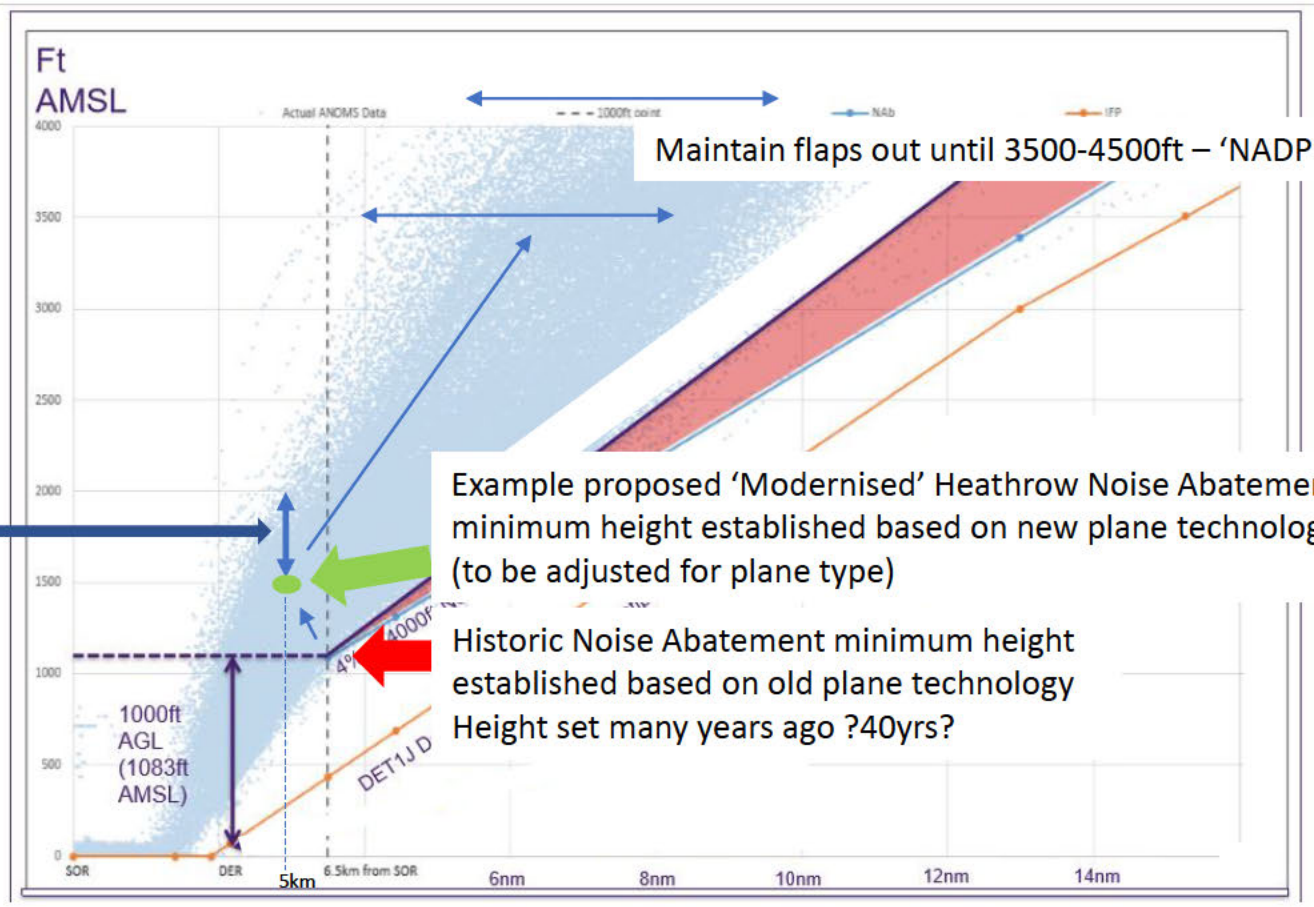


Figure 67

Modernising Heathrow's Airspace – Local Noise Abatement should increase Minimum heights and optimise by plane type



Many planes in 1500-2000ft by 5km already

Blue dots are existing flights – data from May 2017 HCNF

TAG Feb 19

Balanced Approach

- Flying higher will benefit communities who cannot be offered mitigation by Heathrow but are significantly affected by aviation noise – in line with Heathrow CEO's comments we must do everything to reduce noise
- There is a small cost in engine wear (figures have been requested but not provided by airlines – potentially £50/flight), this pales into insignificance compared to landing fees (~£1000) which could be reduced to encourage better noise performance
- Using higher thrust on take off will produce more emissions but these will be closer to the airport and reduce over local populations as planes are higher, according to Heathrow figures no legal limits will be broken at the airport boundary

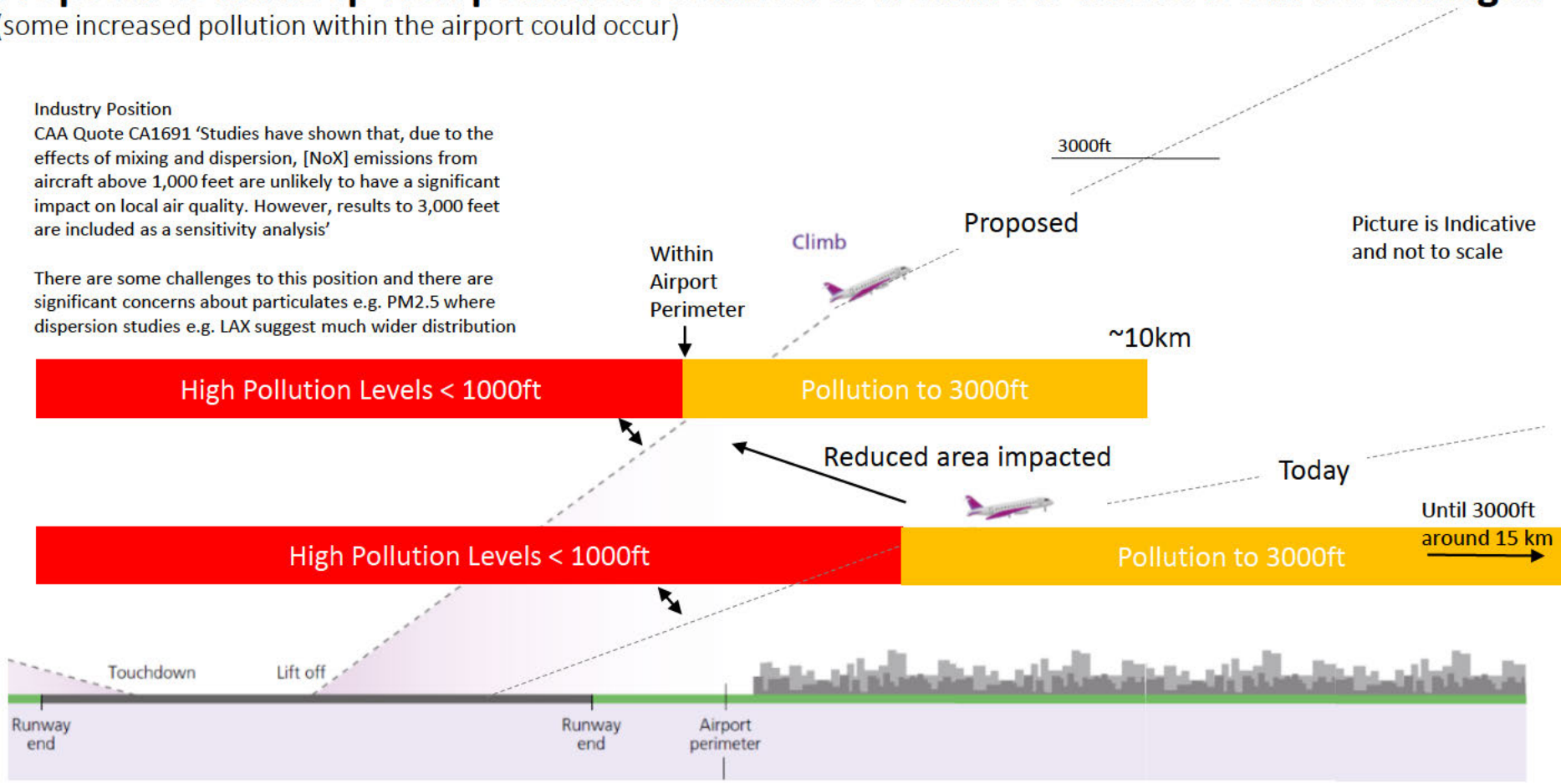
Proposal could keep NoX pollution localised to Heathrow where it can be managed

(some increased pollution within the airport could occur)

Industry Position

CAA Quote CA1691 'Studies have shown that, due to the effects of mixing and dispersion, [NoX] emissions from aircraft above 1,000 feet are unlikely to have a significant impact on local air quality. However, results to 3,000 feet are included as a sensitivity analysis'

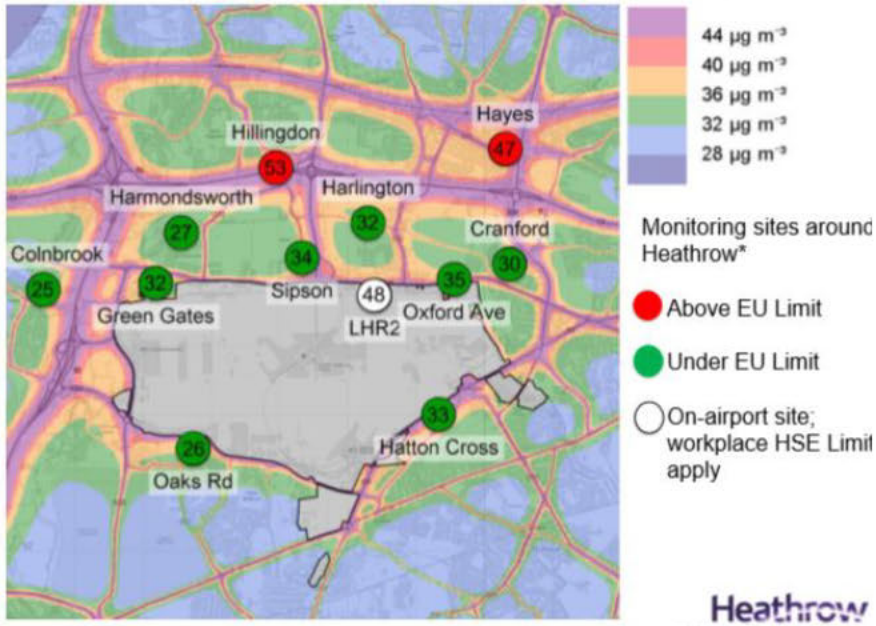
There are some challenges to this position and there are significant concerns about particulates e.g. PM2.5 where dispersion studies e.g. LAX suggest much wider distribution



TAG Feb 18

Heathrow Presentation on Air Quality (HCNF Aug 2018)

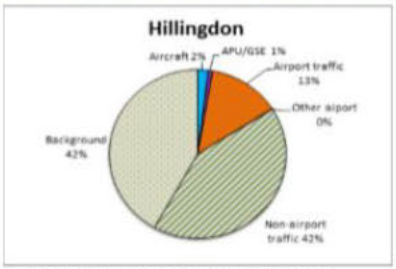
Modelled NO_2 concentrations & 2017 annual means*



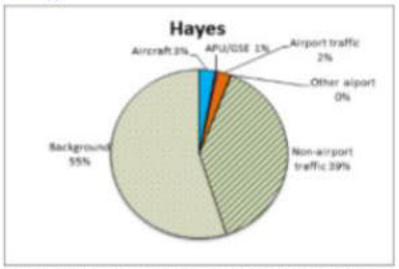
*Sites are operated by Heathrow/Local Authorities/Environment Agency and are part of the national monitoring network with the exception of LHR2

Heathrow
Making every journey better

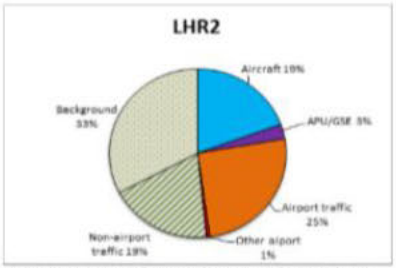
2013 Source Apportionment for NO_x



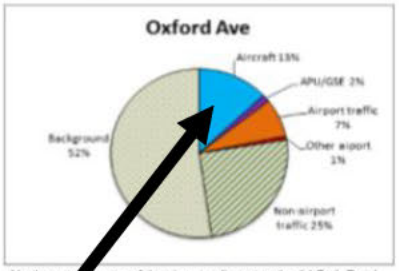
North of the M4, between Heathrow spur & M25 junction



North of the M4 adjacent to the A312 industrial and retail centre



On-airport monitoring site located between the northern runway and northern perimeter road; installed 1993



North east perimeter of the airport; adjacent to the A4 Bath Road

Heathrow
Making every journey better

According to LHR all local sensors show compliance with legal limits, at Oxford Rd, Aircraft Contribute 13% of 35ugm^{-3}, so 4.6ugm^{-3}

A 50% increase would only add 2.3ugm^{-3} so stay within legal limits

TAG Sept 18

Conclusions for Compton Redesign

- A single PBN route is proven to be unacceptable
- Footprint should not be extended beyond present footprint
- Multiple PBN routes within existing footprint offer a possible solution
- New SID should require planes to get higher as fast as possible
- Heights should be optimised and defined by plane type in the new SIDs

Appendices

Section 1

- 2014 abandoned PBN trials the most appropriate ‘local evidence’ that exists
  - change brings about sensitivity by ~6dB
  - noise changes over Easterly trial can only be detected by noise events (not L_{Aeq} changes)

Section 2

- Recent Research Evidence

Section 3

- Examples of failures of PBN

Section 4

- Real Heathrow evidence showing flying higher reduces noise levels

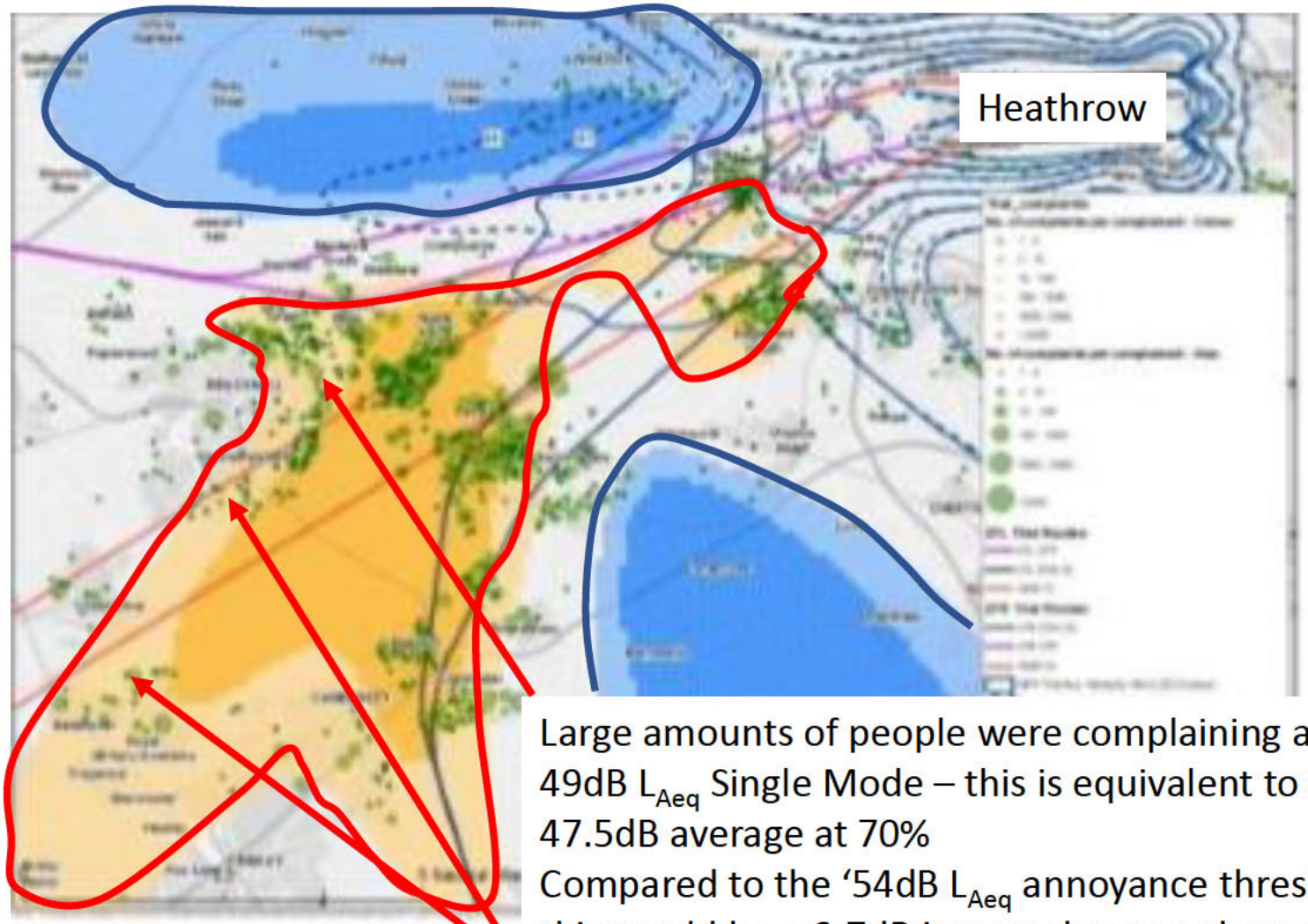
Key evidence not considered by SoNA

Anderson's report contains crucial evidence for identifying realistic noise level thresholds, what metrics to use and the impact of the introduction of PBN over highly populated areas

Report available on Heathrow Website. Graphics on the following slides come from this report.

West side impact shown by complaints

(Blue areas less noise; Orange/Red area more noise)



- Green spots are complaints

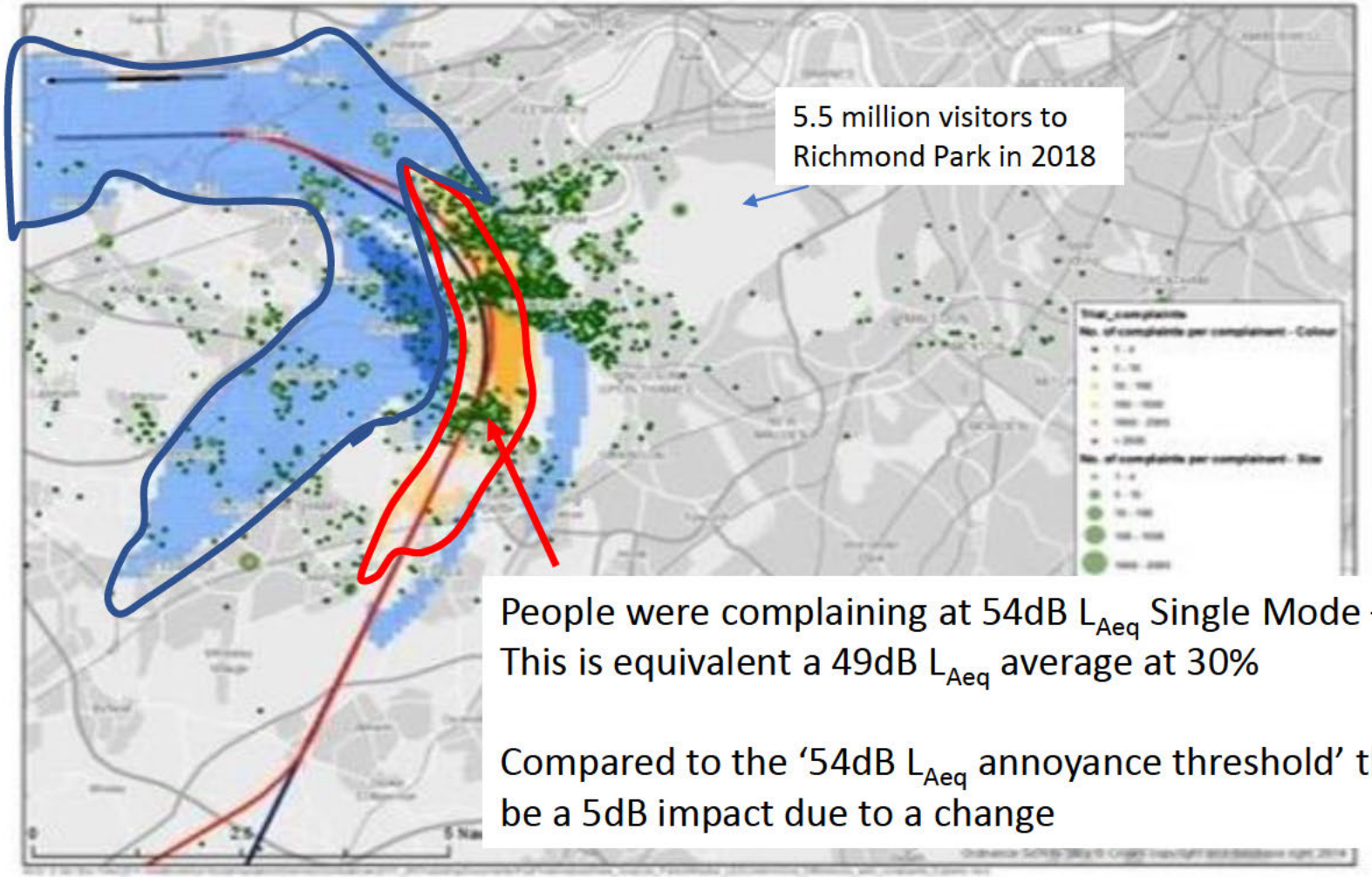
Large amounts of people were complaining at 49dB L_{Aeq} Single Mode – this is equivalent to a 47.5dB average at 70%

Compared to the '54dB L_{Aeq} annoyance threshold' this would be a 6-7dB impact due to a change

People were complaining well below this level

East side impact shown by complaints

No change identified in L_{Aeq} levels but N>65dB L_{Amax} reveals the true picture
(Blue areas less noise, Orange/Red areas more noise)



- Green spots are complaints

East side – evidence average L_{Aeq} metrics do not work

The assessment of 'adverse effects' is fundamentally flawed over the most impacted population by Heathrow

Anderson Acoustics

6.2.2 **There were no people exposed to a substantial increase in average noise level from flights using the easterly trial routes.**

Table 6.5 below presents the change in population exposed to noise levels from aircraft on the trial specific routes during easterly operations. During use of the easterly trial routes, 0% of people experienced a substantial increase in noise level.

Table 6.5: Population exposed to change in noise levels for flights using trial routes

Noise level change	Change description	Easterly trial routes (MID, SAM)		
		> 48 dB	> 54 dB	> 57 dB
-5-10dB		0%	0%	0%
-3-5dB		10%	7%	1%
-3 to +3 dB		90%	93%	99%
+3-5dB		0%	0%	0%
+5-10dB		0%	0%	0%

Note: there were no areas where noise levels were greater than 48 dB $L_{Aeq,16h}$ in the baseline or the trial periods where the change was greater than +/- 10dB

L_{Aeq} contours showed no increase in population negatively impacted – Health impacts due to Noise used in Environmental assessment and webTAG would show no negative changes

Notes – Reduce single mode L_{Aeq} by 5dB to get average at 30% days overflown
Change descriptions need correction – blanked out

Figure 8.1: Complaints and complainants about departures by day during the trial period.

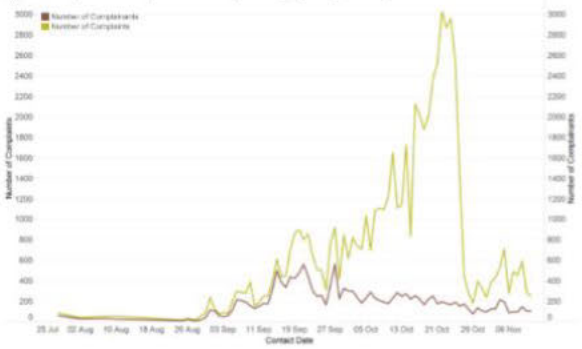
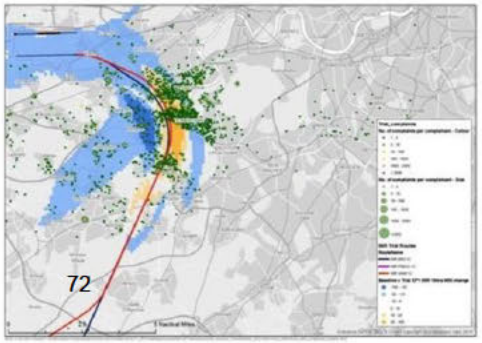


Table 8.1: complaints and complainants about departure

Complaints		Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Total
Overall [1]	No. of complaints	63	507	12,987	42,927	4,652	61,136
	No. of complainants	43	201	4,587	1,928	540	5,887
Westerly [3]	No. of complaints		382	4,236	34,986	3,515	43,119
	No. of complainants		145	1,344	1,416	384	2,410
Easterly [4]	No. of complaints	63	21	5,721	789	219	6,813
	No. of complainants	43	13	2,911	204	89	3,095
Both	No. of complaints		104	3,030	7,152	918	11,204
	No. of complainants		55	1,294	909	267	2,026

Table notes:
[1] The total number of complainants in each month is the number of unique people that have complained. This does not sum across to the total column - the total is the number of unique people complaining across the whole trial.
[2] The easterly operations trial began on the 28 July 2014 and ended on the 12 November 2014.
[3] The westerly operations trials began on the 25 August and ended on the 12 November 2014.
[4] Complaints are reported in the table for the period 28 July to 12 November 2014.

Yet complaints rocketed!



The metric that AA found that showed correlation with complaints was single mode N65 event changes

This is what Heathrow said about the introduction of PBN in 2016 – nothing has changed

https://www.easa.europa.eu/sites/default/files/dfu/CRD%202015-01_0.pdf

comment	*103* comment by: *Heathrow Airport Limited* Whilst Heathrow Airport Limited fully supports airspace modernisation, this document does not support current UK CAA guidance and is not in line with current UK airspace projects such as LAMP. The time scale suggested here is unrealistic and could jeopodise these projects. In addition, as subsequent comments highlight, we have the following concerns: • The Social Impact of PBN trials in the UK has been enormous, therefore this should be considered and not dismissed in one sentance. • There does not appear to be an environmental assessment of this proposed change in terms of noise. • The Benefit section takes no account of the cost of airspace consultation which results in an incomplete assessment. • Mixed conventional and PBN operations are not supported by the UK CAA. Consequently, this NPA is not supported by Heathrow Airport Limited.
response	*Noted.*

How does Annoyance change with high and low rate of change?

This graph compares studies based on low and high change scenarios

The red line shows high rate of change surveys, the black low rate scenarios

SoNA (which lies very close to the 20yr old green line) is way out of step with all current research – a major difference is that it is a or low rate of change survey

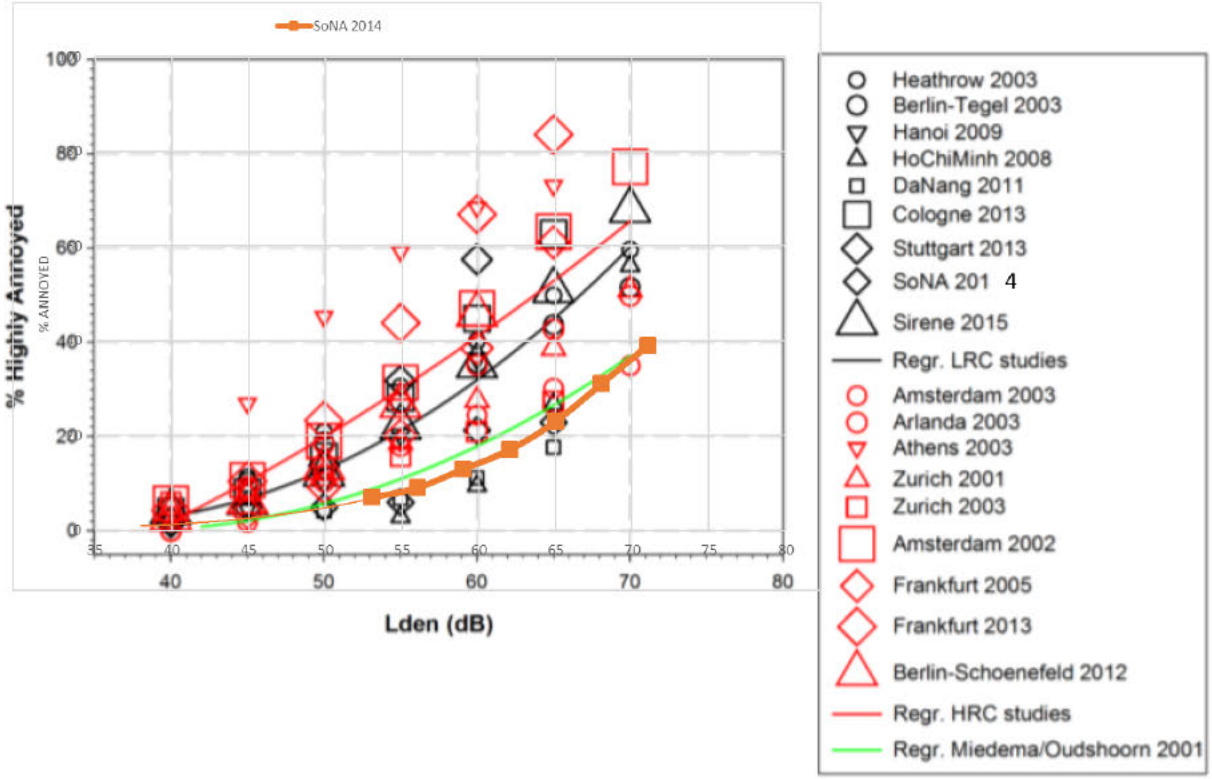


Figure 2. Exposure-response data form %HA and Lden from 9 HRC studies. The black curve represents the quadratic fit for LCR studies, the red curve represents the quadratic fit for HRC studies. For comparison, the general EU-standard curve [2] is shown (green).

Diagram from Aircraft noise annoyance - Present exposure response relations [redacted] Euronoise 2018

A key factor is that change increases noise sensitivity not assessed by SoNA – leading oise experts are arguing about the level (not the effect)

Quote from International Journal of Environmental Research and Public Health 'A Systematic Review of the Basis for WHO's New Recommendation for Limiting Aircraft Noise Annoyance' December 2018 Truls Gjestland SINTEF DIGITAL, N-7465 Trondheim, Norway; [redacted] Tel.: [redacted]

'Gelderblom et al. [20] have applied this "high-rate/low-rate" classification to 62 aircraft noise annoyance studies conducted over the past half century. They show that there is a difference in the annoyance response between the two types amounting to about 9 dB. To express a certain degree of annoyance people at a high-rate change (HRC) airport on average "tolerate" 9 dB less noise than people at a low-rate change (LRC) airport. Guski et al. [2] report a similar but somewhat smaller, 6 dB, difference. Any attempt to develop an average dose–response curve from at set of studies will therefore be highly dependent on the types of airports that are included.'

Ref 2 Guski, R.; Schreckenberg, D.; Schuemer, R. 'WHO Environmental Noise Guidelines for the European Region. A systematic review on environmental noise and annoyance' Int. J. Environ. Res. Public Health 2017, 14(12), 1539

Ref 20 Gelderblom, Femke B.; Gjestland, Truls; Fidell, Sanford; Berry, Bernard 'On the Stability of Community Tolerance for Aircraft Noise' Acta Acustica united with Acustica, Volume 103, Number 1, January/February 2017, pp. 17-27(11)

A 6dB difference is equivalent to 4x more flights of the same loudness, a 9dB difference 8x more

Experts Now Agree that Airspace Change increases Noise Annoyance

- Europe's top noise experts – debating whether it is a 6 or 9dB difference
- Public Health England (PHE) in its submission to the Heathrow Expansion DCO scoping documents notes;

"There is a growing evidence base on a "change effect" with respect to annoyance reactions to aviation noise. In order to more accurately predict impacts on health and quality of life, PHE suggests that the population affected by aviation noise is split into four categories:

x Number of people experiencing noticeable aviation noise/overflights for the first time;

x Number of people experiencing a noticeable increase in aviation noise/number of flight movements;

x Number of people experiencing no noticeable change in aviation noise/number of flight movements;

x Number of people experiencing a noticeable decrease in aviation noise/number of flight movements;

and the best available evidence with respect to the change effect used to quantify the associated health impacts…"

- Leading UK consultancies are arguing that SoNA was based on those 'habituated' to noise and therefore incorrect to apply to a change situation (see Manston DCO documents)

- It is also COMMON SENSE that airspace change brings about increased noise sensitivity

- The 2014 IGCBN guidance noted this uncertainty since then the evidence base is now clear – Government departments are now accepting this position

The introduction of PBN will make Heathrow's impacts so much worse

There are no successful precedents over densely populated areas such as Heathrow anywhere in the world

Phoenix Noise

Mayor of Phoenix Greg Stanton and his representatives explain FAA's policy of disregard for United States citizens.

Boston Noise

U.S. Rep. Steve Lynch in dogfight with FAA over NextGen aircraft noise and pollution. Calls FAA most unresponsive agency in government.

Santa Cruz Noise

Santa Cruz attorney cites destruction of pristine natural habitat by FAA's dirty NextGen transportation system.

Washington, D.C.

Arizona Senator John McCain sends letter to FAA Administrator Huerta urging changes to noisy flight tracks.

California

California Bay Area Resident files lawsuit against Federal Aviation Administration for unbearable aircraft

Chicago Noise

Chicago political activist Jac Charlier challenges Mayor Emanuel to come out from hiding re: O'Hare jet noise.

San Diego Noise

San Diego taxpayers give FAA hell over NextGen aircraft noise and pollution. FAA sits stone-faced, deaf and mute.

Chicago

Chicago political activist John Kane says meeting with Mayor Rahm Emanuel over aircraft noise a waste of time.

Chicago

Convenient for Chicago Mayor Rahm Emanuel: Air traffic over his home delayed until 2021.

Chicago

Chicago residents sing their

New York Noise

N.Y. Rep. Grace Meng introduces "Quiet Communities Act of 2015" to benefit all communities across U.S.

New York

New York Congressman Steve Israel calls the FAA the "Federal Arrogance Administration."

Brooklyn Noise

Park Slope, Brooklyn resident says FAA and Port are green-washing filthy NextGen air transportation sytem.

Air France

Air France sponsors Paris UN climate conference, but who are they really kidding?

Washington, D.C.

Washington, D.C. Congresswoman Eleanor Holmes

Chicago

ongresswoman Schakowski says if ou are not at the table then you are ıbably on the menu re: aircraft noise.

Maryland

Maryland residents in for rude akening from FAA's NextGen aircraft oise and aircraft pollution strategy.

Toronto

onto residents unite to fight for their rspace saying Nav Canada appears y accountable to the airline industry.

Germany

rman protesters flow into the streets opposition to airport expansion and aircraft noise and pollution.

Germany

rmans protest against aircraft noise error in the busy airport terminal. oudly, just like the jets disturb their peace and quiet.

living beneath constant air traffic and loss of quiet enjoyment from FAA's NextGen.

Chicago

Chicago residents join forces to reduce property tax due to O'Hare aircraft noise and FAA's NextGen.

Santa Cruz

Santa Cruz Save Our Skies: "An incessant assault. . you feel helpless . . . you can't stop it. . . you can't go outside"

Chicago

Chicago residents break U.S. record, logging more than 1 million O'Hare noise complaints!

Charlotte, N.C.

Charlotte, North Carolina residents bombarded by FAA NextGen noise and pollution.

is a bad neighbor for Queens' residents.

New York

New York State Senator Tony Avella from Queens to Federal Aviation Administration: "This is not acceptable!"

Washington, D.C.

New York's U.S. Senator Charles Schumer sells out New Yorkers and all of America in his 2012 FAA Reauthorization bill vote.

New York

Queens, NY jet engine sound monitors reveal residents suffer from levels of jet noise considered unhealthy.

New York

NYC Councilman Dromm together with Queens environmental groups, criticize FAA NextGen aircraft noise and misery.

New Zealand

Auckland, New Zealand families starting to feel the pain and misery of living under NextGen aircraft noise flight tracks.

Recent examples from USA referred to by Heathrow

Heathrow has referred to San Francisco and Los Angeles at the last HCNF

Examiner
Wednesday February 13, 2019

Breaking News > Featured Breaking > The City > San Francisco News > Politics > The City > San Francisco News > Transit

Airport called on to silence 'unrelenting' airplane noise

An Air France Airbus A380 heads past the control tower shortly after take off at San Francisco International Airport on Tuesday, Sept. 4, 2018. (Kevin N. Hume/S.F. Examiner)

Trending Articles

Family-run mortuary closes its doors after nearly 60 years in the Fillmore

Controversial taxi rules have not reduced SFO trips, but may be driving cabbies away

'It's a superhighway above our heads': South L.A. residents vexed by new LAX flight paths

By EMILY ALPERT REYES OCT 22, 2017 | 5:00 AM

A jet descends into Los Angeles International Airport. New flight paths into LAX, redrawn by the FAA to save fuel and reduce delays, have triggered complaints from once tranquil South L.A. neighborhoods. (David McNew / Getty Images)

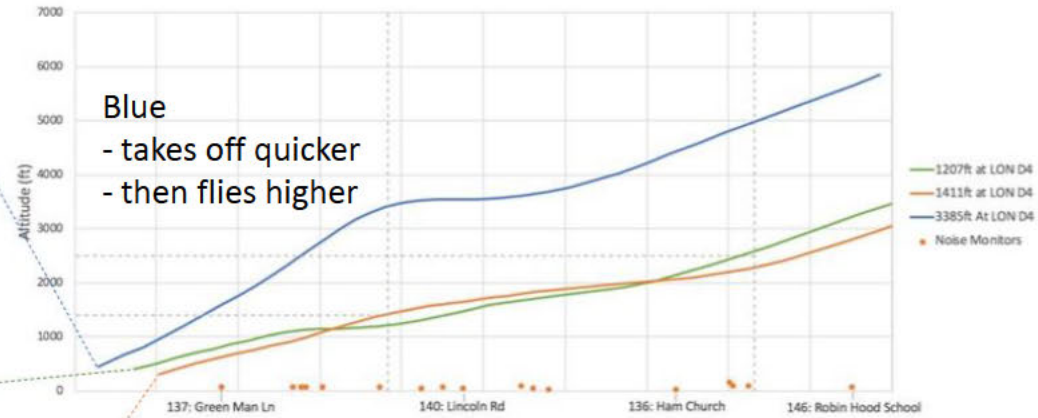
LATEST L.A. NOW

You think the rats at L.A. City Hall are bad? Officials have a $1.9-million plan to rid state marshlands of giant rodents
1h

Federal officials seize more than 200 pounds of cocaine in Port Hueneme
FEB 15, 2019

More snow in Redding than Boston? This winter is already 'bonkers,' and another storm is coming
FEB 15, 2019

Recent evidence shows positive impacts from taking off sooner and flying higher



Slides from HCNF Presentation 21st Nov 2018 by [redacted] (Trax)

Note - All aircraft to ME so 'similar' take off weights as fuel similar

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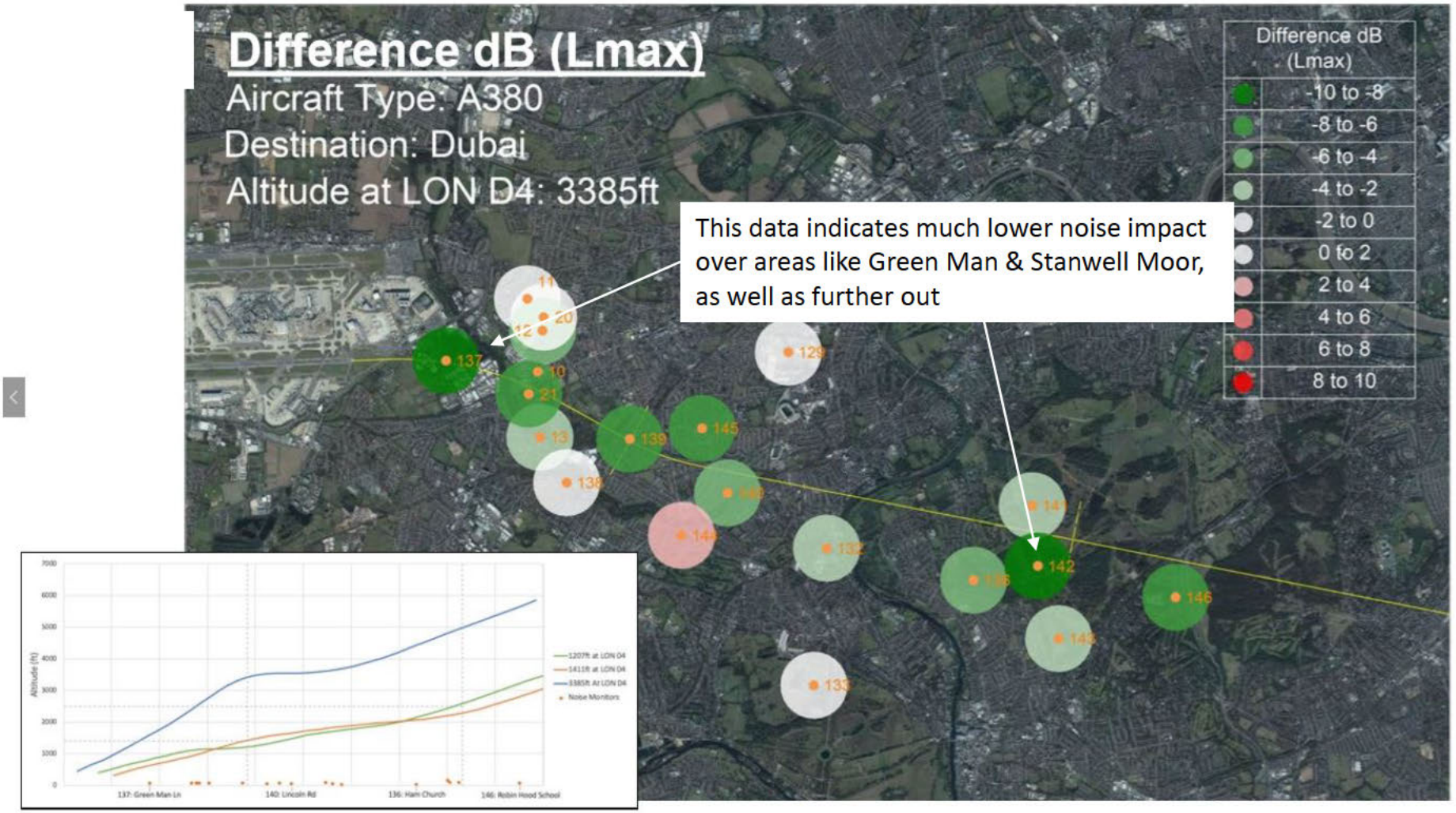
Difference dB (Lmax)
Aircraft Type: A380
Destination: Dubai
Altitude at LON D4: 3385ft
This data indicates much lower noise impact over areas like Green Man & Stanwell Moor, as well as further out
Difference dB (Lmax)
-10 to -8
-8 to -6
-6 to -4
-4 to -2
-2 to 0
0 to 2
2 to 4
4 to 6
6 to 8
8 to 10
137
139
145
142
146
129
133
137: Green Man Ln
140: Lincoln Rd
136: Ham Church
146: Robin Hood School
Noise Monitors

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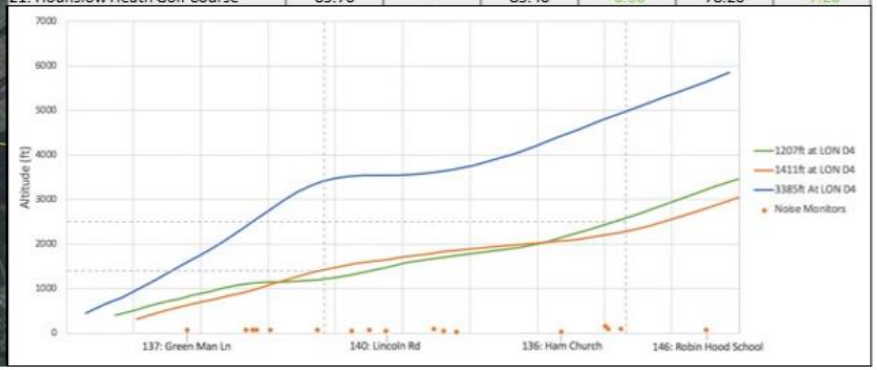
	1207ft at LON D4		1411ft at LON D4		3385ft at LON D4	
	Avg Lmax (dB)	+/-	Avg Lmax (dB)	+/-	Avg Lmax (dB)	+/-
10: Hounslow Heath	82.10	-	86.70	4.60	75.50	-11.20
11: Mink Court	-	-	71.90	-	71.70	-0.20
12: Cavalry Barracks	72.90	-	78.30	5.40	72.90	-5.40
129: Mogdens	63.10	-	60.30	-2.80	62.00	1.70
13: Sparrow Farm Road	75.40	-	77.80	2.40	75.10	-2.70
132: Strawberry Hill House	78.00	-	75.20	-2.80	71.30	-3.90
133: NPL	-	-	-	-	-	-
136: Ham Church	73.20	-	75.20	2.00	69.30	-5.90
137: Green Man Lane	89.20	-	91.80	2.60	83.10	-8.70
138: SW Middlesex Crematorium	70.70	-	72.40	1.70	72.90	0.50
139: Hanworth Road	85.10	-	81.90	-3.20	74.30	-7.60
140: Lincoln Road	80.90	-	79.20	-1.70	74.50	-4.70
141: Richmond Park North	73.80	-	72.70	-1.10	69.60	-3.10
142: Richmond Park Central	74.70	-	77.60	2.90	69.20	-8.40
143: Richmond Park South	68.60	-	71.70	3.10	68.60	-3.10
144: Fulwell Park	72.70	-	68.40	-4.30	70.70	2.30
145: Whitton Church	76.90	-	79.60	2.70	73.30	-6.30
146: Robin Hood School	73.20	-	73.80	0.60	67.00	-6.80
20: Hounslow Cavalry Barracks North	72.00	-	76.00	4.00	74.50	-1.50
21: Hounslow Heath Golf Course	85.70	-	85.40	-0.30	78.20	-7.20



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Response by: [redacted] - HCEB

Design Principles Proposed by Community Groups	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Multiple routes are a must		√					
Routes should be as far apart as possible & stay apart as long as practicable & the noise impacts distributed evenly across them	√						
Those that already suffer should not suffer any more than this; use N metrics or suite of metrics to measure this		√					
The different routes should 'split' as soon as possible, but keep away from other routes and don't get them any closer & minimise numbers of people significantly affected below 1000ft	√						
Where possible, do not overfly communities who are not already within the existing CPT 09 departure swathe below 6000ft	√						
Routes should be designed so controllers don't have to routinely intervene below 6000ft		√					
Avoid overflying communities with multiple routes in the same runway configuration		√					
Don't overfly those communities who are currently overflown by Heathrow's westerly SIDs below 4000ft, with a CPT09 SID below 4000ft	√						
Don't be constrained by existing NPR or the current definition of an NPR		√					
Enable Continuous Climb	√						
Noise should take the priority up to 6000ft	√						
Minimise fuel/CO2 above 6000ft	√						

Design Principles Proposed by Local Authorities	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	Should not be considered	Comments
Climb as fast as possible	√						
Multiple (& enough) flight paths sufficiently spaced to make a difference		√					
Equitably share the noise and frequency of overflight		√					
Where possible, fly over open spaces not residential areas		√					
Take into account other routes, do not overfly the same communities below 4000ft on easterly vs westerly operations. Do this by imposing a minimum 4000ft point or a maximum noise threshold	√						
Route alternation should be predictable	√						
Do not degrade current air quality		√					
Don't increase noise more for those already significantly affected	√						