YouGov Phase Two Focus Groups Feedback Report

Stage 2 Develop and Assess

MAG London Stansted Airport

December 2021

Future Airspace Research: Stage 2 – route designs and rationale – engagement part 2

MAG London Stansted Airport

Background, aims and objectives

Background

As part of Government proposals to modernize the way UK airspace is managed, UK airports have been tasked to undertake extensive engagement and consultation with stakeholders and local communities. From 2018 onwards, London Stansted Airport (LSA) together with NATS, the CAA and other airports will work together to shape the airspace design on which it will formally consult. Before this, the task is to speak to individuals that have an interest in the airspace around LSA to provide feedback on principles that will be used to redesign the airspace, and the new routes generated, as part of the overall programme.

Following the completion of the first stage (1B), there is now a need to test the design envelopes amongst the general public before final routes are designed. Initial forums took place in Spring 2020 to capture initial reactions to the draft design envelopes – this research builds on that to explore whether or not local stakeholders are satisfied that the draft envelopes and potential routes within them meet the design principles outlined and that they are satisfied that LSA is rigorously applying them in the design.

Aims / objectives

Ultimately, the research sought to identify:

- Whether respondents understand the rationale for the design envelopes and draft routes (e.g. design considerations, arrivals and departures boundaries, and constraints)
- Whether they feel that the envelopes and routes take into consideration the design principles established by LSA
- Whether the design envelopes and routes meet the design principles established by LSA.
- Whether there are additional local factors that LSA must consider in their design envelopes.

Method and sample

The research involved six 2.5 hour focus groups with members of the public living to the east and west of Stansted Airport. Research took place between 8th and 16th November 2021. Over 60 were recruited in total and 54 people took part in the groups in total. Respondents were recruited from the YouGov panel, and via Stansted Airport (re-contacting those who took part in previous waves of the research, along with some stakeholder sample).

Respondent were recruited to the following specification:

- Mix of locations (under departure / arrivals routes) – to the east or west of the airport
- Mix of age and gender
- Mix of social grade

Two of the discussion groups took place in person, at the Radisson Hotel (one with easterly residents, one with westerly residents). The remaining ones took place over Zoom. Participants were given the option of whether or not they wanted to attend in person or in an online setting.

The groups had a deliberative element, with a large amount of information shown to participants throughout. LSA provided technical support, feeding back on any technical questions raised by respondents during the groups.

Where quotations are used in this report it is to give an indicative sense of the types of responses that were received, rather than to reflect a consensus view.

Sample 1 – WEST

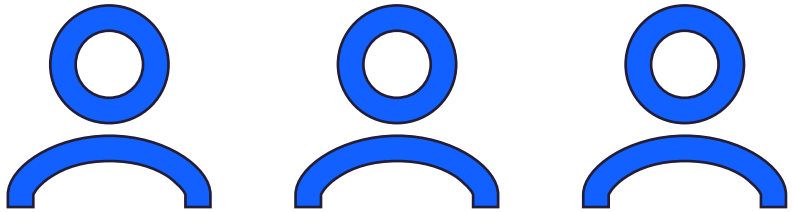
Living in a mix of locations, west of the airport (under departure / arrival routes).

Mixture of age, gender, social grade

Sample 2– EAST

Living in a mix of locations, east of the airport (under departure / arrival routes).

Mixture of age, gender, social grade



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Several topics were by respondents throughout the research – and represented the issues that THEY most wanted to discuss

Noise and respite

Will there be more noise than there used to be?

Will the proposals offer more opportunities for respite?

Capacity

Is this an excuse to fly more planes?

If things are made more efficient then surely there capacity can then be increased?

Covid-19 and the future of air travel

Will people continue to travel to they extent they did before the pandemic?

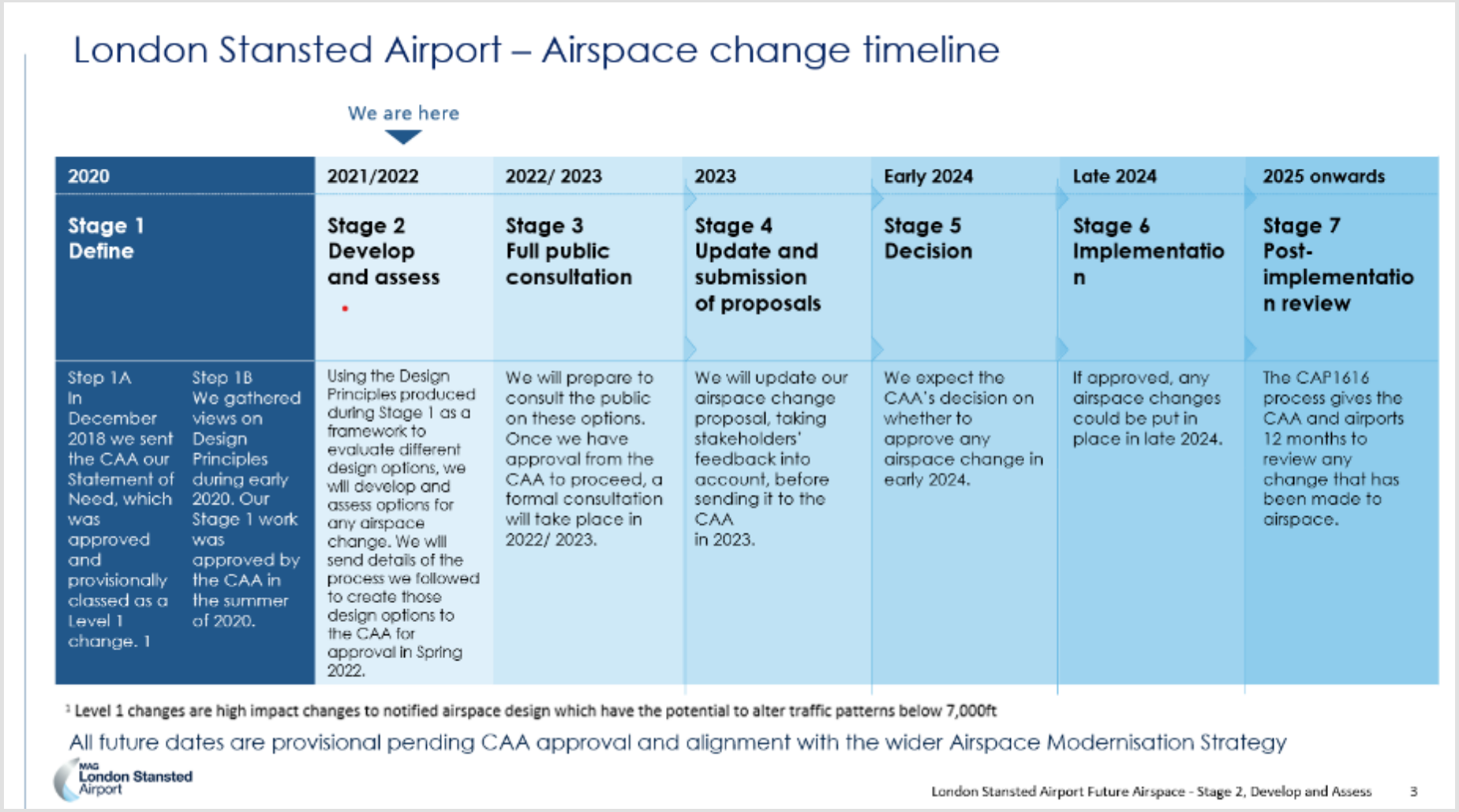
Is modernisation necessary?

Have technological changes of the future been taken into account?

Who has the final say on routes?

Participants were keen to know exactly how the final routes are decided – will they have a say?

Airspace Modernisation review



General thoughts on the information presented

Key take outs

From the information presented to them, participants were aware that Stansted is embarking on a programme of modernisation – there was surprise (and some concern) that much has remained unchanged since the 1950s. Some questioned Stansted's commitment to the process as well.

Challenges

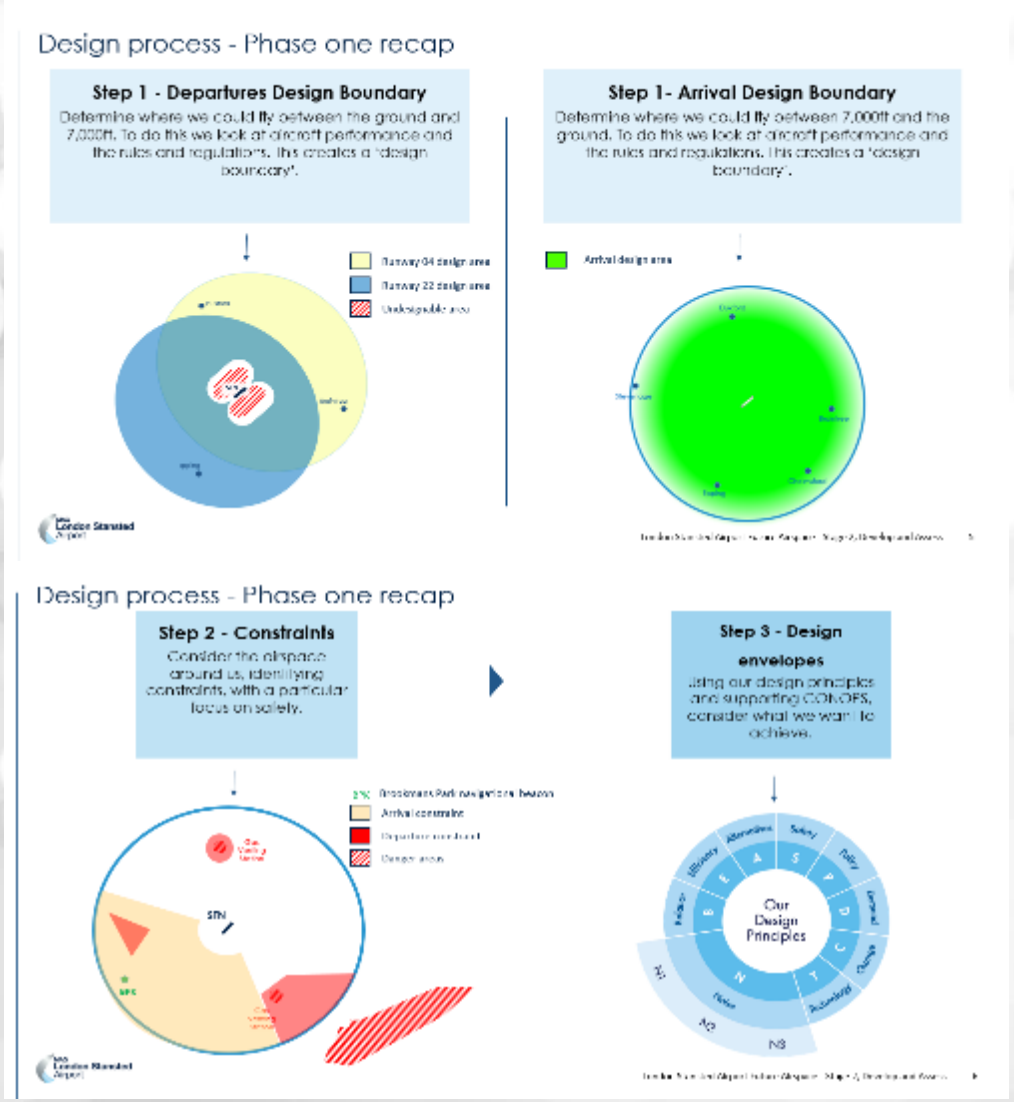
There was some scepticism that the timings would be stuck to as a result of numerous moving parts – other airports and the CAA. And there was cynicism that stakeholder feedback will not be listened to and that the airport will just 'plough on' regardless.

Questions

There was confusion about what the outcome would be – will it result in more flight paths but less pollution? Or more pollution? Will more technologically advanced planes have priority? Will older plans be phased out? What about night flights? Will they be dispersed?

"So, for me the fact that some efficiency changes could potentially improve the environment or potentially make it worse as well I suppose for people living there, but yes. I don't feel negatively or positively about it, I'm just surprised". **East**

Route design considerations



"I'm quite happy with this process - that seems to be quite an intelligent way of doing the design process." East

"I'm a bit surprised to see the gas venting station as a serious constraint because you can fly over gas venting stations as long as you're above a certain altitude. It's well below an altitude you would be approaching Stansted for instance. It just seems completely out of proportion on that chart. It's something that you can literally avoid." West

The information presented makes sense – though it was quite a lot of information to digest

- Though it took some thought, the information about flight boundaries was understood it when explained to them.
- They understood that this was a simple case of science and geometry – that flying at a certain gradient in a straight line will mean the planes enter and exit at a certain radius from the runways.
- Essentially, there was nothing problematic here – they understand that Stansted need to abide by specific rules and regulations ('the rules') and factor in wider elements such as the network and CONOPs to produce new routes.
- There were some questions raised about the constraints however, most of which were dealt with in the room. Questions tended to be granular, for example asking why a gas venting station was a threat to planes at an altitude approaching 7000 feet, and what the true danger is of flights heading to the south west.
- The design principles added some weight to this evidence, but as a more 'subjective' indicator than the other scientific 'rules' it was difficult to judge them side by side.

"I still don't see how you can make changes without having a CDA to every end of the runway – seems impossible" West

"Will the rules change for people like the cargo guys or would you say, 'You're cargo, you do 3%." East

Feedback from phase 1 engagement

	Phase one engagement feedback
Respite	Creating routes that could provide options for respite for areas that are frequently overflown is important as a means of minimising local impacts.
Community noise impacts	Managing potential noise impacts on overflown communities is a key concern. Further details of how noise impacts could be addressed through the route design is required.
Environment	Options should demonstrate environmental benefit. Further detail on how this will be achieved should be provided.
Housing plans	There are a large number of new housing developments in the local area, the location of these should be taken into account as options are developed.
Sensitive areas	Green spaces, cultural and historic buildings are important. The location of AONBs (Area of Outstanding Natural Beauty), SSSIs (Site of Special Scientific Interest) and other sensitive sites and buildings should be considered.
Efficiency	The opportunity to create a more efficient overall route structure is welcomed. More detail is required on how Stansted's options will align with other airports airspace change programmes and the NATS network changes.
Technology	Stakeholders noted the limitations of the current structure and were mostly supportive of ensuring that our arrivals designs facilitate Continuous Descent Approaches (CDA) to both runway ends. However some asked if there were alternatives that could better address noise impacts.

"I think environmental factors are important, the sense of trying to reduce the amount of pollution in the sky by more efficient flying of the planes, but I would be less concerned about where they're flying over and protecting those areas I'd much rather protect people's health." East

"There's a large number of new housing developments in the area - these should be taken into account, but this doesn't take into account all of the existing residents in existing developments" West

The list of considerations/concerns seems broadly comprehensive

- Participants were pleased to hear feedback from other residents was being included in the process – they found it reassuring to know that voices similar to theirs were being heard in the process.
- Respite was an issue that was raised spontaneously throughout the sessions – most wanted to see more variation in terms of flight paths. We will touch on this more later.
- They were also pleased to see environmental concerns recognized too – this seems particularly relevant at the moment in tandem with the COP conference and participants assumed that this high level of concern will be sustained.
- It is worth pointing out that environmental concerns can be divided in two – concern about emissions and 'spent fuel' affecting the local area (and, potentially, the health of residents) and a concern about a wider carbon footprint.

"The local people that find themselves on new flight paths should be offered extra soundproofing or something like that, because a more efficient Stansted airport is going to have a greater income for certain people and more noise and pollution for others" West

"It is interesting because the Japanese actually altered 2% of their flight routes to make them more direct and the impact was 98% reduction in contrails which are the emissions from jets and that may be a huge environmental impact for the Japanese aviation industry. " East

However, the consideration given to new housing developments were contentions…

One key concern, indeed assumption, that many had, was that more consideration was being given to the residents of the future than current residents.

Many felt that this was unfair, and assumed that such residents will know exactly where new flight paths are going to be, where, often, this was not the case for existing long-standing residents.

Again, this resulted in much granular and specific feedback, with participants claiming that many developments were not reflected in pink on the maps – and potentially use such areas to contest new flighpaths

And efficiency and technology were of great interest – tell us more!

Participants wanted to know about climb gradients and what was possible with existing technology as well as CDAs. Also, reducing fuel burn, quieter turns, reducing the need for holding stacks.

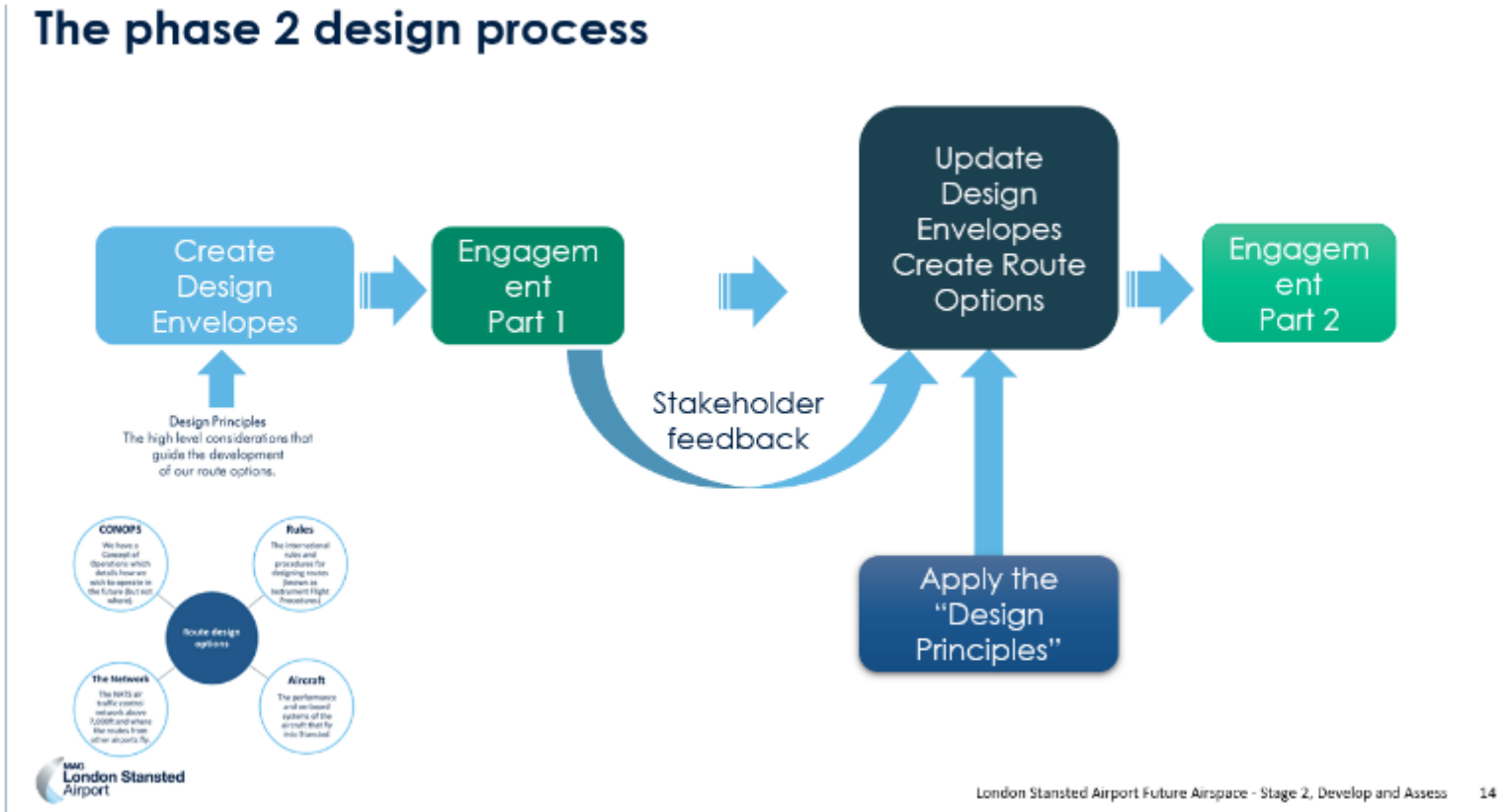
They therefore think that these are crucial considerations and glad to see them reflected in the initial feedback and in the principles themselves

From their perspective this is about planes over their heads spending less time over their heads!

"Well it talks about more efficient movement of air traffic, reducing fuel burn and pollution and things so that's that's positive." East

"With the quality of the new technology, I'm sure it can be really, really safe and really easily done that you could then have alternative relief points as well as respite. That, to me, then makes it fair on everybody that happens to be impacted. West

Participants were shown the phase 2 design process



This gives them further reassurance that the views of local residents are being taken into consideration and that the results and outcome are not a 'fait accompli' decided behind closed doors

One executional point to raise is that the information at the bottom left about rules, CONOPS and technology seem very small – as if they have less weight, when in reality they are probably the most important considerations

Testing the design principles

The route options development process – our Design Principles

C | Change
Where we choose routes that fly over new areas there will have to be a clear and objective benefit in doing so.

T | Technology
Routes should be designed to make use of the latest widely available aircraft navigation technology and facilitate continuous climb and descent to/from both ends of the runway.

Noise

N1 In order to address the effects of aircraft noise, each route should seek to minimise the number of people overflown.

N2 The use of multiple routes and/or other forms of respite, such as different time periods and balanced runway mode when operationally viable, will be considered.

N3 Where practical, our route designs should avoid, or minimise effects upon, noise sensitive receptors. These may include designated sites and landscapes (such as SSSI and AONB), cultural or historic assets, and sites providing care.

B | Balance
Our designs will consider both noise and emissions, and seek to strike the best balance. In so doing, we will take account of the Government's altitude-based priorities, which emphasise minimising noise below 7,000 feet.

E | Efficiency
We will seek to minimise the amount of controlled airspace that we require, and our future route designs should ensure an efficient and systemised operation at Stansted, minimising interactions with other airports and maintaining priority access for emergency services.

A | Alternatives
Where the adoption of modern navigation standards and/or flight profiles mean that some aircraft cannot fly the new routes, we will seek to minimise the environmental impacts from those aircraft.

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To create departure and arrival options we looked at ways to route aircraft through the design envelope to or from 7,000ft.

This created a comprehensive list of options. Not all of the options which we considered are viable when assessed against our design principles, specifically the three design principles that we determined all of our options *must* meet. So we have therefore adopted a staged approach to refine these.

The result is a range of viable departure route options which we are engaging with you upon.

S | Safety
Safety is our highest priority; our routes must be safe for airspace users and communities on the ground, and must comply with national and international industry standards and regulations.

P | Policy
Any changes must be consistent with the CAA's Airspace Modernisation Strategy and the FASI-S programme, taking into account the needs of other change sponsors and airspace users.

D | Demand
The airspace design must provide for the utilisation of aircraft movements permitted by planning permissions and within statutory limits in force at the airport.

"At the end of the day, it's really going to be the experts and professionals that make the decision based upon the knowledge that they have, and you have to put an element of faith in them getting it right.." East

"The ecological impact. It's referenced but it's not part of the design principles. You've told us about fuel burn and all that sort of thing, so shouldn't it be part of the design process?" West

The design principles were well received, but there were questions about weighting

- Participants were told that there were three ‘must-have’ design principles, with the implication that the others were ‘nice-to-have’.
- They were reassured to see that safety was a must have principle. Some had noted that it was missing from the feedback from phase one and saw it as sacrosanct – protecting both those on the ground and those in the air.
- However there was less positivity towards the other two must-have principles;
  - The policy principle stating that changes should be consistent with a wider programme – as participants were unclear on the exact details of this
  - The demand principle is possibly a misnomer - it seemed less about demand and more about permission – titling as ‘demand’ further encourages the idea that the programme is really all about increasing capacity.
- Participants were curious about how the principles would be applied, particularly the ‘nice to haves’ which encompassed many of the concerns they themselves had.

> ***“As long as they're considering those 3 most important things and they know the difference between a good fit and a bad fit, then yes, you trust them because they're not that stupid.”*** East

> ***“I think the twelve of us talking about what we really feel about it, we'll be considered, etc., but there'll be some overriding principles that can be used to trump anything we come up with. So, if we say something like, 'We think this is a great idea,' and actually, that's not optimum for the airline because of cost or because of CO2, they'll go, 'No, we can't do that because of safety.' As soon as someone brings up the safety card, you're stuffed.”*** West

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Noise and respite are key – and what about the environment?

- Participants noted that noise was well represented in the principles. They saw that it was represented three times and this was reassuring to many.
- Throughout all groups there was a tendency towards respite wherever possible – 'spreading the load' and this is reflected in the N2 principle.
  - However this principle seems to be at odds with the first principle – N1, which talks about minimizing the number of people affected by noise.
  - This seems like an unrealistic aim if the intention is to provide respite
  - Some of the confusion is related to the language – referring to "each route" minimizing the number of people overflown (rather than the total amount across all routes

- There was also concern across groups that the environmental impact is not enshrined within a specific principle. The perception was that it was 'buried' a little in the 'balance' principle (noise vs emissions) and led some to believe that Stansted was not taking this issue seriously at a time when it has great emphasis in the national conversation – this was seen as unsustainable.

> ***"Just talking about it, and it's been made reference to a few times but isn't actually in the design principles, is the ecological impact. You've told reference of fuel burn, and all that sort of thing, so shouldn't it be part of the design process?"*** West

> ***"in theory, under N1 you could drive 100 people absolutely mad with noise. Rather than 1000 people having a moderate amount of noise and yet you have complied with N1 in doing so, because you have impacted the fewest number of people possible.*** East

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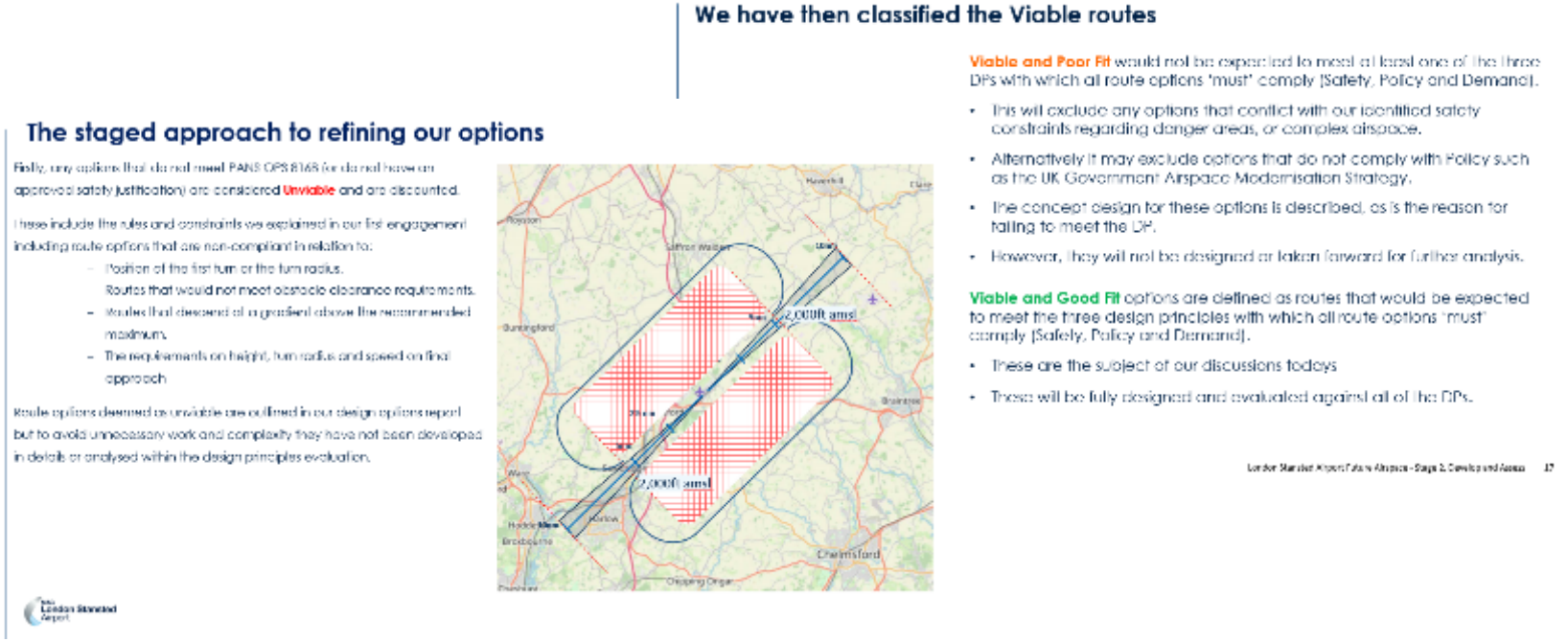
Viable vs not viable



The staged approach to refining our options

Firstly, any options that do not meet PANS OPS 8168 (or do not have an approved safety justification) are considered **Unviable** and are discounted.

These include the rules and constraints we explained in our first engagement including route options that are non-compliant in relation to:

- Position of the first turn or the turn radius.
  Routes that would not meet obstacle clearance requirements.
- Routes that descend at a gradient above the recommended maximum.
- The requirements on height, turn radius and speed on final approach

Route options deemed as unviable are outlined in our design options report but to avoid unnecessary work and complexity they have not been developed in details or analysed within the design principles evaluation.

We have then classified the Viable routes

Viable and Poor Fit would not be expected to meet at least one of the three DPs with which all route options 'must' comply (Safety, Policy and Demand).

- This will exclude any options that conflict with our identified safety constraints regarding danger areas, or complex airspace.
- Alternatively it may exclude options that do not comply with Policy such as the UK Government Airspace Modernisation Strategy.
- The concept design for these options is described, as is the reason for failing to meet the DP.
- However, they will not be designed or taken forward for further analysis.

Viable and Good Fit options are defined as routes that would be expected to meet the three design principles with which all route options 'must' comply (Safely, Policy and Demand).

- These are the subject of our discussions today.
- These will be fully designed and evaluated against all of the DPs.

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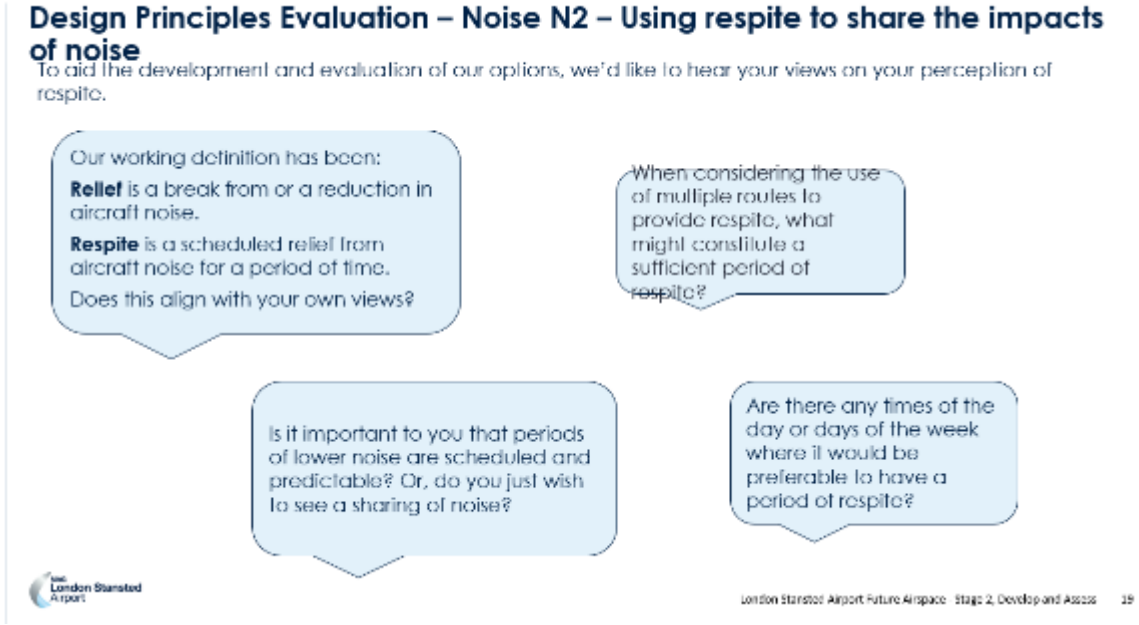
Participants fully understood the concept of 'viable and poor fit' and 'viable and good fit' – this was clear and encountered no disagreement

There was some confusion over why routes flying immediately over the airport were unviable – participants saw this territory as 'fair game'.

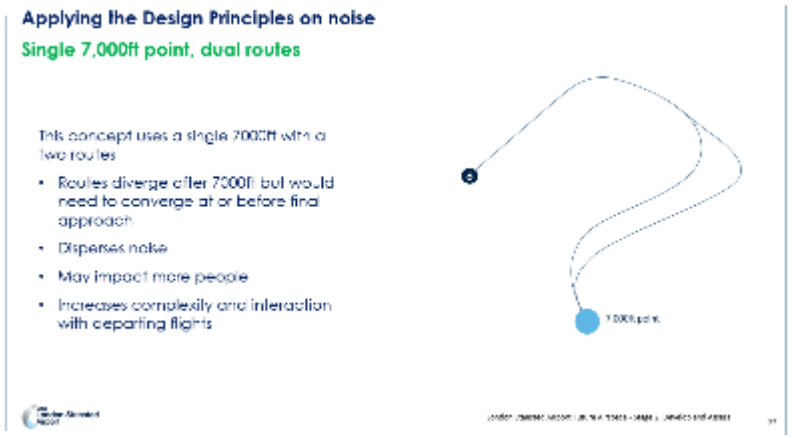
Respite and noise relief

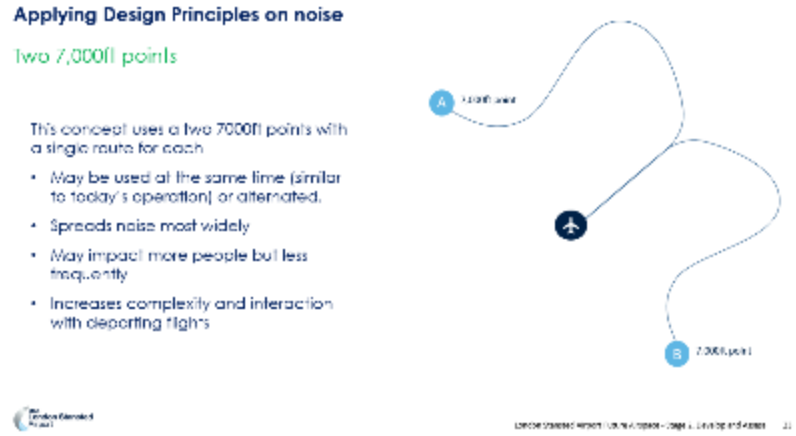


Across all groups participants were broadly unanimous that they preferred N2 to N1 – the idea of spreading the noise over as wide an area as possible.

They felt this was a much fairer way of distributing the burden, as opposed to lives and communities being more seriously impacted by noise

Respite





- The rationale here was simple – many in the groups were afflicted with aircraft noise and therefore they felt that any variation would lessen the amount of noise they hear.
  - Interestingly, none worried that they might have to endure more noise that they currently do under revised flight paths.

- The conversation then turned to what sort of respite would be preferable.
  - Though most said that they would happily take as much ‘noise free time’ as was offered to them, on balance they wanted longer periods of respite
  - The length of the period of respite is, for many participants, less relevant than the time of day, with early morning and night flights a particular bugbear affecting their sleep.

- As such the broad consensus was a preference for longer periods of respite and longer periods of overflight – one plane ‘every so often’ has a greater effect when they have got used to the silence.
- As such, participants preferred as many routes as possible, and multiple arrival points.

“Has to be more than a day I don't think it's half a day, I think you almost need to be able to switch off completely and that's what I think it took us quite a while to adjust to when it went to lock down, it was the sound of silence” West

“It doesn't matter if it's one plane at six o'clock or one plane at 06.03 and one plane at 06.06 you're already woken up by the six o'clock plane. It's the impact on sleep, which I think has the most detrimental effect on people's well being” East

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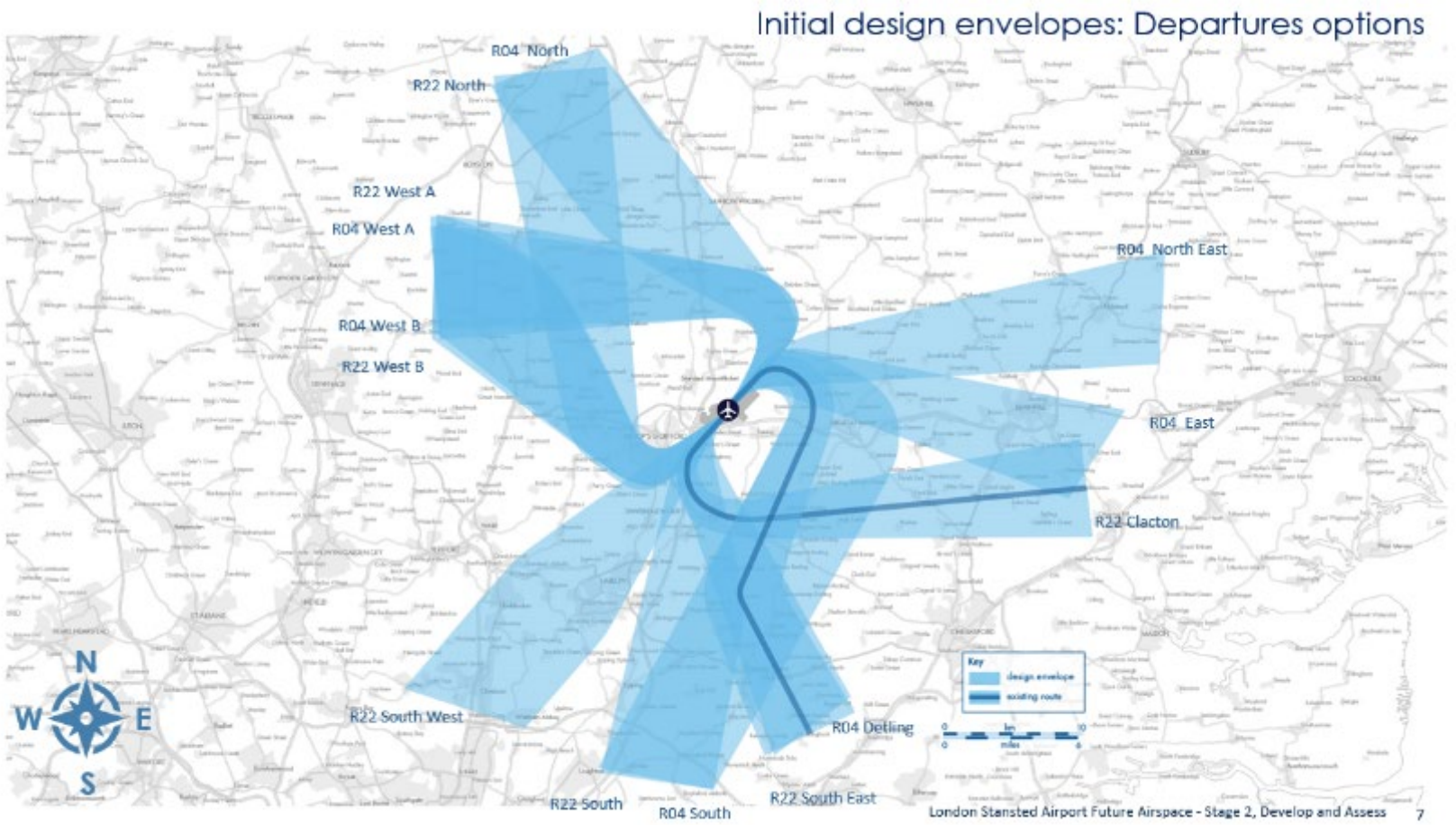
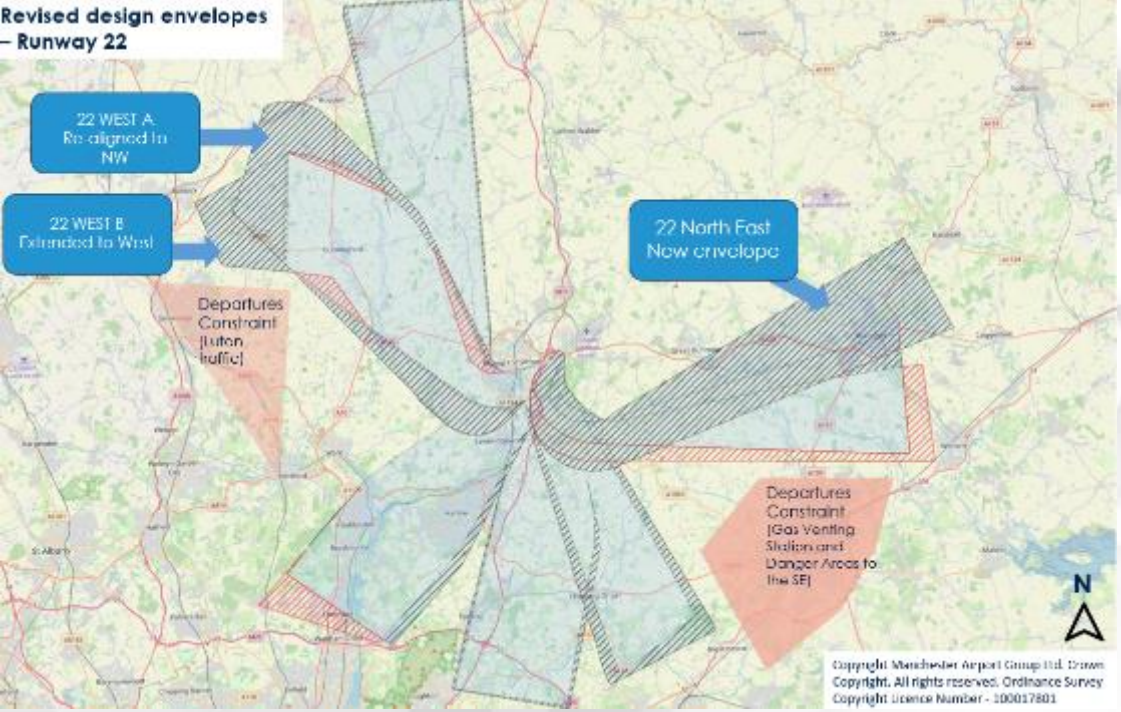
Departures design envelopes

Respondents were initially shown design envelopes for departures, and asked to share their feedback…



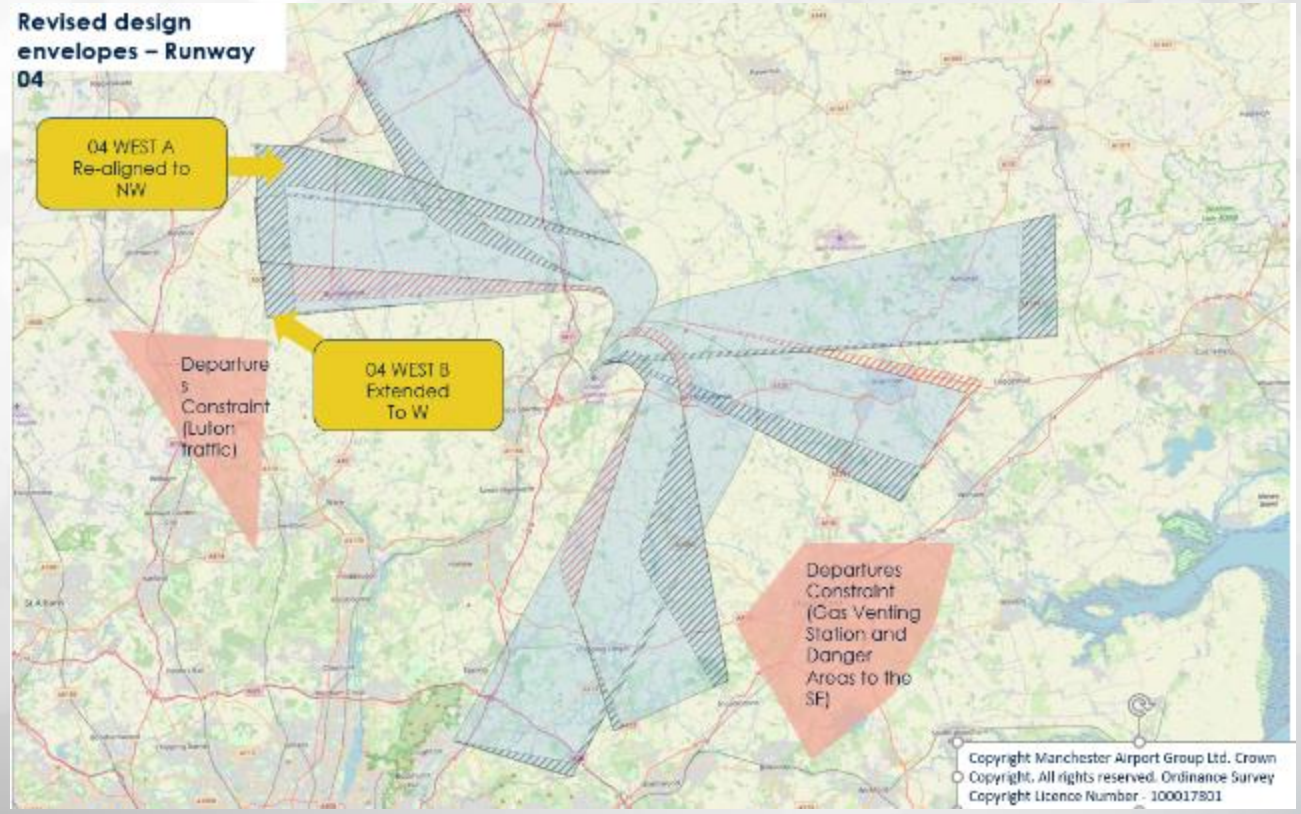
> ***"Looks very efficient. It's everywhere, isn't it? It could potentially be everywhere. The ultimate aim would be to use all of those routes in some way, shape or form if possible, if permission were given."*** East

> ***"Are these things being designed with the eventual increase in passenger numbers? To 45 million? Clearly, we're nothing like that because of COVID, but are we talking about that scenario? Is that what we're being asked to think about? ."*** West

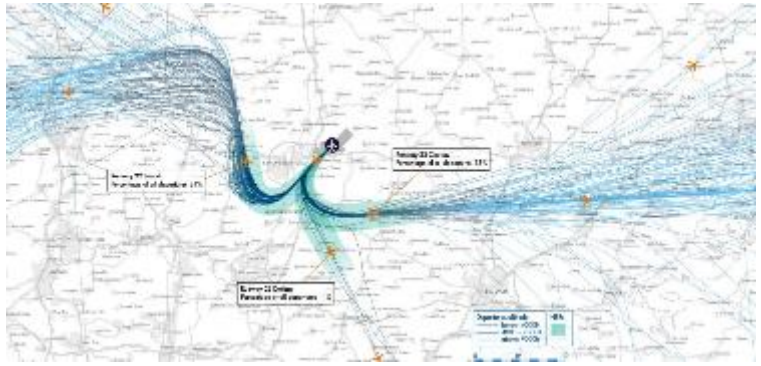


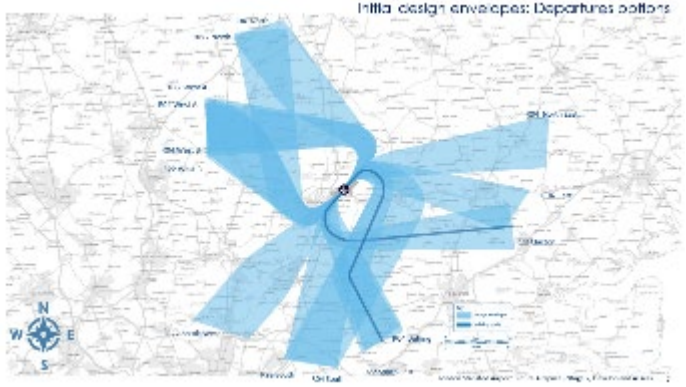
"looking at it like that, on this kind of screen, I mean dispersing it over wide area and sharing the pain, as it were, seems to be a pretty sensible approach to take, so I would be looking at that it makes me feel more positive about things." East

"You're obviously considering the existing communities but obviously government's trying to expand house building, so is there consultation with the airport around future communities being built as well?"
West



Initial reactions suggest a great dispersal of departure routes





- Participants were shown ‘before and after’ diagrams of the existing routes and the potential new envelopes to allow them to see the difference.

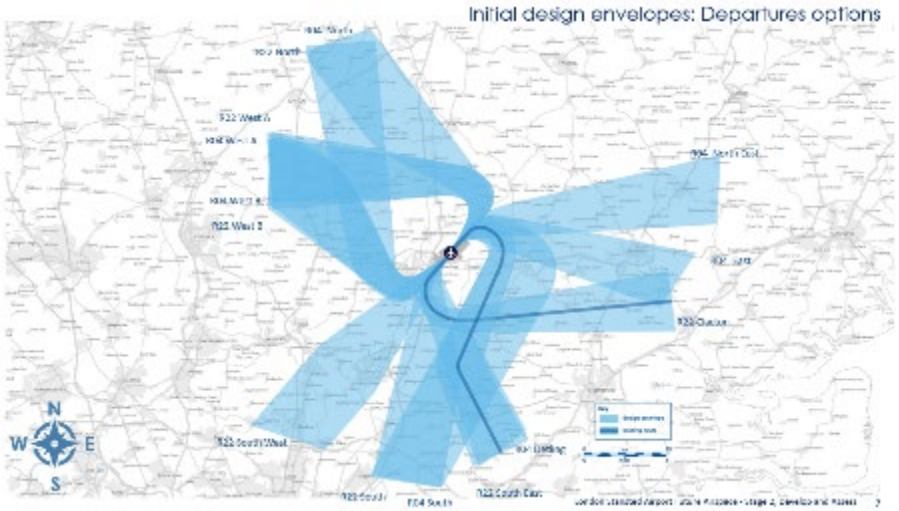
- For many, seeing the two images in juxtaposition suggests to them that Stansted are proposing a greater diversity of departure routes from what is currently available.
- It was pointed out that this is not (necessarily) the case – that these are merely viable options, but nevertheless this misapprehension often persisted, and they were left with a visual impression that suggests dispersal.

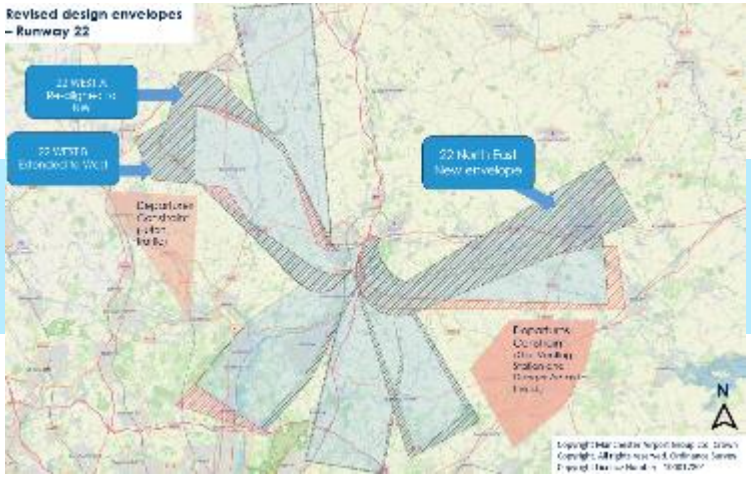
- This is an important finding as it may be establishing an expectation that cannot be met.

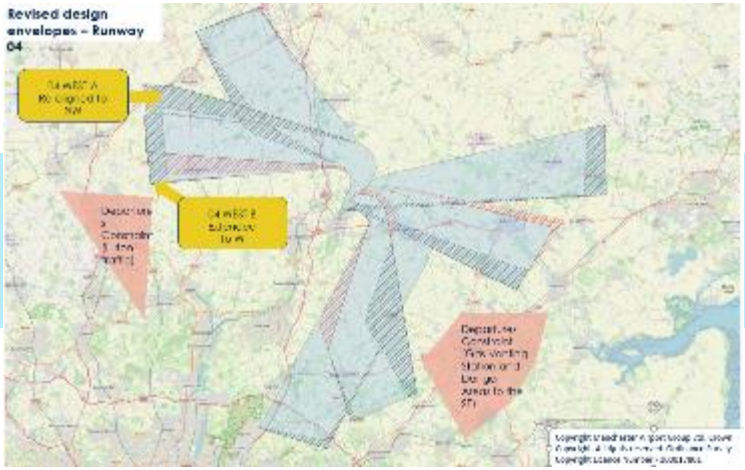
“Spread it as far as you can, spread the risk.” West

“If you can disperse them over more routes and not one area, not one route is going to cop it all. Everybody should have 10% rather than 2 areas having 50” East

The envelopes themselves suggest dispersal and choice





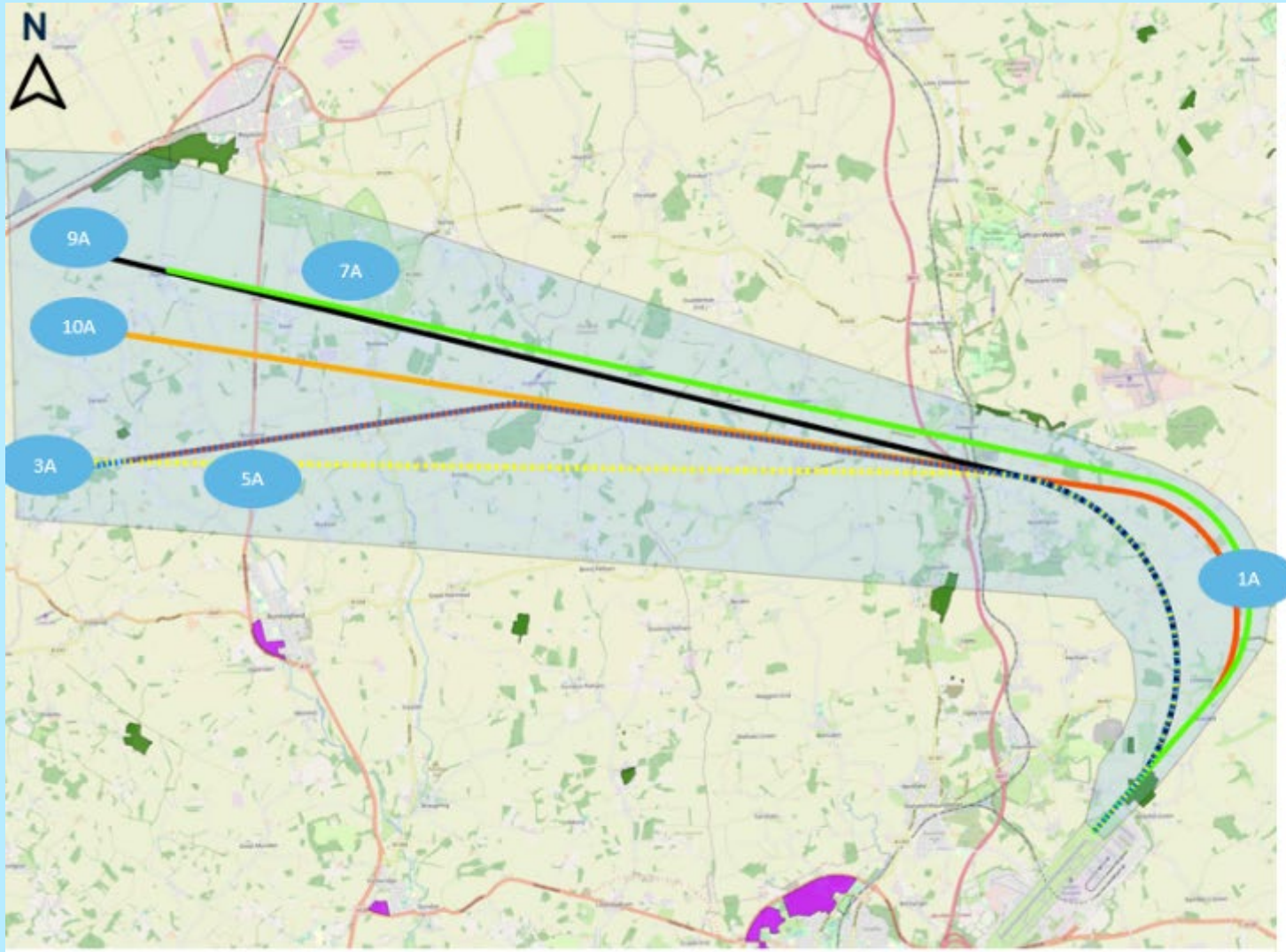


Participants assumed/hoped that the envelopes would mean that routes could be dispersed across the enveloped quite liberally, rather than that a fixed line in each one that would remain static – though it was reiterated that nothing has been decided!

Again, it is important to bear this assumption/preference in mind as it may well be the case that there is more rigidity when the final routes are decided – but if not, they are interested to know what dispersal may look like. Will it be different by day/time of day/aircraft type?

YouGov

Sample route options were shown



Options shown are for illustration only and are subject to change as we progress through the CAP1616 process.

Departure options – Runway 04 West A

6% climb gradient

This envelope has been repositioned following discussions in the first engagement. It now orientates aircraft more in the NW direction they will be heading after joining the NATS network at 7000ft.

Options 1A and 3A are included to provide **Replication** of the current SID but using different technologies. Note, these routes do not place the aircraft in the required NW heading after 7000ft.

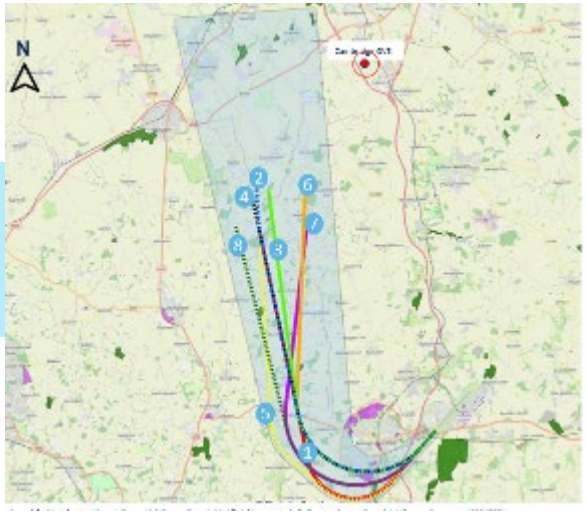
Option 5A has been designed with a earlier turn to remain south of Newport. This creates a slightly more fuel efficient route to the south of the envelope, and by turning early, may assist with reducing runway delays.
Design Principle link: Balance and Demand.

Option 7A takes a wider turn and routes to the north of the envelope to reduce possible interaction with Luton traffic and place aircraft in a NW direction.
Design Principle link: Efficiency.

Option 9A has been designed with an earlier turn to remain south of Newport before routing to the north of the envelope in a NW direction.
Design Principle link: Efficiency and Demand.

Option 10A has been designed with a earlier turn to remain south of Newport and routes to the centre of the envelope in a NW direction.

But drilling down to specific routes often creates questions



Departure options – Runway 22, North
8% climb gradient

Options 1 and 2 are included to provide **Replication** of the current route out using different technologies.

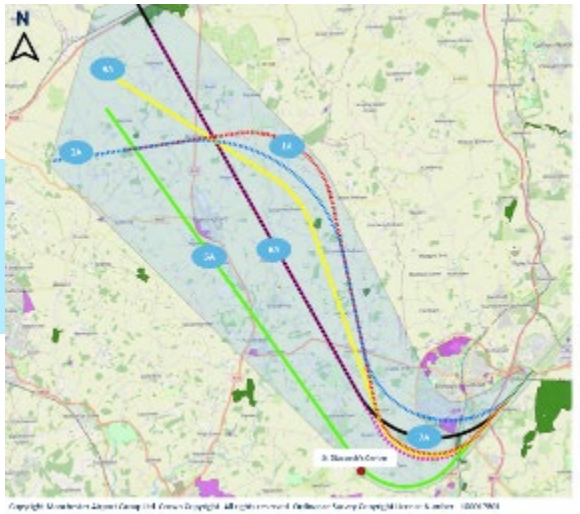
Option 3 & 4 are included to reduce track mileage/fuel burn and runway delays by turning departures earlier using different technologies.
Design Principle link: Alternative, Balance.

Option 5 initially follows the replicated route but has a later and wider turn before turning back towards the centre of the envelope.
Design Principle link: Noise N1.

Option 6 routes to the East of the envelope and is included to reduce track mileage/fuel burn and runway delays. This option may also provide an opportunity for noise relief from the 22 WEST routes.
Design Principle link: Demand, Noise N1 and Balance.

Option 7 provides a wider turn than Option 6 to avoid Thorley. As with Option 6, the remainder of the route has been created to provide an opportunity for noise relief from the 22 WEST routes.
Design Principle link: Noise N1 and N2.

Option 8 avoids Thorley before the first turn and then routes to the West side of the envelope. This option may provide potential for reduced track mileage/fuel burn depending on the interface with the NATS network.
Design Principle link: Noise N1 and Balance.



Departure options – runway 22, West A
6% climb gradient

This envelope has been repositioned following discussions in the first engagement. It now orientates aircraft more in the NW direction they will be heading after the 7000ft point. This is aimed to reduce fuel burn in accordance with the DP on Balance and reduce interaction with Luton Hants in accordance with the DP on Efficiency.

Options 1A and 5A are included to provide **Replication** of the current route but using different technologies. Note, these routes do not place the aircraft in the expected NW heading after 7000ft.

Option 5A commences the turn later than the current route to avoid Thorley and Bonningford and provides a fuel efficient direct track to the NW by eliminating the turns in the replicated routes.
Design Principle link: Noise N1 and Balance.

Option 6A and Option 7A use different technologies to route through the centre of the envelope, both avoid Thorley, Sawbridgeworth and Bishopstord in accordance with Noise N1 and provide a fuel efficient direct track to the NW by eliminating the turns in the replicated routes.
Design Principle link: Balance.

Option 9A is a hybrid solution that may help reduce runway delays by turning further away from those on 22 WEST. It also avoids overflying Thorley.
Design Principle link: Noise N1, N2 and Demand.

Some of the information on the charts talks about how emissions are minimised and efficiency is created, but often participants were confused as to exactly how this takes place – is a tighter turn less fuel efficient? Does more noise equal more turns?

Option 5a on the previous slide is a good example – how is this more fuel efficient? What is the science here? How could it reduce runway delays?

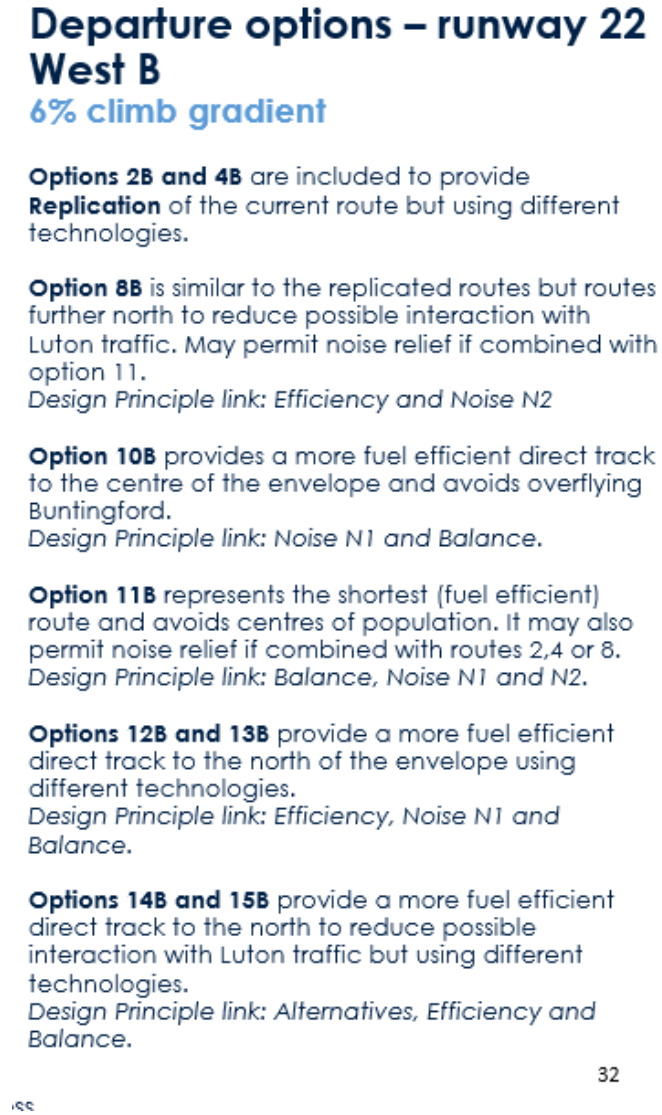
Participants come back to the technology principle – they are interested in 8% climb gradients – can these not be applied for the majority of planes? What are the restrictions here? What percentage of planes will be able to fly out at 8% in, say 2022?

YouGov

There is a need for metrics and a quantitative scoring mechanism

- The information on the right of each flight envelope was useful. It allowed participants to see how each route carries a specific benefit.
- However, one focus group suggested that the information be shown as percentages – so they could see the relevant merits of each approach.
- This could show how each option differs from each other, or from the current routes where relevant.
- Because, though this information is useful, there is a sense of subjectivity and a lack of clarity.
- This was where the lack of a specific principle on the environment was most missed – they wanted to see a ‘stand alone’ environmental assessment.

“If it flies over less people more often or more people less often or how is it measured, how would you get a percentage for them to the noise reduction..” West



Departure options – runway 22 West B

6% climb gradient

Options 2B and 4B are included to provide **Replication** of the current route but using different technologies.

Option 8B is similar to the replicated routes but routes further north to reduce possible interaction with Luton traffic. May permit noise relief if combined with option 11.
Design Principle link: Efficiency and Noise N2

Option 10B provides a more fuel efficient direct track to the centre of the envelope and avoids overflying Buntingford.
Design Principle link: Noise N1 and Balance.

Option 11B represents the shortest (fuel efficient) route and avoids centres of population. It may also permit noise relief if combined with routes 2,4 or 8.
Design Principle link: Balance, Noise N1 and N2.

Options 12B and 13B provide a more fuel efficient direct track to the north of the envelope using different technologies.
Design Principle link: Efficiency, Noise N1 and Balance.

Options 14B and 15B provide a more fuel efficient direct track to the north to reduce possible interaction with Luton traffic but using different technologies.
Design Principle link: Alternatives, Efficiency and Balance.

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But in terms of the key research question….

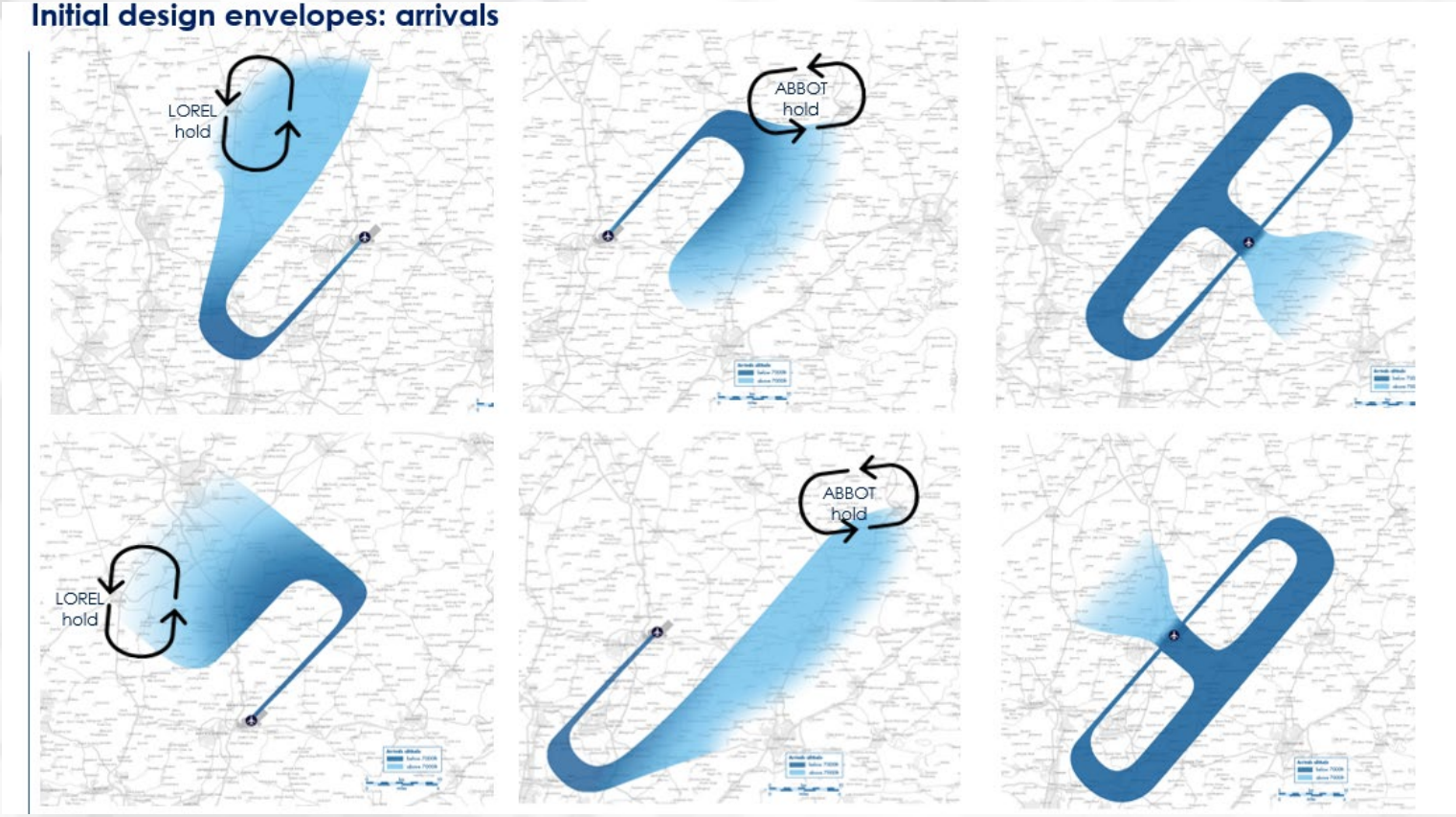
- The answer is definitely yes. Participants were, on the whole, satisfied with how rigorously Stansted has been reviewing the early feedback and giving it such emphasis in the departure envelopes.
- They are satisfied that noise has a great deal of prominence in the principles and throughout.
- They are satisfied with how thorough and detailed the presentation was and how it listed the various moving parts. BUT….
- The provision of certain aspects of information, particularly around technology and the impact on noise reduction, needs to be greater.

"I think they've done the best that they can with the limitations that they're working under and all the the constraints." West

"I think it's given us a very good overview of the process. The opportunities we've had to have some input, and the fact that there is a real structured process, not only with the consultation at this early stage with interested local residents, but also the wider implications are being considered." East

Arrivals design envelopes

Finally, respondents were shown design envelopes for arrivals, and asked to share their feedback…



"I feel positive about everything i've seen and heard about the continuous to send continuous climb all comes across as positive me there's going to be between and arguments about where it goes over because you can never make everyone happy" East

"Couldn't you have 2 arrival points but you've got 2 different variants there, couldn't you have 2 different variants of the other one, so you've got 2 points but you've got 4 different routes". West

The perception given was of concentration not dispersal

What about respite?

Participants thought that, contrary to the departure routes that seemed to indicate respite, the arrival routes seemed to indicate that arrivals would be concentrated in a particular area – they wanted to know what dispersal was possible –and did not understand the rationale for one single arrival point.

Need to look at departures and arrivals together

Participants also felt that it was important that the combined effects of departures and arrivals are looked at together –some may be impacted by both.

What about the holding stacks?

Participants reckoned that, if the holding stacks were going to be removed then there was surely less need for one single arrival point. The emphasis on safety needs to be made crystal clear

"what's interesting is that actually that's introduced a holding pattern …that'll be gone by the time that those departure and arrival routes have been put into place, which is 2024, is that correct? " West

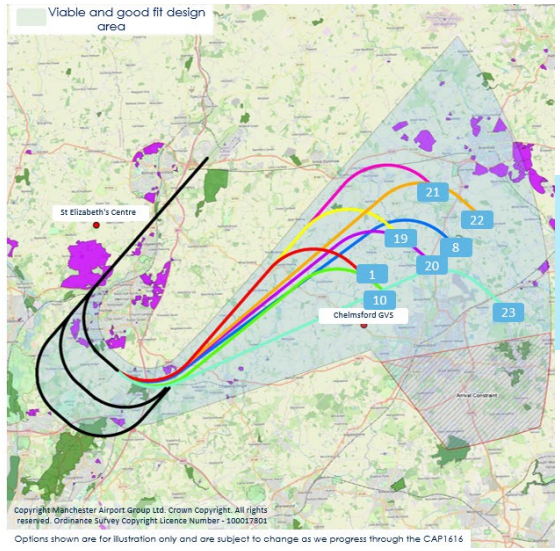
As with departures, the micro was much easier to discuss than the macro

Step 3 – East route options for Runway 04
Viable and good fit

This shows the East options within the viable and good fit design envelope for Runway 04

All the route options in this envelope are different to how we fly today. This is because any routes from the existing ABBOT hold are outside of the viable and good fit design area, shown here. A CDA cannot therefore be achieved to both runway ends.

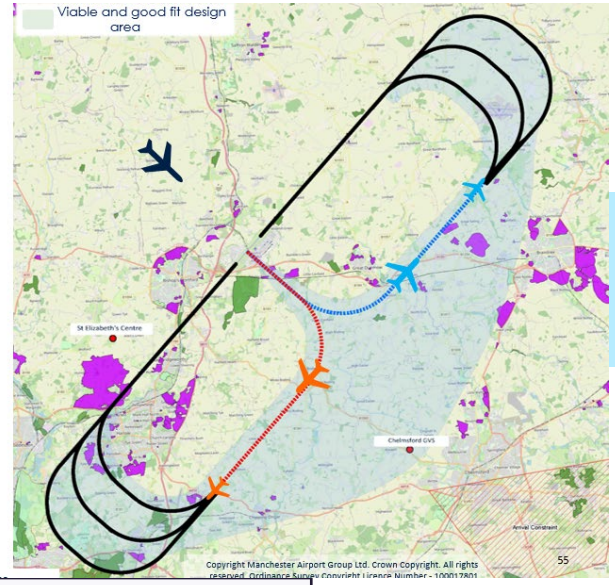
- Options 23 aligns to Noise N1 and is at the edge of the designable area.
- Options 21 and 22 aligns to Noise N1 by avoiding Braintree, but are less fuel efficient for this runway.
- Options 8, 19 and 20 apply N1 on noise by remaining north east of Chelmsford.
- Options 1 and 10 are optimally placed to provide a CDA to both runway ends and align with both design principle Noise N1 and Balance.



Step 3 – Centre West options
Viable and good fit

This shows the centre options for both runway ends originating from the north west.

- The traffic flow to Runway 22 is represented by the light blue aircraft.
- The traffic flow to Runway 04 is represented by the orange aircraft.
- Both options have identical fuel burn to each other in line with the Balance design principle.
- Noise relief, (design principle Noise N2) has been included via variable joining points for final approach



In most examples, the arrival routes converge – participants seemed less interested in the arrival point and more interested in the routes – they wanted to know what variation and respite was possible before the planes take a necessary path to the runway

There was a mixed reaction to the 'symmetrical' third option, with the arrival point over the runway – many liked this as there were no residents underneath, but the flight path after that point seems fixed, which they were averse to.

But overall, as with departures, participants were satisfied that a sufficient amount of thought had gone into the process and that Stansted were conscious of the design principles throughout.

Final thoughts

Final thoughts

1. Participants are satisfied with the work that Stansted has done thus far. They are satisfied that evidence-based science underpins the options and that the airport is taking into account views of local residents. But….
2. …the conversation we were trying to have with them was not the one they wanted to have. They are eager for specifics – e.g. a shortlist of 2 or three potential flightpaths. Once these are available they will be much more willing to test them based on the principles.
3. Noise is absolutely key – it is the lens through which they judge all the other principles, apart from the environment.
4. And N2 is the key principle, many are excited about the plans because they think it will result in more dispersal, and being overflown less. However, many are also concerned about their being more flights overall…
5. …despite being told otherwise there is the residual belief that the programme will bring about more flights as it will create a more efficient airspace. And rumblings about second runways still persist.

Learnings for the remainder of the engagement programme

Housing – who has priority?

There is a concern that the residents of the future have priority over the residents of today.

The use of statistics would help

Using statistics to demonstrate comparable differences between the principles makes it easier to digest – and fewer accusations of subjectivity. Avoid technical jargon and linking back to jargon and codes such as FASI-S and N1

Participants love to hear about technology – and tomorrow's world

They are fascinated by the airlines of the future – smarter, greener, quitter technology – and want to hear more!

And the environment needs to have more prominence

There were concerns that there was not enough emphasis on the environment – which may fuel theories about more flights….

December 2021

Future Airspace Research: Phase 2a – route designs and rationale – engagement part 2

MAG London Stansted Airport