June 2022

Future Airspace Research: Stage 2 –Route designs and rationale –Phase two engagement

Background, aims and objectives

Background

As part of Government proposals to modernise 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, Manchester Airport together with NATS, the CAA and other airports have been working 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 Manchester Airport 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 Winter 2021 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 MAG is rigorously applying them in the design.

Aims / objectives

Ultimately, the research sought to identify:

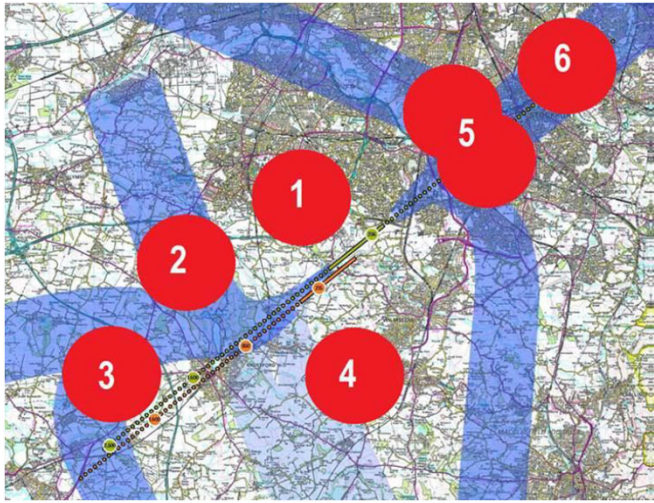
- Whether respondents understand the rationale for the design envelopes and draft routes (e.g. design considerations, arrivals and departures boundaries, and constraints)
- Whether they feel that the envelopes and routes take into consideration the design principles established by MAG
- Whether the design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

Method and sample

The research involved eight 2.5 hour focus groups with members of the public living in close proximity to Manchester Airport. Research took place between 16th May to 9th June. Over 80 were recruited in total and 77 people took part in the groups in total. Respondents were recruited from the YouGov panel, and via Manchester Airport (re-contacting those who took part in previous waves of the research, along with a wider stakeholder sample). They were separated into 'Alpha' and 'Bravo' as per the below;

	Forum number in Phase 1	Zone on map	Areas encompassed
Alpha	Forum 3	Zone 5	LISTO2S/ASMIM1S Cheadle Hulme-Didsbury-Heatons
	Forum 4	Zone 1	East of SONEX & West of ASMIMS1S-Bowdon-Hale-Altrincham
	Forum 5	Zone 3	05 Approach-Knutsford-Mobberley
Bravo	Forum 1	Zone 6	23 Approach -Stockport-Denton
	Forum 2	Zone 2	SONEX-Dunham Massey & Mere
	Forum 6	Zone 4	LISTO1Y/R -East of Knutsford-Chelford-Bramhall-Marthall

Two of the discussion groups took place in person, at the Marriott Hotel (one with Alpha, one with Bravo). 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. MAG 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.

YouGov

Feedback on process and rationale for the Airspace Modernisation Programme

Design Boundary

Determine where we could fly below 7,000ft.

Constraints

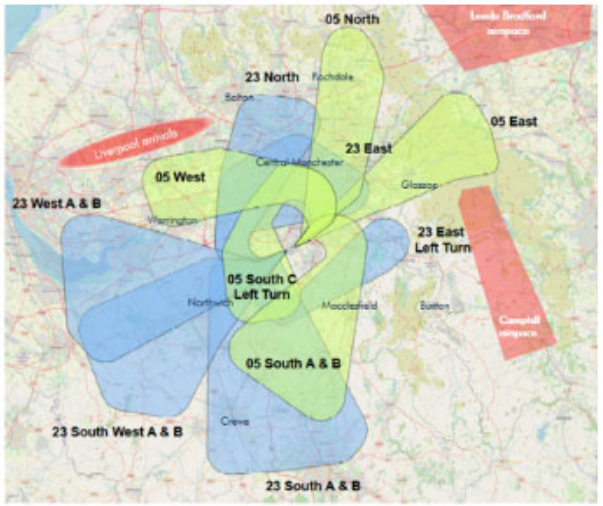
What could restrict our design ideas?

Design Principles

Using our design principles and supporting CONOPS, consider what we want to achieve.

Design Envelopes

This process created a set of design envelopes – broad areas where we could place routes – for departures and arrivals.



"I can see why it takes so long, but things can presumably change over the seven years since the process has started. In terms of, I suppose, aircraft and noise reduction and so on. So, you might be consulting on something that's already starting to become a little bit out of date by the end of the process". **Group 3**

"We're in 2022 now. Looking at the timespan for this actually to be implemented is another three years. Surely with the improvements in aircraft, and the improvements in fuel and environmental changes, I'm wondering how long we're going to get until some of these things are going to be negated by the fact that we're on silent propulsion, or we're doing different things, and that technology's going to solve some of these issues for us." **Group 6**

Timeline

We are here

2019-2020	2021-2022	2022-2024*	2024-2025*	Late 2025*	2025 onwards*	2026 onwards*
Stage 1 **Define**	**Stage 2** Develop and assess	**Stage 3** Full public consultation	**Stage 4** Update and submission of proposals	**Stage 5** Decision	**Stage 6** Implementation	**Stage 7** Post-implementation review
Step 1A We sent our Statement of Need to the CAA in March 2019 **Step 1B** We gathered views on design principles during early autumn 2019 before proposed principles were sent to the CAA for approval in late 2019.	Using the design principles produced during Stage 1 as a framework to evaluate different design options, we will develop and assess options for any airspace change. We will send details of the process followed to create those design options to the CAA for approval in autumn 2022.	Once we have approval from the CAA to proceed, we will prepare to consult the public on these options.	We will update our airspace change proposal, taking public	We expect the CAA's decision on whether to approve any airspace	If approved, any airspace changes could be put in place.	The CAP1616 process gives the CAA and airports 12 months to review any change that has been made to airspace.
In January 2020, the CAA reviewed and signed off the documentation relating to Stage 1, and we passed the **"Define" Gateway**	**"Develop & Assess" Gateway**	**"Consult" Gateway**				

"My only reflection is from the November/December work, is it was very difficult to give any response other than that the process being followed was the process that should be followed, which almost seemed like it was a given. There was no option to input, in terms of the actual practicalities of what this would mean for people or residents. It was very much just about the process and it, kind of, felt like there was no solution other than it would get a tick in the box." **Group 2**

*All future dates are provisional pending CAA approval and alignment with the wider Airspace Modernisation Strategy

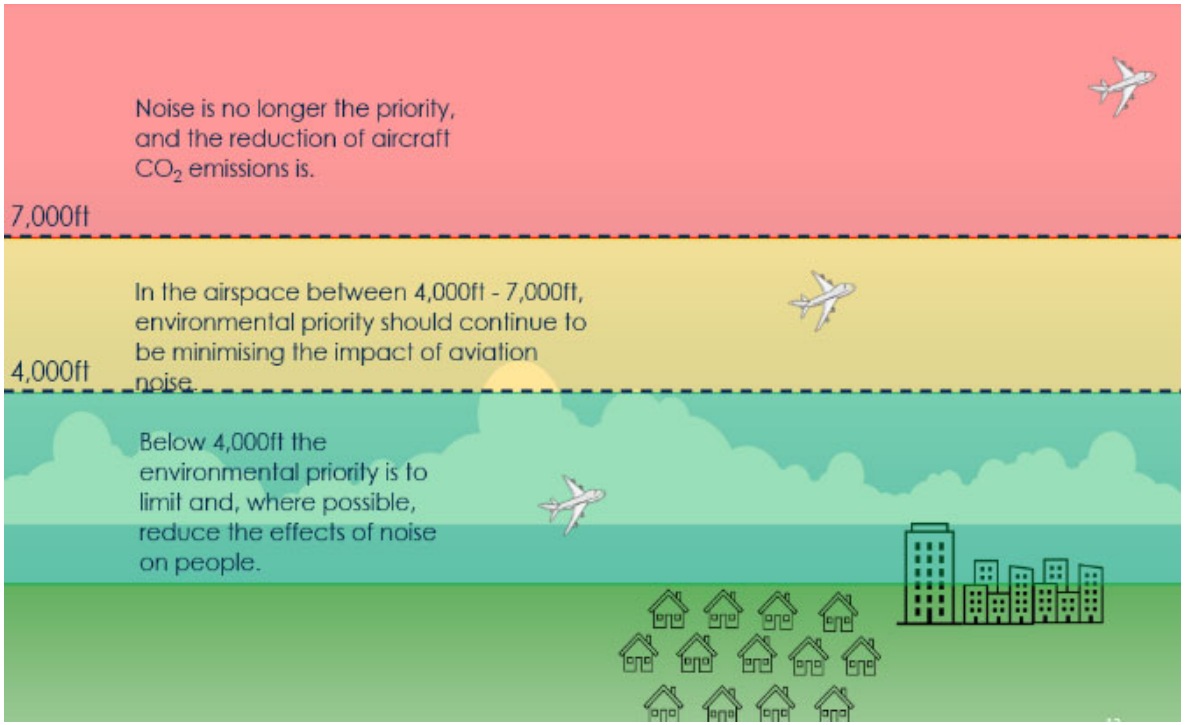
Airspace modernisation review – thoughts on the process

- Detail is reassuring – it looks to participants that a great amount of thought is being put into the process and that there are numerous factors being considered
- Suggestion that the engagement is broad and that the feelings of local stakeholders are being considered and taken into account – also reassuring

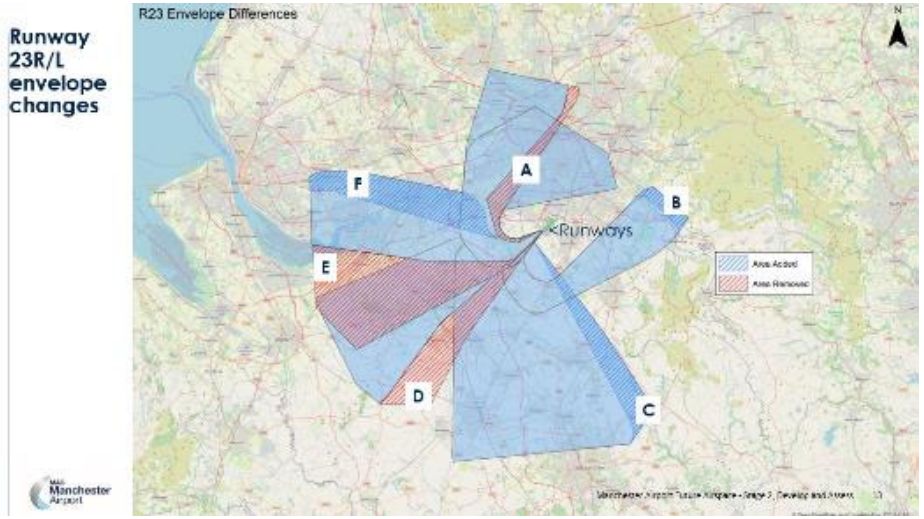
- Concerns persist that the process is ‘tick box’, that stakeholder feedback will not be listened to and that the airport will just ‘plough on’ regardless.
- The size and scale of the review is concerning to many – it makes them feel that industry will simply impose its views on the future airspace programme and overwhelm the views of the public and local residents.

But there were some concerns about the implementation of government policy around noise and emissions

- It was explained to participants that government policy is to prioritise noise and emissions based on aircraft height
- Though many people understood this and it was a useful primer, it also caused many to worry that MAG may be operating an inflexible approach to the new flight paths.
- Some whose overwhelming concerns are around emissions were worried by this -it could also perhaps make clear the proportion of time that planes spend above and below 7000 feet.



Participants had little to say about the ongoing work to envelope design



Key take outs

Participants broadly understood that work on the envelopes was ongoing and refinements had been made since the previous wave of engagement in 2021. This was clear, and reassuring for them to hear about ongoing work and thought being put into this.

Challenges

Some did raise the point that issues such as avoiding other airports and their airspace are quite fundamental – obvious, perhaps. Was it not known right from the start that this would present a problem?

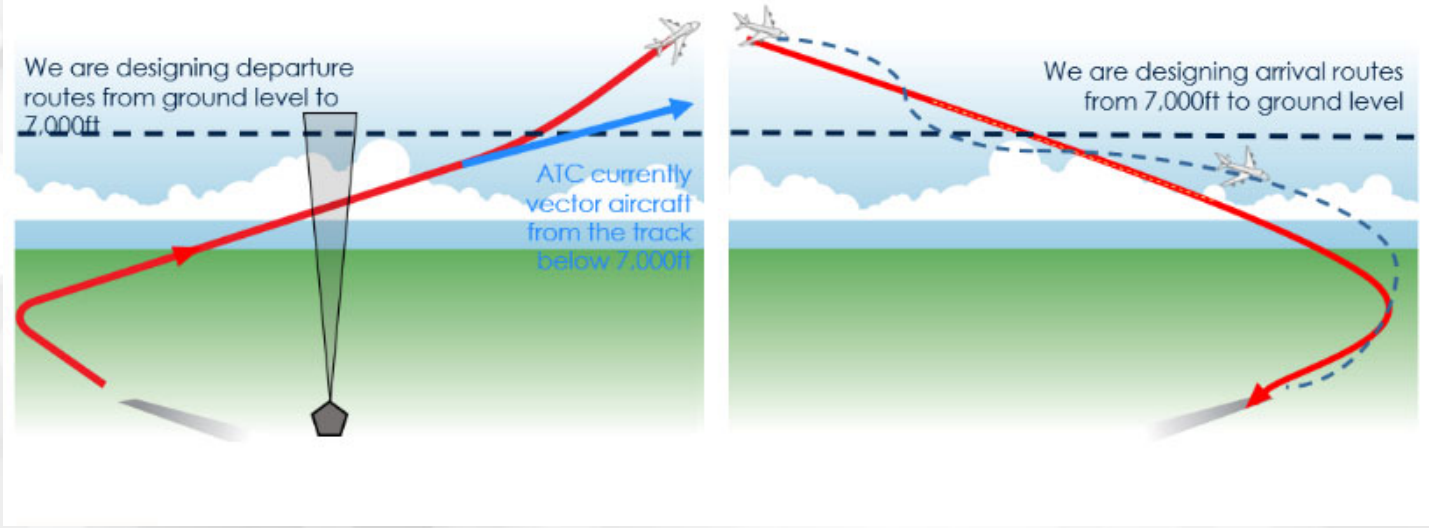
The introductory information about process and rationale broadly makes sense – particularly as an opportunity for positive change

- The information about envelopes and the rationale for change made sense to participants, as with the earlier forums, they expressed the view that this is a good opportunity to update and modernise something that is unchanged since the 1950s.

- This often led on to discussions around night flights – they feel that this is something that needs to be looked at as part of the review. Many are also interested in learning how the current situation could be improved through technology – better, more modern aircraft.
- Essentially technology and the opportunity for technology to improve noise reduction is of great interest to them.
- It generated more questions and fruitful discussion than the process of engagement. This is partly because many are suspicious of how much local residents voices will be heard – however, underlining the detail and complexity of it can only be a good way to counter that cynicism.

> ***"What I think they should do, and I think what they have a duty to do, is say for example they know full well that SK4 postcodes are going to get a kicking because of the new flightpath. Manchester Airport should flyer and leaflet and write to every resident in the postcode of the areas that's going to get knackered".*** **Group 7**

Technical details and design principles



"I can just see that there's going to be maybe many people who potentially won't have as much aircraft noise going forward, well done, great for them. Those who are going be under those concentrations are going to get more noise and so it will be less people affected more as oppose to it being spread out and shared amongst more people". Group 3

Technological advances in aeronautics are of great interest to local residents – perhaps more than you might think

Participants wanted to know about how technology was advancing and what tomorrow's world might look like..

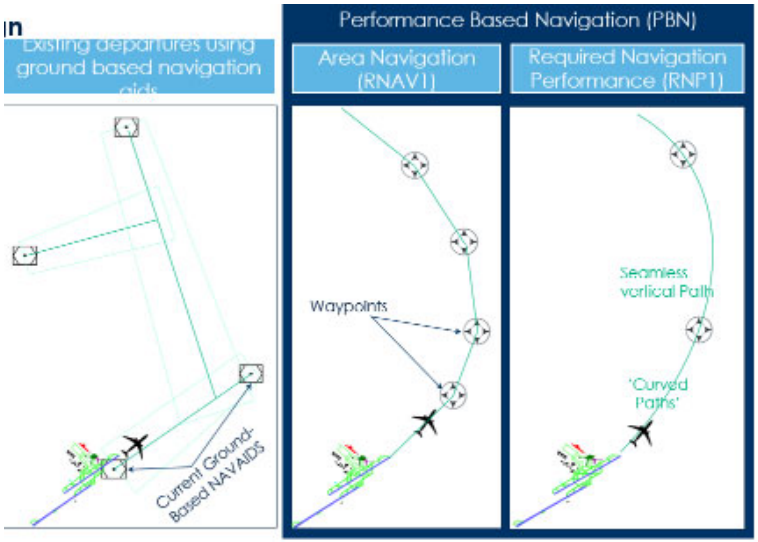
This includes climb gradients and what might be possible with existing technology as well as CDAs. Also, reducing fuel burn, quieter turns, reducing the need for holding stacks

In their minds much of this is mitigation – it is hard to dislodge the idea from their minds that more planes are going to be in the sky
therefore indications that they will be less disruptive are of interest

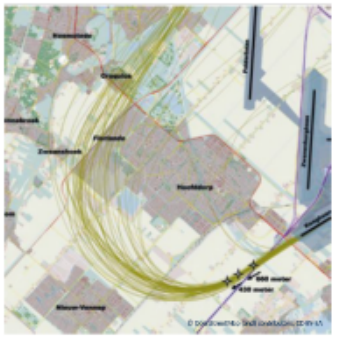
"Can I just add though, as a bit of an aircraft geek, if you go to the aircraft and you stand on any of the things and listen to the planes, the ones that are by far the noisiest are the old 737s You watch the A380 take-off, it's the world's biggest passenger aircraft and you're expecting to hear this enormous noise, but it's quieter than the little old planes" Group 3

***"I know that many airports around the world, even ten years ago had got RNAV arrivals and RNAV departures. In other words departures based on no ground aids at all, just flying accurately from waypoint to waypoint. If they were doing that ten years ago, Is the reason that Manchester appears to be so behind the eight ball on that?"* Group 4**

Technical details were understood – and of interest



Ground path of Precision Based Navigation (PBN)



The green lines are aircraft tracks flown using conventional procedures and ATC vectoring.

The dark green lines are aircraft tracks flown using PBN.

Key take outs

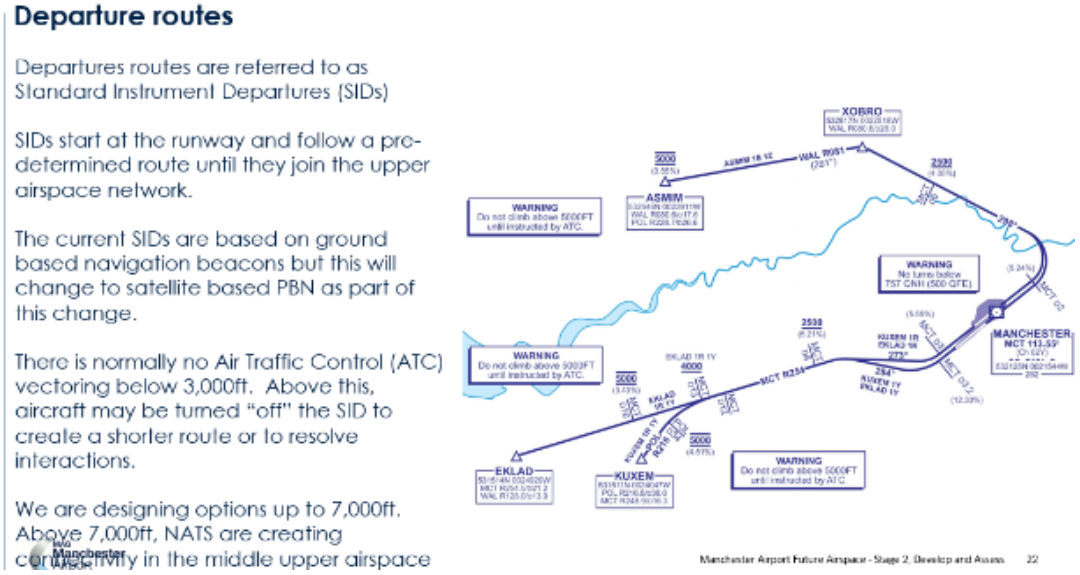
Participants generally understand the idea that PBN will lead to more concentrated departure routes. They can see that it will minimise the number of people affected by aircraft noise, and are cautiously supportive of it

Challenges

However they remain suspicious that this will simply lead to more flights overall. And they feel that the noise will be constant – the potential for respite needs to be dovetailed with this information to get them more on board with it

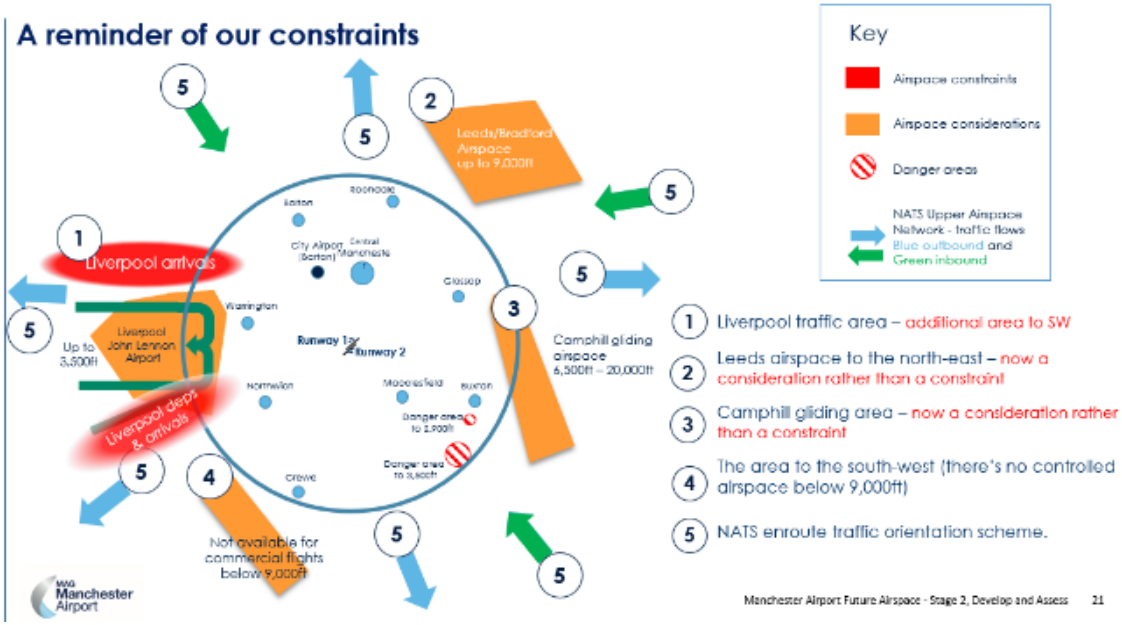
But a balance needs to be struck – presenting technical details in accessible language

- Participants ARE interested in technical details but there were instances where this was taken too far – on overreliance on technical terms and acronyms can confuse them and push them away.
- Using more straightforward, everyday terms, and simple iconography works better (e.g. the noise/emissions diagram)
- This did allow some in the group with more technical expertise to assert that PBN and CDAs were already well established – and question why they were being presented as 'new' technology.



"I've been out of the game for eight years now, but our company policy was always to try to do a CDA approach, and Manchester Air Traffic Control were very good at looking at the airspace and telling us the number of track miles to run so that we could optimize our descent profile. So, yes, the onboard equipment, even the aircraft I was flying eight years ago, the old 75, 76s, we had the technology to enable us to do a CDA approach." **Group 6**

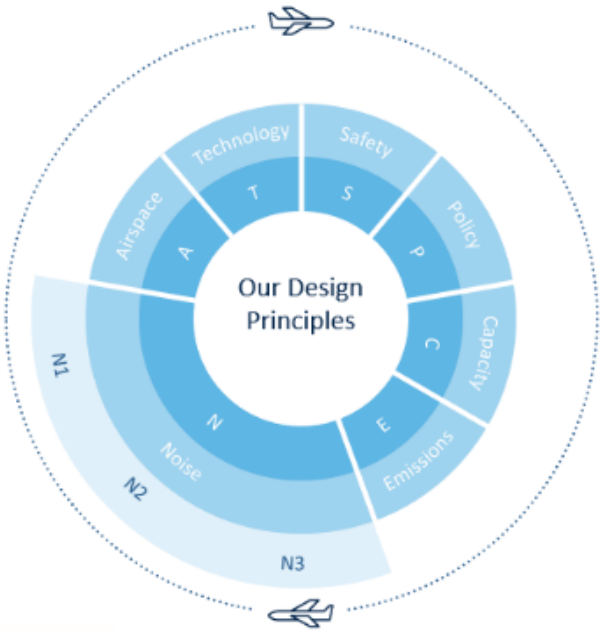
Information about constraints was clear and unproblematic



Participants were shown information about constraints and how they had been classified and assessed. Interestingly, there was much less pickup on this issue than at the forums, which may indicate that they are glad to see these areas 'opened up' (particularly the Camphill airspace). The interaction with Liverpool Airport remained the key concern.

Testing the design principles

Reminder of the design principles



S Safety
Our routes must be safe, and must comply with industry standards and regulations.

P Policy
Any change must accord with the Civil Aviation Authority's Airspace Modernisation Strategy. Any airspace change must also allow connection to the wider UK En-Route network and be aligned with the Future Airspace Strategy Implementation for the North programme and take into consideration the needs of other airports.

C Capacity
Our future airspace must enable best use of the capacity of our existing runways, in line with government policy.

E Emissions
We will minimise, and where possible reduce, emissions when we design routes. This may be achieved by selecting the most direct routes.

N1 Noise
Our route designs should seek to minimise, and where possible reduce, the number of people affected by noise from our flights.

N2 Where practical, noise effects should be shared. The use of dispersion and/or respite, especially at night, will be considered to achieve this.

N3 Where practical, our route designs should avoid, or limit effects upon, noise sensitive areas. These may include cultural or historic assets, tranquil or rural areas, sites of care or education.

A Airspace
Our route designs should minimise the impacts on other airspace users by limiting Controlled Airspace.

T Technology
Our route designs should be based on the latest aircraft navigational technology widely available.

MAG Manchester Airport

"The principles are set out, and obviously the factors that might impact on the decision. Are they weighted, when you make a decision, so, like, efficiency or fuel consumption. Is there something that overrides?" Group 1

"I kind of feel that you were given the principles in the first place that you have to stick to…. Whatever the public and the people and the stakeholders wanted, I think it just feels a little bit like you've been told that these are your principles and that's what you've got to go with". Group 3

The design principles were well received, but terminology and presentation could be tweaked

- Participants were told that there were three ‘must-have’ design principles, with the implication that the others were ‘nice-to-have’.
- Elsewhere, though they were pleased to see that noise was represented three times, there remains confusion about the contradiction between N1 and N2. Showing the nuanced interplay between the different noise principles and how they can work successfully together may be beneficial.
- Sense that the technology principle could be dialed up (the order in which the principles appeared was taken to be a descending order of priority) – as participants see it as the potential solution to many of their problems, as opposed to something that is just a consideration.

“How do you square the circle between minimising the number of people affected, whilst practically sharing it out between lots of people? It does seem to be a contradictory pair of statements and I guess it then allows you the opportunity to choose which one you want to follow, which is, ultimately, a bit dangerous, isn't it?” Group 8

And noise will always be key – so is it a ‘secondary’ principle? Why is it not a ‘must have’?

> ***“In all of this, I am completely struggling to understand what's going on in terms of the principles. In that, yes, okay, these are all possible options that aircraft could follow, but surely they then all get rejected down into the ones that cause the most noise, and the ones that cause the less noise become the favourite ones”. Group 4***

> ***“When we're talking about noise considerations, are we talking about the noise levels or the frequency or both? Because I'm just thinking, if there's a difference between a plane going past every half an hour, 45 minutes, and one going past every two minutes, it's the frequency and the nuisance that that creates, is that taken into consideration with noise? “Group 4***

- As with last year’s forums there is a concern that Manchester Airport seem to focus mainly on addressing the three core principles but with less focus on noise.

- The concern persists that the three ‘must-have’ principles relate to objective facts around where it is possible to fly rather than more subjective information on the effects of aircraft flight on the ground. There is therefore less room for manoeuvre.

The ‘capacity’ principle is a bone of some contention

> ***“Are you planning all of this based on an increasing capacity? And if so, how much? And on what basis? Is this about more efficient dispersal based on the current levels and types of planes and routes? Or, are you modelling on an increase, or a decrease, or what? I understand there's going to be more pain for less people, but is that more pain based on same volumes?”*** **Group 5**

- As with last year’s forums, some were unsure whether capacity refers to more flights or just more efficient coordination of their operations.
- Many spontaneously assume it is about increasing airport capacity and a pervading perception that MAG want to focus on increasing their profits. Essentially, the naming of this principle leads them in a different direction from what it actually means.
- But there is a wider issue at play – even when told that this is only about “making the best use of existing capacity” many are sceptical – they feel they have been ‘burned’ in the past by promises the airport has made.

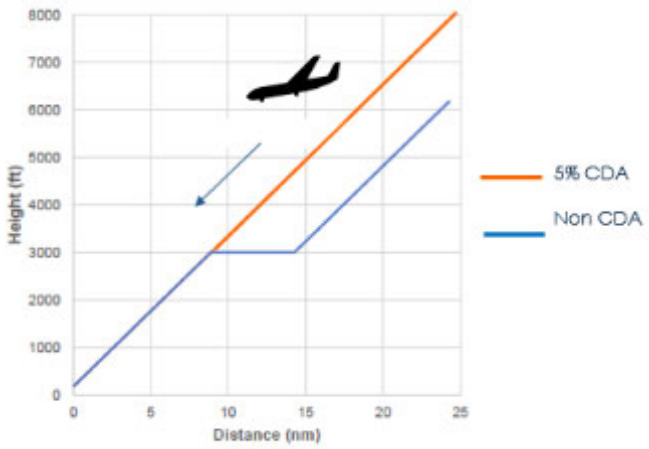
The environment/emissions came up less – but was crucial for some

"It concerns me that they're only talking about CO2, which is a long-term objective, and not the PM2.5 and PM1, nitrous oxide, which are the things that will kill you in the short-term, rather than the long-term climate. And there's no mention of it" **Group 1**

On the whole, participants were much more concerned about noise pollution than environmental pollution, though for some, generally those who were not affected by noise pollution, this was the biggest issue. They were pleased to see it enshrined within the principles, however there were technical questions that persisted about the type of particles being admitted, how the height of the aircraft affects this, etc.

Generally it was not always clear to them that a plane operating with PBN (or doing a CDA) generates fewer emissions – and how this can be achieved.

CDAs are a great way of explaining technological advances to the public



Key take outs

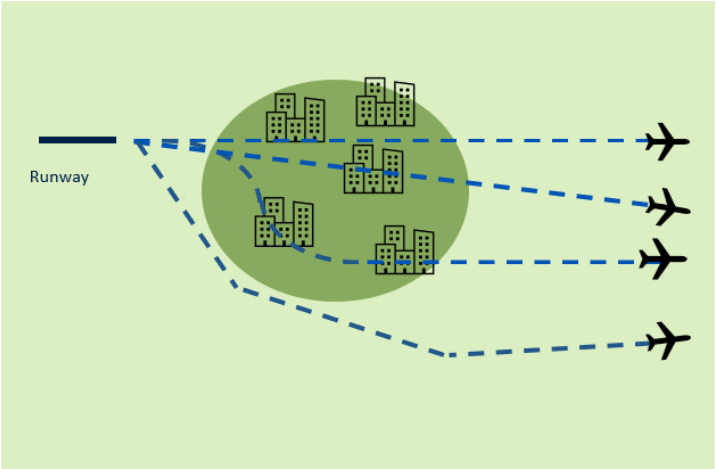
Participants understand CDAs and are very interested in this technology, how many planes currently are able to fly this way, and whether the majority of the aircraft fleet will be able to do so in the coming years

Challenges

However there was some confusion about the interplay between CDAs and arrival routes – is a CDA only possible with a straight(ish) arrivals route – are the two in conflict?

Respite

Noise Respite – Possible/potential flightpath alternation



What are our best options for respite?

Alternate flight paths according to times of the day?

Days of the week?

Weekend or weekdays?

Using multiple paths through the day to spread aircraft over a wider area?

- We struggled to reach a consensus either in the groups or amongst groups about what form of respite would be best, in terms of time periods and lengths of time
- The general consensus was that participants find noise at night most disruptive – either late night as they are getting to sleep or at daybreak, waking them up.
- So any variation that can be made here seems to be the one that would be most appreciated – the perception persists that night flights are increasing daily.

"If for example you take bank holiday weekends or Easter, the noise is pretty terrific than on a Saturday. It would be nice to think that kind of activity we could be given some respite from it and that we don't get it every Friday or Saturday when it's a big take-off day for holidays" **Group 5**

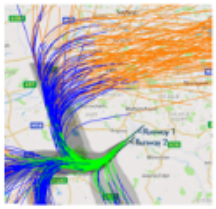
"Over night. Basically, during the day when you're working you don't notice them, the noise of the aircraft as much, because you're concentrating. It's actually at night when you're trying to sleep you're awoken by them, so to me [respite] would be end of night" **Group 2**

Arrivals and Arrival routes

What else has been considered in designing arrival routes?

The NATS network
We need to take account of the airspace network including changes to the current holds. (DAYNE, MIRSI and ROSUN)

MAN Departures
Avoiding interaction with our own SIDs to maintain an efficient operation.

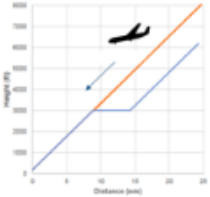


Airspace dimensions
Ensuring our routes align to the rules relating to controlled airspace and limiting the amount of controlled airspace we require.

Other airports
Liverpool is our closest large neighbouring airport but we also need to take account of **Manchester City (Barton), Leeds, Hawarden, Doncaster Sheffield and Warton.**

Aircraft operating procedures
We need to be aware of rules on aircraft turns, stabilisation and final approaches.

CDA gradients
There is an optimal gradient for CDAs and we need to design within that range.



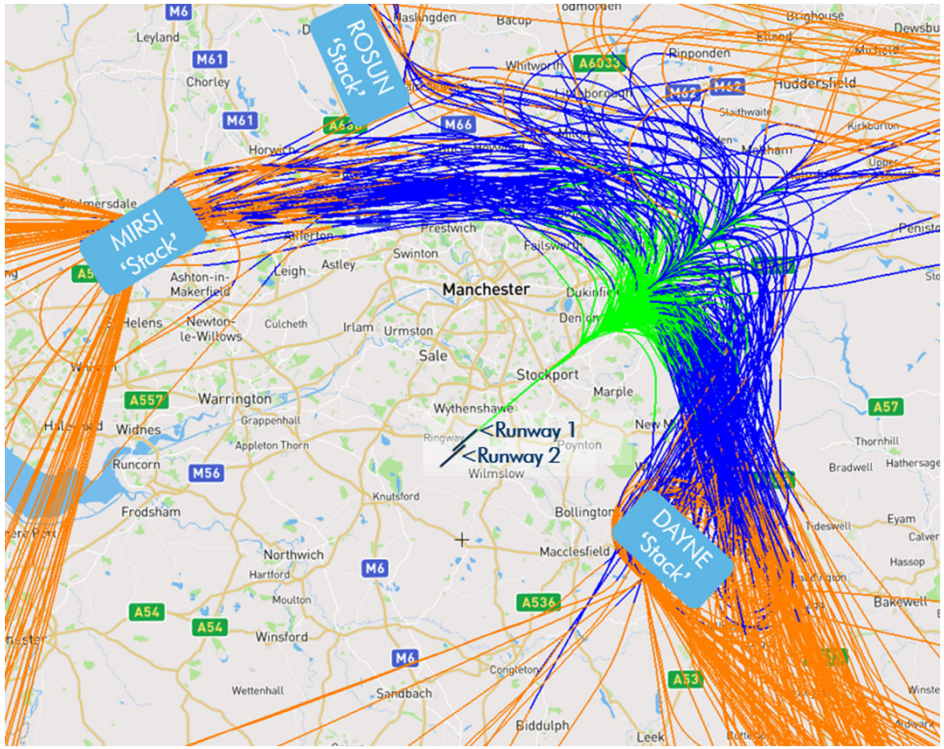
"I think that's a moot point, though, because at that point they're at 6,000, 7,000ft and a plane at 6,000 or 7,000ft is hardly any disruption. You know, if you're in your house, you're not going to hear it, as opposed to-, I mean, the main bits are the black bits. You cant' change the black bits and that's where it's getting really, really noisy." **Group 3**

"Do air traffic control-, do they have a maximum number of routes, that it's easy for them to coordinate? I'm just thinking in terms of safety, I presume this is much safer and therefore, some of the options that we're talking about, about diverting and using certain ones at certain days and times and weekends, is completely manageable for them?" **Group 6**

It is clear that the current arrivals system needs updating

- When shown the diagram, participants were struck by how much aircraft traffic comes in and out of the three stacks – many claim to see and hear this circulation of planes and there are concerns about the effect of noise and pollution. Therefore when told that the new system would be more streamlined, with less reliance on stacks there is much more positivity.

- Essentially, the removal of stacks was of great interest – more, for some, than the new routes.



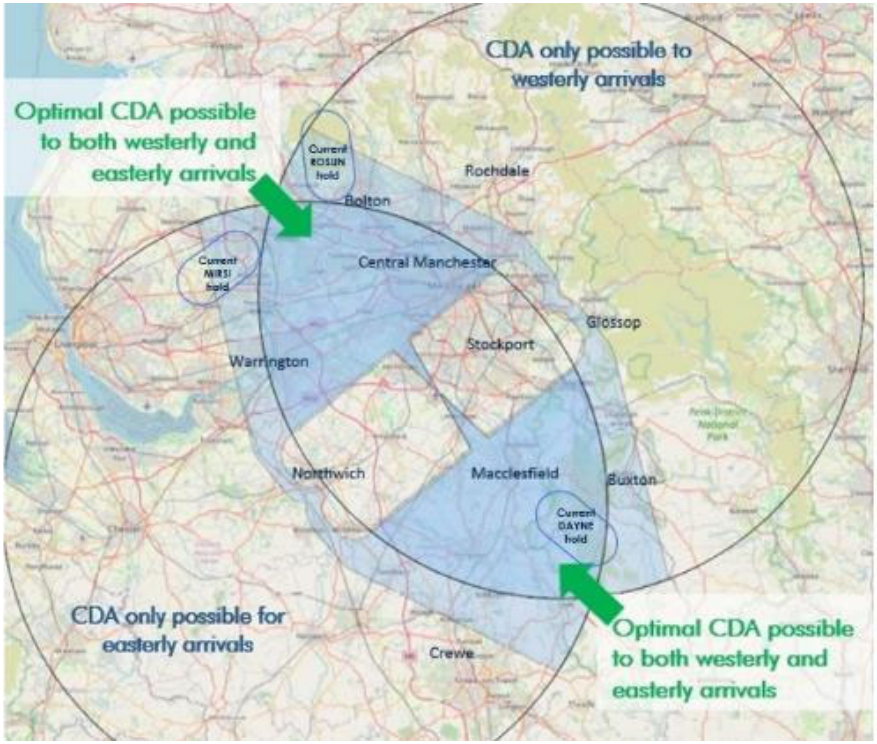
The arrivals point ‘zone’ requires some mental agility to grasp

> ***“That last graphic that you showed that had the dark blue areas, vectors for arrivals, but two big blank spaces over what you called Stockport and Northwich. That at face value looks, to me, like a really large residential area over which arrivals are not going to be taking place. Is that right? Is that different to now? Is that right, or is that just wishful optimism on my part?”*** **Group 5**

The viable design envelope

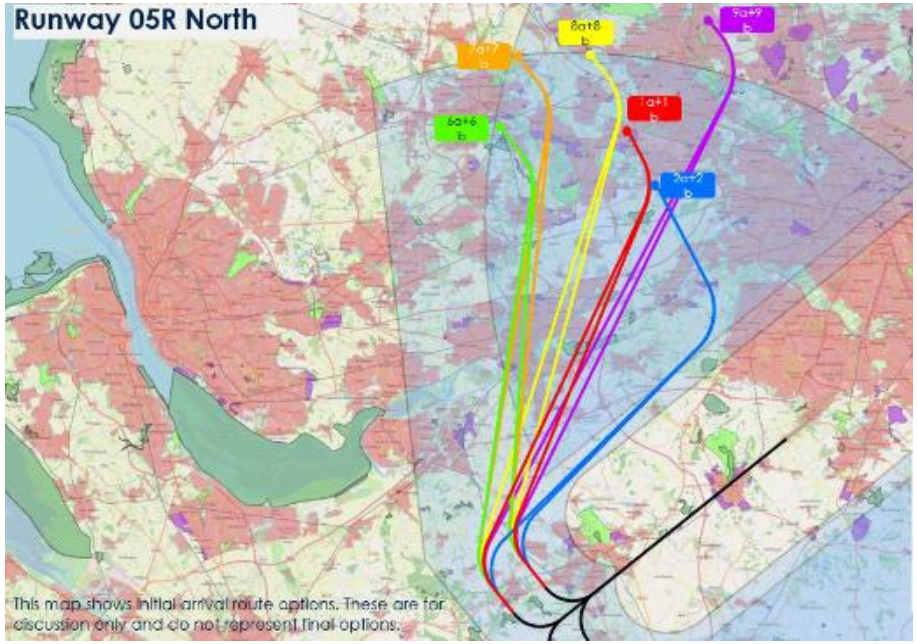
The blue areas are where we could place a 7,000ft starting point for our arrivals.

The darker blue is where we can be assured of an optimal CDA to both runway ends.



- The use of the diagram above is effective, though it is complex, and requires some thinking about. They need to be reminded that the arrival point has to reach two runways.
- What confuses people is that it uses a similar shading to the envelopes, which makes participants think that the darker the colour, the heavier the overflying
- They are therefore confused as to why Stockport and Knutsford are not in the shaded area – and some were even quite excited to see this…..

Some broad themes that were discussed when looking at arrival routes



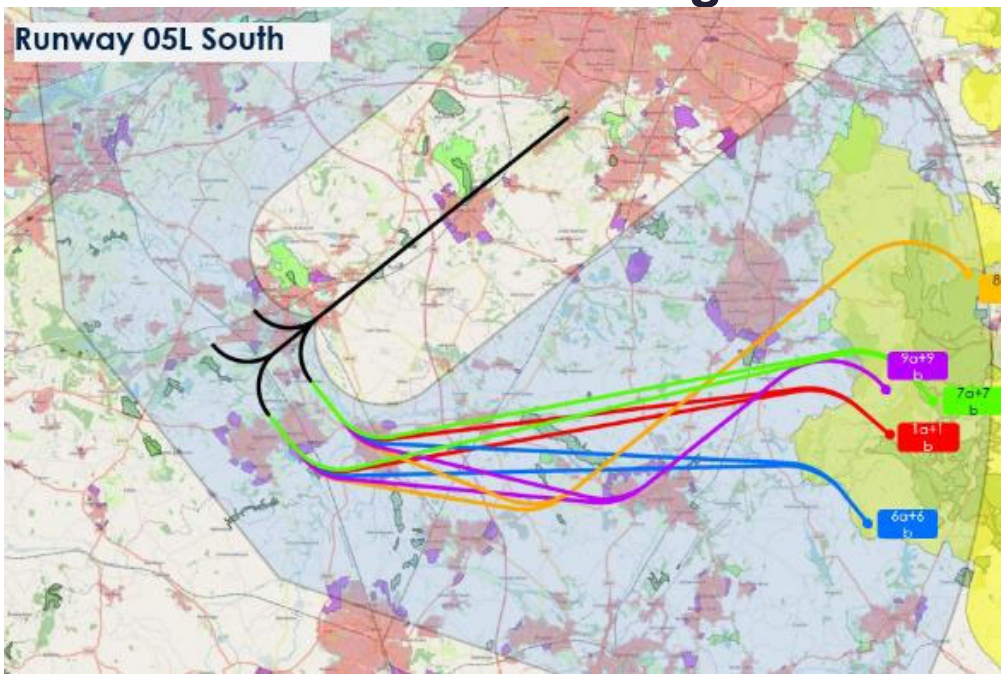
> ***"One of the things I would like to refute really, is that at the heights which they are over Knutsford, landing noise can be quite severe and if we do manage to get a continuous descent approach, we won't get so much of the power on, power off, that we get at the moment as they come in. And that would, certainly, be an improvement."***
> ***Group 6***

- There was slightly less energy and strength of feeling from participants when discussing arrivals – participants felt that they were less noisy than departures. For some, the discussion around the arrival POINT is much less interesting – it is the journey that they take to get closer to the ground – and become much noisier…..

YouGov

Some broad themes that were discussed when looking at arrival routes

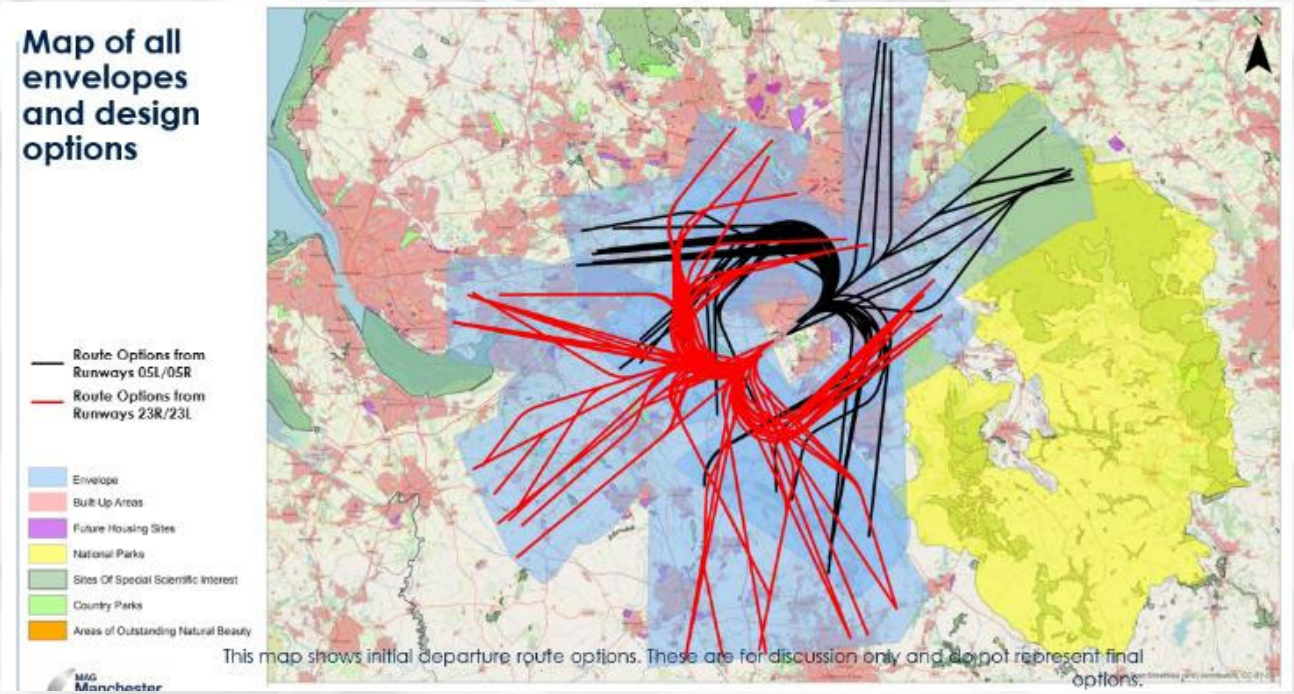
"So, it seems to me a bit illogical that a focus isn't being put onto the black lines to consider different options. I do appreciate that the runways are where they are. They're not moving and they can't just be made flexible to create different envelopes but the point of this exercise is to consider the noise pollution and the government guidance around the noise pollution is focused on 4000 feet and below which is where the black lines are, yet we've been discussing the routes where it's 3500 feet, 3000, 2500 and above and it just seems a bit illogical to me that the focus is being put there." **Group 5**



Broadly speaking there was more positivity for avoiding built up areas – and the routes provided opportunities for respite so were welcomed. But the crucial consideration is the turn before the final descent – is this variation currently available to arrivals? This information would be of interest – for example to the residents of Northwich and Winsford.

Also there was some confusion about why some lines appear shorter than others if they are all going to the same runway….

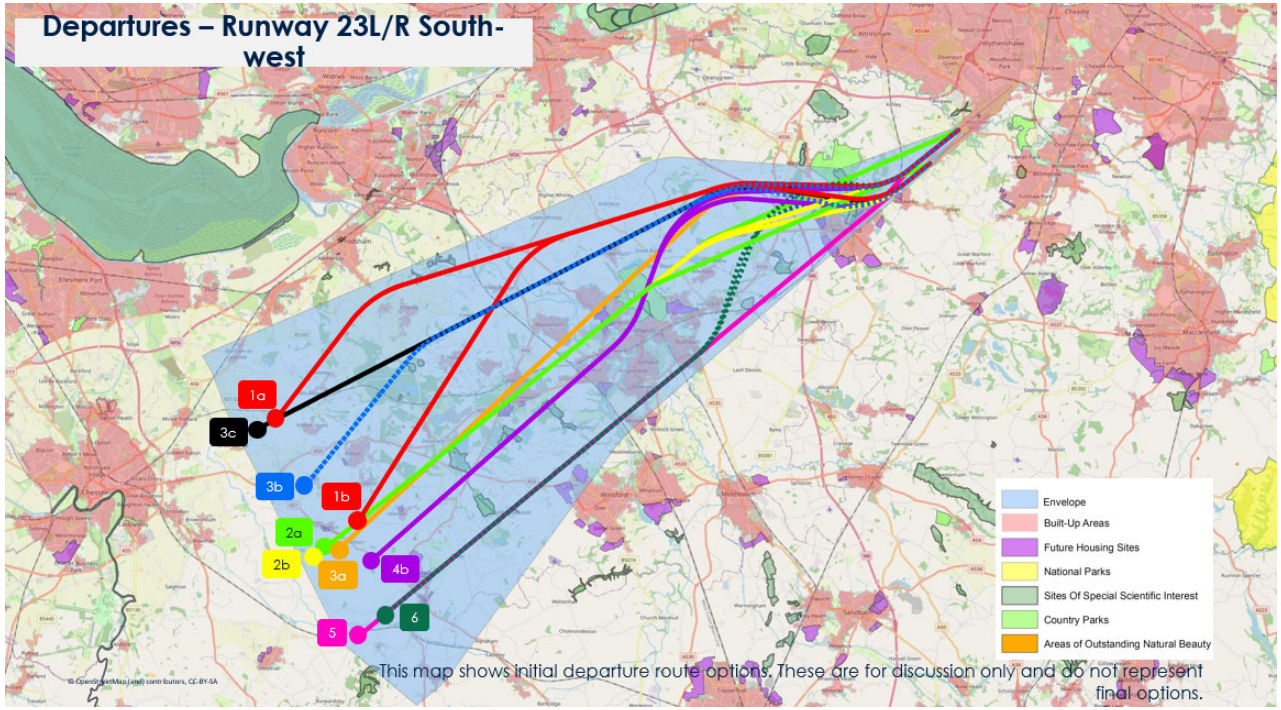
Departures and departure routes



"There shouldn't be a change in noise when they're banking. It's more about the rate of climb and therefore the amount. It's like you want to get acceleration on your car, right, you put your foot on the accelerator. It's noisier until you get to the speed that you're going, you ease it off and the noise comes down. That's the same with an aircraft." **Group 3**

Generally, participants were happy with the dispersed picture

"Nobody in Stoke-on-Trent, which is where those lines end, is suffering from Manchester Airport departure noise" **Group 2**

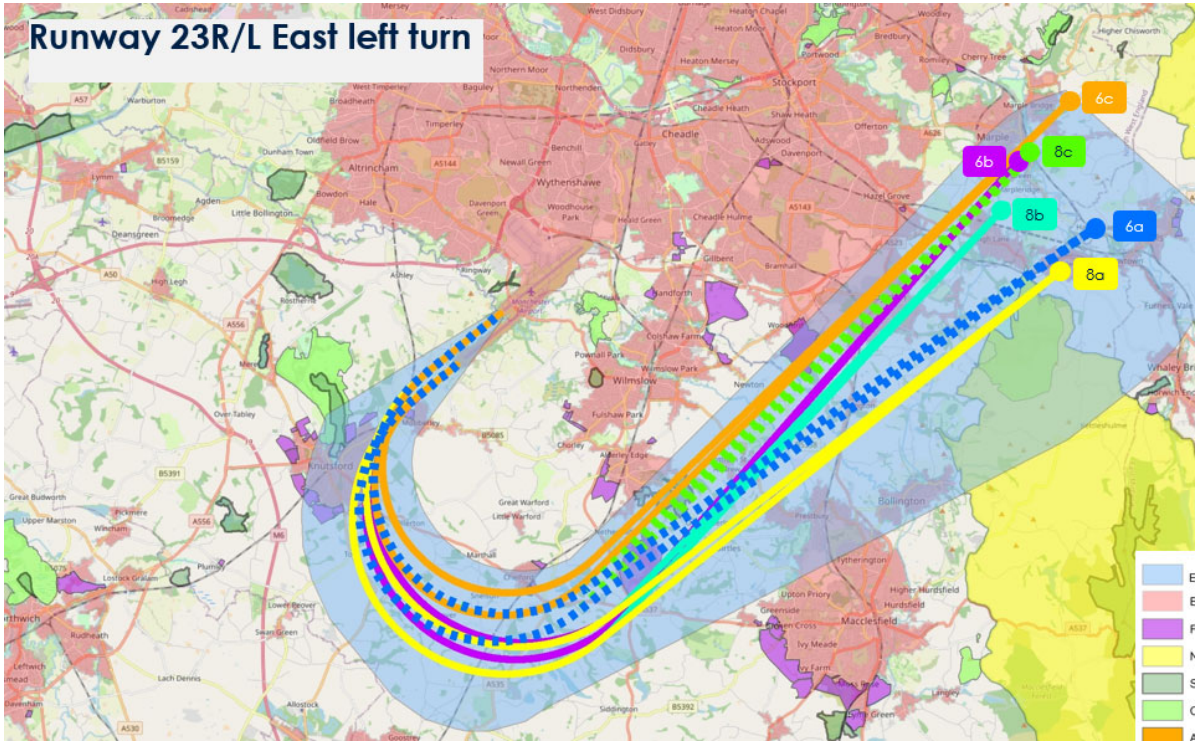


- As a general rule, the more lines they saw on the map the happier they were (as was the case with arrivals)
- This indicates dispersal and respite are possible – it means that there a less people profoundly affected by noise.
- But they were also told that the routes would be trimmed down which is not what they seem to expect – they want the whole envelope filled with as many routes as possible…..

And they are pleased to see new routes in new envelopes

> ***"So far the planes taking off heading off mid Knutsford at the minute, everything turns right and goes over me here. And I think that a variation, why the planes cannot turn left and fly over different routes and give everyone a variation. I think that's a really good policy"*** **Group 4**

> ***"I know we're not discussing arrivals, but I presume somebody's been through the arrival routes against the departure routes, and checked there's nothing overlapping."*** **Group 2**

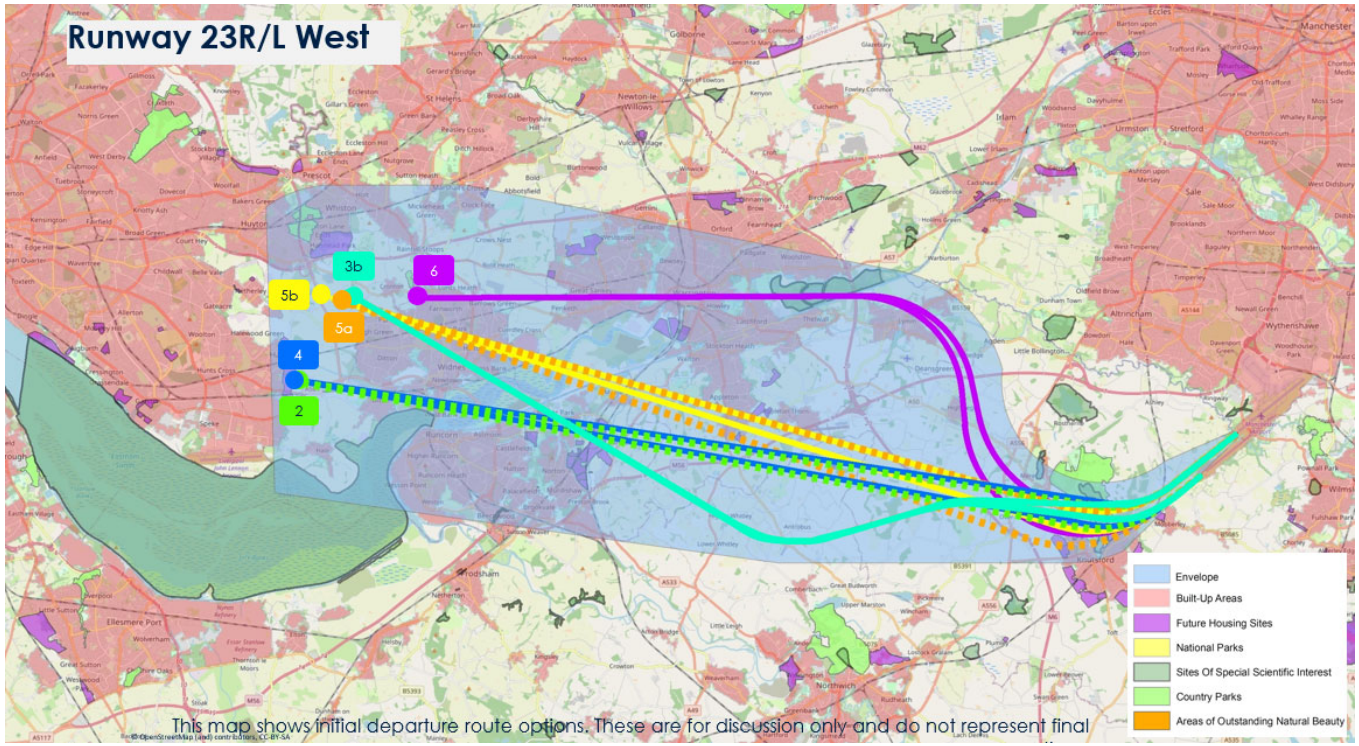


- The new envelopes were positively received, participants see the new envelopes and the new routes within all envelopes working together to provide options for respite.
- They were, on the whole, more positive around routes that overfly more rural areas and avoid built up areas. (and especially Knutsford and Stockport)

But the capacity principle proved problematic

> ***"The green line, which is track five, I think, that comes off both Five Left and Right, that is taking aircraft to the right of the current primary departure route and strikes me as taking aircraft over densely populated areas, and seems to be to be a completely daft idea."*** **Group 2**

> ***"Looking at the map, does route 1A not give you lower noise for people as well increasing capacity for the airport? Yes, the one that's marked 1A looks like it goes over less populated areas and you're actually saying it's there because it increases capacity. So doesn't it do both?"*** **Group 4**



- In many departure routes, the 'capacity' route seems to avoid the other routes altogether and overfly more sparsely populated ones.
- Participants remarked that this seemed like it should be reflected as a noise benefit
- Difficult to 'sell' the idea of a principle that speeds up the runway queues – seems to be more about increasing capacity – the one thing the public is terrified about

Overall thoughts and learnings for the remainder of the engagement programme

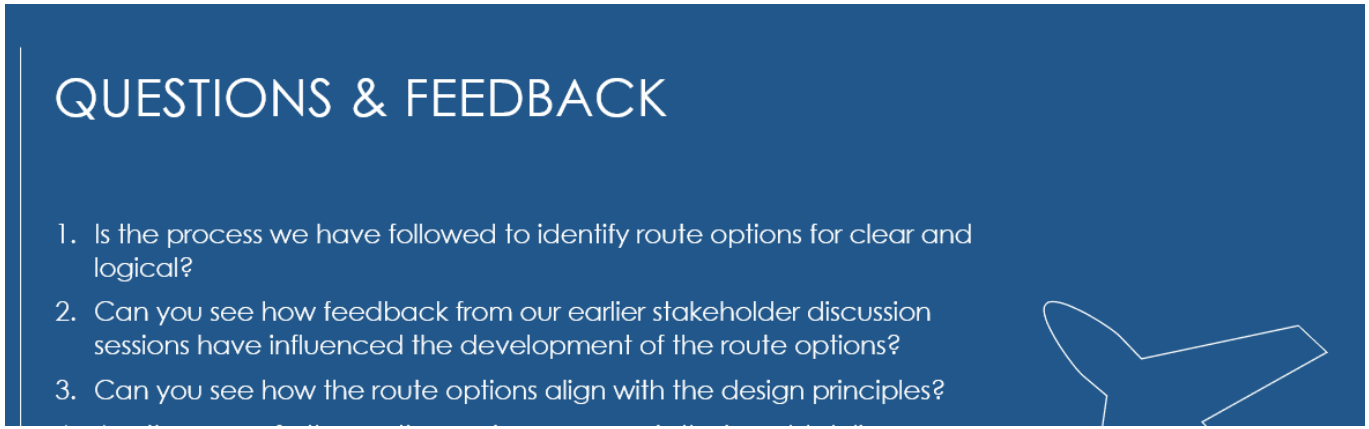
There is a need for data and the ‘before and after’

- The ‘data driven analysis’ in later stages of the consultation is of crucial importance to participants.
- They want to see the effects of noise compared with the status quo along each route.
- But also, they wanted changes to the way that the data is presented on the charts – showing ‘cones’ of noise of varying levels of intensity depending on height
- As well as this, they would like to see percentages on each chart– e.g. how many planes will fly this route from/to this runway?
- More complex than that, ideally they would like to see what difference the ‘before and after’ would be taking into account all new arrival and departure routes – across multiple data points.

“If all of these envelopes are going to eventually slowly overlap then if we're considering noise for one, for example, route 1A is the best to lower emissions, but then it overlaps as something else where there's a lot of noise, how would we deal with that? Do we focus on the noise or the emissions or which route? That's what I'm trying to understand” **Group 4**

“It would be nice to know that you know your average sound, the frequency of aircraft will increase by 30% in this narrow corridor, but the average spread of sound within that time compared to your normal single aircraft passing at three minute intervals, or fifteen or whatever it is, will be the same but every four minutes and every five minutes, and showing what that net change is to the people that are most affected.” **Group 5**

But in terms of the key research question….



- A cautious 'YES'. It looks to them as if a great deal of thought has gone into the process and multiple considerations are factored in.
- But it is hard to give a definitive answer until they see the final routes and the before and after.
- 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.

"It looks really good. I think it's going from a messy spider's web to something a lot more precise, a lot more organised, a lot more direct which from an environmental point of view I think is really good news. I think that's a really good selling point on this. That's handy." **Group 5**

"I think it's taken into account the principles. I think the dispersal of the flight paths show that. I think it remains to be seen about residents, and I guess that's where stage three probably comes in, doesn't it, really?" **Group 7**

"I'm more informed that something has been thought through and options are being looked at rather than just changes being arbitrarily implemented. So, yes, I feel more informed". **Group 5**

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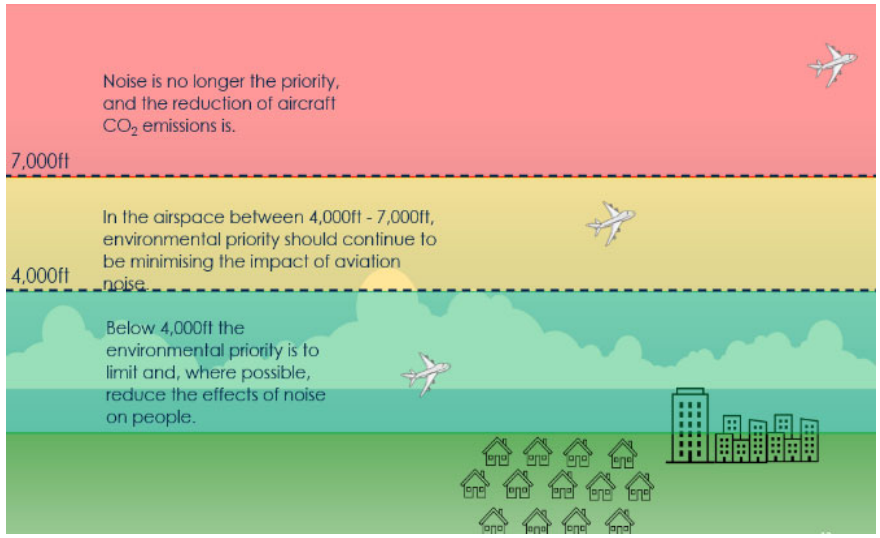
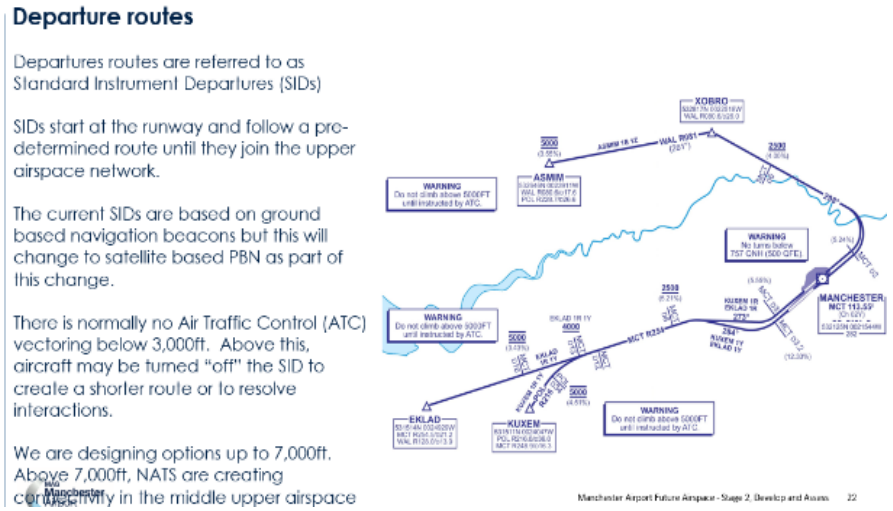
Final thoughts – near identical overall picture to Stansted

1. Participants are satisfied with the work that MAG 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 'final list' of flightpaths. Once these are available they will be much more able 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.

But the information could be presented more accessibly….

- There are certainly occasions where the terminology could be less technical (SIDS, ‘aligns with N1 principle’ and less reliance on technical diagrams and more on iconography could be used.
- Overloading them with technical jargon can make them feel that you aren’t catering to their needs…
- And (worse) that you aren’t interested in what they have to say……





and more ‘politically’ (less procedural)

- Participants need to hear the good news stories, e.g.
- We are talking about the ‘lowest common denominator’ aircraft – most of the fleet can climb faster, descend quieter etc.
- Less use of stacks, more CDAs etc.
- Sometimes these good news stories were stumbled on by accident – would recommend that these are front and centre of your public facing communications.
- There was sometimes a palpable lack of trust between the airport and residents – lots of references to promises broken. Feels like MAG might consider mixing these positive glimmers with the more procedural aspects.

“The round of planning permission for runway two was actually conditioned as such that certain types of aircraft could not go to the south-west of Knutsford, in particular over Peover, that kind of area. That was disputed and, in fact, not agreed by the Manchester Airport Group spokesman at the time who said categorically, that was indeed not a condition of planning permission, there is so much planning permission requiring any limitation on the use of runway two, in terms of types of aircraft which would follow certain routes. That was done away with.” **Group 4**