



Future Airspace Team Engagement Phase two Stakeholder Feedback Report

CAP1616 Stage 2 Develop and Assess

July 2022 by Jonathan Challis & Daniella Howarth

Stage 2 process – Gathering views

Stage 2 has two steps - 2A and 2B. All engagement takes place in Step 2A and has been split in to two phases:

Manchester Airport Future Airspace
Engagement Plan for Stage 2 – Develop and Assess



- **Step 2A phase one:** engagement followed the completion of the initial design work undertaken by Osprey. This work identified a set of broad geographical envelopes, where it would be possible to develop detailed route options, that meet the requirements of the identified design principles. Also, there were broadly defined areas within where it would not be possible to consider route options, for example no fly zones around armament deposits, as they would not meet the requirements of the identified design principles.
- **Step 2A phase two:** considered the route options that could be designed within the identified envelopes and responded to the agreed “must have” design principles.

Stage 2 process – Stakeholders

Paragraph 121 of CAP1616 sets out the categories of stakeholders to be engaged in Step 1B, while paragraph 125 requires engagement at Stage 2 with the same stakeholders as at Step 1B. At Step 1B, in addition to engaging with the stakeholder categories specified in CAP1616, we went ‘above and beyond’ in choosing to engage with members of the general public.

This has resulted in two groups of stakeholders that we need to engage in Stage 2:

- Stakeholders who fall within the CAP1616 categories.
- The general public we engaged in Step 1B that have requested to continue to be a part of the engagement process.

This report is focussed on the phase two engagement, completed by the Manchester Airport Future Airspace Team, with the stakeholders defined in CAP1616, in May and June 2022.

STAKEHOLDERS ENGAGED



Engagement outline – Background, aims and objectives

Phase two engagement followed on from the first round of discussions in November and December 2021. This second engagement set out to:

- Share the summary of stakeholder feedback received from phase one and outline how this influenced the developed route options.
- Share the route options and details of how they had been developed.
- Seek to identify:
 - ✓ If stakeholders think it is clear how design envelopes and route options align with the design principles.
 - ✓ Whether there are any additional local factors within the design envelopes we need to consider.
 - ✓ Whether there are any improvements or additional options within the design envelopes that should be considered.

QUESTIONS & FEEDBACK

1. Is the process we have followed to identify route options clear and logical?
2. Can you see how feedback from our earlier stakeholder discussion sessions have influenced the development of the route options?
3. Can you see how the route options align with the design principles?
4. Are there any further options or improvements that could deliver additional benefits that you feel we have not included? If so, please explain.
5. Aside from those already mentioned, are there any additional local factors we should be aware of when evaluating these route options?



Engagement outline – Stakeholders

Stakeholder briefing sessions

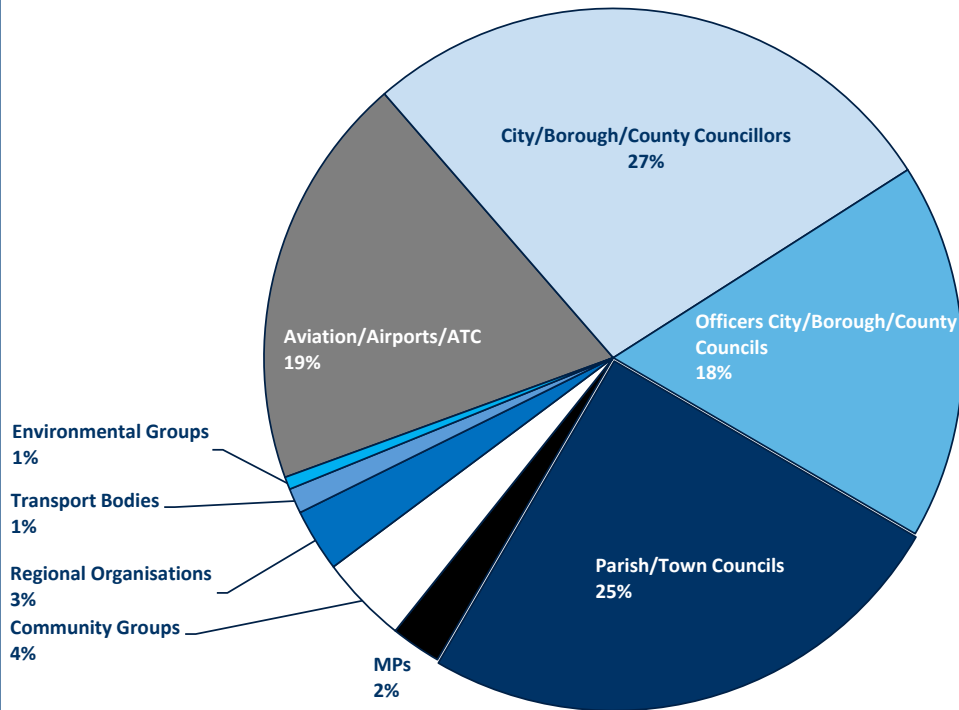
- A total of 22, 2.5 hour sessions at 10:00, 14:00 and 18:00 hrs, between Wednesday 18th May and Friday 10th June 2022, were offered to stakeholders. Four bespoke sessions for individual MPs were added, so a total of 26 sessions were held.
- In all but four of the 22 sessions, stakeholders were grouped with other persons of their representative discipline - to encourage discussion around likely common themes.
- Stakeholders were offered a choice between a virtual or face-to-face session.
- Each session included a presentation and the opportunity to ask and receive answers to questions.
- Stakeholders were provided a pre-read and a comprehensive suite of materials post session and were invited to feedback in 'real time' or post session through a web page.

<p>19th May 20th May 24th May 27th May 31st May 6th June</p>  <p>Parish Councils</p>	<p>18th May 23rd May 26th May x2 31st May</p>  <p>Ward Councillors</p>	<p>19th May 25th May 31st May</p>  <p>Community Groups, Education, Regional Organisations, Local Authorities, Environment, Health, Statutory Authorities & Transport</p>	<p>24th May 9th June</p>  <p>Face-to-face sessions</p>
<p>27th May</p>  <p>Environmental Health Officers</p>	<p>10th June 14th June</p>  <p>MPs</p>	<p>10th June</p>  <p>MACC</p>	<p>6th June 7th June</p>  <p>Overflow sessions</p>

Stakeholders engaged

Over 47.5 hours of meetings, we met with:

- 172 individuals,
- Representing 96 organisations/groups.

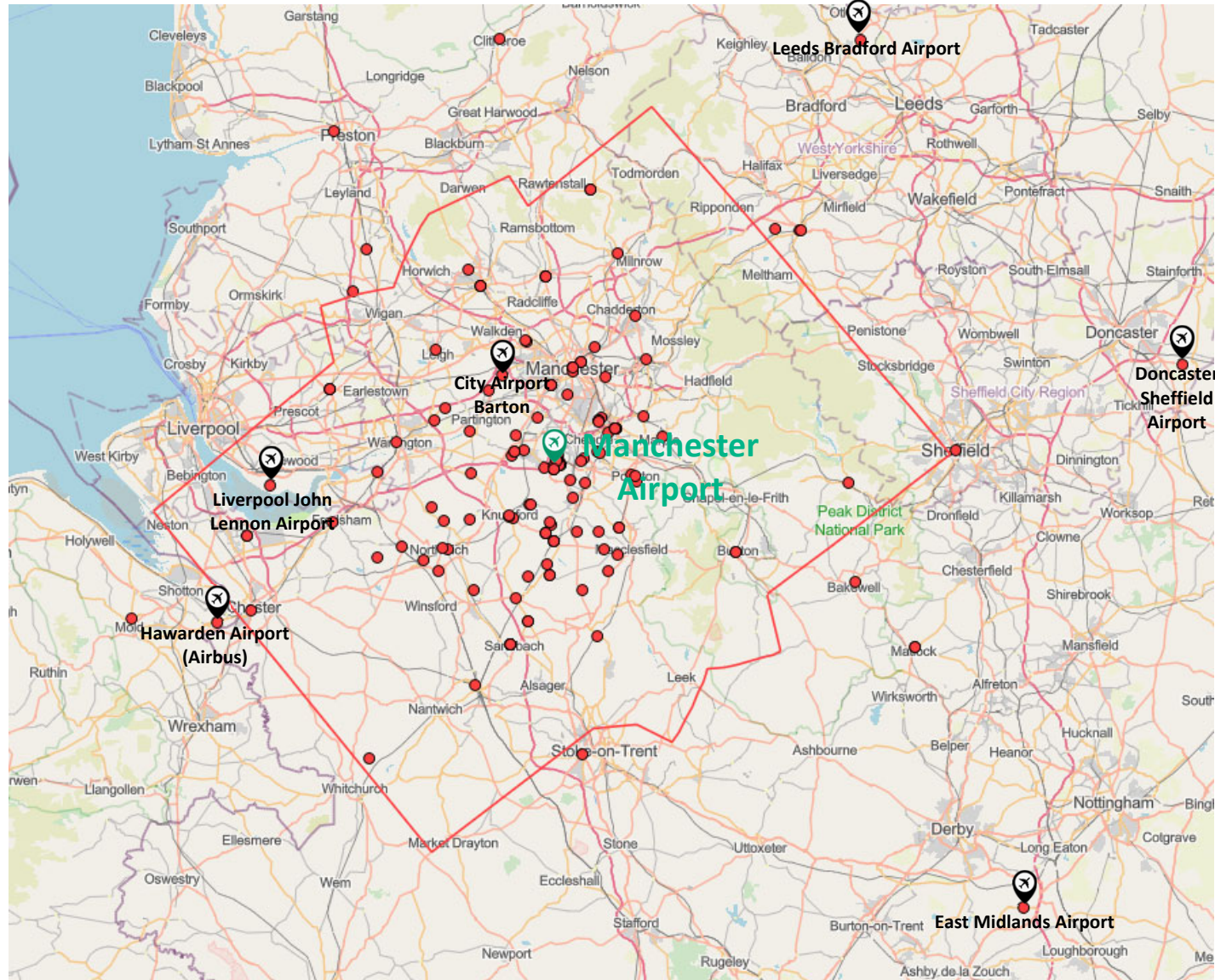


Aviation / Airports / ATC	Parish/Town Councillors or Clerks	MPs
British Gliding Association	Adlington Parish Council	Member of Parliament for Altrincham and Sale West
British Helicopter association	Antrobus Parish Council	Member of Parliament for Cheadle
British Microlight Aircraft Association	Bamford with Thornhill Parish Council	Member of Parliament for Totton
Brussels Airlines	Birchwood Town Council	Member of Parliament for the Ribble Valley
City Airport Ltd	Chelford Parish Council	
Cyrrus (LBA)	Crewe Town Council	
DHL	Davenham Parish Council	Officers/Councillors City/Borough/County Councils
Doncaster Sheffield Airport	Frodsham Town Council	
East Midlands Airport	Goostrey Parish Council	Bolton Metropolitan Borough Council
Emirates Airline	Great Budworth Parish Council	Bury Metropolitan Borough Council
Jet2.com	Great Warford Parish Council	Cheshire East Borough Council
Leeds-Bradford Airport	Henbury Parish Council	Cheshire West and Chester Borough Council
Liverpool John Lennon Airport	High Legh Parish Council	Derbyshire County Council
Menzies Aviation	Holmes Chapel Parish Council	Flintshire County Council
NATS (NERL)	Knutsford Town Council	High Peak Borough Council
NATS Manchester	Lach Dennis Parish Council	Kirklees Metropolitan Borough Council
Newcastle International Airport	Little Warford Parish Council	Knowsley Metropolitan Borough Council
Pennine Soaring Club	Lower Withington Parish Council	Manchester City Council
Ryanair	Marton Parish Council	Newcastle-Under-Lyme Borough Council
Serco / Hawarden ATC	Mere Parish Council	Oldham Metropolitan Borough Council
Swiss International Air Lines	Mobberley Parish Council	Peak District National Park Authority
TUI Airways	Moore Parish Council	Rochdale Metropolitan Borough Council
Virgin Atlantic Airways	Nether Alderley Parish Council	Rossendale Borough Council
	Norley Parish Council	Salford City Council
Community Groups	Ollerton with Marthall Parish Council	Sheffield City Council
Bowdson Conservation Group	Over Alderley Parish Council	St Helens Metropolitan Borough Council
Cheshire CPRE	Plumley with Toft and Bexton Parish Council	Stockport Metropolitan Borough Council
Heald Green and Long Lane Ratepayers Association	Poynton Town Council	Tameside Metropolitan Borough Council
Manchester Airport Consultative Committee	Prestbury Parish Council	Trafford Metropolitan Borough Council
National Trust	Shevington Parish Council	Warrington Borough Council
	Warburton Parish Council	Wigan Metropolitan Borough Council
Regional Organisations	Wilmslow Town Council	
Greater Manchester Police	Wincham Parish Council	
Greater Manchester Transport Committee		Transport Bodies
Jodrell Bank Observatory		Environmental Groups
Marketing Lancashire	Manchester Airport Environment Network	Association of British Travel Agents
Marketing Manchester		Ministry of Defence

Stakeholders engaged

The red line shows the 'Potentially Affected Area' – the area which may be affected by this airspace change depending on its development.

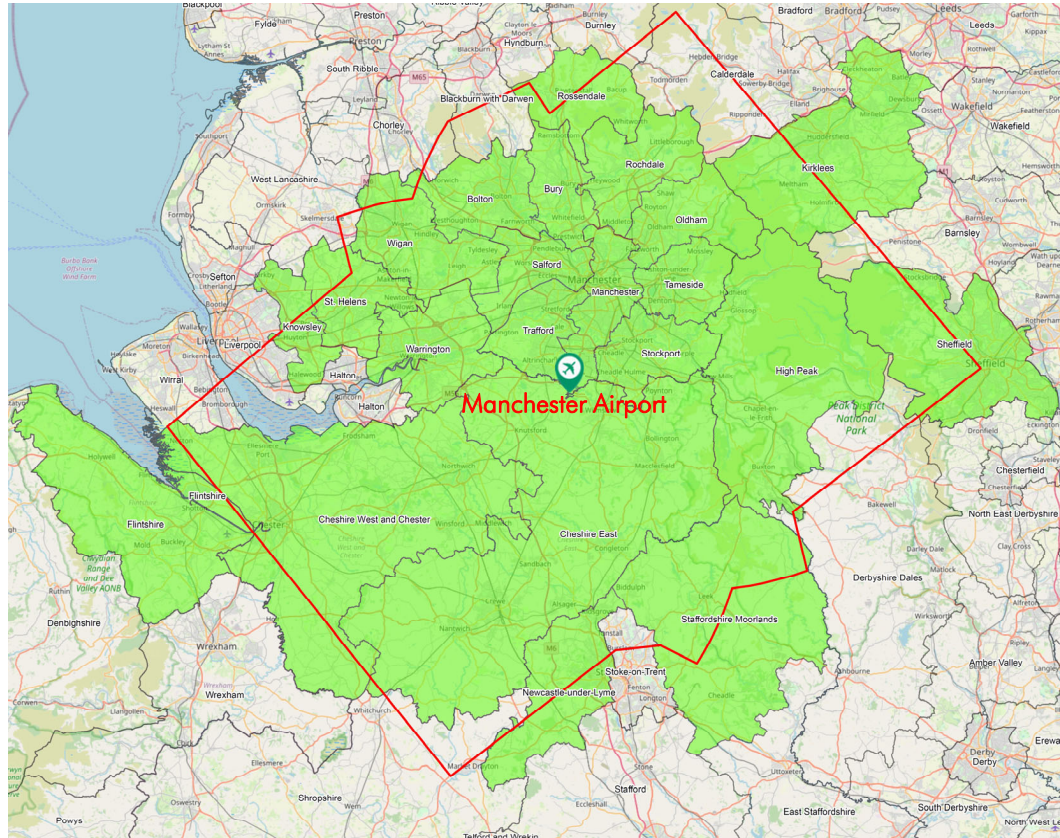
The red dots mark the postcode of the representatives we met during this phase of engagement (some are outside the area shown on this map).



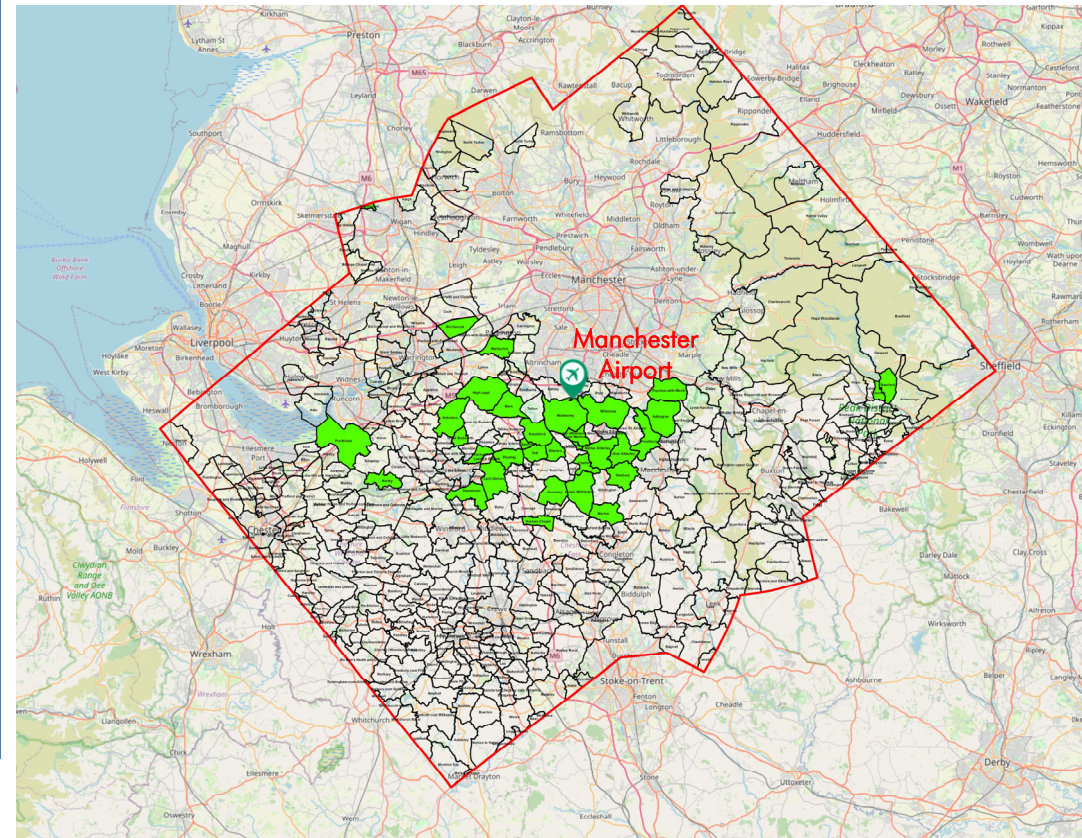
Stakeholders engaged

The red line shows the 'Potentially Affected Area' – the area which may be affected by this airspace change depending on its development. All district and parish/town councils, within the red line, were invited to participate.

The district councils whose Officers/Councillors participated in engagement are coloured green.



The parish/town councils whose Clerks/Councillors participated in engagement are coloured green.

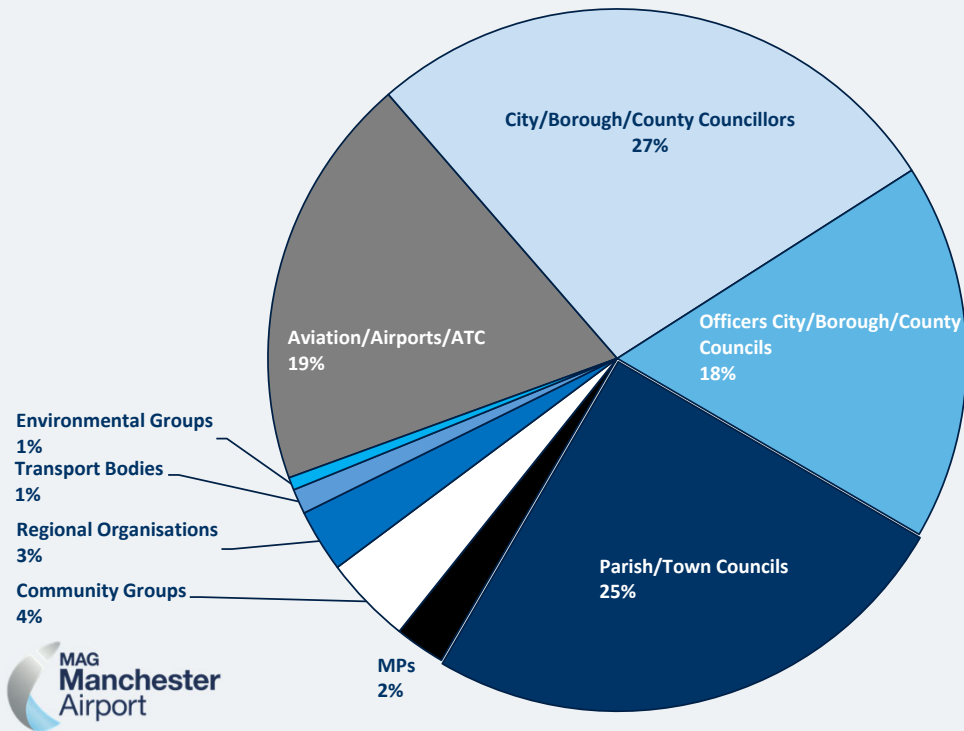


Stakeholder responses

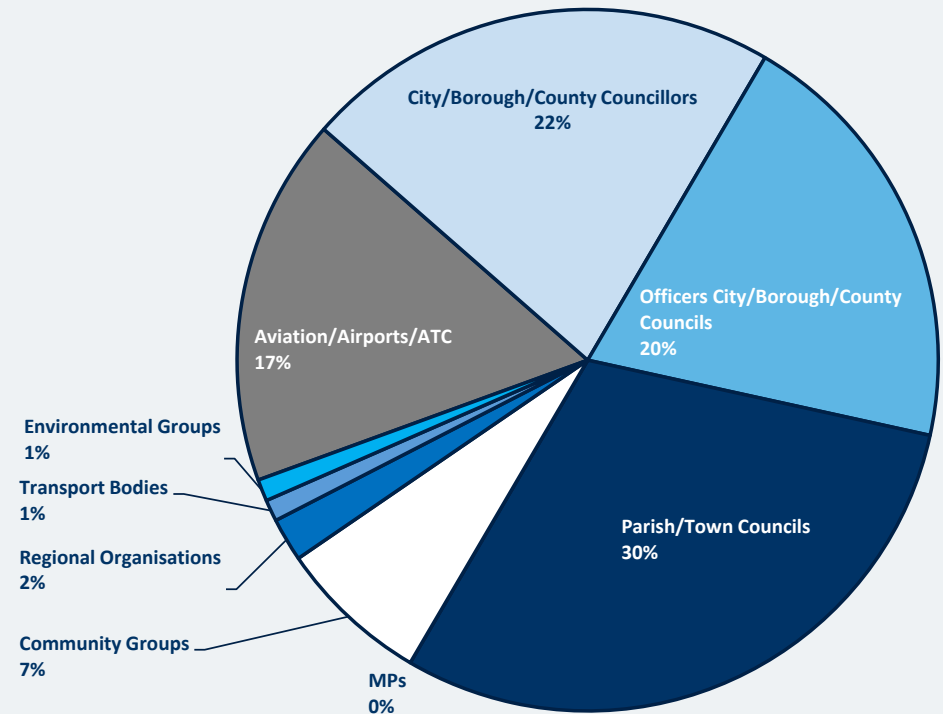
We took 15 feedback responses through 'chat' in the engagement sessions, received 74 replies through the online survey and 11 e-mail responses.

In total, responses from 100 individuals were received. – Response rate of 58%

Breakdown of Stakeholders Engaged



Breakdown of Stakeholders who fed back



General feedback

- On the whole, stakeholders were keen to be involved and understood the purpose and potential benefits of the wider programme and their part in it.
- Feedback showed stakeholders clearly understood the background and process information presented to them and appreciated the level of detail shared.
- From community representatives there was scepticism about whether real benefits can be achieved and concern about potential negative impacts for some.
- Noise and future growth dominated the discussions.
- A number of detailed responses with opinions, comments and feedback, that were outside the scope of the Stage 2 process, were also received.

"Thank you for inviting us to your recent Stage 2A online engagement session which we found extremely valuable, professionally produced and presented."

Aviation representative

"Thank you, really informative session".

Community representative

"I find this whole process yet another rubber stamp exercise carried out just to show we followed due process."

Councillor, Henbury Parish Council

"It was my pleasure to take part to this session.
Looking forward to the next steps.
Thank you"

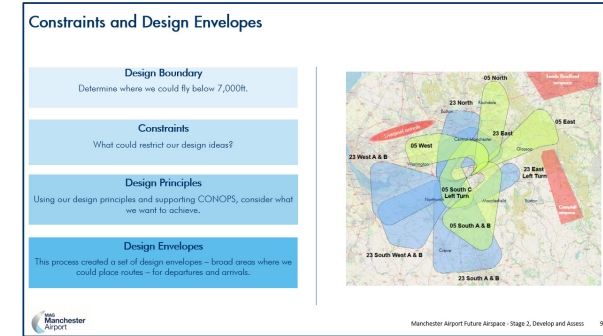
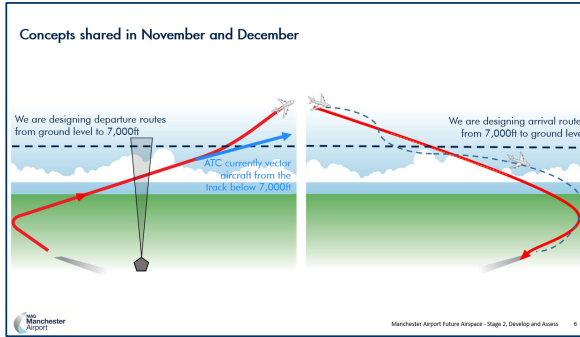
Councillor, Salford City Council

ARRIVALS & DEPARTURES

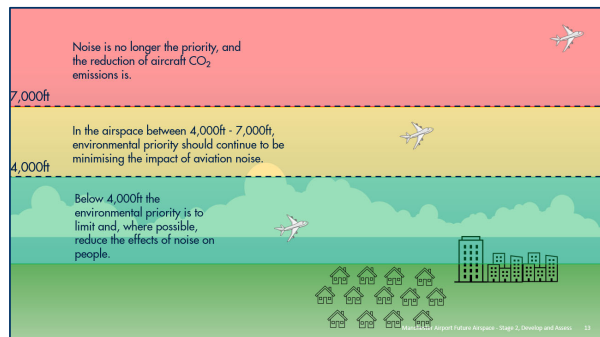
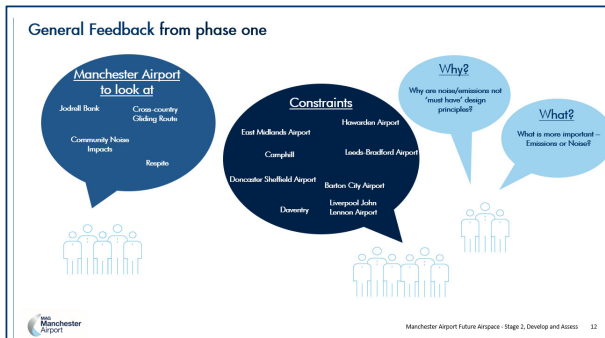
Reminder of process and feedback from phase one



Feedback – background and phase one



- The initial part of the presentation described the first part of the design process and how the arrival/departure envelopes had been formed.
- Details of feedback and queries received to our engagement in November and December were then shared. These issues were addressed in a 'you said, we did' format.
- Some clarification concerning tensions between the design principles Noise and Emissions was also provided by reference to Government guidance.

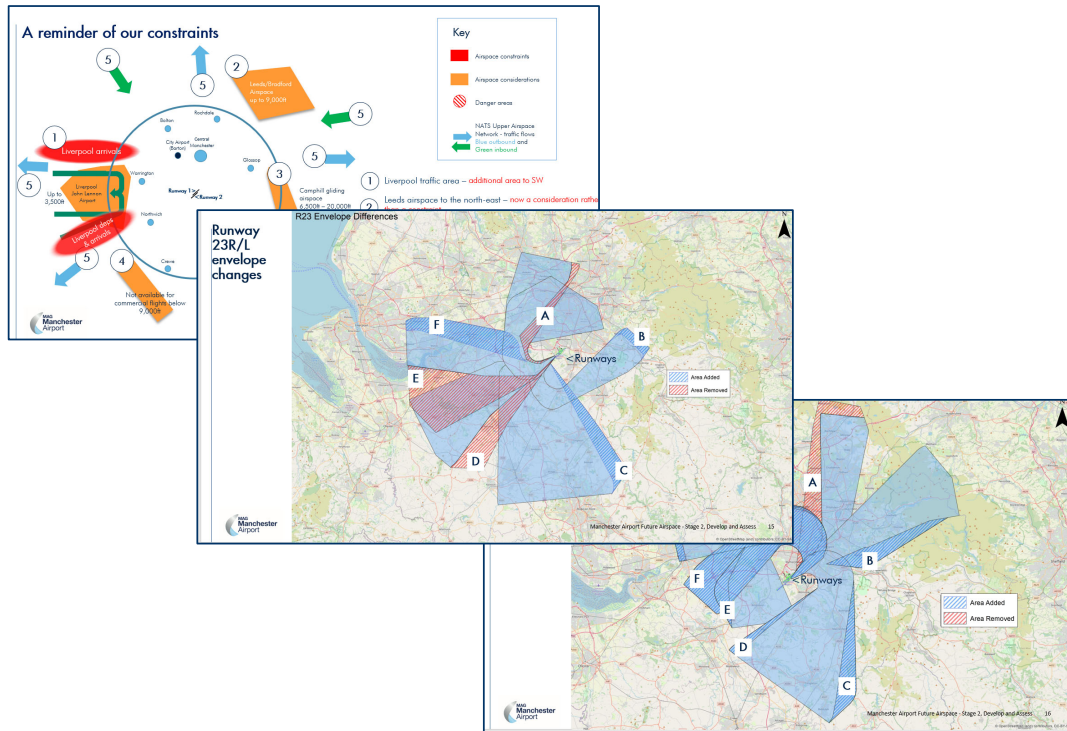


ARRIVALS & DEPARTURES

Development of designs



Development of our designs



- Changes to the constraints and considerations, as a result of the engagement process, were described.
- Changes made in our departure envelopes, as a result of the development of route options, we described.
- Stakeholders queried the comparative tightness of turn between north and south (the radius of the north turn is constrained by the need to ensure missed approach safeguarding for arriving aircraft – no such issues constrain the south turn and so it can be much tighter).
- Overall, the changes were understood and welcomed.

“.....it was clear that the future airspace team at Manchester Airport had been very thorough in exploring arrival flight path options to accommodate to PBN which marks the way forward. The same thoroughness was evident in all the envelopes suggested. The amendments to the envelopes seemed necessary and practical”.

– Member of the general public (feedback sent direct post YouGov session)

“On your 23 R/L envelope changes, you removed an area of (A) because it was too tight a turn? but added an area to the (already un-symmetrical) area (C). I don't understand why planes can't bank "sharp right", but they can "sharp left" ”.

– Ollerton with Marthall Parish Council

Development of our designs

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, MIRS and ROSUN)

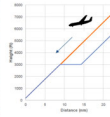
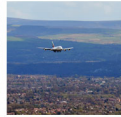
MAH Departures
Avoiding interaction with our own SIDs to maintain an efficient operation.

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, Haverley, 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.



- How the route options had been developed, according to the design principles, was described.
- What had been considered in producing a route option was described.
- Finally the assessment made of each option to produce the list of 'Viable and Good fit' options was described.
- Overall, the process was understood and welcomed for its thoroughness.

Creating departure options

The foundation for the options is the design envelope we shared with you before.

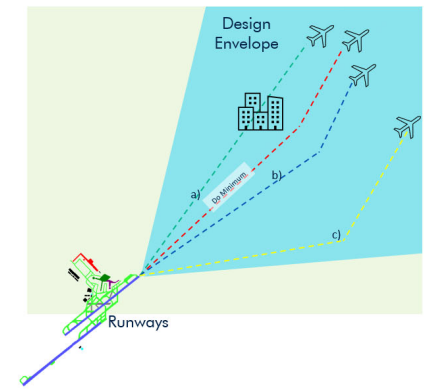
Where the envelope contains an existing route, this has been replicated as far as possible to PBN standards. This is our 'do minimum' option.

Additional options have been created that could provide a benefit which aligns with one or more of the design principles.

Examples include creating options that:

- Provide a more direct routing to reduce fuel burn (Emissions), or
- Route to reduce the number of people overflown (Noise), or
- Reduce delays on the ground for following aircraft on different routes (Capacity).

Where a design envelope did not contain an existing route, a new set of route options were developed using the same concept.



"..... process ... seems to me to be thorough....."
– **Stockport Metropolitan Borough Councillor**

Viability

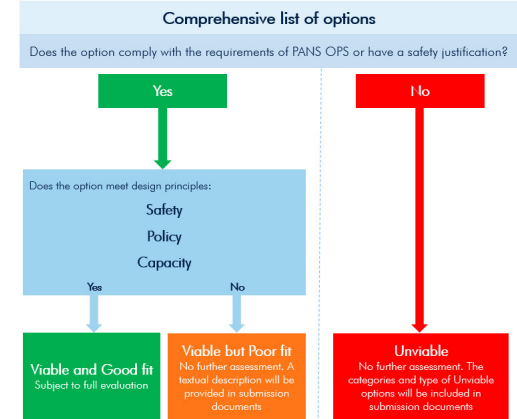
In line with CAP1616, we've created a comprehensive list of options.

However, not all of these are aligned to the "must have" design principles of

- Safety
- Policy
- Capacity

We have adopted a staged approach to refine these using these design principles.

The result is a range of **Viable and Good fit** departure and arrival route options.



ARRIVALS

Stakeholder feedback

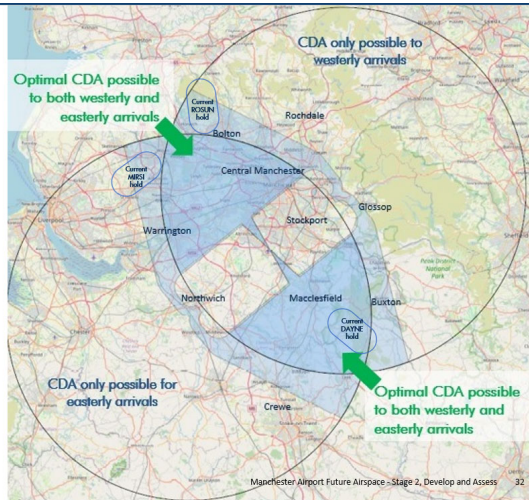


Arrivals – phase two design process

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.



What are Continuous Descent Approaches?

Continuous Descent Approaches (CDA) or Continuous Descent Operations (CDO) involve arriving aircraft using minimum thrust and avoiding prolonged level flight.

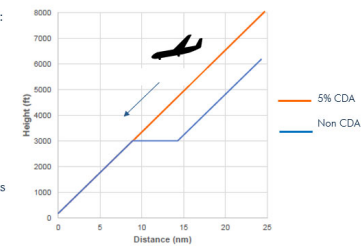
The objective of a CDA is to reduce the environmental impact of the arrival by:

- Ensuring aircraft are higher for longer (N1-N3 Noise)
- Minimising engine thrust and noise (N1 Noise)
- Maintaining a fuel optimal profile and minimising CO₂ emissions (Emissions)
- Minimising airframe noise such as deploying air brakes (N1 Noise)

There are a range of descent gradients for a CDA which will provide the benefits. If outside of this range then:

- A very shallow gradient will require engine thrust which burns fuel and generates noise
- A very steep gradient requires aerodynamic braking which generates noise

There is an optimal range outlined in CAA and ICAO policy and all of the Viable and Good fit arrival options align with this.

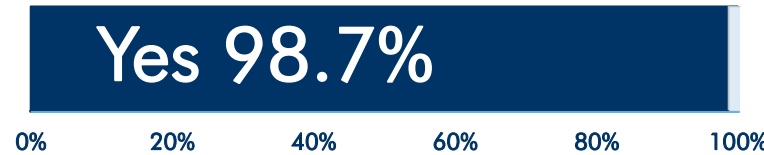


- Stakeholders were reintroduced to the arrival envelopes and their construction.
- The importance of enabling CDAs to both runway ends was understood and widely supported.
- It was acknowledged that for arrivals the proposals would make little difference to those most affected by arriving aircraft (those beneath the ILS).
- Concern was expressed that the PBN system would concentrate traffic to a greater extent and most community stakeholders expressed concern about the noise impact of this.

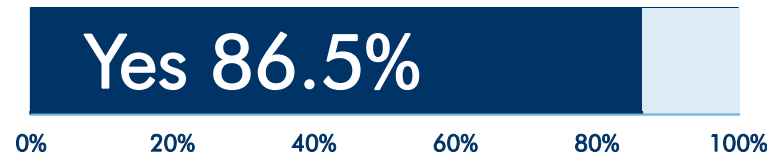
“We believe these routes will reduce aircraft noise from arrivals in the surrounding countryside and National Park. Unfortunately noise from final approach has to remain similar given the constraints of safe landing”.
Representative, CPRE Cheshire Branch

Arrivals

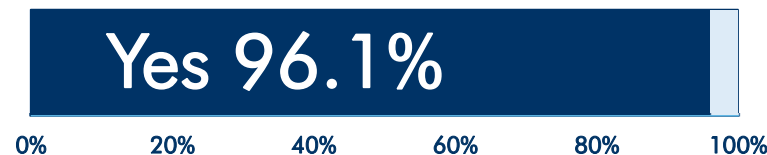
Is the process we have followed to identify route options for arrivals clear and logical?



Can you see how feedback from our earlier stakeholder discussion sessions in November/December have influenced the development of the route options?



Can you see how the route options align with the design principles?



“Aircraft noise is not a significant problem in Holmes Chapel, but arriving aircraft using Runway 05 do produce a noticeable change in noise levels due presumably to approach procedures. The noise level increases in pitch & intensity. Will the proposals have any impact on this?”

Clerk, Holmes Chapel Parish Council

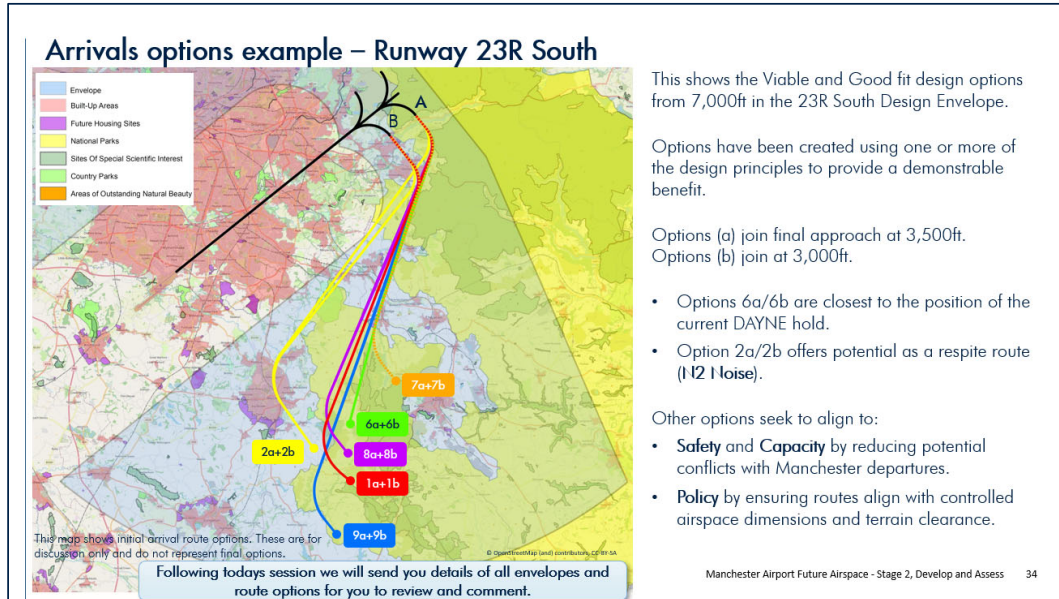
“Is it planned to publish arrival routes continuing from the holding stacks towards the ILS (unlike today) in order to facilitate track mile anticipation?”

Company Representative, Swiss International Air Lines

“NERL considers a comprehensive long list set of beneficial options has been developed”.

NATS (NERL)

Arrivals feedback – route options



“From an airline point of view it’s fairly simple, CCO/CDO, no low level holding, efficient transition to North Atlantic European Routeing Scheme with thoughts towards free route airspace as part of Airspace Modernisation. RNP approaches please”.
Company Representative, Emirates

- The stakeholders were shown the Runway 23R South envelope as an example, with a narrative explaining the rationale for each option. Post presentation, a portal was shared where stakeholders could access details of the remaining five arrival envelopes and their narrative.
- There was discussion about respite and the degree of concentration that could be expected. While some were keen to see this concentration of traffic, many (community) stakeholders were concerned about the noise impact on overflowed communities and how much of a change this would represent.
- Overall there was little specific comment, by community stakeholders, on the specific route options presented.
- Aviation/Air Traffic stakeholders had some comment but few preferences.

Arrival specific route option feedback

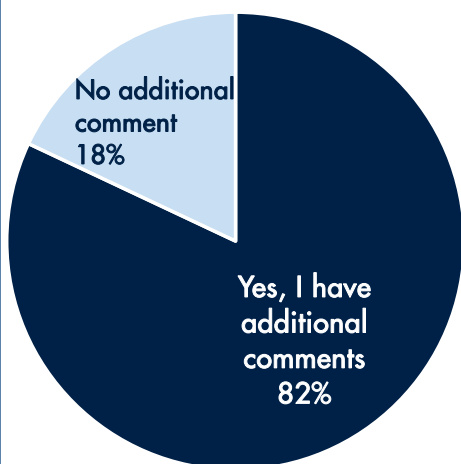
(See [appendix 2](#) for more detail)

The only comments received related to route options in the 23R South, 05R North and 05L North envelopes:

- Runway 23R South design principle Safety relates to this feedback “...on easterlies, 8a and 8b would adversely affect a SID designed to go downwind and miss the arrival tracks - I'd go wider with the arrivals”.
- Feedback from Liverpool cited interaction in the Runway 05L/05R North envelopes with arrivals to Runway 27. Based on the design principles Safety, Capacity and Airspace only options 2a & 2b create no conflict. – It is suggested that new route options with different start points are established in these two envelopes.

Arrivals feedback

Are there any additional thoughts you would like to share?



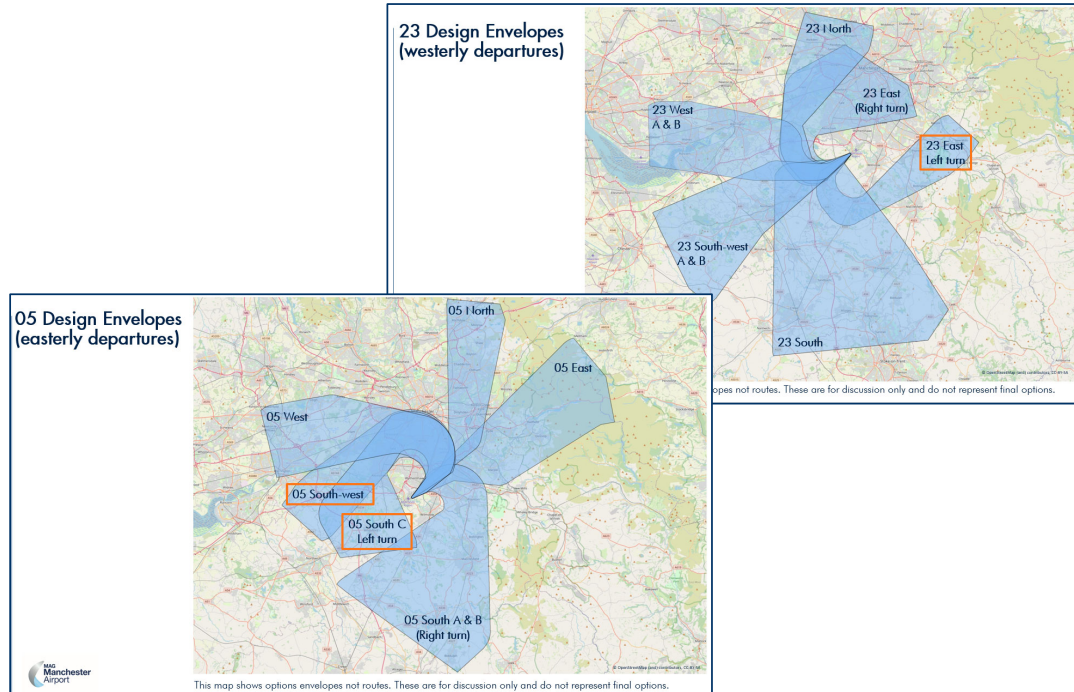
- You should increase (make steeper) the glideslope angle - If it does not increase the noise.
- Reduce the number of night flights by flying more in the day, to reduce disturbance.
- Increase the number of night flights and fly fewer in the day, to reduce disturbance.
- Concentrate aircraft over already noisy urban areas.
- Impose financial penalties on 'noisy' arrivals.
- As Stockport is most affected by westerly arrivals, greater consideration should occur when defining easterly departure routes.
- You could provide options that reduce overflight of National Parks.
- In some areas there is a combined (noise) impact of Liverpool and Manchester Airport overflight.
- In some areas there is a combined (noise) impact of overflight by Manchester arrivals and departures.
- You should increase the distance between individual Runway 05 arrivals.
- You should extend the area available to and create greater safeguarding for General Aviation.
- Options that reduce the amount of controlled airspace required.

DEPARTURES

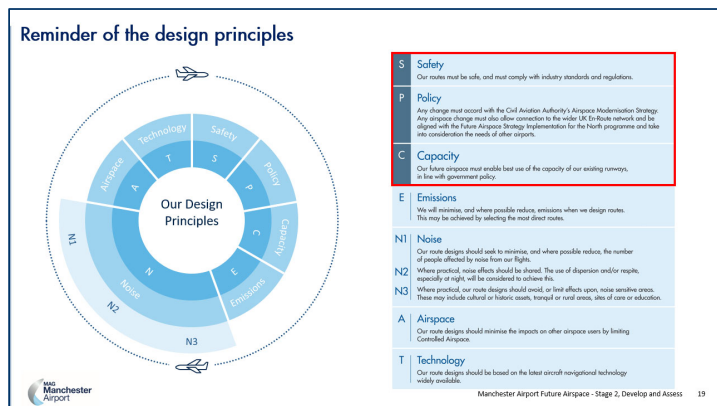
Stakeholder feedback



Departures feedback – phase two design process

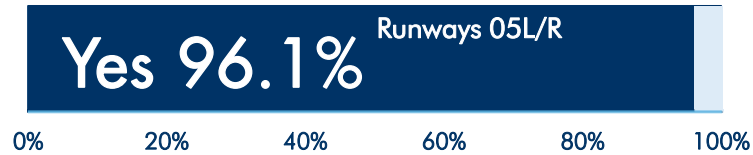
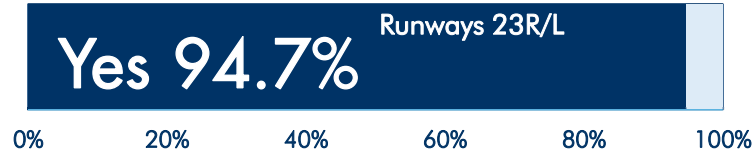


- PBN was understood and the use of this technology was generally welcomed, however there were concerns raised about the new ‘concentration’ over fewer people. Those concerned advocated respite and/or use of multiple routes to share the impact.
- There was a mixed response from stakeholders to the additional envelopes presented (23 East Left Turn and 05 South C Left Turn). Although some could see the value from a respite perspective, dispersing noise impacts, many more were concerned about areas being impacted by multiple envelopes/routes and areas currently not affected being included.
- There was some support for higher climb gradients and concern that by advocating such a low gradient (6%) many more people, would be affected.

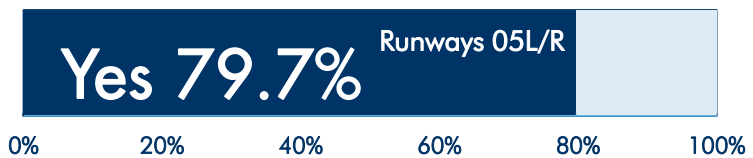
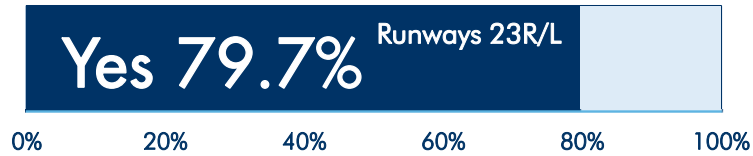


Departure route options

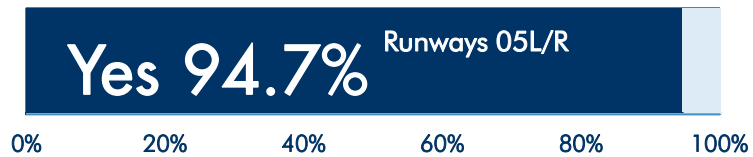
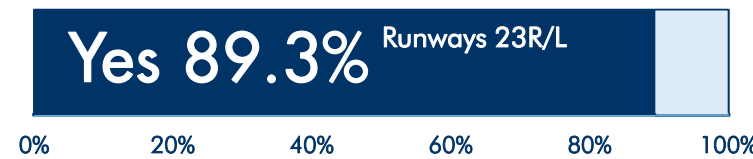
Is the process we have followed to identify route options clear and logical?



Can you see how feedback from our earlier stakeholder discussion sessions in November/December has influenced the development of the route options?



Can you see how the route options align with the design principles?



"It can be expected that people who think things have got worse will complain. The methodology needs to embody a robust comparison between the objective situation and perceptions thereof.

We are in a strong position because once a particular piece of the new toolkit is validated we can flex its application to arrive at the best overall deployment of our jigsaw pieces".

Officer, Stockport Metropolitan Borough Council

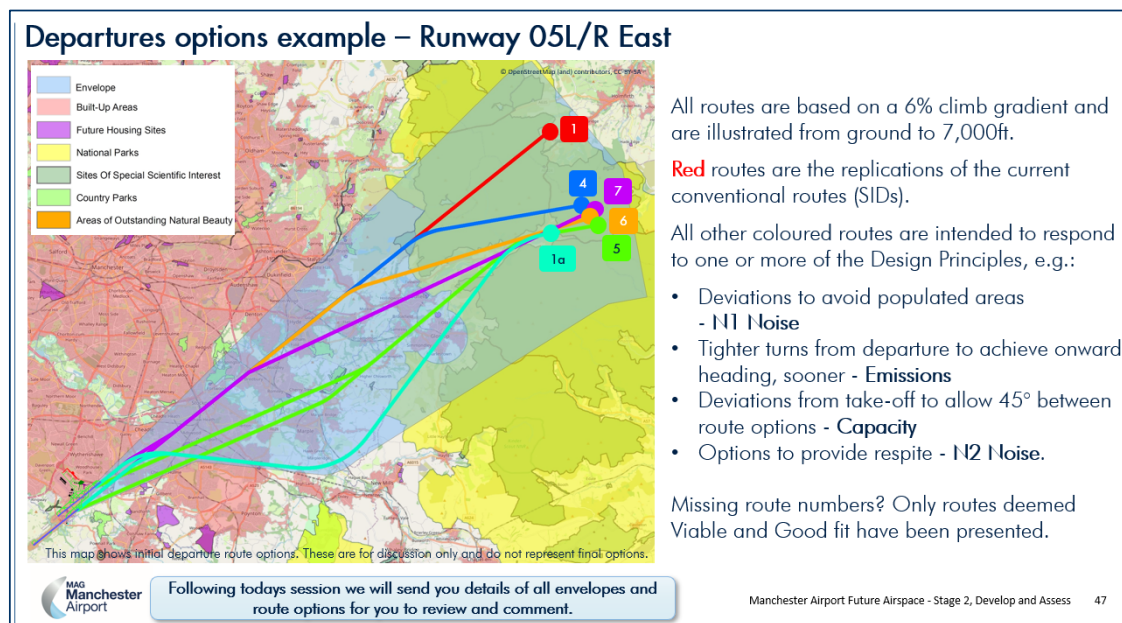
"We would favour options which reduce direct flights over Knutsford, for example on flight path maps, the options which go around the town and over Tatton Park rather than those which go directly over our residential areas or those which go more over Booths Park than the town".

Clerk, Knutsford Town Council

"Whilst we have no specific observations to make regarding the individual route options presented, we would like to ensure that all our places are accurately mapped and any potential impacts upon our visitors are duly considered as part of the evaluation process for design principle Noise (N2)".

Representative, National Trust

Departures feedback – route options



- Stakeholders were shown two 'sample' envelopes, one easterly and one westerly. In each case the route options were presented separately with the rationale behind each explained. These, and the remaining ten envelopes were shared, post session, with a full narrative explaining the rationale behind each option.
- The greater detail in the maps and inclusion of coloured areas to show built-up areas and other features was welcomed.
- Respondents were keen for the details (that will follow in Stage 3) that would enable better comparison of the pros and cons of each route (such as height at various points, fuel burn, volume of traffic etc).
- Further feedback was given about future housing developments and local plans, these details have been noted.

"A variable not considered clearly in the presentation is the varying rates of ascent and how that may affect route options".

Representative, Bowdon Conservation Group

"We understand how the options have been derived".

Officer, Stockport Metropolitan Borough Council

Departure specific route option feedback

(See [appendix 3](#) for more detail)

Suggested new route options

- 23L/R South West envelope - use '2a' and then (at point of interception) follow path of '1a' or '1b').
- 23L/R East right turn envelope - follow path of '1a' to 4,000ft, then follow average of existing path @ 7% climb.
- 23L/R East right turn envelope - devise route options to the west of Mere.
- 23L/R North envelope - devise route options to the west of Mere.
- 05L/R South right turn - devise new route option to follow path of A34.
- 05L/R West - devise new route options with 15 degree offset to the north.
- 05L/R South West - devise new route options with 15 degree offset to the north.

Interaction with Liverpool

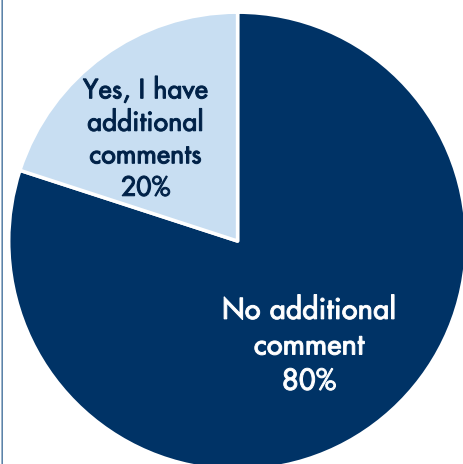
- 23L/R South West envelope - only route options '5' and '6' are far enough south to avoid Liverpool arrivals to Runway 27 - new route options required south of route options '4' and '6'.
- 23L/R West - all route options interact with Liverpool Arrivals to Runway 27 Arrivals. Nothing in this envelope seems possible to take forward.

Comments on the use of certain design envelopes

- A number of people felt the combined effect of envelopes 05L/R West, South West and South Left turn would be negative – impacting the same people.
- Seven responses listed the '23R/L East Left turn' envelope as unnecessary citing design principle Noise N1 and one response was supportive of the envelope citing design principle Capacity.
- One response listed the '05L/R South Left turn' envelope as unnecessary citing design principle Noise N1 and one response was supportive of the envelope citing design principle Capacity.

Departure feedback

Are there any additional thoughts you would like to share?



- Flights should be directed so they are concentrated and affect fewer people.
- Dispersal of flights should be across multiple routes to spread the 'impact'.
- Climb gradient should be greater than 6% (as high as possible) x3.
- As Knutsford is most affected by easterly arrivals, greater consideration should be given to it, when defining westerly departure routes.
- Restricting night flights would be better than respite.
- Concentrate aircraft over already noisy urban areas.
- Review (increase) the financial penalties imposed on 'noisy' departures.
- Mitigation schemes should be considered.
- Operation of the most modern/quietest aircraft types should be incentivised.
- Aircraft type should be considered in allocating departure routes (some routes should be restricted to quieter types).

RESPITE & LOCAL FACTORS

Stakeholder feedback



Respite – What do we mean?

Design Principle – Noise

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

Noise N2 – Using respite

Our definitions

Relief: break from or a reduction in aircraft noise.

Respite: a scheduled relief from aircraft noise for a period of time.

Do you agree?

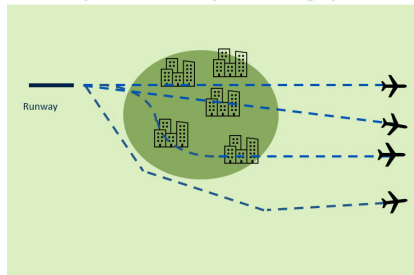
When considering the use of multiple routes to provide respite, what might constitute a sufficient period of respite?

Are there any times of the day or days of the week where it would be preferable to have a period of respite?

Is it important to you that periods of lower noise are scheduled and predictable? Or, do you just wish to see a sharing of noise?

Is respite different at different times of the week?

Noise Respite – Possible/potential flightpath alteration



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 over a wider area?

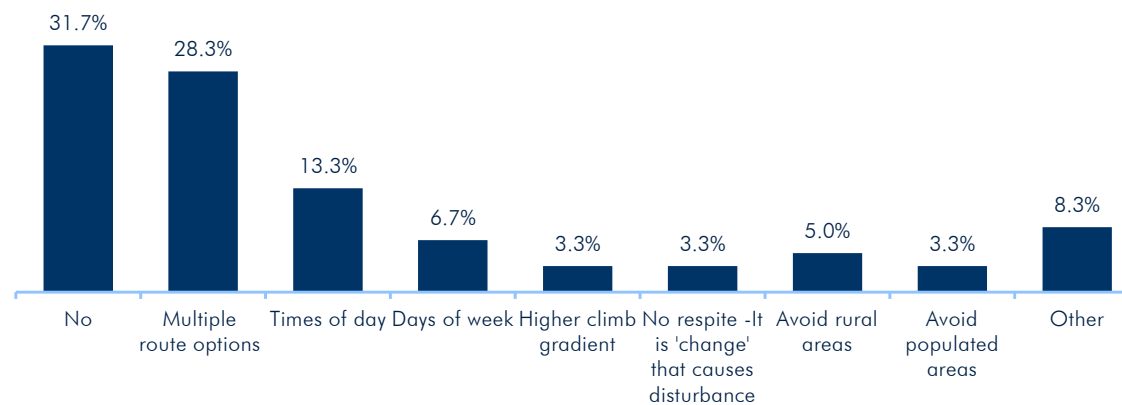
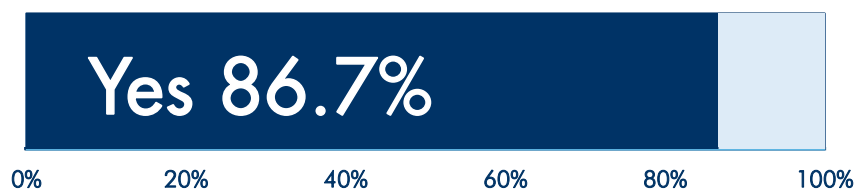
- The three design principles on noise were described before the focus changed to Noise N2.
- A definition for respite was proposed and stakeholders were accepting of this.
- The various ways that respite could be delivered were then described.
- Feedback was positive in the concept but some scepticism was apparent in the ability to deliver respite satisfactory to all.

Respite – What do you think?



Can you see how each of these four scenarios could deliver respite or relief?

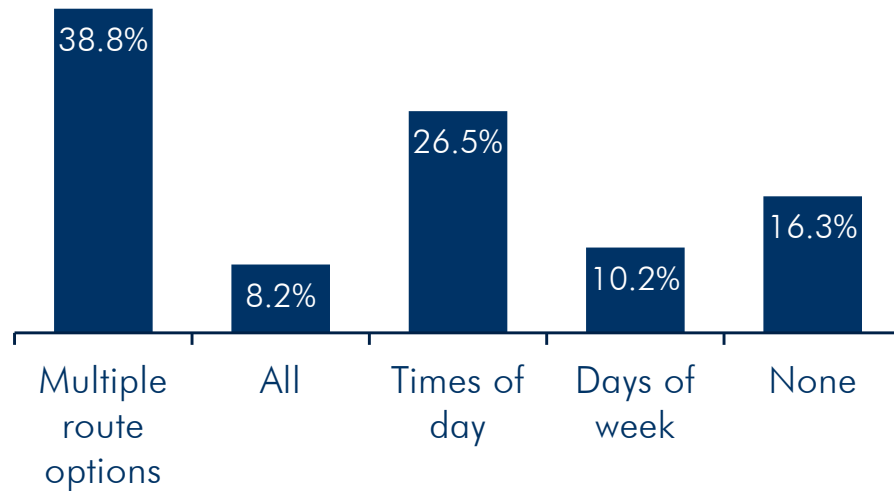
Do you have a preferred scenario of how respite could be delivered?



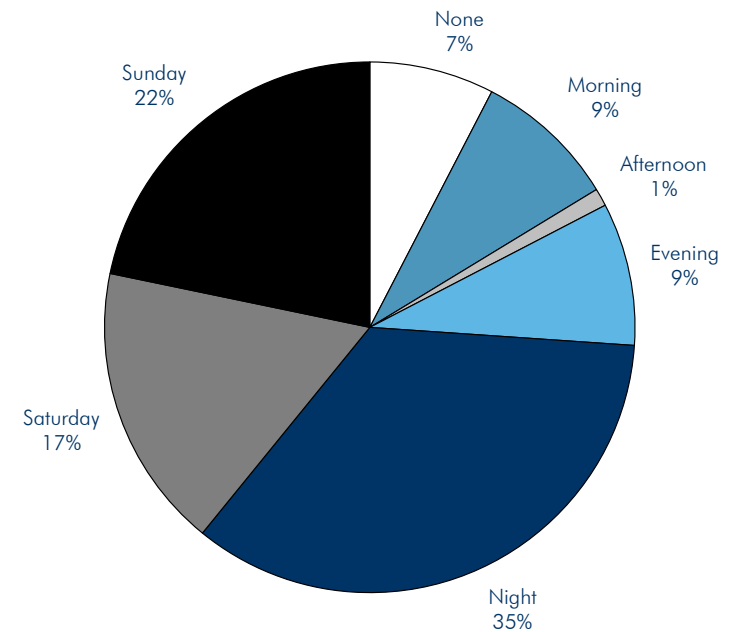
Respite – What do you think?



Which do you think best aligns with our design principles?



Are there any times of the day or days of the week where it would be preferable to have a period of respite?



Respite – What do you think?

The overall consensus is stakeholders would prefer predictable noise respite/relief.

“I think the range of options e.g. for flight path to avoid overflying settlements on take-off is capable of sharing inconvenience and that trial and error could result in minimising inconvenience”.

Councillor, Stockport Metropolitan Borough Council

“Respite Routes -These are an excellent idea”.
Councillor, Norley Parish Council

Local factors

- Comment was received from Stockport stakeholders that as Stockport is beneath the Runway 23 arrival path (most arrivals) that the respite currently experienced was easterly departures. It was felt, by a number of people, that this should be a significant consideration in deciding the path of easterly routes (should avoid the town).
- Similarly, a comment was received from Knutsford stakeholders that as Knutsford is heavily affected by Runway 05 arrivals, the respite they received was westerly arrivals (which currently fly around the town). It was suggested that this should be a significant consideration in deciding the path of westerly routes (these should continue to avoid the town to provide respite for easterly arrivals).
- There was some concern from Cheshire East that the future housing sites shown on our maps overestimated their allocations and permissions. These sites have since been reviewed in the light of this feedback.
- The National Trust requested we ensure all their places are accurately mapped so any potential impacts upon our visitors are duly considered as part of the evaluation process.



On the whole stakeholders accepted the work we had completed, in identifying local factors, was pretty comprehensive.

These were factors listed by stakeholders:

Concern about newly affected people

New Housing Developments

Camphill

Sandstone Ridge

David Lewis Centre

Hospitals

New developments

Hydrogen pipeline

HS2

Jodrell Bank

ADDITIONAL EXPERT
FEEDBACK REQUESTED



Airline feedback

We asked airline participants an additional five questions, detailed replies in [Appendix 4](#) – summary below:

Airline and equipment		How do speed restrictions on departure impact your operations? (SIDs have been designed between 185Kts – 220Kts). Any indication on either optimal or minimum, speeds would be useful particularly for the longer turns.	How does a complex (multiple turn) SID impact your operation, if at all? Do any of these options present an issue in this respect?	If you had to choose, would you prefer a continuous climb departure (to at least 7,000ft) or a continuous descent arrival (from at least 7,000ft)?	The Transition Altitude is expected to be raised from 5,000ft to 6,000ft in the Manchester TMA. How will this impact your operations, if at all?	PBN systemisation is intended to provide more predictability but less flexibility (reduced ATC vectoring and intervention). Do you agree that this is advantageous to Airlines and Operators?
FR	B738 & B38M	Initial turn 180-210Kts. Later turns 220Kts.	No	Ideally both -But Continuous Climb.	No impact	Yes
EK	A388 & B773	Optimal range 185-230Kts.	No	Ideally both -Continuous Climb.	No impact	Yes
LX	BCS3 & A20N	Optimal range 220-250Kts.	No	Ideally both -Continuous Climb.	No impact	Yes
BY	B38M, B73S, B752, B763, B788 & B789	Optimal range 185-230Kts.		Ideally both -Continuous Descent Approach.	No impact	Yes

Air Traffic Control feedback

We asked air traffic control participants an additional five questions, detailed replies in below:

Do you envisage any operational issues regarding the Departure/Arrival options we've shared?	For ATC do you foresee any safety or coordination issues with any of these options we've shared?	Do any of these options create a clear issue in achieving runway throughput or create potential for delays?	Do you see any requirements for additional controlled airspace resulting from any of these options?	Additional Feedback
<p>LEFT Turn Out (LTO) departures from runway 23 to the East may need to be transferred to a new network sector potentially introducing additional traffic & complexity into such an existing or modified sector i.e. potential workload impact.</p>	<p>The presentation inferred departures would climb to 7000ft or higher SID to FL, this would need to be impact assessed against traffic from adjacent airfields. Application of Time Banded SID options would need to be clearly understood and impact assessed by NERL within both ATC and network system(s) contexts via simulation. (Visualisation and /or Real Time Simulations).</p>	<p>No clear issues are readily identifiable at this point.</p>	<p>NERL believes an appropriate RMA may need to be considered in order to provide additional flexibility even if full PBN systemisation introduced. This may require additional CAS within the MAG ACP.</p>	<p>The presentation indicated an assumption of 90% a/c RNP 1 compliance/ fleet capability by MAG ACP O date, will RNAV 5 a/c still be accommodated post O date and additionally, will utilisation of tactical OMNI departures be accommodated or envisaged? Respite - 7% gradient with possibly a higher initial gradient, or separate high performance SIDs than a universal 6% due to the worst performer. Night arrivals could follow a different ground route but still with a 3deg CDA.</p>

OVERALL FEEDBACK

Stakeholder feedback



Engagement feedback and comments

I am happy that the airport project is taking appropriate steps to address the issues flowing from the modernisation process and appears to have considered the various options open to it whilst maintaining safety.... Thanks for the opportunity to be involved in the consultation exercise and be able to comment....

General Public

As a director in the travel sector for over thirty years I find this whole process is yet another rubber stamp exercise carried out just to show we followed due process.

Henbury Parish Council

Thank you, really informative session

National Trust

That's great, thanks to all, very helpful session

Warburton Parish Council

I enjoyed my involvement in the process and would be available for further input if considered

General Public

Thank you for inviting us to your recent Stage 2A online engagement session which we found extremely valuable and professionally produced & presented.

NATS (NERL)

Thanks all - really useful.

British Gliding Association

OK thank you for the presentation

Jodrell Bank

Thanks for the session today and the detailed presentation.

Hawarden

It was my pleasure to take part to this session.
Looking forward to the next steps.
Thank you

Salford City Council

Thanks for the opportunity to participate in this

Pennine Soaring Club

Thanks for the invitation to participate in the feedback last week but I am disappointed in the lack of vision shown by the design team

General Public

.....it was clear that the future airspace team at MAN had been very thorough in exploring arrival flight path options to accommodate to PBN which marks the way forward. The same thoroughness was evident in all the envelopes suggested. The amendments to the envelopes seemed necessary and practical.

General Public

RECOMMENDATIONS



Recommendations

Departures actions

- Investigate new route option in **23L/R South West** envelope that uses '2a' to point of interception and then follows path of '1a' and /or '1b'.
- Investigate new route option in **23L/R East right turn** envelope that follows path of '1a' to 4,000ft and then the average of the path of the currently experienced easterly traffic on a 7% climb.
- Investigate the feasibility of creating route options to the west of Mere in the **23L/R East right turn** and **23L/R North** envelopes.
- Investigate new route option in **05L/R South right turn** envelope to follow the A34 on point of interception.
- Investigate the feasibility of creating 15 degree offset route options within the **05L/R West** and **05L/R South West** envelopes.
- Investigate additional route options within the **23L/R South West** envelope that are deconflicted from Liverpool Airport Runway 27 arrivals and Runway 09 departures.
- Investigate the feasibility with continuing with any route options inside the **23L/R West** envelope given those identified conflict with all route options with Liverpool Airport Runway 27 arrivals and Runway 09 departures.
- There is an appetite for steeper, than 6%, climb gradients – the feasibility of providing them needs to be investigated.

Arrivals actions

- Envelope **Runway 23R South** – check interaction between route options 8a and 8b with the departure envelopes/options.
- Envelopes **Runway 05R North** and **Runway 05L North** – require the design of more route options that are deconflicted from Liverpool Airport Runway 27 arrivals and Runway 09 departures.

Recommendations

.....continued

Respite

- The overall consensus is stakeholders would prefer predictable noise respite/relief and options should be included in our Stage 3 consultation.
- Stakeholders in Stockport and Knutsford believe that changes in runway direction already provide them some respite and this should be accounted for in any options taken forward.
- Overall multiple route options seem to be the most popular way of delivering some respite.
- National Trust have requested that their properties are accurately mapped. National Trust will be invited to provide details and coordinates of all their properties within the area concerned.

Noise control and mitigation

- There is a clear belief that noise penalties and the Night Noise Policy should be reviewed. Both of these matters will be considered as part of the next Manchester Airport Noise Action Plan.
- Stakeholders are concerned that when enacted, Airspace change will alter noise levels and the areas that experience noise. New predicted noise contours will be produced as part of the Future Airspace project. These could be used to ensure mitigations schemes target the right areas.

Your Name	Organisation	Session Attended	Category
[REDACTED]	Newcastle International Airport	10:00 hrs on Friday 20th May 2022	Aviation / Airport
[REDACTED]	Manchester City Council	Monday 30th May 2022, 6pm - 8.30pm	Officer City/Borough Council
[REDACTED]	Liverpool John Lennon Airport	10:00 hrs on Friday 20th May 2022	Aviation / Airport
[REDACTED]	NATS Manchester	14:00 hrs on Wednesday 25th May 2022	Aviation / Airport
[REDACTED]	Manchester City Council	Monday 30th May 2022, 6pm - 8.30pm	Officer City/Borough Council
[REDACTED]	Salford City Council	14:00 hrs on Friday 27th May 2022	Officer City/Borough Council
[REDACTED]	Pennine Soaring Club	18:00 hrs on Wednesday 18th May 2022	Aviation / Airport
[REDACTED]	Jet2.com	10:00 hrs on Tuesday 24th May 2022	Aviation / Airport
[REDACTED]	Stockport Metropolitan Borough Council	Recording sent 10th June 2022	Officer City/Borough Council
[REDACTED]	Stockport Metropolitan Borough Council	14:00 hrs on Friday 27th May 2022	Officer City/Borough Council
[REDACTED]	British Gliding Association	10:00 hrs on Friday 20th May 2022	Aviation / Airport
[REDACTED]	NATS (NERL)	10:00 hrs on Friday 20th May 2022	Aviation / Airport
[REDACTED]	NATS (NERL)	18:00 hrs on Wednesday 18th May 2022	Aviation / Airport
[REDACTED]	High Peak Borough Council	14:00 hrs on Friday 27th May 2022	Officer City/Borough Council
[REDACTED]	National Trust	Monday 30th May 2022, 6pm - 8.30pm	Community Groups
[REDACTED]	Derbyshire County Council	Tuesday 31st May 2022, 10am - 12.30pm	City/Borough/County Councillor
[REDACTED]	Mobberley Parish Council	Tuesday 7th June 2022, 14:00-16.30 hrs	Parish/Town Council
[REDACTED]	Manchester City Council	14:00 hrs on Thursday 26th May 2022	City/Borough/County Councillor
[REDACTED]	Trafford Metropolitan Borough Council	14:00 hrs on Wednesday 18th May 2022	City/Borough/County Councillor
[REDACTED]	Trafford Metropolitan Borough Council	Recording sent 10th June 2022	City/Borough/County Councillor
[REDACTED]	High Legh Parish Council	Monday 6th June 2022, 2pm - 4.30pm	Parish/Town Council
[REDACTED]	Stockport Metropolitan Borough Council	Monday 6th June 18:00-20:30 hrs	City/Borough/County Councillor
[REDACTED]	Chelford Parish Council	Tuesday 31st May 2022, 2pm - 4.30pm	Parish/Town Council
[REDACTED]	Warburton Parish Council	18:00 hrs on Thursday 19th May 2022	Parish/Town Council
[REDACTED]	Stockport Metropolitan Borough Council	14:00 hrs on Wednesday 18th May 2022	City/Borough/County Councillor
[REDACTED]	Moore Parish Council	Monday 6th June 2022, 2pm - 4.30pm	Parish/Town Council
[REDACTED]	Wigan Metropolitan Borough Council	Tuesday 31st May 2022, 10am - 12.30pm	City/Borough/County Councillor

[REDACTED]	Trafford Metropolitan Borough Council	10:00 hrs on Tuesday 24th May 2022	City/Borough/County Councillor
[REDACTED]	Nether Alderley Parish Council	10:00 hrs on Tuesday 24th May 2022	Parish/Town Council
[REDACTED]	Goostrey Parish Council	Monday 6th June 2022, 2pm - 4.30pm	Parish/Town Council
[REDACTED]	Chelford Parish Council	14:00 hrs on Friday 20th May 2022	Parish/Town Council
[REDACTED]	Wincham Parish Council	Monday 6th June 2022, 2pm - 4.30pm	Parish/Town Council
[REDACTED]	Great Budworth Parish Council	Tuesday 31st May 2022, 2pm - 4.30pm	Parish/Town Council
[REDACTED]	Bury Metropolitan Borough Council	18:00 hrs on Thursday 26th May 2022	City/Borough/County Councillor
[REDACTED]	Cheshire West and Chester Borough Council	18:00 hrs on Thursday 26th May 2022	City/Borough/County Councillor
[REDACTED]	Birchwood Town Council	18:00 hrs on Thursday 19th May 2022	Parish/Town Council
[REDACTED]	Wilmslow Town Council	14:00 hrs on Tuesday 24th May 2022	Parish/Town Council
[REDACTED]	Stockport Metropolitan Borough Council	14:00 hrs Monday 23rd May 2022	City/Borough/County Councillor
[REDACTED]	Norley Parish Council	14:00 hrs on Tuesday 24th May 2022	Parish/Town Council
[REDACTED]	Lower Withington Parish Council	14:00 hrs on Tuesday 24th May 2022	Parish/Town Council
[REDACTED]	High Peak Borough Council	14:00 hrs on Wednesday 18th May 2022	City/Borough/County Councillor
[REDACTED]	Trafford Metropolitan Borough Council	18:00 hrs on Thursday 26th May 2022	City/Borough/County Councillor
[REDACTED]	Manchester City Council	14:00 hrs Monday 23rd May 2022	City/Borough/County Councillor
[REDACTED]	Marton Parish Council	14:00 hrs on Friday 20th May 2022	Parish/Town Council
[REDACTED]	Stockport Metropolitan Borough Council	14:00 hrs Monday 23rd May 2022	City/Borough/County Councillor
[REDACTED]	Stockport Metropolitan Borough Council	Recording sent 10th June 2022	City/Borough/County Councillor
[REDACTED]	Shevington Parish Council	14:00 hrs on Tuesday 24th May 2022	Parish/Town Council
[REDACTED]	Stockport Metropolitan Borough Council	14:00 hrs Monday 23rd May 2022	City/Borough/County Councillor
[REDACTED]	Crewe Town Council	Tuesday 31st May 2022, 2pm - 4.30pm	Parish/Town Council
[REDACTED]	Cheshire East Borough Council	14:00 hrs on Thursday 26th May 2022	City/Borough/County Councillor
[REDACTED]	Rochdale Metropolitan Borough Council	14:00 hrs on Thursday 26th May 2022	City/Borough/County Councillor
[REDACTED]	Cheshire East Borough Council	14:00 hrs on Thursday 26th May 2022	City/Borough/County Councillor
[REDACTED]	Prestbury Parish Council	14:00 hrs on Tuesday 24th May 2022	Parish/Town Council
[REDACTED]	Mere Parish Council	18:00 hrs on Thursday 19th May 2022	Parish/Town Council
[REDACTED]	Rossendale Borough Council	Tuesday 7th June 2022, 14:00-16.30 hrs	City/Borough/County Councillor

[REDACTED]	Trafford Metropolitan Borough Council	Recording sent 10th June 2022	City/Borough/County Councillor
[REDACTED]	Tameside Metropolitan Borough Council	Thursday 9th June 2022, 2pm - 4.30pm	City/Borough/County Councillor
[REDACTED]	Cheshire West and Chester Borough Council	14:00 hrs Monday 23rd May 2022	City/Borough/County Councillor
[REDACTED]	Manchester City Council	14:00 hrs Monday 23rd May 2022	City/Borough/County Councillor
[REDACTED]	Prestbury Parish Council	14:00 hrs on Friday 20th May 2022	Parish/Town Council
[REDACTED]	Davenham Parish Council	18:00 hrs on Thursday 19th May 2022	Parish/Town Council
[REDACTED]	Birchwood Town Council	18:00 hrs on Thursday 19th May 2022	Parish/Town Council
[REDACTED]	Stockport Metropolitan Borough Council	Recording sent 10th June 2022	City/Borough/County Councillor
[REDACTED]	Holmes Chapel Parish Council	14:00 hrs on Friday 20th May 2022	Parish/Town Council
[REDACTED]	Cheshire East Borough Council	14:00 hrs Monday 23rd May 2022	City/Borough/County Councillor
[REDACTED]	Henbury Parish Council	14:00 hrs on Tuesday 24th May 2022	Parish/Town Council
[REDACTED]	Knutsford Town Council	14:00 hrs on Tuesday 24th May 2022	Parish/Town Council
[REDACTED]	Rossendale Borough Council	Tuesday 31st May 2022, 10am - 12.30pm	City/Borough/County Councillor
[REDACTED]	Cheshire East Borough Council	Friday 10th June 2022, 14:00-16:30 hrs	City/Borough/County Councillor
[REDACTED]	Ollerton with Marthall Parish Council	18:00 hrs on Thursday 19th May 2022	Parish/Town Council
[REDACTED]	Frodsham Town Council	18:00 hrs on Thursday 19th May 2022	Parish/Town Council
[REDACTED]	Little Warford Parish Council	Monday 6th June 2022, 2pm - 4.30pm	Parish/Town Council
[REDACTED]	Cheshire West and Chester Borough Council	Recording sent on Friday 27th May 2022	City/Borough/County Councillor
[REDACTED]	Bamford with Thornhill Parish Council	14:00 hrs on Friday 20th May 2022	Parish/Town Council
[REDACTED]	Sheffield City Council	Recording sent on Friday 27th May 2022	City/Borough/County Councillor
[REDACTED]	Bury Metropolitan Borough Council	Monday 6th June 18:00-20:30 hrs	City/Borough/County Councillor
[REDACTED]	Manchester City Council	14:00 hrs on Thursday 26th May 2022	City/Borough/County Councillor
[REDACTED]	Cheshire East Borough Council	Tuesday 31st May 2022, 10am - 12.30pm	City/Borough/County Councillor
[REDACTED]	Cheshire West and Chester Borough Council	Recording sent 10th June 2022	City/Borough/County Councillor
[REDACTED]	Trafford Metropolitan Borough Council	Recording sent on Friday 27th May 2022	City/Borough/County Councillor
[REDACTED]	Ollerton with Marthall Parish Council	Monday 6th June 18:00-20:30 hrs	Parish/Town Council
[REDACTED]	Stockport Metropolitan Borough Council	Tuesday 31st May 2022, 10am - 12.30pm	City/Borough/County Councillor
[REDACTED]	Stockport Metropolitan Borough Council	Recording sent 10th June 2022	City/Borough/County Councillor

[REDACTED]	Bolton Metropolitan Borough Council	14:00 hrs Monday 23rd May 2022	City/Borough/County Councillor
[REDACTED]	Bolton Metropolitan Borough Council	Tuesday 7th June 2022, 14:00-16.30 hrs	City/Borough/County Councillor
[REDACTED]	Plumley with Toft and Bexton Parish Council	14:00 hrs on Friday 20th May 2022	Parish/Town Council
[REDACTED]	Cheshire East Borough Council	Thursday 9th June 2022, 2pm - 4.30pm	City/Borough/County Councillor
[REDACTED]	Kirklees Metropolitan Borough Council	Monday 6th June 18:00-20:30 hrs	City/Borough/County Councillor
[REDACTED]	Plumley with Toft and Bexton Parish Council	14:00 hrs on Friday 20th May 2022	Parish/Town Council
[REDACTED]	Salford City Council	18:00 hrs on Thursday 26th May 2022	City/Borough/County Councillor
[REDACTED]	Derbyshire County Council	14:00 hrs Monday 23rd May 2022	City/Borough/County Councillor
[REDACTED]	NATS Manchester	10:00 hrs on Friday 20th May 2022	Aviation / Airport
[REDACTED]	Jet2.com	14:00 hrs on Wednesday 25th May 2022	Aviation / Airport
[REDACTED]	Emirates Airline	10:00 hrs on Friday 20th May 2022	Aviation / Airport
[REDACTED]	Chelford Parish Council	Friday 20th May 2022, 2pm - 4.30pm	Parish/Town Council
[REDACTED]	Great Warford Parish Council	Friday 20th May 2022, 2pm - 4.30pm	Parish/Town Council
[REDACTED]	Lower Withington Parish Council	Friday 20th May 2022, 2pm - 4.30pm	Parish/Town Council
[REDACTED]	Ollerton with Marthall Parish Council	Friday 20th May 2022, 2pm - 4.30pm	Parish/Town Council
[REDACTED]	Over Alderley Parish Council	Friday 20th May 2022, 2pm - 4.30pm	Parish/Town Council
[REDACTED]	Stockport Metropolitan Borough Council	14:00 hrs on Thursday 19th May 2022	Officer City/Borough Council
[REDACTED]	Greater Manchester Police	10:00 hrs on Wednesday 25th May 2022	Regional Organisations
[REDACTED]	St Helens Metropolitan Borough Council	14:00 hrs on Thursday 19th May 2022	Officer City/Borough Council
[REDACTED]	Leeds-Bradford Airport	14:00 hrs on Wednesday 25th May 2022	Aviation / Airport
[REDACTED]	Cheshire East Borough Council	10:00 hrs on Wednesday 25th May 2022	Officer City/Borough Council
[REDACTED]	Ryanair	10:00 hrs on Friday 20th May 2022	Aviation / Airport
[REDACTED]	Ryanair	10:00 hrs on Friday 20th May 2022	Aviation / Airport
[REDACTED]	Kirklees Metropolitan Borough Council	10:00 hrs on Wednesday 25th May 2022	Officer City/Borough Council
[REDACTED]	Ministry of Defence	10:00 hrs on Friday 20th May 2022	Transport Bodies
[REDACTED]	Bolton Metropolitan Borough Council	14:00 hrs on Friday 27th May 2022	Officer City/Borough Council
[REDACTED]	Cyrrus (LBA)	14:00 hrs on Wednesday 25th May 2022	Aviation / Airport
[REDACTED]	Doncaster Sheffield Airport	10:00 hrs on Friday 20th May 2022	Aviation / Airport

[REDACTED]	NATS (NERL)	18:00 hrs on Wednesday 18th May 2022	Aviation / Airport
[REDACTED]	NATS (NERL)	10:00 hrs on Friday 20th May 2022	Aviation / Airport
[REDACTED]	TUI Airways	14:00 hrs on Wednesday 25th May 2022	Aviation / Airport
[REDACTED]	Swiss International Air Lines (Flight Operations)	14:00 hrs on Wednesday 25th May 2022	Aviation / Airport
[REDACTED]	Cheshire East Borough Council	14:00 hrs on Friday 27th May 2022	Officer City/Borough Council
[REDACTED]	NATS (NERL)	10:00 hrs on Friday 20th May 2022	Aviation / Airport
[REDACTED]	Adlington Parish Council	10:00 hrs on Friday 27th May 2022	Parish/Town Council
[REDACTED]	Virgin Atlantic Airways	14:00 hrs on Wednesday 25th May 2022	Aviation / Airport
[REDACTED]	Manchester City Council	14:00 hrs on Thursday 19th May 2022	Officer City/Borough Council
[REDACTED]	Kirklees Metropolitan Borough Council	14:00 hrs on Friday 27th May 2022	Officer City/Borough Council
[REDACTED]	Knutsford Town Council	14:00 hrs on Friday 20th May 2022	Parish/Town Council
[REDACTED]	Newcastle-Under-Lyme Borough Council	Recording sent on Friday 27th May 2022	Officer City/Borough Council
[REDACTED]	Manchester Airport Environment Network	10:00 hrs on Tuesday 24th May 2022	Environmental Groups
[REDACTED]	City Airport Ltd	Tuesday 7th June 2022, 14:00-16.30 hrs	Aviation / Airport
[REDACTED]	Serco / Hawarden ATC	Tuesday 7th June 2022, 14:00-16.30 hrs	Aviation / Airport
[REDACTED]	DHL	Tuesday 7th June 2022, 14:00-16.30 hrs	Aviation / Airport
[REDACTED]	Manchester Airport Consultative Committee	Friday 10th June 2022, 14:00-16:30 hrs	Community Groups
[REDACTED]	Marketing Manchester	Tuesday 31st May 2022, 10am - 12.30pm	Regional Organisations
[REDACTED]	Cheshire East Borough Council	Friday 10th June 2022, 14:00-16:30 hrs	Officer City/Borough Council
[REDACTED]	Heald Green and Long Lane Ratepayers Association	Friday 10th June 2022, 14:00-16:30 hrs	Community Groups
[REDACTED]	Manchester City Council	Recording sent on Friday 27th May 2022	City/Borough/County Councillor
[REDACTED]	Trafford Metropolitan Borough Council	Monday 6th June 2022, 2pm - 4.30pm	Officer City/Borough Council
[REDACTED]	Antrobus Parish Council	14:00 hrs on Tuesday 24th May 2022	Parish/Town Council
[REDACTED]	Stockport Metropolitan Borough Council	Recording sent on Tuesday 31st May 2022	City/Borough/County Councillor
[REDACTED]	Manchester Airport Consultative Committee	Recording sent 10th June 2022	Community Groups
[REDACTED]	Association of British Travel Agents	Recording sent 9th June 2022	Transport Bodies
[REDACTED]	Cheshire West and Chester Borough Council	Tuesday 7th June 2022, 14:00-16.30 hrs	Officer City/Borough Council
[REDACTED]	Member of Parliament for Tatton	Friday 10th June 10:30 hrs	MP
[REDACTED]	Poynton Town Council	18:00 hrs on Thursday 19th May 2022	Parish/Town Council

[REDACTED]	Menzies Aviation	Tuesday 7th June 2022, 14:00-16.30 hrs	Aviation / Airport
[REDACTED]	Knowsley Metropolitan Borough Council	Tuesday 31st May 2022, 10am - 12.30pm	Officer City/Borough Council
[REDACTED]	Brussels Airlines	Recording sent 7th June 2022	Aviation / Airport
[REDACTED]	Lach Dennis Parish Council	10:00 hrs on Friday 27th May 2022	Parish/Town Council
[REDACTED]	Member of Parliament for Cheadle	Tuesday 14th June 14:00 hrs	MP
[REDACTED]	Manchester City Council	Tuesday 7th June 2022, 14:00-16.30 hrs	Officer City/Borough Council
[REDACTED]	Stockport Metropolitan Borough Council	Monday 6th June 2022, 2pm - 4.30pm	Officer City/Borough Council
[REDACTED]	Bowdon Conservation Group	14:00 hrs on Thursday 19th May 2022	Community Groups
[REDACTED]	Flintshire County Council	Monday 30th May 2022, 6pm - 8.30pm	Officer City/Borough Council
[REDACTED]	NATS (NERL)	10:00 hrs on Friday 20th May 2022	Aviation / Airport
[REDACTED]	St Helens Metropolitan Borough Council	14:00 hrs on Friday 27th May 2022	Officer City/Borough Council
[REDACTED]	Oldham Metropolitan Borough Council	14:00 hrs on Friday 27th May 2022	Officer City/Borough Council
[REDACTED]	NATS Manchester	10:00 hrs on Friday 20th May 2022	Aviation / Airport
[REDACTED]	East Midlands Airport	10:00 hrs on Friday 20th May 2022	Aviation / Airport
[REDACTED]	Cheshire West and Chester Borough Council	14:00 hrs on Friday 27th May 2022	Officer City/Borough Council
[REDACTED]	Cheshire CPRE	14:00 hrs on Thursday 19th May 2022	Community Groups
[REDACTED]	NATS (NERL)	10:00 hrs on Friday 20th May 2022	Aviation / Airport
[REDACTED]	Bury Metropolitan Borough Council	14:00 hrs on Friday 27th May 2022	Officer City/Borough Council
[REDACTED]	Greater Manchester Transport Committee	10:00 hrs on Wednesday 25th May 2022	Regional Organisations
[REDACTED]	Mobberley Parish Council	Recording sent 9th June 2022	Parish/Town Council
[REDACTED]	Jodrell Bank Observatory	10:00 hrs on Wednesday 25th May 2022	Regional Organisations
[REDACTED]	Member of Parliament for Altrincham and Sale West	Tuesday 14th June 17:00 hrs	MP
[REDACTED]	Warrington Borough Council	14:00 hrs on Friday 27th May 2022	Officer City/Borough Council
[REDACTED]	Cheshire East Borough Council	14:00 hrs on Thursday 19th May 2022	Officer City/Borough Council
[REDACTED]	Bowdon Conservation Group	10:00 hrs on Wednesday 25th May 2022	Community Groups
[REDACTED]	Member of Parliament for the Ribble Valley	Tuesday 14th June 11:00 hrs	MP
[REDACTED]	British Helicopter association	14:00 hrs on Wednesday 25th May 2022	Aviation / Airport
[REDACTED]	Peak District National Park Authority	10:00 hrs on Wednesday 25th May 2022	Officer City/Borough Council
[REDACTED]	Stockport Metropolitan Borough Council	10:00 hrs on Wednesday 25th May 2022	City/Borough/County Councillor

██████████	Bolton Metropolitan Borough Council	10:00 hrs on Wednesday 25th May 2022	Officer City/Borough Council
██████████	Marketing Lancashire	10:00 hrs on Wednesday 25th May 2022	Regional Organisations
██████████	British Microlight Aircraft Association	14:00 hrs on Wednesday 25th May 2022	Aviation / Airport

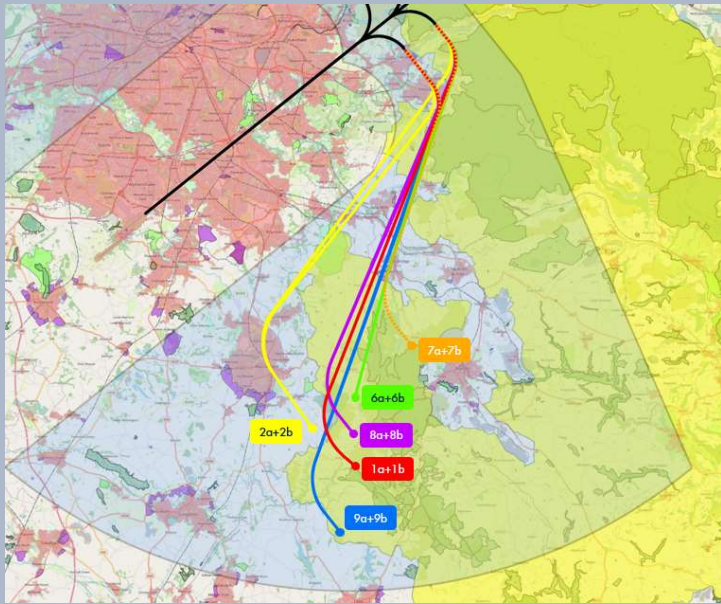
APPENDIX 2 - ARRIVALS ROUTE OPTIONS FEEDBACK



Arrival route option feedback

23R South

	Positive	Negative	Reason
1a & 1b			
2a & 2b			
6a & 6b			
7a & 7b			
8a & 8b		1	S
9a & 9b			



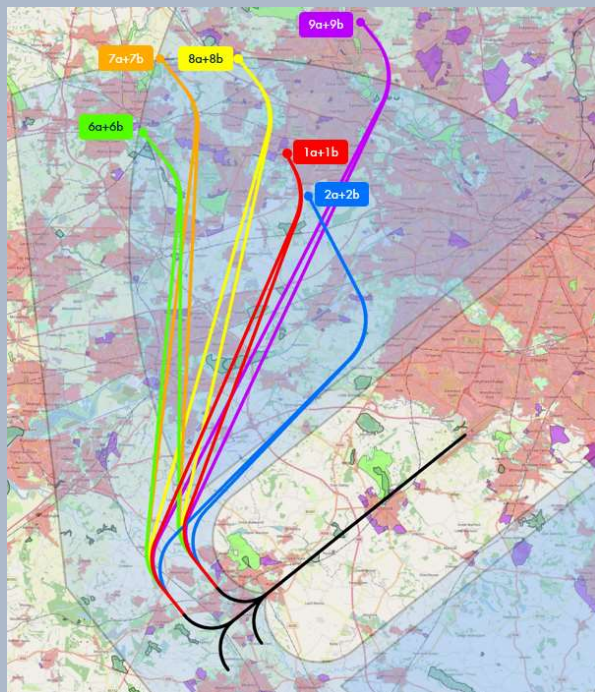
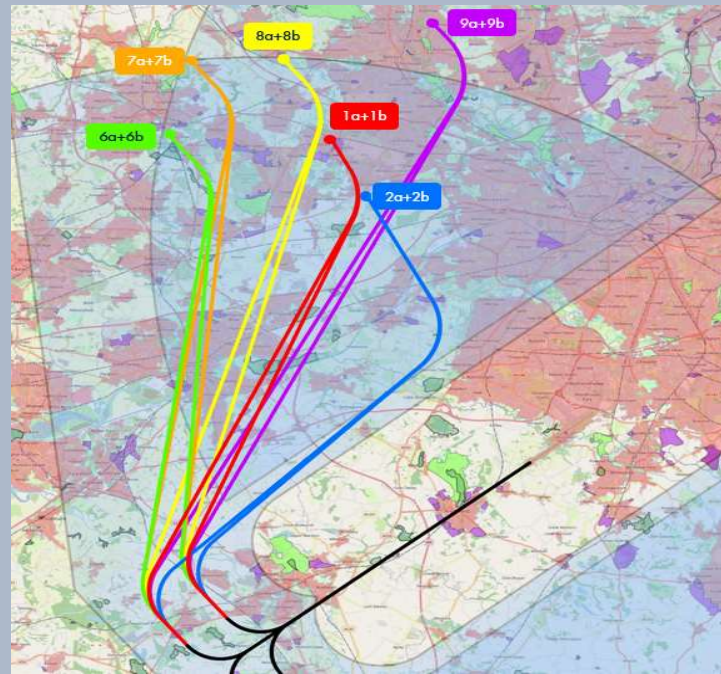
05R North

	Positive	Negative	Reason
1a & 1b	1	1*	N1, S, C & A
2a & 2b	1*		S, C & A
6a & 6b		1*	S, C & A
7a & 7b		1*	S, C & A
8a & 8b	1	1*	N1, S, C & A
9a & 9b	1	1*	N1, S, C & A

New options/Envelope wide comments

*LVP cited S, C & A conflicts with Runway 27 arrivals. Need more options without conflict and include later join to ILS.

S, C & A



05L North

	Positive	Negative	Reason
1a & 1b	1	1*	N1, S, C & A
2a & 2b	1*		S, C & A
6a & 6b		1*	S, C & A
7a & 7b		1*	S, C & A
8a & 8b	1	1*	N1, S, C & A
9a & 9b	1	1*	N1, S, C & A

New options/Envelope wide comments

*LVP cited S, C & A conflicts with Runway 27 arrivals. Need more options without conflict and include later join to ILS.

S, C & A

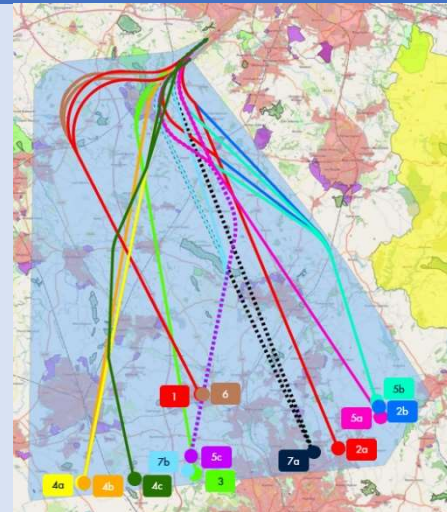
APPENDIX 3 - DEPARTURES ROUTE OPTIONS FEEDBACK



Departure route option feedback – Runways 23R/L

Runway 23L/R South

Route	Positive	Negative	Reason
1	4		'Do minimum', N1
2a	1	2	N3, N1
2b	2	2	N3, N1
3	2	4	N1, N1
4a	2	3	N1, E
4b	2	3	N1, N1
4c	2	3	N1, E, N1, N3
5a	1		N1
5b	1	2	N3
5c	1		N1
6	4		'Do minimum', N1
7a	1	1	N1, N1
7b		2	N1



Runway 23L/R South-west

Route	Positive	Negative	Reason
1a	3	1	N1, S, C & A
1b	3	1	E, N1, S, C & A
2a	1	1	N1, S, C & A
2b	1	1	N1, S, C & A
3a	3	1	E, N1, S, C & A
3b	4	1	N1, S, C & A
3c	3	1	N1, S, C & A
4b	1	1	N1, S, C & A
5	1	4	N1, S, C & A
6	3		N1, S, C & A

New options/envelope comments

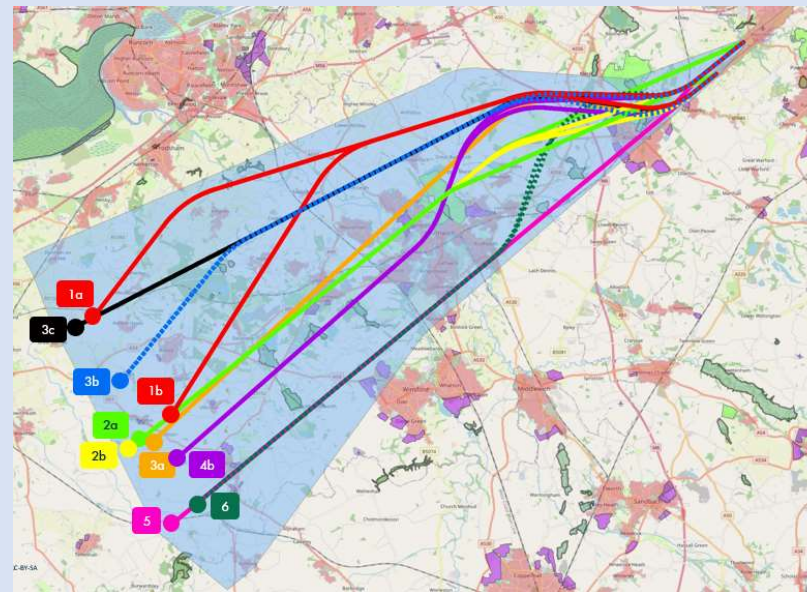
Start 2a, then onto 1a/b

N1

*LVP cited S, C & A conflicts with Runway 27 arrivals.

S, C & A

Only Options 5 & 6 do not - need more options.

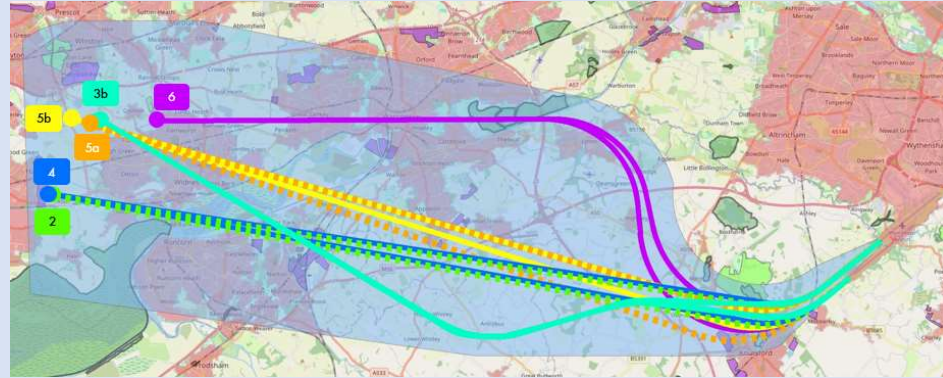


Runway 23L/R West

Route	Positive	Negative	Reason
2	1	1	N1, S, C & A
3b	3	3	E, N1, N1, S, C & A
4	1	1	N1, S, C & A
5a		3	N1, S, C & A
5b	1	2	N1, N1, S, C & A
6	1	3	E, N1, N1, S, C & A

New options/envelope comments

*LVP cited S, C & A conflicts with Runway 27 arrivals on entire envelope? S, C & A



Runway 23L/R North

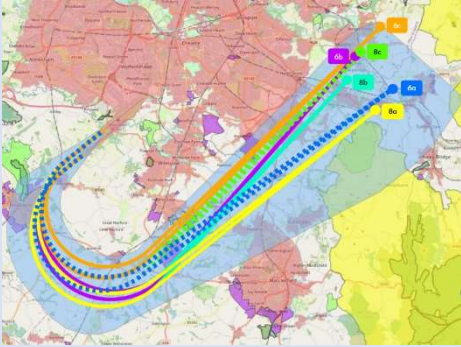
Route	Positive	Negative	Reason
1a			
1b	1		N1
2a	1	1	N1, N1
3	1		N1
4a			
4b			
6a	1	2	N1, N1
6b	1	2	N1, N1

New options/envelope comments

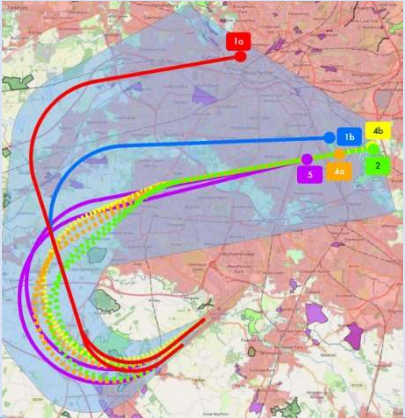
Options west of Mere N1



Runway 23L/R East LT			
Route	Positive	Negative	Reason
6a		2	N1
6b			
6c	1		N1
8a		2	N1
8b			
8c			
New options/envelope comments			
Envelope not necessary x7			N1
Envelope a good idea			C



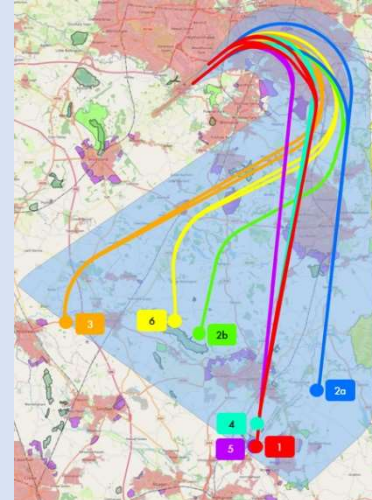
Runway 23L/R East RT			
Route	Positive	Negative	Reason
1a	3		N1
1b	1		N1
2	1		C
4a	2	1	C, N1, N1
4b	2		C, N1
5	2	1	C, N1, N1
New options/envelope comments			
1a to 4kft, then follow average of existing @7%			C
Options west of Mere			N1



Departure route option feedback - Runways 05L/R

Runway 05R/L South RT

Route	Positive	Negative	Reason
1			
2a		1	N1
2b		1	N1
3	1		N1
4			
5			
6	2		N1
New options/envelope comments			
Use 2a & 3 together to create respite			N2
New route to follow A34 south			N1



Runway 05R/L South LT

Route	Positive	Negative	Reason
7a		1	N1
7b	1		N1
8		2	N1
9		2	N1
10		2	N1
New options/envelope comments			
A negative combined effect of 3 envelopes (05L/R West, South West and South LT) all on the same area			N1
Great envelope option for respite			N2
Envelope should not be developed x 1			N1

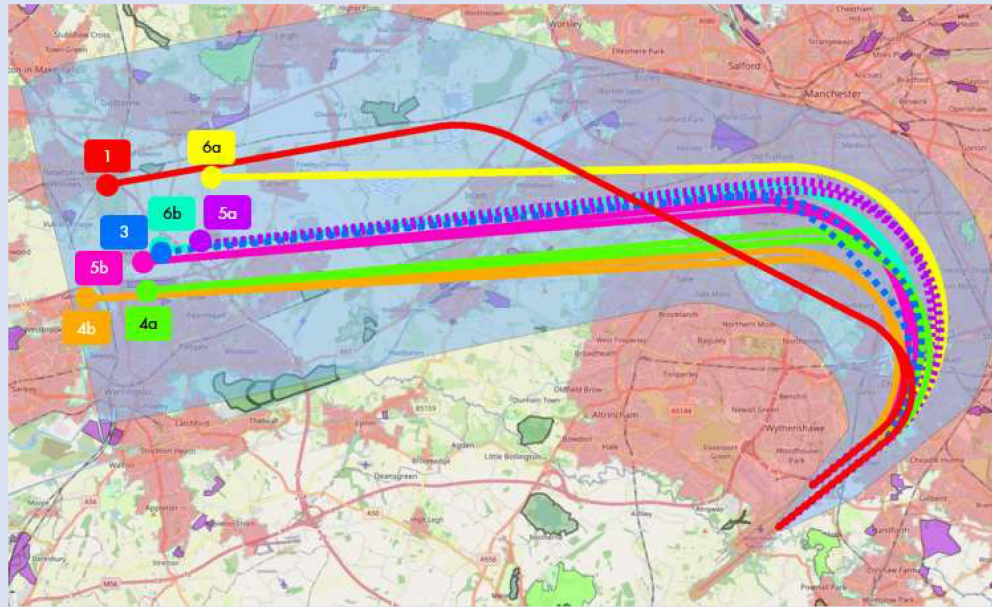


Runway 05R/L West

Route	Positive	Negative	Reason
1	2		N1
3		1	N1
4a		1	N1
4b		1	N1
5a		1	N1
5b		1	N1
6a	1		N1
6b		1	N1

New options/envelope comments

15 degree north offset		N2	
A negative combined effect of 3 envelopes (05L/R West, South West and South LT) all on the same area		N1	
Great envelope option for respite		N2	
*LVP cited conflict but better understanding at the bi-lateral has removed them.		N/A	

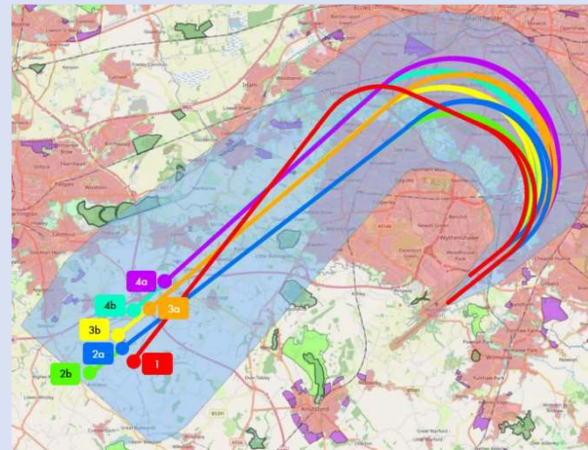


Runway 05R/L South-west

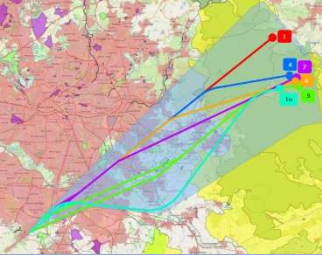
Route	Positive	Negative	Reason
1	1		N1
2a			
2b			
3a			
3b			
4a			
4b			

New options/envelope comments

A negative combined effect of 3 envelopes (05L/R West, South West and South LT) all on the same area		N1	
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Runway 05R/L East			
Route	Positive	Negative	Reason
1	1		N2
4	1		N2
5	1		N1
6	1		N2
7	1		N2
1a	1		N2



Runway 05R/L North			
Route	Positive	Negative	Reason
1	1		N1, N2
3	1		N1, N2
4	1		N1, N2

