Phase Two Discussion Sessions Feedback Report

Stage 2 Develop and Assess

MAG London Stansted Airport

LONDON STANSTED AIRPORT FUTURE AIRSPACE

Stage 2 – phase two Stansted discussion sessions feedback

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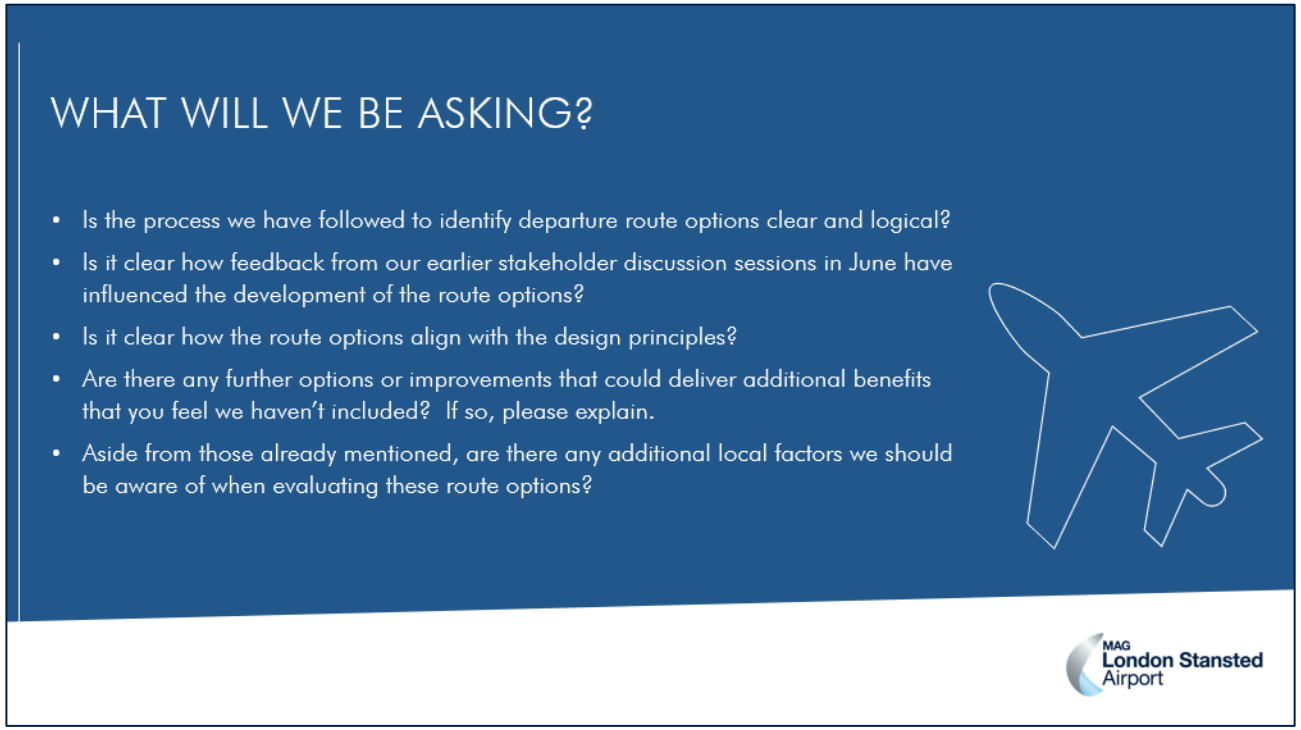
Background, aims and objectives

Phase two engagement followed on from the first round of discussions in the summer where we shared our initial design work as part of Stage 2, for feedback. In this second engagement we set out to:

- Share the summary of stakeholder feedback received in phase one of engagement 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's clear how design envelopes and route options align with the design principles.
    - Whether there are any additional local factors within the design envelopes to consider.
    - Whether there are any improvements or additional options within the design envelopes we should consider.



Engagement session outline

Over the two weeks we carried out a total of 14 engagement sessions using three main methods. Due to the volume and complexity of content sessions were split by arrivals and departures and, the main presentation was pre-recorded to ensure consistency of content . All methods of engagement included a presentation and Q&A session, led by Stansted airspace team.

Mixed Stakeholder online sessions

- Microsoft Teams - full PowerPoint version
- These sessions were designed to include a large number of stakeholders therefore feedback was directed through the chat function to allow for discussion and ease of reporting.
- 1.5 hour sessions

Airline stakeholder online sessions

- Microsoft Teams – shortened PowerPoint version
- These sessions were designed to include a smaller number of stakeholders, feedback was recorded through discussion and later transcribed for post feedback analysis.
- 1.5 hour sessions

Mixed Stakeholder face to face sessions

- Face to Face – full PowerPoint version
- Sessions were recorded and later transcribed for post feedback analysis.
- 2 hour session

Departures	Arrivals
Online events	Online events
1st November 2021 AM	8th November 2021 AM
1st November 2021, PM	8th November 2021, PM
2nd November 2021, AM	9th November 2021, AM
Airline events	Airline events
2nd November 2021, PM	9th November 2021, PM
3rd November 2021, AM	11th November 2021, PM
Face to Face events	Face to Face events
4th November 2021, AM	10th November 2021, AM
4th November 2021, PM	10th November 2021, PM

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Stakeholder coverage and feedback

Over 800 stakeholders were invited to attend the sessions, with regular reminders being sent leading up to the sessions. In total 68 attendees representing 60 organisations attend our engagement sessions.

Aviation representatives	**20**
• Airline	8
• Airport	6
• Aviation representative	1
• NATMAC (the National Air Traffic Management Advisory Committee)	5
Business representatives	**3**
• Onsite business	2
• Offsite business	1
Community representatives	**4**
Elected representatives	**30**
• County Council	2
• District Council	6
• Parish Council	22
Environment and landscape group	**9**
• National organisation	3
• Regional organisations	6
Special interest (consultative committees)	**3**

Stakeholder feedback

- Stakeholder feedback at the second stage of engagement was shared during the discussion sessions through the chat function and dialogue from the engagement sessions. The sessions were recorded, and transcripts produced to enable review of the feedback received.

- All attendees received a link to an online feedback survey after the event. This was simple way for stakeholders to provide responses to a number of multiple choice and free text questions.

- All feedback was logged and analysed by the airspace team. Findings are summaries in this report with examples of stakeholder quotes.

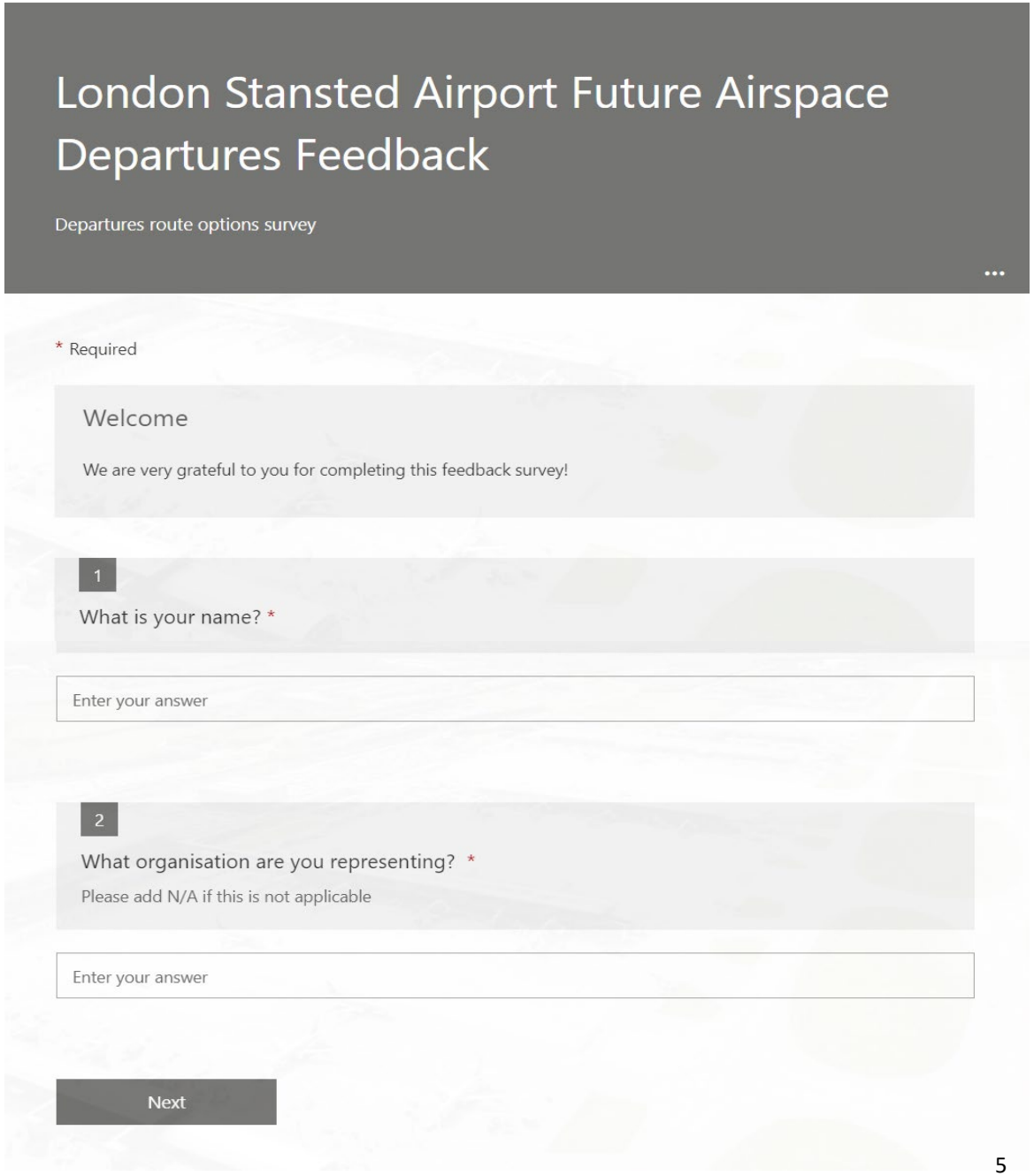
- Stakeholders also provided feedback via email.

<u>Feedback Received</u>

27 departures feedback surveys,

21 arrivals feedback surveys,

6 additional feedback via email



General feedback

- On the whole stakeholders were keen to be involved and understood the purpose and potential benefits of the wider programme and our part in it.
- Stakeholders understood the background and process information presented to them and appreciated the level of detail shared.
- From community representatives there is some scepticism about whether real benefits can be achieved and concern about potential negative impacts for some.
- Many stakeholders were eager for more granular detail.
- Noise and respite continued to dominate the discussions.

"The central options are quite new and you're assuming roughly speaking 7,000ft asl roughly over the centre of the runway so that's quite different to the current situation."

Special Interest

"Residents need to know if they are to be under a flight path i.e. there will be noise. It is not case of lower noise. They buy or sell their houses accordingly. The last set of changes prejudiced those who had bought houses when they were not under flight paths."

Elected representative

"Does an aircraft departing on an 8% climb gradient cause higher noise levels (initially) than one climbing at 6%? "

National organisation

"It is clear the designs have taken account of the design principles, specifically noise. The routes will still need to take account efficiency in the airspace (DP – E) and of other airspace users but we understand that this will come with further engagement from other change sponsors….. "

Aviation Representative

DEPARTURES
STAKEHOLDER FEEDBACK

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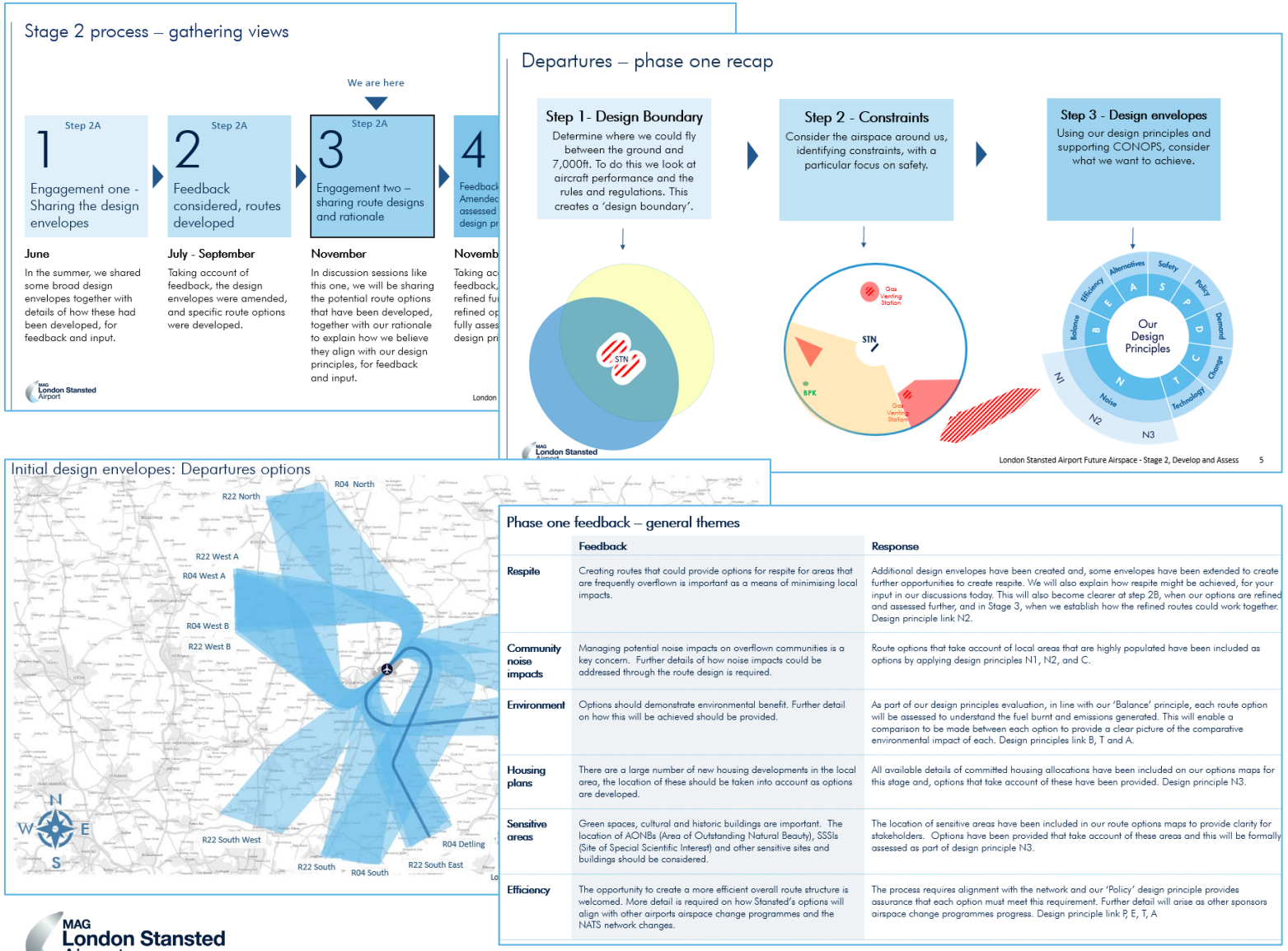
Departures feedback – background and phase one



	Feedback	Response
Respite	Creating routes that could provide options for respite for areas that are frequently overflown is important as a means of minimising local impacts.	Additional design envelopes have been created and, some envelopes have been extended to create further opportunities to create respite. We will also explain how respite might be achieved, for your input in our discussions today. This will also become clearer at step 2B, when our options are refined and assessed further, and in Stage 3, when we establish how the refined routes could work together. Design principle link N2.
Community noise impacts	Managing potential noise impacts on overflown communities is a key concern. Further details of how noise impacts could be addressed through the route design is required.	Route options that take account of local areas that are highly populated have been included as options by applying design principles N1, N2, and C.
Environment	Options should demonstrate environmental benefit. Further detail on how this will be achieved should be provided.	As part of our design principles evaluation, in line with our 'Balance' principle, each route option will be assessed to understand the fuel burnt and emissions generated. This will enable a comparison to be made between each option to provide a clear picture of the comparative environmental impact of each. Design principles link B, T and A.
Housing plans	There are a large number of new housing developments in the local area, the location of these should be taken into account as options are developed.	All available details of committed housing allocations have been included on our options maps for this stage and, options that take account of these have been provided. Design principle N3.
Sensitive areas	Green spaces, cultural and historic buildings are important. The location of AONBs (Area of Outstanding Natural Beauty), SSSIs (Site of Special Scientific Interest) and other sensitive sites and buildings should be considered.	The location of sensitive areas have been included in our route options maps to provide clarity for stakeholders. Options have been provided that take account of these areas and this will be formally assessed as part of design principle N3.
Efficiency	The opportunity to create a more efficient overall route structure is welcomed. More detail is required on how Stansted's options will align with other airports airspace change programmes and the NATS network changes.	The process requires alignment with the network and our 'Policy' design principle provides assurance that each option must meet this requirement. Further detail will arise as other sponsors airspace change programmes progress. Design principle link P, E, T, A

- The first part of the presentation recapped on the first phase of design and stakeholder feedback from the earlier engagement.
- As expected feedback on this section was limited, stakeholders fed back it was clear and straightforward.
- It did however prompt some questions on various points such as:
  - The wider programme, particularly the status of other airports and NATS airspace changes and how that might impact our progress.
  - Timescales for public consultation and implementation.

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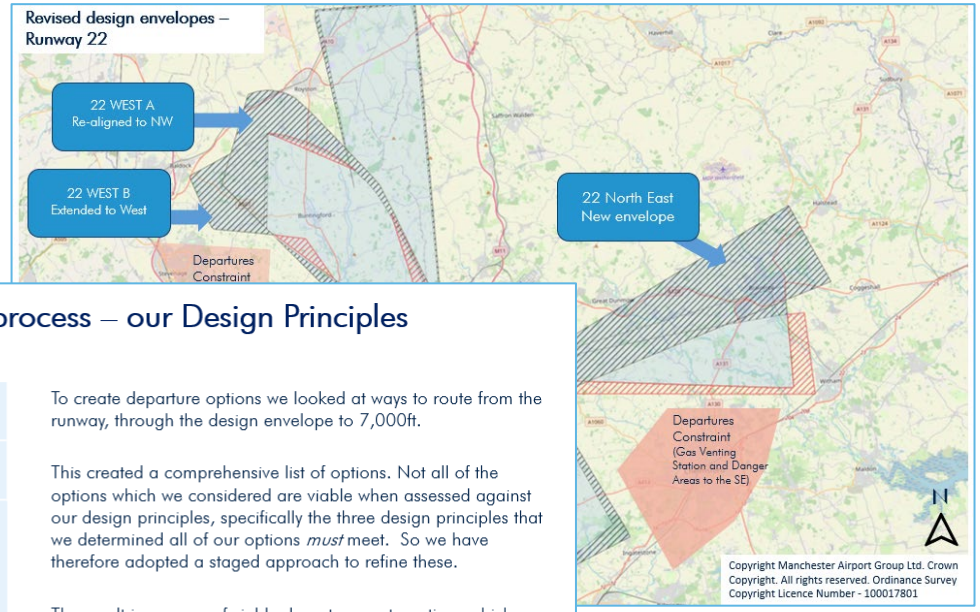
Departures feedback – phase two design process



The route options development process – our Design Principles

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

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

Noise
N1 In order to address the effects of aircraft noise, each route should seek to minimise the number of people overflown.
N2 The use of multiple routes and/or other forms of respite, such as different time periods and balanced runway mode when operationally viable, will be considered.
N3 Where practical, our route designs should avoid, or minimise effects upon, noise sensitive receptors. These may include designated sites and landscapes (such as SSSI and AONB), cultural or historic assets, and sites providing care.

B | Balance
Our designs will consider both noise and emissions, an… we will take account of the Government's altitude-base… noise below 7,000 feet.

E | Efficiency
We will seek to minimise the amount of controlled airs… designs should ensure an efficient and systemised oper… other airports and maintaining priority access for emer…

A | Alternatives
Where the adoption of modern navigation standards … cannot fly the new routes, we will seek to minimise the …

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

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

The result is a range of viable departure route options which we …

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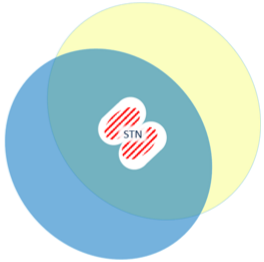
The staged approach to refining our options

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

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

- Position of the first turn or the turn radius.
- Routes that would not meet obstacle clearance requirements.
- Routes that descend at a gradient above the recommended maximum.

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



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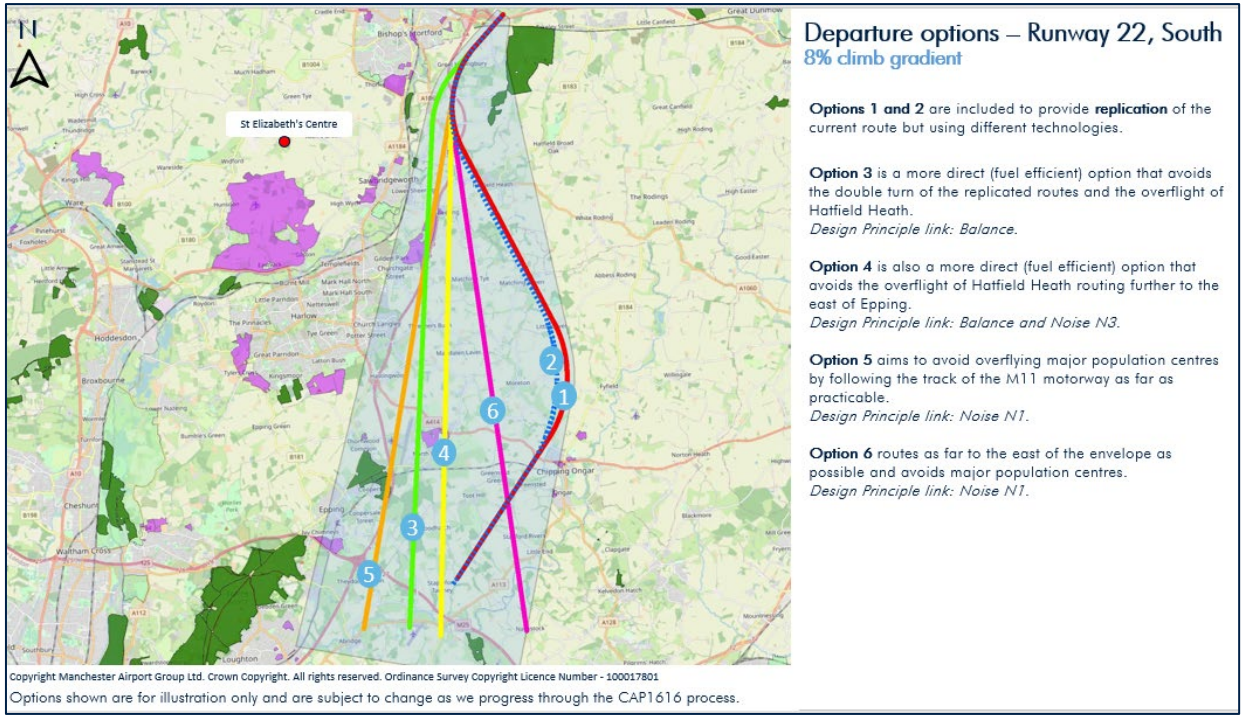
- There was generally support for higher climb gradients. However some concerns were raised about whether this would mean increased noise initially potentially worsening noise for those closest to the airport.
- Some stakeholders raised questions about constraints and wanted more information to understand the implications of them.
- Performance Based Navigation (PBN) was understood and the use of this technology was welcomed on the whole, however there remained some concern about concentration and how this may impact those areas directly overflown if there were not multiple routes to share the impact.
- The majority of stakeholders welcomed the additional envelopes presented as a means of sharing noise impacts. However, there were some concerns around areas of overlap and whether some areas could potentially be impacted by multiple envelopes.
- In our post engagement survey;
  - Stakeholders felt the process was clear and logical.
  - A high proportion of stakeholders (almost 80%) could see how feedback from phase one had influenced the development of the options

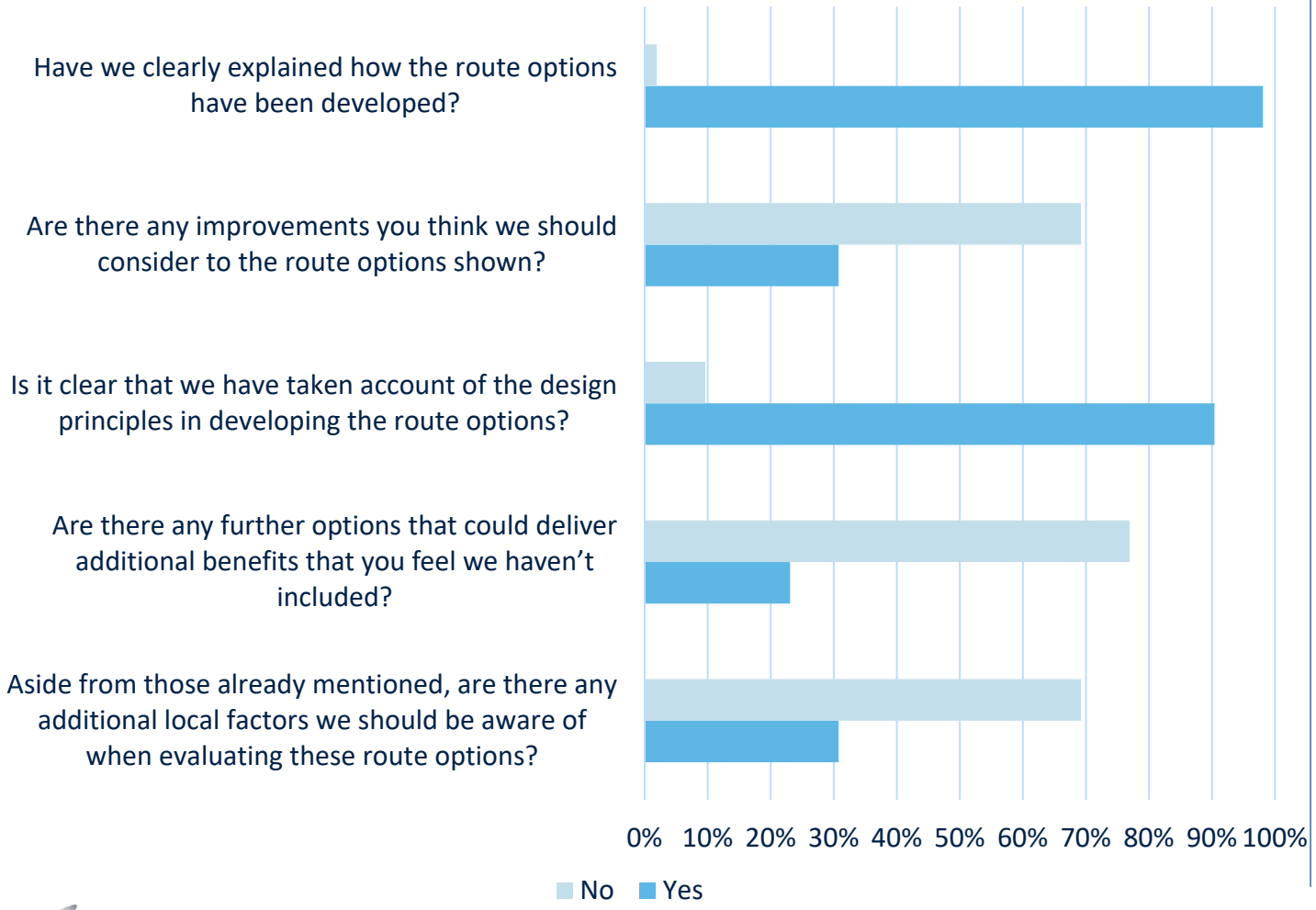
Departures feedback – route options



- Stakeholders were shown each envelope separately and given the chance to comment both in the session and post discussion.
- Stakeholders were keen to understand when more detailed information would be available to enable them to fully compare each route (such as height at various points, fuel burn, volume of traffic, impact of other Airspace Change Projects) and it was explained that this information would be available later on in the process.
- Queries were also raised about impacts on specific locations, how many routes could be taken forward and how they could work together with arrivals.
- Much feedback was given about the housing developments shown and local plans generally, and additional considerations were put forward on the question of sensitive sites. However, there were also some suggestions that priority should be given to residential buildings and existing centres of population.
- The proposed new South West envelope was very popular with airline stakeholders however questions were raised about feasibility given likely interaction with other airport traffic.

Departure route options

This slide summarises feedback survey responses to questions about the departure route options.



"Stansted should ensure that local residents are not disadvantaged by other airports needs and fully use ACOG's role "

Special interest

"South west options appear to be of great benefit to operators"

Aviation representative

"PBN improved track keeping means airspace can be used more efficiently and alternative routes can be used to provide respite for residents."

Elected representative

"We do feel that there has been a lot of emphasis on the Noise design principles (N1-3) and would welcome a broadening of the assessments to other DPs around Efficiency (E) and Balance (B)."

Aviation representative

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ARRIVALS
STAKEHOLDER FEEDBACK

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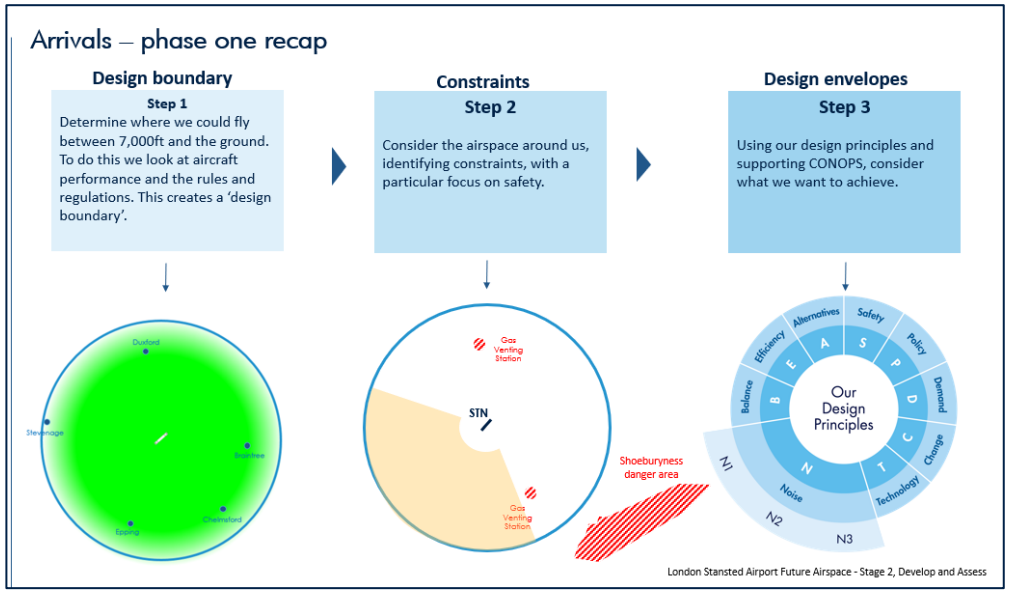
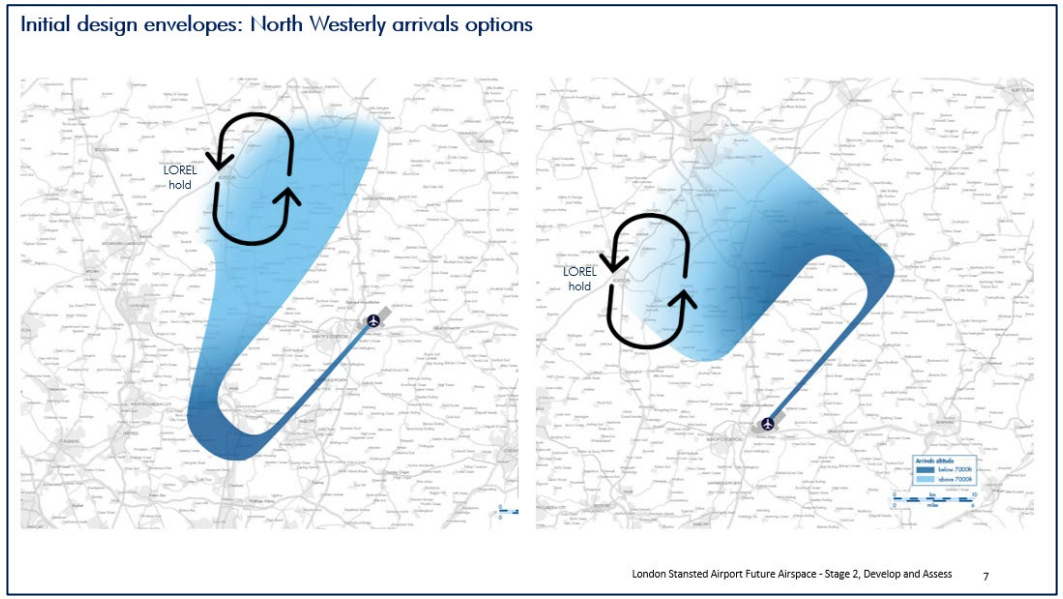
Arrivals feedback – background and phase one





Phase one feedback – general themes

	Feedback	Response
Respite	Creating routes that could provide options for respite for areas that are overflown is important as a means of minimising local noise impacts.	For arrivals, we have created options that provide different joining points which could create a level of relief. Today, we will also outline three possible alternative concepts, which offer different ways to provide noise relief. We will explain these as part of our presentation to you today, for your feedback. Design principle link N2.
Community noise impacts	Managing potential noise impacts on overflown communities is a key concern. Stakeholders raised concerns about overflying highly populated areas and specific locations that due to their proximity to the airport, are included in all the envelopes.	Route options that take account of areas that are more highly populated have been included by applying design principles N1, N2, and C. Options to provide noise relief have also been included and as we refine the design options, we will also be considering areas of future housing growth. Design principles link Noise N1, N2 and C.
Environment	Options should demonstrate environmental benefit. Further detail on how this will be achieved should be provided.	As part of our design principles evaluation, in line with our 'Balance' principle, each route option will be assessed to understand the fuel burnt and emissions generated. This will be compared to the baseline scenarios to provide a clear picture of the comparative environmental impact of each option. Design principles link B and T.
Technology	Stakeholders noted the limitations of the current structure and were mostly supportive of ensuring that our arrivals designs facilitate Continuous Descent Approaches (CDA) to both runway ends. However some asked if there were alternatives that could better address noise impacts.	All of the arrival options we will present facilitate CDAs to both ends of the runway. We will explain later in our presentation how options that do not facilitate this have been categorised as part of the initial options development process. In addition we have considered route designs at different angles of descent. Design principle link T and Policy P.
Sensitive areas	Green spaces, cultural and historic buildings are important. The location of AONBs, SSSIs and other sensitive sites and buildings should be considered.	The location of sensitive areas have been included in our route options maps to provide clarity for stakeholders. Options have been provided that take account of these areas and this will be assessed as part of design principle Noise N3.
Efficiency	The opportunity to create a more efficient route structure is welcomed. More detail is required on how Stansted's options will align with other airports airspace change programmes and the NATS network changes.	The process requires alignment with the network and our 'Policy' design principle provides assurance that each option must meet this requirement. Further detail will arise as other sponsors ACPs progress. For arrivals, the NATS changes will be particularly relevant to the development of our options. Today, we will discuss some possible concepts, your feedback on these will help inform our discussions with NATS. Design principles link P, E, T, A.

- The initial part of the presentation described the first part of the design process and the feedback received in the first phase of engagement.
- Like departures this section was widely understood.

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Arrivals feedback – phase two design process

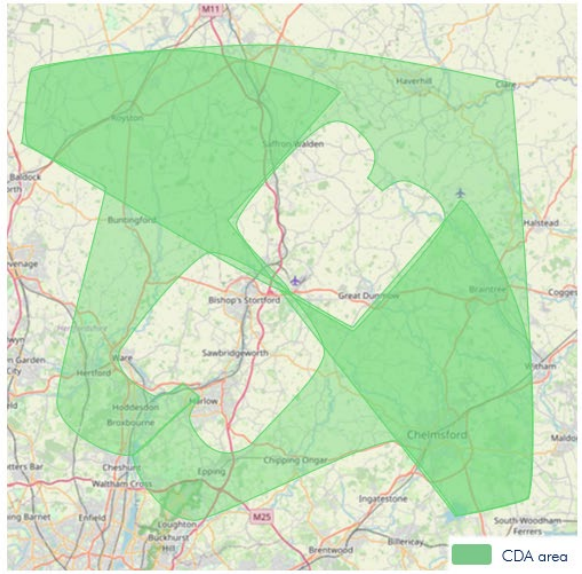
Step 3 – The viable design area

The dark green area shows where CDAs are theoretically possible to both runway ends to meet the Policy design principle.

As with departures we have then applied the Design Principles to create route options from 7,000ft.

The options take account of:

- The need to create a CDA (Policy, Noise N1 and Balance)
- Avoiding overflight where possible (Noise N1)
- Opportunities for noise relief (Noise N2)
- The PANS OPS rules on aircraft turns, stabilisation and final approach segments.



London Stansted Airport Future Airspace - Stage 2, Develop and Assess 22

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:

Minimising engine thrust and noise (Noise N1)

- Maintaining a fuel optimal profile and minimising CO_2 emissions (Balance)
- Minimising airframe noise such as deploying air brakes (Noise N1)

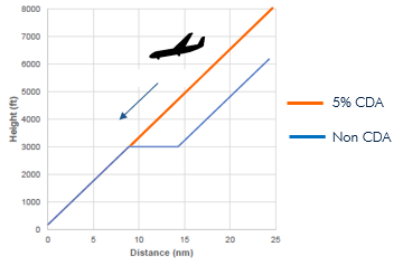
There is a range of descent gradients for a CDA which will provide the benefits above.

- Our new design envelopes for runway 22 are within this range
- However for runway 04 some are outside of the range that would provide a benefit.
- Current operations for runway 04 often fail to achieve a CDA due to the distance of the ABBOT hold from the runway.

Current definition of CDA used by CAA

The arrivals code of practice measures an arrival as a CDA if it contains

- no level flight; or
- one phase of level flight not longer than 2.5 miles.



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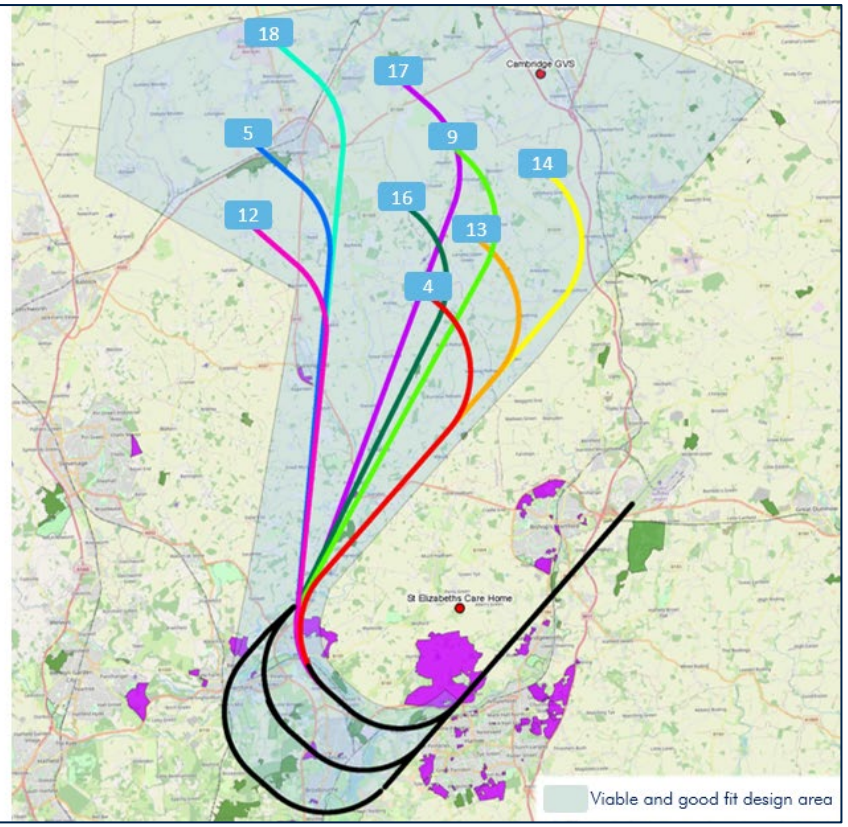
- The next phase of design was then outlined. The importance of enabling CDAs to both runway ends was understood and widely supported however, there were some questions around how this further concentrated the viable design area.
- Again, the constraints were widely discussed with stakeholders wanting further detail on the established constraints and considerations, particularly the area to the south west which prompted a lot of discussion in some sessions.
- It was acknowledged that for arrivals the route option would concentrate traffic to a greater extent than is the case currently and community representatives expressed concern about the noise impact of this for those directly overflown.
- In our post engagement survey, almost all stakeholders agreed that the process was clear and logical and a high proportion (almost 70%) could see how feedback from phase one had influenced the development of the options.

Arrivals feedback – route options

Step 3 – West route options for Runway 04
Viable and Good fit

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

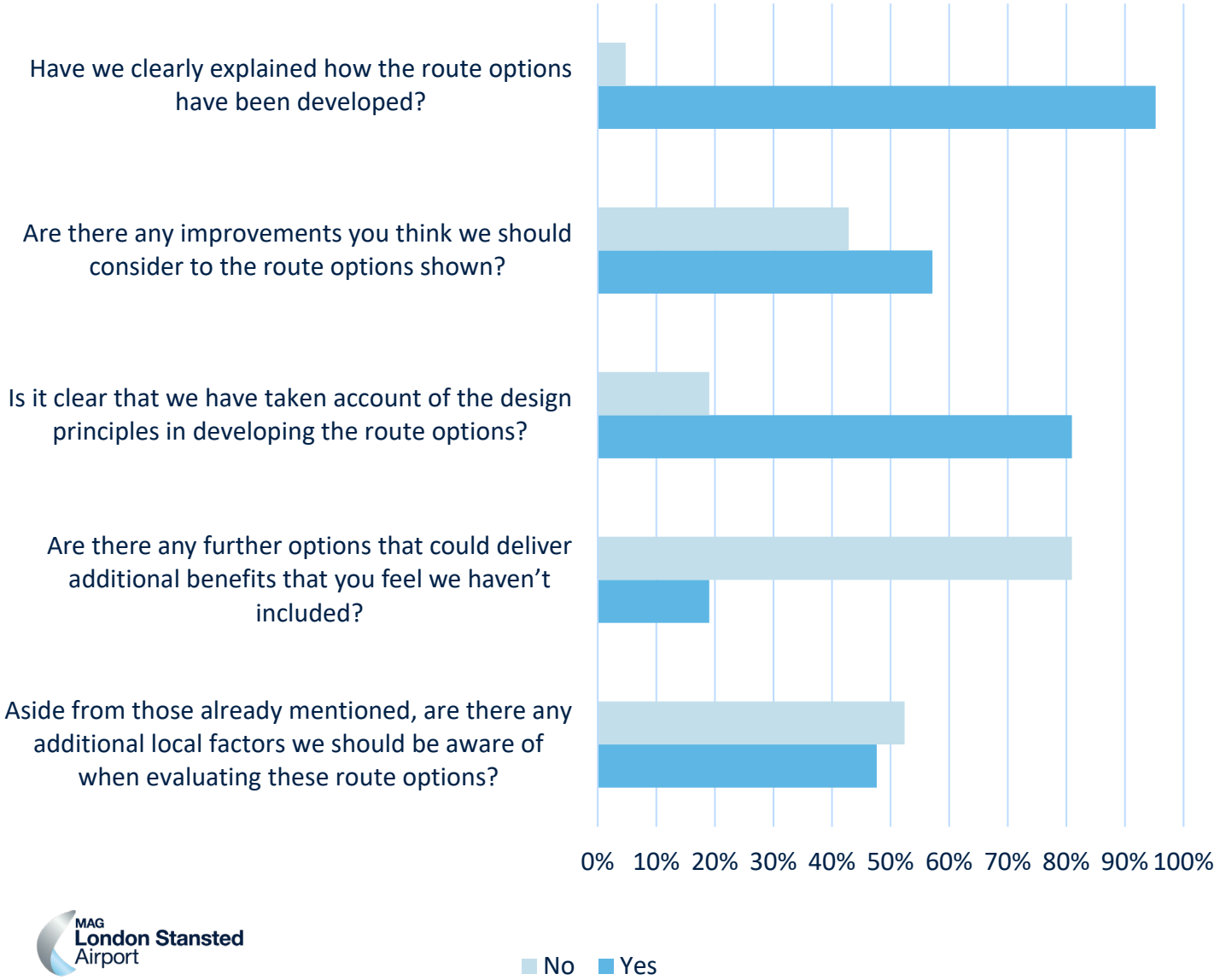
- The start points at 7,000ft are the same as for Runway 22.
- Options 17 and 18 align to Noise N1 and are at the edges of the designable area.
- Option 5 and 12 most closely align to the position of the current LOREL hold to the North East of the runway and is the 'do minimum' option.
- Option 9 aligns to Noise N1 by avoiding towns.
- Option 14 aligns to Noise N1 by avoiding towns, but is less fuel efficient for this runway.
- Options 4 and 13 are optimally placed for both runway ends and align with both Noise N1 and Balance.



- Stakeholders were shown each envelope separately and given the chance to comment both in the session and post discussion.
- There was a lot of discussion about respite and the degree of concentration that could be expected. While some were keen to see this concentration of traffic, most community stakeholders were concerned about the noise impact on overflown communities and how much of a change this would represent from the current pattern of arrivals.
- There were also discussions around avoidance of specific sites, local plans and identified housing plans and consideration of large towns.
- Another area of discussion was the joining point for final approach and whether this could be higher. It was explained that this had been considered.

Arrivals

This slide summarises results to arrival route option questions in the feedback survey.



"Other airport design options will need to be considered as the process progresses"

Aviation representative

"Modern traffic control systems can guide planes with high precision, so that the same people are over-flown again and again. Rather than having several very narrow paths within the envelopes, planes should be spread across the envelopes or broad paths within the wider paths"

Elected representative

"A single holding area to the south would work well ….., as this would free up some airspace to the north east ……(currently where LOREL is)"

Aviation representative

RESPITE
STAKEHOLDER FEEDBACK

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Respite

Our working definition has been:

Relief is a break from or a reduction in aircraft noise.

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

Does this align with your own views?

Yes: 93%, No : 7%

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

Stakeholders provides a variety of timeframes that they wish to be considered for example 2 hours, day by day, week by week

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

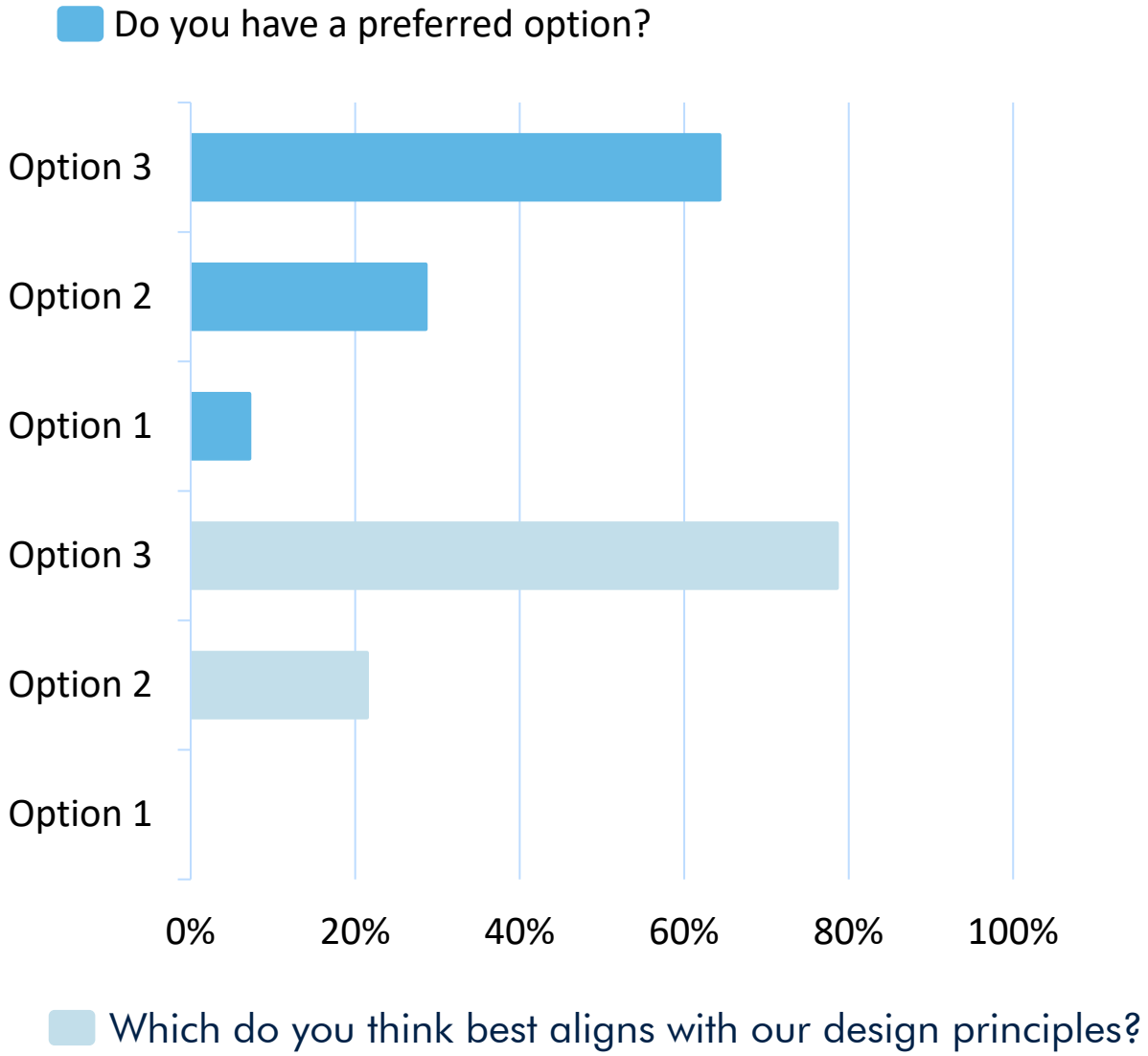
Stakeholders provided a range of preferable periods. However the most common times were night, early morning and late evening

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?

Predictable: 38% (Elected and aviation representatives)
Sharing noise: 62% (Elected, special interest and aviation representatives)

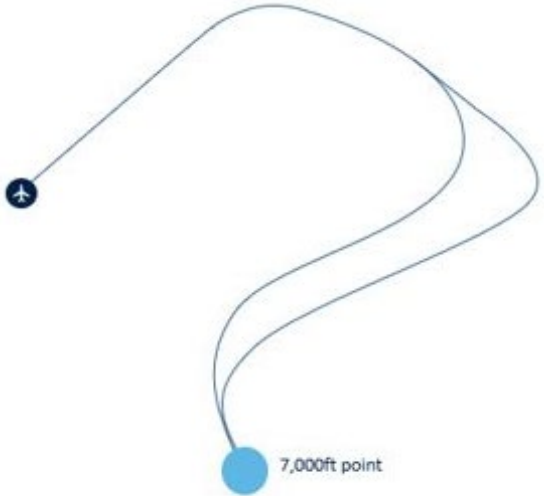
- As respite had been such a frequently raised topic at phase one of engagement, we wanted to ask stakeholders some specific questions on the subject at phase two to help us understand their views in more detail.
- These questions were also included in our feedback survey, the responses to which are shown here.
- The feedback gathered on these questions will help inform the development of our options as we progress.

Respite - Arrival options

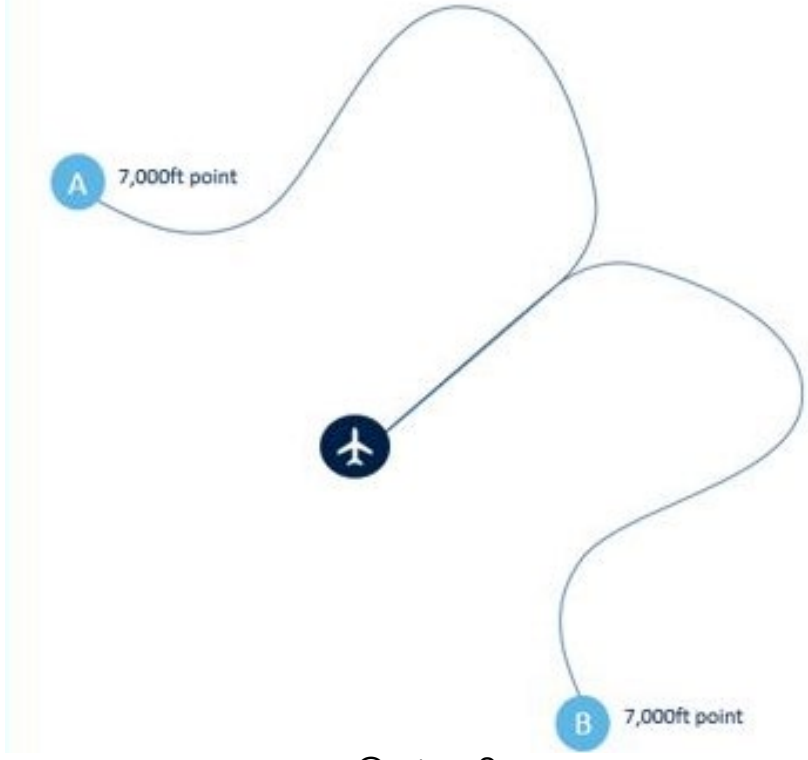


Option 1

Option 2



Option 3



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Local Factors

- 69% of stakeholders felt that the presented route options considered local factors that are most important to them.
- Ancient Monuments and Heritage Assets and conservation areas were highlighted in a number of sessions, particularly by elected representatives.
- The majority of stakeholders agreed with the need to consider new developments. However, some felt that those shown did not reflect the most up to date picture in some cases.
- The word map to the right of this side outlines examples of local factors stakeholders want us to consider.

Solar farm
Stour Valley
Heritage Assets
Roydon Conversation Area
Open air cultural events
Schools and early learning
Ware
New garden village near Chelmsford
Sawbridgeworth
New developments
Schools
Conservation areas
Thaxted
Ancient monuments
Village of Farnham
Saffron Walden
Farnham
Childcare and nursing homes

FINAL THOUGHTS

Local factors

Aside from those already mentioned, are there any additional local factors we should be aware of when evaluating these route options?

Local factors - considerations

- Scheduled monuments and registered parks and gardens
- Conservation areas
- Heritage assets
- Relocation of Princess Alexandra Hospital
- Proposed solar farm and battery storage site in Terling
- Proposed new schools
- Outdoor events
- Sites of environmental importance
- Check local plans are accurately reflected and non noise sensitive sites are not included – particularly East Herts
- Determine and communicate how and when changes to local plans will be reflected.
- Confirm and communicate how each consideration will be taken into account.
- Detail how priority will be determined between planned housing and existing population centres.
- New housing developments, Gilston and Harlow, A131 corridor

Considerations to be taken forward in the next stages

Further information was requested on the following, these elements should be provided as we proceed further.

- How noise impact will be determined both in terms of impact assessments and Design Principle Evaluation i.e. would this be absolute or take account of background noise?
- Other airports/ NATS airspace changes – how will these impact our options and how will conflicts be managed?
- How will night flights be affected?
- Opportunities for multiple routes – is there a limit to the number of routes per envelope?
- Detail of potential route usage based on current volume of traffic by destination/ current route usage.
- How will departures and arrivals work together?
- How will consideration be given to communities potentially affected by departures and arrivals?