Friday 4th October 2019

# East Midlands Airport: Future Airspace Research – Aviation

Melanie Nicholls – Director, Head of Qualitative Research
Jerry Latter – Associate Director, Qualitative Research
Natasha Ward – Research Executive, Qualitative Research

YouGov®

# Report contents:

# Background, sample and method

# Background, aims and objectives

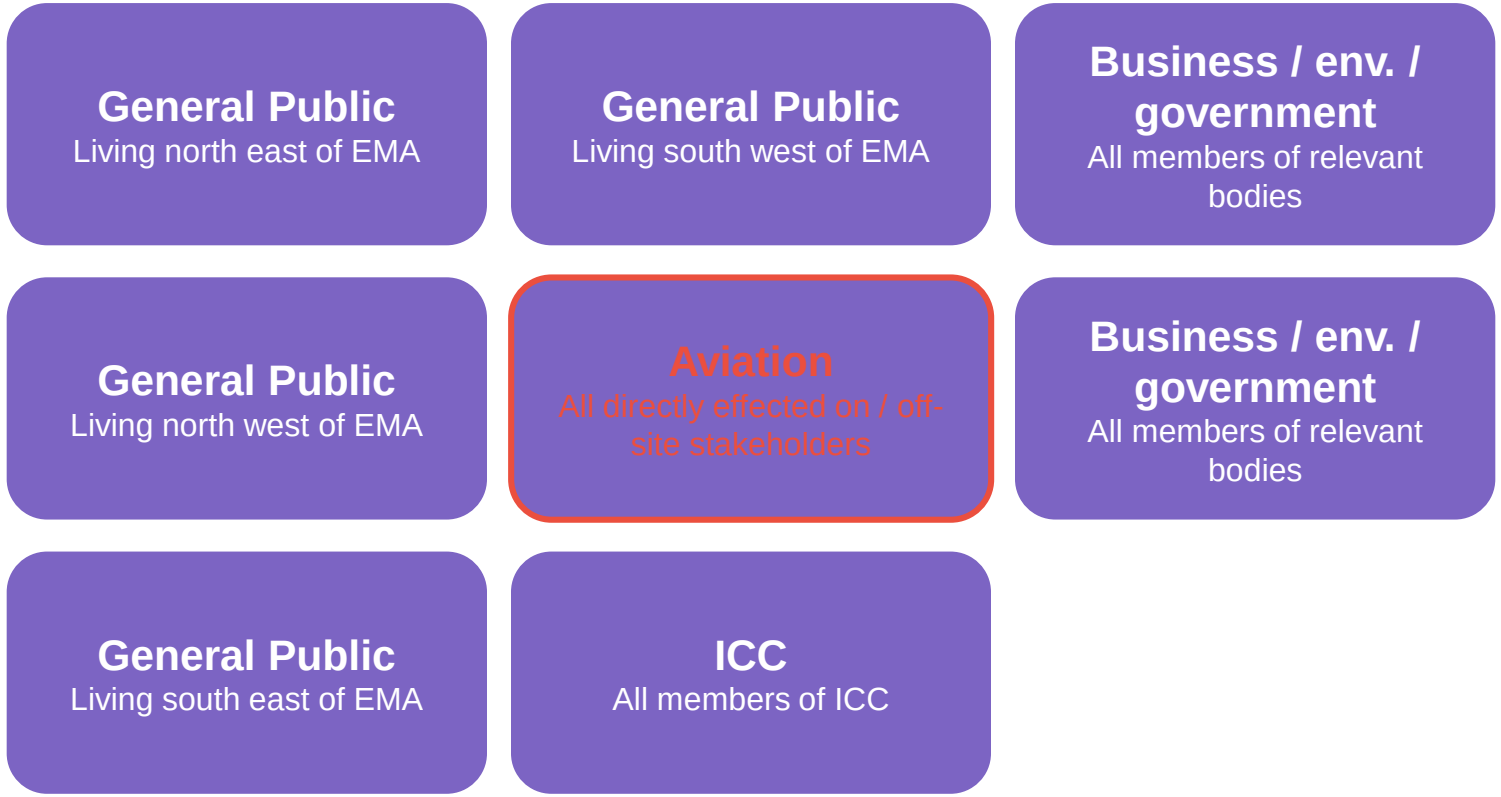
- As part of Government proposals to modernise the way UK airspace is managed, EMA will soon be undertaking an extensive process of engagement and consultation with stakeholders and local communities. Over the course of the next few years EMA will bring together NATS, the CAA and other airports to shape the airspace design on which it will formally consult (likely in 2020). Before this, it will be important to speak to individuals, organisations and groups that have an interest in the airspace around EMA to provide feedback on principles that will be used to redesign the airspace, as part of the overall programme.

- The research will seek to capture feedback from a range of interested parties to ensure that Manchester Airport has a clear understanding of the views of all its major stakeholder groups, and that the design principles that emerge are properly understood and fit for purpose. This will set the foundations of the future airspace work.

- The key aims and objectives of the research are to:
  - Ensure that EMA have complied fully with the requirements of the CAAs CAP1616 process regarding engagement in Stage 1B.
  - Ensure that EMA has a strong understanding of the views of its stakeholder groups, to inform the subsequent stages of design and development.
  - Ensure that the design principles that emerge are properly understood, are consistent with the statement of need, support operational requirements, and allow EMA to continue to grow safely and efficiently.
  - And, ensure that the design principles that emerge are checked and validated with stakeholders from the focus groups with a proper understanding of the associated impacts, via a second phase of focus group meetings.

# Sample and method

- YouGov conducted 8 x 2 hour extended F2F focus groups with key stakeholder groups, identified by EMA. Focus groups took place between 16th and 19th September 2019. This report details the findings from the Aviation focus group and interviews.



# Perceptions of East Midlands Airport

# Aviation representatives are generally positive about EMA, citing employment and convenience as key benefits

## It's a major local employer

As with other groups spoken to, Aviation representatives are clear that EMA is a key employer in the area, offering jobs on and off site the airport. This has a positive impact on the local community and local economy.

## Cooperative

For those using the airspace around East Midlands, the communication and consideration shown by EMA are seen as key. Aviation representatives report that EMA tend to be cooperative, more so than neighbouring areas (e.g. Leeds, Doncaster).


## Travel is convenient

Respondents also note the convenience of having a smaller, local airport meaning communities in the surrounding areas don't have to drive 'hundreds of miles' to travel. This is important in terms of both leisure, and business, ensuring more accessible travel for all

## Available uncontrolled airspace

In comparison to other areas (e.g. London), there is a fair amount of uncontrolled airspace available for use around EMA and in neighbouring areas. This is beneficial for GA, and is key for training flights, which enables the next generation of pilots to develop their skills.

# Reducing pollution is high on the agenda for Aviation reps, along with addressing flight paths

**Improvements for passengers**
While EMA is small, respondents say that getting through to departure gates could be more efficient (citing delays at passport control). One respondent comments on the flight offering at EMA for those travelling to and from the airport – there is scope to expand this to include 'less generic' destinations.

**Pollution**
As with other groups, Aviation reps are clear that noise and air pollution are key drawbacks to living nearby – with more knowledge on this than some other stakeholders, they hold a firm belief that more could and should be done to mitigate these challenges.

**Current flight paths**
Fitting with comments regarding noise and air pollution, on-airport Aviation reps express frustration at current flight paths. The see them as inefficient, causing higher noise and emissions than necessary – for example, the limitation of departures to Easterly / Westerly routes.

# Perceptions of the Future Airspace Programme

Stakeholders were shown explanatory information abut the Future Airspace Modernisation programme, and a map of the area included in step 1B of the process…

# East Midlands Airport area

The Government requires us to modernise the way airspace is managed around the airport in areas where aircraft fly at up to 7,000 feet.

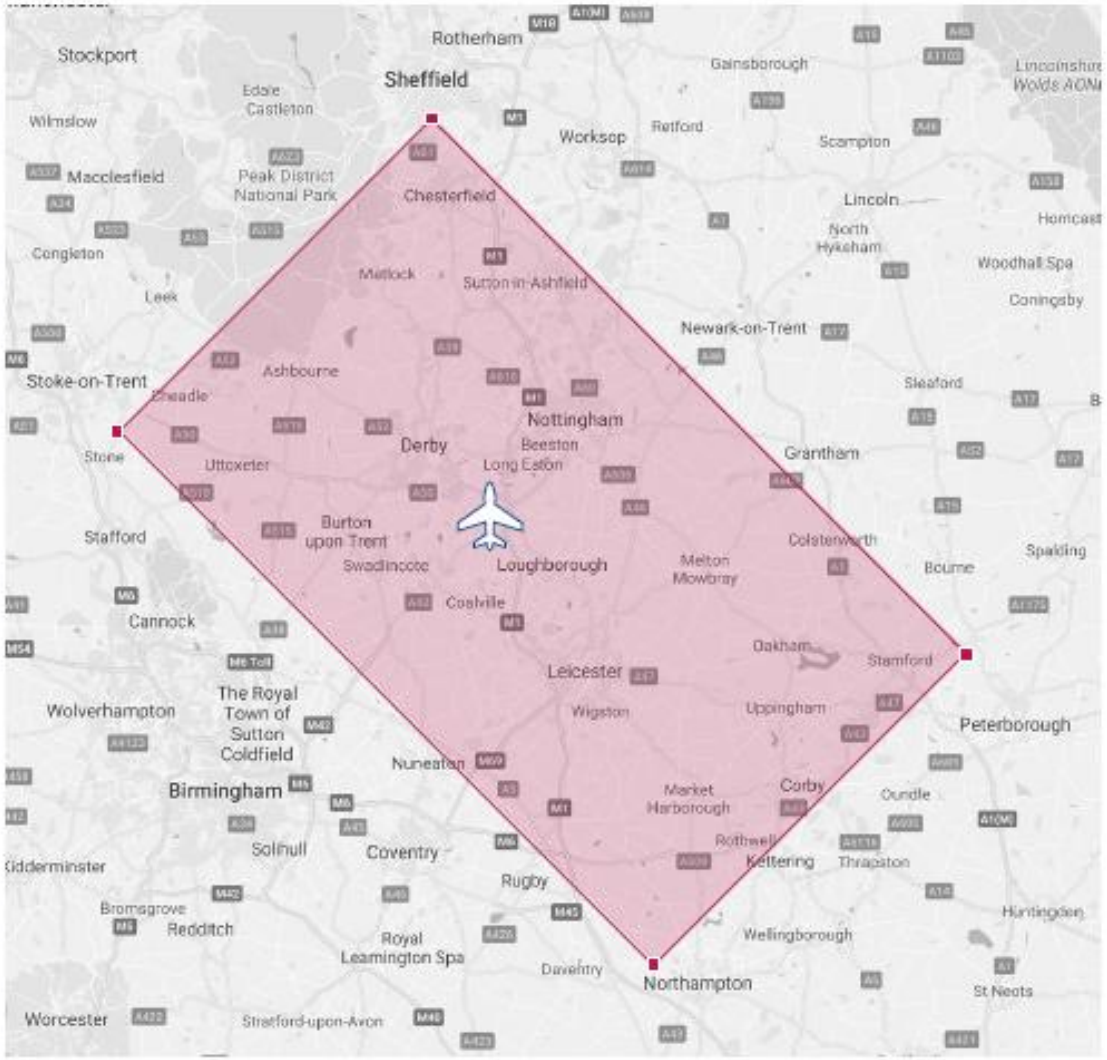
To make sure we can gather the views of stakeholders, we have identified the area any change may affect.

The area in red on the map shows the area within which aircraft landing at and taking off from the airport could potentially fly below 7,000 feet.

This map will guide our approach to engaging with interested parties at step 1B, but may get smaller as we refine our proposals through the later stages of the process.

## What is the Future Airspace Programme?

- The Government is overseeing a nationwide programme that will bring together the Civil Aviation Authority (CAA), NATS, and all UK airports to work collectively to modernise the airspace above this country and make it more efficient. Existing UK airspace design is approaching the limit of its capacity and without a complete redesign of airspace above England, coupled with extensive redesign of airport airspace and procedures, the UK will see increasing passenger disruption, personal and commercial costs and unnecessary environmental impacts.
- Airspace – like much of the UK's transport infrastructure – was designed for a very different age – one where aircraft and navigation was much less sophisticated – but modernising it will bring significant benefits, including making journeys quicker, quieter and cleaner.
- NATS will have responsibility for redesigning the airspace above 7000 feet and East Midlands Airport, along with other airports in the UK, will need to re-design departure and arrival routes and procedures below 7000 feet in coordination with their designs.



# The airspace modernisation programme is embraced by Aviation reps, but they warn there are many factors to consider

**Modernisation is needed:** Across the board there is recognition that current airspace is no longer suitable – respondents want airspace to support up to date flying techniques and abilities so that it is more efficient / fit-for-purpose.

**Driving efficiencies:** many say that there is scope to increase efficiency – particularly in terms of flight times and flight numbers / passenger capacity. This will also support EMA to compete with other neighbouring airports.

**Reducing disruption:** with new techniques available, many say there is scope to decrease noise and emissions, lessening the impact of flights on local communities. This will have a positive impact on those living in the area.

**Communication is key:** change is always a contentious issue, and respondents warn that communication is key to a smooth modernisation process. Failure to clearly explain the changes, and resulting benefits, could mean push back from local communities.

**Reducing uncontrolled airspace:** for those using uncontrolled airspace, there is concern that any changes made by EMA could reduce the airspace available to them. This would impact the way that they currently use airspace.

**Must be joined up:** respondents highlight the need for change to be joined up with neighbouring and international airspace, and one also says there is a need for legislation and regulations to be included in the review, in order to maximise potential in the redesign.

# Aviation reps see the best way forward as the most efficient way, but say this must be clearly communicated to residents

## The Future Airspace Programme is a logical step…

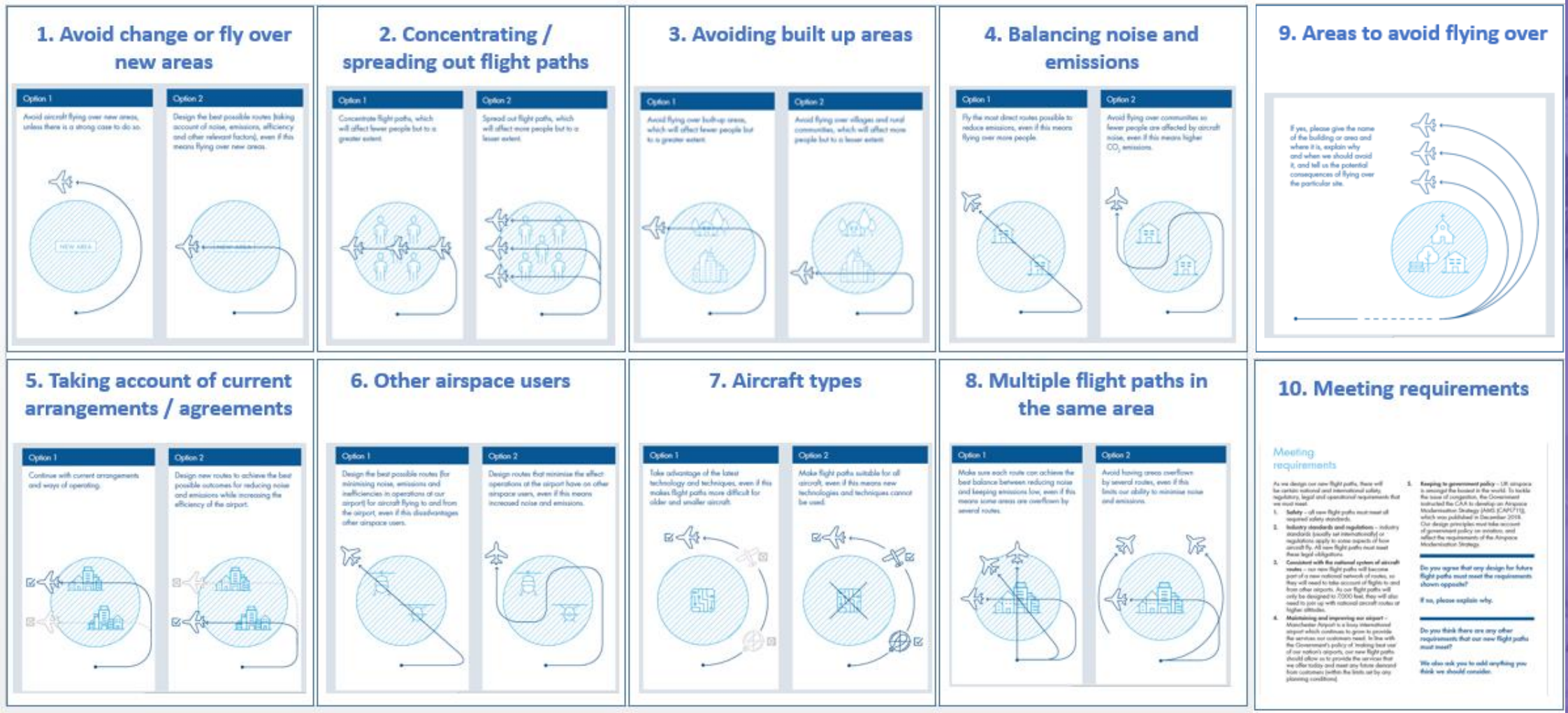
Stakeholders in aviation have a comprehensive understanding of the airspace around EMA and are clear that change is necessary – both in terms of airport efficiency, but also in terms of reducing noise and air pollution.

## ... But they emphasise the complexity of the issue at hand

While efficiency is key, many warn of push back from local communities. The issues are not clear cut, and variables such as height of overflying will have an impact on what is seen to be reasonable – transparency and communication are essential in order to minimise disruption and get locals on board.

# 1B Design question review

# Ten design questions were shown to stakeholders



## 1. Avoid change or fly over new areas

Option 1

Avoid aircraft flying over new areas, unless there is a strong case to do so.

Option 2

Design the best possible routes (taking account of noise, emissions, efficiency and other relevant factors), even if this means flying over new areas.

## 2. Concentrating / spreading out flight paths

Option 1

Concentrate flight paths, which will affect fewer people but to a greater extent.

Option 2

Spread out flight paths, which will affect more people but to a lesser extent.

## 3. Avoiding built up areas

Option 1

Avoid flying over built-up areas, which will affect fewer people but to a greater extent.

Option 2

Avoid flying over villages and rural communities, which will affect more people but to a lesser extent.

## 4. Balancing noise and emissions

Option 1

Fly the most direct routes possible to reduce emissions, even if this means flying over more people.

Option 2

Avoid flying over communities so fewer people are affected by aircraft noise, even if this means higher $CO_2$ emissions.

## 9. Areas to avoid flying over

If yes, please give the name of the building or area and where it is, explain why and when we should avoid it, and tell us the potential consequences of flying over the particular site.

## 5. Taking account of current arrangements / agreements

Option 1

Continue with current arrangements and ways of operating.

Option 2

Design new routes to achieve the best possible outcomes for reducing noise and emissions while increasing the efficiency of the airport.

## 6. Other airspace users

Option 1

Design the best possible routes (for minimising noise, emissions and inefficiencies in operations at our airport) for aircraft flying to and from the airport, even if this disadvantages other airspace users.

Option 2

Design routes that minimise the effect operations at the airport have on other airspace users, even if this means increased noise and emissions.

## 7. Aircraft types

Option 1

Take advantage of the latest technology and techniques, even if this makes flight paths more difficult for older and smaller aircraft.

Option 2

Make flight paths suitable for all aircraft, even if this means new technologies and techniques cannot be used.

## 8. Multiple flight paths in the same area

Option 1

Make sure each route can achieve the best balance between reducing noise and keeping emissions low, even if this means some areas are overflown by several routes.

Option 2

Avoid having areas overflown by several routes, even if this limits our ability to minimise noise and emissions.

## 10. Meeting requirements

Meeting requirements

As we design our new flight paths, these will be certain national and international safety, regulatory, legal and operational requirements that we must meet.

1. **Safety** – all new flight paths must meet all required safety standards.
2. **Industry standards and regulations** – industry standards (usually set internationally) or regulations apply to some aspects of how aircraft fly. All new flight paths must meet these legal obligations.
3. **Consistent with the national system of aircraft routes** – our new flight paths will become part of a new national network of routes, so they will need to take account of flights to and from other airports. As our flight paths will only be designed to 7,000 feet, they will also need to join up with national aircraft routes at higher altitudes.
4. **Maintaining and improving our airport** – Manchester Airport is a busy international airport which continues to grow to provide the services our customers need. In line with the Government's policy of 'making best use' of our nation's airports, our new flight paths should allow us to provide the services that we offer today and meet any future demand from customers (within the limits set by any planning conditions).
5. **Keeping to government policy** – UK airspace is amongst the busiest in the world. To tackle the issue of congestion, the Government instructed the CAA to develop an Airspace Modernisation Strategy (AMS) (CAP1711), which was published in December 2018. Our design principles must take account of government policy on aviation, and reflect the requirements of the Airspace Modernisation Strategy.

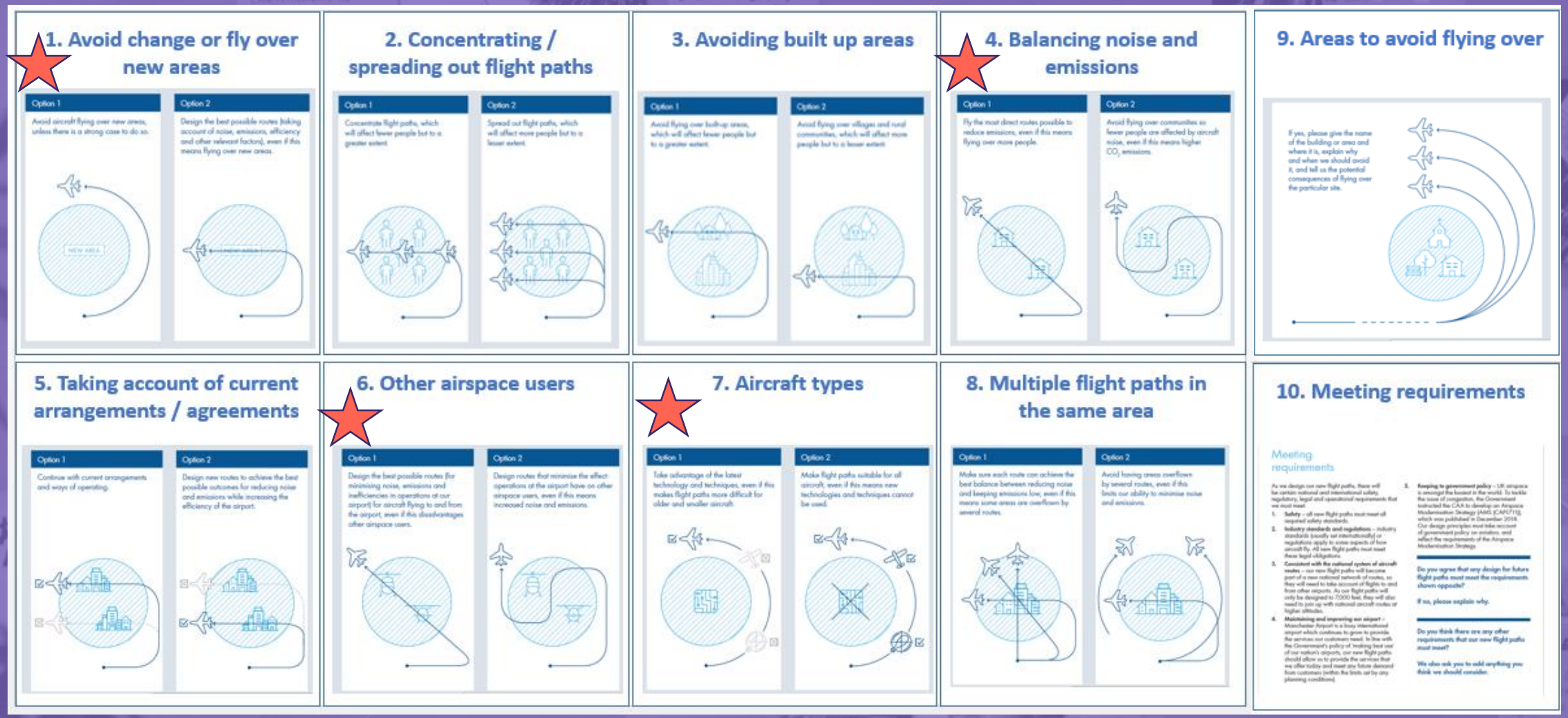
Do you agree that any design for future flight paths must meet the requirements shown opposite?

If no, please explain why.

Do you think there are any other requirements that our new flight paths must meet?

We also ask you to add anything you think we should consider.

# Q1, 2, 3, 4 & 8 are seen as priority questions for EMA to address




**N.B**. Q1 selected by 3 stakeholders, Q2 by 2 stakeholders, Q3 by 2 stakeholders, Q4 by 2 stakeholders and Q8 by 2 stakeholders

## Question 1

# Avoid change or fly over new areas

Our flight paths were introduced after taking account of local views, and many have stayed the same for years.

Some people have chosen to live close to or under flight paths, perhaps because they are less affected by or concerned about aircraft noise. On the other hand, some people may have chosen to live in areas away from flight paths as they don't want aircraft flying over or close to their homes.

**As we design our future flight paths, we need to consider whether to:**

- prioritise keeping changes to a minimum to avoid flying over new areas (unless there is a strong reason to do so); or

- start with a 'clean sheet' and design new routes that might reduce the effect of aircraft noise, cut emissions and make better use of modern technology, but might fly over new areas as a result.

# Please indicate your preference below

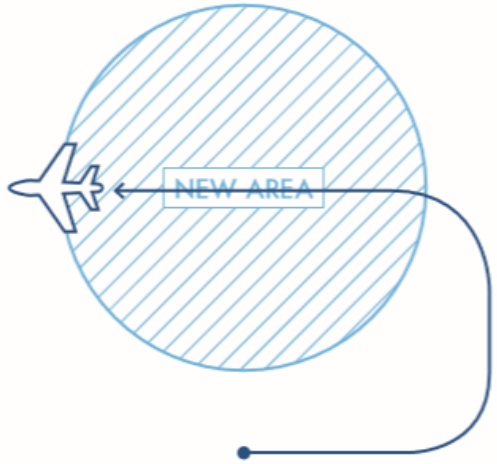
**When we design our flight paths, which option below do you prefer and why?**

## Option 1

Avoid aircraft flying over new areas, unless there is a strong case to do so.


## Option 2

Design the best possible routes (taking account of noise, emissions, efficiency and other relevant factors), even if this means flying over new areas.

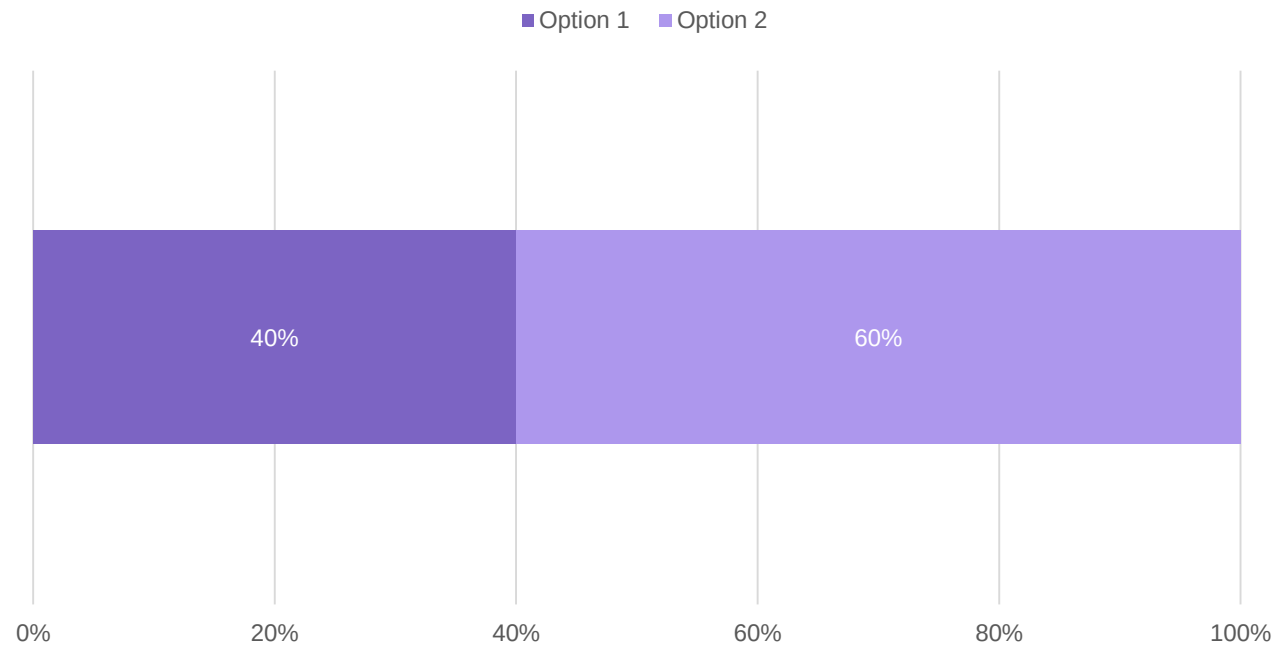


# Overall, Option 2 is the preferred route for question 1

## Avoid change or fly over new areas

***Option 1*** *– Avoid aircraft flying over new areas*

***Option 2*** *– design the best possible routes, even if this means flying over new areas*




**N.B.** figure is based on responses on self-complete forms completed by stakeholders in the groups

# Option 1 reduces impact on local communities

- **Option 1 would be the smoothest way forward**
  - Aviation reps are aware of the controversy that comes with overflying communities
  - Those choosing Option 1 do so to minimise push back from local communities

- **However, it limits the potential of the redesign**
  - The aims of the redesign is to introduce new routes to maximise efficiency, and reduce noise impact and emissions
  - This option fails to allow the flexibility needed to fully meet these aims
  - It could also mean longer flight paths, which could be a drawback commercially

- **Consideration is key**
  - Aviation reps say it must be clear to local communities that they have been considered in the redesign – and this must be clear to the CAA too

# Option 2 gives potential to maximise efficiency

- **Option 2 fits with the purpose of the redesign**
  - Aviation reps are supportive of efforts to improve efficiency at EMA
  - Option 2 allows the flexibility to maximise efficiency in the redesign
  - This option also allows for decreased emissions, which is an important consideration for this group

- **Technology mitigates any impact on communities**
  - With new technology and techniques available, some argue that impact on affected communities can be minimised
  - However, ongoing engagement and transparency will be key in getting this message across

- **But the impact of this option is unknown**
  - The option to overfly new areas could mean significant changes to uncontrolled airspace
  - There is concern that this may mean restricting airspace for GA traffic


YouGov®

# Question 1: potential adaptations

## Optimisation / improvements

Some direction on which areas may be affected would help respondents to estimate the impact of change – on both local communities, but also on GA traffic.

## Potential for an Option 3

While there is a slight preference for Option 2, respondents are clear that there is room for compromise here. Although they believe this is the most effective option, they want to see a middle ground where the greatest impacts on communities and GA traffic are avoided.

Question 2

# Concentrating or spreading out flight paths

Modern aircraft can use satellite guidance to allow them to fly more accurately. This means flight paths can now concentrate aircraft so fewer people are overflown and affected by aircraft noise. However, the people who are overflown will be affected more than they previously were.

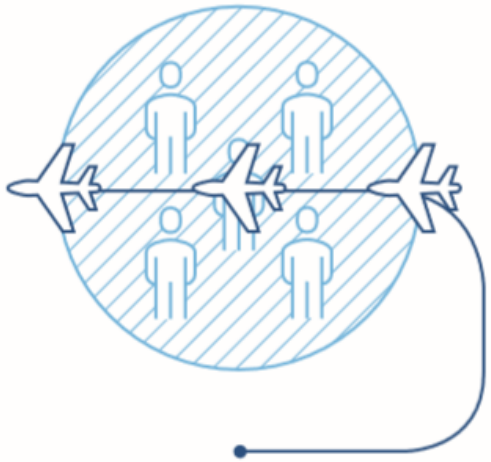
As an alternative, we can design flight paths that spread aircraft out over a wider area, perhaps using several alternative routes, and use varying flight paths on different days of the week or during different times of day to provide periods when there is no aircraft noise. If we take this approach, we will need to decide how long the periods of 'no aircraft noise' last to create significant benefit.

## Please indicate your preference below

**When we design our flight paths, which option below do you prefer and why?**

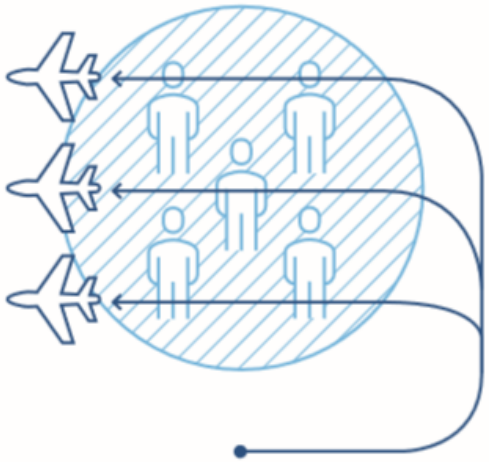
### Option 1

Concentrate flight paths, which will affect fewer people but to a greater extent.



### Option 2

Spread out flight paths, which will affect more people but to a lesser extent.

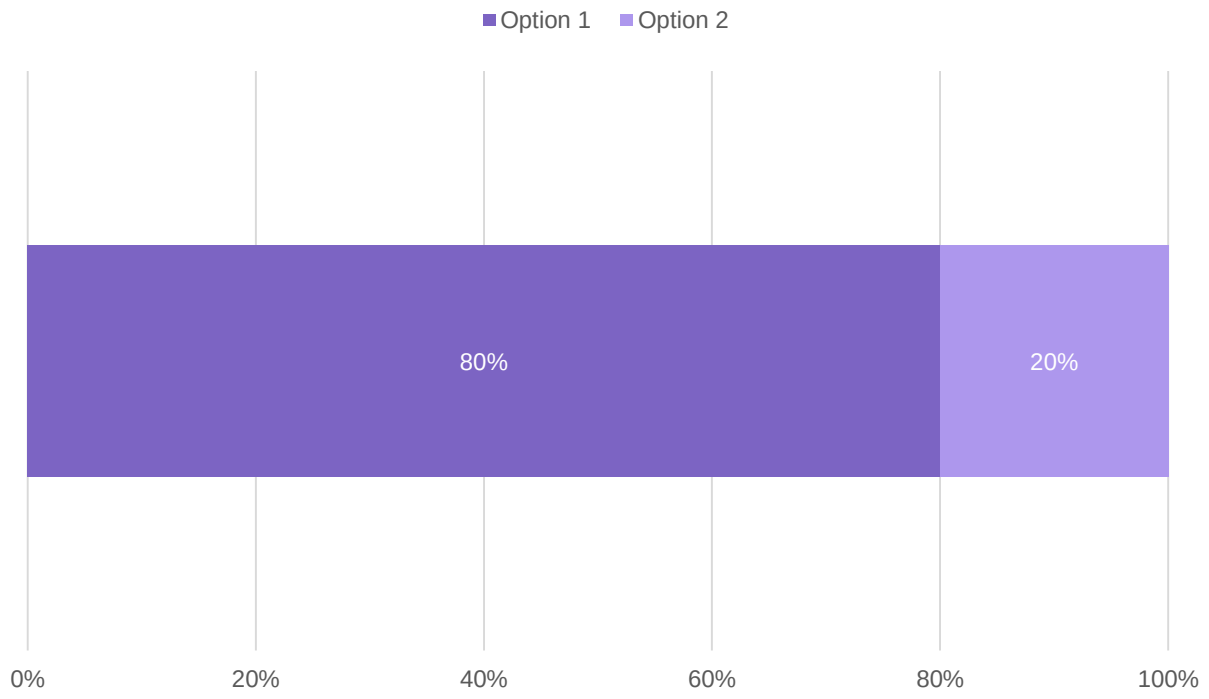


# Overall, Option 1 is the preferred route for question 2

## Concentrating or spreading out flight paths

***Option 1*** *– Concentrate flight paths, which will affect fewer people but to a greater extent.*

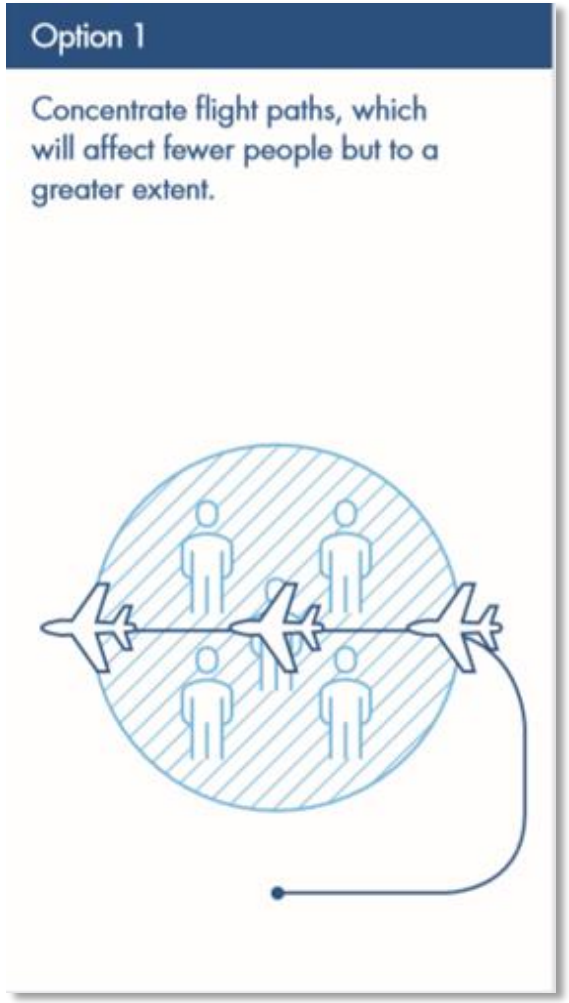
***Option 2*** *– Spread out flight paths, which will affect more people but to a lesser extent.*




**N.B.** figure is based on responses on self-complete forms completed by stakeholders in the groups

# Option 1 is the clear choice in terms of safety

- **This option minimises risk**
  - Many say predictability is key in reducing the risk of mistakes being made
  - This option is the simplest way forward, so many see it as the safest
- **It would maximise airspace open for GA**
  - Concentrating controlled airspace would minimise disruption for GA flights
  - Predictability would also make it easier for GA traffic to avoid airport traffic, reducing risk of infringement
- **But, those under concentrated routes would face heavy impact**
  - Those under concentrated take off and landing points would be heavily impacted by noise
  - However, fewer would be impacted by noise than in Option 2



# Option 2 would minimise the burden on certain communities

- **Option 2 is fairer to communities under flight paths**
  - Respondents agree that spreading out flight paths would be fairer to those communities most affected
- **But, impact is harder to quantify**
  - Option 2 would impact more people overall – this could mean more complaints / greater push back
  - Spreading flight paths could also reduce space available for GA traffic
  - Varying routes over times and days could also mean too much room for error
- **Impact depends on extent to which routes are spread**
  - It is noted that, in comparison to other locations, EMA currently has simple flight paths
  - A small amount of spread could be easily managed by airspace users, as options would remain simple
  - Some are more open to this option *if* the spread is minimal


YouGov®

# Question 2: potential adaptations

## Optimisation / improvements

Again, more information is needed here. Many want to know to what extent paths would be spread – they are reluctant to agree to maximal variation, but a small amount of spread would be more acceptable.

## Potential for an Option 3

There is little need for a third option here. The possible drawbacks of Option 2 push the majority towards Option 1, especially as the extent of the potential variation is unknown.

Question 3

# Flying over built-up areas

When designing flight paths, we need to consider the local communities that will be flown over and affected by aircraft noise. Our current routes avoid flying over built-up areas, where possible, as this was the advice from the Government at the time the flight paths were designed.

If we designed flight paths that flew over built-up areas, more people would be overflown. However, background noise in towns and cities (from cars, construction, crowds of people and so on) is higher, so aircraft noise may be less noticeable.

If we continue to avoid flying over built-up areas, this will reduce the number of people who are overflown. However, this may lead to aircraft flying over areas where the level of background noise may be lower, so aircraft noise may be more noticeable.

## Please indicate your preference below

**When we design our flight paths, which option below do you prefer and why?**

### Option 1

Avoid flying over built-up areas, which will affect fewer people but to a greater extent.

### Option 2

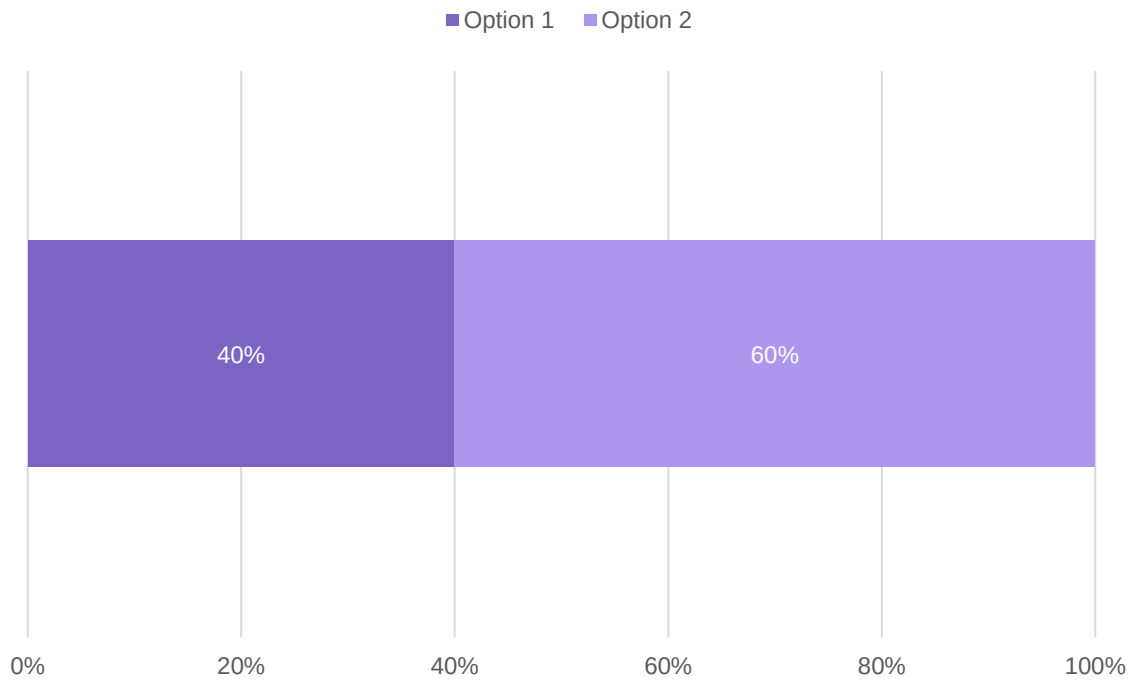
Avoid flying over villages and rural communities, which will affect more people but to a lesser extent.

# Overall, Option 2 is the preferred route for question 3

## Flying over built-up areas

***Option 1*** *– Avoid flying over built-up areas, which will affect fewer people but to a greater extent.*

***Option 2*** *– Avoid flying over villages and rural communities, which will affect more people but to a lesser extent.*

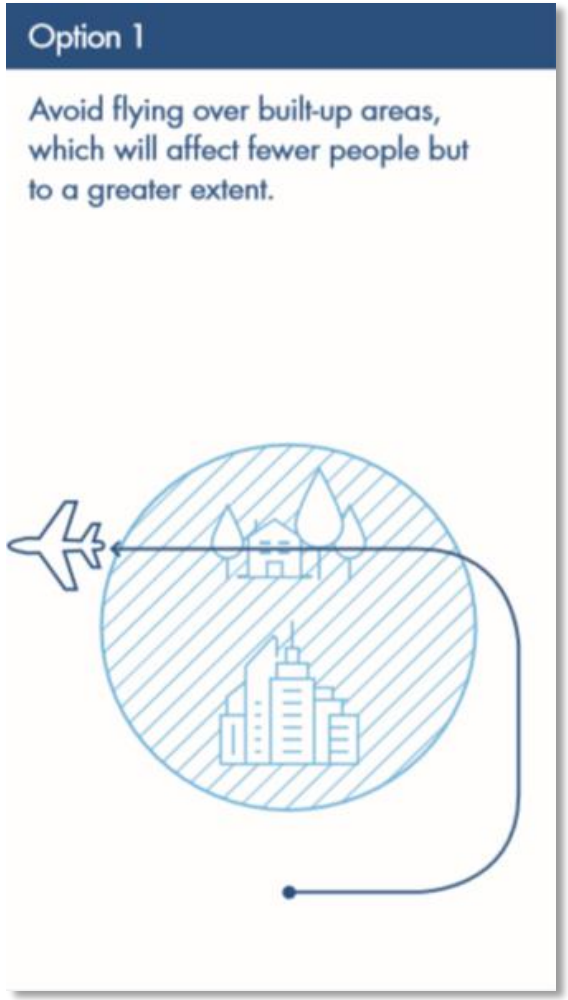



YouGov®

**N.B.** figure is based on responses on self-complete forms completed by stakeholders in the groups

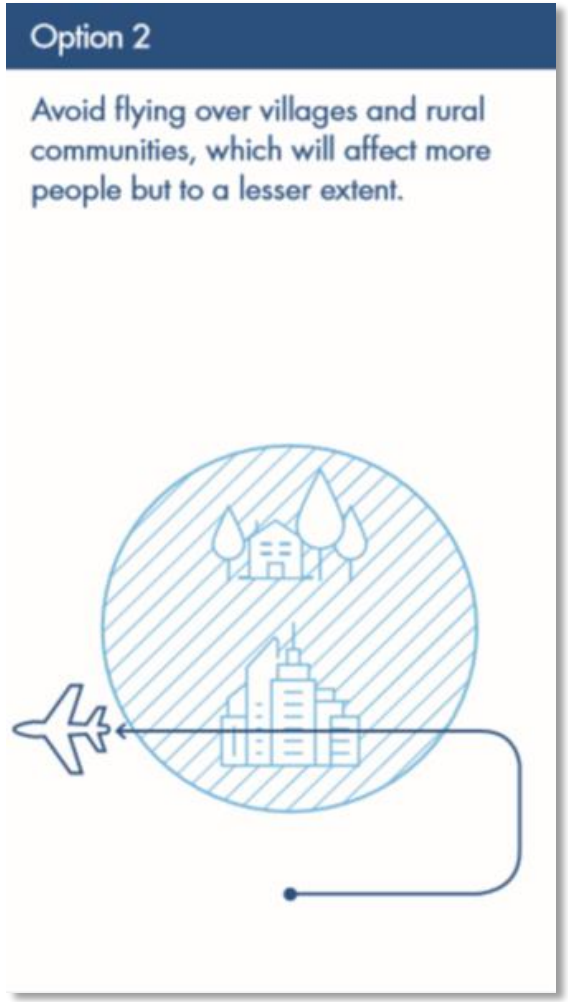
# Option 1 limits noise impact in terms of number of people affected

- **Affecting fewer people does appeal**
  - Respondents, in theory, wish to minimise the impact on the greatest number of people possible
  - They acknowledge that flying over rural areas would impact fewer people overall, so this option feels logical
- **There are safety considerations built in here**
  - Some raise concerns over consistently flying over built-up areas
  - Should an aircraft come down, there would be less damage if flying over rural areas – so Option 1 minimises risk
- **But, noise impact on rural areas would be greater**
  - The impact of aircraft noise in rural areas is seen by many to be too great to justify Option 1
  - Ambient noise is key in minimising noise impact



# Option 2 would minimise the level of noise experienced

- **Option 2 appeals as ambient noise would reduce impact**
  - Respondents agree that ambient noise would, to an extent, cancel out noise disruption from aircraft
  - However, there are assumptions made about what is meant by ‘built-up’ – it is assumed to mean major cities, where ambient noise is at a high level already
- **Overflying of built up areas tends to be at higher altitudes**
  - Aviation reps say it is unlikely that built-up areas would be overflown at low altitudes, further decreasing the noise impact on these areas
- **However, night time is a separate issue**
  - With EMA a cargo / freight hub allowing night flights, there is more to this issue than is suggested in the question
  - Night flights over built up areas could be disruptive, so this should be accounted for in plans



# Question 3: potential adaptations

## Optimisation / improvements

This is a fairly straightforward choice for most respondents, although there is a question around exactly what constitutes a built up area.

## Potential for an Option 3

A third option would take night flights into consideration, although this is only mentioned by a minority.

Question 4

# Balancing noise and emissions

We can now design flight paths so that aircraft fly more direct routes, shortening the distance to their destinations and reducing CO2 emissions. It can also make journey times a little shorter.

Sometimes, aircraft fly a little further to avoid flying over local communities. Shortening these routes so they fly more directly might, in some instances, lead to aircraft flying over more local communities, which could lead to more people being affected by aircraft noise.

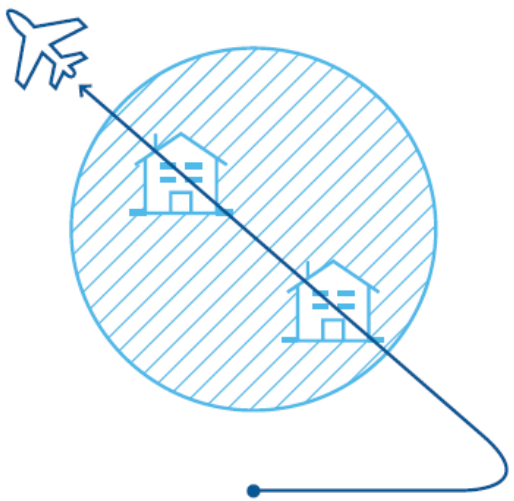
We need to find the right balance between having more direct flights (to reduce emissions and journey times) and keeping local communities' exposure to aircraft noise to a minimum.

## Please indicate your preference below

**When we design our flight paths, which option below do you prefer and why?**

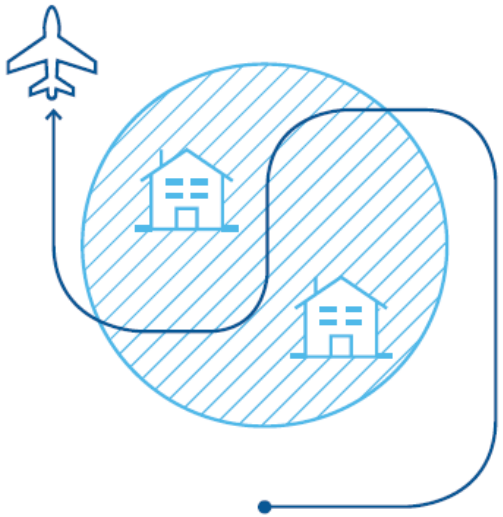
### Option 1

Fly the most direct routes possible to reduce emissions, even if this means flying over more people.



### Option 2

Avoid flying over communities so fewer people are affected by aircraft noise, even if this means higher $CO_2$ emissions.

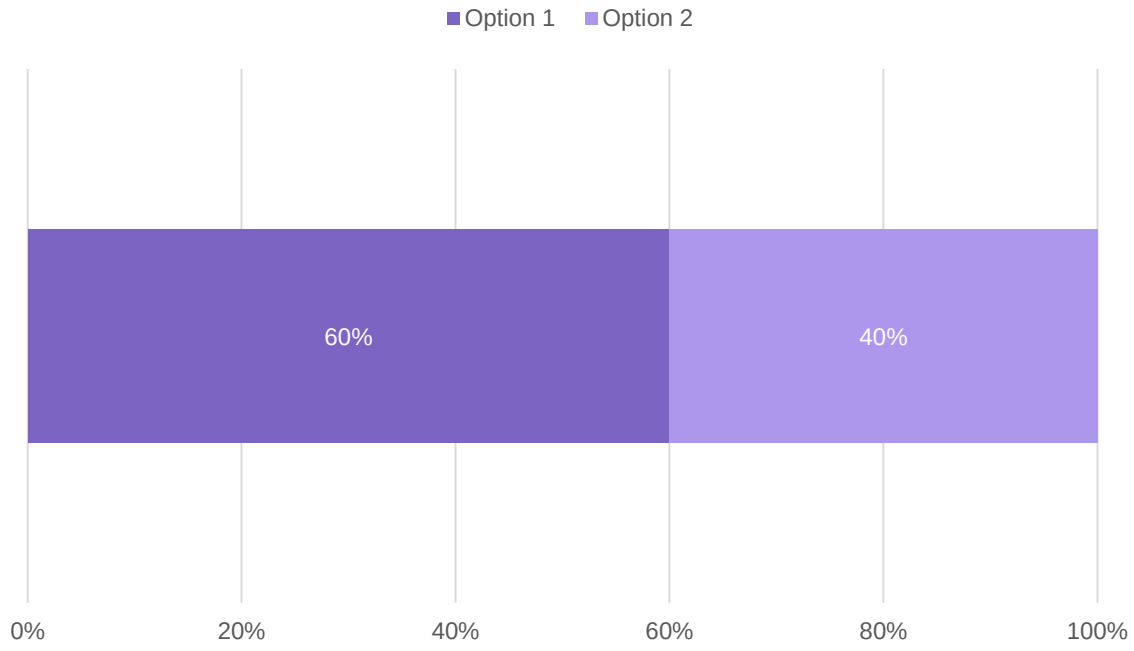


# Overall, Option 1 is the preferred route for question 4

## Balancing noise and emissions

***Option 1*** *– Fly the most direct routes possible to reduce emissions, even if this means flying over more people.*

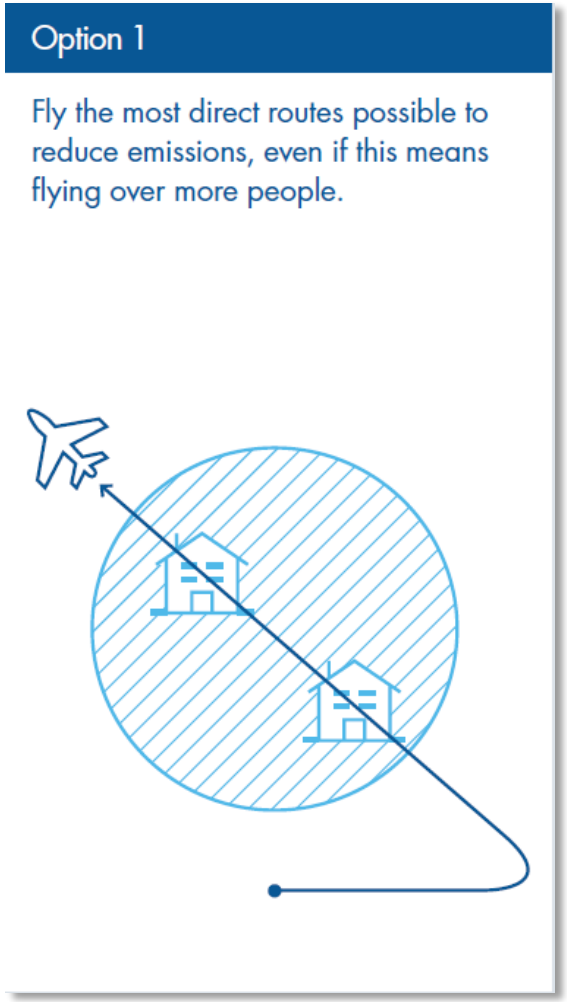
***Option 2*** *– Avoid flying over communities so fewer people are affected by aircraft noise, even if this means higher CO2 emissions.*




**N.B.** figure is based on responses on self-complete forms completed by stakeholders in the groups

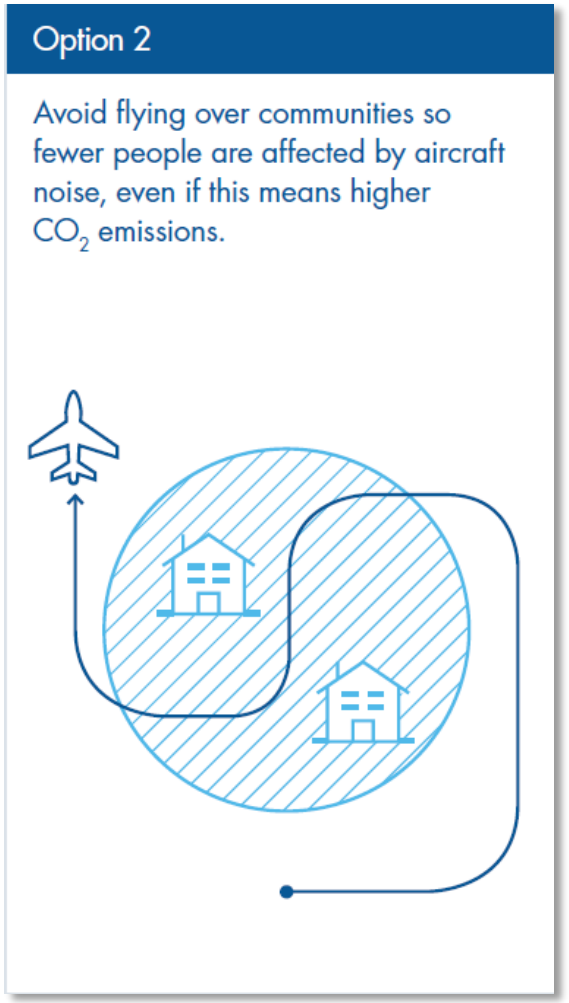
# Option 1 is the best approach for those who are emissions focussed

- **Option 1 fits with priorities to cut emissions**
  - Shorter, more direct journeys cut fuel usage, with a positive impact on emissions
  - So for those who see emissions as a key issue, option 1 is the obvious choice
- **Option 1 has wider benefits**
  - More direct routes would be more predictable for air traffic control
  - Further, direct routes would reduce journey times – thus being a beneficial option for passengers as well
- **But some say CO2 reduction can be achieved with compromise**
  - The UK is already doing well internationally in its bid to cut emissions
  - A short turn (a few degrees) could make a large reduction in noise impact on certain communities, while still enabling a reduction in emissions



# Option 2 takes communities into account

- **Option 2 takes communities into consideration**
  - Noise is instant, and will be felt regularly on the ground
  - Therefore, some argue that noise is likely to be a more contentious issue for the general public than emissions
- **Small turns could make a large difference**
  - There is also an argument that turns only need to be small in order to minimise noise impact
  - So Option 2 may have a negligible impact on emissions
- **Ultimately, responsibility for CO2 reduction should be shared**
  - For some, manufacturers should be taking responsibility for the issue of emissions – cleaner aircraft are key in tackling the issue



# Question 4: potential adaptations

## Optimisation / improvements

There is little need for clarification here – however, Aviation rep comments suggest that more information could be helpful for those with a less detailed knowledge of how aircraft can be operated (e.g. general public) – possibly presented as a third option.

## Potential for an Option 3

Those choosing Option 2 say that the turns needed to reduce noise are negligible in the context of emissions – there is scope for a third option where this is explicitly stated.

Question 5

# Taking account of current arrangements and agreements

We already operate in a way that limits the effect of aircraft noise. This includes the early south turn before Knutsford only being used by quieter aircraft, the westerly route that spreads aircraft over a wide area, and departing aircraft avoiding flying over Knutsford if possible.

Some of these ways of operating are voluntary, some have been agreed locally, and others have been written into legal agreements.

As we design future flight paths, we need to consider whether to continue operating as we have previously agreed or whether we should design entirely new routes to achieve the best possible outcomes (taking account of factors such as noise, emissions and the airport running efficiently).

## Please indicate your preference below

**When we design our flight paths, which option below do you prefer and why?**

### Option 1

Continue with current arrangements and ways of operating.

### Option 2

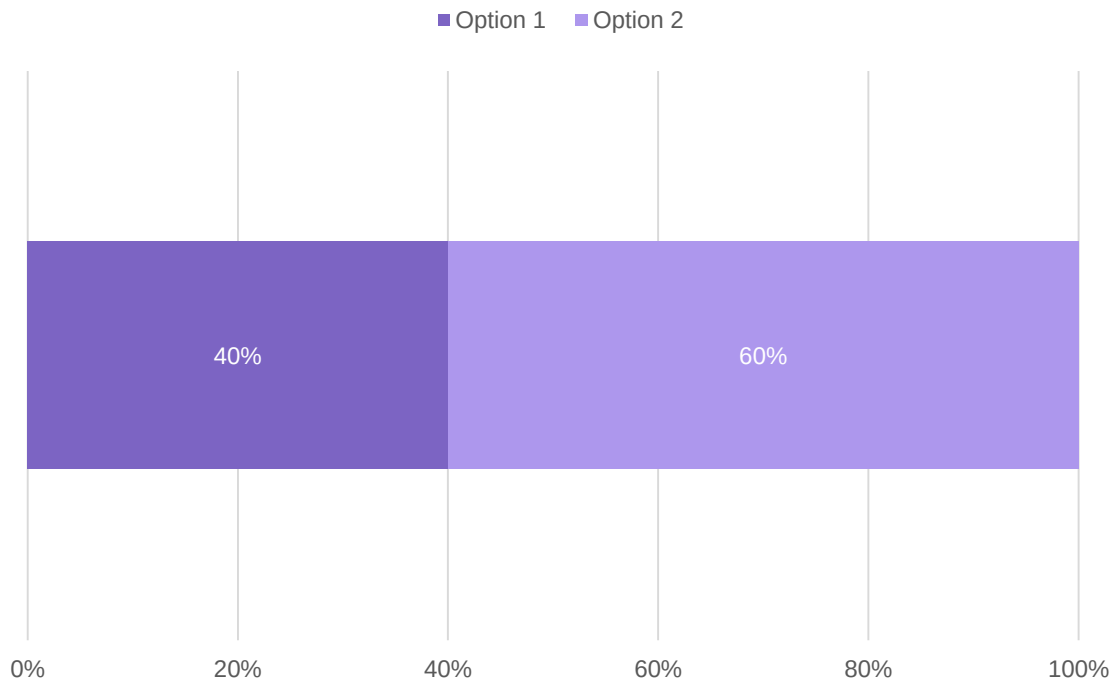
Design new routes to achieve the best possible outcomes for reducing noise and emissions while increasing the efficiency of the airport.

# Overall, Option 2 is the preferred route for question 5

## Taking account of current arrangements and agreements

***Option 1*** *– Continue with current arrangements and ways of operating.*

***Option 2*** *– Design new routes to achieve the best possible outcomes for reducing noise and emissions while increasing the efficiency of the airport.*




**N.B.** figure is based on responses on self-complete forms completed by stakeholders in the groups

# Option 1 limits potential for change – but that is positive for some

- **Option 1 limits the extent of change to current airspace**
  - This would minimise the likelihood of communities being newly affected, and reduce likelihood of pushback
  - For those concerned that space for GA would be adversely affected by change, Option 1 is the safer choice
- **Arrangements and agreements may already work well**
  - Some say that existing arrangements work well – so going against these would need to be well thought through and clearly justified
- **This goes against the aims of the redesign**
  - While limiting change is positive for some, it ultimately defeats the purpose of the redesign
  - In order to really future proof the airspace around EMA, some argue there needs to be a clean slate

# Option 2 is the best option for future proofing the airspace

- **Option 2 keeps all possibilities open**
  - Aviation respondents see tis exercise as an opportunity to shape airspace in an enduring way
  - Option 2 allows the best possible routes to be identified, which fits with this key goal
- **With Option 2 could be positive for the majority**
  - There could be benefits to local communities in terms of noise, as well as reducing emissions and driving efficiency
- **However, consideration is key**
  - While many see Option 2 as the best option, they argue that changes need to be reasonable
  - While all possible routes are worth exploring, those that cause heavy disruption to communities should be adapted to minimise impact

# Question 5: potential adaptations

## Optimisation / improvements

There is a small concern for the minority that giving too much scope for change would have a negative impact on the GA community. If possible, clarity around the impact on uncontrolled airspace may help here.

## Scope for Option 3

While Option 2 seems the best option overall, many argue for this to be caveated to ensure that any impact on communities affected is minimal.

Question 6

# Other airspace users

While we control airspace around our airport, not all flights in our airspace are to and from the airport. We need to make our airspace available for other users, including private aircraft, helicopters, military flights, air ambulance, gliders, microlight aircraft, balloon flights and drones.

How we design our flight paths could allow other users to operate freely or might lead to them making lengthy detours and experiencing delays.

**As we design future flight paths, we need to consider whether to:**

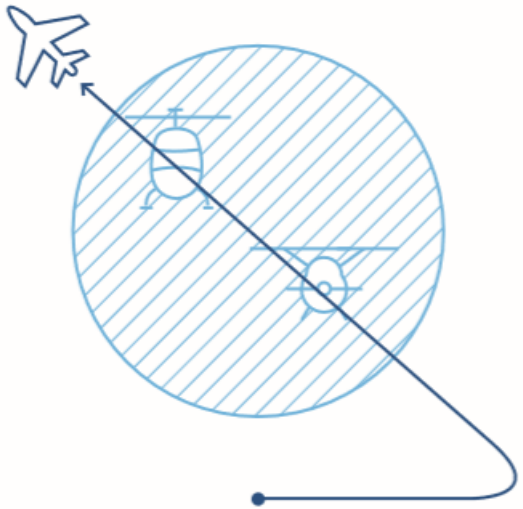
- prioritise the best possible routes for aircraft flying to and from the airport, to minimise noise, emissions and inefficiencies in operations at our airport; or
- introduce flight paths that mean other airspace users are not significantly disadvantaged by changes, even if this means aircraft using the airport cause more noise or emissions.

## Please indicate your preference below

**When we design our flight paths, which option below do you prefer and why?**

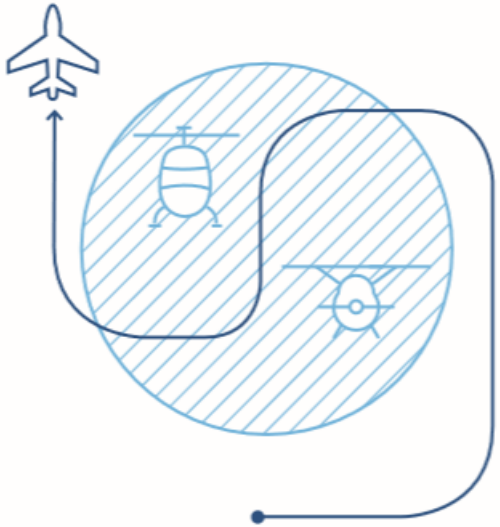
### Option 1

Design the best possible routes (for minimising noise, emissions and inefficiencies in operations at our airport) for aircraft flying to and from the airport, even if this disadvantages other airspace users.



### Option 2

Design routes that minimise the effect operations at the airport have on other airspace users, even if this means increased noise and emissions.

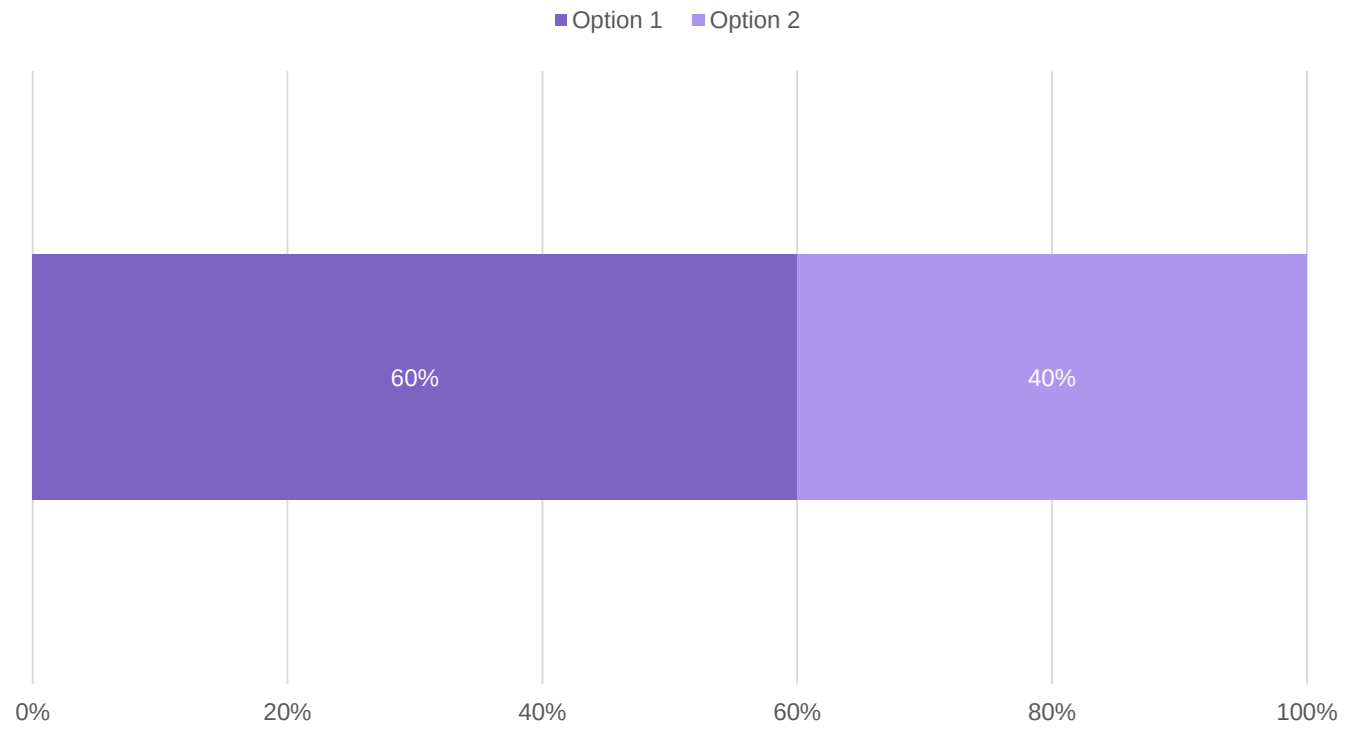


# Overall, Option 1 is the preferred route for question 6

## Other airspace users

***Option 1*** *– Design the best possible routes (for minimising noise, emissions and inefficiencies in operations at our airport) for aircraft flying to and from the airport, even if this disadvantages other airspace users.*

***Option 2*** *– Design routes that minimise the effect operations at the airport have on other airspace users, even if this means increased noise and emissions.*




**N.B.** figure is based on responses on self-complete forms completed by stakeholders in the groups

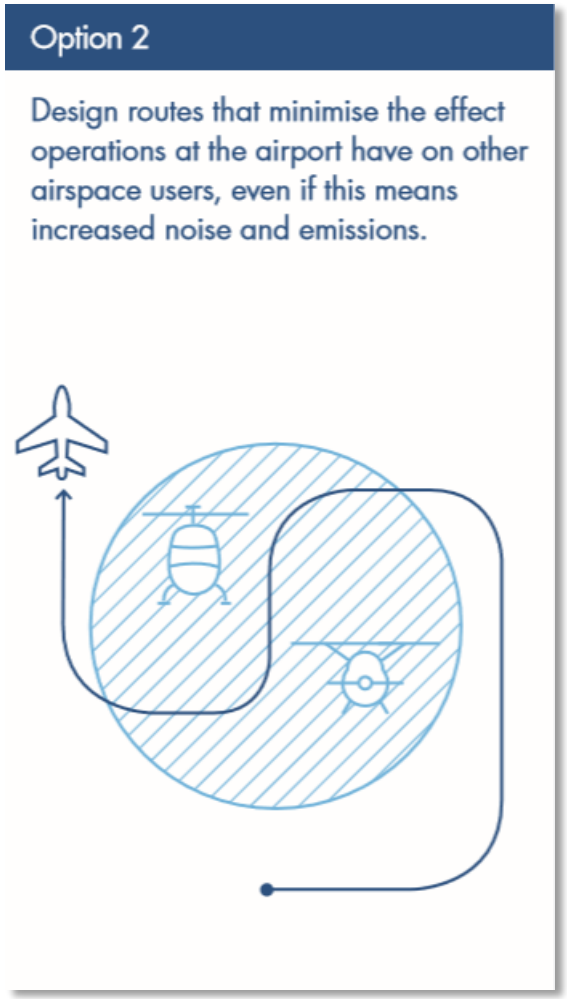
# Option 1 is the clear choice for efficiency

- **Option 1 is the best option for achieving the redesign goals**
  - Those choosing this option do so to maximise efficiency at the airport
  - This would drive commercial gain, and could mean reduced emissions and lesser noise impact on communities
- **But, impact on other airspace users must be carefully managed**
  - Uncontrolled airspace is crucial for training flights - disadvantaging the GA industry could have long-term implications for EMA
  - Air ambulance and military flights should have some priority – the role they play is often critical
- **Many say there are ways to coexist**
  - A majority expect that, with some consideration, airspace can be shared fairly without greatly disadvantaging either party – it just requires clever design "There is no reason why you cant have option 1 *and* be able to coexist"


YouGov®

# Option 2 protects the GA community

- **Option 2 would guarantee airspace for other users**
  - The more cautious respondents are concerned that Option 1 would give license to EMA to disregard other airspace users completely
  - Option 2 ensures other airspace users are protected to an extent
- **However, it fails to update the status quo**
  - This option limits opportunity to reduce emissions
  - It also prevents efficiency of airspace being maximised
  - Taking indirect or complex routes could lead to airspace feeling more congested, which may put other airspace users off
- **Ultimately, there needs to be a holistic approach**
  - Respondents agree that, on the whole, airport traffic takes precedent, but they argue that other air space users must be considered - impact should be minimal if possible



# Question 6: potential adaptations

## Optimisation / improvements

There are a number of factors to consider here – number of other airspace users impacted, long term impacts if other airspace users are disadvantaged, and the altitudes at which different air users operate at. Respondents ideally want to see a more nuanced approach.

## Scope for Option 3

While all are able to make a binary decision, compromise is called for by all. Where other airspace users can be considered, this should be the case.

## Question 7

# Aircraft types

Some flight paths would require aircraft to have the very latest navigation equipment. If we design flight paths that require aircraft to use the latest equipment, it could make it difficult for older or smaller aircraft to be used. This could reduce the frequency of some flights and potentially lead to delays. It may also result in aircraft without up-to-date technology having to fly slightly different flight paths, or flying less accurately, which could lead to them flying over local communities which are not currently flown over.

If we design flight paths that are suitable for all aircraft types, we may not be able to take full advantage of some of the latest equipment and techniques. This might mean, for example, that we can't minimise aircraft noise as effectively or that the airport operates less efficiently.

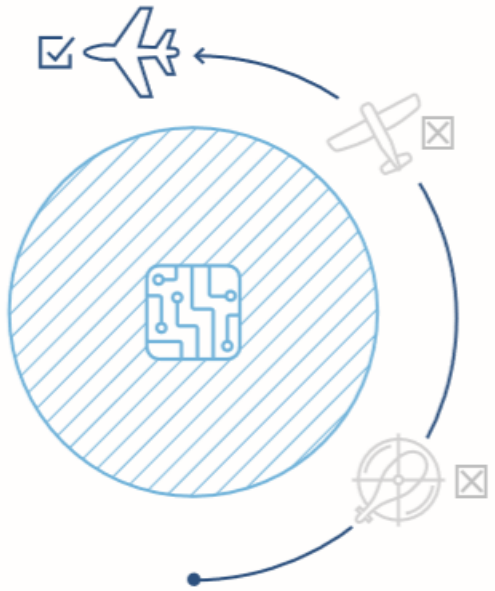
The number of older and smaller aircraft affected by any change we make is likely to reduce over time. In the meantime, we need to consider how and where these aircraft currently operate.

## Please indicate your preference below

**When we design our flight paths, which option below do you prefer and why?**

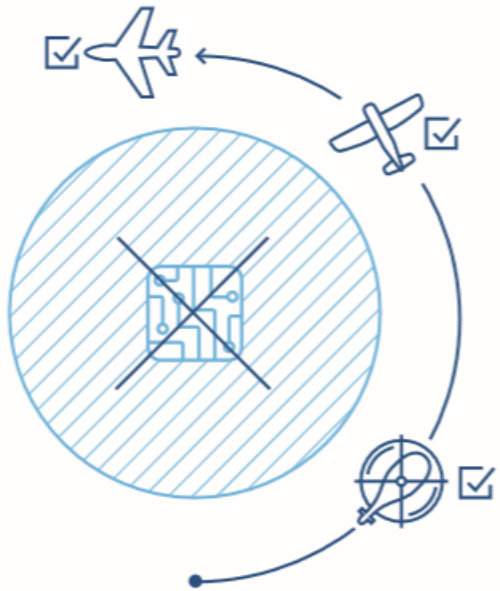
### Option 1

Take advantage of the latest technology and techniques, even if this makes flight paths more difficult for older and smaller aircraft.



### Option 2

Make flight paths suitable for all aircraft, even if this means new technologies and techniques cannot be used.

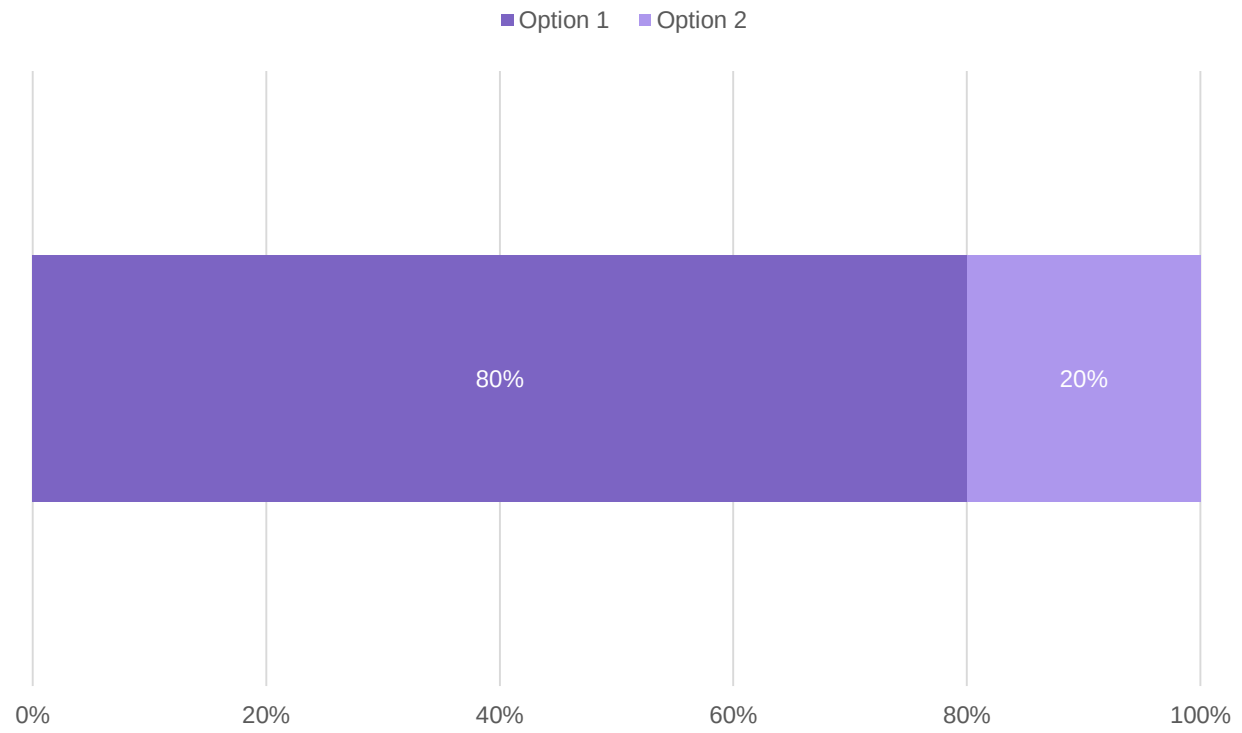


# Overall, Option 1 is the preferred route for question 7

## Aircraft types

***Option 1*** *– Take advantage of the latest technology and techniques, even if this makes flight paths more difficult for older and smaller aircraft.*

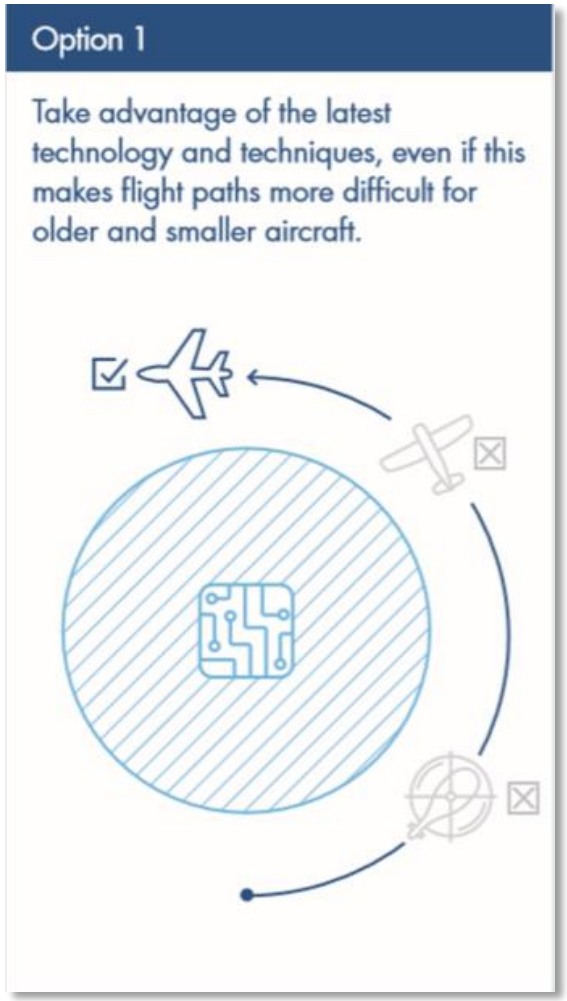
***Option 2*** *– Design routes that minimise the effect operations at the airport have on other airspace users, even if this means increased noise and emissions.*




**N.B.** figure is based on responses on self-complete forms completed by stakeholders in the groups

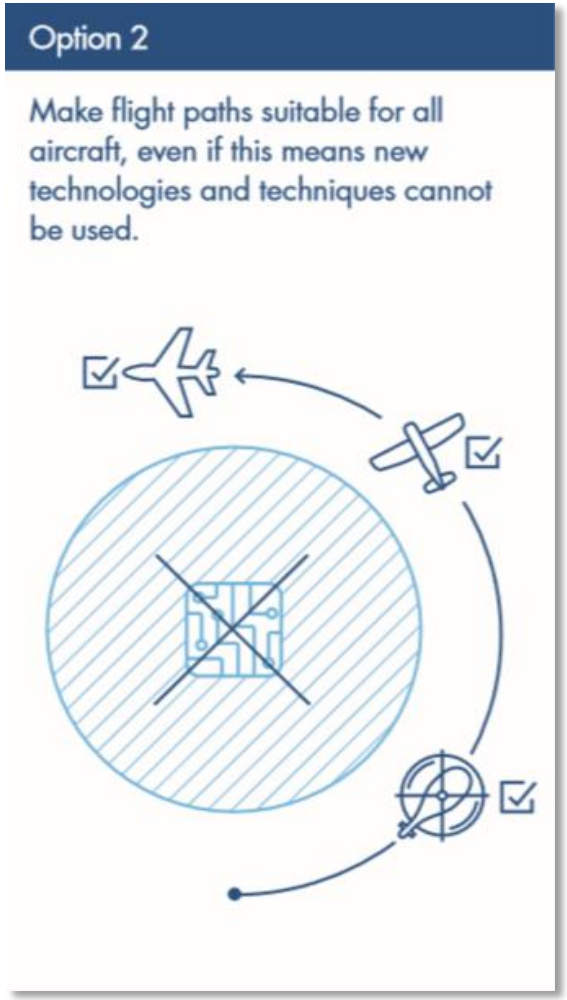
# Option 1 is fundamental to modernising airspace

- **Option 1 is positive for local communities**
  - Aviation reps agree that Option 1 would mean reduced emissions
  - It could also mean a reduction in noise disruption, as aircraft could climb at steeper gradients, thus overflying fewer communities at low altitude
- **It is assumed that many aircraft already meet requirements**
  - A majority believe that new technology should be embraced wherever possible
  - Many aircraft would already meet requirements for new technology
  - While aircraft without the new technology would most likely be upgraded in response to changes – this is seen as a positive by many
- **But, it depends what the parameters are**
  - If this applies to aircraft using uncontrolled airspace too, then there is concern that new technology may be too costly to keep up with



# Option 2 fails to future proof airspace design

- **Option 2 would have negative implications long term**
  - Respondents see the redesign as an important opportunity to maximise airspace efficiency
  - There is concern that, if not used to its full potential now, the airspace design will quickly become ‘archaic’
  - New technology and techniques, therefore, must be adopted now
- **This option does not address emissions**
  - A majority of aviation respondents see tackling emissions as a responsibility
  - New technology drives efficiency, which could reduce the impact of air travel on the environment
- **But, this is the less risky option for some**
  - Without confirmation of what new technology means, and which airspace users would be affected, some opt for Option two ‘just in case’ they end up adversely impacted



# Question 7: potential adaptations

## Optimisation / improvements

More information is the key improvement needed here – while many are on board with Option 1 in theory, there are some concerns around which aircraft will be affected and to what extent. Without knowing this, it is difficult for some to make a decision.

## Scope for Option 3

Option 1 is the clear choice here for many – new technology, on the whole, should be embraced. However, what this means in practice ultimately impacts on respondents' decisions.

Question 8

# Multiple flight paths in the same area

For safety reasons, aircraft must take off and land into the wind. This allows departing aircraft to climb faster and landing aircraft to stop more quickly.

The direction of take-off and landing changes when the direction of the wind changes. For this reason, we have two sets of flight paths, one for when the wind is from the west (as is most often the case) and one for when the wind is from the east.

From each runway there are alternative arrival and departure routes. This means that we have several flight paths, some of which overlap. If we design each new flight path on its own, we can make sure each route is the best it can be, so reducing noise and emissions, and allowing the airport to operate as efficiently as possible. However, designing each flight path individually could mean that, when we put them all together, some areas are overflown by several routes.

**When we design future flight paths, we need to find the best overall outcome and consider whether we should prioritise:**

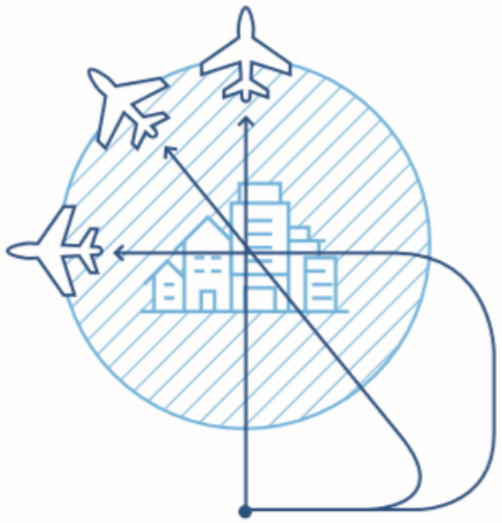
- the efficiency of individual routes; or
- avoiding areas being overflown by several routes.

## Please indicate your preference below

**When we design our flight paths, which option below do you prefer and why?**

### Option 1

Make sure each route can achieve the best balance between reducing noise and keeping emissions low, even if this means some areas are overflown by several routes.



### Option 2

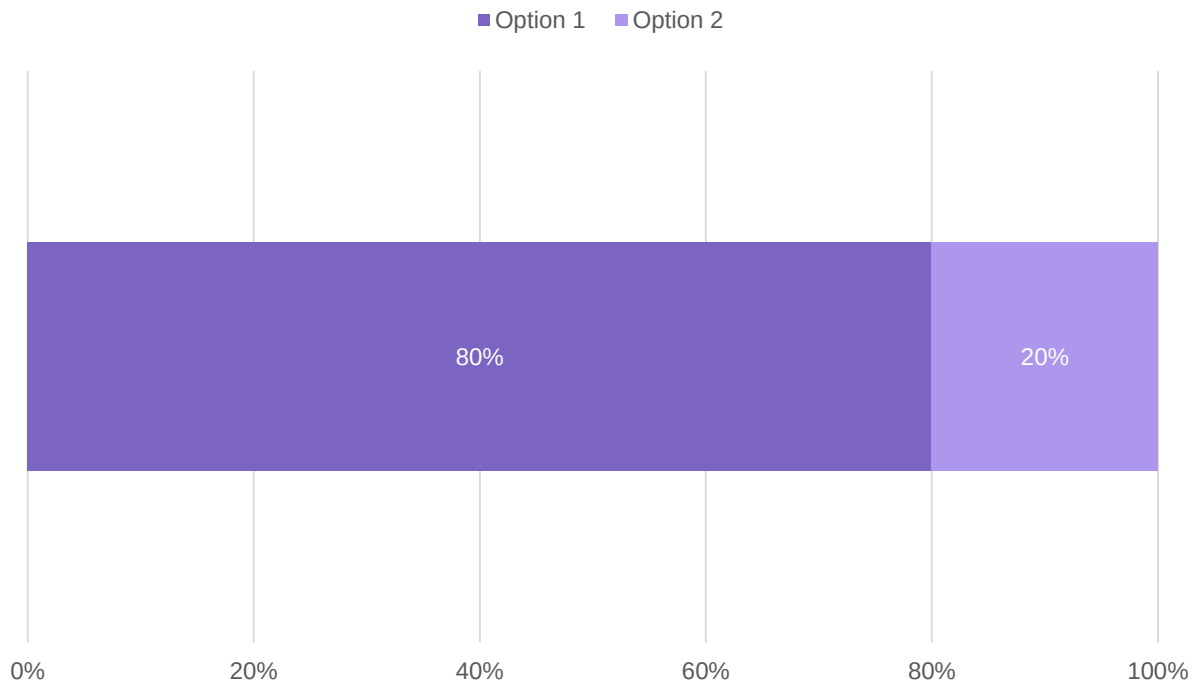
Avoid having areas overflown by several routes, even if this limits our ability to minimise noise and emissions.

# Overall, Option 1 is the preferred route for question 8

## Multiple flight paths in the same area

***Option 1*** *– Make sure each route can achieve the best balance between reducing noise and keeping emissions low, even if this means some areas are overflown by several routes.*

***Option 2*** *– Avoid having areas overflown by several routes, even if this limits our ability to minimise noise and emissions.*



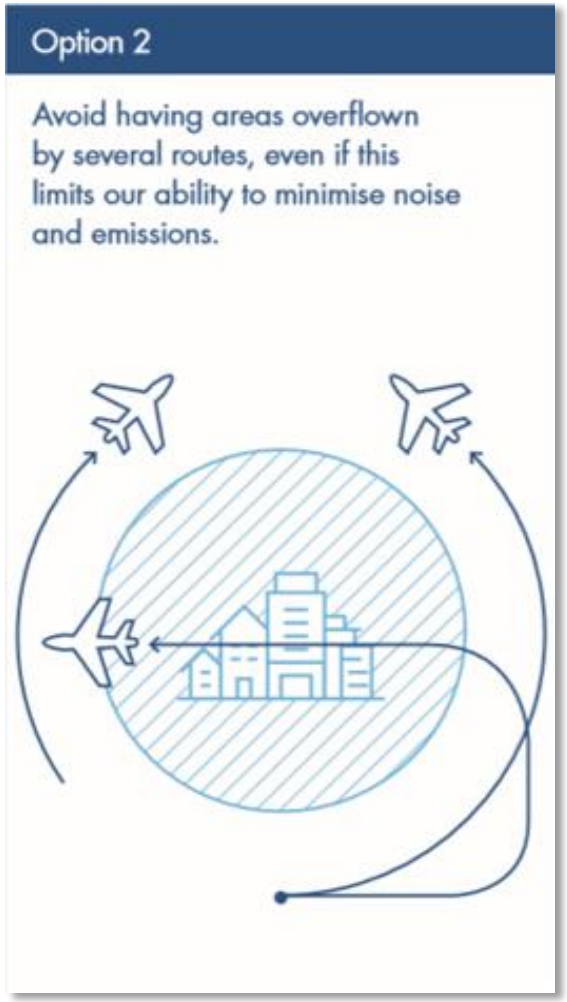

**N.B.** figure is based on responses on self-complete forms completed by stakeholders in the groups

# Option 1 appeals as it is the simplest way forward

- **Option 1 would be easiest to navigate**
  - Opting for the most efficient routes, means being more direct, which would ‘declutter’ airspace
- **Option 1 allows for the redesign goals to be met**
  - This option leaves EMA open to choosing the best possible routes
  - It therefore gives the greatest chance of reducing emissions and driving efficiency – seen as important goals by Aviation reps
- **However, it is unfair for those under multiple routes**
  - Respondents acknowledge that the impact on some areas may seem extreme
  - However, some argue that this could be minimised by choosing direct routes, allowing aircraft to climb faster

# Option 2 could become too complex to manage

- **Option 2 could minimise impact on some areas**
  - Avoiding overlap where possible could reduce noise impact in the worst cases
- **However, it could disadvantage other areas**
  - Respondents say that, in avoiding overflying certain areas with multiple routes, new communities could be impacted instead
  - This would mean a greater number of people facing noise disruption – something Aviation reps are keen to limit
  - It also limits the potential to reduce emissions, which is seen as a major drawback
- **In reality, Option 2 is too complex**
  - Many caution that this option overcomplicates airspace
  - Efficiency and simplicity are favoured overall



# Question 8: potential adaptations

## Optimisation / improvements

It is clear that Option 1 is the preference in theory – those choosing Option 2 do so as it allows some flexibility.

## Scope for Option 3

There is scope for compromise here – as with previous questions, some suggest that a small turn over the most affected communities could greatly reduce the impact of noise – while having minimal impact on overall efficiency.

Question 9

# Areas that we should avoid flying over

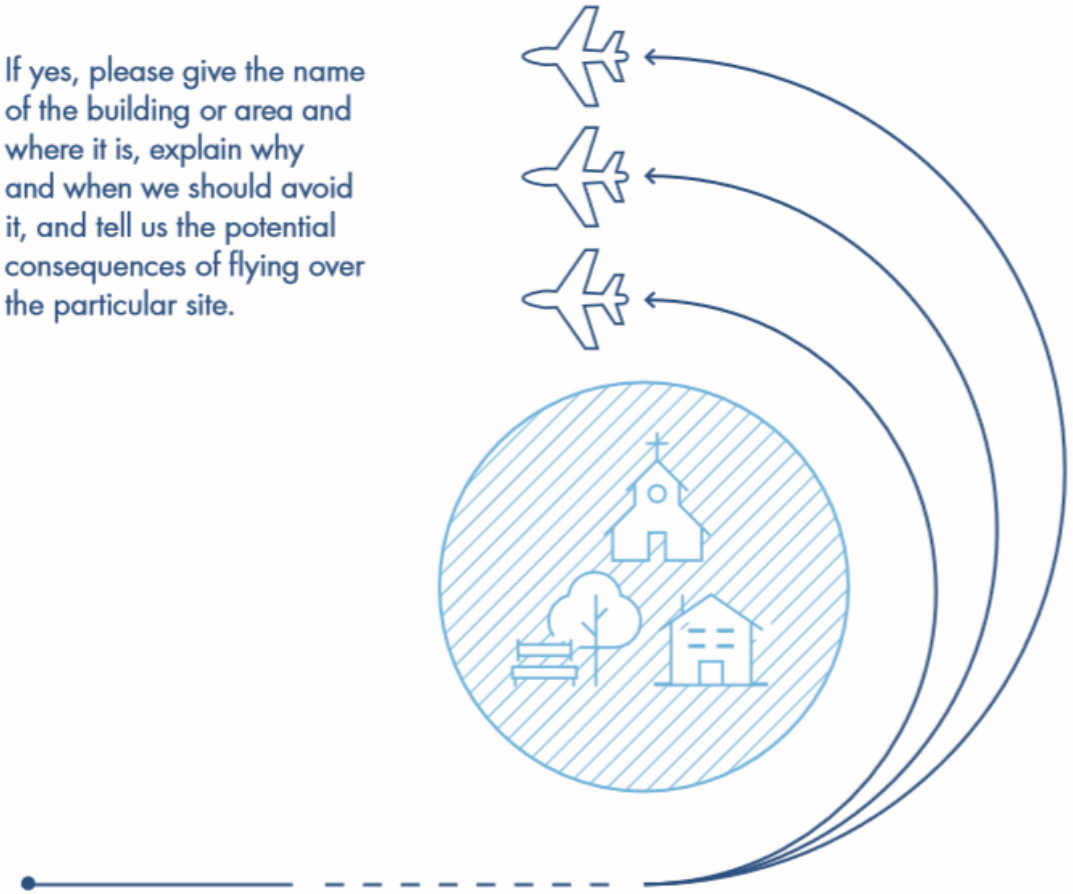
The flight paths we design will control aircraft flying at altitudes of up to 7,000 feet. The areas that might be overflown up to this altitude are shown on the Manchester Airport area diagram.

When designing flight paths, we need to consider areas that will be overflown, particularly at lower altitudes. It may be best to avoid some areas, such as parks, historic properties and nature reserves, because they are particularly tranquil or spaces where people go to relax. Certain buildings, such as schools, care homes and hospitals, can be particularly affected by noise.

It may also be inappropriate to fly over some areas, for example if they present a danger to aircraft because they are used for military training or have a large number of birds.

**When we design our flight paths, are there any areas or buildings that you think we should avoid flying over?**

If yes, please give the name of the building or area and where it is, explain why and when we should avoid it, and tell us the potential consequences of flying over the particular site.



# There are guiding principles that could be adhered to, but avoiding areas entirely is impractical

**Efficiency is priority:** Aviation reps see efficiency as taking priority – ultimately this holds commercial benefit, and holds the most potential for reducing emissions and noise. Many also opt for simplicity for reasons of predictability, and therefore for safety.

*"The guiding principle is finding the best, most efficient lanes"*
**Aviation**

**Consideration of communities:** While efficiency is the overarching priority, many argue that the general public should be considered – therefore they do agree that, in principle, some areas should be protected to reduce noise disruption.

*"I think it's important that some areas are unaffected - we get a lot of noise complaints, so I'd agree with nature reserves and perhaps hospitals"*
**Aviation**

**Avoiding areas entirely is infeasible:** However, some caution that avoiding certain areas could quickly become 'a can of worms' – buildings could instead be sound-proofed, and consideration should be focused most on areas flown over at low altitude.

*"Most care homes and hospitals are reasonably well sound-proofed – I don't think it's that significant really. You run the risk of opening a can of worms"*
**Aviation**

## Question 10

# Meeting requirements

As we design our new flight paths, there will be certain national and international safety, regulatory, legal and operational requirements that we must meet.

1. **Safety** – all new flight paths must meet all required safety standards.
2. **Industry standards and regulations** – industry standards (usually set internationally) or regulations apply to some aspects of how aircraft fly. All new flight paths must meet these legal obligations.
3. **Consistent with the national system of aircraft routes** – our new flight paths will become part of a new national network of routes, so they will need to take account of flights to and from other airports. As our flight paths will only be designed to 7,000 feet, they will also need to join up with national aircraft routes at higher altitudes.
4. **Maintaining and improving our airport** – Manchester Airport is a busy international airport which continues to grow to provide the services our customers need. In line with the Government's policy of 'making best use' of our nation's airports, our new flight paths should allow us to provide the services that we offer today and meet any future demand from customers (within the limits set by any planning conditions).
5. **Keeping to government policy** – UK airspace is amongst the busiest in the world. To tackle the issue of congestion, the Government instructed the CAA to develop an Airspace Modernisation Strategy (AMS (CAP1711)), which was published in December 2018. Our design principles must take account of government policy on aviation, and reflect the requirements of the Airspace Modernisation Strategy.

**Do you agree that any design for future flight paths must meet the requirements shown opposite?**

**If no, please explain why.**

**Do you think there are any other requirements that our new flight paths must meet?**

**We also ask you to add anything you think we should consider.**

## Question 11

# Other things we should consider

In our questions we set out the important factors that we think we will need to consider when designing new flight paths.

As well as considering your answers to those important questions, we want to know if there are other things you think we should be taking account of.

**Is there anything else we need to consider, or do you have any suggestions?**

# Aviation reps prioritise safety, and an integrated focus

**Safety is seen as a top priority:** throughout the discussion safety is a feature, so Aviation reps are unsurprised to see it included here. Some make the point that safety is already inherent in the legislation that airports have to follow.

*"Safety is the most important for everyone involved"*
**Aviation**

**An integrated approach is vital:** fundamental to the success of the redesign is the smooth joining up of routes above 7,000 feet. Therefore, working with other airports will be absolutely key.

*"The important bit is that paths will be designed up to 7000 ft. One of the big issues for EMA is that as soon as you leave this airspace you join other airspace"*
**Aviation**

**Industry standards may force compromise on principles:** some point out that the existing industry standards are reasonably old themselves, and could hold back some of the redesign potential.

*"Industry standards and regulations - some of it needs an overhaul if we are to take max advantage of new technologies"*
**Aviation**

# Final thoughts

# Final thoughts (1)

1. Aviation reps are positive about EMA's contribution to the economy, and about their relationship with local airspace users.
2. Respondents are positive about the Future Airspace Programme – they see it as a much needed opportunity to bring the airspace up to date.
3. However, there is some hesitation around what this will mean for other airspace users – some want more information to help assess whether impact on them will be positive or negative.
4. Q1 (avoid change), Q4 (balancing noise / emissions), and Q6 (other airspace users) are key, as is Q7 (aircraft types).

# Final thoughts (2)

5 These questions address what respondents see as the key purpose of the redesign programme – to maximise efficiency whilst reducing impact of aircraft on local communities / the environment.

6 Q10 (mandatory requirements) is seen to be reasonable overall, although a minority warn that current legislation and regulations could act as barriers to maximising efficiency.

7 Rather than needing third options, many call for additional information to help clarify each option, and confirm their priorities – understanding how they will be affected in reality is key.

8 There is an underlying concern for local communities – although this is not the priority for Aviation reps, they are clear that the general public must be considered too.

Friday 4th October 2019

# East Midlands Airport: Future Airspace Research – Aviation

Melanie Nicholls – Director, Head of Qualitative Research
Jerry Latter – Associate Director, Qualitative Research
Natasha Ward – Research Executive, Qualitative Research

YouGov®