

APPENDIX 9 - DRAFT DESIGN PRINCIPLES SHARED WITH STAKEHOLDERS

1. Email to Stakeholders
2. Stakeholder Address List
3. Information Pack on Draft Airspace Design Principles for Expansion



Email to Stakeholders

SENT ON BEHALF OF [REDACTED]
=====

Dear All,

You will be aware that Heathrow has recently consulted on our Airspace Design Principles for Expansion, and we have been analysing the feedback from that consultation to identify an initial list of proposed principles. We are now undertaking a phase of stakeholder engagement to ensure we have identified and prioritised our design principles in accordance with our stakeholder’s preferences and suggestions.

Please find an overview of Heathrow’s proposed Airspace Design Principles for Expansion. A key part of the CAA’s assessment of these will be evidence of our engagement, and we would therefore appreciate your organisation’s feedback (by return email) on these.

Please provide your response **by Friday 27th July to airspace@heathrow.com**, to allow sufficient time for us to analyse all responses and prepare our submission to the CAA for the end of August.

Thanks in advance for your support at this important stage of our airspace design process.

Regards

Future Airspace, Heathrow Expansion



Stakeholder Address List

| | | |
|--|-------------------|-------------------|
| <p>London Terminal Manoeuvring Area (LTMA) Working Group</p> | <p>[Redacted]</p> | <p>[Redacted]</p> |
| <p>Heathrow Community Noise Forum (HCNF)</p> | <p>[Redacted]</p> | <p>[Redacted]</p> |
| <p>Heathrow Strategic Planning Group (HSPG)</p> | <p>[Redacted]</p> | <p>[Redacted]</p> |



| | | |
|---|------------|------------|
| | [Redacted] | [Redacted] |
| National Air Traffic Management Advisory Committee (NATMAC) | [Redacted] | [Redacted] |



| | | |
|----------------------|------------|------------|
| | [Redacted] | [Redacted] |
| Airline Community | [Redacted] | [Redacted] |



Information Pack on Draft Airspace Design Principles for Expansion



HEATHROW EXPANSION STAGE 1A DEFINE – DESIGN PRINCIPLES

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CURRENT DESIGN PRINCIPLES ENGAGEMENT PLAN

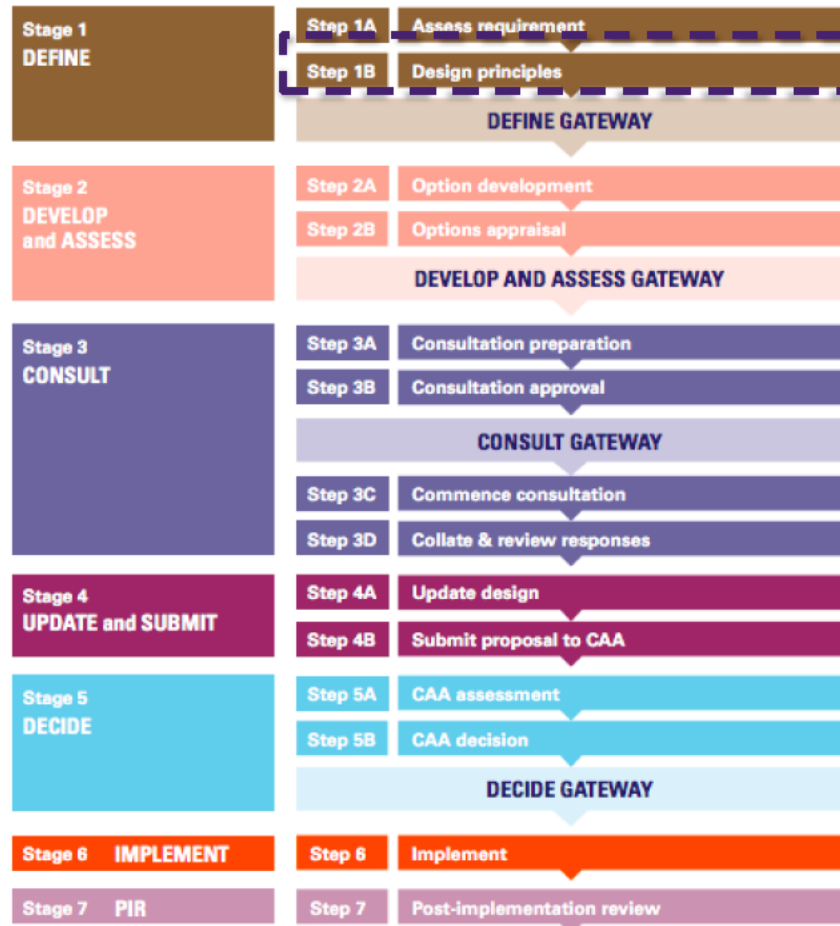
| Date | Time Slot | Focus Group & Venue |
|-----------------------|----------------------------|---|
| 1 st June | 15 mins From 12:00pm | CONFIRMED NATMAC CAA office |
| 4 th June | 12:00 – 12:15pm | CONFIRMED EPB Expansion Room |
| 4 th June | 15:00 – 16:30 | CONFIRMED DfT Airspace Working Group DfT office |
| 7 th June | 75 mins 14:05 – 15:20 | CONFIRMED HCNF Working Group Geneva Room, Compass Centre |
| 7 th June | 60 mins 10:00 – 11:00am | CONFIRMED Meeting 5: HSPG Noise and Air Quality Workshop Heathrow Academy |
| 15 th June | 15 mins TBC | PROVISION Options Design Rummage Jo'Burg Room |
| 22 nd June | 60-90 mins TBC | PROVISION Airline Working Group |
| 28 th June | TBC | CONFIRMED FASIIG Holiday Inn by M4 |

SCOPE

- Where we are in the CAP1616 process
- What are Design Principles
- Design Principles prioritisation and exemptions
- Update on current position
- Proposed Design Principles
- Next steps in the process
- Questions

WE HAVE COMPLETED STEP 1A AND HAVE BEGUN THE DESIGN PRINCIPLES STAGE OF CAP 1616

Figure 1: Overview of the airspace change process



← we are here

WHAT IS A DESIGN PRINCIPLE?

Stage 1 of CAP 1616 involves the development of design principles for submission to the CAA at the 'Define' Gateway of the airspace change process.

CAP1616 states that:

- the development of design principles should provide “a shortlist of principles to inform the development of airspace design options” and a “framework against which airspace design options are evaluated”.
- principles “are in no way immutable and, as a part of the process for the establishment of the airspace design principles, should be challenged as part of the ongoing dialogue with stakeholders.”

WHERE ARE WE NOW AND WHY ARE WE HERE TODAY?

Our first airspace consultation which ran from January-March 2018 has provided us with feedback on the key airspace design principles we identified and consulted on.

Since then we have been analysing the feedback on these principles, as well as considering the numerous other factors and principles that are fundamental in how we design our future airspace.

Ongoing engagement is encouraged through CAP 1616, and so we are now at the stage where we would like to seek further input from you.

This will be carried out in the form of engagement through focus groups and engagement with a number of key stakeholders.

WORK TO DATE

Heathrow have a long history of engagement through established fora, eg:

- Heathrow Community Noise Forum (HCNF)
- Heathrow Strategic Noise Group
- Airlines
- Flight Operations and Safety Committee (FLOPSC)
- Future Airspace Strategy Industry Implementation Group (FASIIG)

From this we have developed an understanding of some key principles that our communities have consistently raised as being important.

Some of these principles potentially “contradict” (CAP1616) one another when applied in airspace design. Our first consultation aimed to get a wider opinion on some of the main trade-offs.

This consultation also provided an opportunity for anyone to suggest additional principles.

PRIORITISATION

Prioritisation of design principles will help us compare design options.

CAP1616 highlights that design principles can be contradictory, for example where avoiding one kind of impact is likely to increase another.

“some of the principles may contradict one another and some may be prioritised over others: this will be an iterative process and a qualitative one rather than a purely numerical exercise with binary answers.”

In this case, we would favour an option that benefits a high priority principle over one that provides the same level of benefit to a lower priority principle (all other factors being equal).

EXCEPTIONS TO PRIORITISATION

Design trade offs can be complex and so we need to retain some flexibility to ensure that we can find the right balance between competing principles.

Examples of potential exceptions

- If one design option provides a small benefit in relation to higher priority principle, whereas another presents a large benefit for a lower priority principle, we may choose to favour the latter option on the basis that it provides the best overall result.
- We will continue to engage with stakeholders throughout the design process and this may uncover new local factors which lead us to prioritise the principles in a different way in certain areas.

We will always provide a justification for all our design decisions – especially those (such as the above example) that may not appear to follow the prioritisation in our design principles.

NEXT STEPS FOR DESIGN PRINCIPLES

Our ongoing engagement in recent years and the design principles consultation has resulted in the establishment of an extensive list of principles that we have condensed into a shortlist of key principles. These are listed in later slides.

The 2018 airspace principles consultation has given us a view on the prioritisation of the key principles following the feedback we received during the consultation. We are now seeking further input to:

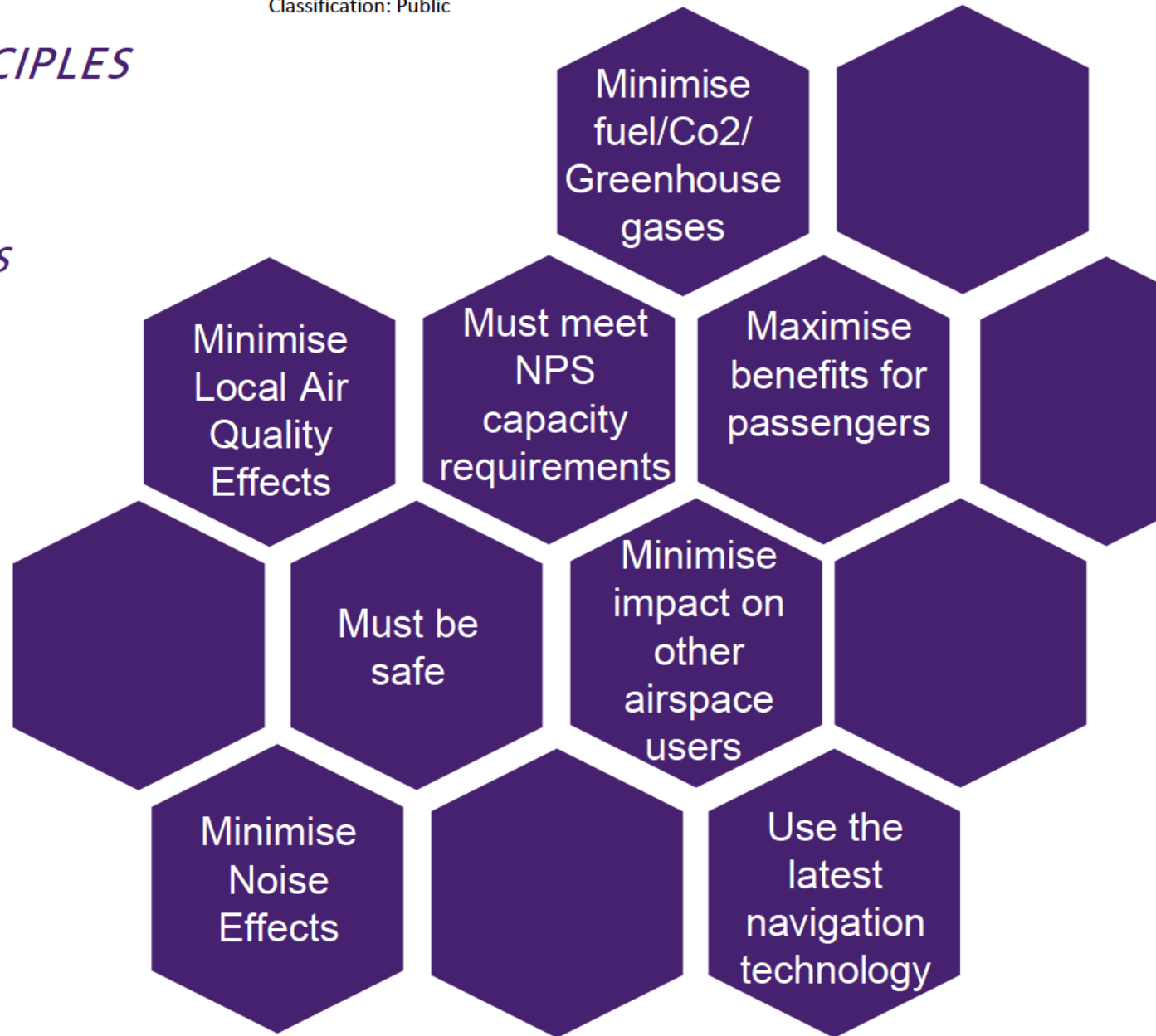
- help us identify any principle that might be missing and
- gather views on the overall prioritisation of the principles

All comments and feedback need to be received by the 30th June by emailing airspace@heathrow.com. Following this we will collate feedback from you and other key stakeholder groups to produce our final list.

We will then submit the design principles to the CAA in July.

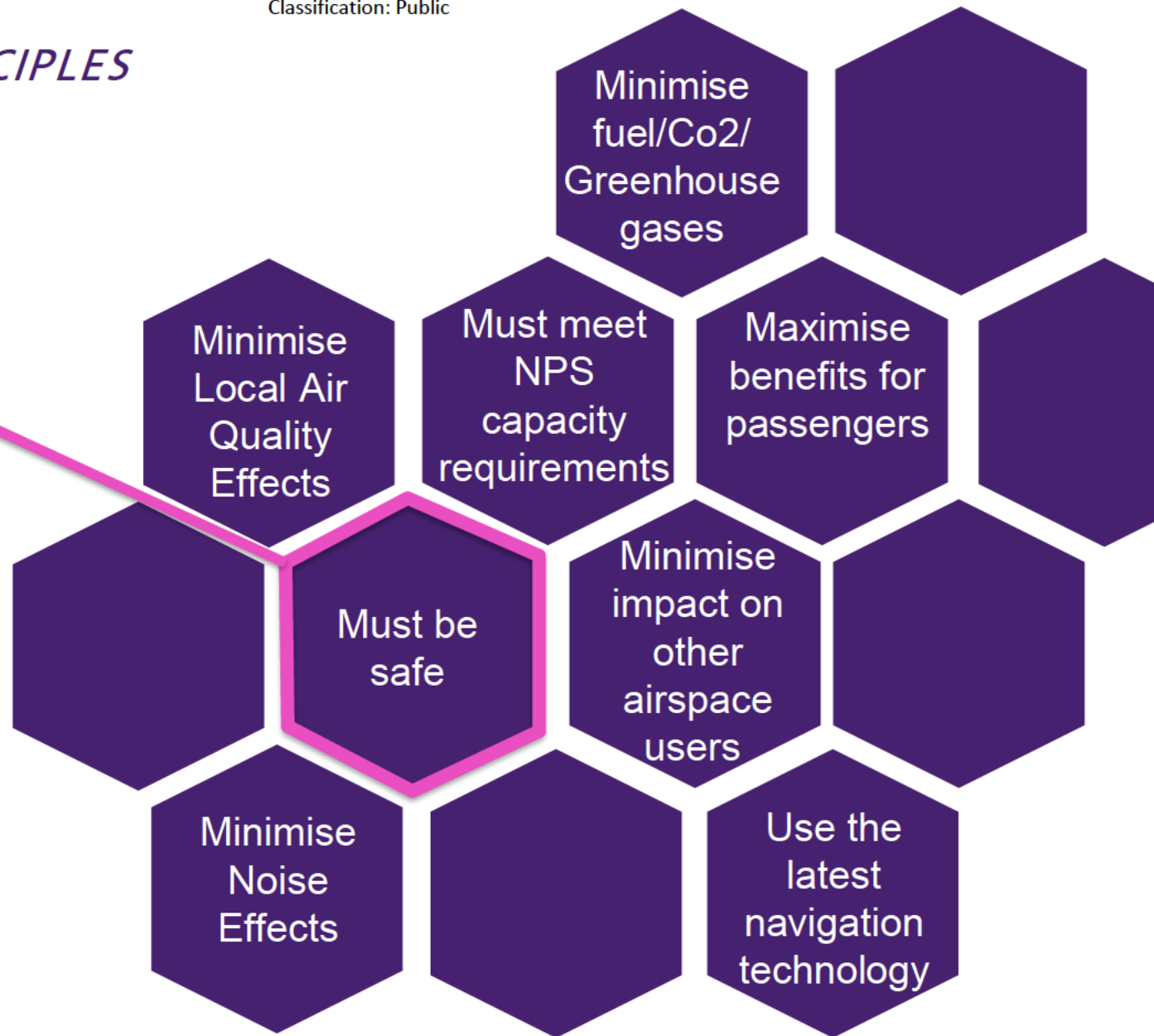
PROPOSED PRINCIPLES

*WE HAVE COLLATED
8 DESIGN PRINCIPLES
FROM OUR
CONSULTATION 1
FEEDBACK*



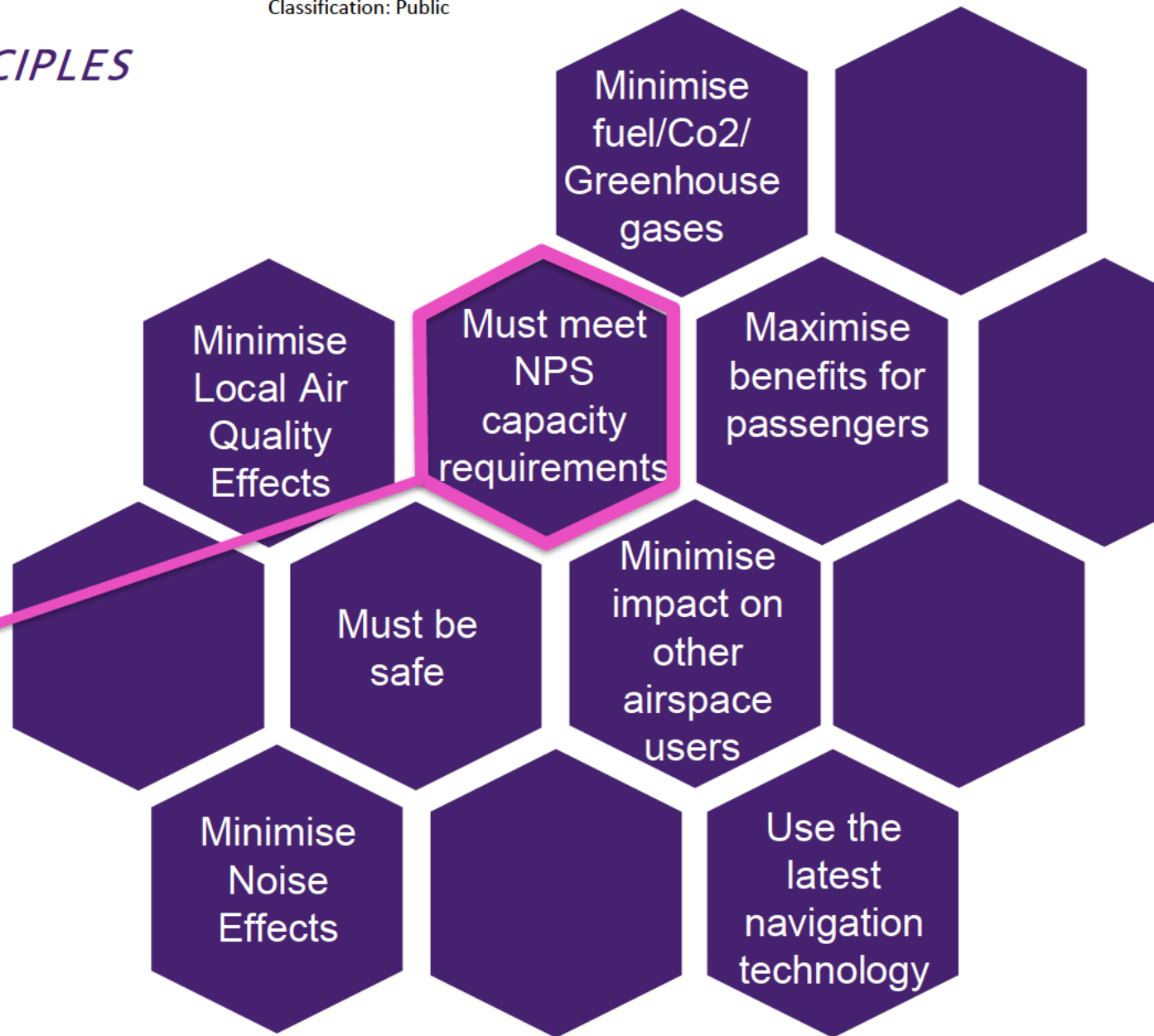
PROPOSED PRINCIPLES

Safety is paramount. The design must meet or exceed all relevant national and international safety standards.



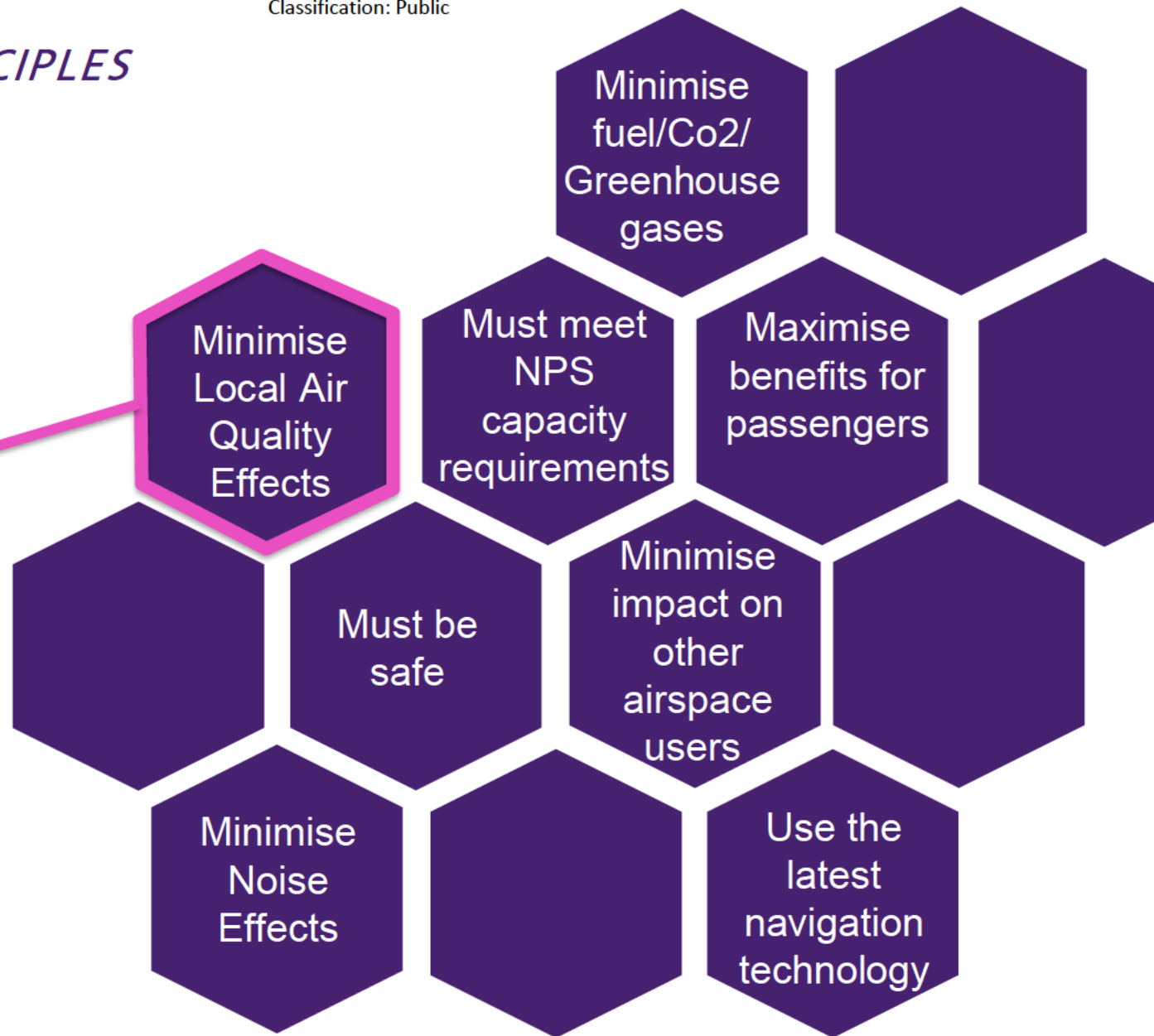
PROPOSED PRINCIPLES

The design must provide capacity for at least 740k movements per year, as per the draft NPS report. Capacity must be provided at key times to meet airline/passenger demand. This principle is essential so that we can develop airspace that allows Heathrow and the UK to compete effectively in the international aviation market.



PROPOSED PRINCIPLES

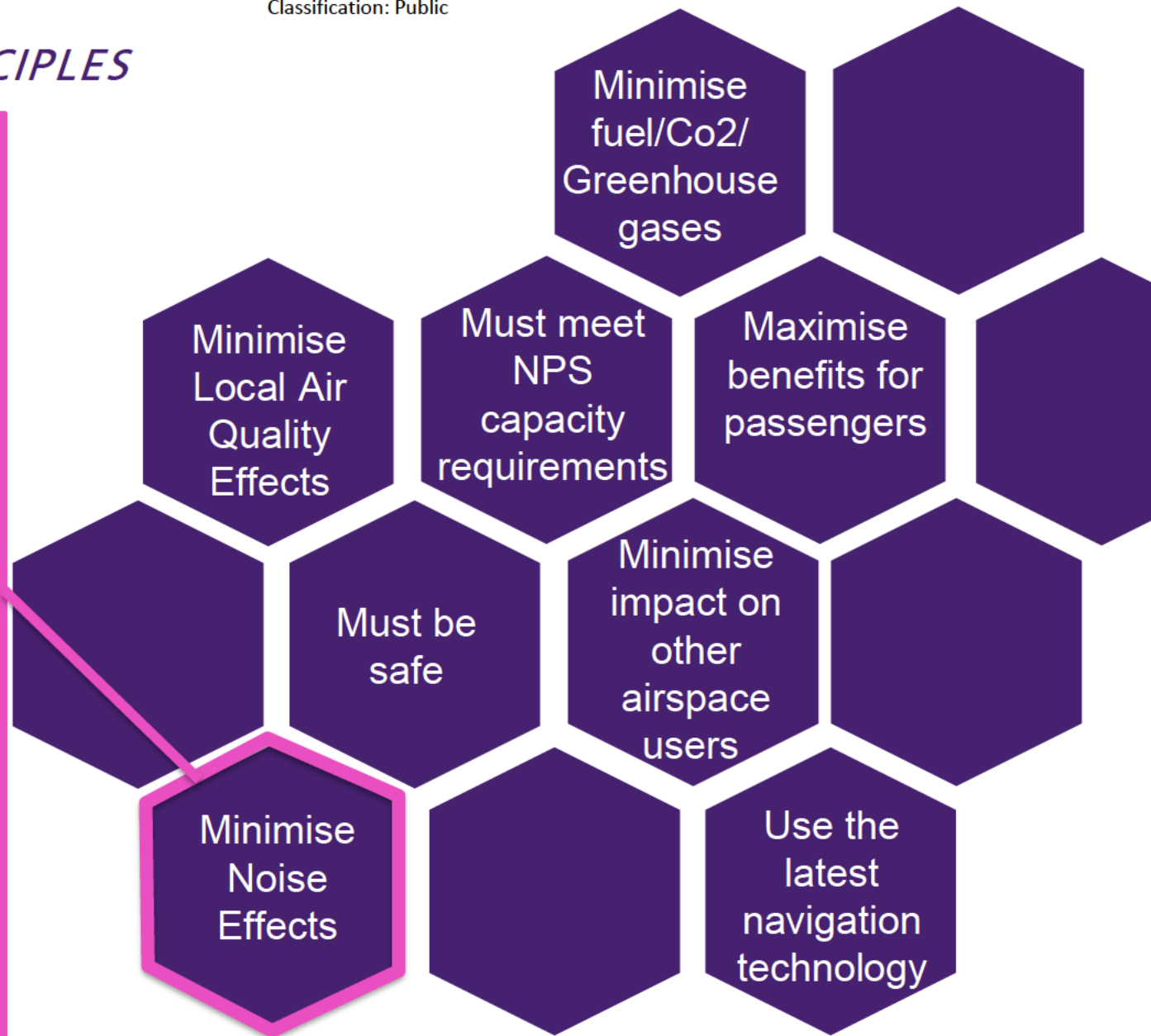
We will ensure local air quality requirements are met. Guidance states that “emissions from aircraft above 1000ft are unlikely to have a significant impact on local air quality”



PROPOSED PRINCIPLES

Consistent with Government aviation noise policy objectives, our overall noise related principle is to minimise (or limit) and where possible reduce the overall adverse effects of aircraft operations in the context of sustainable development.

There are many ways in which this principle can be applied and so, whilst considering local circumstances and consistent with UK aviation noise policy, we will develop our airspace designs, so far as is sustainable, that overall avoid significant adverse effects; mitigate and minimise adverse effects; and improve (where possible) effects of noise on health and quality of life.



SUB PRINCIPLES FOR “MINIMISE NOISE EFFECTS”

We recognise that there are many potential applications of this principle which are sometimes contradictory.

It is therefore split into sub-principles in order to prioritise the different approaches to addressing the UK noise policy aims to:

- avoid significant adverse effects of noise
- minimising and mitigating adverse effects of noise
- improve (where possible) the effects of noise on health and quality of life

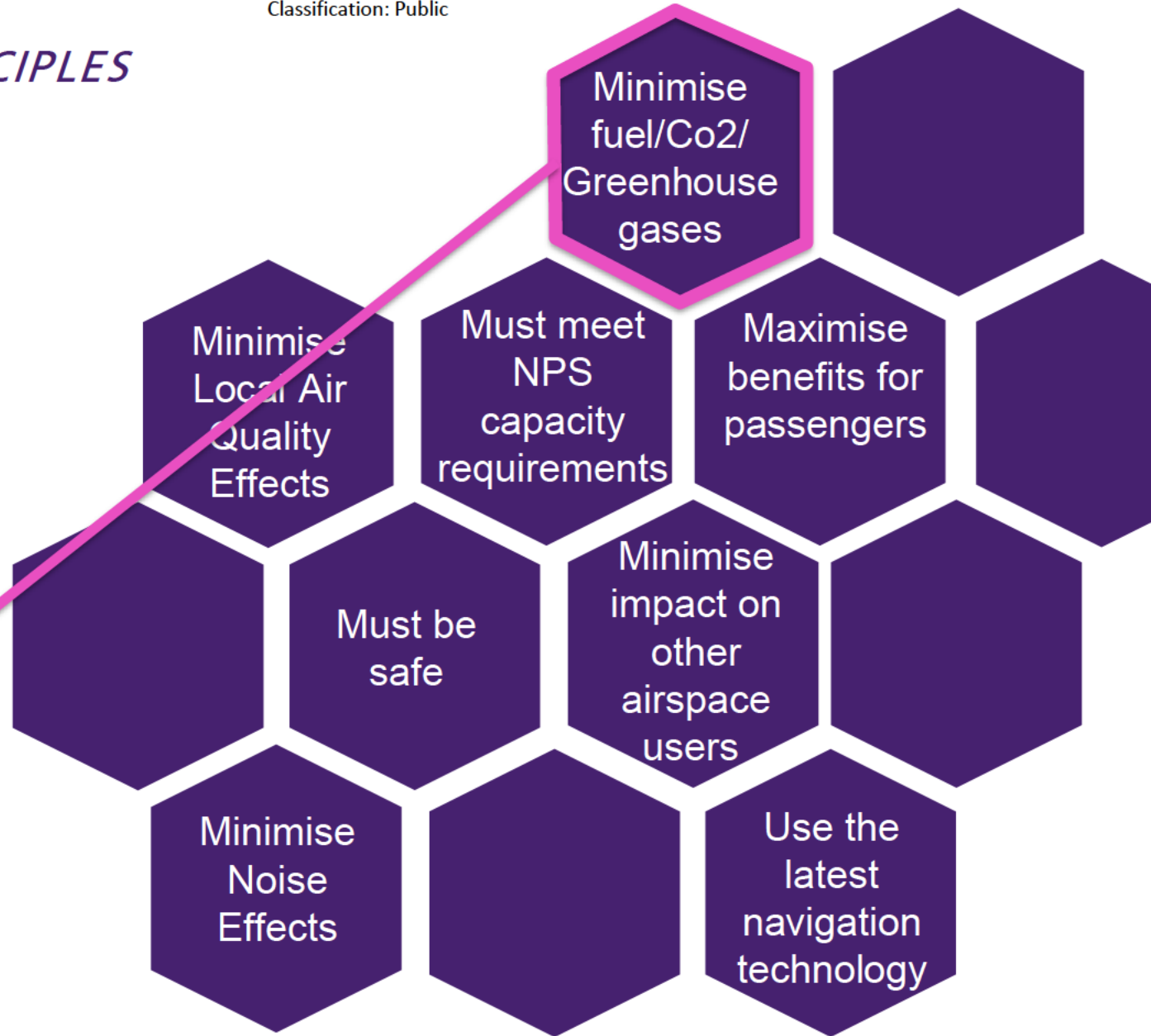
The following table presents our initial view of potential prioritisation based on our past engagement with stakeholders and the feedback from the 2018 airspace principles consultation.

SUB PRINCIPLES FOR "MINIMISE NOISE EFFECTS" AND PROPOSED PRIORITISATION

| | |
|---|--|
| We will apply the best noise abatement operational practices, where possible, to minimise the effects of any given airspace design. | More noise efficient operations such as climbing/descending continuously, avoiding low level holding, and noise reduction through speed management have obvious benefits with little, or no disbenefits to trade off against. Routes will therefore be designed to incorporate noise efficient operational practices wherever possible |
| Will minimise number of people newly overflown | It is sometimes impossible to avoid overflight of new areas but, where possible, we will avoid putting flight paths over those areas that are not currently regularly overflown |
| Will provide predictable periods of respite | Government policy recognises the value of respite. The airspace designs will be developed that support the delivery of runway alternation that provides predictable periods of respite for local communities. Where possible we will develop airspace design that can potentially enhance the delivery of predictable periods of respite by developing multiple routes from the same runway that can be switched on/off at different times |
| Will allow for managed geographic dispersal of aircraft to share noise impact | Minimising the overall effects of noise can be achieved by spreading aircraft (in a managed, structured way) over a wider geographic area. More people would likely be overflown, but the overall effects could be more evenly shared. |
| Will minimise total population overflown | Minimising the total number of people overflown could reduce the overall effects of noise, but these effects would be concentrated on a smaller number of people |
| Will avoid multiple flight paths over one community | This principle involves avoiding the following below 7000ft: <ul style="list-style-type: none"> - arrivals and departures overflying the same communities - converging routes over the same communities - Heathrow routes and those from neighbouring airports overflying the same communities |
| Will design flight paths over commercial and industrial areas where possible | |
| Will prioritise routeing flight paths over rural areas (rather than over urban areas) | This is based on feedback from the airspace principles consultation, which showed a clear preference for flight paths over rural areas (rather than urban areas) where two flight path options are otherwise equal |
| Will prioritise routeing flight paths over parks and open spaces (rather than over residential areas) | This is based on feedback from the airspace principles consultation which showed a clear preference for flight paths over parks and open spaces (rather than residential areas) where two flight path options are otherwise equal |
| Will prioritise flight paths that reduce aircraft noise for local communities over those that reduce fuel burn & emissions | Governmental guidance states that minimising noise should be the priority for the design below 7000ft, and the consultation response supported that view |

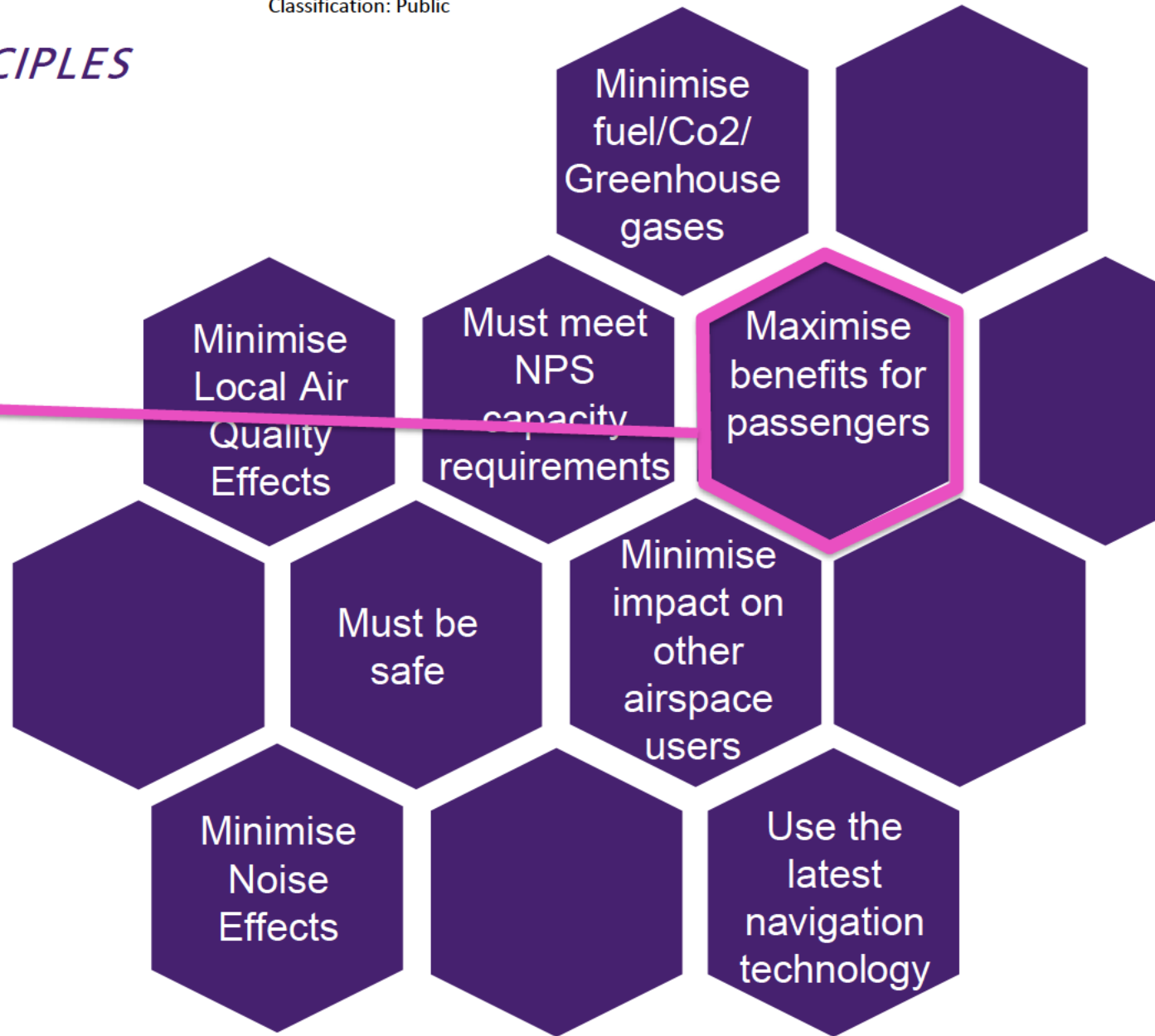
PROPOSED PRINCIPLES

Despite policy to prioritise noise over emissions below 7000ft, fuel and the resultant CO2 and greenhouse gases will remain a consideration in our design process and airline operations must not be penalised to the extent that they become uneconomical because of fuel requirements.



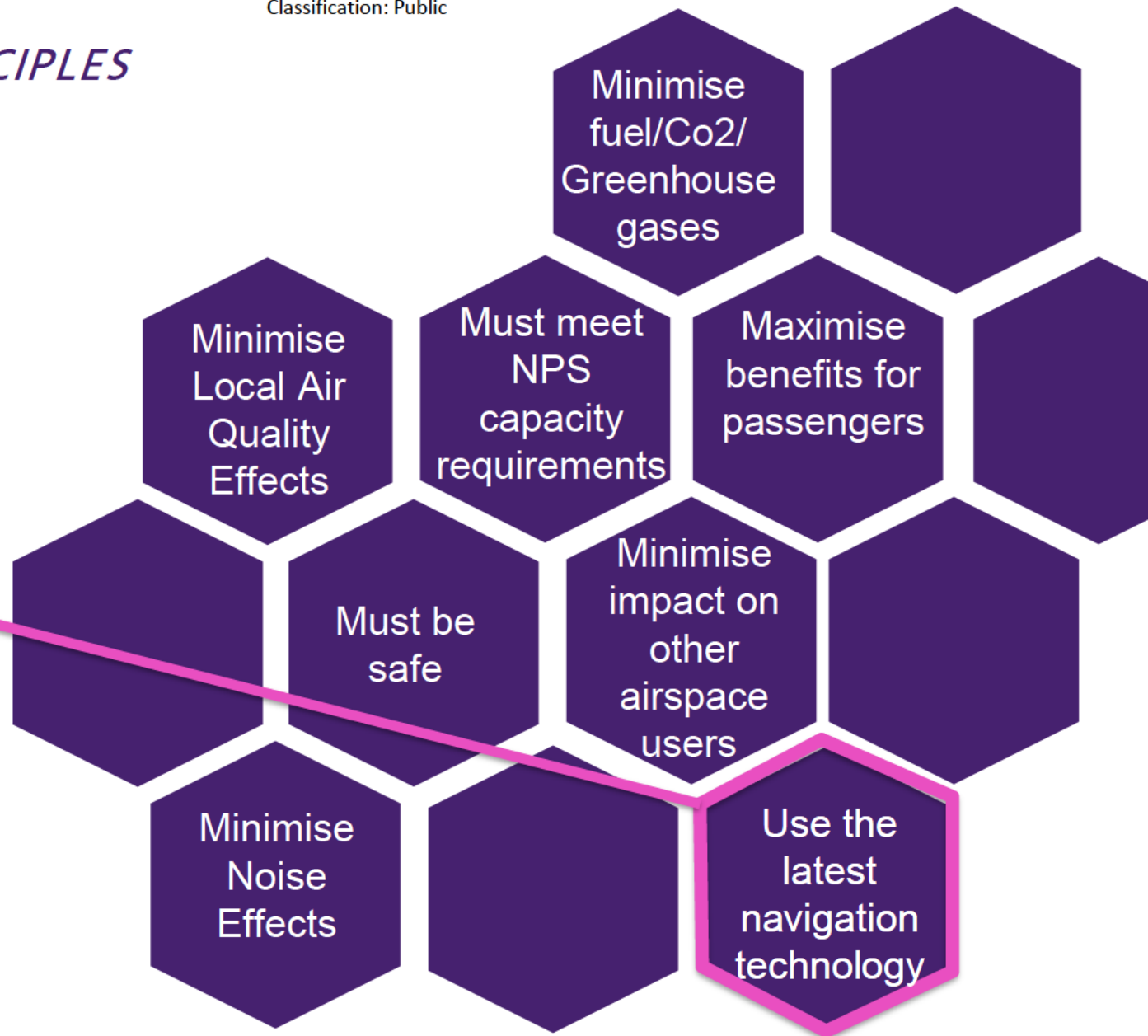
PROPOSED PRINCIPLES

Will design to minimise pilot and air traffic control workload, and to reduce delays for airlines and their passengers.



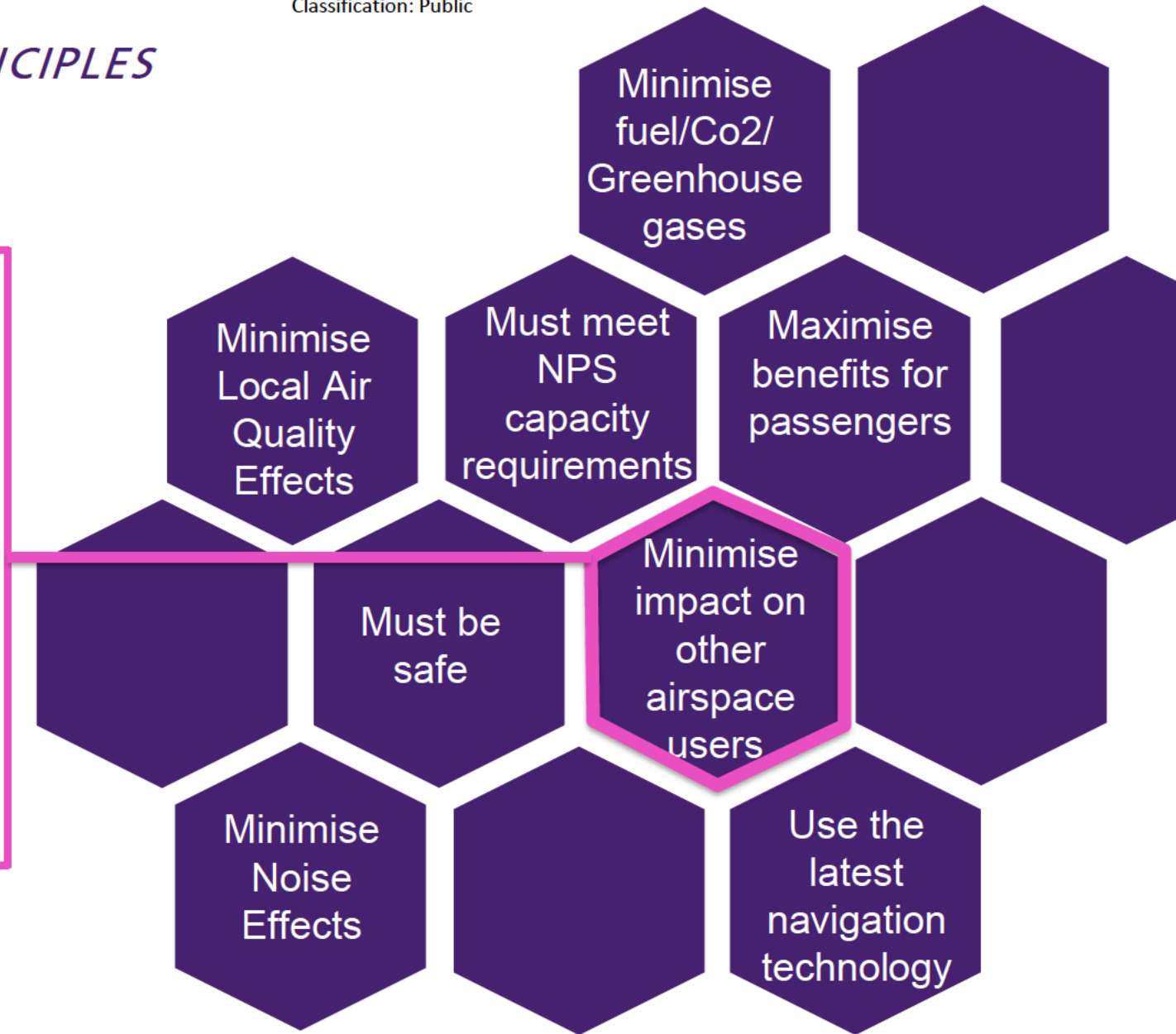
PROPOSED PRINCIPLES

Use modern navigation technology to future-proof our airspace design. Modern navigation technology will reduce pilot and air traffic control workload, which in turn will lead to a safer option, with more capacity and less delay. We will seek to ensure that airlines that have invested in technology get direct operational benefit from doing so.



PROPOSED PRINCIPLES

We will only seek additional controlled airspace where justifiable, and we will look to identify opportunities to release controlled airspace that is not essential for our future operation. We will seek to employ airspace sharing arrangements where necessary.



NEXT STEPS IN THE DESIGN PROCESS

We will collate your feedback and feedback from others and produce a final list of principles.

The design principles will be reviewed by the CAA at the CAP1616 Define Gateway.

If accepted by the CAA they will then be 'fixed' and we will use them to qualitatively evaluate our options as we move towards the next stage in the process.

We will continue to engage with you at key stages through the design process including two more public consultations.

This will give you the opportunity to see how we are applying the principles and highlight where you think exception might be relevant.

QUESTIONS?

Heathrow

Building for the future