



AIRPORT  
EXPANSION  
CONSULTATION

# AIRPORT EXPANSION CONSULTATION DOCUMENT

JANUARY 2018

**Departures**

Time	Destination	Flight	Status	Gate
12:20	Manchester	DL4429	Flight closing	8
12:25	Dublin	EI150	Flight closing	64
12:30	Frankfurt	LH895	Flight closing	17
12:30	Munich	LH909	Go to Gate	A18
12:35	Newark	UA18	Flight closing	3
12:40	Düsseldorf	LH3383	Go to Gate	21
13:00	Ottawa	SK3617	Boarding	26
13:05	Singapore	SQ305	Boarding	1
13:20	Munich	LH475	Gate opens	12:40
13:30	Maxima	AC905	Gate opens	12:40
13:30	Lisbon	TP350	Gate opens	12:45
13:35	San Francisco	UA931	Gate opens	12:35
13:38	Houston	UA871	Go to Gate	1c
13:45	Frankfurt	LH907	Gate opens	13:00
13:45	Zurich	LX333	Gate opens	13:10
13:50	Stockholm	BK332	Gate opens	13:20
13:55	Bhagalpur	4L0461	Gate opens	13:10
13:55	Bhagalpur	4L0461	Gate opens	12:45
14:45	Hamburg	LH3393	Gate	
15:00	Toronto	TP8272	Gate	
15:10	Belfast City	BA5035	Gate	
15:10	Frankfurt	LH909	Gate	
15:10	Edinburgh	DL4435	Gate	
15:20	Shannon	BA5943	Gate	
15:25	Moscow	LH3477	Gate	
15:25	Chicago	LH9356	Gate	
15:25	Aberdeen	DL4425	Gate	
15:35	Auckland	NZ901	Gate	
Via Los Angeles				
15:35	Oslo	SK906	Gate	
15:50	Cologne	4U405	Gate	
15:50	Newark	UA941	Gate	
16:10	Istanbul	TK1986	Gate	
16:20	Dublin	EI160	Gate	
16:20	Washington	LH2360	Gate	
16:25	Edinburgh	DL4437	Gate	
		61003		



**Heathrow**



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## Foreword



Heathrow is a critical part of the UK economy, but its expansion is also vital to securing the country's economic future as an outward looking nation.

This consultation is a central part of delivering that plan. It is your opportunity to share your views on the options for how we expand. Your feedback will inform a second consultation next year where we will present detailed plans and again ask for your views before finalising our proposals.

Heathrow expansion is about more than just a runway. It is about opportunities for our local community, inside and outside the airport's boundary. It is about securing the country's economy and connecting the whole of the UK to global growth. And it is about legacy – building the infrastructure today that our children will need for tomorrow.

Today, businesses across the country, from Scotland to the South West depend on the global connections Heathrow creates. With 194 routes to over 80 countries, we connect the whole of Britain to the world and drive investment back into and across the country.

Expanding Heathrow is essential to ensure future generations can compete for global trade. It will create up to 180,000 new jobs and up to £187 billion in economic benefits across the country. We will double cargo capacity, support British exporters and leave an infrastructure skills legacy.

But expanding in the national interest must not come at the expense of our local communities.

We want our local communities to share in the benefits of Heathrow's growth. Expansion will create up to 40,000 jobs in the local area and create a wealth of new opportunities for local businesses. Thousands of young people will have a chance to launch their careers at Heathrow by doubling the number of apprenticeships.

We want to minimise the negative effects that expansion could have both during and after construction. That's why we have already made a number of commitments on issues including noise, air quality and property and community compensation. Together, they mean that we can reduce the impact of expansion and ensure everyone is treated fairly.

This consultation is an important step in delivering expansion, unlocking these opportunities and delivering our commitments. But most importantly we want to hear from you so that you can help us shape our emerging plans to make them better.

We look forward to discussing the options to expand with you, hearing your views and working with you to deliver Heathrow expansion.

John Holland-Kaye  
Chief Executive  
Heathrow Airport Limited

# Section 1 - Heathrow Expansion

## Tell us what you think.

Your views are important to us. They will help us refine and shape our proposals. You can provide us with your comments in several ways:



**online** via our project website [www.heathrowconsultation.com](http://www.heathrowconsultation.com)



complete a **feedback form**, available on request (see back cover) or at our exhibition events



**write** to us at:  
Freepost LHR EXPANSION CONSULTATION



send an **email** to us at [expansion.feedback@heathrowconsultation.com](mailto:expansion.feedback@heathrowconsultation.com)

## Why are we consulting

This consultation presents Heathrow's options and proposals to expand and build a new north west runway. It is an opportunity to have your say to help shape the emerging proposals.

This consultation is separate from the Government's consultation on its draft Airports National Policy Statement (ANPS). It is about helping to shape our expansion plans at an early stage. It is our opportunity to tell you about our work to date and for you to tell us what you think and what we should be prioritising going forward.

There will be a second consultation next year when we will ask you about the preferred scheme that we will have developed having regard to the comments you make to us at this first consultation.

Our consultations are vital to help ensure everyone shares in the benefits of Heathrow expansion.

Our ambition is to build a long-term, sustainable legacy for our local community. Expansion is expected to create up to 40,000 new jobs local to Heathrow and potentially see thousands of new apprenticeships for local people. This consultation shows our emerging plans to unlock these benefits.

We know expansion can affect local quality of life and we have a responsibility to those around us to reduce the potential negative effects of expansion during and after construction. In this consultation you will see our emerging plans to ensure expansion is fair to local residents and ensure that Heathrow becomes greener, cleaner and quieter.

This document summarises the work we have done so far to identify the options to expand Heathrow and explains how you can take part in this consultation. It provides a route map to help you find more information about the topics and issues that interest you most.



**The deadline for responding to this consultation is 11.55pm on 28 March 2018.**

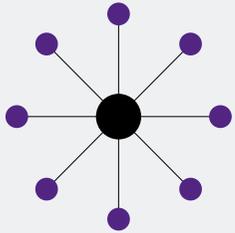
We look forward to receiving your comments.





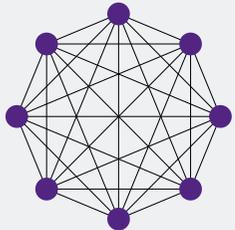
## What is a hub airport?

Hub airports combine direct passengers, transfer passengers and freight so that they can fill aircraft and serve destinations that cannot be served by airports which rely on local demand alone. Transfer passengers at a hub airport allow the UK to enjoy faster, year-round connections to countries to which it could not otherwise sustain a direct flight.



### Hub

Linking 9 points requires 8 routes



### Point-to-Point

Linking 8 points requires 28 routes



## Heathrow today

Heathrow airport is a critical part of Britain's national infrastructure and an economic engine for our local area.

We are the UK's only hub airport and the UK's biggest port by value for trade with countries outside the EU. Heathrow currently serves 194 routes to more than 80 countries, connecting the UK to the world and the world to the UK. It is not just passengers that travel through Heathrow: over £100bn worth of imports and exports with countries outside the EU were shipped through Heathrow (2016), helping British businesses access customers in every corner of the globe.

Heathrow is a cornerstone of the local economy. Over 70,000 people work at the airport, making it one of the largest single-site employers in the country. We are proud to offer people who work here a career, not just a job, with approximately 300 local apprentices starting each year across the airport. We are also the only airport in the UK that has been certified as a Living Wage employer by the Living Wage Foundation.

Heathrow's employment benefits do not stop at the airport boundary – the global connections served from Heathrow sustain thousands of high-skilled jobs in London and the Thames Valley, with two thirds of the UK's top 300 companies locating themselves within 25 miles of the airport.

Over the past decade, significant investment has transformed Heathrow into the best airport in Western Europe as rated by our passengers.

The world is now welcomed to Britain with world-class terminals and service, showcasing our country at its best.

But Heathrow's existing runways are full and have been for over a decade. International airlines have grown their route networks at European airports like Paris and Frankfurt instead. These airports have capitalised on opportunities from new connections to growing economies in Asia and the Americas.

That has meant Britain losing out to our European competitors in the race for foreign investment, jobs and trade. Britain cannot secure its economic future while its biggest airport and cargo port by value cannot grow.

The Government has concluded that Heathrow needs to expand to secure the UK's status as an international aviation hub. This consultation is being held by Heathrow to ensure our local communities can help shape the design of an expanded Heathrow from an early stage.

This document summarises the work we have done so far to identify the options to expand Heathrow, and explains how you can take part in this consultation.

### Using our two runways more effectively



With changes to our airspace and the use of satellite navigation technology, we can use our existing runways more efficiently than we do today, creating the possibility for up to 25,000 new flights a year.

This would happen at the same time as our proposed changes to night flights so that early morning flights would potentially not start until 05.30am (see section 4.2 for more information).

We will only include these new flights in our application once we have consulted on a robust plan to manage the potential effects of noise, air quality and airfield operations.



### **Why expand Heathrow**

In 2012, the then Government set up the Airports Commission to investigate how the UK could maintain its status as an international aviation hub.

The Commission, made up of independent experts, invited submissions from airports and others as to how the UK's runway capacity could be increased. Heathrow put forward proposals in Taking Britain Further, (May 2014).

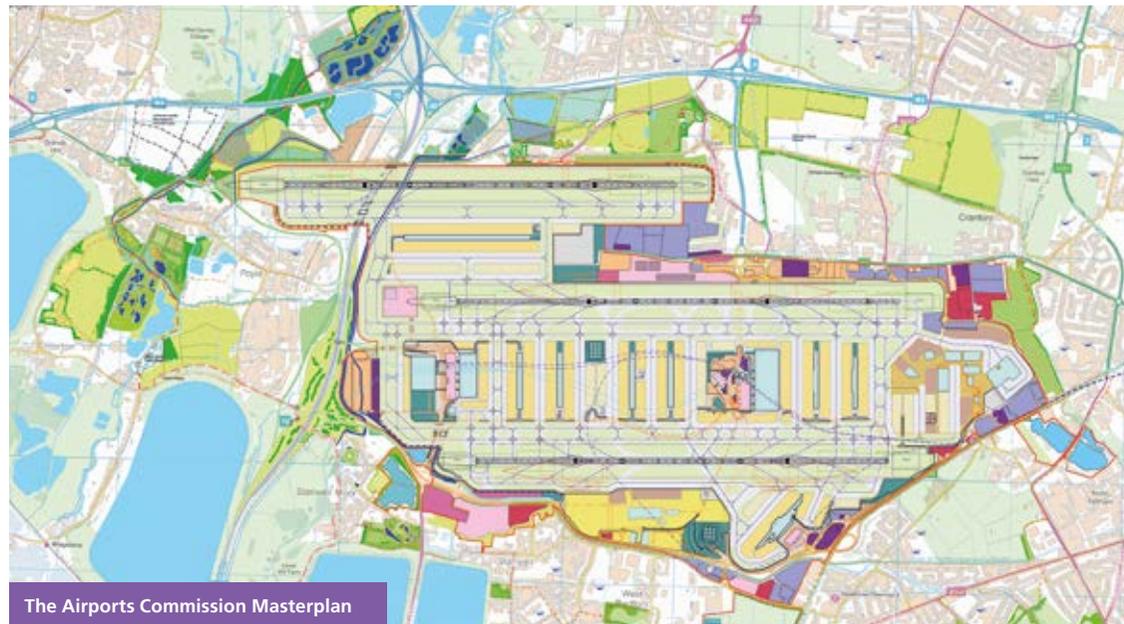
After almost three years of study, the unanimous conclusion of the Airports Commission was that the Heathrow north west runway scheme, in combination with a significant package of measures to address its environmental and community effects, presented the strongest case for securing the UK's status as an international aviation hub.

It also concluded that Heathrow can be a better neighbour for local communities than it is today, while delivering significantly enhanced connectivity and substantial long-term economic and strategic benefits for the whole of the UK.

Heathrow has agreed to meet or exceed the significant package of measures identified by the Airports Commission:

- **Night flights** – we will introduce a ban on scheduled night flights for 6.5 hours (at a time to be determined) between the hours of 11pm and 7am
- **Noise envelope** – we will consult on and establish our plans for a clear, legally binding noise envelope that will give certainty to local people on how we address noise
- **Respite** – we will provide predictable periods of respite so local people will know when no planes will fly over their homes
- **Property Compensation** – we will compensate those who would lose their homes at market value plus an additional 25%, legal fees, stamp duty and moving costs

- **Community Compensation** – we will spend over £1bn on community compensation (noise and property) and support the introduction of a scheme to ensure airport users pay to compensate local communities for the impacts of the airport
- **Community Engagement Board** – we will establish an independent Community Engagement Board which will have real influence on how money is spent on compensation and community support
- **Independent Aviation Noise Authority** – we back the creation of an independent aviation noise authority with statutory powers
- **Training and Apprenticeships** – we will create 5,000 additional apprenticeships at Heathrow, bringing the total to 10,000 by 2030
- **Mode share** – we will incentivise and support a shift in transport modes for those working at and travelling through the airport
- **Air quality** – new capacity at an expanded airport will only be released when it is clear that the airport's contribution will not delay the UK's compliance with EU air quality limits
- **Fourth runway** – we would accept a commitment from Government ruling out a fourth runway.



In October 2016, the Government announced a new north west runway at Heathrow as its preferred scheme and location for expanding airport capacity in the South East.

The Government agreed with the Airports Commission's conclusion that Heathrow expansion is a vital national project to secure the UK's status as an international aviation hub and must enable us to deliver at least another 260,000 flights a year, which will increase both domestic and international connections to established and developing countries.

The Secretary of State for Transport set his key expectations for expansion at Heathrow:

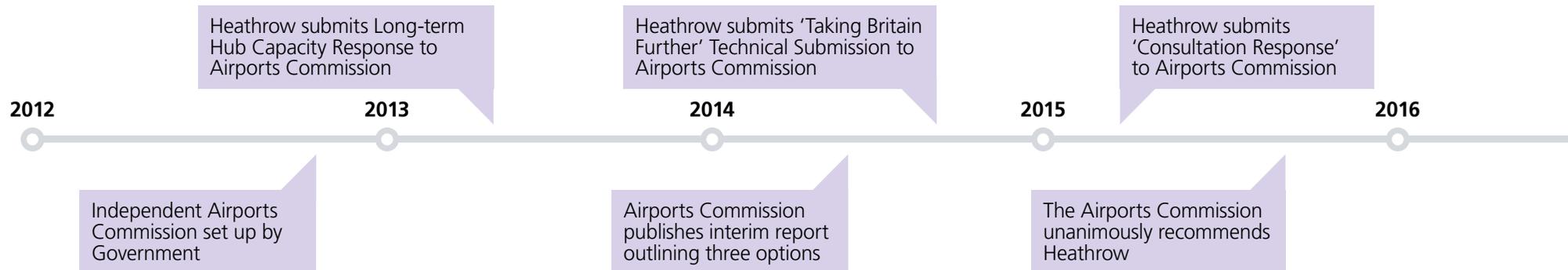
- **Expansion is deliverable within air quality limits.** Heathrow has committed to industry-leading measures to mitigate air quality impacts and Government will not grant Heathrow permission to expand if a new runway impacts on the UK's compliance with its air quality obligations.

- **Fewer local people will be affected by aircraft noise with expansion than today.** There must be a 6.5 hour ban on scheduled flights during the night (11pm-7am) and predictable periods of respite from aircraft noise during the day.
- **There will be a package of compensation measures for those most affected by expansion.** Those people whose homes need to be bought to make way for the new runway will receive the unaffected market value of their home plus a 25% Home Loss Payment, Stamp Duty costs for an equivalent value property and reasonable legal fees and disturbance costs – an offer significantly above the legal requirement.
- **It will lower passenger fares relative to no expansion.** This will be achieved by increasing airline competition and by ensuring future landing charges remain close to current levels.

- **It will benefit the whole of the UK.** This should be achieved by engaging businesses across the country in the construction supply chain and strengthening domestic air connections to Heathrow.

In February 2017, the Government published the draft Airports National Policy Statement (ANPS) for consultation. A revised version of the draft ANPS was published in October 2017 for further consultation. The expectations listed above are reflected in the ANPS.

If designated by the Secretary of State for Transport following approval by the House of Commons, the ANPS will confirm a north west runway as the Government's supported scheme.



## How do we get permission for expansion?



To get permission for the expansion of Heathrow we must apply for a Development Consent Order (DCO) under the Planning Act 2008.

As part of this process there will be opportunities for the public to see our proposals and give their feedback, starting with this consultation. Our DCO application will be examined by Inspectors appointed by the Planning Inspectorate and the Secretary of State for Transport will make the decision on whether to grant or refuse permission for the scheme to go ahead, taking into account in particular the ANPS.

Further information can be found in our **DCO Process Information Paper**.



2017

Heathrow launches Expansion Consultation (this consultation)

2018

Government endorses Airports Commission and backs Heathrow third runway

Government consultations on draft Airports National Policy Statement (ANPS)

## Our consultation process

This consultation ('Consultation 1') is your opportunity to see our emerging proposals and options and let us know what you think. This consultation is running for 10 weeks from 17 January to 28 March 2018. Our wider consultation and engagement process includes the following steps:



**This document summarises the work we have done so far to identify the options to expand Heathrow and explains how you can take part in this consultation.**

**It provides a route map to help you find more information about the topics and issues that interest you most.**



For a more detailed overview of our ideas and options so far, please see the document called **Our Emerging Plans**. We have also produced area and topic papers and some more detailed technical background papers that may be helpful. These documents are available to view on our website, at consultation events or at document inspection locations.

Development Consent Order Process Information Paper

Environmental Impact Assessment Information Paper

Property Policies Information Paper

Our Emerging Plans

Scheme Development Report

Our Approach to Developing a Surface Access Strategy

Our Design Approach to the Natural Environment

Our Approach to Noise

Our Approach to Air Quality

Our Approach to Carbon and Climate Change

Our Approach to Historic Environment

Community Information Booklet – North

Community Information Booklet – East

Community Information Booklet – South West

Community Information Booklet – West

Interim Property Hardship Scheme – Panel Guidance and Policy Terms

Fees and Costs Policy

Commercial Property Policy

Agricultural Land and Property Policy

Residential Property Policy

We have also identified a series of other documents that you may find useful. These can also be found on our website:

Strategic Brief

Heathrow 2.0

Heathrow Operations Handbook

The Case for Heathrow Expansion

## Airspace Principles Consultation



The expansion of the airport and construction of a third runway provides us with a once-in-a-generation opportunity to review how airspace is used around Heathrow. Changes to airspace are the responsibility of the Civil Aviation Authority (CAA) and are subject to a different approval process.

We are undertaking a separate and parallel consultation on the principles of the new airspace design that will be needed for an expanded Heathrow. We will be carrying out further stages of consultation on airspace change over the next few years. It is therefore not possible to confirm where new flights will be and we are not showing routes at this stage.

Please see the **Airspace Principles Consultation Document** for further information on this important issue and to have your say.

More information on the Airspace Principles Consultation can be found at [www.heathrowconsultation.com](http://www.heathrowconsultation.com)

## Section 2 - Our Emerging Plans

The expansion of Heathrow will be one of the largest infrastructure projects in the UK and developing our final plan will be a complex process. We have a successful track-record in delivering these types of projects as seen by Terminals 2 and 5. We have carefully considered environmental, community, cost, operational, delivery and planning factors to identify options for the project.

We now need your feedback which, together with our on-going design work and the findings of more detailed surveys and assessments, will be used to develop a preferred scheme for Heathrow's expansion.

A flow chart of the development process is opposite and we have highlighted the questions that we want to ask throughout the document.

Expanding Heathrow is more than building a new runway. To operate a three-runway airport, we need to provide:

- Terminal, apron and baggage infrastructure to serve the extra aircraft and passengers
- Facilities within the airport boundary to handle cargo imports and exports
- Taxiways to connect the new runway with the existing airport and expanded airport facilities
- Supporting and related facilities for the airport such as aircraft maintenance, fuel storage, car parking and ground support equipment

To achieve this we need to:

- Re-position and build over part of the M25 and improve junctions to handle the altered traffic flows
- Re-position part of the A4 and A3044 as well as making improvements to other local roads which access the airport
- Divert local rivers and create new areas of flood storage
- Provide new areas for landscaping, protecting habitats and wildlife corridors
- Provide new space for hotels, offices, car parks, freight forwarding and flight catering facilities
- Replace some facilities and infrastructure that need to be moved to allow expansion such as the Immigration Removal Centres and utilities
- Use temporary construction areas to build the new runway and expanded airport

We are committed to providing measures to mitigate the adverse effects of the project on the environment and local communities, such as providing noise insulation for homes and community buildings. We are also committed to ensuring our plans can be delivered while keeping the airport charges – the fee airlines pay to operate at the airport – at close to current levels<sup>1</sup>.

We are building on the proposals we submitted to the Airports Commission to deliver the best overall solution for an expanded Heathrow.

We have not made any final decisions on the layout and design of the expanded airport. This document summarises our current thinking and points to where you can find out more information.

<sup>1</sup> (2016) in constant prices



A Community Engagement Board (CEB) will support community engagement throughout the planning process for expansion – and longer-term into the operational phase of the expanded airport. It will play an important role in building trust between the airport and its communities and ensure Heathrow delivers on its commitments today and in the future.

Throughout 2017 we have engaged in constructive dialogue with the Heathrow Airport Consultative Committee (HACC), to expand its remit to take on the additional functions of the CEB.

This approach was endorsed by the HACC in October 2017 and it is envisaged the CEB will be set up in early 2018 under a new independent chair.

As part of its evolving role, consideration will be given to the membership of the CEB to ensure it is truly representative and delivers meaningful and effective community engagement.

Tell us what you think:



Please tell us what you think about Heathrow's plans to expand the airport.

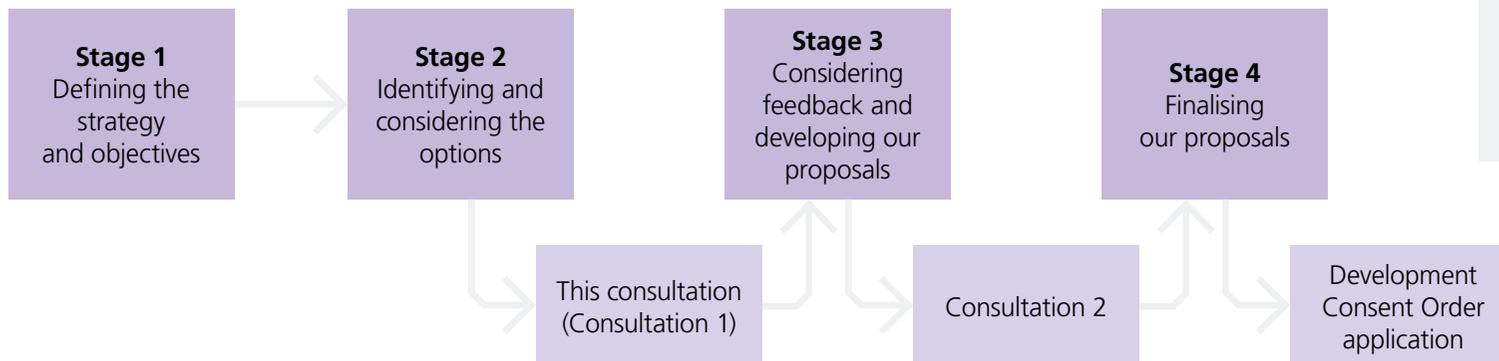
Further information



If you would like more detailed information on the options for expansion and their possible effects, you may find it helpful to you look at **Our Emerging Plans**.

Our **Scheme Development Report** provides a record of the process we have completed so far to identify, assess and discount options, and provides lots of detail on how we have come to the judgements we have formed to date.

You can find details of all of the options considered and the factors used to assess them in our Scheme Development Report.





## 2.1 - Runway

Our two existing runways are full. A new north west runway will enable a greater number of flights. We have carefully considered a range of options for its length and location.

### Options

In accordance with the draft Airports National Policy Statement (ANPS), the new runway will be located to the north west of our two existing runways between Sipson in the east, Colnbrook and Brands Hill in the west and Harmondsworth in the north. Minimising effects on these communities is a very important consideration as we refine the length and position of the runway.

The area in which the new runway will be located is shown opposite but we have not yet determined precisely where it will begin and end.

We have short-listed three options for the new runway with the length varying from between 3,200 and 3,500 metres (these are shown on page 16). Further work is required to determine the exact runway length, precisely locate the runway end locations and how they sit in relation to the Colnbrook and Sipson communities.

A runway of approximately 3,500 metres would have the closest runway end locations to both Colnbrook and Sipson.

This option would enable the largest commercial aircraft to take-off and land. It could also allow an expanded Heathrow to be more resilient as well as enabling aircraft to be higher over our local communities on landing and take-off which could reduce noise for them.

Runways shorter than 3,500 metres will need less land, providing an opportunity to move either one or both runway ends away from Colnbrook and Sipson, also reducing noise for local communities. However, they may not provide the same flexibility in how we operate, potentially resulting in longer aircraft taxiing times and more variable passenger journeys.

This is something we will need to carefully assess and would welcome your feedback. Therefore, we have not yet discounted the possibility of a runway shorter than 3,500 metres.

The height of the runway will vary over its length. This is a common feature of runway design. At the eastern end adjacent to Harmondsworth and Sipson it will be at ground level. As it crosses the M25 it will be on an embankment at a height of approximately 3 to 5 metres. At its western end near Colnbrook it will again be close to ground level.

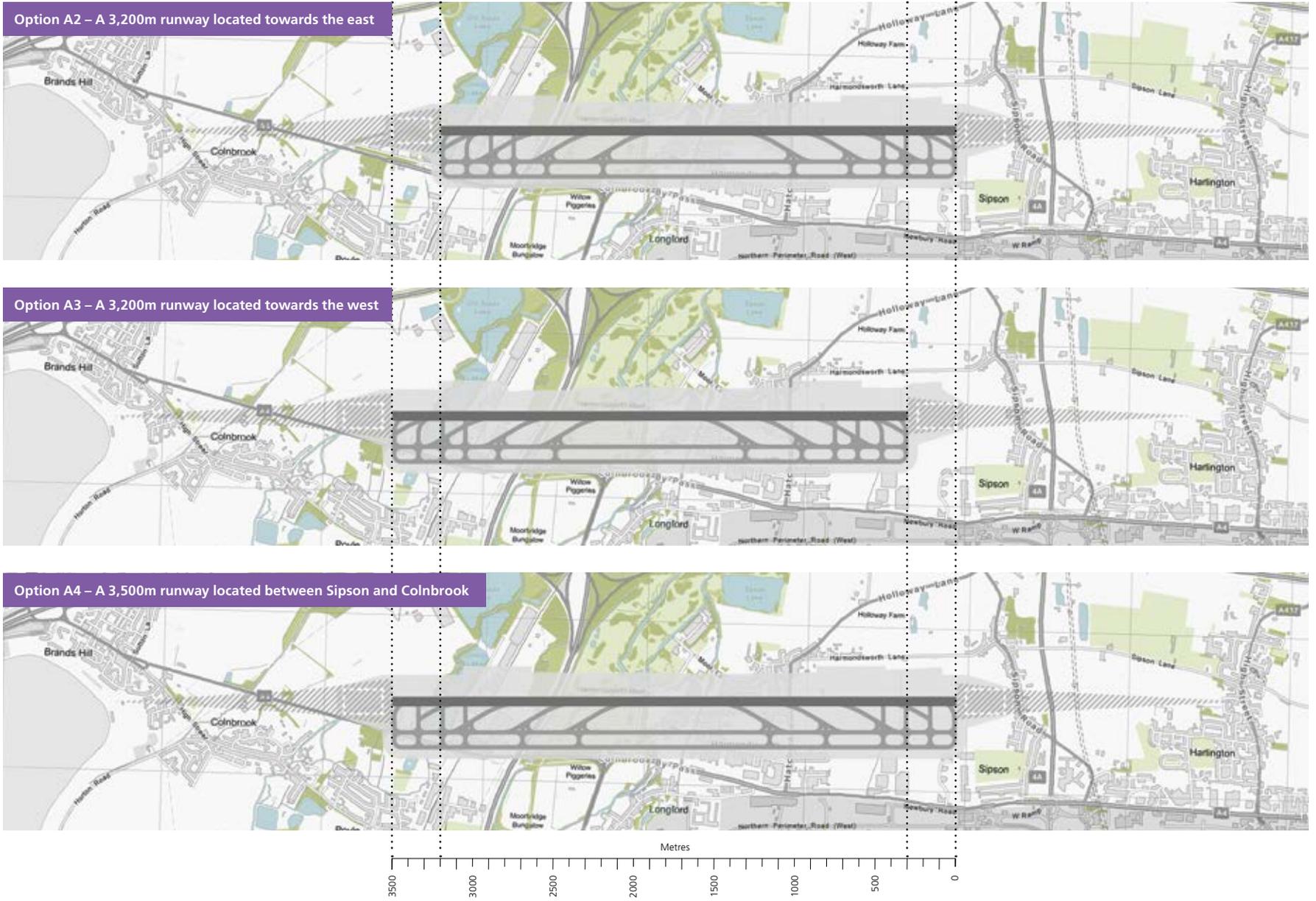


Area in which the new runway will be located

Key	
---	Illustrative airport expansion boundary
█	Proposed north west runway location
█	Current Heathrow boundary
█	Existing northern runway

**Key**

-  Potential runway option
-  Taxiways
-  Potential runway airfield area
-  Public safety zone
-  Runway End Safety Area (RESA)



### Minimising noise for our communities

Our local communities have told us that predictable periods of respite from noise are extremely important.

Today, we provide respite through a procedure known as runway alternation. When aircraft are taking off and landing towards the west (known as westerly operations) we use one runway for landings and the other for take-offs for the first part of the day, then we switch them over at 3pm.

On easterly operations we do not currently alternate the runways as the infrastructure needed to do this is not in place, due to the historical Cranford Agreement. To enable full runway alternation this infrastructure will be included in our proposals for expansion.

Providing predictable respite from noise and flights over local communities is at the heart of our expansion scheme. With three runways we will be able to adopt an alternation pattern to provide predictable levels of respite for local communities on both easterly and westerly operations.

To achieve this the new runway will need to operate independently of our two existing runways, be long and wide enough to allow take-offs and landings of the largest modern commercial aircraft, be parallel to the existing two runways and be separated by 1,035 metres from the existing northern runway.

We are also looking to land aircraft further down the runway on the new and existing runways. This will help reduce noise effects as aircraft will be higher over local communities as they approach the airport.

### Designing a safe airfield

The design and operation of the airfield must comply with international standards to ensure it continues to be one of the safest airports in the world. We are also working with airline operators and air traffic controllers to understand their requirements to operate an efficient, resilient and safe runway in all weather conditions. The final design, procedures and associated safety cases will be subject to approval by the Civil Aviation Authority.

## Tell us what you think:



**Please tell us what you think about the options for the new runway.**

**What factors do you think should be important in fixing the precise location and length of the runway?**

## What is the Cranford Agreement?



The Cranford Agreement was an agreement between the Government and the residents of Cranford which restricted the number of take offs from our northern runway in an easterly direction over the village. The agreement is no longer in place. Further details can be found at: [www.heathrow.com/noise/heathrow-operations/cranford-agreement](http://www.heathrow.com/noise/heathrow-operations/cranford-agreement)

## Further information



We realise that the location and length of the proposed new runway may be of great importance to you. In section 5 of **Our Emerging Plans** we provide more detail on the issues of the runway location and its length. Section 3 of the **Scheme Development Report** gives even more detail about the evaluation of the options.

## 2.2 - Terminals, Satellites and Aprons

→ Tell us what you think:

**What factors do you think should be important in locating new terminal and apron space?**

🔍 **What are terminals, satellites, and aprons?**

Terminals are buildings at an airport where passengers transfer between ground transportation and the facilities that allow them to board and disembark from aircraft. Some passengers will board aircraft directly from terminals, whereas others will transfer to remote satellites to board aircraft.

Aircraft require areas for parking, unloading or loading, refuelling and boarding passengers. These are known as aprons and are usually located adjacent to terminals or satellites.

We currently have four separate terminals where aircraft and passengers arrive at and depart from the airport (Terminals 2, 3, 4 and 5 – Terminal 1 is no longer in use). They do not have the space to serve the increased number of aircraft, passengers and bags that will use an expanded airport.

Terminals 2 and 5 are both modern terminals that deliver world class service levels for our passengers and airlines. They also have excellent public transport facilities and are likely to be the best areas for terminal and satellite expansion.

We have also been looking at options for additional aircraft parking spaces (aprons) to serve new terminal and satellite facilities. These are in addition to our existing terminals and satellites (shown in purple on the adjacent plan).

We need to minimise the amount of land required for expansion and to achieve this we will use the land between the three runways as much as possible. We have identified three areas for future terminal capacity and apron space (shown in pink on the adjacent plan) and it is possible that we may need to develop all three areas to support the expanded airport:

**Area 1 – East:** Expansion of Terminal 2 and the eastern apron.

**Area 2 – West:** Expansion of Terminal 5 and the western apron.

**Area 3 – North:** A new satellite and apron between the new north west runway and what will become the central runway.

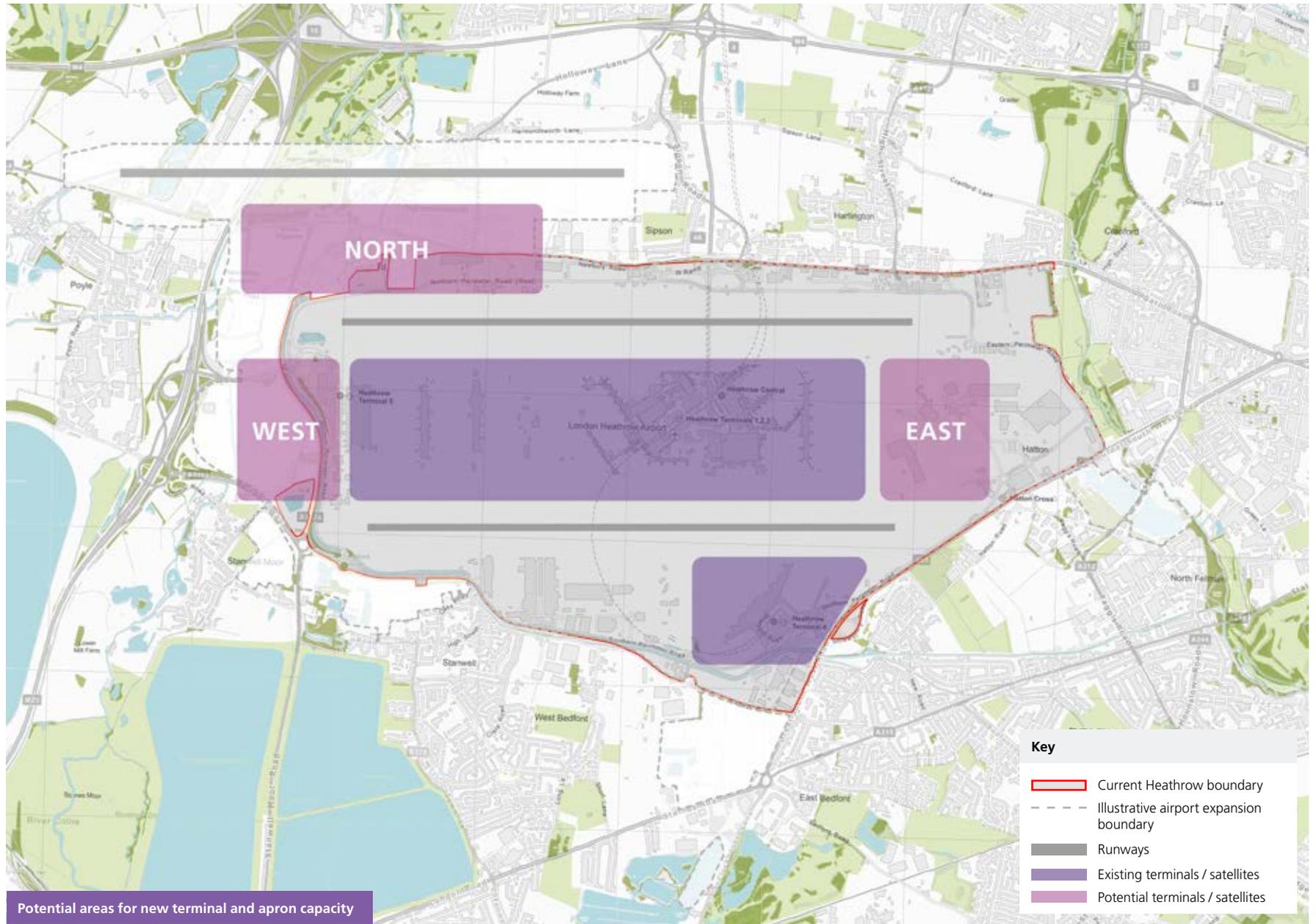
These locations help keep the distance between aircraft parking areas and the runways as short as possible, making journeys more predictable and reducing fuel use and emissions.

As we further develop our proposals we will fine-tune the position of terminals and aprons in these areas to ensure that they are compatible with existing and future operations.

### Further information



We have more flexibility with the location and configuration of the terminals, satellites and aprons, than we do with the runway. There are still important operational and other constraints on where we can put these facilities. We have provided more detail in section 6 of **Our Emerging Plans**. If you are interested in this issue you may also want to look at section 4 of our **Scheme Development Report** which gives more detail about our evaluation of these options.



## 2.3 - Taxiways

### → Tell us what you think:

**What factors do you think should be important in deciding the location of new taxiways?**

### i Further information

The design of the taxiway system will be influenced by the exact locations of the new runway and the aprons, and will require us to balance a range of other factors.

You will find more information about our ideas for the new taxiway system in section 5 of the **Our Emerging Plans**.

Section 5 of the **Scheme Development Report** provides more background information about our evaluation of these options.

Taxiways act as the 'arteries' of the airport, enabling aircraft to move between the aprons and the runways safely and efficiently. The terminal and apron locations have not yet been fixed (see section 2.2) and therefore the taxiway routes are still being considered.

A three runway airport will involve complex movements between the runways and the aprons for both arriving and departing aircraft.

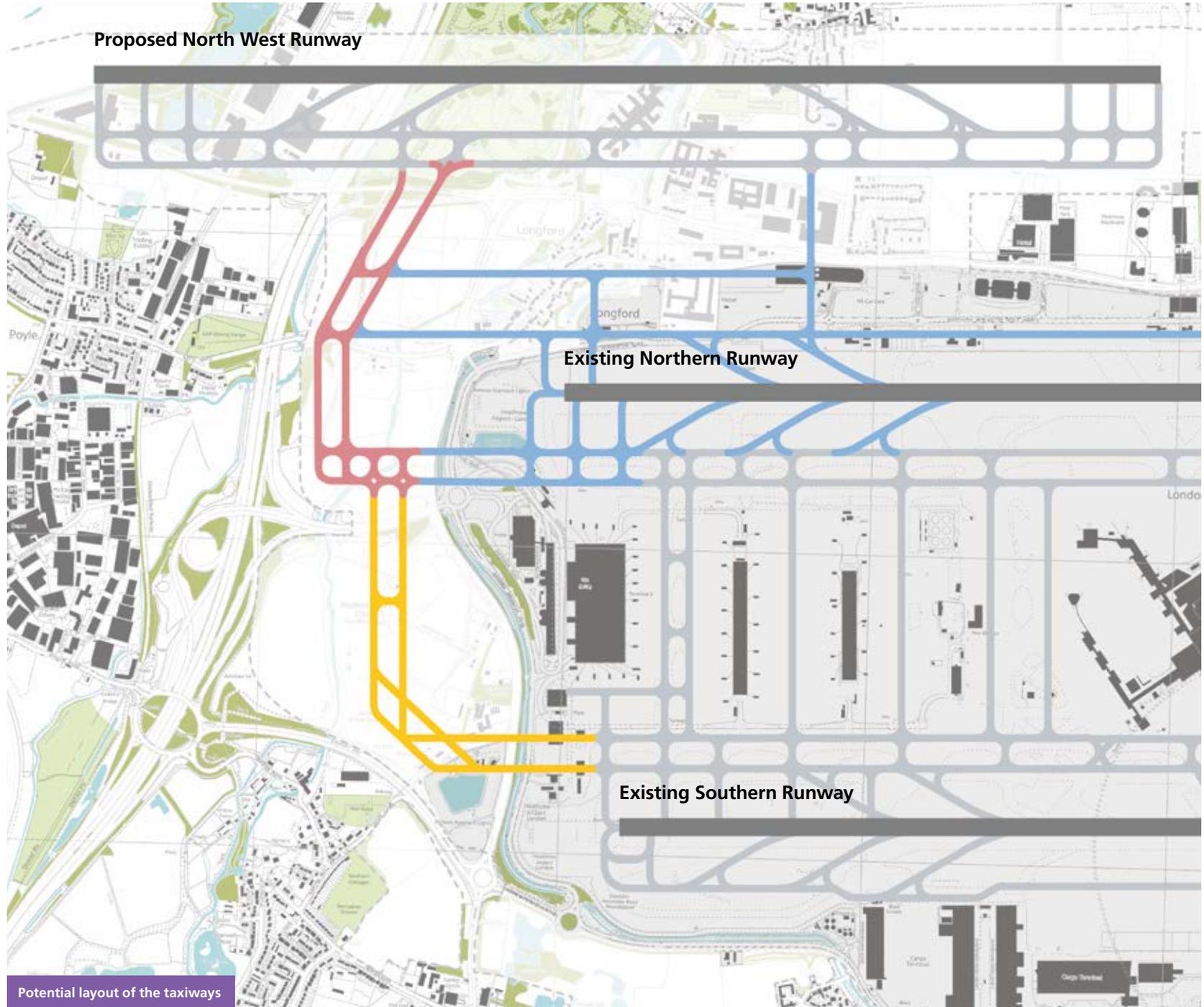
A well-designed taxiway system must provide efficient and safe links that deliver predictable journey times for passengers, lower operating costs for airlines, and greater efficiencies which will help us deliver on our commitments around noise and air quality.

We are considering three broad areas for new taxiways to link the new expansion facilities to the existing taxiway system. We may need taxiways in each of these areas to deliver our proposals:

**Area 1 – West of T5:** to reduce congestion within the existing airport due to a higher number of aircraft movements.

**Area 2 – West of what will become the central runway:** it is safer and more efficient to provide taxiways around the end of what will become the central runway, rather than require taxiing aircraft to cross a runway as currently happens at Terminal 4.

**Area 3 – North and south of what will become the central runway:** to reduce airfield congestion and also enable aircraft to land further along the runway so that they are higher over local communities.



# Roads

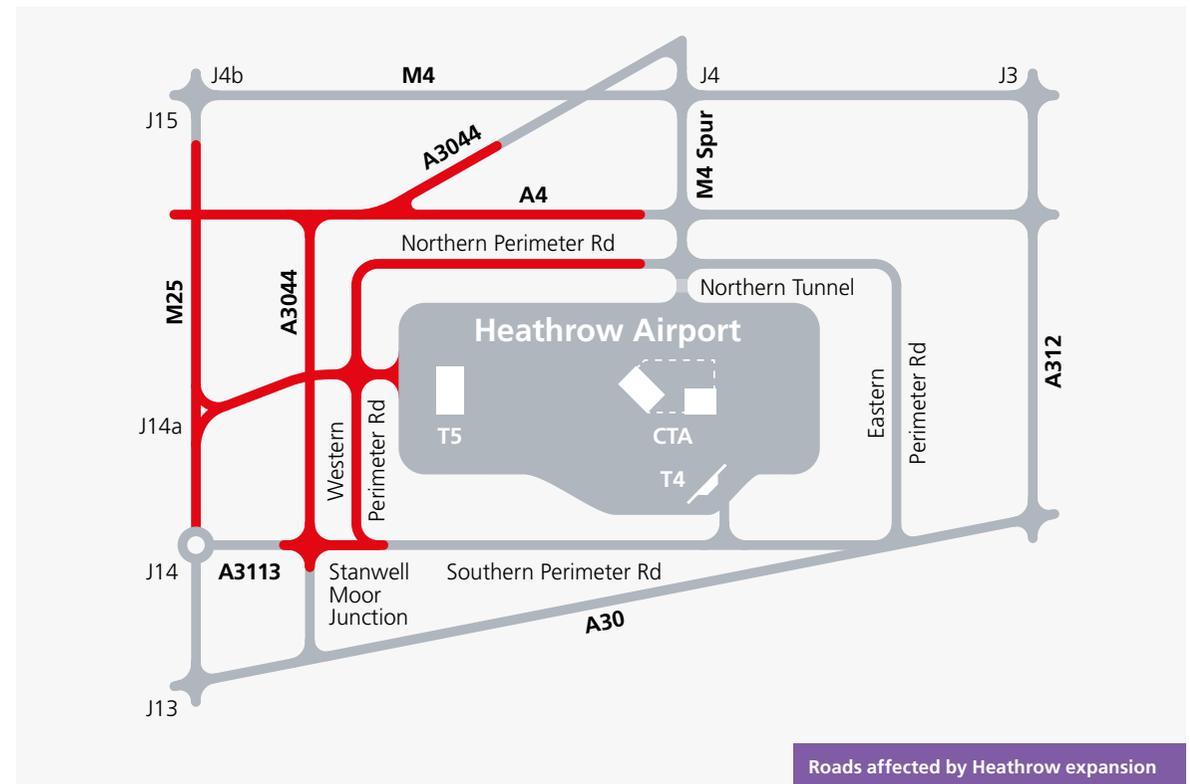
Expanding Heathrow will result in changes to the road network and existing traffic flows. We will respect our neighbours by not increasing the amount of airport related traffic on the road and will ensure that our neighbours benefit from the improvements to local and regional connections.



The roads shown in red will be directly affected by the expansion of the airport. We need to consider options for replacing or re-positioning these roads, transferring traffic on to other roads and re-establishing local connections. We will phase the works to minimise effects on road users.

Further work to understand future traffic demand and distribution will be undertaken to ensure we provide sufficient road capacity and connections for local areas. Further information on these points will be set out in future engagement and consultation.

This includes re-positioning part of the M25 to enable the new runway to cross it, re-positioning parts of the A4 and A3044 and improving local access roads and junctions.



Roads affected by Heathrow expansion

## 2.4 - M25 Alignment

The construction of a new north west runway will extend the airport to the west. The proposed runway will cross the M25 between Junctions 14 and 15 (J14 and J15) and will affect the operation of J14 and J14a.

The M25 is one of the busiest roads in the UK and we will ensure that our proposals do not result in disruption. We are working with Highways England, who are responsible for the operation, maintenance and improvement of the motorways and trunk roads in England, to ensure the project meets their design and safety standards. We demonstrated our track record in making changes to the M25 when we built J14a as part of the Terminal 5 project.

We have looked at options to bridge the runway over the M25, to tunnel the M25 under the runway (our previous design concept to the Airports Commission), or divert the M25 around the west end of the runway. The new level of the M25 will be determined by design standards so that it works with the existing J15.

Our current thinking is to re-position the M25 carriageway approximately 150 metres to the west, lower it by approximately 7 metres into a tunnel and raise the runway height by 3 to 5 metres so that it passes over the M25 between J14a and J15. The motorway will then re-join its current route. Crossing a motorway with a runway or taxiway has been done successfully at other airports around the world such as Paris (Charles de Gaulle) and Atlanta.

J15 will not be affected but some minor works may need to take place to tie in to the main carriageway and link roads into the junction.

We believe this approach is the most deliverable as it would allow construction to proceed while the existing M25 motorway remains in operation. This minimises impacts to road users and has the least overall impacts on communities during construction and long-term operation.

We are also considering whether there would be benefits in introducing collector-distributor roads alongside the M25 that improve journey times for both airport and non-airport traffic. Such roads are however complex to build, require more land and are more costly.



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### Key

- - - - Illustrative airport expansion boundary
- Proposed north west runway
- Potential M25 alignment
- - - - Potential M25 underpass

### Further information



The M25 is an important part of the strategic road network and an important highway link to the airport.

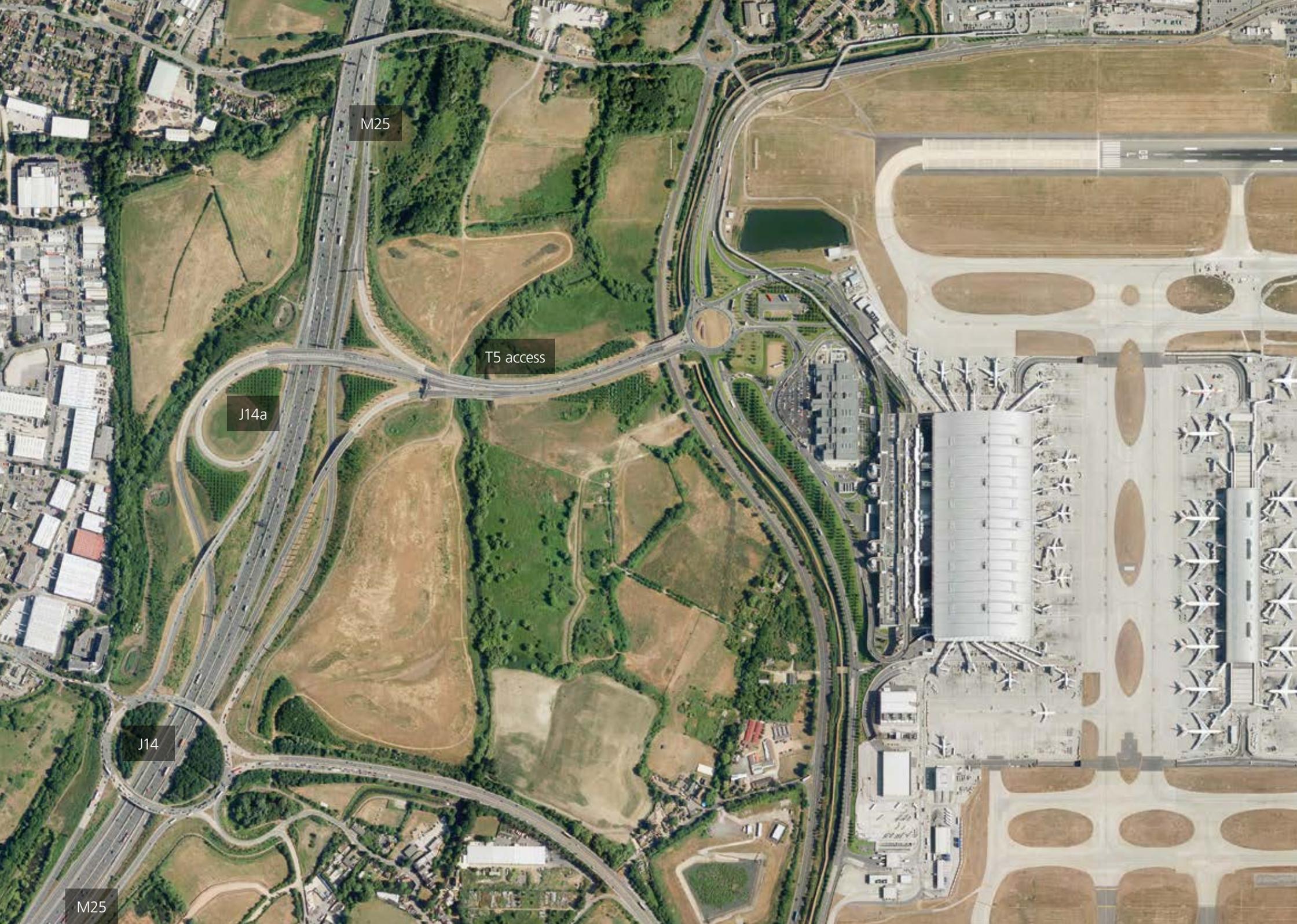
We have had to think carefully about the relationship between the proposed new runway and this part of the M25. It is clear to us that the M25 has to remain open during the construction of the proposed north west runway.

Section 7 of **Our Emerging Plans** explains our latest thinking on this and sets out the various options that we are examining and the factors that we have considered. If you are interested in this issue, we suggest that you start there but also draw attention to Section 6 of the **Scheme Development Report** which contains further detail about our evaluation of these options.

Tell us what you think:



Please tell us what you think about the re-positioning of the M25.



M25

T5 access

J14a

J14

M25

## 2.5 - M25 Junctions

The expansion of the airport and realignment of the M25 will mean that we have to make some alterations to Junction 14 (J14) and Junction 14a (J14a).

An expansion of the airport to the north west, and a need to alter some local roads (see section 2.6), is likely to mean more traffic will want to pass through these junctions and so we will need to improve their capacity.

We are currently considering two ‘families’ of options for these junctions:

### Family 1 – both J14 and J14a are retained:

J14 will need to be redeveloped to accommodate the displaced traffic movements from surrounding areas and maintain good connections to nearby communities. J14a may need to be altered to fit with the westerly expansion of the airport. Both junctions may need altering to accommodate collector-distributor roads.

**Family 2 – J14a is closed:** J14a currently provides direct access to T5, but if T5 and the western apron is expanded (see section 2.2), the junction may have to be permanently closed. In those circumstances, J14 would need to be redeveloped to accommodate the displaced road traffic from J14a. More space and road adjustments may also be required for collector-distributor roads.

Both families of options require the redevelopment of J14. Our preference is for options that provide short journey times for airport and non-airport road traffic, provide good connections to nearby communities whilst minimising property loss and construction effects on Stanwell Moor and Poyle.



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Tell us what you think:



Please tell us which family of options you prefer for the alterations to Junctions 14 and 14a and reasons why.

Further information



The options for dealing with Junctions 14 and 14A are quite different and have different effects.

If you are interested in what happens to these junctions then you should look at section 7 of **Our Emerging Plans**. This will give you more detailed information on the various factors that will influence our choices on this issue. There is also further information in section 6 of the **Scheme Development Report**.

### Key

- Current Heathrow boundary
- Illustrative airport expansion boundary
- Existing M25 and junctions retained
- Potential M25 junction
- Area potentially affected by junction families under consideration

## 2.6 - Local Roads

Heathrow currently benefits from two rings of local roads that surround the airport. They provide access to the airport, routes for through traffic and routes to and from local communities.

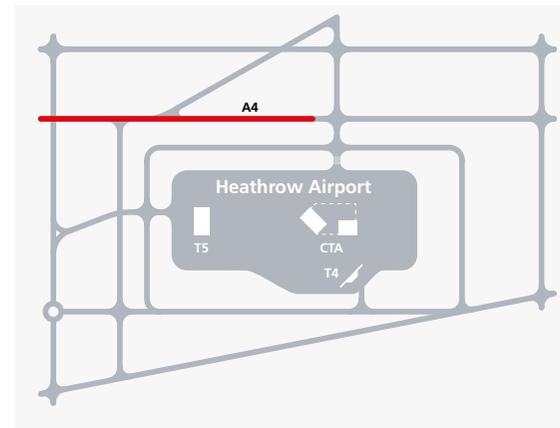
The inner ring is formed by the airport Perimeter Road (Northern, Western, Eastern and Southern) and the outer ring by the A4, A312, A30 and A3044.

We need to respect our neighbours by reducing congestion for vehicles accessing the airport. It is important that our neighbouring communities can access the airport and benefit from the improvements to local and regional connections.

Our designs must meet safety standards and will be phased to reduce disruption to users.

### A4 Diversion

As a result of expansion, a section of the A4 between Colnbrook and Sipson will be removed, potentially affecting how communities to the north of the airport can access it.



To address this we have short-listed three diversion options:

**Option 2E** – a new route north of the third runway between the A4 at Colnbrook and the A4 to the west of Sipson, bypassing both Harmondsworth and Sipson. This option contains a section of tunnel running under the third runway. This option re-provides east-west connectivity and creates an opportunity for new connectivity for residents and businesses, such as bus routes.

**Option 3A** – this route is similar to 2E but east of the A3044 it connects to the M4 Spur, via a new junction with slip roads, to link into the A4. This option benefits from using existing infrastructure but would require the re-classification of the M4 Spur for use by local traffic.

**Option 6C** – we are also considering a route south of the new runway, similar to the current A4 alignment. This route would connect the A4 east of Colnbrook to the A4 at Sipson, and would pass through the expanded airfield in a cutting or tunnel. This option has good connectivity although not as good as other options but is more complex and costly to deliver.



Potential A4 diversion – Option 2E



Potential A4 diversion – Option 3A



Potential A4 diversion – Option 6C

**Key**

-  Current Heathrow boundary
-  Illustrative airport expansion boundary
-  Proposed north west runway location
-  Potential A4 alignment
-  Potential A4 underpass
-  Existing A4 alignment
-  Area potentially affected by road options under consideration

Further information 

We know that local communities and other users of the local road network around the airport will be concerned about our need to close some local roads.

We will need to re-provide routes that are safe and of adequate capacity but also provide easy access for those making local journeys.

Section 8 of **Our Emerging Plans** provides more information on the various options for the A4 diversion and the factors that will influence our decision.

Section 7 of the **Scheme Development Report** sets out further background detail on our evaluation of these options.

Tell us what you think: 

**Please tell us which option you prefer for the diversion of the A4 and the reasons why.**



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**Key**

- Current Heathrow boundary
- Illustrative airport expansion boundary
- Proposed north west runway
- Potential A3044 alignment
- Potential A3044 underpass
- Existing A3044 alignment

### A3044 Replacement

The A3044 connects the A30 Crooked Billet junction in the south to the A408 Cherry Lane junction near J4 of the M4 motorway. The expansion of Heathrow will remove a major section between the villages of Harmondsworth and Stanwell Moor and connections between the A4 and A3113 routes. It will also affect access to the western side of the airport particularly from Poyle and Colnbrook.

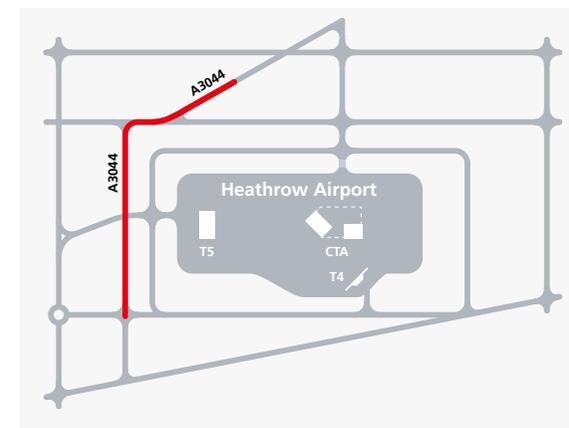
We are proposing a replacement route to re-provide local connections. A number of options have been considered both east and west of the M25 which re-provide north-south connectivity from the A4 to the vicinity of J14 of the M25. We have short-listed four route options for this road.

**Option 2a** – a north-south route that runs under the new runway connecting to the re-aligned A4. This route would be more costly and complex to deliver and would result in the loss of some commercial and residential properties.

**Option 2ai** – similar to Option 2a, but connects to a realigned A4 south of the new runway (Option 6c on page 27).

**Option 3d** – a short, direct route east of Poyle and north of Colnbrook avoiding the village centres. This would result in the loss of some commercial and residential properties, but would help keep traffic away from existing communities.

**Option 3g** – a route south of Poyle and Colnbrook, and through a gap between Colnbrook and Brands Hill. This would avoid property loss by adopting a slightly longer route but would bring traffic closer to existing communities.



#### Further information i

As with the A4 diversion, we will need to re-provide a section of the A3044.

If you want to know more about this issue you should go to section 8 of **Our Emerging Plans** where we have set out more detail about the four options and the factors that will influence a decision.

Section 7 of the **Scheme Development Report** sets out further background detail on our evaluation of these options.

#### Tell us what you think: ←

**Please tell us which option you prefer for the diversion of the A3044 and the reasons why.**

### Stanwell Moor Junction

This junction is located to the south west of the airport and connects the A3044, A3113 Airport Way (which provides direct access to M25 J14) and the Southern Perimeter Road.

The expansion of the airport and changes to the local road network will redistribute road traffic around Heathrow. The current access to Terminal 5 from J14a may be lost, access to Terminal 5 from the Western Perimeter Road will be lost and a potential southern access route into the Central Terminal Area (CTA) could result in more traffic on the Southern Perimeter Road (further details on the next page).

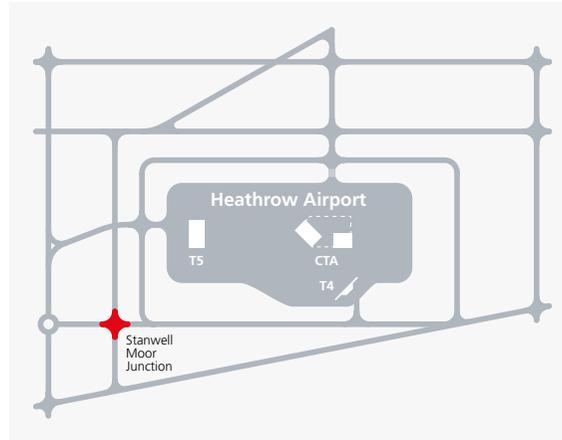
Therefore, we need to consider how the existing Stanwell Moor junction can be upgraded to deal with the expected traffic flows. We have short-listed four options for upgrading this junction:

**Option 1** – directs through traffic on the A3113 / Southern Perimeter Road into a cutting under a ‘dumb-bell’ roundabout arrangement with potential free flow access links at ground level to access Terminal 5 to the north and Staines and Stanwell to the south. This option is less complex to build but requires more land and the loss of some commercial businesses.

**Option 2** – is similar to Option 1 but with a different roundabout arrangement. This option is operationally easier to navigate and avoids property loss but is difficult to build.

**Option 3** – maintains through traffic on the A3113 / Southern Perimeter Road at ground level and puts the roundabout below it for access to Terminal 5 to the north and Staines and Stanwell to the south. This layout avoids property loss but is difficult to build.

**Option 5\*** – is a two-tier free flow arrangement. This layout avoids property loss but could be difficult for users to navigate, difficult to build and requires more land.



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#### Further information



Section 8 of **Our Emerging Plans** provides more detail about the different options and their effects.

Section 7 of the **Scheme Development Report** also provides more background information on our evaluation of these options.

#### Key

- Current Heathrow boundary
- Illustrative airport expansion boundary
- Potential Stanwell Moor junction alignment

Tell us what you think:



Please tell us which option you prefer for the Stanwell Moor junction and the reasons why.

\* Option 4 was discontinued, please see the **Scheme Development Report** for further information.



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**Key**

-  Current Heathrow boundary
-  Runways
-  Potential CTA access
-  Existing CTA access

### Central Terminal Area Access

The Central Terminal Area (CTA) lies between the two existing runways and is the location of both Terminals 2 and 3. The only passenger road link into the CTA is via the northern tunnel access.

We think it will be important to improve access to the CTA to ensure that passengers and others have safe and reliable journeys and that delays are minimised. The tunnel will not be affected by expansion but we are looking at measures to improve capacity through it, as well as options for a second road link to the CTA from the south of the airport.

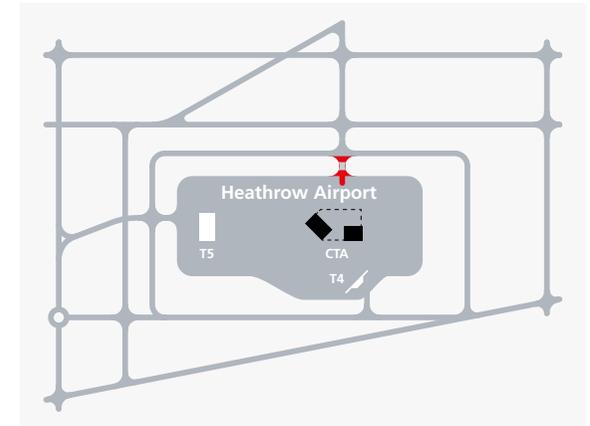
We have two options for a southern access route:

**Option S5** – re-using the existing airside cargo tunnel for landside passenger traffic. This would require a new airside cargo tunnel to be built elsewhere at the airport.

**Option S6** – a new tunnel from the Southern Perimeter Road into the CTA.

Both options would require a new tunnel to be built but would improve access to Terminals 2 and 3, improve public transport journey times from the south of the airport and help to distribute vehicle traffic around the airport.

However, they may generate extra traffic on the routes leading to and from this tunnel resulting in effects on local communities and potentially requiring further works to local junctions and more lanes on the Southern Perimeter Road.



#### Further information



The two different options that we have identified will have different effects, both in terms of construction impacts and flows of traffic when in operation.

You can find out more about the options by reading section 8 of **Our Emerging Plans**. Section 7 of the **Scheme Development Report** provides more information about our evaluation of these options.



**Tell us what you think:**

**Please tell us what you think about the options to improve access to the Central Terminal Area.**





Heathrow Airport Twin Rivers development showing how we have successfully re-routed rivers as part of previous developments.

- C1A** All rivers conveyed under the runway.
- C1C** As C1a but the Colne Brook is diverted around the airport.
- C1D** As option C1c but with the inclusion of a western diversion channel around the airport western perimeter for the purpose of providing habitat connectivity.
- C1E** As option C1c but with the inclusion of a more extensive western diversion channel around Colnbrook village.



**Key**

-  Current Heathrow boundary
-  Illustrative Airport Expansion Boundary
-  Runways
-  Potential open river channel
-  Potential enclosed river channel
-  Area potentially affected by alignment options under consideration
-  Existing channels
-  Existing channels diverted

## 2.7 - River Diversions and Flood Storage

The expansion of Heathrow will extend the airport into the Colne Valley, affecting the routes of a number of watercourses and areas of existing floodplain.

We need to protect the quality of the water environment and work with the Environment Agency and other stakeholders to deliver appropriate solutions. Our plans for green infrastructure are set out at section 4.6. We will ensure that expansion does not put any homes or businesses at greater risk of flooding.

### River Diversions

The Colne Valley has three principal rivers namely the River Colne, the Colne Brook and the Wraysbury River. The Duke of Northumberland's River and the Longford River are also important watercourses that flow around the existing western airport boundary.

The area is very flat and one of the challenges when diverting a river is to ensure its flow is maintained. By raising the proposed new runway and its taxiways by 3 to 5 metres above current levels we create the opportunity for some of the rivers to flow underneath it before reverting to their existing channels south of the runway.

We have considered a range of options (see opposite) and recognise that it may be possible to divert some rivers under the runway and some around the runway in new channels. The exact alignments require further development. Our current thinking for these watercourses is as follows:

### Longford River and Duke of

**Northumberland's River** – with their easterly alignment it is not feasible to divert them around the runway and maintain their flows. The only viable option is to divert both rivers under the runway.

**Colne River and Wraysbury River** – diverting around the runway in an open channel would require more land, involve complex construction sequencing as well as the need to cross the M25 and M4 motorways. Diverting these rivers under the runway is less complex to deliver, requires less land and keeps the rivers as close as possible to their existing alignment. Further work is required on the potential effects to habitat connectivity.

**Colne Brook** – with its current western alignment, the option to divert around the west end of the runway would be less costly and help provide habitat connectivity and landscape value.

Options to create a new channel west of the new runway are also being investigated to understand the potential to provide habitat connectivity, landscaping and amenity value.

### What is a watercourse?



A watercourse is a river, brook, stream or artificially constructed water channel through which water flows.

### What is habitat connectivity?



Habitat connectivity enables wildlife to move through a range of habitats in a local area. Good levels of habitat connectivity increase the potential for local populations of animals and plants to survive and thrive in the long term.

## Flood Storage

The new runway will be built partly in the flood plain of the Colne Valley and as a result replacement flood storage will be needed. Any changes proposed to the flood plain will not increase the existing risk of flooding.

We have short-listed two approaches for the re-provision of flood storage:

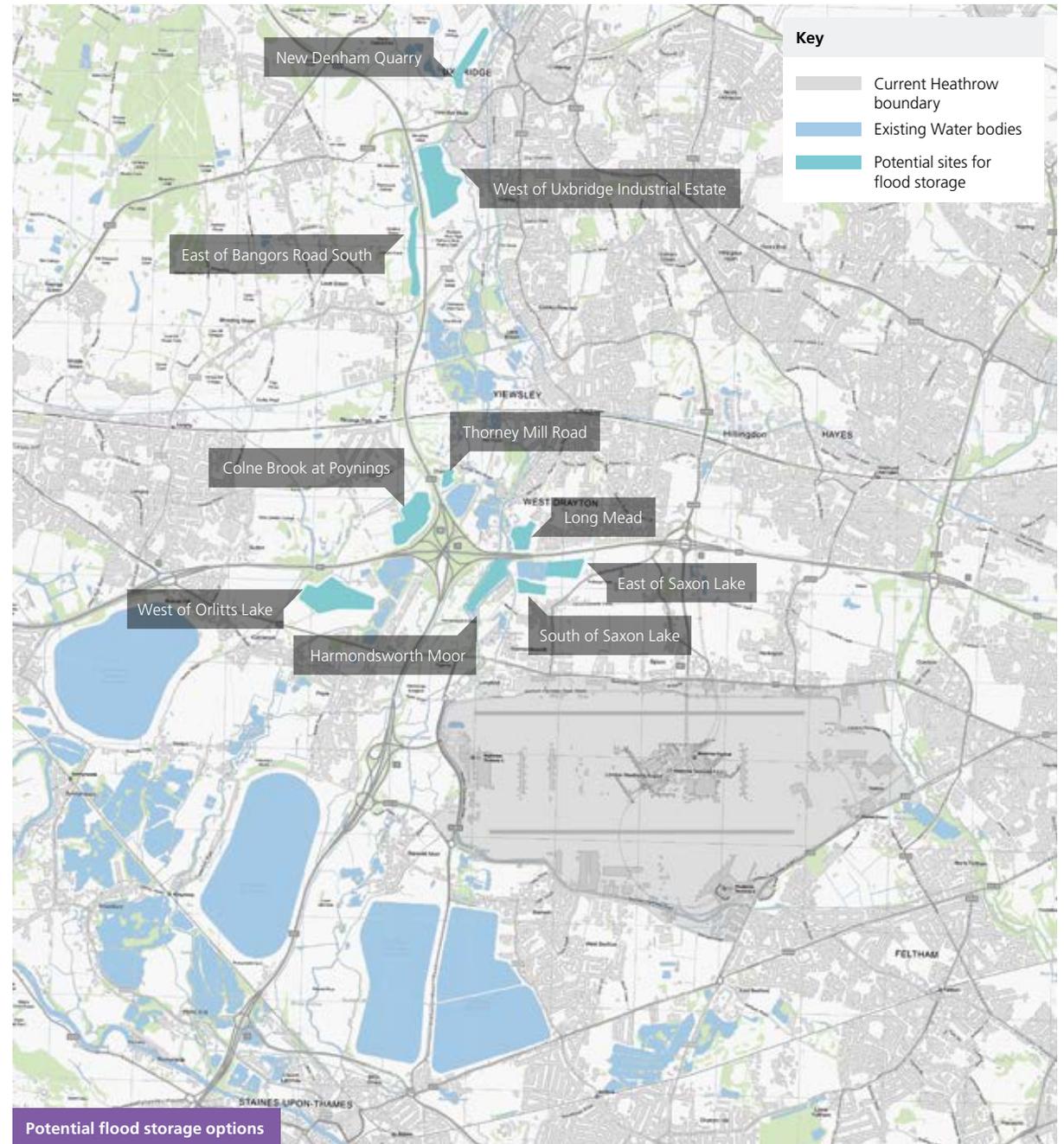
### Approach 1 – On-airport storage:

this would require building flood reduction measures under the new airfield which could reduce the amount of land needed, but these structures are costly to build, require complex phasing and may compete with other operational land uses such as taxiways and aircraft parking.

### Approach 2 – New upstream storage:

flood storage options outside the airfield would need land to be lowered or existing watercourses widened to increase flood storage capacity. These options (shown opposite) are located closest to the areas lost from the existing floodplain, provide opportunities to improve the landscape, avoid effects on the airport operation but would require more land outside the airport.

Please note that not all of these sites will be required for flood storage and we are likely to seek an appropriate balance between using on-airport and new upstream storage capacity for water storage.



### Further information



More extreme weather events and the large amounts of hard surfacing at airports means that flooding is an important issue. We need to make sure that our proposals do not cause or worsen local flooding in heavy rain or snow.

We have identified different ways in which we might divert rivers and provide flood storage that will be required in the event of extreme conditions. If you are interested in these, further details are provided at section 9 of **Our Emerging Plans** and section 8 of the **Scheme Development Report**.

### What is a flood plain?



The flood plain is an area next to a stream or river which experiences flooding at times of high flow.

### What is flood storage?



Flood storage is an area of land that holds areas of excess water so that homes and businesses are not flooded.

### Tell us what you think:



Please tell us what you think about the options for the diversion of rivers and the approaches to replacement flood storage.



## 2.8 - Airport Supporting Facilities

To support the operation of an expanded airport land will be needed to accommodate:

- Airport supporting facilities
- Land uses affected by expansion
- Airport related development
- Areas of landscaping and biodiversity mitigation

The options that we set out identify a range of sites that may be suitable but not all of this land will be required.

### On-airport Cargo

Increased cargo capacity at the airport is needed to secure the benefits of an expanded Heathrow. Growth in international trade is vital for our economic future, but our existing cargo facilities will not support this growth. We are working with cargo operators to review options to increase the use of existing facilities or develop new facilities within the existing airport boundary. We are also reviewing options for providing a truck park for long distance lorry drivers to help to reduce congestion in the cargo area and 'nuisance parking' in local communities.

### Aircraft Maintenance and Repair

A larger airport will increase the demand for maintenance facilities such as hangar bays and aircraft engine testing areas.

Our current preference is to work with the airlines to redevelop parts of the existing maintenance area on the eastern side of the airport. We are also looking at providing maintenance facilities on the aprons closer to the terminal areas. Minimising ground noise will be a key consideration in any option we take forward.



### Other Supporting Facilities

To accommodate the increased number of flights and passengers using the airport, we may also need more land to accommodate facilities such as aircraft fuel storage, additional water and waste treatment facilities, potential energy generation and areas for capturing and managing surface water run-off for example.

### Car Parking

Heathrow currently has a cap of 42,000 car parking spaces on airport controlled land for passengers and colleagues, which was imposed as part of our Terminal 5 planning permission. There are also 12,500 tenanted spaces (spaces used by other airport businesses). The car parks are distributed around the airport with frequent bus services providing access to terminals.

Managing our car parking is part of how we will meet our commitment to no more airport related road traffic with a third runway and how we will also ensure that the airport’s contribution to air pollution will not delay the UK’s compliance with EU air quality limits.

Our current thinking is to re-provide existing surface level passenger and colleague car parks that will be lost to the new runway by using a smaller number of multi-level car parking sites which are located near main local access routes and have dedicated access to the front door of the terminals. This will reduce traffic circulating around the airport and benefit local communities but may also require more land closer to communities near the airport boundary.

The long-list of sites we are considering are shown here; not all of these sites will be required.



Potential car parking options

**Key**

- Current Heathrow boundary
- Illustrative airport expansion boundary
- Runways
- Potential car parking options

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**Further information** i

Airport supporting facilities are essential to the way that we and our partners at the airport provide services to the public and our colleagues. We are looking to see how we can provide these facilities within the existing or expanded airport boundary, but this may not be possible.

If you want to know more about our thinking then you should look at section 10 of **Our Emerging Plans** for more information and at sections 9-15 of the **Scheme Development Report** for background.

**Tell us what you think:** ←

Please tell us what you think about the locations and sites that we have identified as being potentially suitable for airport supporting facilities.

Please tell us what you think about our approach to providing car parking and the potential site options we have identified.

## 2.9 - Land Uses affected by Expansion

The following major facilities to the north west of the existing airport will be affected by expansion.

### Immigration Removal Centres

The Harmondsworth and Colnbrook Immigration Removal Centres are located next to each other on the north side of the A4. They perform an important national security function and will require relocation. The Home Office requires a single combined replacement site which is close to (or on) the airport.

We have been working with the Home Office to understand and identify potential relocation site options that meet their requirements. Four sites close to the airport have been shortlisted, as shown here. Further work is required to identify which of these may be the preferred option.



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### Key

- |   |   |   |  |
|---|---|---|--|
|  | Current Heathrow boundary               |  | Runways  |
|  | Illustrative airport expansion boundary |  | Existing Home Office Immigration Removals Centre |
|   |   |  | Shortlisted Home Office relocation sites         |

### **Lakeside Waste Management Facilities**

The Lakeside Energy from Waste facility is located on the Lakeside Industrial Estate near Colnbrook. It recovers energy from approximately 450,000 tonnes of waste material each year by incineration. Studies are under way to identify suitable relocation sites in the local area and further afield.

### **Waterside Offices**

These are sited in the path of the runway and need to be moved. We are working with British Airways to identify a suitable replacement site for a similar facility.

### **BT Data Centre and Maintenance Depot**

The BT Data Centre needs to be moved before the airport construction can be completed but it does not need to be located close to the airport and its replacement is being considered elsewhere in the south east of England.

The BT Maintenance Depot needs to be located close to the airport to maintain a local level of service and we are looking at options to locate it in existing or new industrial sites around the airport.

### **Total Fuel Depot Site**

This site includes a rail terminal for the delivery of fuel to the airport and is within the Poyle industrial estate west of the M25. We have considered two alternative sites for its relocation to the north east and south west of Junction 15 of the M25.

### **Overhead Power Lines and Substation**

We need to divert the overhead power lines owned by Scottish and Southern Energy and National Grid around the edge of the expanded airport and relocate the associated substation in order to make room for the M25 works. The solutions to the new cable route and substation location are being investigated.

### **Other Land Uses**

Other existing commercial uses will need to be removed, such as hotels, offices and industrial premises. Uses of this sort may be replaced by similar facilities identified within our overall scheme.

We will also need to acquire residential properties in this area. For details on our property policies, please see section 4.1.

We will also have to identify areas to be landscaped, planted, restored or enhanced in order to reduce the potential effects of expansion.

### Further information



Expansion of the airport will require the removal, and may require the relocation, of a number of existing major facilities close to the airport. We are working with the owners and operators of those facilities to understand their requirements.

These issues are of great interest to the owners and operators of the facilities but they are also of interest to those near potential relocation sites. You will find more information at section 12 of **Our Emerging Plans** and at section 16 of the **Scheme Development Report**.

### Tell us what you think:



**Do you have any comments on the land uses that will be affected by Heathrow's expansion.**

**Please tell us what you think about the sites identified for the relocation of the Immigration Removal Centres, and if you have a preference please tell us why.**

## 2.10 - Airport Related Development

The expansion of Heathrow will increase demand for airport related development, such as hotels and commercial facilities, and generate considerable local employment. We believe that the opportunities for local job creation may be even greater than we previously thought.

Some of this demand can be accommodated within the existing airport boundary, but most will be outside and much of that may be brought forward by other parties. The types of employment generating development that we think will come forward includes:

**Hotels** – we estimate demand for an additional 8,300 new hotel rooms (likely to be around 20 hotels) by 2040.

**Offices** – we estimate that there will be more demand for office space of a range of sizes from small local space to international scale corporate offices.

**Industrial and warehousing** – we estimate that there will be more demand for services directly related to the airport operation, such as airline catering and maintenance, cargo handling, freight forwarding, warehousing and logistics.

We have been working to identify sites that might be suitable for airport related development. Much of this development may well be brought forward by other parties but it is still important that we hear your views on what sites may be more or less suitable.

We will continue to work with the local authorities to establish the most appropriate way forward.

### Further information

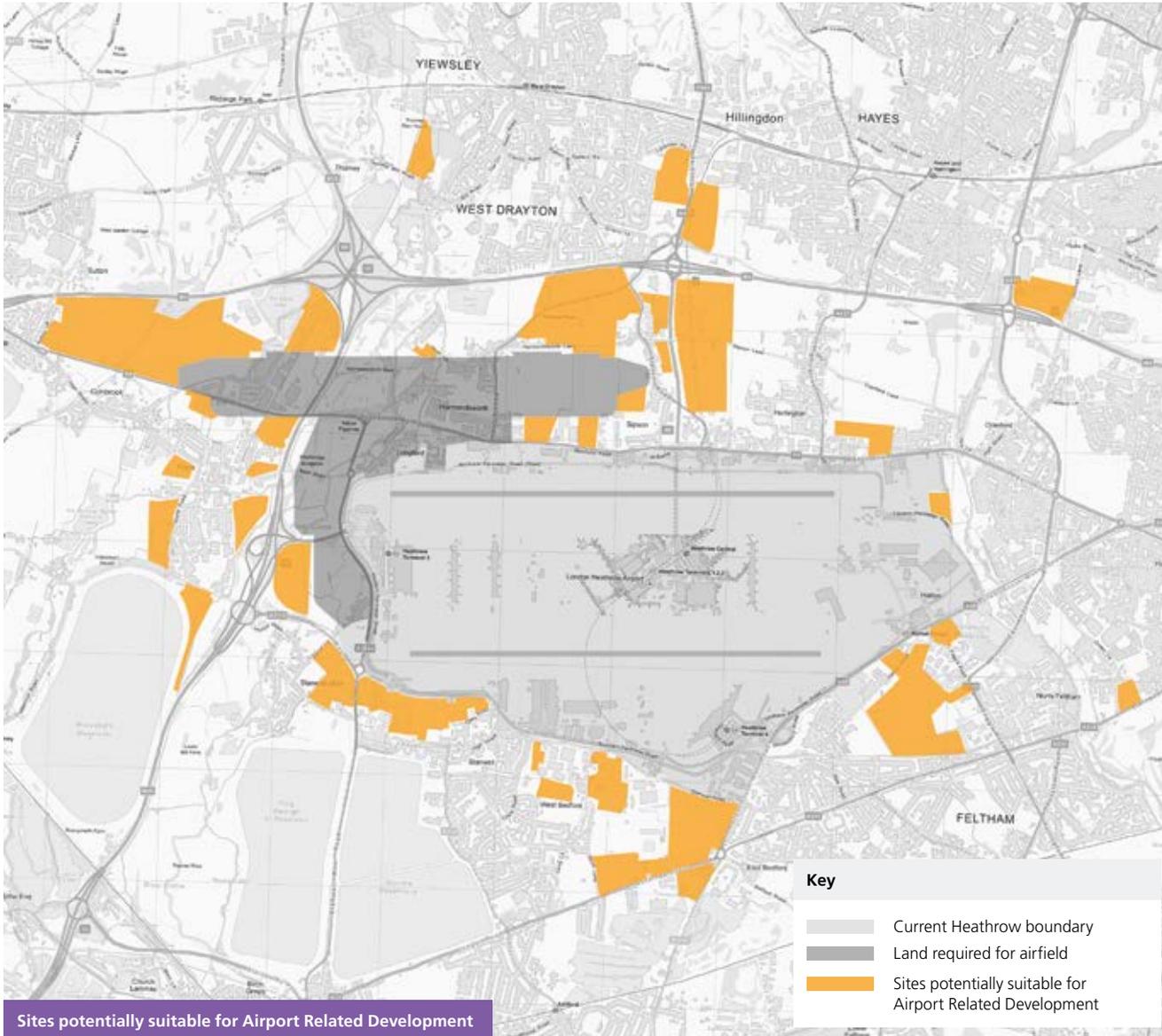


We think that this topic will be particularly important to local communities around the airport and also those that have businesses in the area. While additional jobs and skills are an enormous benefit of Heathrow expansion, we recognise that development must be brought forward in a way that understands and respects local sensitivities.

We have provided more information on these issues in section 14 of

#### **Our Emerging Plans.**

Section 17 of the **Scheme Development Report** also provides information on airport related development.



Tell us what you think:



Please tell us what you think about the locations and sites that we have identified as being potentially suitable for airport related development.

Do you have any views on how the demand for additional airport related development such as hotels and offices might best be delivered?

Please tell us how you think we should best bring the various components together to build our masterplan for the expansion of the airport and what factors you think should be most important in our decision-making.

## 2.11 - Construction

While we are building an expanded Heathrow we will need land in and around the airport. This could be for construction worker offices, industrial plants and maintenance sites, control posts and site entrances, a new railhead, lorry parks, areas to produce, combine and store materials and workforce car parking. We also need to consider how we will accommodate the construction workforce.

The sites that we are considering for temporary construction use are set out here.

Minimising the effects of construction on local communities, stakeholders and airport users is one of our key priorities. To help us achieve this we have identified the following measures on which we would welcome your feedback:

### **Use advanced planning and logistics**

To reduce the effects of a large number of activities taking place at the same time we will:

- Use rail freight to import bulk materials, reducing vehicle movements and effects on local roads
- Use pre-booked delivery slots to allow the time of each delivery to be controlled
- Provide bus services to transport the construction workforce to and from parking zones, areas of accommodation and linking to the public transport network

- Use logistic hubs to pre-assemble and consolidate components before transporting them to Heathrow. This approach can deliver better quality products than building everything on-site and help make the project affordable and more environmentally sustainable.

### **Use sustainable approaches**

We will ensure that construction is sustainable. This could be achieved by using, just in time, deliveries to reduce the usage and waste of materials, ultra-low or zero emission vehicles and construction techniques and maximising the use of recycled materials while minimising water and energy consumption on site.

### **Develop a Code of Construction Practice**

We will develop and consult on a Code of Construction Practice that sets out proposed measures and standards of work that will be applied throughout the construction period. This will include information on the measures proposed to minimise effects on local communities, manage construction worker accommodation and the proposed construction working hours.

### **Continuously improve the construction process**

We will employ best practice management and delivery systems to manage construction works and we will evaluate contractors' performance. This will help drive continuous improvement.

### **Support training and skills development**

We are currently developing strategies and measures that support training and skills development and address the quality of working conditions with specific attention given to fair pay, adequate benefits, safety and gender equality.

Our expansion plans will create 5,000 additional apprenticeships, bringing the total to 10,000 by 2030. A number of these apprenticeships will help people develop skilled and sustainable careers in construction.



Potential construction site locations

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Key					
	Current Heathrow boundary		Runways		Potential borrow pits for construction
	Illustrative airport expansion boundary		Potential temporary construction sites		Potential sites for construction, borrow pits or stockpiling

### What's a logistics hub?



A logistics hub is either a consolidation centre or an off-site factory where materials for building the project will be preassembled before being transferred to the site. Four logistics hubs are proposed around the UK which will spread the benefits of the expansion of Heathrow beyond the local area.

### Further information



The expansion of Heathrow will be a major construction project undertaken over a number of years. We anticipate that this will create many jobs in the local area. It is important to us that we understand your concerns about the potential adverse effects and try to maximise local benefits, such as jobs and supply chain opportunities.

In section 16 of **Our Emerging Plans** we provide more detail about the construction phase including our potential construction sites.

### Tell us what you think:



Please tell us what you think about the sites we have identified as potential construction sites and the approaches we are considering to manage the effects of construction.

## Section 3 - Around the airport

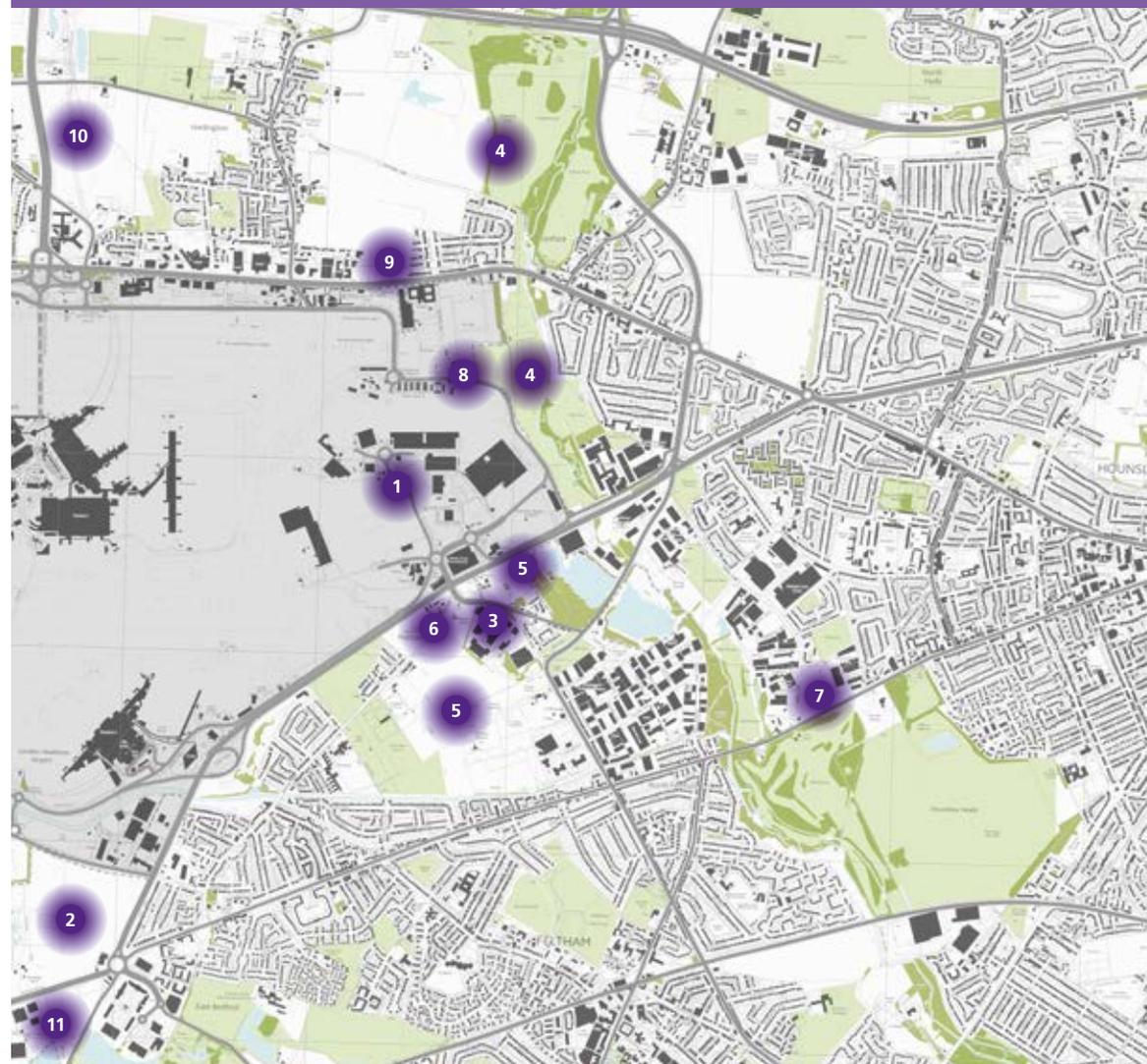
To help provide an understanding of our emerging plans we have summarised how the options we are considering affect the immediate surrounding areas.

### The key features of our emerging plans and options in this area are:



- 1 Changes within the existing airport boundary, for example new aircraft maintenance facilities, potential Airport Related Development and improved public transport interchange at Hatton Cross
- 2 Offices, airport operations and/or industrial space linked to the airport. The western part could be used for reed beds for treating water
- 3 Land along the A30 could be used for airport supporting facilities, for example energy and water storage. Land could also be used for Airport Related Development
- 4 Changes to landscape and natural environment
- 5 Industrial uses, cargo or maintenance
- 6 Temporary construction
- 7 Industrial uses
- 8 Car parking and temporary construction site
- 9 Offices or hotels
- 10 Potential for multi-storey car parking and hotel/office
- 11 Hotels, airport operations and/or industrial space

### East (Cranford, Heston, Hatton, Feltham and Bedfont)



The key features of our emerging plans and options in this area are:



- 1 Proposed north west runway and associated taxiways
- 2 Realignment of the M25 and alterations to junctions
- 3 Moving the A4 around or under the proposed north west runway
- 4 Land being considered for relocated Immigration Removal Centres, Airport Supporting Facilities and wastewater treatment facilities
- 5 New airport facilities, such as multi-storey car parking
- 6 Temporary construction sites, potential Airport Related Development and Airport Supporting Facilities
- 7 Airport Supporting Facilities or parking, offices or hotels
- 8 Parking with some office or hotel uses
- 9 Offices or hotels

## North (Longford, Harmondsworth, Sipson, Harlington and Cranford Cross)



Further information



Further detail on each of these areas can also be found in the **Communities Information Booklets**.

The key features of our emerging plans and options in this area are:



- 1 Expanding the airport boundary to the west requiring land north of Stanwell Moor
- 2 Changes to the M25, around Junctions 14 and 14a
- 3 Diversion of the A3044 and Western Perimeter Road
- 4 Changes to the Stanwell Moor Junction
- 5 New airport facilities to support the airport operation including potentially a multi-storey car park, may also be needed for construction
- 6 HGV parking and temporary construction site
- 7 Diversion of existing rivers into new channels
- 8 New Airport Supporting Facilities and hotel, office or warehousing
- 9 Offices, airport operations and/or industrial space linked to the airport
- 10 Reed beds for treating water from the airfield
- 11 Warehouses to support Heathrow's expanded cargo operation
- 12 Hotels, airport operations and/or industrial space
- 13 Potential for more lanes on the Southern Perimeter Road

South West (Stanwell Moor and Stanwell)

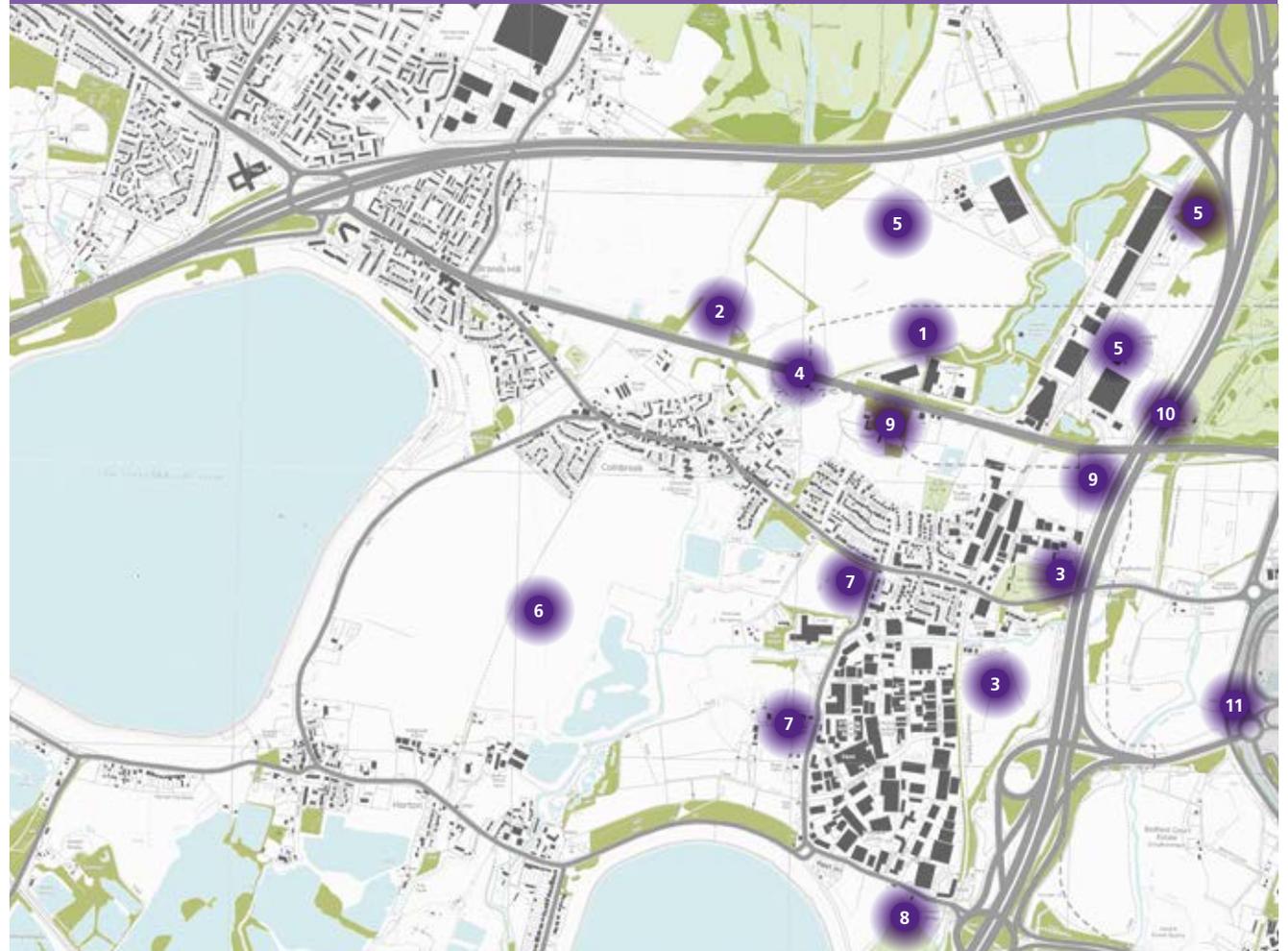


## The key features of our emerging plans and options in this area are:



- 1 Expansion of the airport boundary requiring land north of Colnbrook/Poyle
- 2 A permanent diversion of the A4 road, east of Brands Hill.
- 3 May be needed for the M25 but could be used for warehousing
- 4 Diversion of Colne Brook around the west end of the new runway
- 5 Relocation of existing facilities such as the railhead and new airport supporting facilities, may also be needed for construction
- 6 Landscape and biodiversity mitigation, may also be needed for construction
- 7 Warehousing, offices or car parking
- 8 HGV parking and temporary construction site
- 9 Airport Supporting Facilities, may also be needed for construction
- 10 Changes to the alignment of the M25 and to Junctions 14 and 14a
- 11 Diversion of the A3044 west of the M25

## West (Poyle, Colnbrook and Brands Hill)



## Section 4 - Managing the Effects of Expansion

The expansion of Heathrow must happen in the right way. We are developing a number of approaches to ensure that the effects associated with the construction and operation of an expanded Heathrow can be managed.

In this section we explain these approaches and highlight a number of important issues on which we would like your feedback.

Your feedback together with the findings of our environmental assessments will be used to help further develop these approaches and the measures we will put in place to manage effects.

## 4.1 - Property Compensation, Property Hardship, Land Acquisition

We recognise that people who live in or own property near Heathrow will be affected by its expansion.

We have identified two land acquisition and property compensation zones, a Compulsory Purchase Zone (CPZ) which includes the land and properties we need to acquire to expand the airport and a Wider Property Offer Zone (WPOZ) for eligible homeowners who live close to the boundary of the expanded airport but outside the CPZ.

As part of the consultations in relation to our proposals, we will consult on a variety of options which may affect the boundaries of the CPZ based on the scheme recommended to government by the Airports Commission in their final report. This consultation exercise may change the extent of the CPZ.

Our property policies set out the approach we are taking on the purchase of properties and land, including the discretionary property compensation schemes for owners of eligible properties.

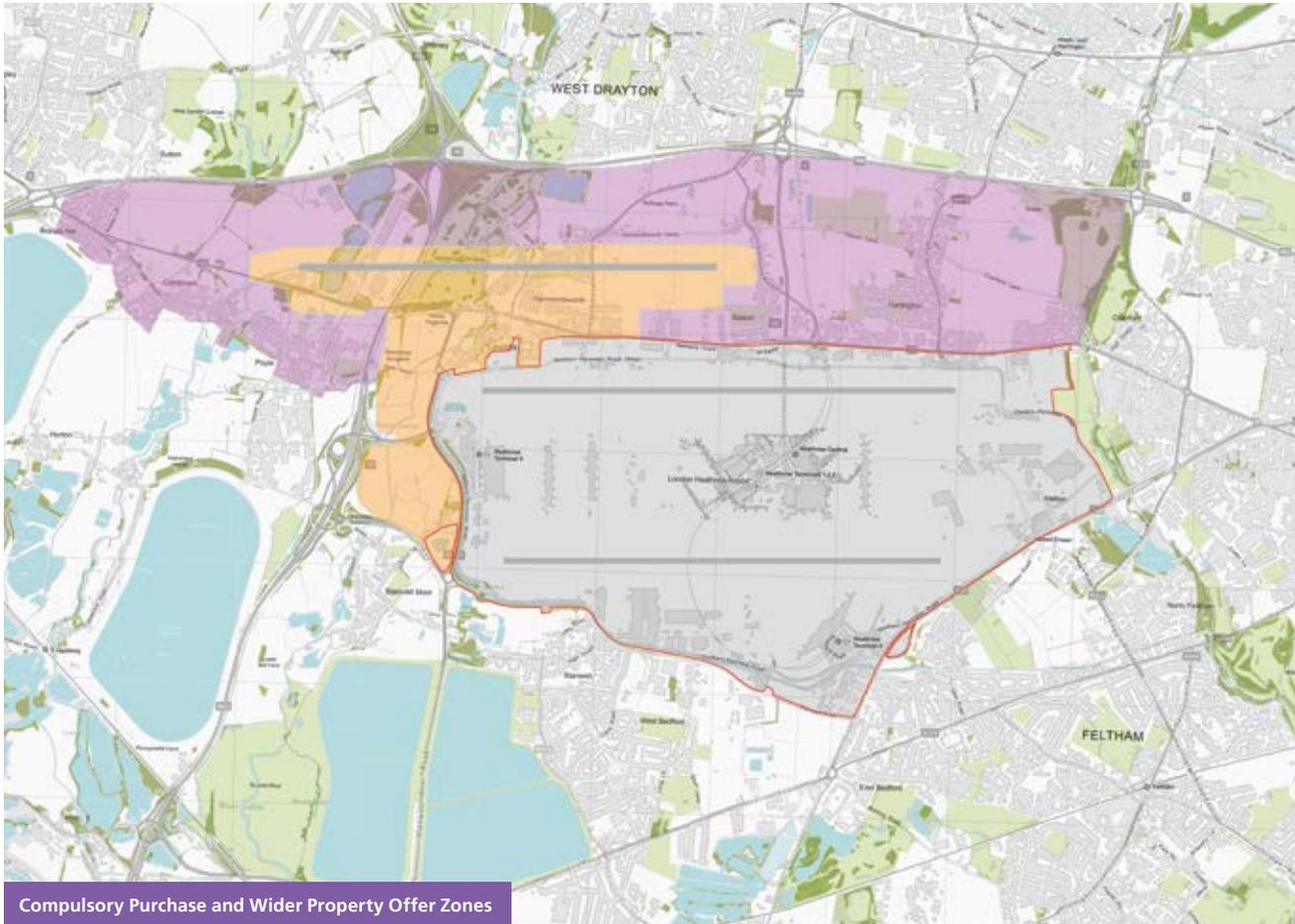
**Residential Property Policy** – provides assurance for owner-occupiers of eligible properties within the Compulsory Purchase and Wider Property Offer Zones. If such owners sign up to our Bond they will receive the unaffected market value of their home and a 25%

Home Loss Payment as well as their normal legal fees, moving costs and an equivalent stamp duty amount.

**Agricultural Land and Property Policy** – provides assurance for owner-occupiers of eligible properties within the CPZ. If such owners sign up to our Bond they will receive the unaffected market value of their home and a 25% Home Loss Payment, in addition to the market value of their agricultural land and their normal legal fees, moving costs and an equivalent stamp duty amount.

**Commercial Property Policy** – ensures potentially affected owner-occupiers of small and large commercial properties understand our approach to land acquisition and the compensation offer that will be made available in respect of commercial properties within the CPZ.

**Hardship Scheme Policy** – This aims to assist property owners who have a compelling need to sell their property now but have been unable to do so, except at a substantially reduced price, because of our proposals to expand Heathrow.



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#### Key

	Current Heathrow boundary		Runways
	Illustrative airport expansion boundary		Indicative Wider Property Offer zone
			Indicative Compulsory Purchase zone

#### Further information

We know these issues will be very important to a number of local landowners and so we have produced a number of documents that set out the detail of our policies on property compensation and land acquisition.

Full details on these policies and our compensation proposals are set out in our **Property Policies Information Paper** as well as our:

- Draft Land Acquisition and Compensation Policies:
  - Residential Property
  - Agricultural Land and Property
  - Commercial Property
- Interim Property Hardship Scheme – Panel Guidance
- Interim Property Hardship Scheme – Policy Terms
- Professional Fees and Costs Policy

#### Tell us what you think:

**Please tell us what you think about our property policies.**

## 4.2 - Noise

Heathrow has long been at the forefront of international efforts to tackle air noise. We are proud of the fact that despite the number of aircraft movements at the airport going up, our noise footprint has shrunk considerably over the past few decades.

Despite these efforts we know that noise remains an issue. We are committed to addressing it and to reduce the effect of noise on local communities. We will work in partnership with our airlines to reduce noise further.

Our committed goal is to expand Heathrow while affecting fewer people with noise. Our submission to the Airports Commission showed how a combination of quieter planes, quieter airport design and quieter operations makes this possible.

Expansion provides an opportunity to continue to improve our current approach to noise and introduce new measures that can only be delivered with expansion. These measures will ensure that we design and operate the airport to manage and reduce noise exposure.

Key to the development of these measures will be feedback we receive from communities affected by aircraft noise and other stakeholders including airlines, air traffic control (NATS) and local authorities.

Our approach to noise is based on the International Civil Aviation Organisation balanced approach of reducing noise at source (quieter planes); land use planning and management (quieter airport design and noise insulation); noise abatement operating procedures (quieter operations) and operating restrictions (for example, a ban on scheduled night flights). We also consider community engagement to be a significant element of our approach.

The revised draft Airports National Policy Statement sets out mitigation measures that we should specifically seek to deliver. These measures are summarised in this section.

### Noise Envelope

The noise envelope will be designed in a way that balances growth with noise reduction and gives certainty to local people. The noise envelope framework that we currently propose is illustrated here:

We are proposing to form a Noise Envelope Design Group (NEDG) which will include community and stakeholder representatives who we currently work with as part of the Community Noise Forum, along with recognised noise experts. This is consistent with the requirements of the Civil Aviation Authority guidance on Noise Envelopes.

### The Noise Envelope Framework

#### Objective

Government aviation noise objective

#### Aims

Aims of Government Noise Policy (NPSE)

#### Principles

Construction – Providing certainty to community and operator  
Tailored to local priorities – Balance noise reduction and sustainable growth  
Clear noise performance targets – Incentivise technology development and adoption

#### Performance Indicators

Inputs    Exposure    Effects

#### Targets / Outcomes

#### Noise Management Measures and Evaluation Criteria

ICAO Balanced Approach Sustainable Development

#### Methodology to Assess Effects on Health and Quality of Life

#### Roles and Responsibilities

#### Ongoing Management and Control Process

Aligned with Noise Action Plan process

The NEDG will provide a forum for exploring ideas, developing plans and where possible reaching agreement amongst stakeholders for defining and implementing a noise envelope.

We envisage that the group would include representation from technical, industry and community groups. We will also explore how the NEDG will work alongside the Community Engagement Board.

There will also be extensive stakeholder engagement on the proposed noise envelope measures and performance targets. It is expected that the Independent Commission on Civil Aviation Noise as proposed by the revised draft ANPS will provide independent guidance on our noise envelope proposals.

### **Respite through Runway Alternation**

We know that predictable periods of respite are much valued by local communities. Providing predictable respite from noise is, therefore, at the heart of our expansion scheme.

With three runways we will be able to adopt an alternation pattern that provides predictable levels of respite for local communities on both easterly and westerly operations.

Respite through the design of flightpaths is addressed in our separate Airspace Principles Consultation.

Please see [www.heathrowexpansion.com](http://www.heathrowexpansion.com) or contact us using the information in the back of this document for further details on this consultation.

### **Quieter Airport Design**

Aircraft noise is one of the factors we are taking into account in designing the airport layout. In particular this means delivering an airfield design that can deliver predictable respite, minimises ground noise and supports our overall aim of “fewer people being affected by aircraft noise than today”.

### **Noise insulation**

As part of the Airports Commission process we developed a noise insulation scheme that goes above and beyond statutory requirements and was regarded by the Government as “world class”.

Our insulation scheme comprises two zones for residential properties and a community buildings scheme:

**Inner Zone** – following a third party assessment, to provide full acoustic insulation for residential properties within 60dB LAeq (16hr) expanded airport noise contour.

**Outer Zone** – contribution of up to £3,000 for noise insulation for residential properties within the 57dB LAeq (16hr) or the annual average 55dB Lden noise contours of an expanded airport.

**Community Buildings** – noise insulation and ventilation for community buildings within the average 60dB LAeq (16hr) noise contour.

More information on this is available in section 5.10 of **Our Approach to Noise**.

### **What’s a noise envelope?**



A Noise Envelope is a framework for the sustainable management and control of the effects of noise that balances growth and noise reduction and provides certainty about how noise will be addressed for the long term.

### **Did you know?**



Since the early 1970s both the area and the number of people within Heathrow’s noise footprint have fallen around tenfold.



**Tell us what you think:**

**A noise envelope is a package of measures that can be used to reduce noise. Please tell us your views on the objectives of the noise envelope and the timeline for its development.**

**Is there anything further we should be considering to reduce noise?**

**Please tell us what you think about our suggested approach to the provision of respite.**

**Please tell us what you think of our proposals for noise insulation and phasing of delivery.**

**A 6.5 hour night flight ban on scheduled flights is required between 11pm and 7am. Our current preferred option for this is from 11pm to 5.30am. Please tell us when you think the night-flight ban should be scheduled and why.**

**Ban on Scheduled Night Flights**

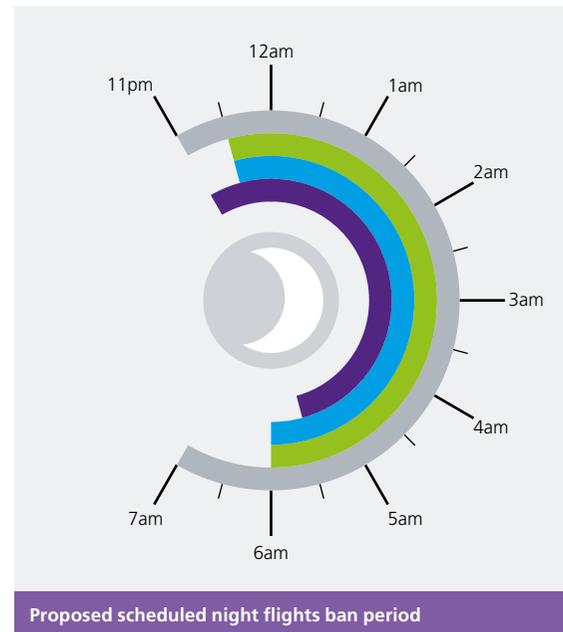
We are committed to implementing a ban on scheduled night flights for a period of six and a half hours, at a time to be determined between 11pm and 7am.

Our preference is for this to be from 11pm to 5.30am (purple in the diagram), based on our assessment of the economic and environmental effects of late night and early morning flights.

Currently flights scheduled to arrive between 4.30am-6am are allowed to land from 4.30am. The proposed ban would be an extension above the voluntary arrangements in place today.

We believe this approach would be fairer for all local communities as it gives a more equitable distribution of flights to those living under the departure routes as well as those living under the arrivals routes by extending the ban into the late night as well as the early morning instead of only the early morning.

We will also continue to incentivise the use of the quietest aircraft at night through our landing charges, charging less for quieter aircraft.



**Further information**



We know that noise may be a sensitive issue for you and may be one of the principal concerns that you have about the expansion of Heathrow. That is why we have developed a strong package of measures to manage and reduce noise effects.

Our consultation document, **Our Approach to Noise**, provides further detail about what we are proposing.





Surface access is the term used to describe how people and goods travel to and from the airport by road and rail.



**Central Bus Station**  
Chapel

## 4.3 - Surface Access

Heathrow is the UK's best served airport for access by road and rail. We will ensure that by 2030 at least 50% of surface access passengers arriving or departing from Heathrow will be by public transport and that by 2040 at least 55% will be by public transport.

We have developed the following priorities to shape the development of a strategy for surface access:

- Making public transport the preferred choice for more passengers
- Offering sustainable and affordable alternatives for members of staff
- Facilitating more efficient and responsible use of the road network
- Connecting all of the UK to growth through better surface access
- Ensuring local communities benefit from surface access improvements

To achieve these priorities, we are considering eight key initiatives that will drive the development of our surface access strategy.



### 1. Putting Heathrow at the heart of the rail network

Improvements to Heathrow's rail access are already being made. The introduction of the Elizabeth line (Crossrail) and Piccadilly line upgrade will improve rail services over the coming years. HS2 will connect Heathrow to key cities in the Midlands and the North via an interchange at Old Oak Common.

We want to work with others to support delivery of the following additional initiatives:

- Increase the frequency of trains and extend operating hours on the Elizabeth line.
- Provide a fair and reasonable contribution to the costs for a new Western Rail Link to Heathrow allowing direct rail services to Heathrow from Reading and the west
- Work with stakeholders to support the development of a new direct rail link to Heathrow from the south.



### 2. Providing a public transport led scheme

The expansion of Heathrow provides us with an opportunity to make journeys easier for passengers, particularly those arriving by public transport. Locating terminal capacity on the public transport spine (that runs between Terminals 2, 3 and 5) is our preference as this would maximise access to existing facilities.

Supporting the use of public transport by locating employment sites close to public transport links where possible will prioritise public transport users. Upgrading rail, bus and coach stations at the airport will also make it easier to transfer from public transport to our terminals.



### 3. Providing a resilient and reliable road network

The expansion of Heathrow provides opportunities to tackle congestion for all users through changes to the M25 and local road network. Further detail on these schemes can be found in Sections 2.4, 2.5 and 2.6 of this booklet.





#### 4. Strengthening the coach hub at Heathrow

As part of airport expansion we want to work with coach operators to improve the availability of services to and from Heathrow. By working with TfL we will also be able to establish the role of Heathrow within the wider strategy for coaches in London.



#### 5. Investing in local transport solutions

Enhancing existing bus services, establishing new routes and introducing measures that give priority to buses would deliver faster and more reliable journeys. Opportunities for new models of local transport such as demand responsive services (flexible forms of travel that meet particular customer needs) will work alongside traditional bus routes.

We will work with local authorities and Transport for London to identify priorities for improving the local cycle network and how to fund these improvements.



#### 6. Making public transport easier for users

We want to encourage greater use of public transport and make it more convenient and easier to use. To achieve this we will work with transport operators to make public transportation to and from the airport as affordable as possible.

We also want to look at ways to improve public transport journeys with information and technology. We will encourage the development of tools to provide tickets as part of the airline booking process and better align public transport operating hours with those of the airport. New innovative solutions will help people to plan and make journeys from their home to the airport as a single process.





## 7. Enabling more efficient and responsible use of the road network

With expansion, there will be more people and freight accessing the airport. We need to consider new ways to manage the potential effects on the road network, including making taxi use more efficient, trialling new and emerging technology to reduce emissions from freight vehicles and consolidating trips by ensuring vehicles are fully loaded as they arrive at and depart from the airport.

We are also considering the following options for road user charging to reduce emissions and help achieve a shift to public transport:

- Emissions based surcharge – a supplementary charge for vehicles which do not meet emissions standards
- Terminal low emission zone – allow priority access for low emission vehicles
- Drop off/pick up charge - applying a fee to vehicles that are dropping off / picking up passengers directly outside the terminal buildings and priority access to the terminal areas for low emission and low traffic generating vehicles, such as buses and taxis
- Airport low emissions zone – a charge for all vehicles based on their emissions
- Airport access charge – a broader charge based on vehicle access to the airport could be applied to encourage passengers to use public transport



## 8. Building on our successful commuter programme

In 1991, around 80% of people working at the airport travelled to work by car. By 2013 we have reduced this to just over 50%. We want to look at different ways to further improve our programme, including providing personalised travel planning for airport employees, reducing and prioritising colleague parking, extending our discounted public transport travel and promoting walking and cycling.



### Further information



The development of our surface access proposals is integral to expansion of the airport but we must also meet appropriate environmental objectives, including those relating to air quality. That is why Heathrow has set itself tough but achievable targets for improved public access mode share and identified a range of initiatives that will mean that there is no more airport related traffic on the road with expansion than now.

As we develop our proposals through to Consultation 2, we can develop initiatives to ensure that the right ones are in place at the right times as passenger numbers grow.

Further details about our surface access priorities and our initiatives to meet them can be found in **Our Approach to Developing a Surface Access Strategy**.

As discussed in previous sections, our ideas for adapting and improving the road network around Heathrow are set out in section 8 of **Our Emerging Plans** and section 7 of the **Scheme Development Report**.

### Tell us what you think:



**Please tell us what you think about the priorities and initiatives we propose to use to develop our surface access strategy.**

**Please tell us what you think about the options to use road-user charging to reduce emissions and to manage vehicular access to the airport.**

## 4.4 - Air Quality and Emissions



We recognise that local air quality and the potential effects of pollution upon public health remain a significant concern to communities around Heathrow.

We have been working to address the air quality impacts of Heathrow for more than 15 years and together with our partners, we have a strong track-record of reducing emissions from airport operations. This includes the implementation of Air Quality Action Plans that have contributed to a 430 tonne, or 16%, reduction in total emissions of nitrogen oxides (NOX) from ground-based sources associated with the airport between 2008/2009 and 2013.

Non-airport related road traffic is the dominant contributor to ground-level pollution outside of the airport boundary. We remain fully committed to playing our part in improving local air quality and managing emissions from airport related sources.

Expansion can be delivered while meeting all relevant legal air quality obligations. To underline this commitment we have given a 'triple lock' guarantee:

- Meeting our existing commitment to play our part in improving air quality by targeting no increase in the amount of airport related vehicles on the road and by supporting improved surface access (see section 4.3)
- Ensuring further measures are ready to be introduced, if required, to reduce road journeys and emissions and encourage sustainable forms of transport

- Binding our commitment by guaranteeing that new capacity at an expanded airport will only be released when it is clear that the airport's contribution will not delay the UK's compliance with EU air quality limits

To guide our approach to air quality we will:

- Continue to accurately measure local air quality
- Work with stakeholders to increase understanding and awareness of air quality and how it affects the health and quality of life of local communities
- Engage with local communities, local planning authorities and other key organisations in preparing our proposals
- Develop a surface access strategy that encourages use of sustainable transport modes (see section 4.3 for more detail)
- Complete a detailed air quality assessment of the scheme, using modelling to determine concentrations of airborne pollutants from sources associated with Heathrow

To deliver our commitments relating to air quality we are proposing a number of approaches (in addition to those in section 4.3 on Surface Access) on which we would like to know your views.



Tell us what you think:

**Please tell us what you think about the measures proposed to manage emissions. Are there any other measures that we should consider?**

These approaches are preliminary at this stage and will be refined and developed following this consultation. At Consultation 2 we will provide preliminary environmental information which will begin the process of fully assessing environmental effects, including air quality. That preliminary environmental information will also include initial information on the necessary mitigation measures. It is not appropriate to do all that until Consultation 1 is complete as we need to take account of your responses in developing our proposals.

### Low Emission Design

We are continuing to make air quality a key consideration in developing the design of the expanded airport. In doing so, decisions taken on parts of the scheme which influence local air quality will take account of the commitments set out in this section. This includes the positioning of realigned roads, the layout of the airfield and the provision of freight facilities to reduce the potential for emissions from traffic and aircraft to affect local air quality.

In deciding where to locate parking and freight facilities, we are also considering how vehicle journeys to and from these locations could affect air quality in the surrounding area.

### Managing Air Quality during Construction

This can be achieved through the use of low emission construction vehicles, the use of logistics hubs to combine deliveries and reduce the number of individual vehicle trips (see section 2.11),

moving bulk materials by rail rather than road and managing and coordinating construction traffic and workforce travel.

During construction we will put management plans in place to ensure that those responsible for building the scheme meet strict standards and carefully manage potential air quality impacts.

### Managing Air Quality during Operation

The measures we could put in place for the operation of an expanded Heathrow include incentivising the use of cleaner aircraft and the more efficient operation of aircraft on the ground. We could also potentially introduce an emissions-based charge for vehicles accessing the airport to encourage use of the cleanest vehicles, sustainable and public transport modes, complementing our airside Ultra-Low Emission Zone.

#### Further information



We know that air quality and the emissions produced by the airport and vehicles both inside and outside the airport boundary are important to all those living and working in the wider local area and beyond.

Further details about how we will meet our air quality and emissions commitments can be found in **Our Approach to Air Quality**.





## 4.5 - Carbon and Climate Change

Climate change is rightly accepted as one of the greatest global risks facing our planet and the challenge facing all of us is to find a way to cut our emissions of greenhouse gases. It is our aspiration to make sure that growth from our new runway, including flights, is carbon neutral.

To achieve this aspiration we will work to support the progress being made by airlines and the International Civil Aviation Organisation on fuel efficiency and carbon emissions for example. We will also incentivise low carbon flights, establish an airports and aviation centre of excellence for sustainability and consider measures that ensure that the carbon cost of flights is paid.

As well as managing carbon associated with flights, we also need to manage carbon associated with the construction and operation of an expanded Heathrow and ensure that the expanded airport is resilient to future climate change. To help us achieve this we have developed a number of measures on which we would like your views:

### **Low carbon design**

Carbon efficiency will be a priority in the design of our proposals. This includes designing the airfield to reduce potential taxiing distances and allow aircraft to taxi using only one engine, installing electric vehicle charging points throughout the airport and promoting and better integrating the airport with low carbon public transport.

### **Low carbon construction and materials**

We will put in place measures to manage the carbon emissions associated with construction (this is known as embodied carbon). This includes minimising resource use wherever possible (materials, energy and water) and the use of off-site fabrication, construction and logistics hubs. We will also draw on existing construction best practice and where possible, ensure materials and products are sourced locally to where they are used and are carbon efficient.

### Low carbon operations

Our target is to operate zero carbon airport infrastructure (buildings and other fixed assets) by 2050. To meet this target our strategy proposes to:

- Use modern energy efficiency measures in any new infrastructure and build in flexibility to allow use of future technologies;
- Improve the energy efficiency of our existing buildings, assets and other infrastructure;
- Maximise the proportion of energy generated from on-airport or local renewable sources;
- Purchase renewable energy from off-site sources;
- Invest in low emission vehicles and implement procedures to reduce aircraft taxiing emissions; and
- Develop an approach to offsetting the carbon we continue to produce.

### Building a climate resilient airport

As part of the development of our proposals we will carefully consider the risks arising from climate change. This will be considered as part of our environmental impact assessment and our flood risk assessment which will identify measures to ensure Heathrow is resilient to potential weather-related disruption.



### Further information

Climate change is one of the most important issues we all face. In developing our options we have set out how our plans for expanding Heathrow will manage the effects of the scheme.

Further details about how we will address carbon and climate change issues can be found in **Our Approach to Carbon and Climate Change.**

### Tell us what you think:

**Do you have any comments on our approach to limiting carbon emissions from the design, construction and operation of an expanded Heathrow?**

## 4.6 - Natural Environment

The expansion of Heathrow will affect the existing natural environment but it also represents a unique opportunity to deliver high quality mitigation around the airport for biodiversity (wildlife and plants), the landscape and the water environment (rivers, ponds and streams) – for the benefit of both local communities and wildlife.

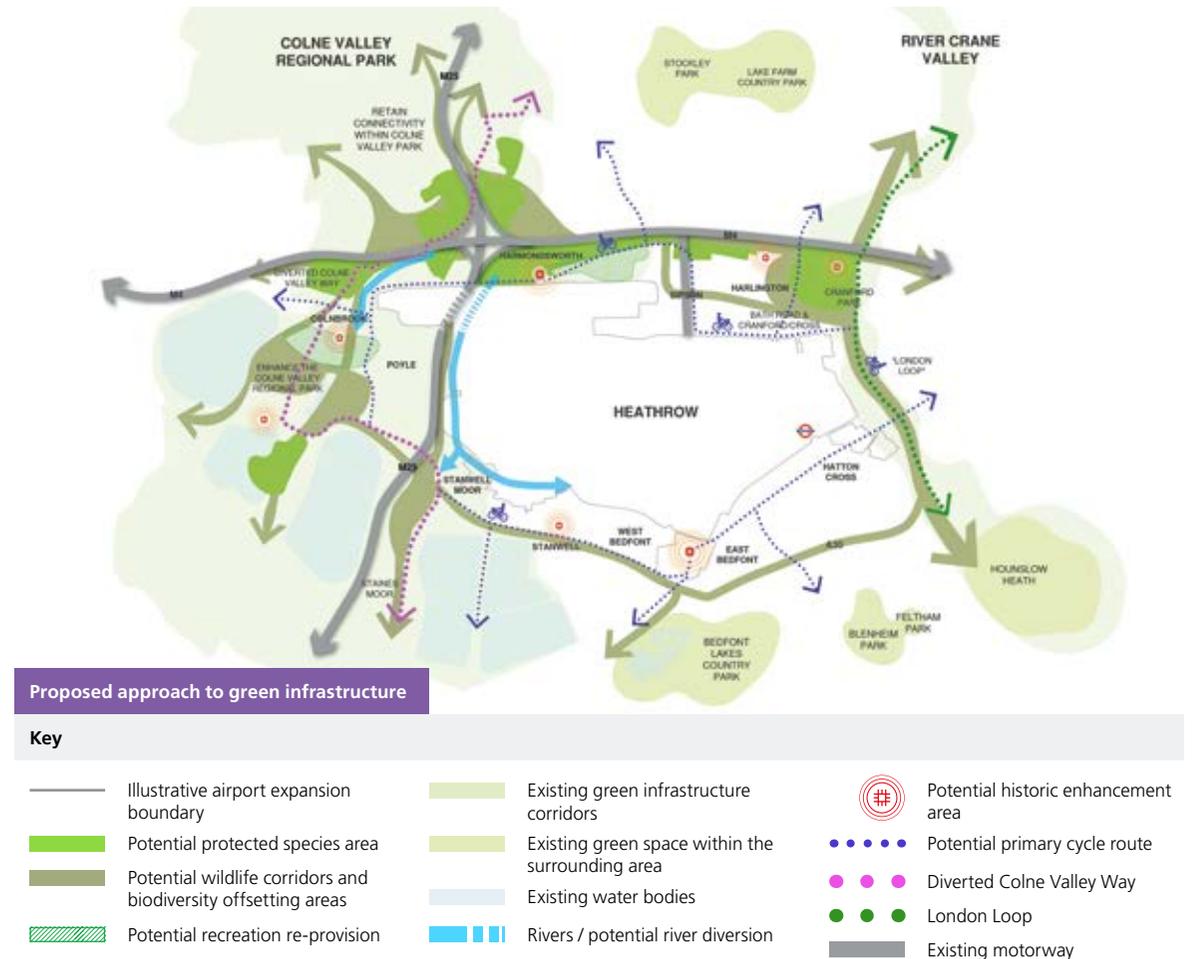
Our vision is to create a positive legacy of better, well connected green infrastructure, which uses land efficiently to achieve multiple environmental, social and economic benefits.

As part of the development of our proposals, we are undertaking surveys and analysis to identify and respond to issues relating to the natural environment. Your feedback will be key to the development of our proposals.

### Biodiversity

We are committed to ensuring that current populations of animals and plants can be maintained and will continue to work with Natural England and other stakeholders to provide biodiversity offsets.

Our surveys together with your feedback will help inform the types of habitats that we create or the species for which we provide. In developing our proposals we will give important consideration to minimising the risk of wildlife, particularly birds, hitting aircraft.



Around the airport we have an opportunity to create linked spaces for both people and wildlife (known as multi-functional spaces) which reflect the characteristics of the local area. As distance from the airport increases, the risk of birds hitting aircraft reduces, so we may be able to create a greater range of habitat types.

### Landscape and Visual Amenity

Our design will seek to minimise adverse landscape and visual effects. Where there is opportunity to do so, we want to find ways to benefit the landscape through carefully considered and integrated natural and built environment proposals.

### Water Environment

The project will interact with a number of rivers and areas of flood storage around the airport. Further details are provided in section 2.7.

We are seeking to protect and maintain connectivity of rivers in the immediate environment around the airport while looking for opportunities to develop and enhance the wider water environment. We want to explore opportunities to protect people and properties, promote river health and biodiversity and recreational benefits, such as by opening up land to create floodplain storage.



### What is green infrastructure?



Green infrastructure is a term used to describe the network of green space and water environments in and around towns and cities.

### What is biodiversity offsetting?



Offsetting is a term used for nature conservation measures that are provided to compensate for losses resulting from a development.

### Further information



Our proposals for expanding the airport present some important opportunities to deliver high quality mitigation to the natural environment around Heathrow. This ranges from improvements to habitats for different species to leaving a legacy of a better-connected landscape that you can use. More information can be found in **Our Design Approach to Natural Environment**.

### Tell us what you think:



**Please tell us what you think about our approach to natural environment issues.**

**Are there any opportunities that the expansion of Heathrow could provide to enhance the natural environment?**

## 4.7 - Historic Environment

Heathrow and the surrounding area represents a diverse historic environment with a long history of settlement going back before the Bronze Age. Since the establishment of the airport in the first half of the 20th Century, the area has been associated with international aviation and Heathrow represents an evolving heritage asset within the wider community.

The expansion of Heathrow presents both challenges and opportunities for the historic environment and for the heritage assets which may be affected. We need to take account of the key historic environment planning policies at national, regional and local levels.

We are proposing an approach to the historic environment that builds on these planning policies and is based on key design principles which seek to avoid or minimise conflicts between the expansion of the airport and the conservation of heritage assets. At the same time we want to look for opportunities to make a positive contribution to the character and local distinctiveness of the surrounding area.



Our approach considers the historic environment under three main headings:

### **Understanding**

The historic environment embodies all aspects of our history resulting from the interaction between people and places. As part of the development of our proposals we are undertaking a series of baseline studies in the area around the airport. We will identify those heritage assets which may be affected by our scheme, to understand and assess their significance. This information will enable us to better evaluate the potential effects of Heathrow expansion and help us make informed design decisions.

### **Protection**

We recognise that while our development needs to seek to avoid loss or harm to heritage assets, due to the scale of the expansion proposals some loss is unavoidable. This includes the likely loss of the Longford Conservation Area and part of the Harmondsworth Conservation Area. This would result in the loss of a number of listed buildings and other heritage assets.

We also recognise that our development will impact the settings of heritage assets such as the grade I listed Harmondsworth Great Barn, the grade II\* listed St Mary's Church and the Colnbrook Conservation Area. Visual and noise effects will also likely affect more distant heritage assets.

We will look to minimise this impact and any harm on other heritage assets by challenging the location and design of airport related development (see section 2.10) and restricting the need for land to that which is essential to expand Heathrow.

We want to integrate the historic environment into our architectural, landscape and environmental designs and are actively looking at the ways heritage assets can continue to be used and enjoyed.

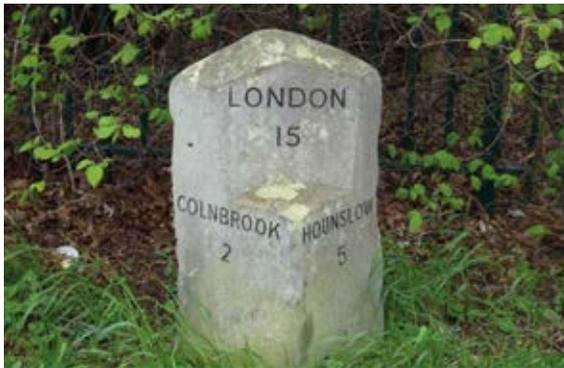
We want to work with others to help provide assistance and support to existing conservation activities. We also want to encourage new activities that help to sustain and enhance heritage assets as important parts of the local community.

## Opportunity

We want to make a positive contribution that seeks to integrate an expanded Heathrow in celebrating the wider historic environment.

We are beginning to explore in detail the design opportunities and innovative solutions that can be applied to specific heritage assets such as the Harmondsworth Barn and St Mary's Church to provide viable and sustainable uses. We also want to ensure that our approach to the historic environment helps guide the design of associated green infrastructure. This may involve linking historic places around the expanded airport with improved cycle and pedestrian routes and with wayfinding signage to enhanced historic areas.

The expansion of Heathrow offers an opportunity to tell the story of the continuing history of the airport and the surrounding communities in a way that can help understanding and appreciation of the historic environment for those living and working in the local area or visiting the airport.



## Further information



There are some important discussions to be had on the heritage assets that might be affected by Heathrow's expansion and the opportunities for a positive contribution to the historic environment around Heathrow.

More information can be found in **Our Approach to Historic Environment.**



## What is a heritage asset?



Heritage assets may be buildings, sites, places, areas or landscapes which hold value to present and future generations as a result of their historical, archaeological or artistic interest.

## What are listed buildings?



The Government is able to designate those buildings which are recognised as having 'special architectural or historic interest' through listing. These fall within three levels (grades I, II\* and II) depending on their relative significance. Listing affords these buildings with statutory protection.

## What is a conservation area?



Specified areas of a community which have a definite architectural quality or historic interest can be designated as conservation areas which allow for wider protection to ensure the preservation of their character and appearance.

## Tell us what you think:



Please tell us what you think about our approach to historic environment issues.

## Section 5 - Have Your Say

We will consider your feedback to help us shape our proposals for the expansion of Heathrow. Our consultation is open for 10 weeks from 17 January to 28 March 2018. There are a number of ways you can find out more about our proposals and provide us with your comments.

### **Come to one of our consultation events**

We're holding consultation events at venues around Heathrow throughout the consultation period. Details of these events can be found on our website: [www.heathrowconsultation.com](http://www.heathrowconsultation.com). Members of the project team will be on hand to answer your questions and provide advice on how you can give us your feedback.

### **Visit our website**

You can visit our website to find all the information on our proposals and fill in our online consultation feedback form: [www.heathrowconsultation.com](http://www.heathrowconsultation.com)

### **Visit one of our document inspection locations**

Where you can view copies of the all materials we've produced to inform this consultation. For more information please go to our website [www.heathrowconsultation.com](http://www.heathrowconsultation.com).

### **Tell us what you think**

Your feedback is a very important. The deadline for responding to this consultation is 11.55pm on 28 March 2018. You can provide us with your comments and views in a number of ways:



**online** via our project website [www.heathrowconsultation.com](http://www.heathrowconsultation.com)



complete a **feedback form**, available on request (see back cover) or at our exhibition events



**write** to us at:  
Freepost LHR EXPANSION CONSULTATION



send an **email** to us at [expansion.feedback@heathrowconsultation.com](mailto:expansion.feedback@heathrowconsultation.com)

All feedback received through these channels will be considered. While all the feedback we receive will be recorded, we will be unable to respond to you individually.

### **Get in touch**

If you would like any help to provide your feedback, information about our proposals and how to take part or request copies of documents you can:



call our freephone number:  
**0800 307 7996**  
(open Monday to Friday, 9am-6pm)



send an **email** to us at [info@heathrowconsultation.com](mailto:info@heathrowconsultation.com)

### Next Steps

We will analyse and consider all the comments we receive. Your feedback will be taken into account and used to help us refine and shape our proposals.

We will come back with refined proposals and consult further before we submit our development consent order application.



### Further information



You can find out more about the DCO process in our **Development Consent Order Process Information Paper** and on the Planning Inspectorate's website at [www.infrastructure.planningportal.gov.uk](http://www.infrastructure.planningportal.gov.uk)



# Notes

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# Notes

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**AIRPORT  
EXPANSION  
CONSULTATION**

If you would like a large text or alternative format of this document, please contact us on 0800 307 7996 or send an email to us at: [info@heathrowconsultation.com](mailto:info@heathrowconsultation.com)

**There are lots of ways you can contact us or find out more**



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[www.heathrowconsultation.com](http://www.heathrowconsultation.com)



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