# Heathrow West

## Proposal for the Expansion of Heathrow Airport Final Report

Heathrow West Limited's Response to Department for Transport's Request for Proposals

31 July 2025 (Redacted Version)

Arora GROUP

BECHTEL

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# Glossary

| Term | Definition |
|---|---|
| 2,800m Northwest Runway | A new 2,800m runway proposed by Heathrow West Limited located northwest of Heathrow Airport forming a part of HWL's Proposed Development. |
| Airports National Policy Statement (ANPS) | The Government policy supporting a new northwest runway at Heathrow Airport which sets the framework for assessing and consenting airport expansion in the South East of England. |
| Arora Group (Arora) | The parent group of HWL, Arora Group is an independent private group, which operates in hotels, property and construction. The group currently owns and operates several hotels and commercial premises at most major UK airports. |
| Arora's 2017 Response to DfT's NPS Consultation | Arora's "Heathrow North-West Runway Expansion: Response to the DfT National Policy Statement Consultation Final Report," dated June 2017. |
| Civil Aviation Authority (CAA) | The UK's aviation regulator. |
| Development Consent Order (DCO) | A statutory instrument which seeks consent for a project classified as a Nationally Significant Infrastructure Project. |
| Department for Transport (DfT) | The Government department responsible for transport policy in England, including aviation. It supports the Secretary of State for Transport, who holds decision-making authority on nationally significant transport projects. |
| Heathrow Airport (Heathrow) | The existing Heathrow Airport. |
| Heathrow Airport Limited (HAL) | The current owners and operators of Heathrow Airport and the promoter of the Heathrow Airport Limited Preferred Masterplan. |
| Heathrow Airport Limited (HAL) 2019 Preferred Masterplan | Heathrow Airport Limited's proposed development as published in its "Heathrow Airport Expansion – Consultation Document", June 2019. |
| Heathrow West Limited (HWL) | The promoter of HWL's Proposed Development. |
| Heathrow West Limited (HWL) 2020 Masterplan | Heathrow West Limited's proposed development as published in its 2020 Development Consent Order Stage Two Statutory Consultation documents. |

# Glossary

| Term | Definition |
|---|---|
| Heathrow West Limited's (HWL's) Proposed Development | Heathrow West Limited's proposed expansion of Heathrow Airport described in this HWL Proposal Document. |
| Inter-Terminal Plaza (ITP) | A new multifunction space between Terminal 5 and the proposed new Terminal 6. |
| Invitation Letter | The Secretary of State for Transport's 26 June 2025 letter to Arora Group, inviting a proposal for Heathrow Expansion. |
| Northwest Runway (NWR) | The northwest runway built parallel to and northwest of Heathrow's existing northern runway under the UK Airports Commission's proposals. |
| Northwest Runway (NWR) Scheme | The Government's preferred development scheme for airport capacity expansion as identified in the Airports National Policy Statement. |
| Proposal Document | HWL's Proposal for the Expansion of Heathrow Airport Final Report, 31 July 2025. |
| Public Transport Hub | A new multi-modal hub located in new Terminal 6 that connects rail, London Underground, coach, and bus services, offering convenient access in all directions. |
| Terminal 6 (T6) | A new passenger terminal proposed by Heathrow West Limited located immediately west of Terminal 5 (T5) of Heathrow Airport and forming a part of HWL's Proposed Development. |
| West Terminal Campus | An integrated combination of the new T6 and adjacent T5, together with related surface access and aircraft parking apron infrastructure provided at the west end of the Heathrow site. |

# 1. Foreword

## Heathrow West Limited (HWL) is pleased to submit its proposal for the expansion of Heathrow Airport (HWL's Proposed Development) in response to the Department for Transport's (DfT) request for proposals, as outlined in their letter dated 26 June 2025 (Invitation Letter).

HWL is a wholly owned subsidiary of the Arora Group (Arora), a UK-based, innovative organisation specialising in hospitality and service delivery in and around Heathrow Airport (Heathrow). Founded in 1999 by Chairman Surinder Arora and headquartered at Heathrow, Arora employs over 2,800 people, with over 1,700 of these people employed by businesses located at Heathrow and, 72% of its workforce living in the local community.

## HWL's Vision

This proposal sets out HWL's vision for a Northwest Runway and world-class terminal at Heathrow. The aim is to support the airport's expansion requirements while offering passengers and airlines real choice, greater efficiency, and improved service. Drawing from Arora's core strengths in hospitality and customer service, HWL believes this approach puts the passenger at the heart of the experience.

The vision for HWL's Proposed Development is rooted in the belief that HWL has a responsibility to create a positive legacy for the UK, the region, and the local community. The proposal not only delivers additional runway and terminal capacity but also responds to local needs and environmental considerations, with a design philosophy that connects the terminal seamlessly to the wider Heathrow campus, designed from the "Outside In."

Early engagement with the key airline stakeholders has determined that positioning new terminal capacity in the west is the most effective and efficient location and creates an optimal solution for a new gateway to the UK economy.

## Advantages of HWL's Proposed Development

Key advantages of HWL's Proposed Development over the scheme prescribed in the Airports National Policy Statement (ANPS) include:

- Reducing engineering complexity, construction risk, and consumer cost by avoiding the need to construct the Northwest Runway over the M25
- Minimising land take and disruption to local residents and businesses
- Enabling the development of an integrated and expanded Public Transport Hub to support environmentally sustainable travel
- Strengthening the business case through cost-efficiency benefits for passengers and airlines
- Introducing competition at Heathrow through delivery by a party other than Heathrow Airport Limited, encouraging innovation and cost discipline for the benefit of airlines and passengers.
- Simplifying construction to allow earlier delivery of the new runway and of new terminal capacity

- Fostering a constructive, collaborative approach with local communities to support environmental improvements

## Commitment

HWL is committed to fostering competition at Heathrow, believing that choice drives efficiency and reduces costs for passengers. HWL has worked closely with the Civil Aviation Authority (CAA) to ensure that competition can be delivered within the existing regulatory framework.

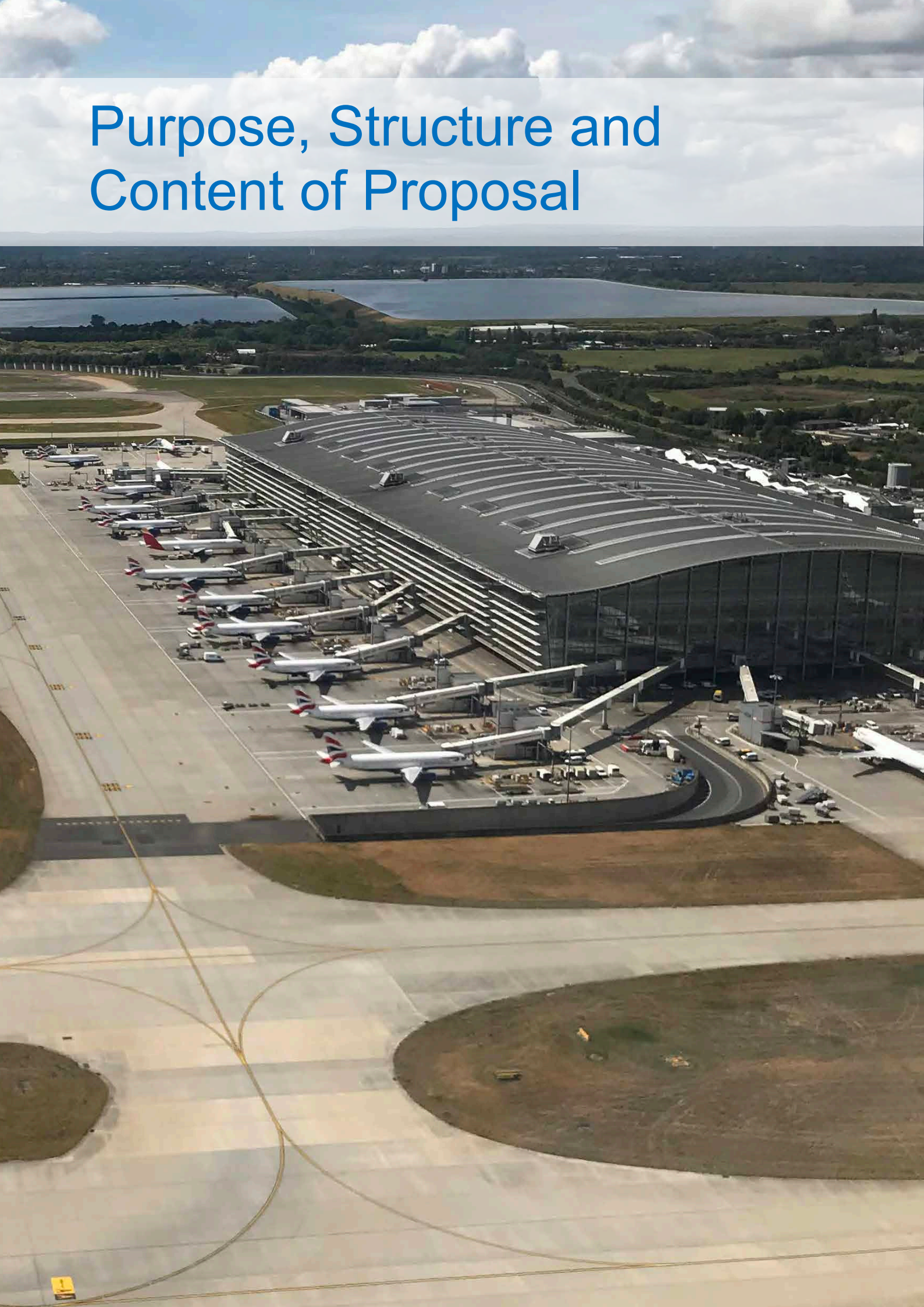
Government policy supports expansion at Heathrow—bringing more jobs, investment, and choices for passengers. HWL believes Heathrow can be better: for passengers, for airlines, for local communities, and for the nation.

HWL appreciate the opportunity to submit this proposal and look forward to working with Government to deliver a better future for Heathrow, the surrounding community, and the UK as a whole.

**Surinder Arora,**
Founder and Chairman,
Arora Group and Director,
Heathrow West Limited

**Carlton Brown,**
CEO,
Heathrow West Limited

# Purpose, Structure and Content of Proposal



# 2. Purpose, Structure and Content of Proposal

## Purpose

This Proposal Document sets out HWL's initial plans, providing DfT's prescribed essential information as indicated in the Invitation Letter.

Specific elements of HWL's Proposed Development include:

- a new 2,800m Northwest Runway, together with supporting taxiways and aircraft parking aprons
- a new Terminal 6 (T6) passenger terminal, featuring a pedestrian bridge connecting its main terminal T6A to its satellite pier T6B, an Inter-Terminal Plaza (ITP) shared with existing Terminal 5 (T5), two new hotels and a Public Transport Hub
- surface access improvements, including re-aligned public roads for access to T5 and T6 and for maintenance of local connectivity, new multi-storey car parks and additional active travel routes
- river diversions, to clear the project site and for ecological and flood prevention enhancements
- green infrastructure, including landscape, recreational and ecological improvements
- new airport and airline operations facilities, to support increased flight activities related to the new Northwest Runway and replacements for displaced facilities
- ancillary facilities, including utility systems and airside roads
- aviation fuel system facilities
- site clearance and grading, including demolition of displaced facilities and infrastructure
- temporary works relating to construction, including a new railhead, temporary access roads, highway works, temporary works and works compounds.

HWL considers that the primary purpose of the Proposal Document is to support the Government's forthcoming review of the ANPS (which was announced by the Chancellor in January 2025 to facilitate expansion at Heathrow, and is supported in principle by the Government).

The Invitation Letter identifies that: "As proposals may be used to support the review of the Airports National Policy Statement (ANPS), we ask that proposals set out key areas of divergence from requirements specified in the current ANPS where applicable." This is set out in detail at Section 11 and Appendix G of the Proposal Document.

In summary, HWL proposes that the ANPS retains the following key policies:

- Continued support for a new Northwest Runway at Heathrow;
- Continued support for associated infrastructure and surface access facilities;

- Not presupposing the identity of the promoter of a Northwest Runway scheme (or regarding the viability or merits of a particular application or scheme); and
- Clarification that there may be different applicants for the different components of expansion at Heathrow for delivery of the Northwest Runway.

As a preliminary point, a number of sections of the ANPS will need to be updated to reflect changes to the background to the ANPS that have taken place since it was designated. These include the impact of the COVID-19 pandemic, the Government's expectation that expansion will now be delivered by 2035, the impact of DCOs at other London airports, and more generally, updated policy, guidance, legislation and case law, notably the introduction of the concept of grey belt to green belt policy in the National Planning Policy Framework.

Again, in summary, with detail provided at Section 11 and Appendix G, HWL proposes amendments to the following sections of the ANPS as part of the Government's announced review process:

- The purpose and scope of the ANPS.
- Development covered by the ANPS to include:
    - The required length of the Northwest Runway should be reduced to 2,800m, from the current requirement of 3,500m.
    - The scheme boundary map, shown in Annex A to the ANPS, should be replaced with an amended redline that is sufficiently large enough to accommodate alternative proposals. Alternatively, multiple maps should be annexed showing the boundary for each respective scheme.
    - New terminal capacity can be provided by a West Terminal Campus which includes a new T6 passenger terminal integrated with T5, between the two existing runways at Heathrow, and the requirement for "new terminal capacity located between the new Northwest Runway and the existing Northern Runway at Heathrow" mentioned in the ANPS is not necessary.
- The general principles of assessment.

HWL's involvement in expansion at Heathrow – from pre-designation of the ANPS to preparation of its DCO application for the HWL 2020 Masterplan – has necessarily always considered the nature and provision of a third runway. HWL notes that it had been in the process of preparing a DCO application to undertake a promoter role for a portion of the measures to expand Heathrow's capacity, as reflected in the ANPS, in early 2020 but that process was paused in view of the prevailing international economic conditions.

At the time, the focus of the HWL 2020 Masterplan was the construction of a new T6 within the Western Terminal Campus of Heathrow and did not include the new runway, albeit the HWL 2020 Masterplan was designed to both integrate seamlessly with HAL's 2019 Preferred Masterplan and cumulatively assess the HWL 2020 Masterplan and the HAL 2019 Preferred Masterplan (including the proposed Northwest Runway).

Following extensive stakeholder engagement with airlines, supported by runway length analysis, and the desire to minimise the cost and complexity of the new runway's construction by avoiding an M25 motorway crossing, while offering optimal flight-operations capability, HWL's Proposed Development now includes a runway component

with a reduced length of 2,800m. As a result, most of the technical information presented in the Proposal Document was current as of early 2020. This technical information is currently being updated to reflect conditions in 2025, however, any changes are not expected to be significant.

HWL now awaits Government's announcement of next steps in the Autumn, as mentioned in the Invitation Letter. In the interim, HWL will be pleased to support, as may be directed by Government, the ANPS review and the further development of HWL's proposal.

## Structure

This Proposal Document is structured into twelve sections, each designed to provide the clarity, depth, and technical substance necessary to inform and support the DfT's review and the upcoming revision to the ANPS.

- **Sections 1–3** provide the background and context of HWL's Proposed Development, including its alignment with Government policy, the project evolution, the rationale for submission, and how the proposal is organised.
- **Sections 4–10** respond directly to the key areas identified in the Invitation Letter, which set out the essential information required from proposers at this stage.
- **Section 11** outlines specific areas where HWL's Proposed Development diverges from the current ANPS, including rationale and evidence-based justifications for the differences.
- **Section 12** includes appendices of supporting information, including data, technical reports, and references that underpin the main proposal.

The following provides specific content included in each section of the Proposal Document.

### 1. Foreword

Provides a high-level statement from HWL leadership, reaffirming commitment to the Government's Northwest Runway vision and outlining HWL's readiness to deliver a viable, privately financed alternative to traditional delivery models.

### 2. Purpose, Structure and Content of Proposal

Describes the objective of the submission—to support the Government's call for expansion proposals—and explains how the Proposal Document is organised to align with the DfT's stated criteria and inform the ANPS update.

### 3. Introduction

Presents the context for the proposal, including the history of the Heathrow expansion policy, HWL's engagement to date, and the national importance of the project.

### 4. The Heathrow West Limited Team

Introduces the entities behind the proposal, including HWL and its wider group, the Arora Group, along with its team of expert partners and advisors.

### 5. Airport Scheme Design

Outlines the design principles and features of the proposed terminal and runway layout, focusing on alignment with airline operations, passenger experience, and scalability.

### 6. Expected Timelines

Presents a high-level programme for delivery, including planning, procurement, construction, and operational readiness milestones.

### 7. Costs and Revenues (Information Redacted)

Provides an overview of expected capital expenditures and revenue assumptions, with a focus on long-term affordability and value for money for users.

### 8. Ownership, Financing, and Funding

Details the proposed ownership structure, sources of capital, and funding approach—including how private financing reduces risk to public finances.

### 9. Deliverability

Demonstrates the programme's viability, addressing planning pathways, stakeholder engagement, risk management, and project controls.

### 10. Environmental Implications & Planned Mitigations

Summarises potential environmental impacts of the proposed expansion and the measures planned to reduce or offset them, aligned with the UK's climate goals.

### 11. Summary of Divergence from ANPS

Identifies areas where HWL's Proposed Development differs from the assumptions in the ANPS and provides evidence-based reasoning for these differences.

### 12. Appendices

Includes supporting documents, technical reports, environmental assessments, financial assumptions, and stakeholder consultation summaries that substantiate the proposal.

## Content

The content of this proposal is primarily based on Arora's and its consultants' work over the last ten years. This includes Arora's 2017 Response to DfT's NPS Consultation and HWL's 2020 Masterplan, which have been reviewed and updated to account for relevant developments and improvements considered by HWL as part of preparing this new proposal, with input from airlines.[1] This report also references HAL's 2019 Preferred Masterplan, which is the latest version of HAL's plans that is publicly available.

[1] Figures and visual representations in this document may not necessarily reflect all elements of HWL's Proposed Development (e.g. the proposed length and location of the runway).

## Where Specific Responses are Located in the Proposal Document

| Topic | Page |
|---|---|

# Introduction

# 3. Introduction

## Project Evolution

The following section outlines the sequence of key events, decisions, and contextual developments that have culminated in the preparation of this Proposal Document for the Expansion of Heathrow. It provides background on the factors that have shaped the current direction and rationale for this initiative.

### Airports Commission: Final Report

In July 2015, the Government, acting on the findings of the Airports Commission's Final Report, formally recommended Heathrow as the preferred location for a new runway to address long-term capacity needs in the South East of England. This decision was made following a comprehensive, multi-year review process led by the Airports Commission, which was established in 2012 to evaluate options for maintaining the UK's status as a global aviation hub.

After assessing several potential expansion sites—including Gatwick and a proposal for a new airport in the Thames Estuary—the Commission concluded that a third runway at Heathrow offered the greatest economic benefits and connectivity improvements. The recommendation was made within the broader framework of the ANPS, a key planning policy instrument that outlines the government's support for airport development and guides the subsequent approval and delivery processes.


Airports Commission

Airports Commission: Final Report

July 2015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Foreword

## Government Announcement of its Preferred Scheme

On 25 October 2016, the Government issued a press release officially announcing its preferred option for addressing the pressing need for additional airport capacity in the South East of England: the construction of a new Northwest Runway (NWR) at Heathrow. This marked a significant policy milestone, following the Airports Commission's earlier recommendation in 2015, and represented a formal step toward implementing long-term aviation infrastructure expansion. The Government confirmed that the Northwest Runway Scheme would be set out in a draft ANPS, which would outline the strategic case for expansion, the associated environmental considerations, and the national need for increased connectivity. In accordance with the procedures established under the Planning Act 2008, the draft ANPS would be subject to a comprehensive public consultation process and parliamentary scrutiny before it could be designated, ensuring that stakeholders and the public had an opportunity to provide input on this nationally significant infrastructure proposal.

## 2017 DfT Consultation on Draft ANPS

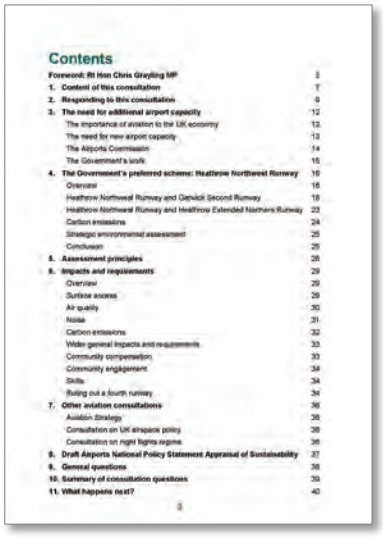
In February 2017, the DfT published a key consultation document titled *"Consultation on Draft Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England."* This marked the formal launch of the public consultation process required under the Planning Act 2008 and represented a major step forward in the Government's efforts to expand aviation capacity in the region. The draft ANPS set out the strategic justification for a new runway—specifically the proposed Northwest Runway at Heathrow—and detailed the policy framework that would support its development. It addressed critical issues such as economic growth, environmental impacts, airspace management, and surface access. The consultation invited input from stakeholders, industry experts, local communities, and the general public, allowing for a thorough examination of the government's preferred approach to meeting the UK's future aviation needs while balancing sustainability and public interest.


Department for Transport

Consultation on *Draft Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England*

Moving Britain Ahead

February 2017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Foreword: Rt Hon Chris Grayling MP



Aviation is a British success story and an important part of our industrial strategy. It supports economic growth, promotes the connections we need to travel and trade, and is at the core of Britain's standing in the global marketplace. We have the third largest aviation network in the world, behind only the USA and China. Aviation directly supports around 230,000 jobs, with many more employed indirectly, and contributes around £20 billion annually to the UK's GDP.

We face a capacity crunch

However, this success is not guaranteed. Today, Heathrow Airport in the busiest two runway airport in the world – and operates at full capacity, while Gatwick Airport is the busiest single runway airport. This makes it difficult for airlines to operate efficiently, resulting in delays, higher fares and reduced global connectivity. By 2040 every London airport will be at capacity unless we take action.

Airports such as Paris, Frankfurt and Amsterdam have spare capacity and are able to attract new flights to growth markets like China and South America. In 2015, Heathrow Airport lost its status to Dubai as the world's busiest airport in terms of (immaterial) passenger numbers.

Why we support a Northwest Runway at Heathrow

On 25 October 2016, I confirmed that the Government's preferred scheme for adding new runway capacity in the South East is through a Northwest Runway at Heathrow Airport, and that this would be subject to consultation through a draft National Policy Statement. This was a bold decision, taken for the country as a whole, that will ensure Britain has the connections it needs to thrive in the global market. It sent a clear signal that Britain is open for business.

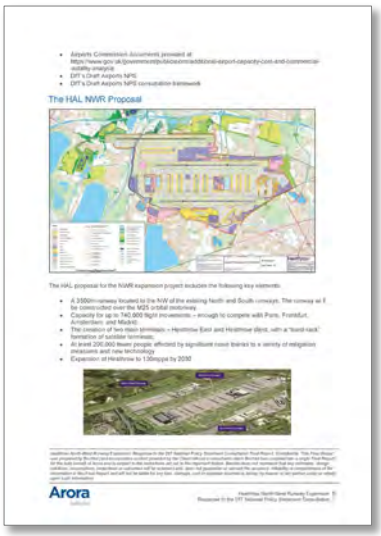
Heathrow Airport is uniquely well positioned to deliver the new long haul flights this country needs to secure its position in the global economy. This will be crucial as we leave the European Union so that we can get out into the world and do business with old allies and new partners alike. A Northwest Runway at Heathrow Airport will produce significant benefits, delivering tens of thousands of additional local jobs by 2030 and up to £61 billion of benefits to all passengers and the wider economy, not including wider trade benefits. It will provide new global connections and better routes for domestic customers, reduce passenger fares, and provide new capacity for freight imports and exports.

Heathrow Airport will be a growth engine for the whole of the UK. It will link to HS2 (at Old Oak Common) and Crossrail, and support new domestic air connections as well as safeguarding existing domestic routes. Heathrow Airport has proposed a further six new routes to Belfast International, Durham Tees Valley, Hornbeside, Liverpool, Newquay and Prestwick to be added after expansion, ensuring we have an economy that works for everyone. Heathrow Airport also enjoys a wide range of surface access options, linking the airport to the wider UK and providing resilience for passengers.

## Arora's Response to the DfT's 2017 Consultation on the Draft ANPS

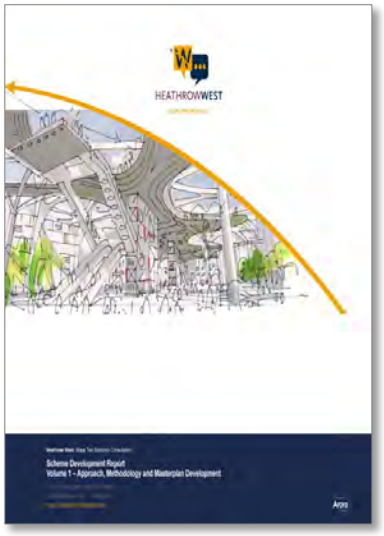
In response to the DfT 2017 publication titled *"National Policy Statement: Heathrow Airport Limited (HAL) Heathrow North-West Runway Expansion"*, the Arora Group prepared and formally submitted its own detailed report to the DfT. This submission, entitled *"Heathrow North-West Runway Expansion: Response to the DfT National Policy Statement Consultation – Final Report"*, was dated June 2017 and represented Arora's comprehensive review and position on the Government's proposed expansion plans. The report outlined Arora's perspectives on the feasibility, delivery model, and cost implications of the Northwest Runway Scheme, offering alternatives and highlighting areas where the private sector could bring added value and efficiency. As a key stakeholder with significant interests in the Heathrow area, Arora contributed to the development strategy by contributing technical, operational, and commercial insights. The submission formed part of the broader consultation process on the draft ANPS, aimed at shaping the final version of the policy through input from a wide range of aviation, infrastructure, and community stakeholders.

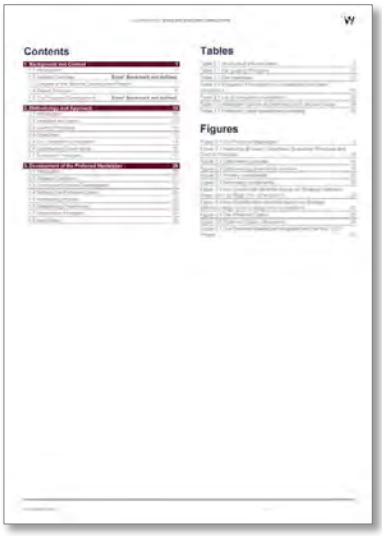





## Heathrow West Limited's Development Consent Order Application

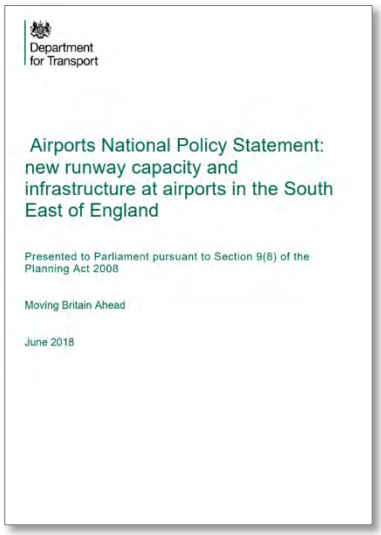
In 2019, HWL initiated the formal process of applying for a DCO to construct a new T6 within the western campus of Heathrow. This move was part of HWL's broader ambition to deliver an alternative, privately financed expansion solution at Heathrow, aligned with the Government's policy to increase airport capacity in the South East of England. In 2020, to support this application, HWL conducted a second stage of public consultation and produced the *Heathrow West: Stage Two Statutory Consultation Scheme Development Report.* This report documented stakeholder feedback, detailed how the scheme had evolved in response, and demonstrated HWL's commitment to transparency and regulatory compliance under the Planning Act 2008. The report formed a critical component of HWL's case for securing development consent and advancing an alternative vision for Heathrow's growth.




However, further development and the submission of the DCO application was delayed by significant challenges. Environmental groups legally challenged the expansion, arguing it violated the UK's commitments under the Paris Agreement, bringing the project under intense scrutiny. This challenge was eventually dismissed by the Supreme Court of the UK. Yet, by the time of this ruling, the COVID-19 pandemic had severely reduced air travel demand and created economic uncertainty across the aviation sector. Consequently, the pandemic became the primary reason the DCO process was not immediately resumed, postponing further progress on HWL's Proposed Development.

## 2025 Government Reaffirms Heathrow Expansion and Welcomes Proposals


Department for Transport

Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England

Presented to Parliament pursuant to Section 9(8) of the Planning Act 2008

Moving Britain Ahead

June 2018

In January 2025, Chancellor Rachel Reeves reaffirmed the Government's commitment to building a third runway at Heathrow, emphasising its expected economic benefits, including increased investment, exports, and improved global connectivity—key factors for sustaining growth and competitiveness. The Government invited proposals for the expansion, expecting submissions by summer 2025.

Although the announcement named Heathrow Airport Limited (HAL) as the expected proposer, the June 2018 ANPS clarifies that other parties can also submit proposals. Section 1.15 states, "For the avoidance of doubt, the Airports NPS does not identify any statutory undertaker as the appropriate person or appropriate persons to carry out the preferred scheme." This allows entities beyond HAL to propose expansion plans, encouraging competitive and innovative approaches that could deliver the project more efficiently, cost-effectively, and/or sustainably.

## DfT Formalises Proposal Request to Reshape Heathrow Expansion ANPS

Following Chancellor Rachel Reeves' January 2025 announcement reaffirming the Government's strong support for a third runway at Heathrow, the DfT took steps to formalise the expansion process. As part of this effort, the DfT actively engaged with key promotors to ensure broad input and collaboration.

Department for Transport

To: Arora Group

26 June 2025

Dear Arora Group,

Thank you for sharing your interest in submitting proposals by this summer for expansion at Heathrow Airport, as invited by the Chancellor, and for your continued engagement. We hope that the information included below is useful when further developing your proposal.

This invitation for proposals is not part of the Development Consent Order (DCO) process. The Government recognises that proposals will not yet be at a level of maturity that is required by the DCO process and that proposals will continue to be developed after submission.

The Government's clear objective is to enable the delivery of an operational third runway by 2035, with applications for planning consent coming forward in time to enable decisions to be made this Parliament. The expansion scheme should seek to maximise cross-economy growth opportunities and value for money. Scheme costs should be minimised for passengers, customers, and government by financing through private funding, including any surface transport costs. All proposals should demonstrate how they are compatible with the UK's legal, environmental and climate obligations, including in relation to local noise and air pollution.

The Government has previously engaged with potential promoters who have indicated that they are bringing forward proposals. To support any potential promoters, we have outlined below the essential information required in initial plans this Summer, reflecting discussions on what the Government expects at this stage. We will assess all proposals against

On 26 June 2025, the DfT sent a detailed letter to the Arora Group, outlining the specific criteria, expectations, and submission deadlines for expansion proposals. These proposals are intended to play a crucial role in informing and guiding revisions to the ANPS, with the goal of ensuring that the updated policy incorporates the most viable and innovative options available. Ultimately, the revised ANPS aims to support the Government's strategic objectives for improving connectivity, driving economic growth, and promoting sustainability at Heathrow.

In the letter, the DfT clearly outlines the Government's objective for promotor's expansion proposals as follows:

- Enable the delivery of an operational northwest runway by 2035, with applications for planning consent coming forward in time to enable decisions to be made in this Parliament
- Maximise cross-economy growth opportunities and value for money
- Scheme costs minimised for passengers, customers, and the Government by financing through private funding, including any surface transport costs
- Compatibility with the UK's legal, environmental and climate obligations, including local noise and air pollution.

## HWL's Commitment to Meeting Government's Objectives

HWL is fully committed to the principle of delivering the Northwest Runway at Heathrow in the desired timeframes, consistent with the Government's preferred scheme for increasing aviation capacity in the South-East of England. HWL strongly supports the government's position that expanding Heathrow is essential to enhancing the UK's global connectivity, driving long-term economic growth, and improving national infrastructure. HWL welcomes the Government's continued focus on infrastructure development as a vital enabler of national and regional prosperity.

HWL also shares the Government's belief that Heathrow expansion offers a strategic advantage to the UK, serving as a powerful catalyst for investment, job creation, and regional development across the country. However, HWL maintains that in order for this expansion to proceed successfully and deliver the intended benefits, the programme must meet critical tests of affordability, deliverability, and operational efficiency—principles clearly reflected in the ANPS. HWL's approach is rooted in these principles and aims to ensure that the project not only meets policy objectives but also provides lasting value to passengers, communities, and the broader UK economy.

## HWL's Vision for Heathrow Expansion

HWL's vision is to establish Heathrow as the world's leading global aviation hub—delivering unmatched international connectivity, exceptional passenger experience, and world-class operational performance. Leveraging Arora's strengths in hospitality and development, HWL's vision is anchored in the principles of choice, quality, efficiency, and safety, and aspires to guide investment in smart, demand-led infrastructure that enables long-term flexibility and global leadership.

## Development Objectives

The following development objectives reflect the Government's expectations and HWL's vision.

- **Deliver Government Objectives:** The design must meet the Government's expectations for Heathrow expansion while improving efficiency, constructability, and affordability.
- **Ensure Affordability:** The project must be delivered at a cost that is sustainable for airlines and affordable for passengers, supporting long-term growth and accessibility.
- **Align with Airline Operations:** The expansion layout must be designed around airline needs to ensure functionality, efficiency, and operational compatibility.
- **Enable Competition**: Delivery by a party other than Heathrow Airport Limited (HAL) must introduce healthy competition, driving innovation and cost discipline to benefit airlines and passengers.
- **Provide Delivery Certainty:** The programme must offer greater assurance of timely and successful delivery, enabling capacity growth through increased competition and user choice.
- **Maintain a Balanced Approach:** The scheme must balance affordability, capacity, environmental impacts and quality to ensure long-term resilience and value for money.
- **Support Strategic Positioning:** The infrastructure must be purpose-built to strengthen Heathrow's role as a premier global aviation hub, enabling growth in the UK economy, and ready to meet future demand and international expectations.
- **Minimise Negative Impacts:** The project must actively reduce adverse operational, environmental, and community impacts typically associated with infrastructure projects.

These objectives reflect HWL's commitment to delivering a safe, sustainable, efficient, and future-ready airport that responds to the needs of passengers, airlines, local communities, and the UK economy. They emphasise operational excellence, environmental responsibility, and integration with HAL's existing infrastructure, surrounding land uses and infrastructure, while supporting phased, financeable delivery.

Rooted in innovation and long-term thinking, the objectives aim to ensure Heathrow functions as a world-class global hub-accessible, well-connected, and designed to enhance capacity and passenger experience. By translating this vision into clear planning priorities, these objectives will ensure the expansion delivers lasting value, a positive legacy, and capacity for future growth.

## Outcomes Aligned with Vision and Objectives

The vision and objectives outlined in this Proposal Document can be realised by strategically incorporating a select set of infrastructure improvements into the current expansion plans prescribed in the ANPS. These improvements are intended to enhance both operational and cost efficiency and improve the overall quality of service delivery.

HWL's Proposal Document sets forth the following key improvements, which are intended to deliver measurable value, enhance operational performance, and align with both regulatory and commercial priorities:

- **New 2,800m Northwest Runway:** Positioned entirely east of the M25 motorway, operational by 2035 and capable of accommodating at least 260,000 annual Air Transport Movements (ATMs), this runway avoids the need to construct over one of Europe's busiest motorways. This approach presents the critical advantages of significantly reducing engineering complexity, lowering construction risk, and eliminating what is widely regarded as the single greatest threat to the viability and deliverability of the project (while adequately catering for airline requirements).
- **New T6:** Located west of T5, this is a single, purpose-built terminal, designed to minimise land take (and likewise compulsory purchase) and preserve Green Belt land. This straightforward approach provides the necessary terminal capacity to accommodate the additional passenger demand generated by the Northwest Runway.
- **New Public Transport Hub:** Designed to reduce reliance on private cars by promoting seamless access to rail and bus services, this hub supports the Government's objective to shift more airport journeys to environmentally sustainable modes of transport. It plays a key role in meeting national carbon reduction targets while improving overall connectivity for passengers and staff.
- **New Green Infrastructure:** Focused primarily west of the airport, improvements provide a natural buffer between airport operations and surrounding communities. The plan includes expanded public parks and upgraded cycle and footpaths that enhance quality of life and support long-term environmental sustainability.

Together, these selected development elements form a cohesive and forward-looking proposal that delivers meaningful advantages across the following key areas:

- **Efficient and Cost-Effective Delivery Achieved:** Results in reduced land take, minimal construction disruption, and faster delivery timelines with simplified logistics, improved buildability—all at a lower cost.
- **Improved Environmental and Community Outcomes Realised:** Supports sustainable transport, preserves more Green Belt land, and enhances green infrastructure—respecting surrounding communities and improving quality of life and accessibility for local residents.
- **Greater Value and Innovation Delivered:** Offers enhanced value for airlines and passengers, encourages innovation in both design and delivery, and introduces competitive alternatives to traditional delivery models.
- **Policy-Compliant and Integrated Redevelopment Secured:** Aligns with key elements of HAL's plans and contributes to a coherent, strategic, and policy-compliant redevelopment of Heathrow that fulfils the aims of the ANPS.

# The Heathrow West Limited Team

# 4. The Heathrow West Limited Team

## Advisory Board

To oversee HWL's Proposed Development, HWL created a London Heathrow Airport Expansion Advisory Board. Collectively, the Board brings many years of business, airline and oversight experience to the formation of the Heathrow West Proposed Development.

**Lord Grade of Yarmouth.** The Board is Chaired by Michael Grade, who sits as a non-affiliated Peer in the House of Lords. A former sports journalist, he entered the television industry in 1973 when he joined London Weekend Television as Deputy Controller of Programmes. He subsequently held roles as Chief Executive of Channel 4, Executive Chair and CEO of First Leisure, Chairman of Pinewood Shepperton Film Studios, Chairman of Camelot Group and Chairman of Ocado Group. He chaired the BBC's Board of Governors from 2004-2006, leaving to become executive Chair and CEO of ITV plc. Since 2022 he has chaired Ofcom, the competition and regulatory authority for the broadcasting, telecommunications, postal industries and online safety. He is also Chair of Imagineear, which produces digital displays for museums, galleries and live attractions.

**Sir Rod Eddington AO** is a pioneering Australian engineer and business leader. A Rhodes Scholar at Oxford, he earned a DPhil before building his aviation career with Cathay Pacific (MD, 1992–96), Ansett Airlines (Executive Chair, 1997–2000) and British Airways (CEO, 2000–05), notably steering BA through post-9/11 recovery. Knighted in 2005 for services to civil aviation, he was appointed Officer of the Order of Australia in 2012 and received Japan's Grand Cordon of the Order of the Rising Sun in 2015. Now Chair of JP Morgan's Asia Pacific Council, Infrastructure Partnerships Australia and Lion, he also holds numerous non-executive board roles. Author of the "Eddington transport Study. December 2006" for the UK Government.

**Robert Webb KC** is a legal and corporate leader with a career spanning over five decades. Called to the Bar in 1971 and appointed Queen's Counsel in 1988, he served as Head of Chambers at 5 Bell Yard (1988–1998) and Recorder of the Crown Court. He later became General Counsel at British Airways (1998–2009) and Rolls Royce (2012–2015). Webb held non-executive roles including Senior Independent Director of the London Stock Exchange, Chairman of BBC Worldwide, Autonomy, Darktrace, and Luminance, and trustee of Comic Relief. He joined Brick Court Chambers as door tenant in 2015.

**Mike Clasper CBE CMgr CCMI** is a distinguished British business leader and engineer. A Cambridge-trained engineer, he spent 23 years rising through Procter & Gamble's ranks, culminating as President of Global Home Care. He then led Heathrow's parent group, BAA plc, as CEO and later served as Chairman of HM Revenue & Customs (2008–12). Subsequently he chaired Coats Group and Guinness Peat Group, and currently chairs SSP Group, Bioss International and serves on Arora's advisory board. Honoured with a CBE in 1995, he also served as President of the Chartered Management Institute.

**Mike Bannister** is a distinguished airline pilot best known as Chief Pilot of British Airways' iconic Concorde fleet. A passionate aviator, Bannister joined British Overseas Airways Corporation (BOAC), British Airways' predecessor, in 1969. He became part of the Concorde team in 1977, accumulating nearly 9,600 flight hours on the supersonic airliner. Bannister's leadership culminated in his appointment as Chief Pilot of Concorde in 1995, a role he held until the aircraft's retirement in 2003. He famously captained Concorde's final flight from New York to London on 24 October 2003, marking the end of an era in aviation history.

**Michael "Mike" Street** was Director of Customer Service and Operations at British Airways until 2005 and joined its Board in 2000. He oversaw global operations, 26,000 front-line staff, and key planning efforts including Terminal 5. Known for his strong rapport with employees and business acumen, he secured a critical three-year pay deal with unions ahead of the 2004 Heathrow disruptions, earning their support during leadership scrutiny. Street had a long, respected career at BA. He also served as Deputy Chair of the BA Charitable Trust, a non-executive Director of WSH, and held fellowships with the Royal Aeronautical Society and Lancaster University.

## The Arora Group

The Arora Group is an independent private group of companies, which operates in hotels, property and construction. The group currently owns and operates several hotels and commercial premises at most major UK airports. Founded in 1999 by Chairman Surinder Arora and headquartered at Heathrow, Arora Group employs approximately 2,800 people, with just over 1,700 of these people employed by the businesses located at Heathrow and 72% of its workforce living in the local community. At Heathrow, Arora Group is one of the largest landowner stakeholders and have several business interests that are directly linked to the proposed expansion of the airport.

## Hotels


Arora Group's expertise in hospitality is substantial, rooted in a long-standing presence at Heathrow's periphery as well as a strong presence at Gatwick Airport and a new build hotel with over 400 bedrooms directly connected to Dublin Airport's Terminal 2, currently under construction. The Arora Group has strategically developed and operates a portfolio of **15 hotels** with more than **6,000 bedrooms** of which almost **5,000** bedrooms **directly serve UK Airports** and almost **3,000** of these at Heathrow alone. Operating these properties has provided the Arora Group with an invaluable, ground-level perspective on passenger flows, service requirements, airline crew logistics, and the critical interplay between landside and airside operations. This extensive experience has fostered a granular understanding of the airport's daily rhythms and the specific needs of its diverse users, including leisure and business travellers and airline staff.

The hotel division was established in 1999 and continues to remain at the core of the Arora Group's service delivery and revenue creation, servicing circa **3 million guests** each year. As well as operating independent properties, the Arora Group partners with the world's largest brands such as Accor Hotels, Marriott Hotels, IHG Hotels & Resorts, Radisson Hotel Group and Hilton Hotels and Resorts. The fact that these competing global brands have trusted the Arora Group with their high-end brands including the Fairmont, Sofitel and InterContinental, is a powerful indicator of its standing as a skilled and respected operator and negotiator.

With their deep-rooted expertise in hospitality, the Arora Group is uniquely positioned to inject a fresh perspective and a renewed focus on guest experience into Heathrow. By leveraging proven strategies in customer service and operational excellence, the Arora Group can transform Heathrow from a functional hub into a destination that prioritises passenger comfort, satisfaction, and overall well-being, ultimately enhancing the airport's reputation and commercial success.

Further testament to the Arora Group's operational excellence is the numerous and well documented awards and accolades that their airport hotels have won over the years including Sofitel London Heathrow voted as Best Airport Hotel for 5 consecutive years by Business Traveller UK and also being voted Best Airport Hotel in Europe by Skytrax.

## Property


The Arora Property division was established in 2005 to provide property and asset management services to the group's growing commercial property portfolio. Presently, it **manages more than 145 properties representing over £2.5 billion of property assets**, including operated hotels, a portfolio of externally leased hotels, offices, commercial spaces, retail, car parks and land holdings in London, major regional airports, the Home Counties, and Scotland.

**Asset Management:** Providing strategic services that include financing, refinancing, acquisitions, disposals, and annual valuations.

**Facilities Management:** Overseeing landlord services for high-end apartment complexes, multi-let office buildings, and various estate arrangements, including security, cleaning, and maintenance.

**Property Management:** Offering full services such as rent collection, service charge management, lease negotiations, and the management of business rates liabilities.

**Town Planning:** Delivering a complete planning service across their portfolio, covering applications, appeals, local planning submissions, and crucial liaison with local authorities and coordination of consultants.

The Arora Group's retail spaces encompass more than **1m square feet** and **162 units,** offering diverse shopping, dining, and entertainment options in prime locations, creating vibrant, community-focused environments with sustainability and innovation at the core of the Group's philosophy.

## Construction

The Arora Group's extensive and proven construction expertise, particularly within the complex environment of airport-adjacent developments, is a critical asset for the successful realisation of the Heathrow West campaign. By leveraging an integrated approach to design, build, and project management, the Group offers a unique blend of practical experience and strategic insight essential for navigating the intricate challenges of large-scale infrastructure expansion at one of the world's busiest airports.

The Arora Group's construction capabilities are not merely theoretical but are grounded in a substantial portfolio of successfully delivered projects, many of which are directly relevant to the scale and complexity of airport infrastructure:

- **Large-Scale Hotel and Mixed-Use Developments:** The Arora Group has developed numerous large hotels, often incorporating extensive conference facilities, retail spaces, and complex service infrastructure. Examples like the Sofitel London Heathrow Terminal 5, Crowne Plaza and Holiday Inn Express T4, Hilton Garden Inn T2 & T3 and the currently under construction, Sofitel Dublin T2 – are all directly connected to the airports, demonstrate their ability to manage intricate construction logistics in a highly sensitive operational environment. These projects involve significant structural engineering, advanced M&E (mechanical and electrical) systems, and high-quality finishes, mirroring the demands of airport terminals.

- **Integrated Design and Build Approach:** The Arora Group often takes an integrated approach, overseeing projects from conception through to completion. This holistic control allows for seamless coordination between design, procurement, and construction phases, minimising delays and cost overruns. This contrasts with fragmented approaches that can plague large public sector projects.

  **Logistical Mastery in Confined/Operational Sites:** Building in close proximity to a live airport requires exceptional logistical planning, strict adherence to safety protocols, and minimal disruption to ongoing operations. The Group's experience in such environments, managing deliveries, personnel, and noise, is directly transferable to the challenges of HWL's Proposed Development.

- **Quality Control and Workmanship:** As a developer of luxury properties, the Arora Group maintains high standards of quality control. This commitment to superior workmanship ensures that structures are not only functional but also durable, aesthetically pleasing, and meet the long-term demands of heavy public use, a crucial aspect for airport facilities.

## Project Planning and Delivery Team

HWL has assembled a highly experienced and credible team which has the track record and ability to plan and deliver HWL's Proposed Development.

### Core Team

Bechtel has played a leading role in the development, delivery, and operation of major iconic airports worldwide, including recent projects in Doha, Qatar, and Muscat, Oman.

In the UK, the company has been managing the development of capital projects at London Gatwick Airport for over 15 years. It is in this role where they have developed extensive knowledge of the UK Government's airport planning and design regulations as well as its DCO process. They also have gained a deep understanding of the local supply chain resources and capabilities especially as it relates to developing airport infrastructure in a constrained operating environment, similar to Heathrow.

In Australia, Bechtel is working with the New South Wales government to plan and deliver the new Western Sydney Airport. The project recently achieved a construction completion milestone seven months ahead of schedule. It was recently appointed Capital Portfolio Partner for Perth Airport, overseeing delivery of a major terminal expansion and new runway program, and was also selected to provide strategic terminal planning advice for the Eastern Expansion Program at Sydney Kingsford Smith Airport.

In Saudi Arabia, Bechtel is serving as the Terminals Delivery Partner for the new King Salman International Airport in Riyadh. Bechtel is responsible for managing the planning, design, and construction of all major passenger terminal facilities as part of a large-scale capital development program to transform the airport into a world-class global hub.

As part of Alterra Partners—a consortium with Singapore Changi Airport—Bechtel served as airport owner and developer and managed airport concessions and expansions at Perth Airport, London Luton Airport, Jorge Chávez Airport (Lima, Peru), Juan Santamaría Airport (San José, Costa Rica) and Curaçao Airport (Kingdom of the Netherlands).

Scott Brownrigg Architects has a distinguished history in airport design, from the BOAC Terminal at JFK in the 1970s to the new Istanbul Airport. They designed the original Terminal 4 at Heathrow and delivered several projects at Gatwick, including the innovative Pier 6 with its passenger bridge. Their recent work includes developments at Dubai and Copenhagen airports, reflecting their ongoing role in shaping modern aviation infrastructure. With experience in both legacy and new-build terminals, Scott Brownrigg continues to support global airport programs focused on passenger experience, operational efficiency, and sustainable design for the next generation of air travel.

**Doig+Smith** has wide ranging experience delivering consultancy services including cost management and project management for high profile construction projects across the many sectors including Transport, Health, Industrial, Commercial, Education, Retail, Leisure and Infrastructure.

Doig+Smith have a particularly strong track record in the Aviation Sector with more than 30 years of experience delivering projects at airports across the UK including Heathrow, Gatwick, Edinburgh, Glasgow, Aberdeen and Southampton.

**Haskoning** is a globally recognised engineering, design, and project management consultancy with a rich heritage spanning more than 140 years. Operating across multiple sectors—including aviation, maritime, water, and urban development—the firm delivers integrated and sustainable solutions to complex challenges worldwide. Known for combining deep technical expertise with digital innovation, Haskoning has played a pivotal role in shaping resilient infrastructure and smart environments, partnering with governments, airport operators, and private clients to future-proof critical assets and improve quality of life across the globe.

**NACO**, a wholly owned subsidiary of Haskoning, is one of the leading airport planners and advisors globally with an enviable reputation in developing and planning some of the busiest and newest airports. Since 1948, NACO has been responsible for laying the groundworks for successful airports of the future, as original designer of airports such as Singapore Changi, Amsterdam Schiphol and Bangkok Suvarnabhumi, and masterplanners for Beijing, Frankfurt and Kuala Lumpur International Airport (KLIA) - for which they were recently requested to return to develop the future vision and masterplan.

**CMS Cameron McKenna Nabarro Olswang** is a leading international law firm, with 91 offices located in 50 countries across the world providing future-facing legal advice to help organisations thrive, combining local market knowledge and a global perspective. CMS works with a diverse range of clients, from large corporations and mid-sized businesses to innovative start-ups, helping them navigate the challenges and opportunities in their markets. The firm is made up of over 7,000 lawyers with expertise across practice areas such as Banking, Competition, Construction, Energy, Employment, ESG, Financial Services & Regulation, Insurance, Intellectual Property, Real Estate, Tax and more.

**DWD** is a specialist planning and surveying consultancy, which for over 35 years, has been involved in the consenting and delivery a range of nationally significant infrastructure projects across the UK. DWD forms part of the RSK Group Limited, a fully integrated, environmental, health, safety and engineering consultancy employing over 15,000 staff worldwide. DWD has led or is leading teams on 20 Development Consent Orders considered or being considered under the Planning Act 2008. DWD also has significant experience in aviation planning. Our team members include Directors with experience of working across numerous airport projects including at Heathrow, Gatwick, London City, London Biggin Hill, Rochester Airport, Teesside International Airport and Dublin Airport.

**Lord Banner KC** – specialist planning and infrastructure King's Counsel at Keating Chambers, appointed by the Prime Minister to lead the Independent Review of Legal Challenges to Nationally Significant Infrastructure Projects in 2024, the recommendations of which are being given effect in the Planning and Infrastructure Bill 2025.

## Support Team

In addition to the core team members listed above, HWL has engaged the services of the following specialist planning, design, development, environmental, and airport operations consultants. Each of these firms is widely recognized for its deep expertise, technical excellence, and long-standing track record of success in its respective field. They bring extensive experience working on complex infrastructure and aviation projects, often in highly constrained and operationally sensitive environments. Their involvement adds a layer of strategic insight, proven delivery capability, and industry credibility that reinforces the robustness and quality of HWL's Proposed Development.


**LDA Design**
Masterplanning, Landscape Architecture, Green Infrastructure and Sustainability consultants

**Millar Management**
Baggage Handling Consultants

**BECG**
Consultation Consultants

**FTI Consulting**
Aviation Business Consulting

**RPS Group**
Terminal Engineering Consultants

**CHANGI airports international**
Global Airport Management

**RSK biocensus**
Ecological Consultancy

**Env-isa**
Environmental Services

**BK**
**Burton Knowles**
Land referencing consultants

**Bickerdike Allen Partners**
Architecture Acoustics Technology

**PA**
Consulting Technology Innovation

**ANS Air Navigation Solutions**
Air traffic control and Engineering

**i-Transport**
Independent Transport Planning Consultancy

**Volterra**
Development Consultancy

**MFD Thornton Tomasetti**
Security and Engineering Excellence

**CERC**
Cambridge Environmental Research Consultants LTD

# Airport Scheme Design

# 5. Airport Scheme Design

## Location of Proposed Development

### Existing Airport Vicinity

Heathrow is located in the London Borough of Hillingdon, in the western part of Greater London, approximately 15 miles (24 kilometres) west of Central London as shown in Figure 1. As the busiest airport in the United Kingdom and one of the major international aviation hubs globally, Heathrow is strategically positioned near several key transport corridors. The airport is bounded by major roadways, including the M25 motorway to the west, which serves as the London orbital route, and the M4 motorway to the north, providing direct access to Central London and other regional destinations. The A4 (Bath Road) runs along the airport's northern perimeter, offering local connectivity.

The area surrounding Heathrow consists of a mix of land uses. To the north and east, there are residential neighbourhoods such as Harlington, Cranford, and Hounslow, while the southern and western peripheries include greenbelt land, parkland, and semi-rural areas like Stanwell Moor and Harmondsworth. There are also significant industrial and commercial zones, including logistic centres, airport-related businesses, and hotels, particularly concentrated along Bath Road and the southern approach to the airport. Heathrow's location is at the heart of the Thames Valley economic region, with excellent connectivity to London and the wider UK, making it a key node for passenger and freight transport.

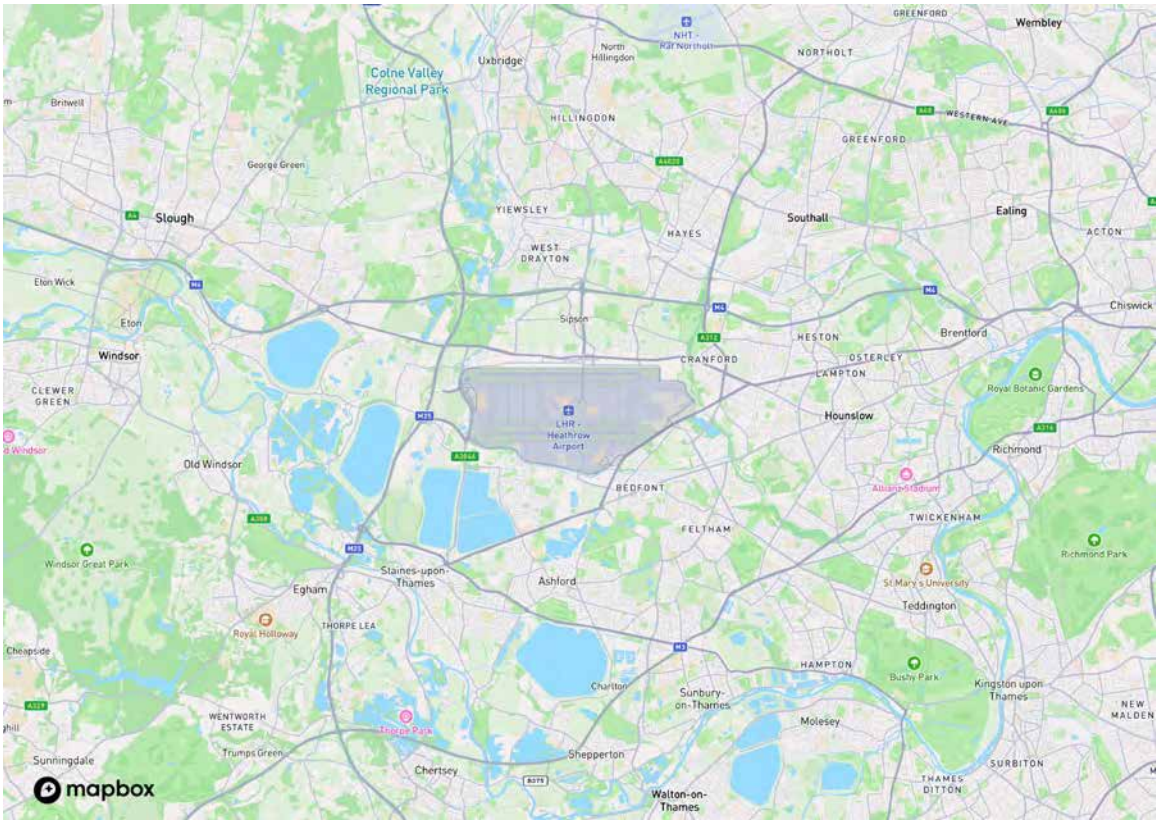



**Figure 1. Existing Heathrow Vicinity Map**

## Existing Airport Site

Heathrow spans approximately 12km², featuring a dual-parallel runway layout (northern and southern runways) with connecting taxiways and four main passenger terminals: Terminals 2, 3, 4, and 5 as shown in Figure 2. Terminal 2 (T2), the "Queen's Terminal," serves Star Alliance carriers and includes modern facilities and two concourses—A and B—with a total of 48 gates. Terminal 3 (T3), one of Heathrow's oldest terminals, is used primarily by Oneworld and long-haul carriers like Virgin Atlantic and Emirates, offering 28 gates, including several A380-capable stands. Terminal 4 (T4), located on the southern perimeter, is used by SkyTeam and other non-aligned airlines, featuring 22 gates and easy access to the airport's cargo area. T5, the largest and most modern, is used exclusively by British Airways and Iberia, with 53 gates spread across three concourses.

The airport includes extensive cargo and aircraft maintenance facilities, with zones for British Airways Engineering and other providers like Swissport. Access is provided by the M4, M4 Spur, M25, A4, and A30 roads. Each terminal is served by short- and long-stay car parks, hotels, and bus/taxi ranks. The central bus station supports T2 and T3, while inter-terminal travel is facilitated by the Heathrow Express, Elizabeth Line, Piccadilly Line and shuttle buses.

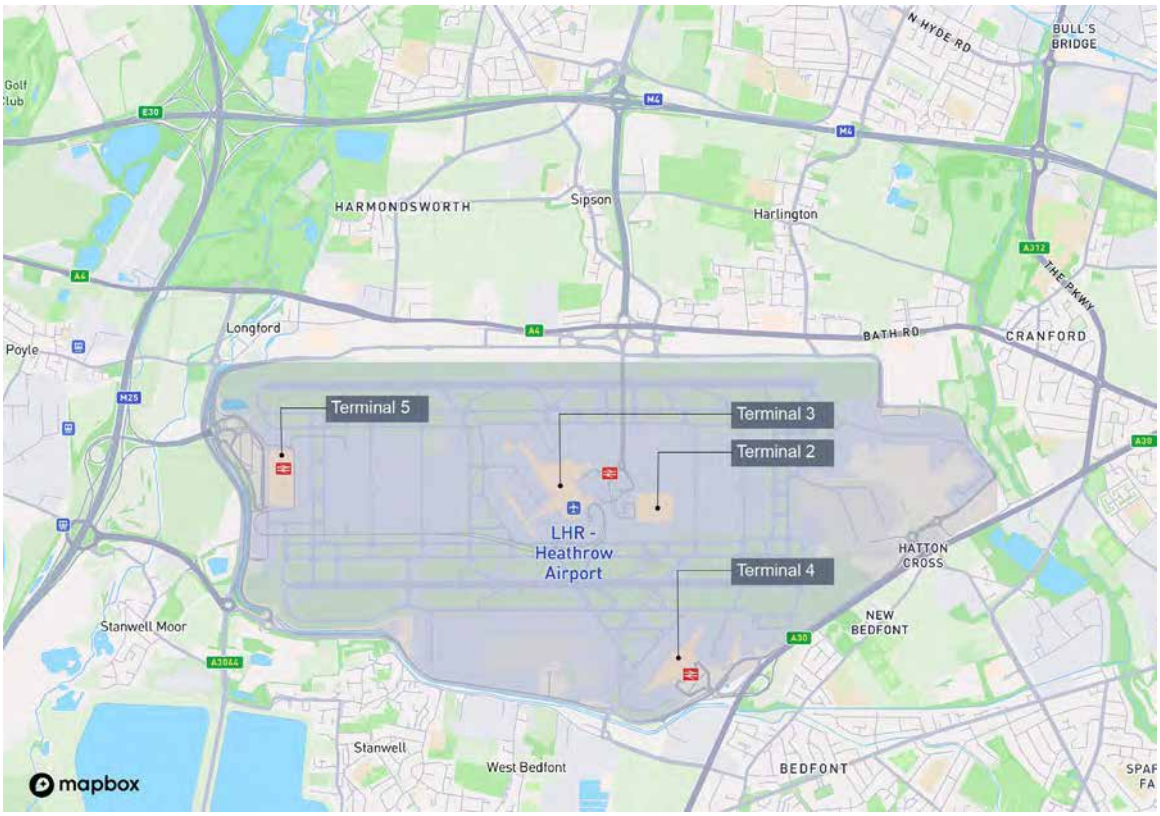



**Figure 2. Existing Heathrow Site**

## Scope of Project

The following describes the scope of HWL's Proposed Development. It also includes descriptions of those elements of the HAL 2019 Preferred Masterplan that would be changed by HWL's Proposed Development as well as to the elements of the HAL 2019 Preferred Masterplan that would remain unchanged.

HWL will act as the promoter of HWL's Proposed Development and intends to submit a DCO application for the proposed works in due course.

### Scope Included in HWL's Proposed Development

HWL's Proposed Development includes the following key scope elements, as shown in Figure 3:

- **New Northwest Runway:** A 2,800m runway located northwest of Heathrow's two existing runways and entirely east of the M25 motorway, capable of accommodating at least 260,000 annual air transport movements. Associated airfield developments include a taxiway system connecting the existing airport taxiways to the Northwest Runway and to the new passenger terminal zone, and pier-served and remote aircraft parking aprons
- **New Passenger Terminal:** A new T6 passenger terminal, capable of accommodating 40 million passengers per annum (mppa), including T6A and satellite pier T6B. Other key passenger terminal components include a pedestrian bridge connecting T6A and T6B, an ITP providing two new hotels, landside road access to T6A and T5, and a Public Transport Hub that accommodates extensions of rail systems
- **Surface access improvements:** Improvements to public roads (provision of both north and south road access to the ITP, modifications to M25 Junctions 14 and 14A, re-alignment of the A4 and A3044, improvements to the A3113 and diversions, alterations and improvements to minor and access roads), new car parking totalling over 33,000 spaces (at the ITP and at the Central Parkway and Southern Parkway, with the latter two linked to the ITP via automated people movers) and additional active travel routes
- **River Diversions:** Diversion of four rivers that currently occupy the T6 site, including ecological and flood prevention enhancements
- **Green Infrastructure proposals**: Proposed initiatives include landscaping, recreational and ecological mitigation and improvements
- **New operations facilities**: Facilities include those to support increased flight activities related to the new Northwest Runway and replacements for facilities displaced by HWL's Proposed Development. Key operations facilities include a fire station serving the new runway, maintenance facilities, an airline operations building, ground-support equipment staging and maintenance facilities, security posts and a petrol station
- **Ancillary facilities:** Facilities include those required to support the new development, including on-site energy generation, an energy centre serving T6, utility systems, airside roads and tunnels and other works necessary to deliver the scheme
- **Aviation fuel facilities:** Fuel facilities include a delivery pipeline, a fuel storage facility ("fuel farm") and underground hydrant fuelling systems at all new aircraft parking aprons

- **Site clearance and grading:** These works include demolition of existing buildings and infrastructure that are displaced by HWL's Proposed Development
- **Temporary works relating to the construction of HWL's Proposed Development:** Examples of these works include a new railhead, temporary access roads, highways works, temporary works compounds and work sites

Key project scope elements are further described below.

## Coordination Between HWL's Proposed Development and the HAL 2019 Preferred Masterplan

HWL's Proposed Development is intended to be implemented as a largely self-contained development, independent of any concurrent HAL projects elsewhere on the Heathrow site. HWL's Proposed Development, including the Northwest Runway, can achieve the targets set by the ANPS regarding additional air transport movements per annum and also provides substantial incremental passenger terminal capacity at T6 to accommodate the capacity of the new runway.

While implementation of HWL's Proposed Development will require coordination with HAL regarding alignment of existing and new infrastructure and systems, HAL will be able to implement any of its other projects elsewhere at Heathrow without impediment from HWL's works. The delivery of HWL's Proposed Development – including meeting the capacity uplift identified in the ANPS – is not contingent upon improvements elsewhere at Heathrow by HAL.

## Components of the HAL 2019 Preferred Masterplan Not Affected by HWL's Proposed Development

Components of the HAL 2019 Preferred Masterplan that are not affected by HWL's Proposed Development including the following:

- Amendments to the Central Terminal Area (CTA), including enlarged Terminal 2A, additional T2 remote piers T2C and T2D, new Southern Road Tunnel, new taxiways and removal of T3
- Amendments to T4, including a multi-storey car park
- New Northern Parkway
- Amendments to the cargo area
- Airport supporting development within the HAL 2019 Preferred Masterplan, for example, Hatton Cross development, amendments to the Southern Perimeter Road, active travel additions, new hotels and re-provided Immigration Removal Centres.

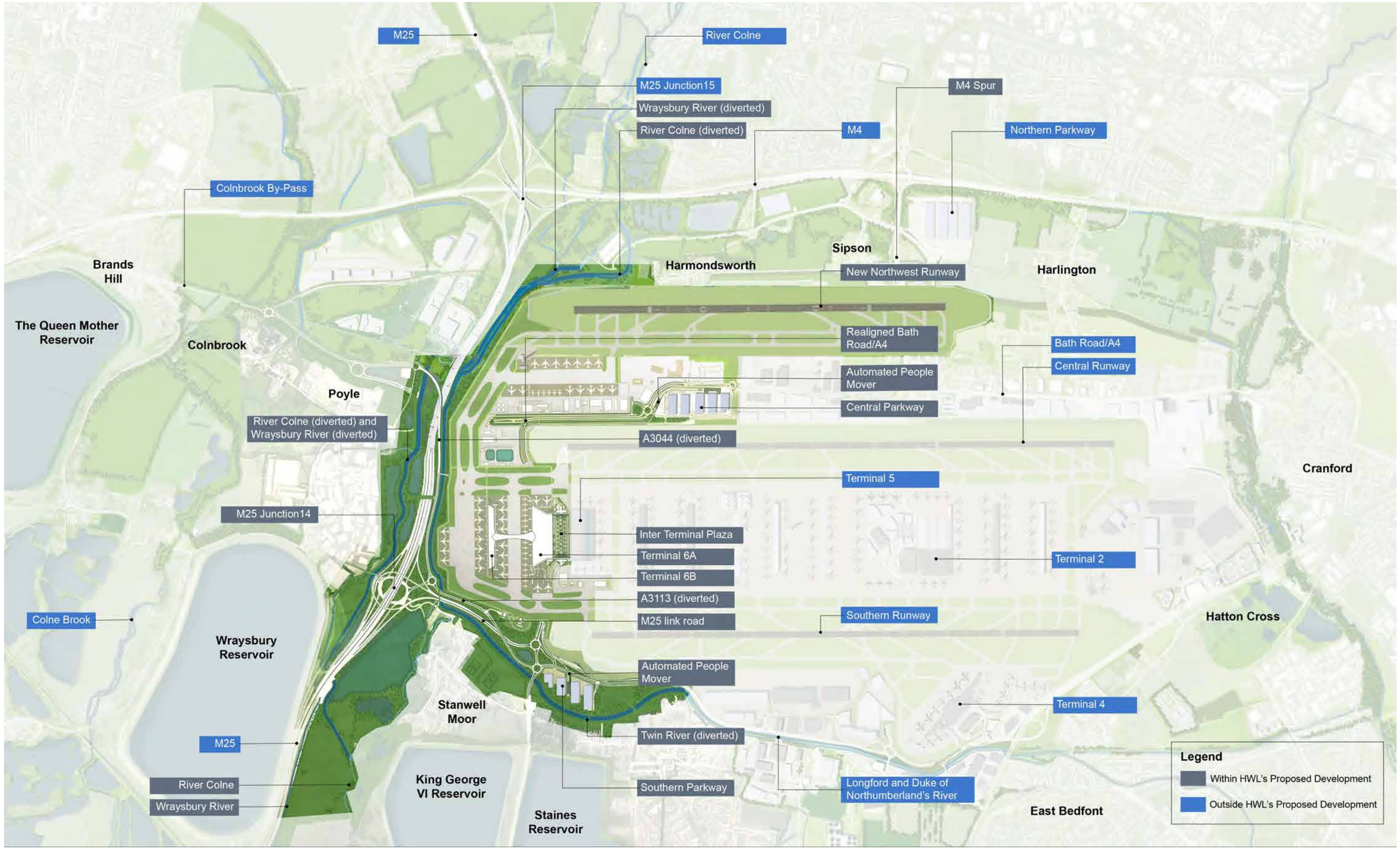



**Figure 3. HWL's Proposed Development**

## 2,800m Northwest Runway, Taxiway System and Aircraft Parking Aprons

### Runway

HWL's Proposed Development illustrates the preferred location and length of the Northwest Runway at Heathrow. The main purpose of this proposal is to minimise the cost and complexity of the new runway's construction by avoiding an M25 motorway crossing, while offering optimal flight-operation capability. Runway location, length and Obstacle Limitation Surfaces are further described below.

- **Runway location:** The centreline of the new runway is positioned 1,035m north of the existing Northern Runway, a distance that has been established in the ANPS to enable fully independent parallel operations, as illustrated in Figure 4. This separation allows for simultaneous arrivals and departures on both runways without operational interference, significantly increasing overall airfield capacity and resilience. At its western extent, the new runway terminates approximately 500m east of the existing M25 motorway right-of-way. This alignment ensures that the construction and subsequent operation of the new runway will not encroach upon or require any modification to the existing M25 corridor. Moreover, it avoids disruption to the network of industrial, commercial, and residential properties located to the west of the motorway.

  By maintaining this buffer between the new infrastructure and the M25 motorway, the proposal minimises the need for costly land acquisition, mitigates potential impacts on existing developments and communities, and avoids the complex engineering challenges that would otherwise arise from interfacing directly with the motorway or surrounding built environment. This careful placement reflects a commitment to delivering the required capacity enhancements while minimising environmental, social, and economic disruption. The analysis of the minimum separation distance between the runway and the M25 motorway is presented in Appendix A: Runway Assessment.

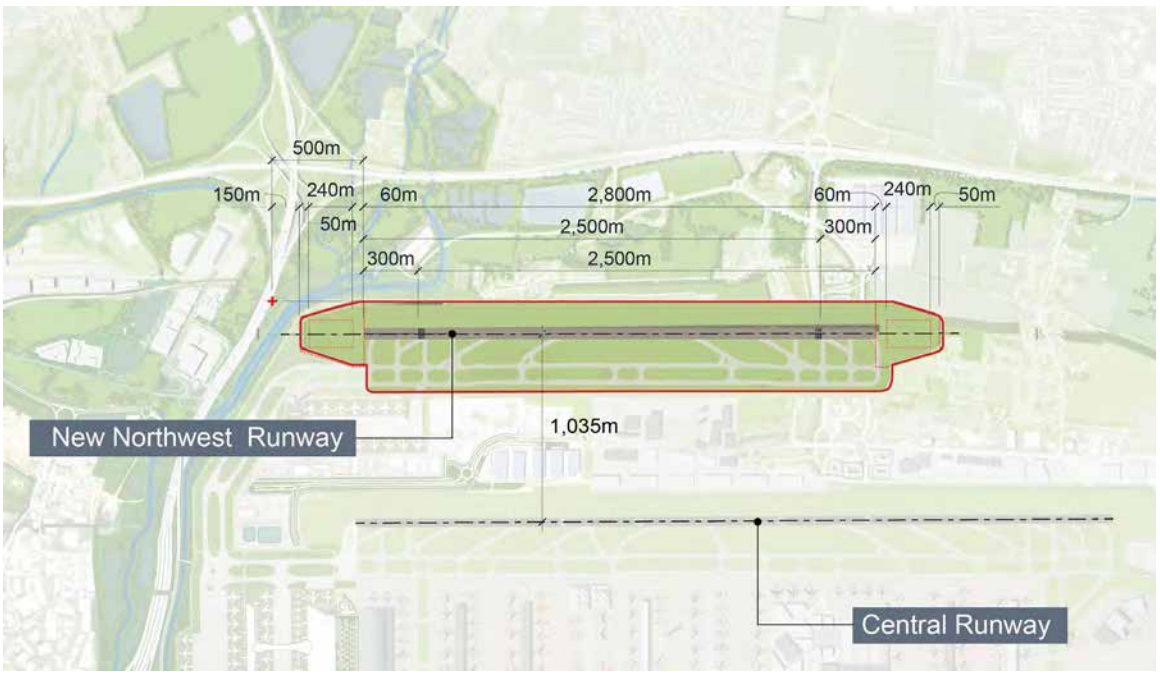



**Figure 4. 2,800m Northwest Runway Plan**

- **Runway length:** The proposed runway length is 2,800m also as shown in Figure 4. Combined with the eastward displacement noted above, the eastern end of the new runway is approximately 900m farther east than the boundary illustrated in ANPS Annex A.

  The eastward displacement will require a crossing of the M4 spur and additional compulsory purchase of land and residences at the runway's east end. This condition requires a far less complex and challenging undertaking than the M25 crossing, thus reducing the overall cost, duration and impact of the project.

  In addition, a runway length analysis conducted by IAG and its consultants concludes that a runway length of 2,800m is appropriate for the proposed Northwest Runway at Heathrow. IAG, whose airlines currently operate a majority of the flights at Heathrow, based their analysis on current and anticipated flight operations at the airport, including actual aircraft weights on landing and take-off, by aircraft type.

  IAG's analysis shows that the 2,800m runway can accommodate all landings, all take-offs by narrow-body aircraft, and 89% of take-offs by wide-body aircraft, resulting in an average of only 14 flights a day which would simply use one of the airport's two existing runways for take-off.

  This operating scenario is entirely consistent with the airport's eight future flight operating modes, during which at least two runways are always in use for take-offs. The 2,800m Northwest Runway can fully integrate with the airport's future flight operations, supporting the airport's noise-respite policy and its optimal capacity. The runway length analysis is presented in Appendix A: Runway Assessment.

- **Obstacle Limitation Surfaces:** Obstacle Limitation Surfaces (OLS) are imaginary three-dimensional surfaces established around airport runways to control the height of natural and man-made objects in order to protect safe aircraft operations. These surfaces are defined in international aviation regulations and serve to minimize the risk of obstacles interfering with aircraft during critical phases of flight. The key types of OLS include:

  - **Inner Horizontal Surfaces**: These surfaces extend horizontally and upward in a conical shape around the airport, restricting the height of objects in the vicinity and further outward to preserve navigational and operational safety for arriving and departing aircraft.
  - **Approach & Take-off Climb Surfaces**: Oriented along the extended centerlines of runways, these surfaces protect aircraft during landing approaches and initial climb-outs after takeoff, ensuring a clear flight path free from obstructions.
  - **Transitional Surfaces**: These provide lateral protection on both sides of the runway and its approach areas. They slope upward and outward from the runway edges and approach surfaces to maintain safe clearance from obstacles during maneuvering or emergency situations.
  - **Balked Landing Surface**: Specifically applicable to instrument runways, this surface safeguards the airspace required for a missed approach or balked landing, ensuring a safe climb-out path if a landing must be aborted at the last moment.

  The key Obstacle Limitation Surfaces (OLS) in the immediate vicinity of the airport associated with the new runway are shown in Figure 5.

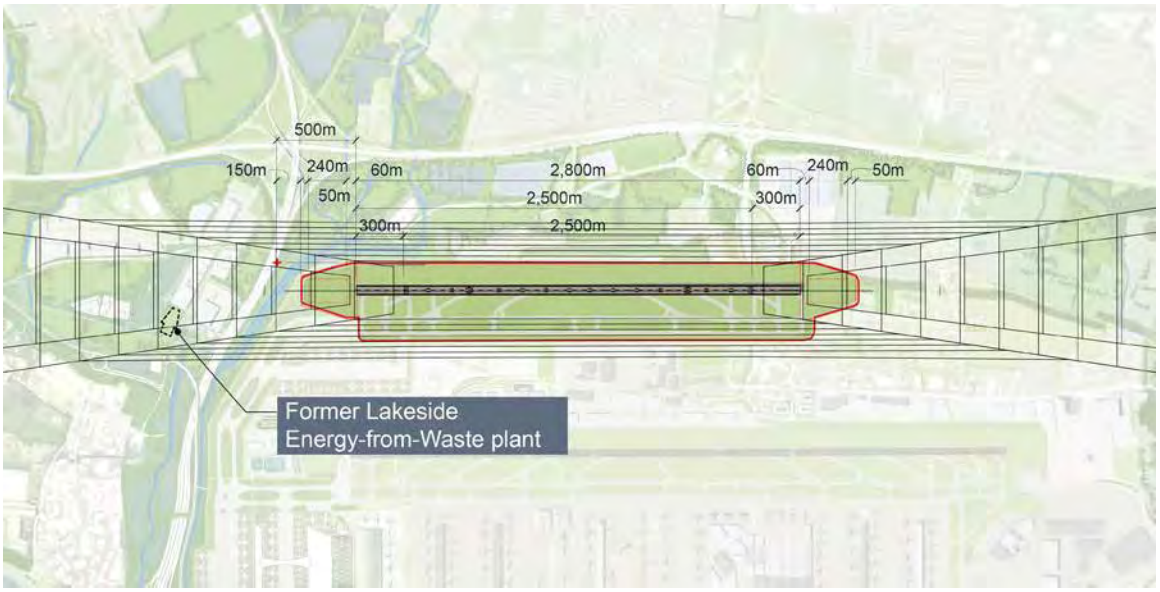



**Figure 5. OLS in the Vicinity of the Airport**

The Lakeside Energy-from-Waste plant building and stack currently represent an obstacle for the new runway because it infringes on its precision approach and take-off climb surfaces and the inner horizontal surface as shown in Figure 6.

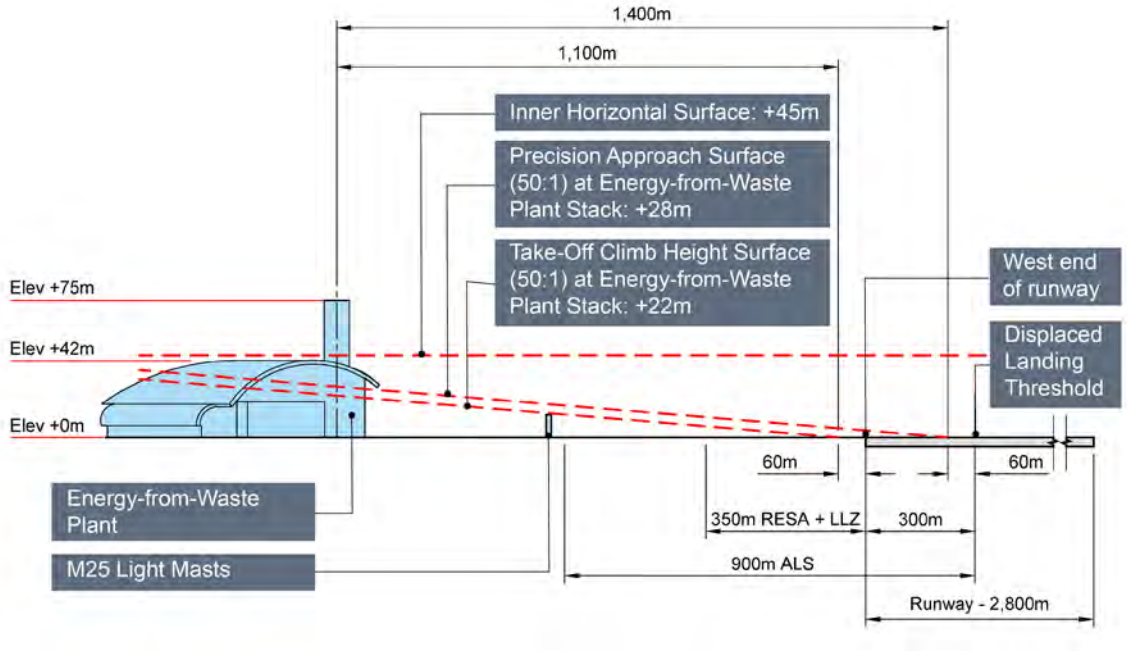



**Figure 6. Lakeside Energy-from-Waste OLS Encroachment**

Consideration could be given to relocation of the new runway approximately 350m farther to the north, resulting in approximately 1,400m separation from the existing Northern Runway. With such a runway relocation, the height of the Lakeside Energy-from-Waste plant would no longer conflict with the runway's precision approach and take-off climb surfaces and revert to its current status wherein it would only be governed by the inner horizontal surface. This condition, however, would require a safety assessment by the UK Civil Aviation Authority (CAA) to determine if it would be acceptable to remain in its current location. Additional information on this subject is presented in Appendix A: Runway Assessment.

## Taxiway System

The taxiway system included in HWL's Proposed Development provides aircraft circulation and access to parking stands in the new T6 terminal complex, including at T6A and T6B, and connects the airport's existing taxiway system to the new runway. The main components of this taxiway system are illustrated in Figure 7. Within the T6 terminal complex, dual taxiways are provided adjacent to all pier-served gates for operational efficiency and resilience. North-south through-taxiway capacity is provided west of the T6 terminal complex for Code F aircraft.

Two Code C taxiways/one Code E taxiway are provided between T6A and T6B for access to the pier-served stands along the west face of T6A and along the east face of T6B. The Code E taxiway immediately west of T6B provides access to the pier-served stands along the west face of T6B. The western-most Code F taxiway provides through-access to aircraft bound to/from existing Heathrow Terminals T2-T5 and serves remote stands to the west.

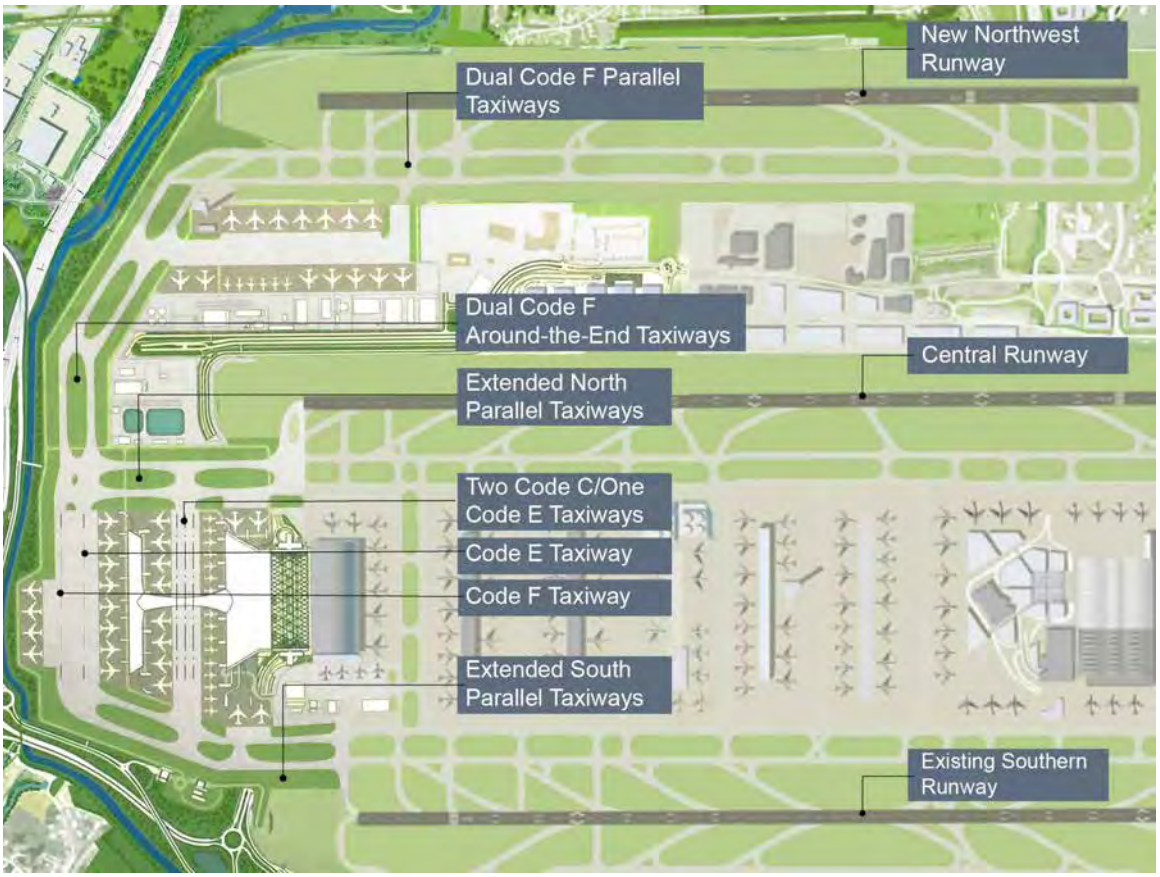



**Figure 7. Taxiway System**

HWL conducted a study of HWL's Proposed Development aircraft circulation requirements and concluded, similar to the airfield simulation studies prepared by NATS in support of the HAL 2019 Preferred Masterplan, that the through-taxiway requirement in the zone west of T6 is in one direction only under each of the four runway operating modes, in each flow direction. This requirement for through-taxiway capacity is met by the western-most Code F taxiway.

## Aircraft Parking Aprons

The aircraft parking aprons included in HWL's Proposed Development are shown in Figure 8. Together with the aprons at T5, including remote satellite piers T5B and T5C, these aprons serve the West Terminal Campus and offer several operational, spatial, and strategic advantages that enhance overall airfield efficiency, flexibility, and capacity:

- **Apron Location 1: Balanced and Proximate Stand Distribution:** This set of aprons includes pier-served stands adjacent to terminal buildings—west, north, and south of T6A, and east and west of T6B. The layout maximises contact stands, enabling direct boarding via airbridges, which reduces bussing and shortens turnaround times. The compact, wraparound design ensures a walkable terminal footprint and supports efficient aircraft movement.
- **Apron Location 2: High-Capacity Remote Stands:** Located west of the new north-south taxiway and T6B, these active remote stands support overflow demand and flexible aircraft scheduling. Their proximity to the terminals shortens towing distances, keeping ground operations efficient and reducing fuel use and emissions. These stands are ideal for staging aircraft between flights.
- **Apron Location 3: Strategic Stand Reserve:** Non-active remote stands north of the T5/T6 campus are used for long-term parking, overnight stays, or irregular operations. Separating these from active zones prevents congestion and preserves terminal-adjacent stands for active use.


**Figure 8. Aircraft Parking Apron Locations Within HWL's Proposed Development**

A detailed layout of the aprons in these locations that include aircraft parking position counts and capacity calculations is provided in Appendix B: Aircraft Parking Stand Capacity Assessment.

## Passenger Terminal

HWL's Proposed Development includes the creation of a new T6 passenger terminal designed to support the airport's proposed runway capacity enhancements. This terminal will provide the necessary infrastructure to accommodate future growth in passenger volumes and aircraft movements. It will also include increased aircraft stand provision and an expanded taxiway network, which together will help reduce aircraft ground congestion, streamline airside operations, and lower ground-level emissions from aircraft idling and taxiing.

Strategically located in Heathrow's west zone, forming, together with T5, the West Terminal Campus, the new terminal comprises two primary components: a main terminal building (T6A) and a satellite pier (T6B), as illustrated in Figure 9. This arrangement creates an efficient and compact terminal footprint that optimises connectivity. Under this configuration, T5 is intended to operate primarily as a processing centre for long-haul international flights, while T6 will focus predominantly on handling short-haul services. This deliberate separation of flight types allows for a seamless transfer experience, where short-haul flights arriving at T6 can feed connecting passengers directly into long-haul departures from T5.

The integrated combination of T5 and T6, the West Terminal Campus, is a highly integrated and well-functioning hub operation, which significantly enhances airline connectivity and passenger convenience, while maintaining uninterrupted through-traffic capacity across the airfield. Importantly, centralising these functions between T5 and T6 is a critical enabler for achieving both capacity and operational performance targets. This consolidation reduces complexity, streamlines processes, and ensures optimal use of space and resources, thereby avoiding unnecessary land take and costly infrastructure duplication.

This approach forms the cornerstone of HWL's strategy to deliver an affordable and sustainable solution for Heathrow's expansion. By carefully selecting the terminal location and embracing efficient land use principles, the proposal preserves existing landside assets, such as surface car parks and support facilities, and drastically limits the requirement for additional land acquisition between the existing Northern Runway and the planned Northwest Runway. As such, the proposed scheme not only supports long-term aviation growth but does so in a way that is cost-effective, scalable, and sensitive to the surrounding environment and communities.

The proposed satellite T6B will be accessed from T6A via a passenger pedestrian bridge with travellators as illustrated in Figure 10 and Figure 11. The pedestrian bridge connecting T6A and T6B offers a modern, passenger-focused solution that enhances both experience and operations. Inspired by successful designs at Gatwick Pier 6 and LaGuardia Airport, the bridge provides natural light and panoramic airfield views, creating a more enjoyable and memorable journey.

By spanning above taxiways, the bridge allows seamless passenger flow while maintaining airfield operations below. It supports intuitive wayfinding with clear visual continuity between terminal spaces—especially helpful for connecting travellers on tight schedules. The bridge also promotes sustainability and accessibility, avoiding deep vertical circulation and offering gentle gradients for all users. More than just a connection, it is a smart, elegant feature that reflects Heathrow's commitment to world-class design and efficiency.


**Figure 9. West Terminal Campus**

An ITP is proposed between existing T5 and the new T6A as shown in Figure 12 and Figure 13. The proposed ITP, located between Heathrow's existing T5 and the new T6A, will serve as a vibrant, high-quality landside destination that seamlessly integrates transport, hospitality, and passenger services. Anchored by two new hotels and supported by generous passenger drop-off zones and parking facilities, the ITP will be a welcoming front door for both terminals. More than just a functional forecourt, the ITP is envisioned as a dynamic public space offering hotels, cafes, meeting areas, and other passenger-focused amenities—all sheltered beneath an elegant transparent canopy that provides year-round protection while allowing natural light to flood the space. Designed for comfort, convenience, and visual appeal, the plaza will become a memorable first and last impression of Heathrow for millions of travellers each year.

HWL's Proposed Development includes a new Public Transport Hub also located within the ITP between T6 and T5 as shown in Figure 14. This multi-modal hub will connect rail, London Underground, coach, and bus services, offering convenient access in all directions. Its goal is to make public transport the preferred choice for airport passengers and the local community, supporting the ANPS targets to reduce car travel. The hub will be built to high standards of accessible design, ensuring seamless use for all, including older adults and wheelchair users. A comprehensive wayfinding strategy will guide passengers easily through the hub and across the wider airport. The Public Transport Hub will be conveniently located in close proximity to the new arrival forecourt integrated into the lower level of the ITP as shown in Figure 15.

**Figure 10. West Terminal Campus Development**

**Figure 11. West Terminal Campus Development**

**Figure 12. ITP Departure Level**

**Figure 13. ITP Arrival Level**

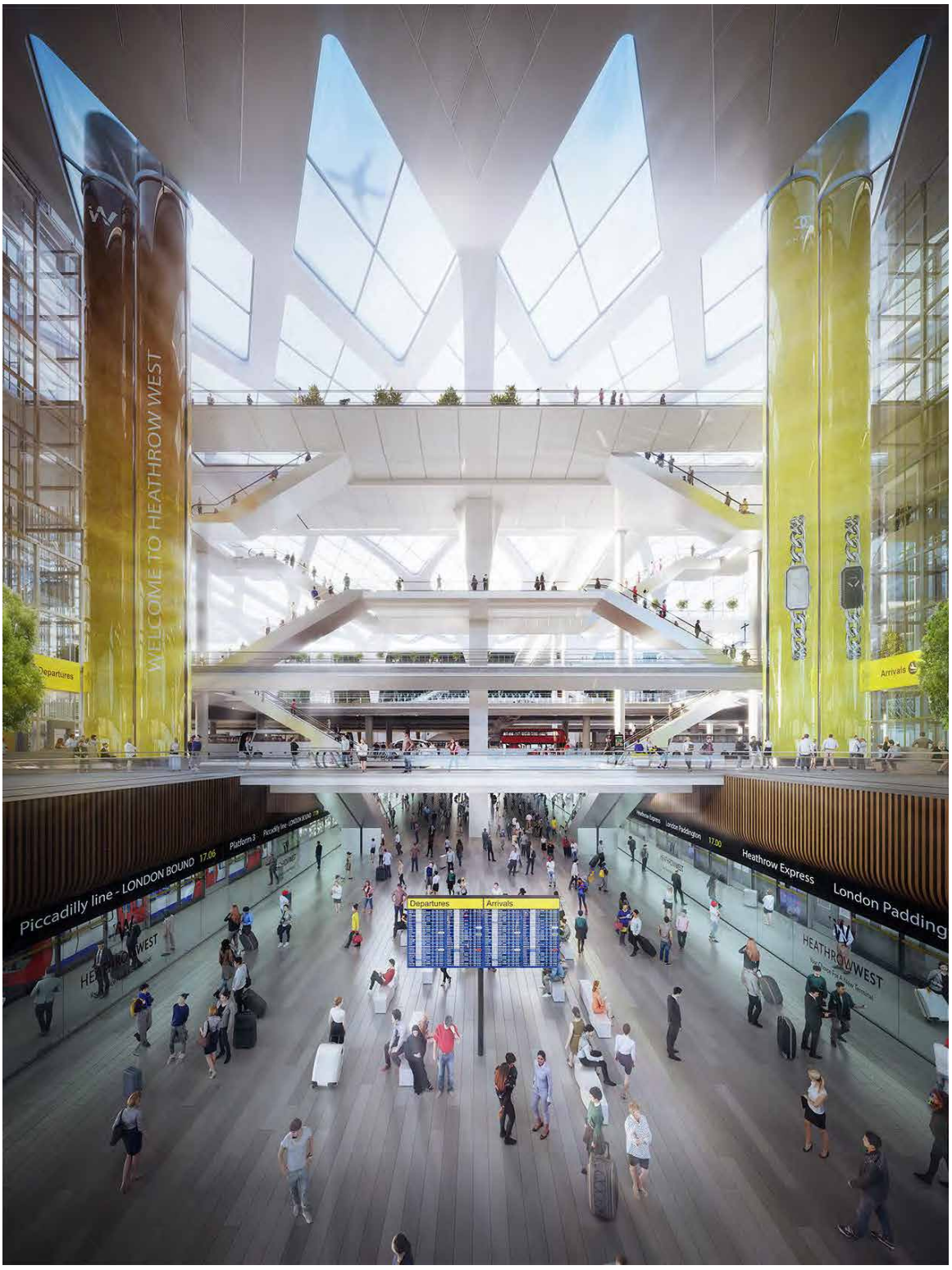



**Figure 14. Public Transport Hub**


**Figure 15. T6 Arrival Forecourt**

## Surface Access

HWL is finalising a Surface Access Strategy (SAS) for its proposal, in accordance with the principles stated in the ANPS. Key elements of the SAS are described below.

### Conformance with the ANPS

The ANPS stipulates that the expansion of the airport must accommodate significant levels of growth in both the numbers of passengers passing through the airport, as well as the amount of freight. The ANPS states specific targets related to surface access that must be achieved by HWL's Proposed Development. The SAS for Heathrow West has been developed to deliver, and exceed, these targets. In doing so, the SAS firmly puts public transport at the heart of the expansion proposals for the west of the airport. As specified in the ANPS, HWL's Proposed Development makes specific physical allowances for future potential connections directly into the new passenger terminal zone by both a Western Rail Link and Southern Rail Access to the airport.

HWL's Proposed Development minimises impacts on local communities and the environment and delivers a meaningful step-change in transport choice for the 40 million passengers who are forecast to access T6 by 2040. By proposing a single integrated terminal development, in the west of the airport HWL has taken a different approach to surface access than other proposals with regards to road layout, car parking provision and public transport interchange.

HWL has implemented transport planning best practice to develop individual strategies for each mode of transport serving Heathrow, taking account of the DfT's road user hierarchy and the approach to transport planning set out in national transport planning guidance documents. The SAS also highlights the ways in which other engineering, environmental and social considerations influencing design have been incorporated. By working across the technical areas in the project, HWL has developed a strategy which emphasises use of existing land, plays to natural behaviours and provides resilience across the transport network.

### Planning Principles Reflected in the SAS

The various components of the SAS provide a comprehensive set of measures by which the ANPS targets can be met or exceeded. Using a series of traffic models HWL has tested the combination of the SAS components to develop the SAS. These models test the efficacy of the SAS to provide an expected mode split at the airport in the future. HWL has demonstrated that this SAS is likely to result in a 53% reduction in car use by 2040, against a target reduction of 50%. Overall, the detailed modelling has confirmed that the SAS will achieve the ANPS targets and, in some cases, improve on them.

Choice is a core principle for HWL's Proposed Development, and that applies to all aspects of this proposal. To address the ANPS mode shift targets, the SAS has been developed to unlock the potential of all public transport modes, as well as walking and cycling, as a catalyst to shift away from private car use. As such, the key components of the SAS support rail, active travel (walking and cycling), bus, coach and taxi use. In addition, changes to the strategic, primary and local roads are proposed to create more efficient journeys to the airport, to increase capacity at key points on nearby roads and motorways, improve resilience in the road network close to the airport, and minimise the impact of airport-related traffic on local communities in future.

It is important in the context of accessible and inclusive design to reflect upon the 'Outside In' approach which underpins the SAS. This approach has enabled us to critically reflect upon the relationship between the airport and surrounding local communities and aims to ensure that local residents, many of whom work on the Heathrow campus, are not inhibited or precluded from the site's surface access benefits. This is particularly important in the development of a Public Transport Hub concept which overcomes some of the severance issues associated with the existing Central Bus Terminal and enables access not only for those using Heathrow as a destination, but also people who live locally or who may be transferring through it.

To address the unique needs of different user groups, it has included early engagement with a range of stakeholders representing various groups. These stakeholders have included groups representing disabled people at a national or local level, as well as community accessibility groups. Early feedback from those groups has informed HWL's work to date, particularly on the physical considerations to incorporate into HWL's proposals but has also been a useful source of information and advice on how information and communications can be provided, emerging technology for different user groups, and how there may be alternative requirements for disabled people depending on whether they are passengers or employed at the airport. This engagement will continue as HWL's design develops and will be taken into account in HWL's proposals and associated planning. HWL have carefully considered the gaps and opportunities for each transport mode and seek feedback in order to further refine HWL's proposals and provide a lasting legacy for local communities as well as for the travelling public.

### Main Components of HWL's Surface Access Proposals

HWL's emerging SAS incorporates several significant elements, including the following:

- provides for public road access to the T5/T6 terminal zone from both north and south, as illustrated in Figure 16 .
- retains the existing east-west corridor provided by the A4 Bath Road and Colnbrook By-Pass, with the A4 remaining broadly on its existing alignment, minimising severance effects on local settlements, as illustrated in Figure 17.
- HWL's proposal maintains north-south connectivity via the A3044 to the east of the M25, hence minimising the severance impacts on Poyle, as shown in Figure 18.
- HWL's Proposed Development includes a new undercrossing of the M4 Spur under the new Northwest Runway.
- HWL's Proposed Development includes 67,000 car parking spaces, with the locations of these spaces based on the likely trip patterns for staff and passengers, capitalising on the terminal zone road access from the north. This is expected to result in shorter, more rationalised trips on the Strategic Road Network (SRN.) Reducing the scale of the Parking Plazas also reduces the associated visual and traffic impacts on local communities.
- HWL's Proposed Development include additional active travel routes to provide a long-term legacy for local communities. HWL's approach, in starting from beyond the airport boundary and working in, has led to the identification of a suite of proposals for infrastructure and service enhancements across all active and sustainable modes of transport in the wider area.


**Figure 16. T5/T6 Terminal Zone Roads**

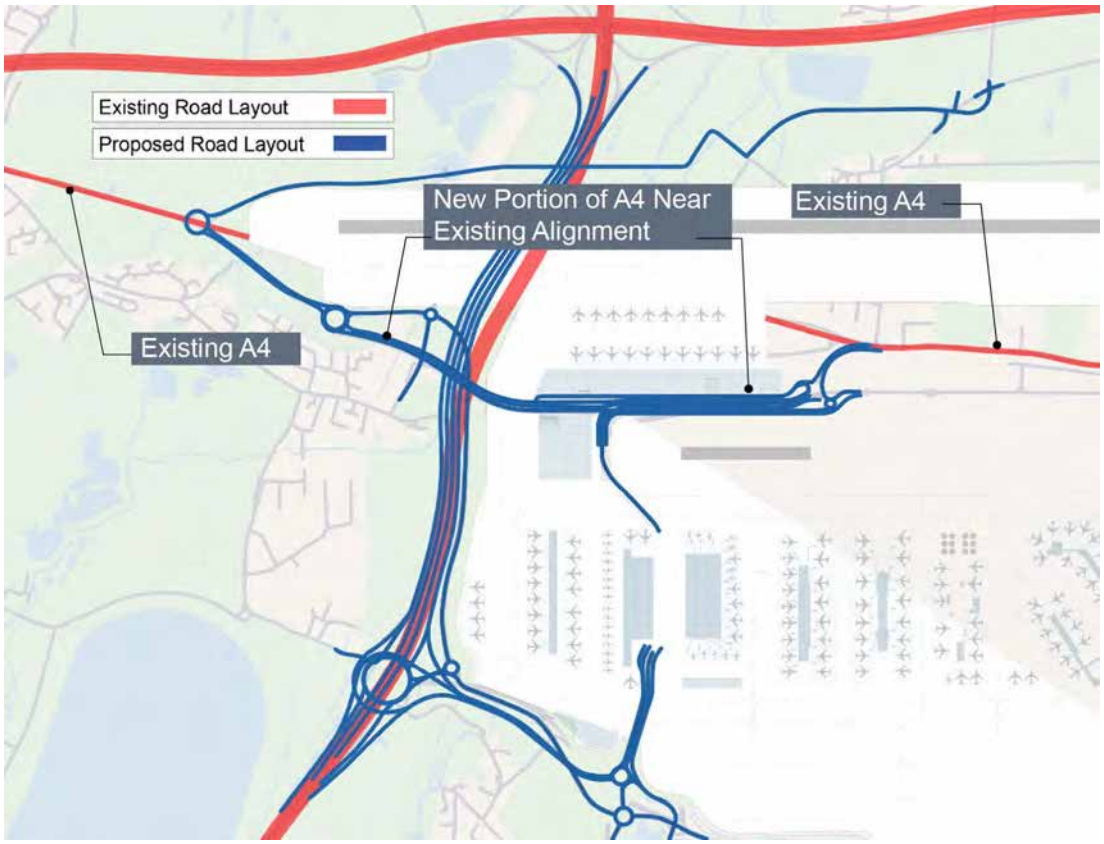



**Figure 17. Modified A4 Alignment**


**Figure 18. A3044 New Alignment**

- The Connectivity Strategy for HWL's Proposed Development includes retention of the existing M25 Junction 14A overbridge to connect the A3044 in the east to a green buffer in the west which will be converted into a cycle and pedestrian way.
- A single, consolidated car hire facility will be located within the Central Parkway, serving T4, T5 and T6 and the CTA. An Automated People Mover (APM) will link directly to T5 and T6, with access to T4 provided via shuttle bus. This approach will reduce the need for the use of shuttle mini-buses which currently serve the car hire locations.
- HWL's Proposed Development consolidates taxi infrastructure to provide a combined Authorised Vehicle Area (AVA) and Taxi Feeder Park (TFP), providing an efficient waiting area for drivers. The proposed quantum of taxi and AVA spaces will be consistent with those proposed under the HAL Scheme to allow good integration with the wider expansion proposals.
- HWL's Proposed Development public transport strategy includes the futureproofing of the Public Transport Hub to facilitate the future implementation of a Western Rail Link and a Southern Rail Link. HWL's Proposed Development will not preclude either scheme.

## River Diversions

HWL's Proposed Development requires the westward expansion of its site toward the M25 motorway. The land affected by this expansion currently contains four existing rivers, as illustrated in Figure 19. These rivers need to be relocated to prepare the site of new T6, taxiways connecting the existing airport to the new runway, and other new facilities and infrastructure.

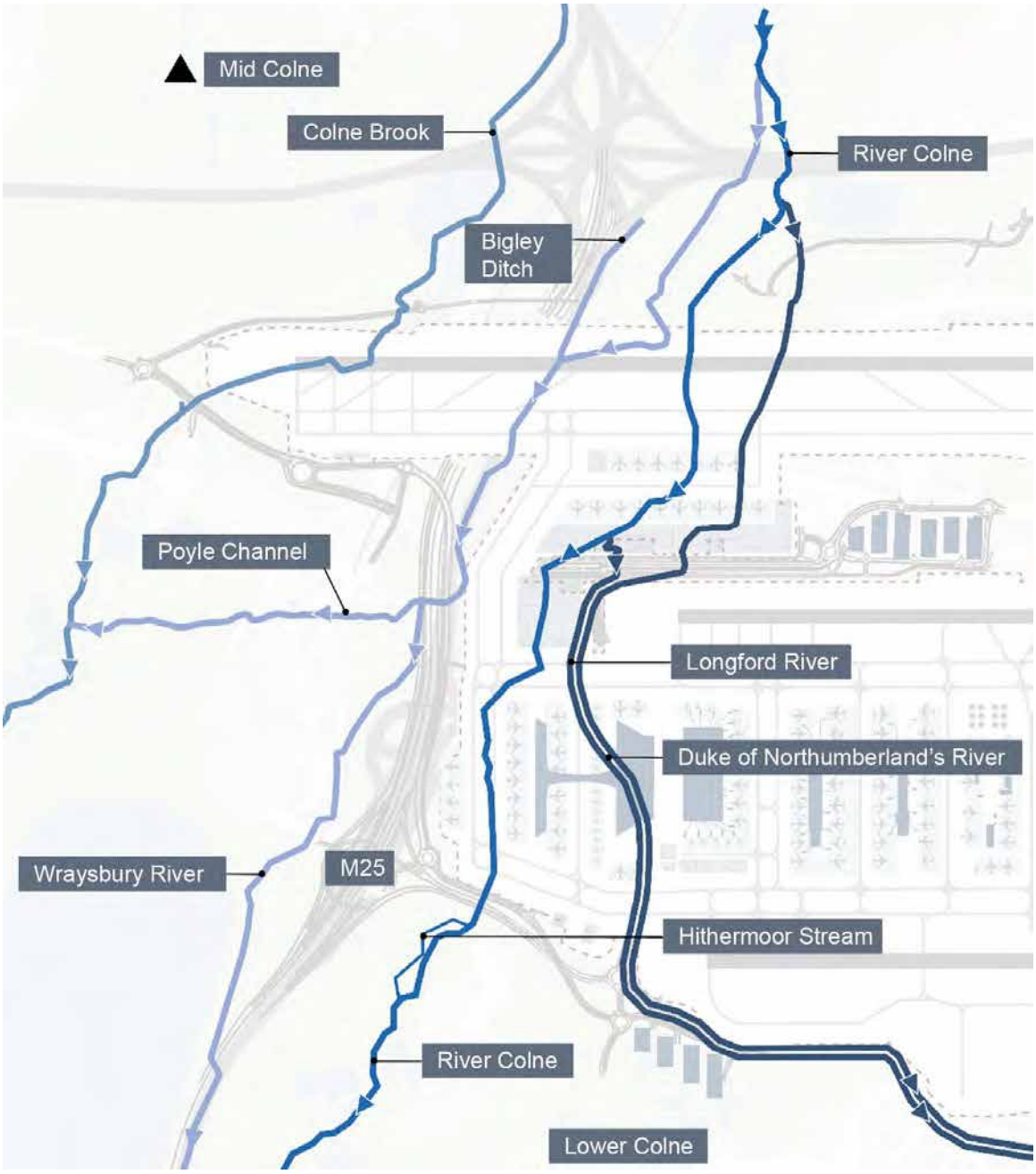



**Figure 19. Existing Rivers within Heathrow West Development Area**

Four main rivers will be affected by HWL's Proposed Development: the Rivers Colne and Wraysbury and the artificial watercourses of the Bigley Ditch and the Duke of Northumberland's River. The proposal also affects the Longford River, an 'ordinary watercourse', and numerous smaller ditches. The Rivers Colne and Wraysbury are the

most important from a flood risk perspective as they carry most of the flow in the catchment.

Watercourses in the River Colne catchment are also vulnerable to dry weather and drought conditions. HWL's strategy seeks to sustain these watercourses and their habitats under such conditions.

### Policy and Planning Principles Guiding the River Strategy

The ANPS sets out objectives that HWL's Proposed Development must achieve. From a rivers perspective HWL's Proposed Development is expected to:

- not increase flood risk elsewhere and should be designed to place infrastructure in the areas of least flood risk (the "sequential test").
- seek opportunities for multi-purpose open spaces that include amenities, wildlife habitat and flood storage.
- prevent the deterioration in the status of water bodies and not compromise the achievement of positive future ecological potential.

This River Diversion Strategy sets out how HWL's Proposed Development aims to comply with these ANPS targets and deliver against HWL's own specific objectives.

HWL's Proposed Development diverts rivers to run both east and west of the M25 and creates significant new green space that will provide community and environmental benefits. By restoring the diverted rivers where space allows, HWL's Proposed Development mimics natural processes to enhance visual appeal and create a more natural environment for people and wildlife.

HWL's Proposed Development complies with ANPS requirements by not increasing flood risk elsewhere, not causing a deterioration in water body status, and enabling related water bodies to achieve good ecological potential. HWL's Proposed Development does more to deliver flood relief and environmental benefits by:

- reducing flood risk where possible with additional storage and careful hydraulic design, accommodating the effects of climate change.
- improving sustainability with green infrastructure and redistributing river flow to improve water quality and provide an enhanced sustainable environment.
- making full use of HWL's green space to provide an attractive landscaped public park area that will support cycling and walking.

The best strategies place people at the heart of the design process. HWL's solution has been shaped by detailed consultation during which HWL listened to and acted upon the needs of the local community. The green space created by the western river diversion aims to provide significant amenities for those living near to and working at Heathrow West.

HWL's River Diversion Strategy has been developed in coordination with HWL's 2020 Masterplan to align with local aspirations. People will have the opportunity to enjoy the natural restored river settings, be able to cycle to work or for recreation and wildlife will be encouraged into the area.

HWL is working closely with key stakeholders so that its proposals align with stakeholder objectives. For instance, by providing green space and river restoration HWL has

effectively embraced the Environment Agency's aspiration to "create a better place". The development of HWL's River Diversion Strategy is taking every opportunity to do more to alleviate flood risk, incorporate the needs of the environment, to enhance amenities and leave a positive social legacy.

### Formulation of the River Strategy

HWL analysed each river diversion option and has adopted the best features from each to develop a solution that meets strategic requirements.

Flood risk related to HWL's Proposed Development is not expected to increase, even when tested against Environment Agency climate change scenarios, and no detriment is expected to the status of existing water bodies.

HWL's Proposed Development aims to benefit both people and wildlife. The River Colne diversion will create green space to provide a valuable buffer that will separate the new airport and the M25 from communities to the west, such as Colnbrook and Poyle. HWL's Proposed Development will integrate blue green infrastructure and will replace man-made watercourses with naturalised channels.

Two of HWL's design priorities are: to avoid impeding fish or eel passage and to reduce the risk of bird strikes to aircraft. HWL's design aims to achieve both requirements by attention to detail, using input from experienced professionals and consulting relevant stakeholders. HWL will continue to develop its thinking in the detailed design phase that will follow. Downstream of HWL's Proposed Development, HWL aims to maintain the flows in all watercourses at their present-day values, with no expected downstream impacts from the development.

### Design Principles Applied to the River Diversion Strategy

HWL's Proposed Development is both adaptable and sustainable. River diversions are intended to accommodate changes in guidance as HWL's knowledge of climate change effects increases. All the river-related structures will be designed to be passive, to remove the need for human operation and complicated maintenance. HWL's Proposed Development also provides structures that are flexible to accommodate any future flow or operating regime change.

Both western and eastern diversion channels will be designed to carry the 1% Annual Exceedance Probability (AEP) flood, including an allowance for climate change, in-line with Environment Agency guidance.

Safety is critical and HWL's Proposed Development will use netting to exclude birds from areas where aircraft strikes would otherwise be a risk. Netting will only be used on the River Colne for a short section east of the M25. HWL anticipate that netting will not be required elsewhere on the River Colne owing to sufficiently high flow velocities and the distance from the new runway. The slower flowing Twin River is more likely to attract high risk waterfowl and is closer to the new runway so netting will be provided for most of its length. The temporary diversion channels will offer the same standard of protection as the permanent works, although a lower allowance for climate change will be applied as their design life is shorter. The same design standards will be applied as for the permanent works, but the form of the structures chosen, and their durability, reflect their shorter life. Temporary channels will also be lined to avoid pollution from contaminants and to prevent water loss.

River diversions included in HWL's Proposed Development will be easy to maintain to sustain effective flood alleviation as they are designed to be naturalised. Maintenance will include vegetation control, de-silting, topping up bank levels owing to settlement or erosion, vermin control, riverbank erosion control, inspection and servicing of control structures and the pump required for fish passage.

Consideration of the water environment has been central to the development of HWL's River Diversion Strategy. Green infrastructure plans are an important part of HWL's proposal as they mitigate impacts on surface hydrology, geomorphology, water quality and aquatic habitats.

### Description of the River Diversion Strategy

The following describes the river diversions included in HWL's Proposed Development in four sections: Northern; Western; Eastern; and Southern, as illustrated in Figure 20.

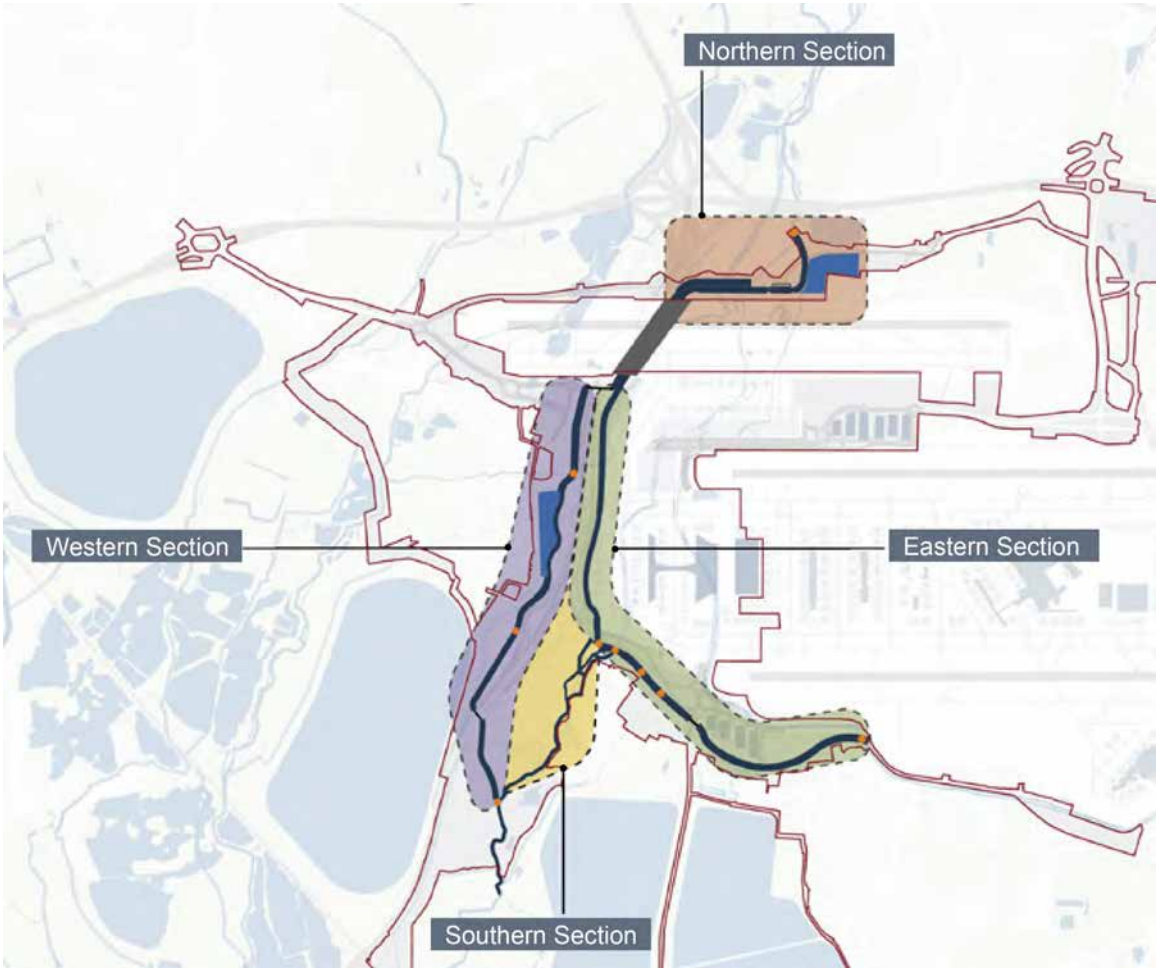



**Figure 20. River Diversion Sections**

#### *Northern River Section*

The northern section considers the upstream reach where watercourses are combined into two channels (the diversions west and east of the M25) to the point where they flow through the site of the new Northwest Runway. Details of the main components of the river diversion strategy in the northern section is illustrated in Figure 21. Whether these channels flow at surface level or through underground conduits will be decided at the next stage of project development.

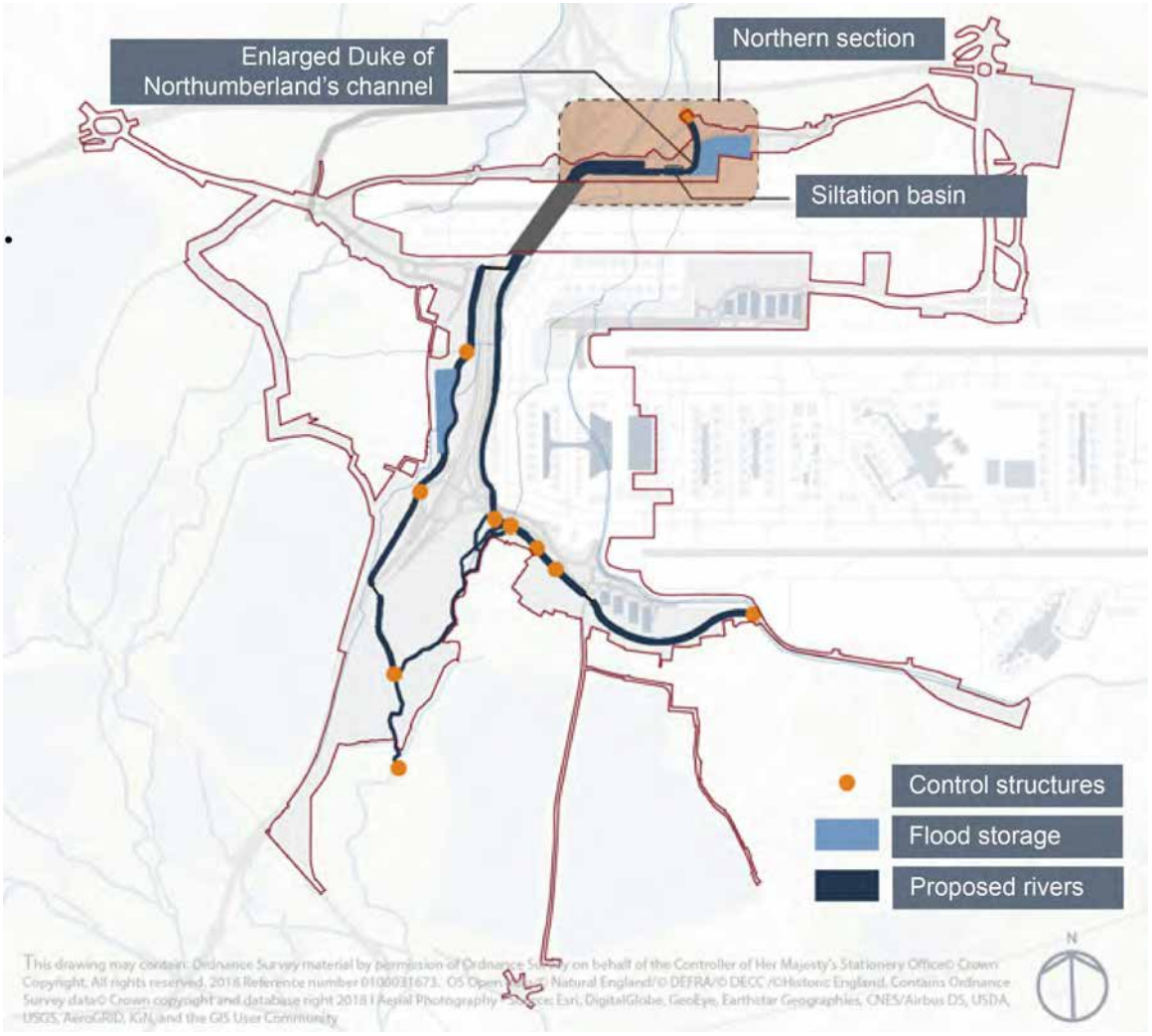



**Figure 21. Key Diversion Works - Northern River Section**

HWL's Proposed Development will increase the capacity of the Duke of Northumberland's River upstream of its runway culvert as HWL wish to divert some of the River Colne flow, via a modified control structure, into the Twin River during certain lower flow conditions. The benefits of this are twofold: it helps to develop a fish passage route that avoids the M25 crossing and it also helps to maintain healthier dry weather flows to enable continued abstraction downstream.

The siltation basins currently located within the eastern section will be replaced with an enhanced facility north of the runway where it will be more accessible for maintenance activities. A trash collection facility will be provided upstream of both runway culverts to collect any river-borne debris that could otherwise cause blockage. The easy access afforded at this location will aid maintenance and debris removal.

### *Western River Section*

The western section involves the diversion of the Rivers Colne and Wraysbury, from the downstream runway interface, east of the M25 to the point at which they return to their original watercourses. Details of the main components of the river diversion strategy in the western section is illustrated in Figure 22. This diversion creates the space for a green parkland area.

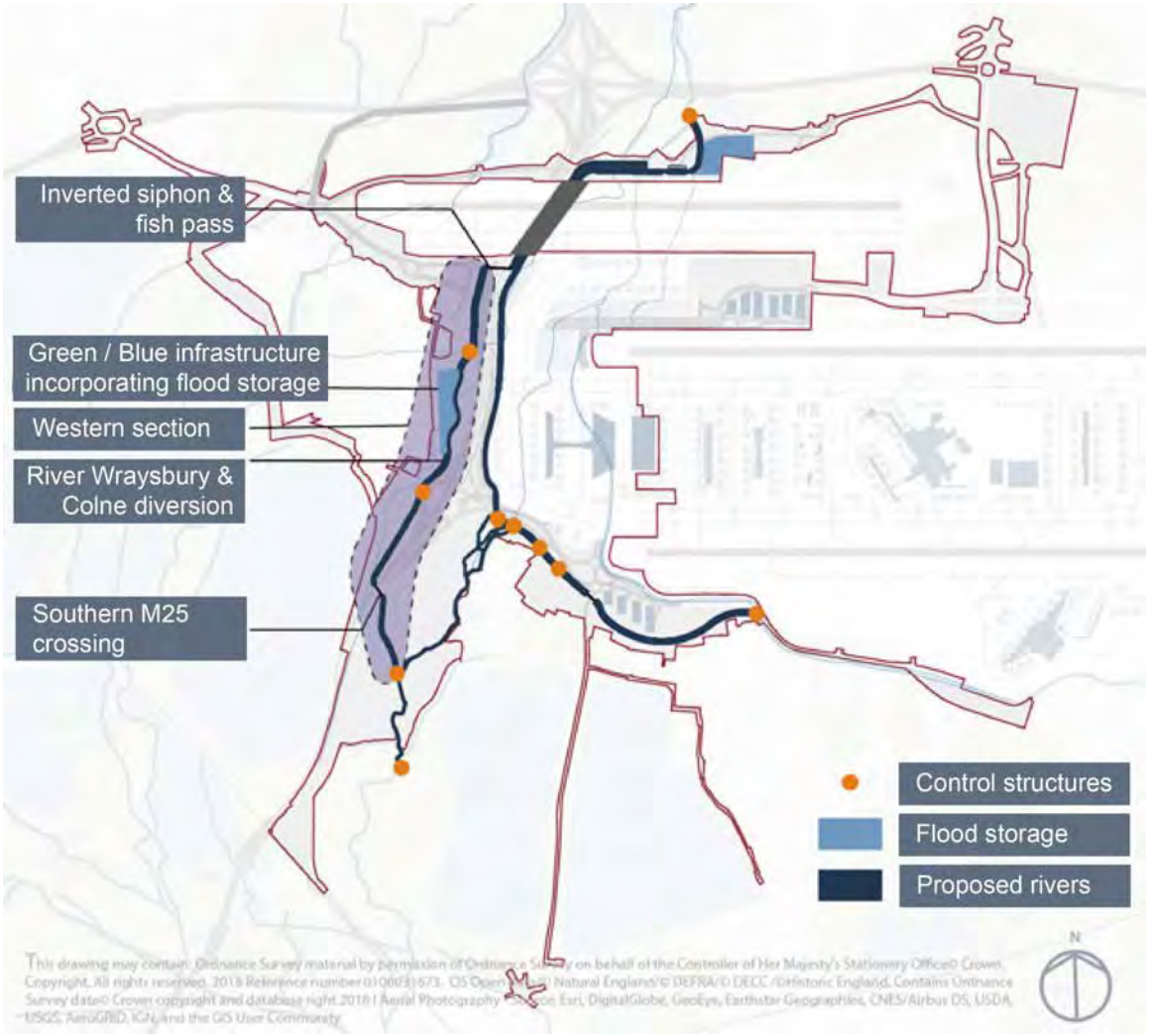



**Figure 22. Key Diversion Works - Western River Section**

As the western diversion flows from the northern section it turns west and passes immediately into an inverted siphon that will convey flow beneath the M25. Fish passage will be accommodated at the siphon although HWL will establish a preferential route for fish via the eastern section.

Downstream of the siphon the rivers diverge; the River Wraysbury returns into its original channel and the River Colne continues in its new naturalised channel through the green parkland. HWL's proposal creates a green corridor by restoring the River Colne to a natural channel profile to provide an environment that is as close as possible to a naturally functioning river system. Accessibility and amenities will be improved with footpaths and cycleways. The green parkland will also incorporate the green infrastructure that HWL require including additional flood storage to mitigate that lost to development.

Flows in the River Poyle will be sustained by a connection flowing west from the River Colne. New flow control structures will be provided to preserve the existing flow regime in the Rivers Poyle, Wraysbury and Colne.

Further downstream the Rivers Wraysbury and Colne pass under the M25 again. The River Wraysbury will continue in its existing crossing whereas a new bridge will be required to convey the River Colne beneath the M25.

### *Eastern River Section*

The eastern section encompasses “The Twin River” channel, that combines the Duke of Northumberland’s and Longford Rivers, as it flows from the northern section. Details of the main components of HWL’s river diversion strategy in the eastern section is illustrated in Figure 23. It will flow on the east side of the M25, around the southern perimeter of HWL’s Proposed Development, and re-connect with both existing downstream watercourses at a bifurcation.

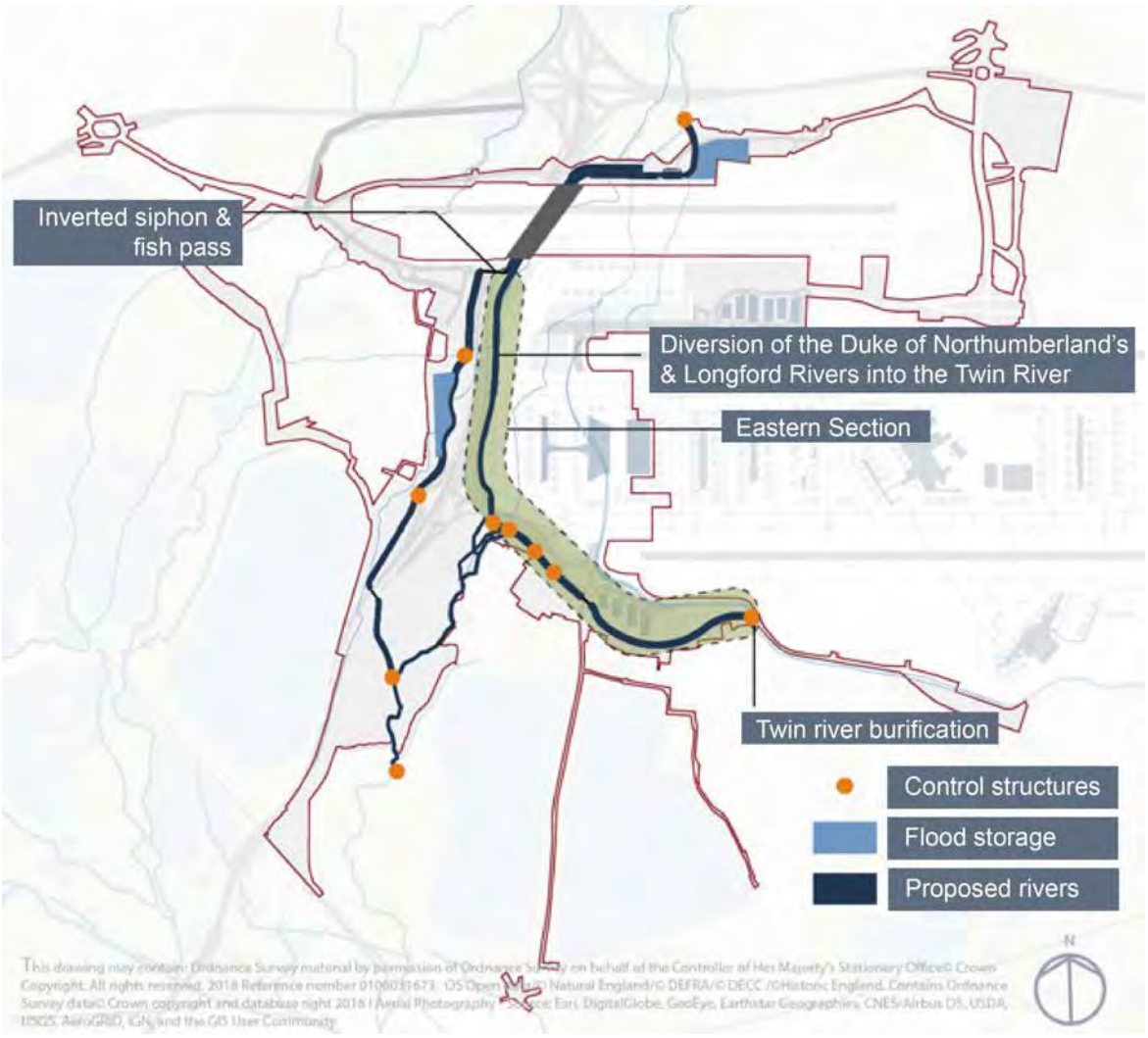



**Figure 23. Key Diversion Works - Eastern River Section**

Combining rivers into the eastern diversion is intended to create a more sustainable solution when the weather is dry, and flows are low. A single, profiled channel will convey a faster, deeper flow than the two existing channels, resulting in improvements in water quality, ecology and sediment retention. HWL’s Proposed Development applies river restoration techniques where space allows to create a natural-looking and functioning channel and provides footpaths and cycleways along the river corridor to improve amenities and recreation.

HWL’s Proposed Development includes a new water control structure to preserve water supply to the River Crane and Royal Parks. It will provide further benefit by supplying additional flow to preserve the smaller rivers and watercourses flowing south of Heathrow.

The existing siltation basins that allow removal of sediment from the channel will be replaced upstream of the new runway in the northern section.

### *Southern River Section*

The southern section contains the Hithermoor Stream that connects the downstream end of the western diversion with the Twin River. Its purpose is to provide a route for fish that avoids the northern M25 crossing and to contribute to restoration of the Mill structure. Details of the main components of HWL's river diversion strategy in the southern section is illustrated in Figure 24.

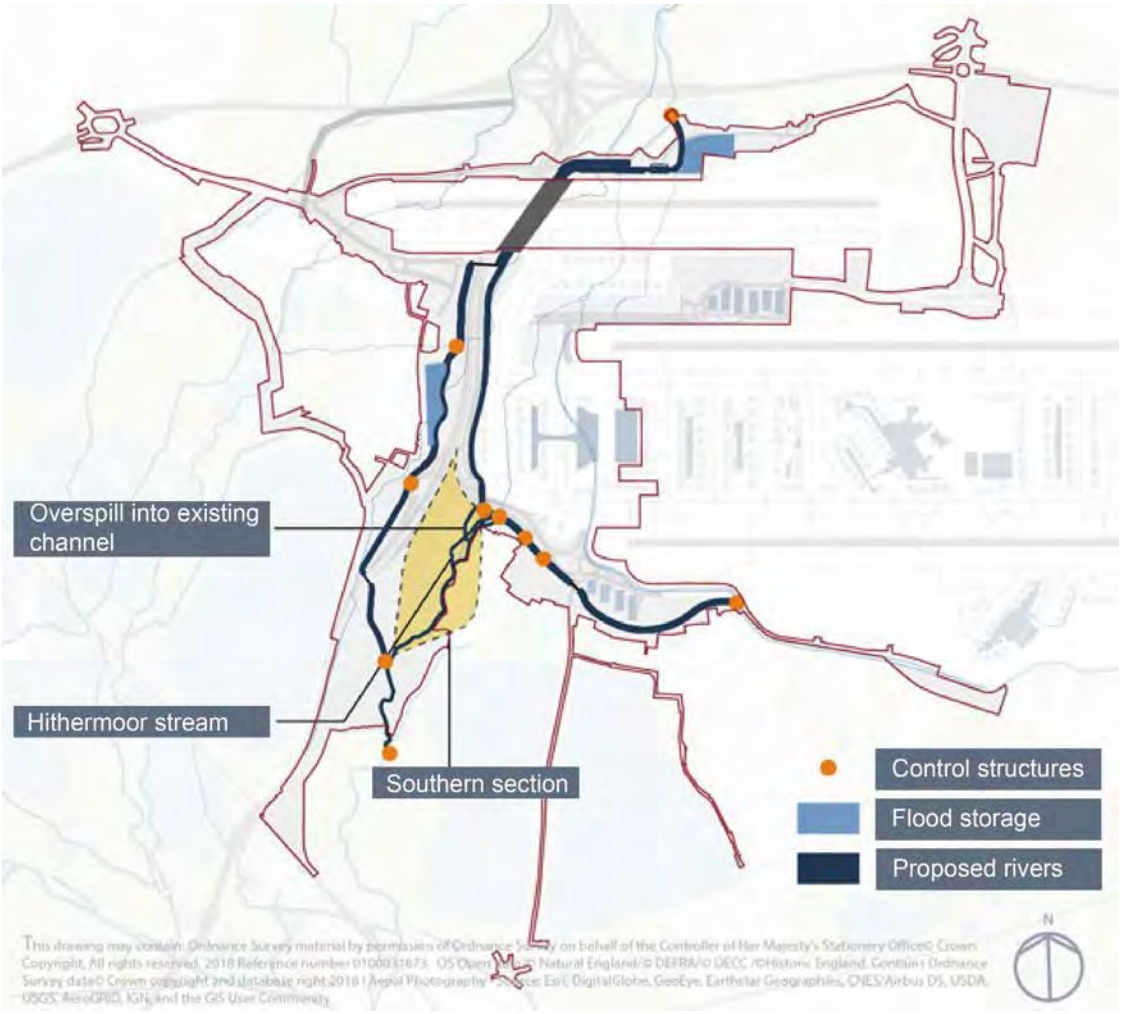



**Figure 24. Key Diversion Works - Southern River Section**

A significant part of HWL's Proposed Development is to establish a preferential route for fish passing upstream. At the confluence of the River Colne and the Hithermoor Stream a new confluence is provided to diffuse flows from the River Colne. By careful hydraulic design, HWL aim to encourage fish to swim into the strongest current and into the Hithermoor Stream. It will connect upstream with the Twin River which will be supplied with additional flow from an offtake in the northern section to make this possible.

Where the proposed twin river channel severs Holme Lodge and Stanwell Moor Ditches a sweetening flow will be provided to these ditches to maintain water quality in them.

The existing flood relief channel at Stanwell Moor will be retained and used to pass flood flows in very extreme floods above the 1% AEP with climate change.

### Summary of River Diversion Physical Improvements

River diversion works described in the four sections above are summarised in Figure 25.

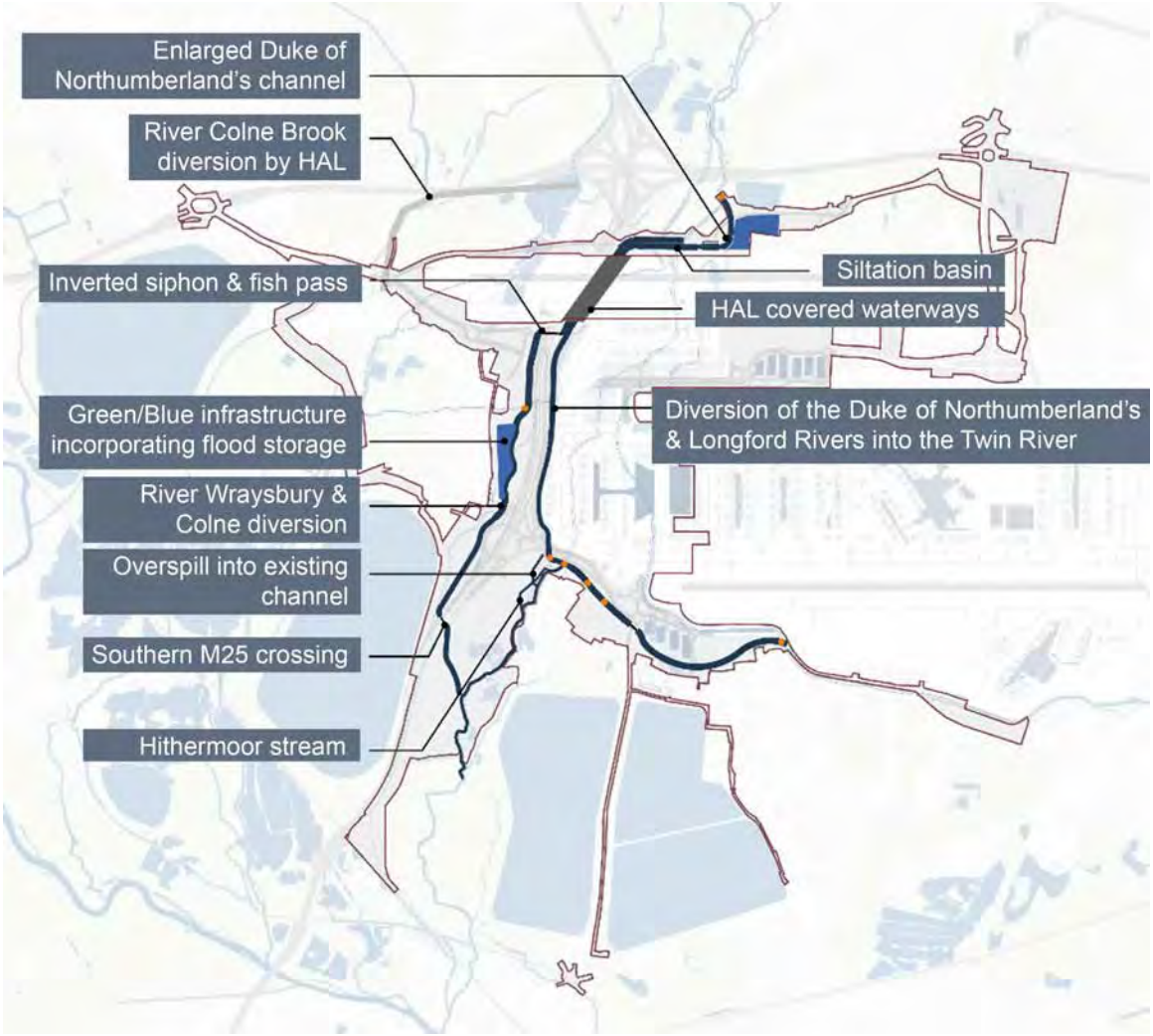



**Figure 25. Summary of River Diversion Solution**

## Green Infrastructure

Green infrastructure is a term which relates to green space that has multiple uses. HWL's Proposed Development green infrastructure has the following objectives:

- Enhance the natural environment
- Contribute to shielding noise pollution and improving air quality
- Provide ecological enhancements
- Provide new opportunities for improved walking/cycling links.

HWL's Proposed Development minimises loss of Green Belt land; and produces minimal impact on retained Green Belt and a better Green Infrastructure Strategy as illustrated in Figure 26.

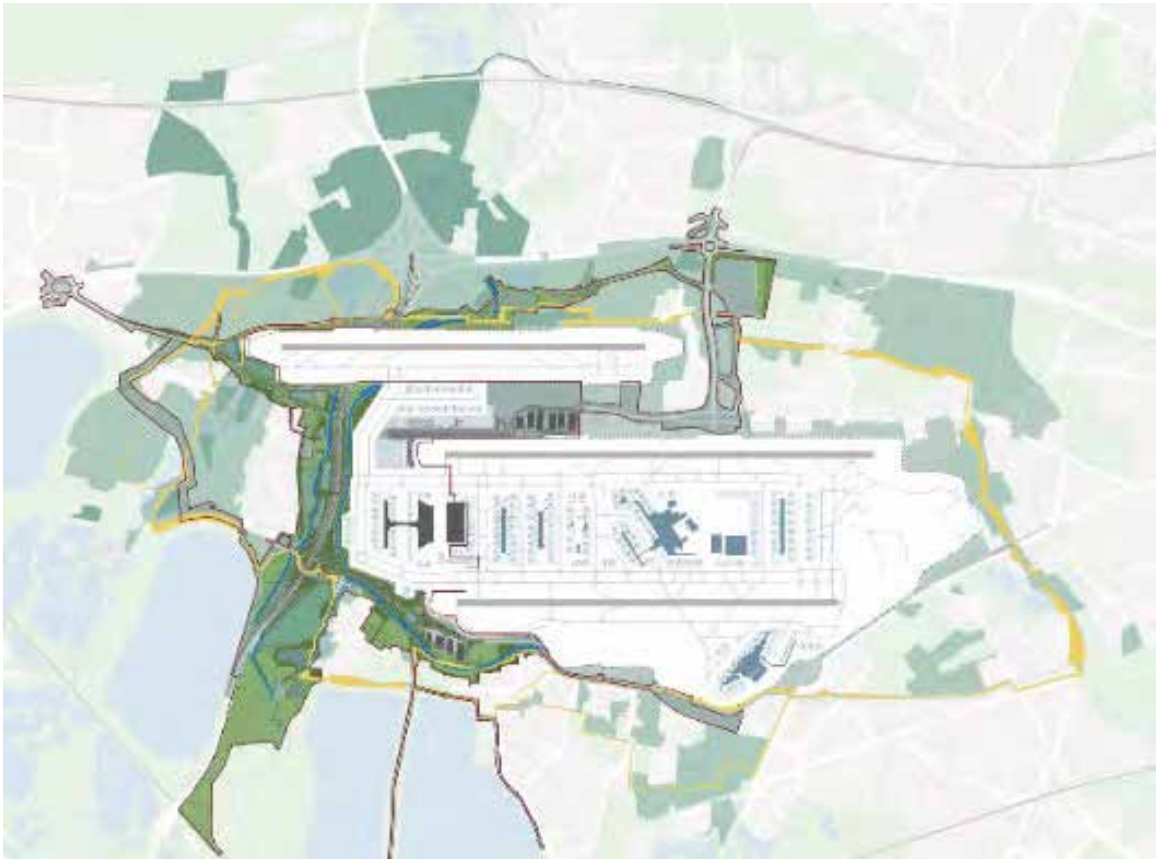


**Figure 26. Green Infrastructure Plan**

The new green corridor to the west of the M25 provides much green space and increased usability. This corridor will have new pedestrian and cycle paths along the River Colne to the south and will link with existing pathways and bridleways which will continue onto the southern part of the airport, near Stanwell and Stanwell Moor.

Between the A4 and the edge of Colnbrook there will be a noise attenuation bund and planting, with HAL's Green Loop walking and cycling route following the settlement side of the bund.

Pippins Park will need to be relocated to make way for the rerouted A4. The park will be relocated to the east of Pippins Primary School where industrial units are currently located. To ensure there is no loss of the community facilities, the new park will be re-provided and much of it will be operational prior to the displacement of the existing one.

The new site for the park will be part of the Western Green Infrastructure Buffer and is planned to be approximately three-times larger than the existing site as illustrated in Figure 27. Additionally, all recreational facilities currently available in the park will be available at the new site, so that its quality of provision is at least as good, if not better, than the current provision with the added benefit of being close to the primary school and having good cycle/walking route connectivity.


**Figure 27. Western Green Infrastructure Buffer**

To ensure that the new Pippins Park could be eligible for a further Green Flag Award, HWL will work with the local community to involve them in developing the proposals and management of the park.

An additional green pedestrian/cycle loop will be delivered to the north of the villages and will link to the route travelling anti-clockwise around the new runway. This will lead to a new pedestrian/cycle bridge over the M25 into Harmondsworth.

There will be some part-time disruption to the Colne Valley Way, where it crosses the Colnbrook-by-Pass, but during the operational phase the Colne Valley Way will be diverted onto the green loop and will deliver a new crossing over the motorway at Junction 14A for pedestrians and cyclists.

# Land Use

## Existing Land Uses and Character

The land uses surrounding Heathrow are diverse and shaped by the airport's scale, history, and location within West London as shown in Figure 28. To the north and east, the area includes established residential neighbourhoods such as Harlington, Cranford, Hatton, and parts of Hounslow and Heston. These communities feature a mix of suburban housing and small commercial centres, although they are increasingly influenced by the presence of the airport through noise, traffic, and development pressures.

To the south and west, the land use shifts toward more industrial and commercial functions. This includes large logistics and warehousing facilities, cargo terminals, and airport-related businesses that support freight operations. Areas like Stanwell Moor, Poyle, and Colnbrook host significant infrastructure for airport logistics, including distribution centres, service yards, and depots.

Along major corridors such as the A4 (Bath Road) and the M4 motorway, the landscape is lined with hotels, office buildings, and business parks that serve travellers, airline staff, and

related enterprises. These corridors also include large parking facilities and car rental services. The M25 motorway to the west and the M4 to the north play a major role in shaping transportation-related land use.

Despite the dominance of built-up and commercial development, there are also green spaces near the airport. The Colne Valley Regional Park lies to the west and northwest, offering natural landscapes and recreational areas. To the northeast, Cranford Park and Hounslow Heath provide open space within an otherwise urbanised environment.

Altogether, the land uses around Heathrow represent a mix of residential, commercial, industrial, transport infrastructure, and green space, each influenced by the airport's operational needs and the pressures of urban growth in the surrounding region.

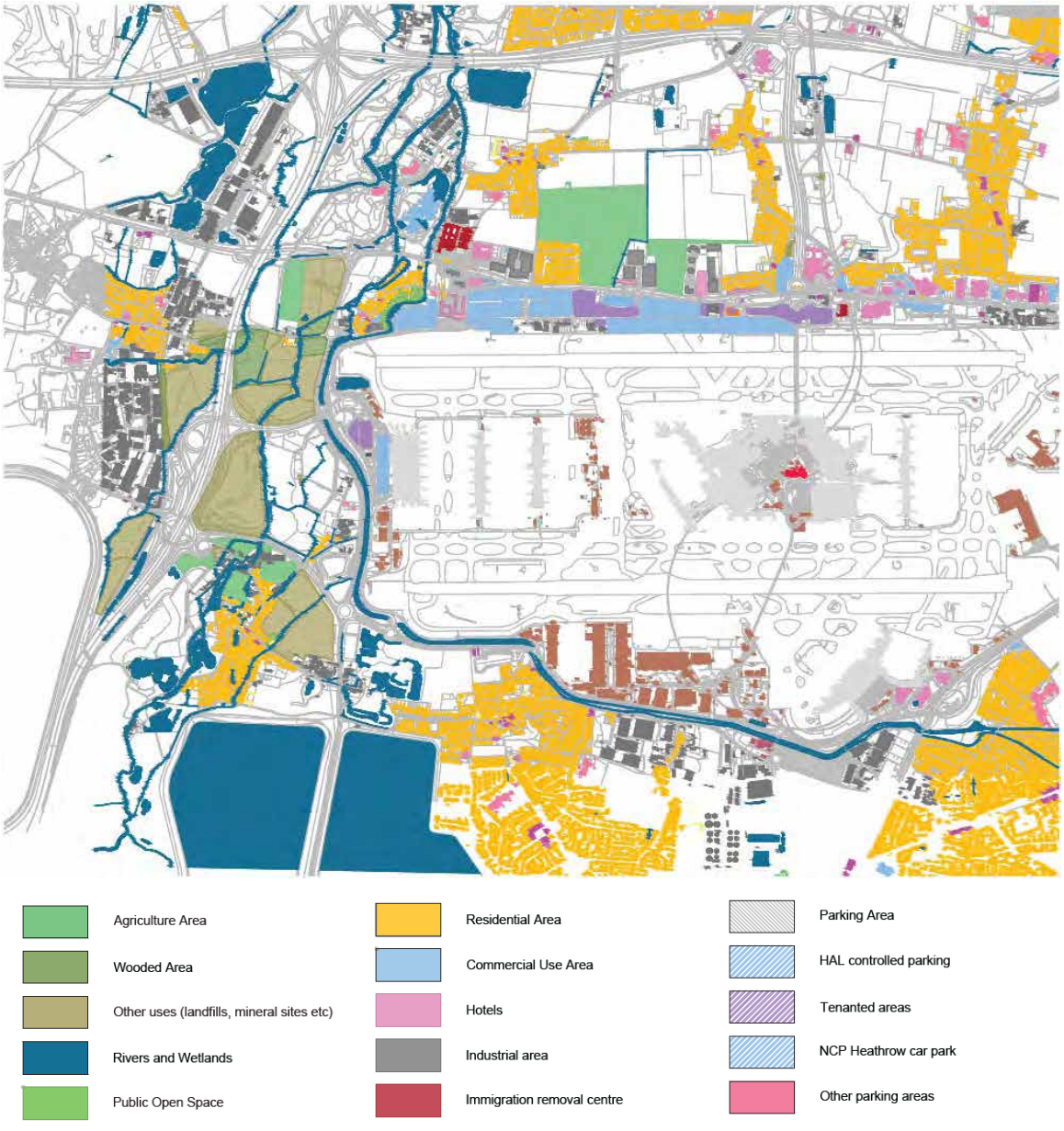



**Figure 28. Existing Land Uses Surrounding Heathrow**

Beyond the immediate airport boundary are several well-populated villages and then larger settlements. There are designated areas of Green Belt, large reservoirs extend to the south and west of the airport, with large scale road infrastructure including the M25 and M4 motorways and water courses including the River Colne to the west and north.

The following sections cover the areas and settlements north, south, east and west of the airport and describe how they are impacted or enhanced by HWL's Proposed Development as shown in Figure 29.

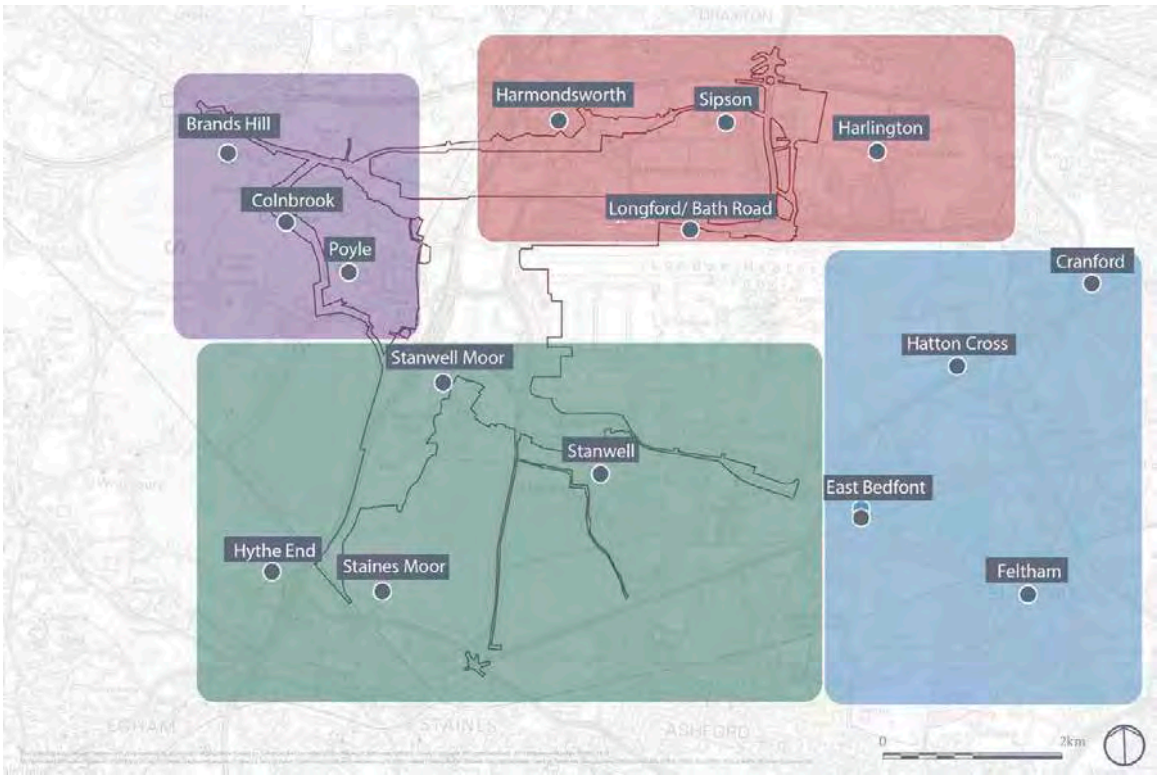



**Figure 29. Settlements Around Heathrow**

## North of Heathrow

Many settlements near Heathrow, such as Harmondsworth and Sipson as shown in Figure 30, retain historic cores with newer residential and mixed-use development on their edges. To the west, open areas like Harmondsworth Moor and flooded gravel pits remain largely undeveloped. In contrast, the east is more urbanised, with dense road networks (A4, M4) and commercial areas, including hotels and remnants of housing. Much of the River Colne floodplain lies in flood zones 2 and 3, limiting development. The low-lying Thames Valley restricts views, often screened by woodland. Major roads like the M25/M4 interchange fragment the landscape, though areas like Saxon Lake support recreation.

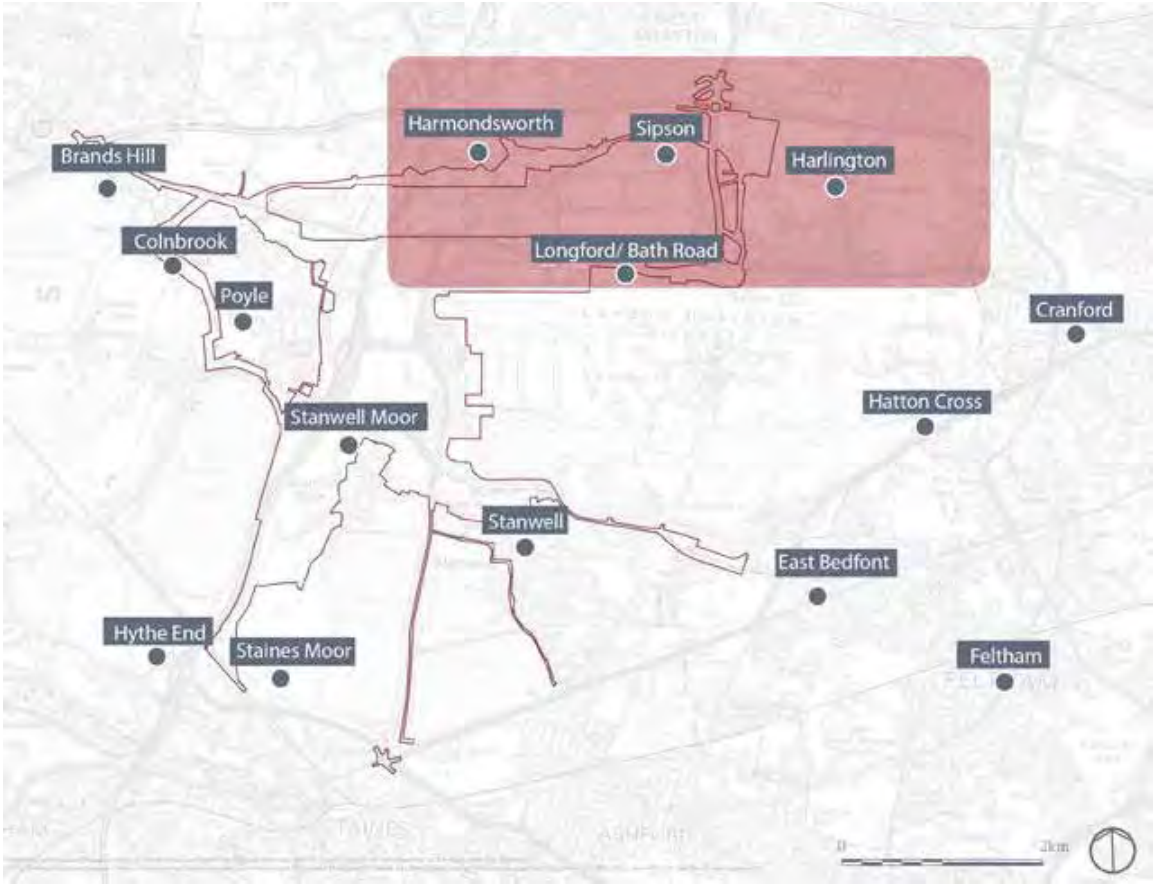



**Figure 30. Land Uses North of Heathrow**

## South of Heathrow

The land around Stanwell and Stanwell Moor, as shown in Figure 31, is less accessible than areas to the north, with limited public access and uses including gravel extraction, paddocks, and small-scale farming. Despite its degraded condition, this open land—alongside the Duke of Northumberland's and Longford Channels—provides vital separation between local communities and Heathrow. The southern Thames floodplain is dominated by flat grazing land and historic landscapes. The River Thames, between Hampton and Kew, is central to several designed landscapes. Stanwell and Stanwell Moor retain historic cores but have expanded with suburban and airport-related commercial growth. Large reservoirs lie south and west of these villages.

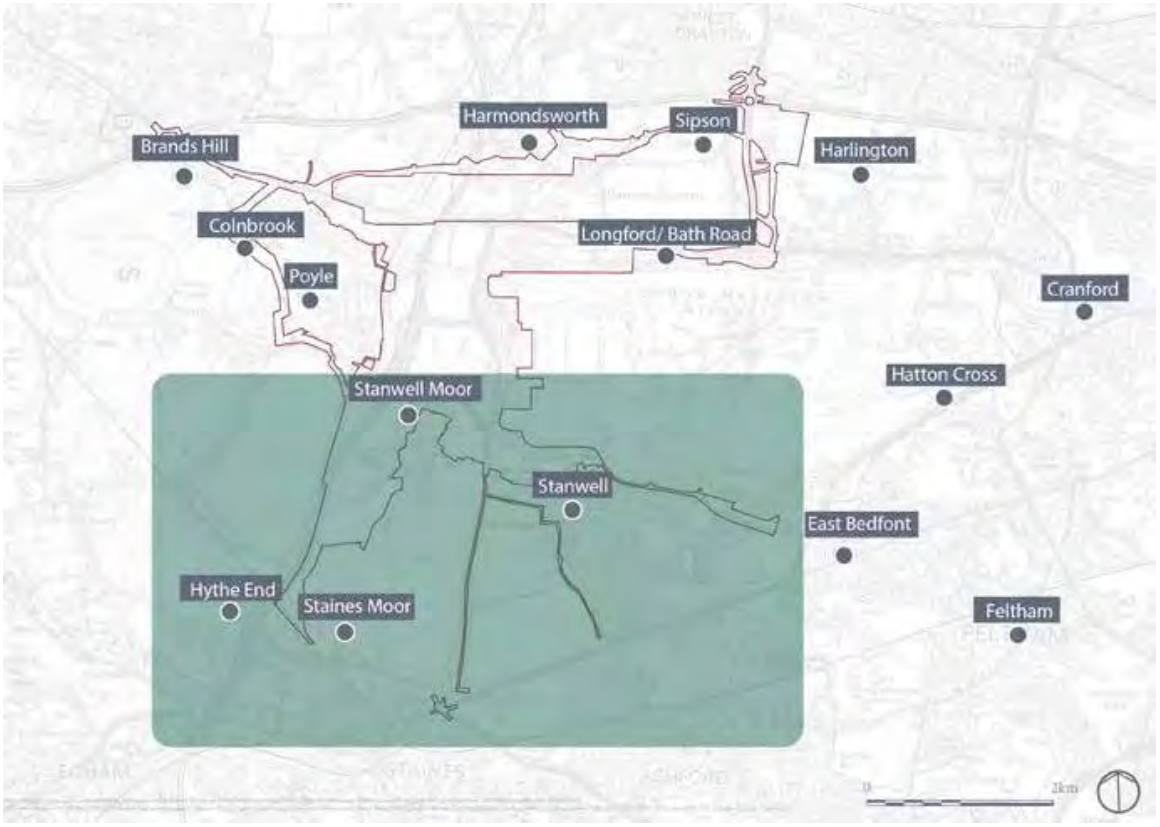



**Figure 31. Land Uses South of Heathrow**

## West of Heathrow

To the west, the Colne Valley remains a largely undeveloped area, with floodplains and heathlands like Staines Moor and Harmondsworth Moor offering a glimpse of the pre-London landscape as shown in Figure 32. Major road infrastructure fragments the valley into remnant, often ancient, landscapes. The Horton–Poyle Industrial Area borders the historic settlements of Poyle and Colnbrook, which are surrounded by large reservoirs and lakes. The Colne Valley Regional Park includes open water, woodland, grassland, wetlands, and meadows. Greenspace reflects both ancient commons and restored mineral workings. Colnbrook and Poyle retain historic cores, with fringes characterised by suburban and airport-related commercial and logistics development.

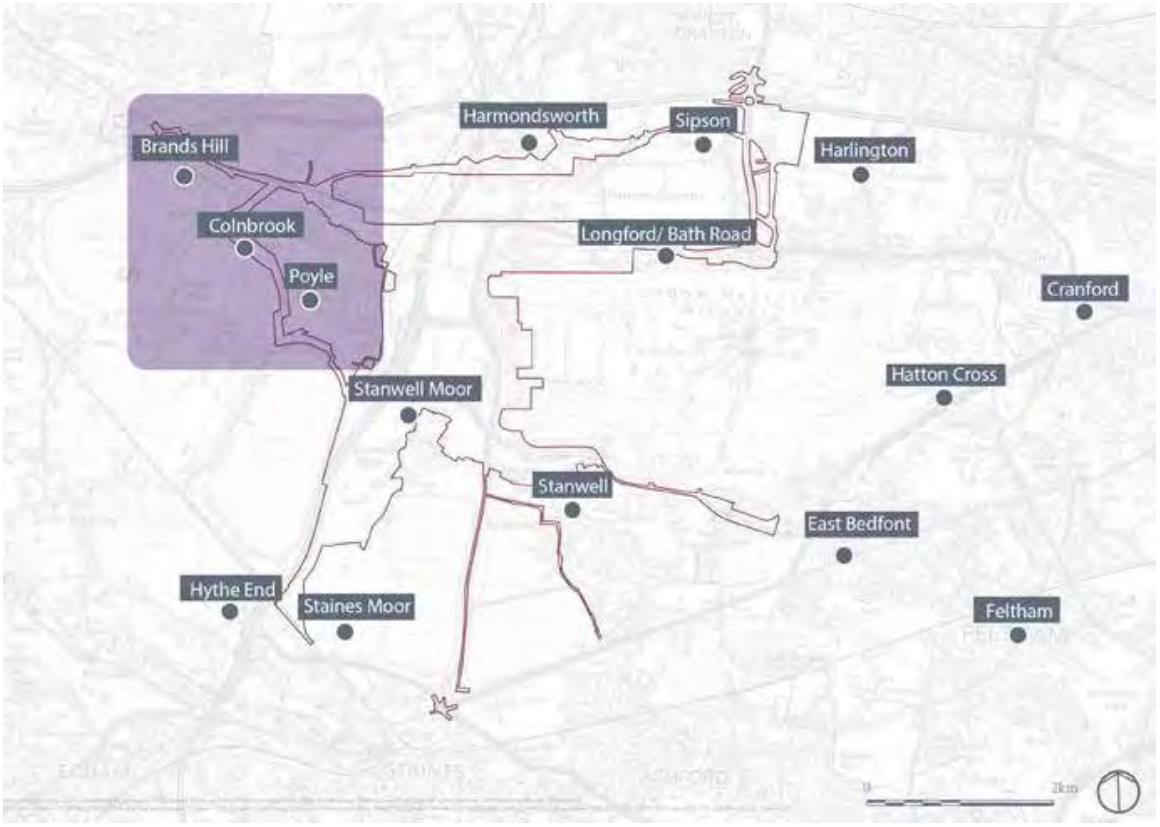



**Figure 32. Land Uses West of Heathrow**

### East of Heathrow

East of Heathrow lies a cluster of settlements west of Hounslow and Heston, including Hatton, East Bedfont, North Feltham, Feltham, and Cranford as shown in Figure 33. Cranford is a suburban extension of Hounslow, while Hatton's residential core along the A30 is heavily influenced by nearby trading estates, hotels, and depots. South of Hatton, Bedfont and North Feltham include industrial areas north of the Duke of Northumberland's River and housing to the south. Feltham is a large town with a commercial centre anchored by The Centre/Longford Centre and is undergoing regeneration. The River Crane connects Cranford Park with Hounslow Heath, a major public open space.


**Figure 33. Land Uses East of Heathrow**

## Land Acquisition

### Land Area Differences Compared to ANPS Requirements

There are three primary areas where the land to be purchased to complete HWL's Proposed Development differs from that of the ANPS Annex A boundary as shown in Figure 34.

**Zone 1:** includes approximately 64 ha of land located west of M25 and including the M25 right-of-way that **would not be required** for HWL's Proposed Development's since the new runway does not extend west of the M25.

**Zone 2:** includes approximately 24 ha of land located immediately east of the northern remote aircraft parking apron that **would not be required** for HWL's Proposed Development since it does not include a northern remote satellite pier in this location.

**Zone 3:** includes approximately 45 ha of land located immediately east of the ANPS eastern runway end boundary that **would be required** for HWL's Proposed Development since the eastern end the new 2,800m Northwest Runway extends approximately 900m farther east than the ANPS boundary. This additional area contains 260 homes.


**Figure 34. Land Acquisition Area Differences Compared to ANPS Requirements**

The land areas noted above result in a net area decrease of approximately 43 ha when compared to the boundary shown in the ANPS Annex A. The breakdown of areas is summarised in Table 1.

| Land Area Description | | Land Area (ha) |
|---|---|---|
| **Decreased area required for HWL's Proposed Development** | | |
| Zone 1 | West of the M25 | 64 |
| Zone 2 | East of the northern aircraft parking apron | 24 |
| **Increased area required for HWL's Proposed Development** | | |
| Zone 3 | East of the ANPS eastern runway end boundary | 45 |
| **Decreased net area required for HWL's Proposed Development** | | **43** |

**Table 1. Land Acquisition Area Differences**

The ability of HWL's scheme to fulfil the key objectives for Heathrow expansion, as outlined elsewhere in this report, with a lesser requirement for land acquisition than the scheme currently prescribed in the ANPS, is an important consideration here given that as a matter of both law and policy a compelling case in the public interest must exist for all compulsory acquisitions of land.

# Capacity Uplift

## Runway Capacity

Studies conducted by IAG and its consultants concluded that a 2,800m runway is sufficient to accommodate all aircraft landings and the vast majority of take-offs under normal operating conditions. For the relatively small number of flights that cannot be accommodated—averaging approximately 14 per day—using the 2,800m Northwest Runway, the two existing longer runways can be used without operational disruption.

These findings confirm that a 2,800m Northwest Runway would be fully capable of supporting the projected 260,000 annual ATMs required to meet future demand as set out in the ANPS, while maintaining a robust and flexible operating model. Additional detail about the runway length analysis is presented in Appendix A: Runway Assessment

## Aircraft Parking Stand Capacity

To determine the total number and type of aircraft parking stands required to accommodate a target terminal capacity of 40mppa, a stand demand calculation was performed. For the purposes of calculating the annual passenger capacity of T6, HWL was informed by IAG and its consultants in 2017 that each Code C aircraft stand or Narrow Body Equivalent (NBE) aircraft stand could process approximately 800,000 annual passengers. To provide a terminal capacity of 40mppa using this metric, a total of 50 Code C (NBE) aircraft stands are required. HWL's Proposed Development provides 52 NBE stands at T6, two more than required for contingency planning. Additional detail about stand demand is provided in Appendix B: Aircraft Parking Stand Capacity Assessment.

## Passenger Terminal Capacity

To determine the total terminal floor area required to accommodate a target capacity of 40mppa, a terminal sizing calculation was performed. For the purposes of calculating the required floor area, a metric of approximately 11,000$m^2$ per mppa was used for planning purposes. To provide a terminal capacity of 40mppa using this metric, a total floor area of approximately 440,000$m^2$ is required, and HWL's Proposed Development provides this amount of floor area in T6. Additional detail about passenger terminal capacity and sizing is provided in Appendix C: Passenger Terminal Capacity Assessment.

# Expected Timelines

# 6. Expected Timelines

## Plans for Delivering an Operational Northwest Runway by 2035

### Statutory Consultation and DCO Application

The theoretical minimum timeline for the Government to complete revisions to the ANPS, the pre-application process for proponents to prepare DCO applications, including required Statutory consultation, and for the Planning Inspectorate to review and the Secretary of State to approve the DCO applications by the end of this Parliament on 9 July 2029 is approximately 47 months from the 31 July 2025 deadline for submissions of Proposals for the Expansion of Heathrow as required by the DfT.

HWL has been informed by the DfT that a period of one year has been estimated to complete revisions to the ANPS. Based on this estimate, the revised ANPS would be completed by 1 August 2026. HWL also understands that the duration for the Planning Inspectorate to review and the Secretary of State to approve a DCO application, including the eligibility check and pre-examination period, could range from 16 months to 18 months as shown in Table 2.

| Stage | Statutory Minimum Time |
|---|---|
| Eligibility check (acceptance) | 28 days |
| Pre-examination | No statutory minimum (≈3–5 months) |
| Examination | Up to 6 months |
| Recommendation to Secretary of State | Up to 3 months |
| Secretary of State decision | Up to 3 months |
| **Total (range)** | **16-18 months** |

**Table 2. Stages of the DCO Process**

To meet the Government's targeted DCO approval deadline of 9 July 2029 and taking into consideration the estimated 12 months to revise the ANPS and up to 18 months to conduct the DCO process as shown in Table 2, the remaining time for HWL to prepare the DCO application and conduct Statutory Consultation is approximately 17 months. However, HWL will continue to monitor the ANPS review process and, as this crystallises, could start to develop its proposal earlier and prepare its consultation materials in parallel with the ANPS timeline. This indicative timeline and the potential early start (shown in light blue) is reflected in Figure 35.

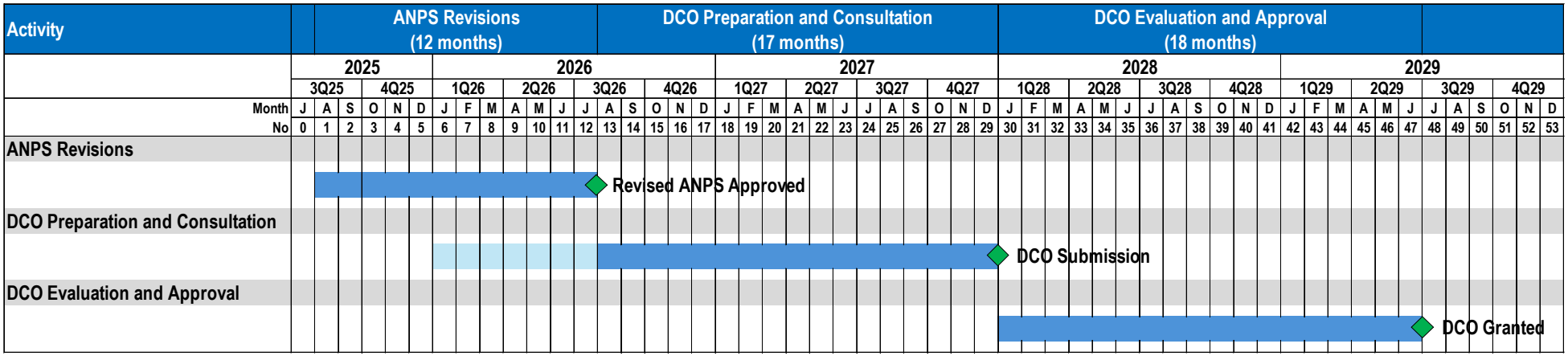



**Figure 35. Indicative Timeline to Meet Government's Target DCO Approval Date**

## Construction Timeline

The estimated construction timeline for HWL's Proposed Development key facilities is outlined below and shown in Figure 36.

- **2,800m Northwest Runway**
  - Start Construction = Oct 2029
  - Complete Construction = Dec 2034
  - Complete Operational Readiness and Airport Transfer (ORAT) = Dec 2035
- **T6A**
  - Start Construction = May 2030
  - Complete Construction = Jan 2035
  - Complete ORAT = Jan 2036
- **T6B**
  - Start Construction = Nov 2033
  - Complete Construction = Jan 2039
  - Complete ORAT = Jan 2040
- **Southern Parkway Phase 1**
  - Start Construction = Dec 2029
  - Complete Construction = Jun 2031
  - Complete ORAT = Jul 2031
- **Central Parkway**
  - Start Construction = Jul 2032
  - Complete Construction = Jul 2035
  - Complete ORAT = Aug 2035
- **Southern Parkway Phase 2**
  - Start Construction = Jun 2035
  - Complete Construction = Dec 2036
  - Complete ORAT = Jan 2037

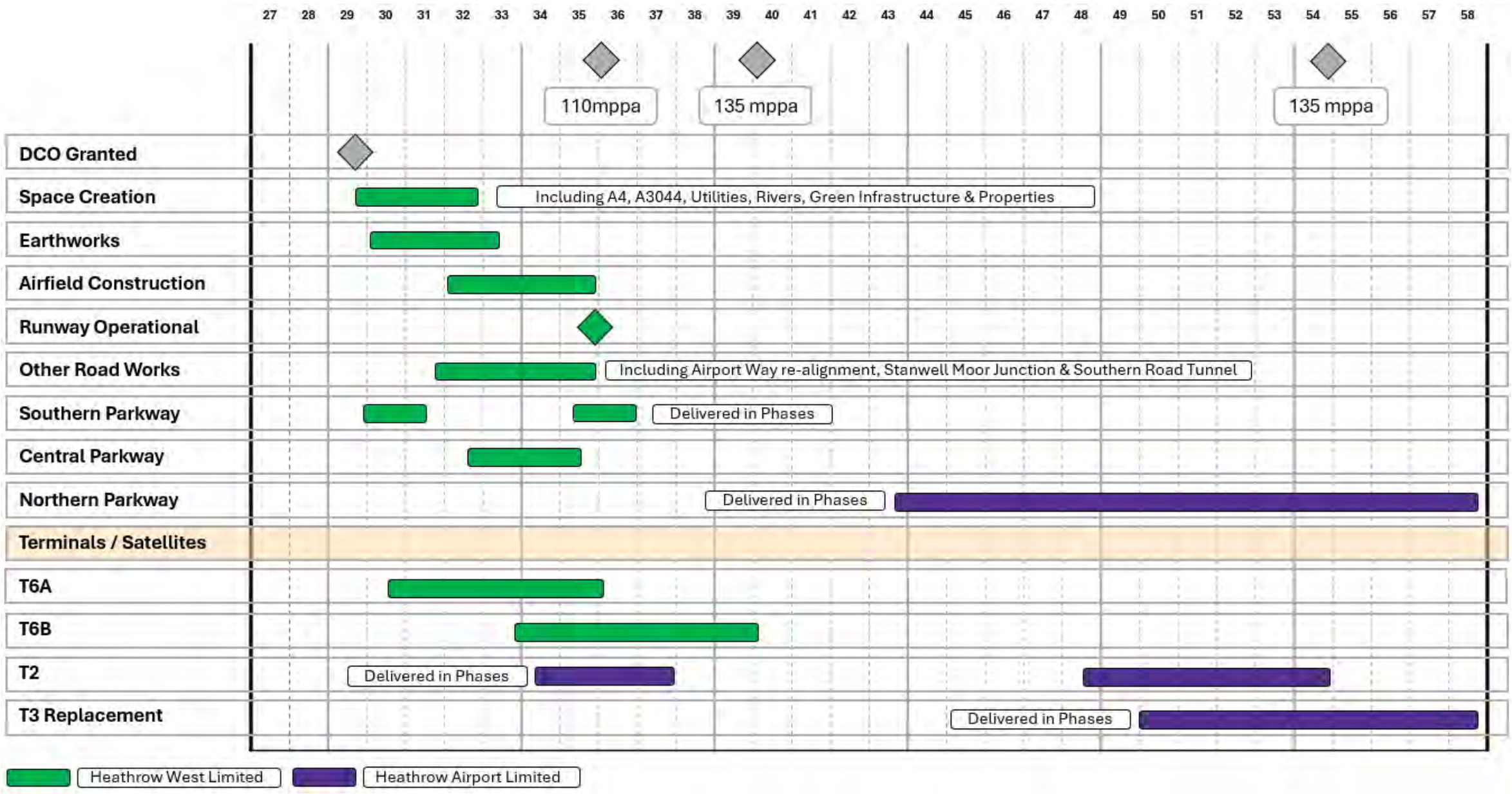


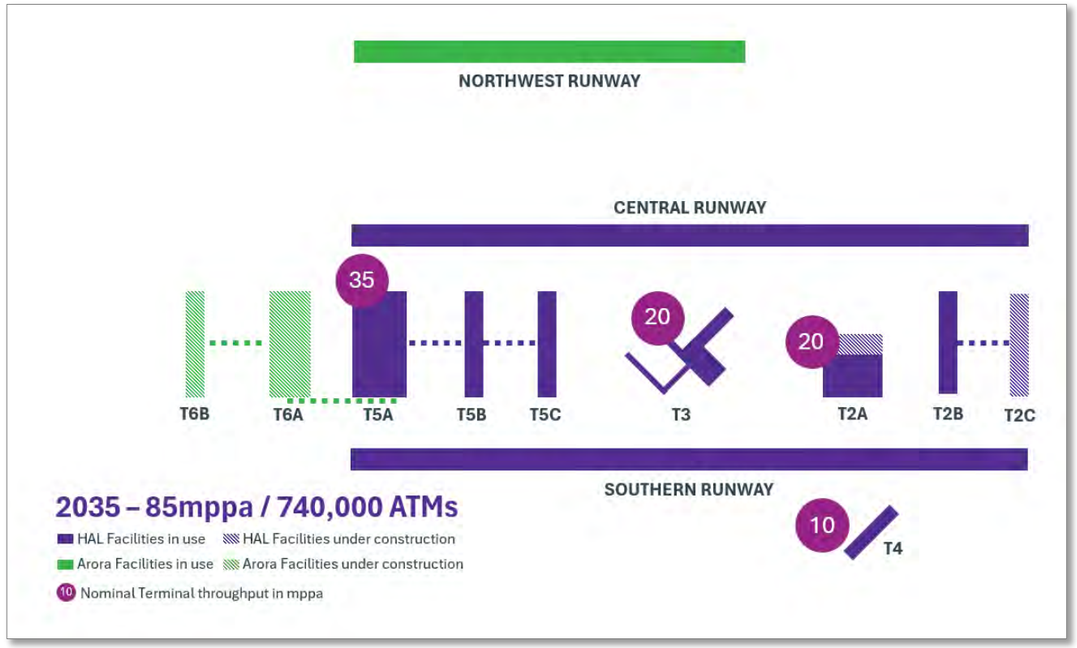

**Figure 36. Estimated Construction Timeline ***

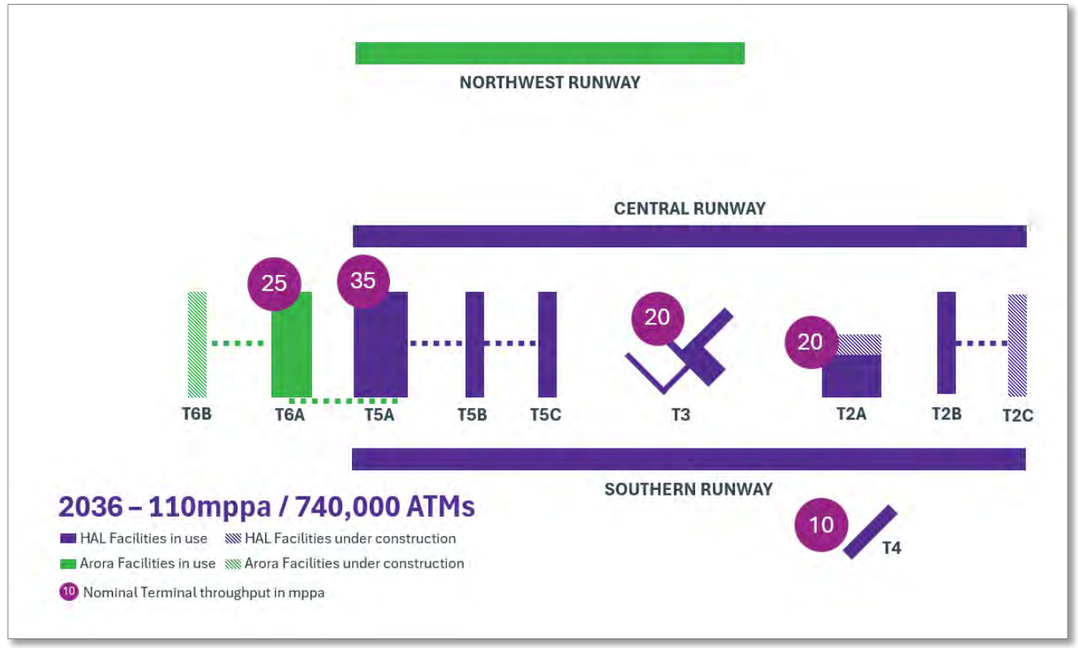
* HAL facility construction data based on HAL's 2019 Consultation Document, "Preliminary Environmental Information Report: Chapter 6: DCO Project Description; Graphic 6.3: Illustrative DCO Project schedule"

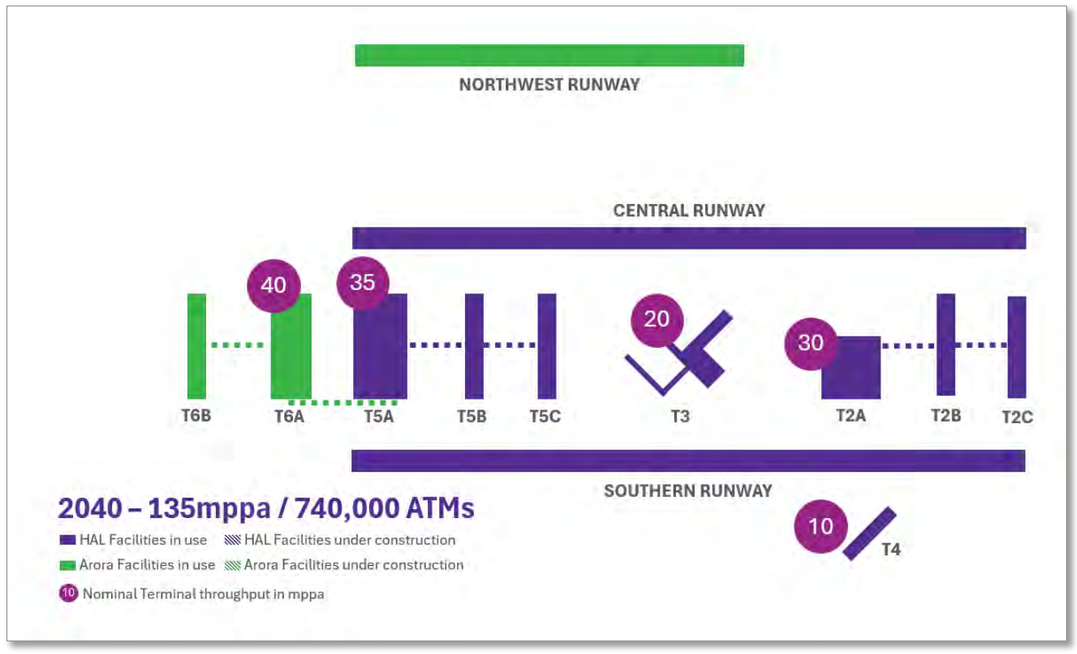
## Phasing of Release of Runway and Terminal Capacity by Year

The estimated phasing of release of airport runway capacity on the basis of ATMs and terminal capacity measured as million passengers per annum (mppa) under HWL's Proposed Development by milestone year is outlined below. Airport terminal and runway capacity by milestone year is shown in Figure 37.

- **2035**
  - Existing airport-wide runway capacity: 480,000 ATMs
  - 2,800m Northwest Runway capacity: +260,000 ATMs
  - Total airport-wide runway capacity, including Northwest Runway: **740,000 ATMs**
  - Existing airport wide terminal capacity (including T2, T3, T4 and T5): **85mppa**
- **2036**
  - Existing airport-wide terminal capacity (including T2, T3, T4 and T5): 85mppa
  - T6A completion terminal capacity: +25mppa
  - Total airport-wide terminal capacity: **110mppa**
- **2040**
  - Existing airport-wide terminal capacity (including T2, T3, T4, T5 and T6A): 110mppa
  - T6B completion terminal capacity: +15mppa
  - T2A expansion and T2C completion terminal capacity: +10mppa
  - Total airport wide terminal capacity: **135mppa**
- **2054**
  - Existing airport wide terminal capacity (including T2, T4, T5 and T6): 135mppa
  - T3 removal terminal capacity: -20mppa
  - T2A expansion, T2D and T2E completion terminal capacity: +20mppa
  - Total airport wide terminal capacity: **135mppa**



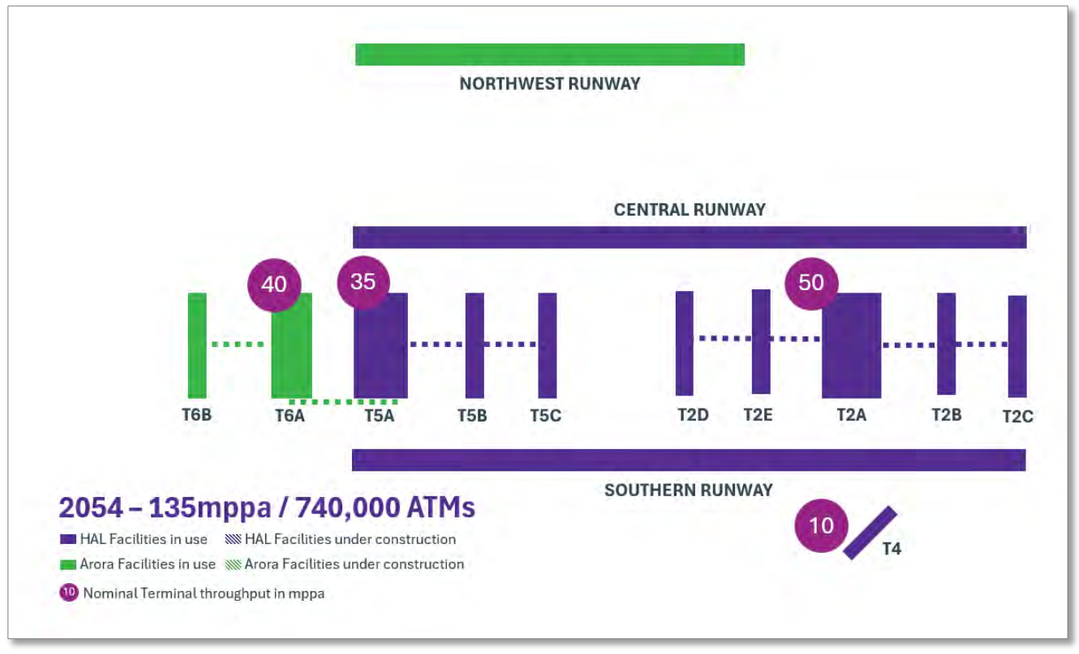



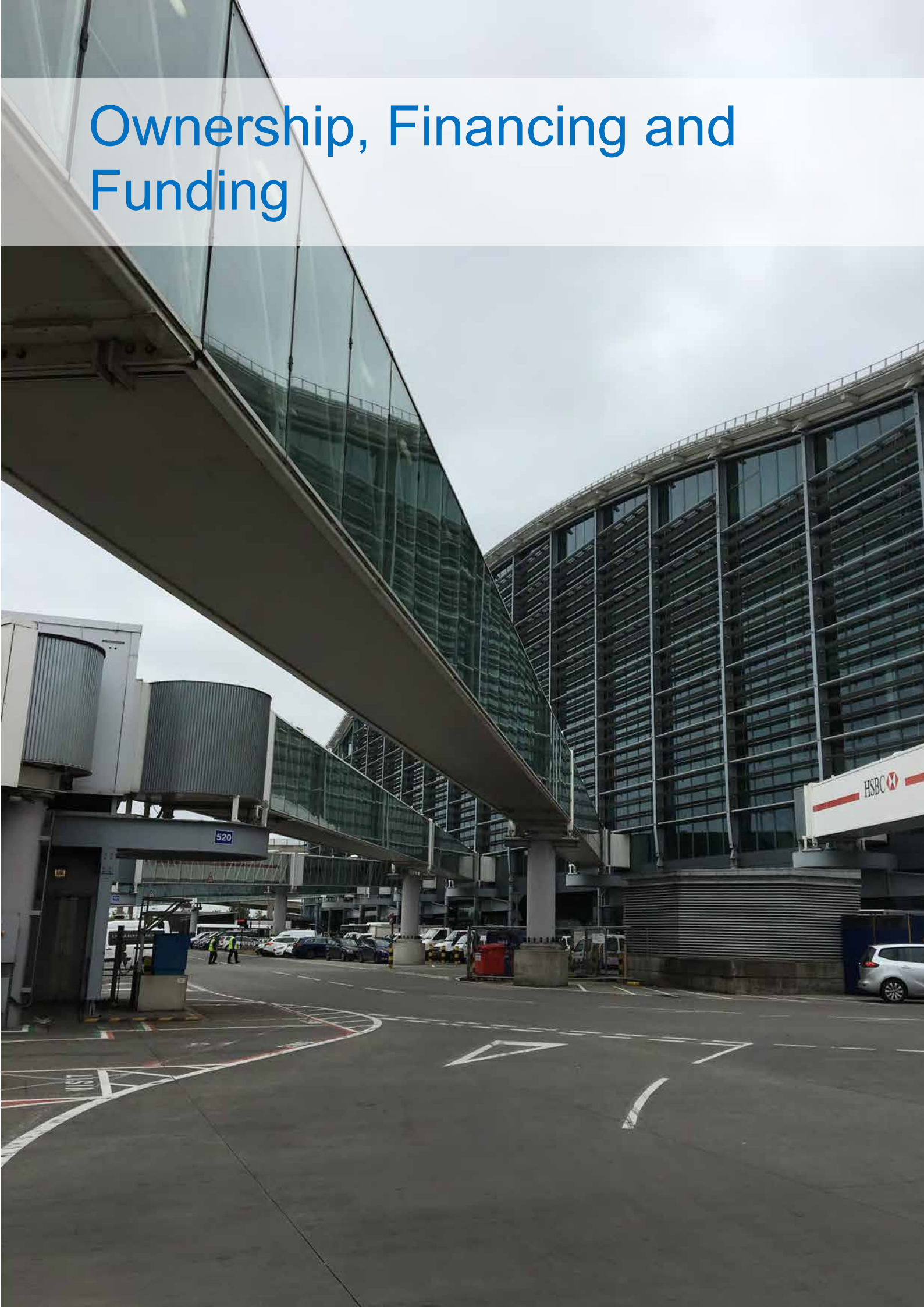

**Figure 37. Airport Runway and Terminal Phasing and Capacity Increases ***

* T2, T3, T4 and T5 capacity based on HAL's 2019 "Heathrow Airport Expansion – Consultation Document", subject to confirmation once updated HAL assumptions are made public.

# Costs and Revenues

# 7. Costs and Revenues (Information Redacted)

# Ownership, Financing and Funding



# 8. Ownership, Financing and Funding

## Details of the Commercial Model Used, Including Key Assumptions Underpinning It

This proposal necessarily bases its financial modelling, cost projections, and commercial assumptions on the regulatory framework currently at Heathrow and overseen by the CAA. These assumptions reflect the existing price control methodology, capital expenditure governance arrangements, and regulatory incentive structures as established under the H7 price control period and anticipated to continue under H8.

While this approach is necessary for producing financial projections that the Government can assess against stated objectives of maximising economic growth opportunities while minimising costs for consumers, customers, and the Government, HWL consider it important to clarify that the use of these assumptions should not be interpreted as endorsement of the current regulatory model's effectiveness or appropriateness for supporting major infrastructure investment of this scale.

Arora is a founding partner of the **Heathrow Reimagined** campaign, which brings together key aviation stakeholders, including the Heathrow Airlines Operating Committee (AOC), IAG, and Virgin Atlantic. The campaign has submitted detailed evidence to the CAA calling for urgent and fundamental reform of Heathrow's regulatory model to address systemic issues that harm consumers, constrain economic growth, and create perverse incentives for infrastructure investment. HWL's analysis, set out in its submissions to the CAA, demonstrates that the current regulatory framework has contributed to:

- Spiralling airport charges that make Heathrow the most expensive major international airport in the world, reducing UK competitiveness
- Declining passenger experience despite record-high charges, with service quality failures and operational resilience issues
- Inefficient capital deployment due to weak regulatory incentives, resulting in cost overruns and delays
- Inadequate investment in ageing infrastructure that fails to meet passenger and airline expectations
- The outcomes for the airport operator being prioritised over consumer welfare and economic efficiency

HWL believes that the Government's objectives for the Northwest Runway process align directly with the Heathrow Reimagined campaign's case for regulatory reform (and the CAA has recognised the need for consideration of both (i) possible regulatory models for capacity expansion at Heathrow in response to calls for reform and (ii) the development of a regulatory framework for expansion, in its Statement on scope and process (CAP3144)

published on 18 July 2025). The scale of investment required for development of a new runway makes the choice of regulatory framework critical for project success and value for money. While it has been necessary to use the prevailing regulatory model for the projections, HWL believes that regulatory reform would enhance the economic benefits while ensuring optimal outcomes for passengers, airlines, and the UK economy.

HWL also highlights that, as the CAA has recognised, the current framework under the Civil Aviation Act 2012 accommodates the possibility for third party proposals for airport infrastructure at dominant airports as well as a mechanism for the recovery of their costs where appropriate under the Civil Aviation Act 2012.[2] The Government's current focus on expansion at Heathrow provides an unprecedented opportunity to ensure such mechanisms are appropriately leveraged to maintain a level playing field between multiple proposals and ensure the regulatory framework does not stifle the emergence of competition in the consumer interest. HWL would expect to be put on a similar footing to other promoters, including in respect of the recovery of its costs.

## Demonstration of Ability to Finance the Scheme

The DCO application is the stage at which HWL will have to demonstrate funding for HWL's Proposed Development.

At this much earlier policy review stage, the appropriate test is, at its highest, whether there are any issues anticipated with funding HWL's Proposed Development. As noted above, in advance of any regulatory reform, this Proposal Document assumes the existing RAB based model (without endorsing it). On this basis, there is no reason why HWL's Proposed Development would not be fundable under the RAB, or indeed any new RAB, based model. The RAB approach has been used widely in the electricity, gas and water industries, as well as at Heathrow Airport. It is well understood by stakeholders and the financial community, making it relatively straightforward (and less costly) to raise debt and equity. A new RAB model was used to secure low-cost financing for the Thames Tideway Tunnel project, by way of illustration.

We also see no regulatory impediments to a RAB-based funding model for HWL's proposals, either through its own RAB or the use of HAL's. The CAA allows HAL's RAB to be used for the recovery of third party costs, such as for surface access, and has specifically recognised that it has the power both to facilitate third party schemes and to permit third parties to recover their costs under the Civil Aviation Act 2012 (see Technical Information Note of August 2018, paragraph 35 of CAP2524H, as well as for example Regulatory model 3 in its recent CAP3144 consultation).

We have also been advised that because a RAB model is well understood in the market it would make HWL's Proposed Development eminently fundable. Further information can be provided in due course. In any event, there is no material distinction in financeability terms between HWL's Proposed Development and HAL's 2019 Preferred Masterplan (or any updated version of it) when both are considered at this stage under a RAB model.

[2] See paragraph 35 of CAP2524H: Heathrow West's request for cost recovery: decision

## Financial Institution Testimonials

Support from Institutional investors has been key to the Arora Group's success. The trust and confidence that these organisations have is a result of the importance placed on delivering on promises as well as operational and financial expertise.

It was appropriate to include in this report testimonial letters that have been received from three of our long-standing banking partners as listed below, with the full letters presented in Appendix H: Financial Institution Testimonials.

1. Letter from John Baldwin
   CEO of Corporate and Commercial Banking
   Santander UK plc

2. Letter from John Feeney
   Chief Executive of Corporate and Commercial Banking
   Bank of Ireland Group

3. Letter from Paul Thwaite
   Group Chief Executive
   NatWest Group

# Deliverability

# 9. Deliverability

## Technical Assurance that the Plans are Feasible and Can Be Reasonably Delivered to Timetables

### Managing Complexity

Expanding Heathrow under intense constraints—tight space, live operations, major road and utility relocations, and logistical bottlenecks—will be immensely complex and challenging to execute at scale. Success demands a highly sophisticated, multi-disciplinary delivery process led by seasoned experts with deep experience in large terminal projects, ensuring meticulous planning, seamless coordination, minimal disruption, and uncompromising safety and efficiency throughout every phase of delivery.

### Creating Delivery Certainty

The best way to drive certainty of delivery is to find solutions that conform to best construction industry practice. The HWL team, through its extensive experience, will strive for structures and systems that conform to industry practices while meeting the functional and operational requirements of the stakeholders. By pushing solutions that are widely recognised in the construction industry HWL has better predictability on cost and schedule, will create greater competition in the marketplace and open up a broader resource pool to support the project.

### Marketplace Risk to Certainty of Delivery

The current climate in the UK construction market is one of competition of mega-projects with other significant infrastructure projects such as the Lower Thames Crossing and the Thames Tideway Tunnel driving competition for local resources in and around London.

The best way to overcome this risk to delivery is to open up the marketplace to global suppliers and create more competition. By engaging the global marketplace, a greater resource pool is opened up, creating more competition, resulting in better pricing and schedule adherence. In a post-Brexit landscape, HWL wants the UK to be seen to be leading in global initiatives.

### Capitalising on the Supply Chain

Further reduction in delivery risk can be achieved through repetition and modularisation. By selecting standard construction industry solutions and repeating them in a modular fashion HWL can create a supplier environment that lends itself to offsite assembly line production in a shop environment. It is important to HWL's Proposed Development to maximise these opportunities due to the constrained site and access, and the need to minimise disruption to ongoing operations at the airport.

### 4D Construction Sequence Modelling

To support the achievement of the project's challenging delivery objectives noted above, 4D Construction Sequence Modelling, a powerful and dynamic tool, was used to review and modify in real-time complex project elements during the planning stage of the development process as illustrated in Figure 38 which also provides an animation of the model prepared for the project.

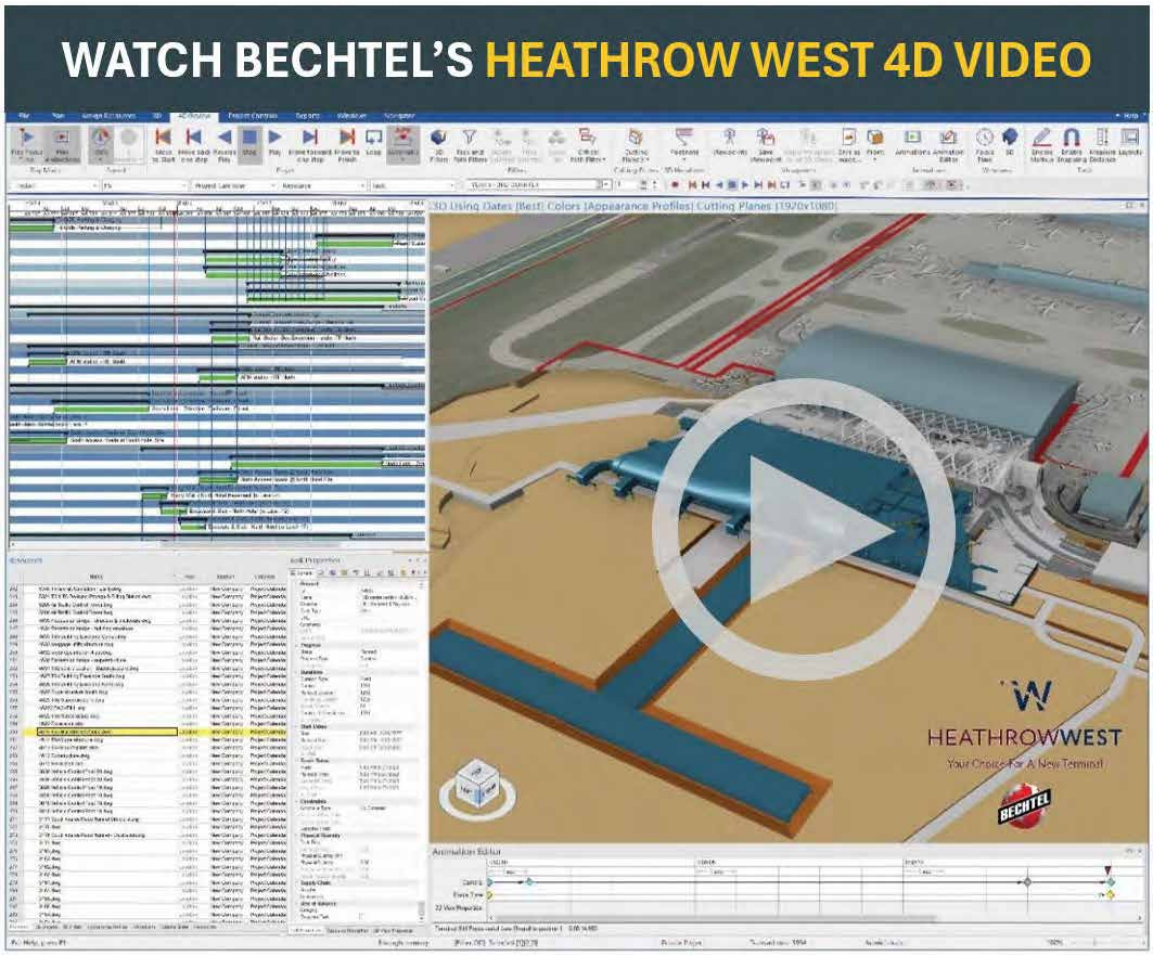



**Figure 38. 4D Construction Sequence Model Video**

In addition, the tool was also used to visually demonstrate the critical aspects of project development to the key stakeholders to promote better understanding of the physical relationships and delivery timing of all of the project's permanent and temporary works. Multiple real-time animations of the construction sequencing produced directly by the 4D modelling tool were regularly shared with the development team to seek confirmation of assumptions and guidance on changes required to avoid conflicts identified.

The 4D model was used to test several construction staging, phasing and logistics alternatives to optimise the ideal construction plan prior to actual construction and to minimise disruptions to existing operations. One such logistics solution that was tested with 4D modelling was the introduction of a dedicated railhead that would deliver much of the construction bulk materials to the site by rail, thus minimising the amount of construction traffic on local roads. In addition, 4D modelling efficiently and effectively allowed the design and construction teams to detect and resolve design and delivery clashes prior to construction.

## Indicative Construction Strategy

The indicative construction strategy for HWL's Proposed Development sets out to present a practical approach that seeks to reduce risk compared to the scheme prescribed in the ANPS which involves constructing a 3,500m runway that bridges over the M25 motorway—an infrastructure project targeted to take five years and present considerable

complexity. In contrast, HWL's Proposed Development proposes a 2,800m runway that avoids the M25 motorway entirely, reducing both complexity and disruption.

Preliminary assessments of the Heathrow West runway delivery program have already been carried out, supported by conceptual 4D modelling noted previously to understand and inform construction phasing, site access, enabling works, and the optimal location of staging areas and site offices. This early digital planning strongly indicates that the new runway can be delivered efficiently and without the costly delays that often arise from poorly sequenced construction activity.

While detailed scheduling work is still underway, the initial findings suggest that this simpler scheme avoids key risk drivers presented in the ANPS scheme—most notably, the need to construct over the M25, one of the busiest motorways in Europe. With a shorter runway, fewer dependencies, and a clearer path to site mobilisation, the current analysis indicates that this scheme, and the new runway in particular, could be delivered within the target timeframe established by the Government, if not possibly earlier, while offering a potentially more manageable and cost-effective solution.

The following highlights the benefits of HWL's indicative construction strategy.

- **Minimised construction duration** – a 10-year concentrated construction programme, completing construction of the new runway and T6. The single-terminal design has enabled HWL to plan for a shorter construction period that requires fewer support facilities, reducing the total size of the worksite.
- **Sustainability and resilience** – HWL's Proposed Development will target a BREEAM 'Excellent' rating for the construction and operational phases of the project by implementing techniques to promote sustainable construction using standardised products and promoting the use of recycled or secondary materials and avoiding unnecessary packaging to minimise the need for landfill.
- **Minimised disruption** – Less impact on local communities due to a shorter construction period, with dedicated routes for construction traffic and the provision of a blue/green buffer early in the construction sequence to mitigate the ongoing works activity.
- **Minimised construction footprint** - HWL's Proposed Development has emphasised reduction of HWL's total construction footprint, keeping the majority of the construction area within the final airport boundary.
- **Offsite fabrication and modularisation** – The implementation of offsite fabrication and modularisation methods are intended to help minimise HWL's construction footprint, as less land will be required for onsite assembly.

HWL's construction strategy shows indicative phasing across key activities and time periods. The indicative construction phasing plans shown in Figure 39 to Figure 42 illustrate the scale of the project over time to deliver HWL's Proposed Development by 2040.

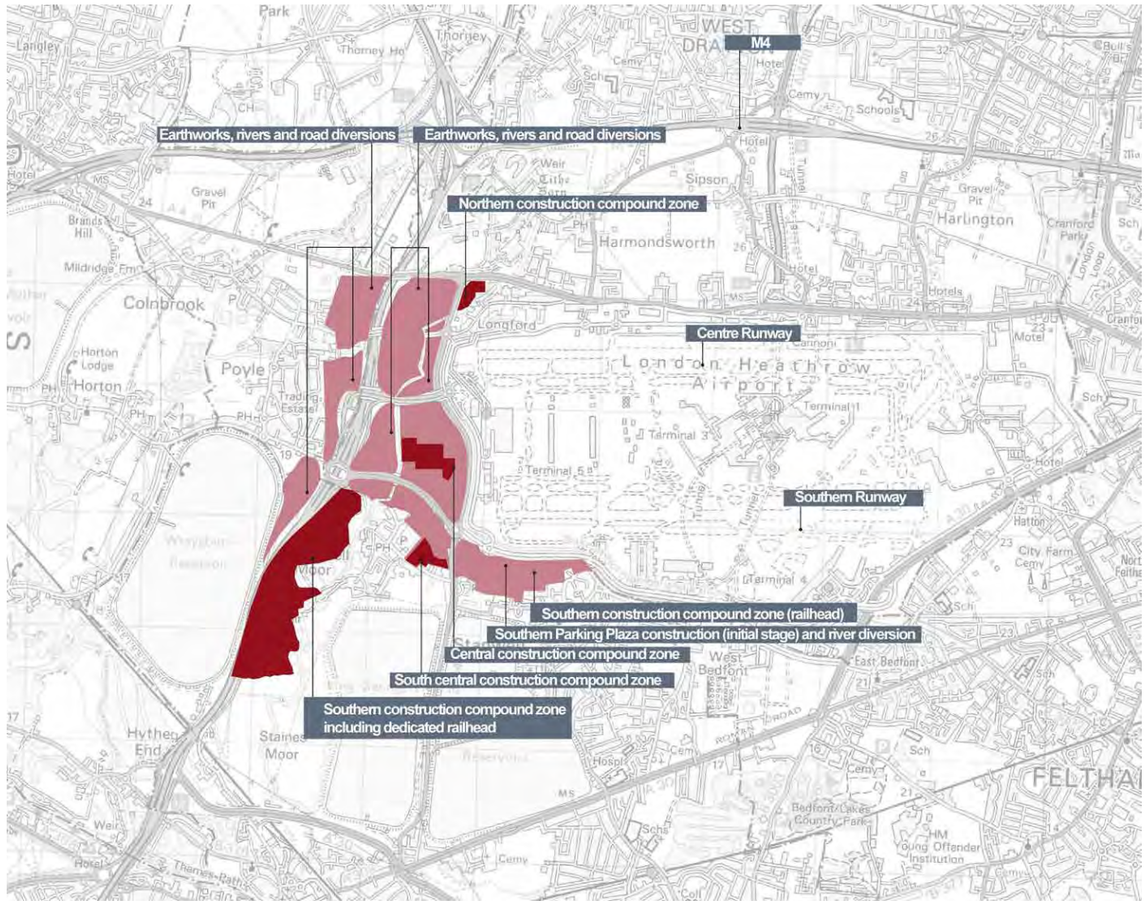



**Figure 39. Site Establishment in 2029**

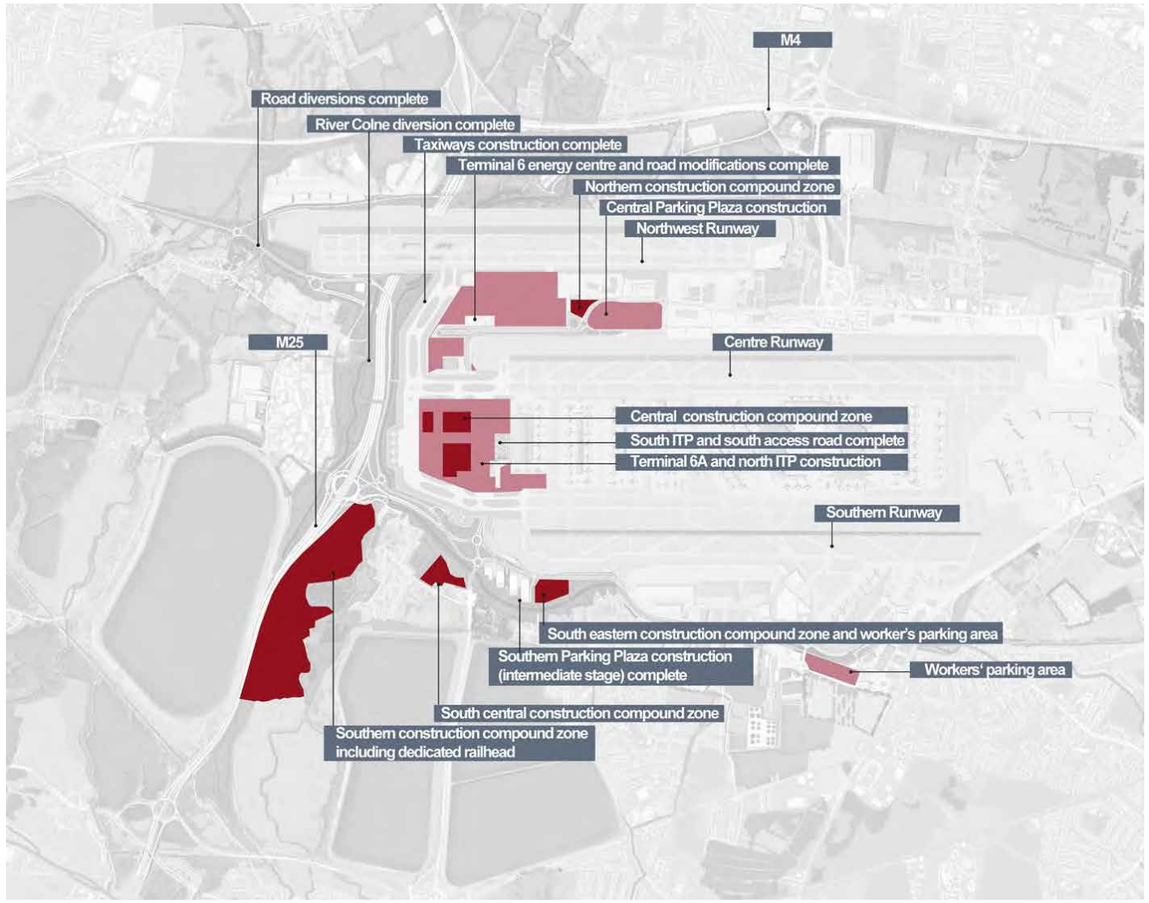



**Figure 40. Indicative Construction Phasing to 2035**

## Site Establishment and Enabling Works Beginning in 2029

During site establishment, HWL's Proposed Development will implement strategic road network signage, mobilise contractors, establish construction compounds and working areas, ground investigations, implement monitoring and mitigation measures, and will begin construction of the railhead and associated infrastructure.

The enabling works stage will be focused on site clearance and preparation. Specific activities will include diverting rivers and roads where necessary to allow for completion of the new taxiways and T6, relocating utilities, creating internal construction road networks, and demolishing and removing buildings and utilities.

During the period when both the Northwest Runway and other components of HWL's Proposed Development are under construction, T5 will continue in operation. HWL intends to work collaboratively with HAL to minimise disruption to T5 passengers during construction of HWL's facilities. HWL seeks to ensure that access to the terminal by car and public transport is maintained, and other impacts will be mitigated where practicable. Figure 39 shows the construction zone footprint at the end of 2029.

## Indicative Phasing to 2035

Construction of the Northwest Runway is anticipated to start at the end of 2029 and be completed in January of 2035. The runway is expected to become fully operational near the end of 2035 once all necessary services are in place to support the operations and after completion of Operational Readiness and Airport Transfer (ORAT). Figure 40 shows the construction zone footprint at the end of 2035.

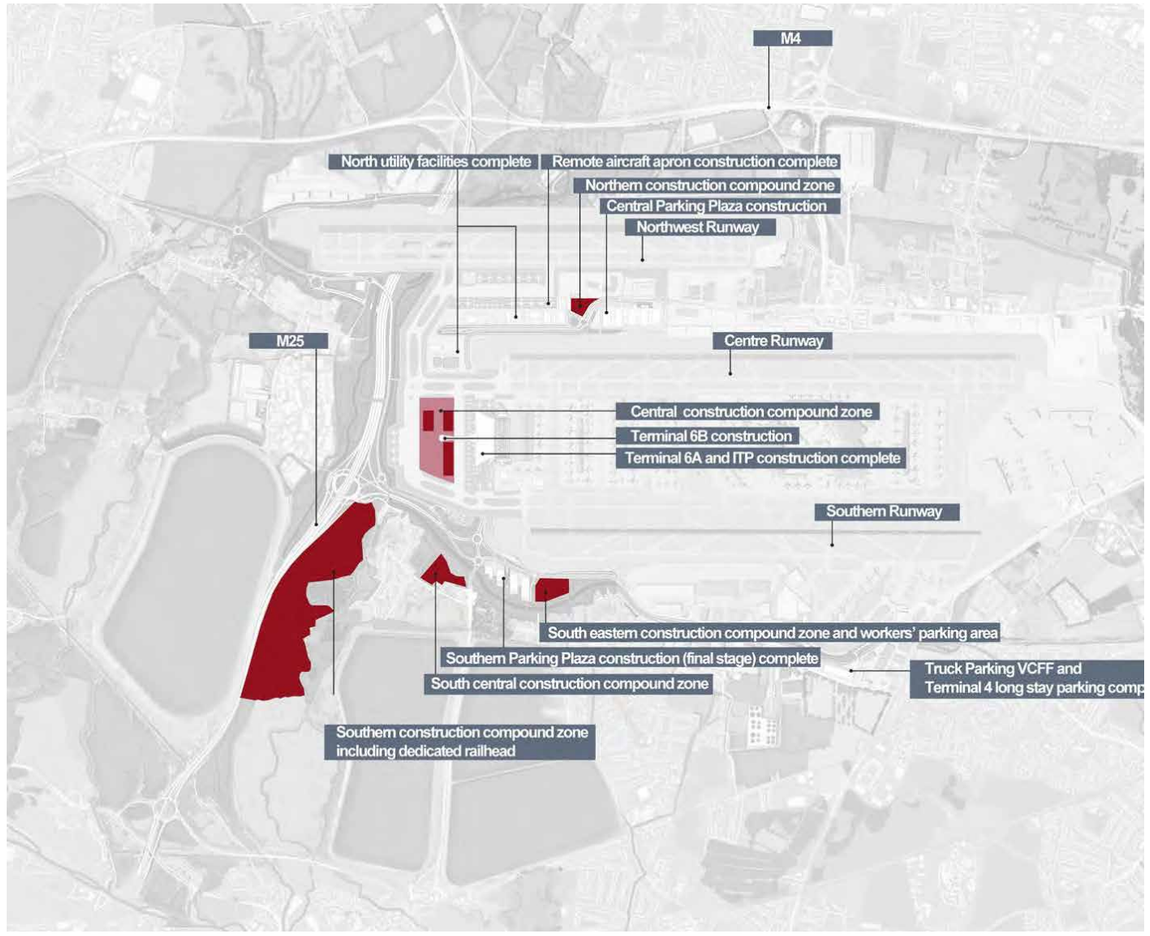



**Figure 41. Indicative Construction Phasing to 2036**

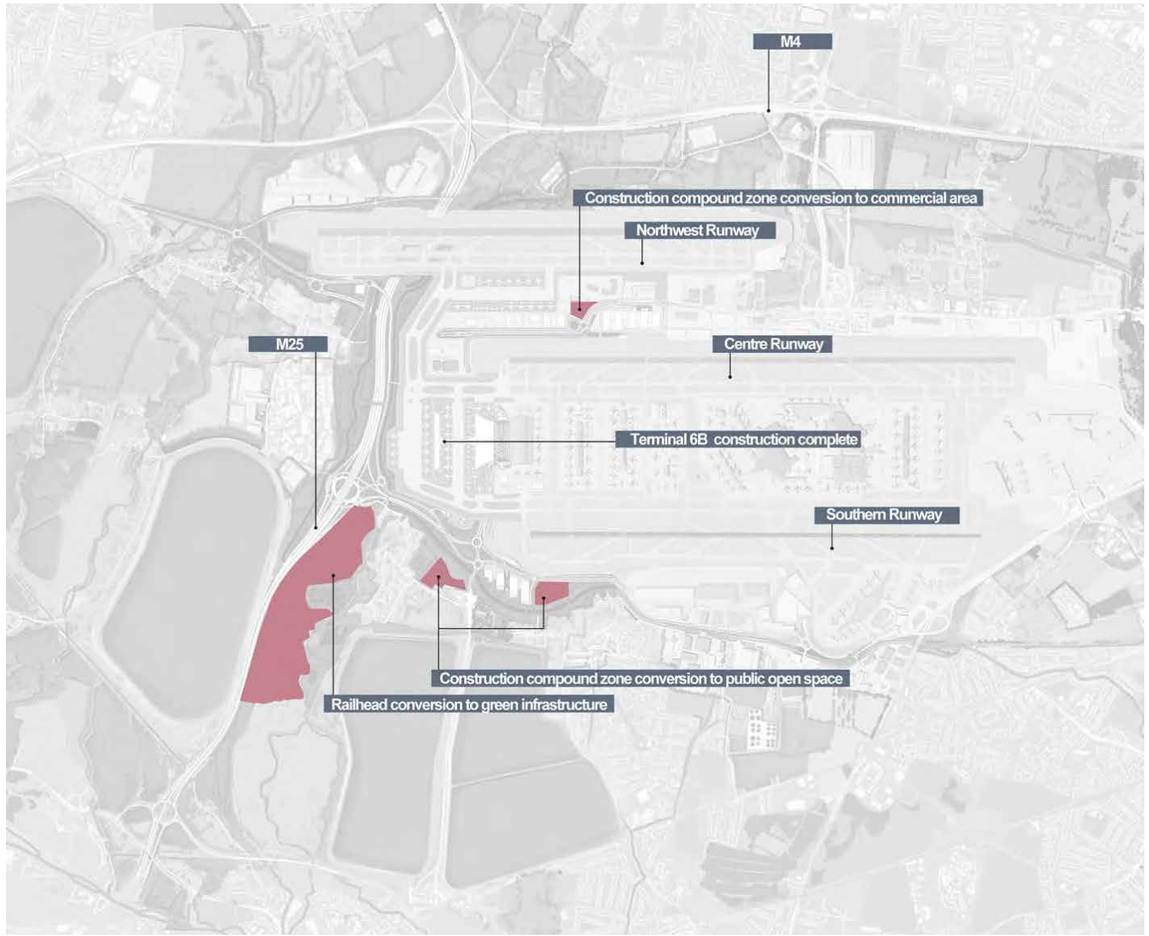



**Figure 42. Indicative Construction Phasing to 2040**

### Indicative Phasing to 2036

Construction of T6A is planned to start at the end of 2030 and be completed in 2036. T6A and construction of the infrastructure within the ITP, located between T6 and T5, including two new hotels, passenger drop-off areas, and parking. T6A is expected to be operational and will be able to accommodate the ANPS requirements for additional passenger capacity by January 2036. Figure 41 shows the construction zone footprint at the beginning of 2036.

### Indicative Phasing 2040

Construction of T6B is scheduled to start at the end of 2033 and anticipated to be completed by 2040. Construction activities will primarily utilise a reduced Central Construction Compound, located within the T6B building and apron area. The compound will include office space, control posts at site entrances, laydown areas, lorry parks and call forward points, and prefabrication facilities for steel and concrete products. Construction activities within T6 and the ITP will include excavation, building substructure and superstructure, building fit-out, and testing. T6B will be able to accommodate the ANPS requirements for additional passenger capacity by the beginning of the year. Figure 42 shows the construction zone footprint at the beginning of 2040.

## Construction and Logistics Management

HWL's Proposed Development has established management and logistics plans to streamline construction practices and help to operate in an effective, efficient, and respectful manner. These plans support safe working practices, assist HWL's team in adhering to a condensed construction timeline, and minimise disruption to local communities. These construction logistic plans encompass accessibility, the railhead, the construction logistics centre and compounds, internal construction roads, construction traffic management and travel plans, mode of material movement, demolition and health and safety as shown in Figure 43.

- **Worksite access**: The site is expected to be accessible by road throughout construction. During the enabling works, the existing road access from Leylands Lane to the Brett Aggregates site is planned to be used for access to the site. During the terminal construction phase, the access point is proposed to be transferred to Horton Road/M25 Junction 14 link to relieve local traffic from HGV movements.
- **Railhead:** To support construction activities and reduce the impact on local communities near the worksite, a temporary railhead is proposed to be constructed to the south of the A3113 and east of the M25 motorway. The proposed railhead will have direct connectivity to the Staines-Windsor mainline. The railhead is expected to include up to five purpose-built sidings with one head shunt at the northern end. This is anticipated to allow up to three freight trains to be present for simultaneous loading and unloading. A concrete standing is proposed around the tracks at the rail terminal to create material-handling areas and allow for more visible and safe working routes.
- **Construction logistics centre and supporting compounds:** A temporary Construction Logistics Centre will be provided at the Southern Construction Compound with access to the railway network via a railhead to support the construction of the Heathrow West project. The railhead site will be located in the wider Stanwell Moor area, which features proximity to the railway network and allow access to the main construction works.


**Figure 43. Construction Compounds**

# Details of Any Discussions and Endorsements from Airlines on Proposals

## World-Class Airlines

HWL's Proposed Development has been shaped in conjunction with other relevant parties. This includes discussions with many of the major airlines at Heathrow including **American Airlines**, **British Airways**, Heathrow's largest airline operator, the **International Airlines Group (IAG)**, and **Virgin Atlantic** about collaborating to propose alternative solutions for Heathrow's expansion that are privately funded and defined by the needs of the airlines and their customers. These airlines support competition in the provision of expansion and have concerns whether HAL can deliver an efficient and affordable infrastructure project under the current regulatory model.

## World-Class Airports

### Changi Airports International

As part of its response to the DfT's Invitation Letter to expand Heathrow, HWL has sought independent expert input to help demonstrate the credibility, viability, and quality of its Proposed Development. To that end, HWL invited **Changi Airports International (CAI)**, a **wholly owned subsidiary** of **Changi Airport Group (CAG)**, to conduct a peer review of HWL's Proposed Development. CAG develops and operates **Singapore Changi Airport,** which has won the World's Best Airport award in 2025 from Skytrax – its record 13th win and ranked the 4th busiest airport in the world in terms of international traffic.

CAI's assessment draws upon extensive experience in airport planning, design, and operations, with particular attention to feasibility and operational excellence. Below is CAI's formal statement of findings, accompanied by a summary evaluation matrix highlighting the strengths of HWL's Development Proposal as shown in Figure 44:

*"Heathrow West Limited (HWL) has put forward a credible and robust proposal that would strengthen Heathrow Airport's position as one of the world's leading air hubs and would in turn enhance UK's economic growth. HWL's approach is aligned with DfT's and key stakeholder's interests, delivering the above outcomes in a way that is time- and cost-effective, least disruptive to the community and environmentally sustainable. The proposed 3rd runway at 2,800m presents an optimised solution, significantly increasing ATM capacity, accommodating most aircraft types and flight ranges, while minimising developmental costs and adverse impacts to the local environment and community. The size and configuration of the new T6 and its proximity to existing T5, allow for the seamless integration between the two terminals, creating a compelling hub product for home carriers, IAG and Virgin Atlantic, and their alliances. All in all, HWL's proposed master plan balances DfT's strategic objectives, while maintaining affordability and convenience for all airport users, bringing much economic and strategic benefits to the UK as a whole."*

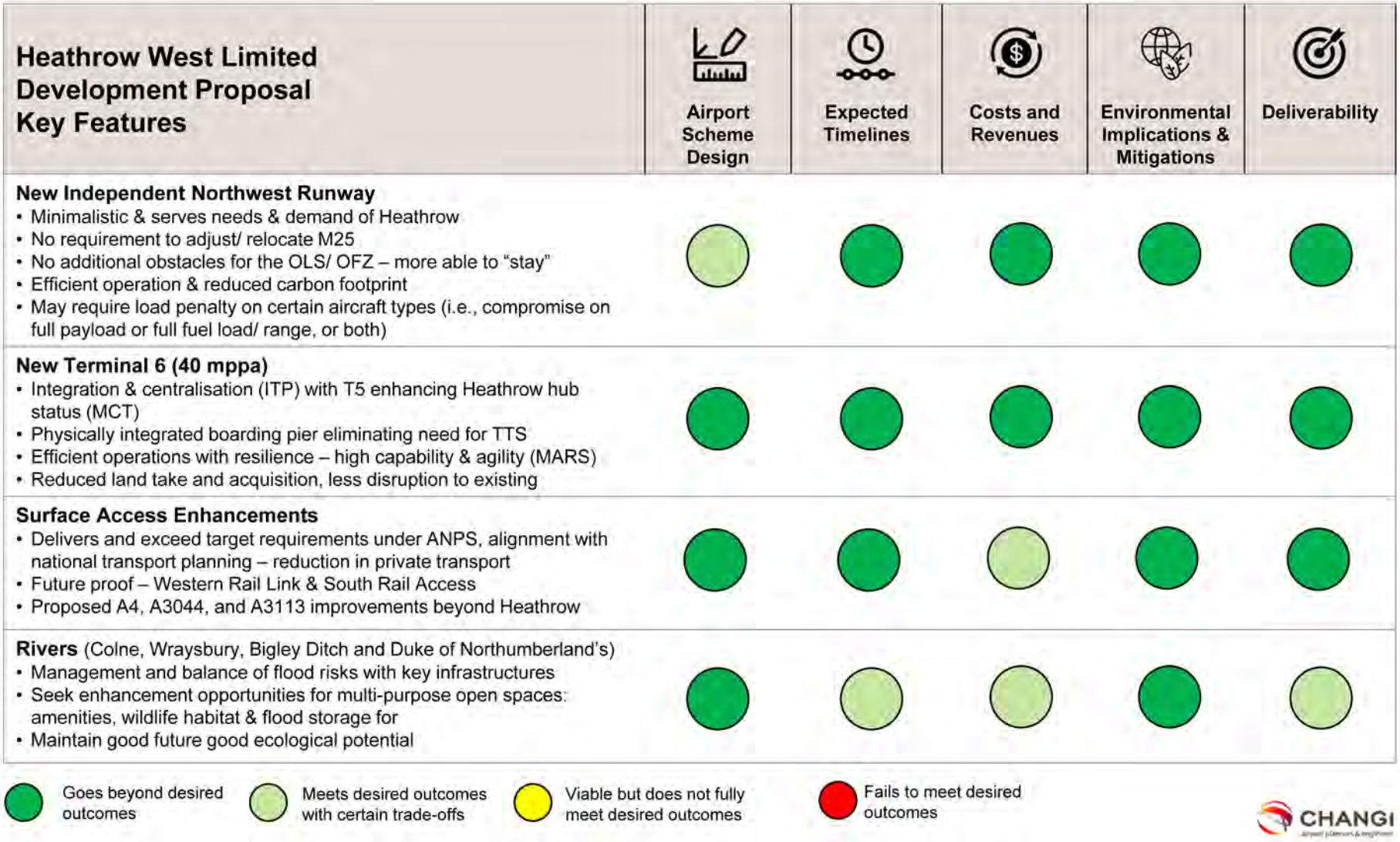



**Figure 44. Strengths of Heathrow West Limited's Proposed Development**

## Dublin Airport

In addition to the endorsement provided by CAI—we are pleased to include the following letter of support from Dublin Airport. Dublin Airport has first hand experience working closely with the Arora Group on a complex landside hotel development. Their endorsement underscores Arora's capability to deliver high-quality infrastructure in live airport environments while maintaining operational integrity and exceeding stakeholder expectations.

30th July 2025

To Whom it may concern

I am delighted to be able to offer this reference for the Arora Group and their Construction arm, Grove Developments Ltd, based on our experience in working with them on our Development at T2 hotel at Dublin Airport.

The Arora Group are building our new 5-star Sofitel Hotel within the curtilage of the airport adjacent to our offices, encompassing within the hotel footprint our pedestrian bridge which links our Terminal 2 to our carpark.

From the outset, Grove Developments Ltd, have demonstrated a high level of understanding of our needs as the airport operators and the challenges we face in maintaining our high level of standards.
In collaboration with the team, we have a practical and efficient sequence and programme which is reflected in the excellent progress on site.

The Arora Group show strong commitment to Health & Safety and their proactive approach in their works will ensure no doubt that we will all achieve our business goals.

I have no hesitation in recommending the Arora Group and see them very much as a trusted partner in the future.

Please feel free to reach out to me in the event you require any further details.

Kind regards

Kenny Jacobs

Document Classification: Class 1 - General

# Environmental Implications & Planned Mitigations

# 10. Environmental Implications & Planned Mitigations

## Direct and Indirect Impacts of a Northwest Runway

### Overview

The purpose of the Environmental Impact Assessment (EIA) process is to inform decision-makers and the public of the environmental consequences of implementing a proposed project. HWL's team is currently in the process of developing a Preliminary Environmental Information Report (PEIR) for HWL's Proposed Development. The PEIR represents a key step in studies related to consultation on Nationally Significant Infrastructure Projects (NSIPs), as defined in the Planning Act 2008 (as amended). HWL's PEIR will address all aspects of HWL's Proposed Development's potential environmental impact, in accordance with the UK's legal, environmental and climate obligations. Requirements imposed by the ANPS will also be addressed. As required by applicable directives, HWL's PEIR will assess HWL's Proposed Development's direct and indirect impacts during both construction and operation.

Selected findings from studies conducted as part of HWL's 2020 Masterplan are presented in the following sections, so detailed impacts related to flight operations on the Northwest Runway are not yet reflected.

The following sections provide a summary of the environmental topics mentioned in the Invitation Letter under the heading "Environmental Implications & Planned Mitigations taking both construction and operation of a Northwest Runway by 2035 into account," including the issues raised and the mitigation embedded into HWL's Proposed Development or otherwise proposed.

The key legislation, policy and guidance relevant to each environmental topic has been reviewed and applied to each of the assessments and is not repeated in this summary. Planning policy related to NSIPs, as well as airports and local authority policies have also been reviewed and applied to each assessment.

### How Environmental Impacts Have Been Identified

HWL submitted an EIA Scoping Report to the Planning Inspectorate in February 2019 (then under the name of Arora Holdings Limited). The purpose of the Scoping Report was to set out the proposed content and extent of environmental information to be included in the Environmental Statement. In March 2019, the Planning Inspectorate issued their Scoping Opinion, a written response to the Scoping Report, which included comments from a range of stakeholders. This has helped to identify and confirm the approach to the EIA and the key issues requiring assessment. As noted above, at the time of the EIA Scoping Report the Northwest Runway was not yet defined as part of HWL's Proposed Development.

### Mitigation

Environmental legislation requires the PEIR to provide a description of any measures which will result in avoiding, preventing or reducing and, if possible, offsetting likely

significant negative effects on the environment. Such measures are described as ‘mitigation measures’.

The design development process runs alongside the EIA process, with the EIA subsequently informing the design. Any required mitigation measures are therefore built into the design of HWL’s Proposed Development from an early stage. These measures are referred to as ‘embedded mitigation’.

If an adverse impact is unavoidable then the next step is to attempt to prevent the impact through additional design, management or other mitigating measures. Only if the impact cannot be prevented is the next step considered, which is to reduce the severity or scale of the impact.

Additional mitigation measures are described in the specific technical assessments and are to be secured through the DCO and associated management plans. These measures are not specifically included in the design but are identified as being necessary to further prevent or reduce negative effects. They are typically referred to as ‘secondary’ mitigation.

Mitigation will be embedded into each technical chapter of the PEIR and a range of different sources and inputs have been considered to embed mitigation into the design of HWL’s Proposed Development. They include engineering requirements, feedback from the local community and landowners, ongoing discussions with stakeholders and regulators, commercial considerations and environmental best practice.

Finally, where adverse impacts remain which cannot be reduced, then compensation is considered in accordance with EIA best practice. Once all stages of the hierarchy of mitigation have been applied, the anticipated effects that remain are known as residual effects and they can either be significant or non-significant.

### Next Steps

The EIA Regulations require HWL to consult on preliminary environmental information through a PEIR, portions of which are summarised below. This process enables local communities, members of the public and other stakeholders to develop an informed view of HWL’s Proposed Development prior to submission of the DCO application and supports the Statutory Consultation required under the Planning Act 2008.

The PEIR describes HWL’s Proposed Development at a time when the design is not fixed and is still under development. It includes preliminary environmental information on the existing environment (referred to as the ‘baseline environment’), potential effects during construction and operation and any proposed mitigation measures that have been identified to avoid, minimise or offset the likely significant adverse effects.

The PEIR takes account of relevant policy, guidance, legislation and industry accepted good practice for each environmental topic.

The assessment of effects presented in the final Environmental Statement (supporting the proposed DCO application), and the mitigation provided, may change from that presented in the PEIR, given the preliminary nature of the environmental assessment.

## Air and Noise Pollution

### Overview

HWL’s PEIR will analyse the air quality and noise impacts arising from construction and operation of HWL’s Proposed Development, including impacts relating to flight operations

on the new 2,800m Northwest Runway. HWL's studies to date in each of these two topics are described in the following sections.

## Air Pollution

With regard to air quality, impacts have been assessed for both human receptors, i.e. people living and working in the area, and ecological receptors, e.g. habitats and species within the surrounding area, that are sensitive to air quality changes.

The main traffic and airport-related pollutants of concern for human health are nitrogen dioxide ($NO_2$) and particulate matter. Particulate matter refers to particles in air, such as dust and smoke, many of which can be hazardous to people and ecology above certain concentrations. The main pollutants of concern for ecological receptors are oxides of nitrogen ($NO_x$) in the air, and deposition of nutrient nitrogen which can have a negative effect on vegetation.

HWL's assessment has identified a number of activities resulting from HWL's Proposed Development that could potentially impact air quality, including construction activities, emissions from increases in aircraft numbers and increased vehicle movements during operation. Historical studies undertaken at Heathrow demonstrate road traffic to be the main contributor to air pollution at receptor locations outside of the airport boundary.

In 2017, as part of a submission to the consultation on the draft ANPS, Arora commissioned Cambridge Environmental Research Consultants (CERC) to analyse the air quality implications of HWL's Proposed Development.

The primary reference for CERC's 2017 air quality analysis was a 2014 air quality assessment of the HAL 2019 Preferred Masterplan carried out by AMEC. The analysis used the AMEC concentration contours as a baseline and estimated the changes to the annual average $NO_2$ concentrations relative to that baseline, caused by the proposed modification in the Arora 2017 Proposal.

When considering the proposed modifications, the analysis did not alter the conclusions of the AMEC assessment in terms of infringements of the 40 $\mu g/m^3$ legal limit for annual average $NO_2$ concentrations at places of relevant exposure.

### ANPS Review

Following the consultation, the ANPS published in June 2018 confirmed the Northwest Runway scheme as the preferred expansion scheme for Heathrow. In January 2025, the Government reaffirmed support for a Northwest Runway at Heathrow and invited new expansion proposals, including specific feedback on the ANPS.

HWL's Proposed Development for the ANPS review includes a 2,800m Northwest Runway which, in line with the 2017 Proposal to the draft ANPS, avoids the need for a bridge over the M25 motorway and other related road alignments and upgrades.

### Air Quality Sensitivity Analysis

HWL commissioned CERC to carry out an air quality sensitivity analysis for HWL's Proposed Development, relative to the HAL 2019 Preferred Masterplan.

In line with the 2018 EIA Scoping Report for the HAL 2019 Preferred Masterplan, the air quality analysis considers potential human health and ecological impacts for the operation and construction phases of the expanded airport.

The findings of the qualitative and semi-quantitative analysis are summarised in Table 3.

Relative to the HAL 2019 Preferred Masterplan, HWL's Proposed Development is expected to have:

- Similar operation phase human health impact;
- Potential air quality benefits for operation phase ecological impact;
- Potential air quality benefits for construction phase human health impact; and
- Potential air quality benefits for construction phase ecological impact.

| | Operational phase | Construction phase |
|---|---|---|
| **Relative human health impact** | Similar impacts to HAL Proposal at sensitive human health receptor locations expected. | Reduced construction land extent for HWL's Proposed Development, reduces the potential for air quality impacts around Poyle and Colnbrook.<br>HWL's Proposed Development eliminates likely traffic congestion associated with M25 works in HAL Proposal, potentially benefiting residential areas west of Heathrow e.g. Poyle, Colnbrook and Langley. |
| **Relative ecological impact** | Reduced potential effects at South West London Waterbodies SPA and Ramsar site since realignment of M25 south of Junction 14 is not required for HWL's Proposed Development | Reduced construction land extent for HWL's Proposed Development and elimination of M25 works associated with HAL 2019 Preferred Masterplan, potentially benefits South West London Waterbodies SPA and Ramsar site. |

**Table 3. HWL's Proposed Development: Summary of Potential Air Quality Impacts**

The potential ecological and construction phase benefits of HWL's Proposed Development were identified from Environment Impact Assessment (EIA) scoping studies produced for the HAL 2019 Preferred Masterplan. Consequently, the extent of the excess impact of the HAL 2019 Preferred Masterplan in these areas are yet to be assessed but are expected to be considered in detail as part of the EIA for the HAL 2019 Preferred Masterplan.

### Operational Phase: Human Health Impact

The AMEC assessment from 2014 is the most recent detailed air quality modelling of the HAL NWR Proposal, therefore this assessment was the basis of CERC's sensitivity analysis of HWL's Proposed Development for operation phase human health impacts. The analysis also considered current air pollution levels, compared to the AMEC modelled baseline concentrations for 2030 without airport expansion.

In the vicinity of Heathrow, urban background annual average $NO_2$ concentrations for 2024 are approximately 2 $\mu g/m^3$ lower than the AMEC 2030 baseline levels. Non-background $NO_2$ concentrations are on average 6.5 $\mu g/m^3$ lower than the AMEC 2030 baseline levels.

Taking into account the lower pollution concentrations around Heathrow than anticipated by the AMEC modelling, the concentration contours in the AMEC modelling most associated with emissions affected by the scheme variation were translated from the HAL layout to match the airport layout in HWL's Proposed Development; estimating total concentrations by combining the modified airport contribution with the contribution from emissions assumed to be unaffected by the scheme variation.

Estimated annual average $NO_2$ concentrations for HWL's Proposed Development are below 30 µg/m$^3$ at all human health receptors in the vicinity of the expanded airport, as shown in Figure 45, in compliance with the air quality objective of 40 µg/m$^3$.

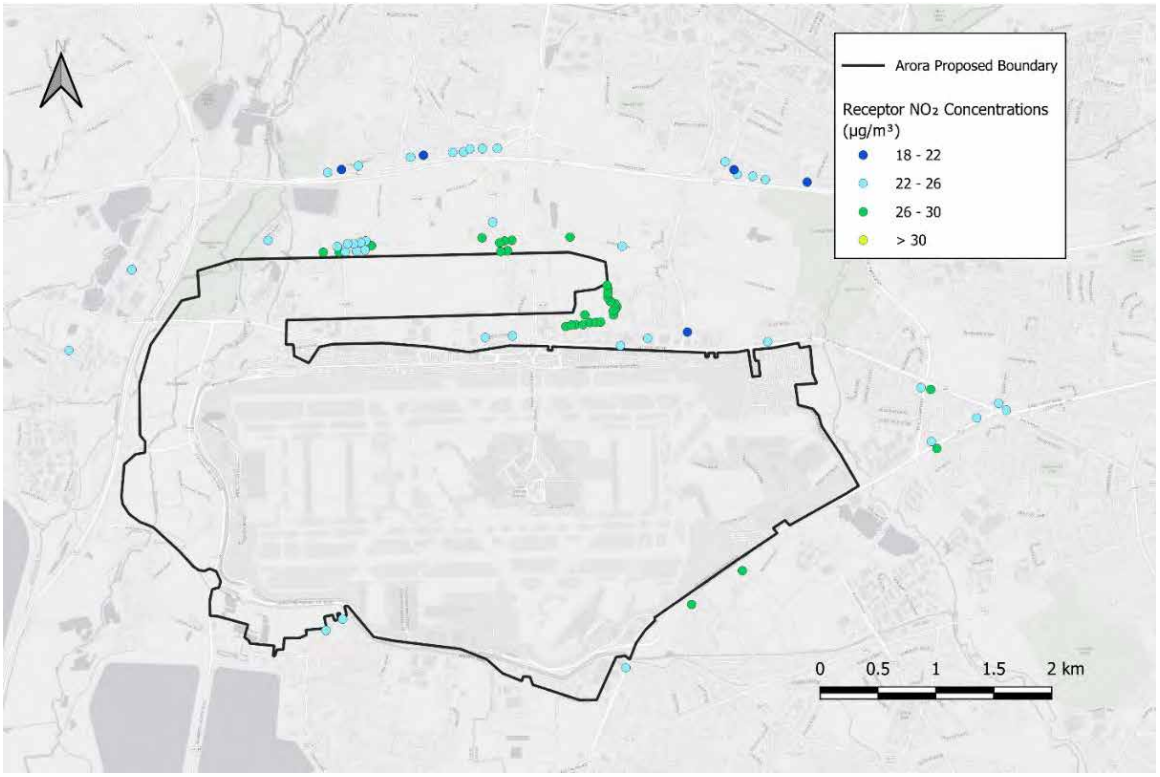



**Figure 45. Estimated 2030 Average Annual $NO_2$ Concentrations**

The maximum increase in $NO_2$ concentrations for HWL's Proposed Development, compared to the baseline without airport expansion, is estimated to be less than 5 µg/m$^3$.

For the operational airport at human health receptors, the maximum air quality impact for HWL's Proposed Development is expected to be similar to the impact for the HAL 2019 Preferred Masterplan. Due to fewer residential properties being located near the expanded airport boundary in HWL's Proposed Development, fewer receptors are expected to be impacted by large increases in $NO_2$ concentrations (> 4 µg/m$^3$).

### Operational Phase: Ecological Impact

The Habitats Regulations Statement to inform Appropriate Assessment for the HAL 2019 Preferred Masterplan identified six designated European sites where Potential Effects could not be ruled out for air quality.

For five of these sites, any likely impacts are expected to be similar for the HAL and Heathrow West Proposals for the operation phase, on the assumption that surface access activity is broadly similar for both schemes.

Due to its proximity to Heathrow, potential effects could not be ruled out for the South West London Waterbodies Ramsar and SPA site for the HAL 2019 Preferred Masterplan due to changes in airport related activities and surface access, specifically the realignment of the M25 south Junction 14, moving an adjacent section of the motorway closer to the designated site.

Due to the distance of the southern and western airport boundaries from the designated site, the impacts of airport-related activity are expected to be broadly similar between the HAL and Heathrow West Proposals.

Since HWL's Proposed Development does not require major road realignments of the M25 motorway, there is, relative to the HAL 2019 Preferred Masterplan, a potential air quality benefit at the South West London Waterbodies SPA and Ramsar site.

### Construction Phase Impacts

Construction for the HAL 2019 Preferred Masterplan includes:

- Raising the Northwest Runway approximately 5m above grade at the western end
- Bridging over the M25 to accommodate the northwest runway, with associated realignments and gradient adjustments for a motorway tunnel
- Junction upgrades for M25 Junctions 14 and 15
- Re-routing of the A3044 and A4
- Relocation of the Colnbrook railhead

None of these construction elements are required for HWL's Proposed Development. Shorter tunnel sections, compared to the M25 tunnel in the HAL 2019 Preferred Masterplan, are required for HWL's Proposed Development for the M4 spur road and A4 (maintaining its current east-west connection).

The reduced extent of land requirement during the construction phase of HWL's Proposed Development, compared to the HAL 2019 Preferred Masterplan, indicates that there are likely to be fewer air quality impacts. Additionally, lower human health impacts can be expected in the vicinity of Colnbrook and Poyle and South West London Waterbodies Ramsar and SPA designated habitats sites.

Based on benchmarking against traffic speed impacts of the current upgrades of Junction 10 of the M25, for example as shown in Figure 46, traffic congestion due to extensive M25 works for the HAL 2019 Preferred Masterplan has potential for air quality impacts in the vicinity of residential areas west of Heathrow, e.g. Colnbrook, Poyle, and Langley, and the South West London Waterbodies Ramsar and SPA designated habitat sites.

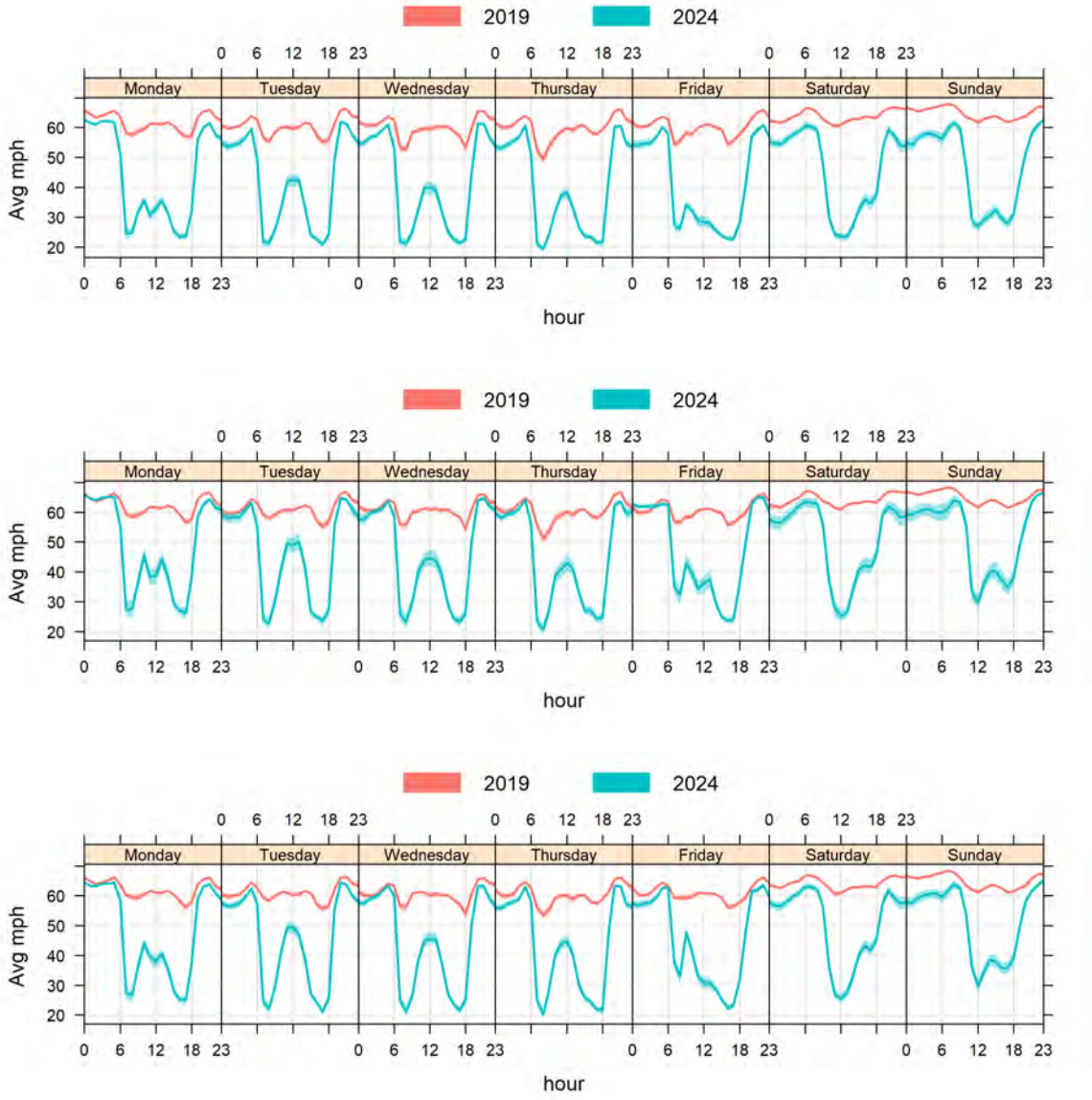



**Figure 46. Traffic Speed Impacts of Current Upgrades of M25 Junction 10**

The full air quality analysis report is contained within the Appendix D: Air Quality Assessment of this report.

## Summary of Potential Air Quality Impacts

- Air quality impacts are predicted to be negligible to most of the receptors, which include residents living and working near to the airport and ecological sites. Although some would receive moderate adverse impacts, the overall effects are not considered to be significant. Cumulatively, ANPS air quality objectives would still be met.
- No significant air quality impacts from construction dust/particulates are anticipated due to measures set out in the Code of Construction Practice. This document sets out the standards and procedures Heathrow West will follow to manage potential environmental impacts of construction works.
- During the operation of HWL's Proposed Development, from 2035, emissions from road traffic and airport operations are expected to be within air quality targets.

### Air Quality Mitigation

To date, a number of potential mitigation measures related to air quality have been identified, as listed below. These findings will be updated and extended in HWL's forthcoming PEIR, based on further studies to be undertaken.

A range of mitigation measures relating to air quality are embedded as part of HWL's Proposed Development, some of which are included within HWL's Surface Access Strategy, these include:

- Rail strategy – HWL will explore opportunities for smart ticketing and promotion of rail tickets on airline websites and apps
- New active travel infrastructure – provision of new cycling routes connecting Terminals 5 and 6, cycle parking facilities, pedestrian footways and crossings, the implementation of walking and cycling buddy schemes and the promotion of the Cycle to Work Scheme
- Car parking strategy – introduction of need-based parking system, capped car parking levels, a variety of access charges and consolidation of airport parking
- Travel plans – HWL will encourage the use of personal travel planning amongst all employers and staff to promote sustainable modes of transport whilst travelling to and from work
- Taxi and private hire vehicle strategy – consolidation of taxi feeder parks and Authorised Vehicle Areas, drop offs are proposed to be matched with pick-ups to reduce the number of empty taxi trips and reduced taxi fares may be offered for passengers willing to use airport transport services

Other examples of mitigation include:

- The design of the terminal avoids the need for a remote satellite building, reducing journey times for passengers, staff and baggage, and associated emissions
- HWL's Proposed Development will use a low emission vehicle fleet, with fully electric airside vehicles in operation by 2035
- Fuel infrastructure has been designed to facilitate the distribution of sustainable aviation fuels that offer significantly reduced life cycle greenhouse gas emissions over fossil fuels
- A Code of Construction Practice has been developed to manage air quality impacts during construction
- A freight strategy to minimise vehicular trips to the terminals and details the use of electric vehicles between the proposed consolidation centre and the terminals

## Noise Pollution

With regard to noise, the following noise sources have been reviewed as part of the operational noise assessment:

- Aircraft ground and airfield noise
- Road traffic noise from the local road traffic network and wider motorway network
- Railway noise
- Noise from industrial, leisure and commercial uses.

Specialist noise modelling software is being used to model the noise associated with the operational phase of HWL's Proposed Development from these sources.

Assessment of the impacts of the construction noise and vibration will be included in the Environmental Statement. A noise survey will also be completed for the Environmental Statement to provide more detailed noise measurements at impacted locations.

HWL commissioned Bickerdike Allen Partners consultants to undertake an initial appraisal of the noise effects of an option for a Northwest Runway located north of the current Heathrow site. This section details the summary of that initial appraisal.

### Aviation Noise Policy

The current aviation noise policy is to avoid significant adverse impacts on health and quality of life. The main airport noise arises from airborne aircraft and the predictions available to date, made nearly a decade ago, indicate the airborne aircraft noise with a Northwest Runway, allowing Heathrow to operate approximately 50% more movements and serve many more millions of passengers per year, will produce significant airborne aircraft noise.

An initial appraisal of the noise effects of an option for a Northwest Runway located north of the current Heathrow site has been undertaken. The concept of a Northwest Runway at Heathrow has been recommended by the independent Airports Commission, approved by the House of Commons, and approved by the present Government.

### Noise Area of Exposure

Using the key noise index, currently used to control noise at Heathrow and other UK airports, the area of exposure is forecast to be by 2050 in the range 101-111 $km^2$ with a Northwest Runway. This area is expected to be similar for both the HAL 2019 Preferred Masterplan and HWL's Proposed Development, which has a shorter runway.

### Aircraft Noise Exposure

All the information to date indicates that airborne aircraft noise exposure during operations at Heathrow with a Northwest Runway can be contained well within the current noise limit, which has been in place for many years, and probably within a tighter limit when account is taken of new noise predictions reflecting improvements in individual aircraft noise and planned redesigned airspace.

Considering the noise from individual movements from the new runway, the differences between the proposals are small such that they would generally be regarded as not perceptible and not discriminable.

The full noise analysis is contained within the Appendix E: Noise Assessment of this report.

### Summary of Potential Noise Impacts

- The many other noise impacts of such a large development, aircraft ground noise, surface access noise, and construction noise will need to be addressed with suitable mitigation. Mitigation will also be necessary for those exposed to the higher levels of airborne aircraft noise.
- Construction of the project has the potential to lead to adverse noise effects. Effects are identified for residential receptors in Colnbrook, Stanwell Moor and Longford. Site

specific noise controls, the Code of Construction Practice and the Property Policies would mitigate and minimise any significant effects from construction.

- Operational noise effects, due to ground aircraft and the airfield, have been identified, on a preliminary basis, for residential receptors surrounding the airport. Mitigation, in the form of landscape screening and compensation measures will mitigate and minimise these effects. No significant impacts due to operational ground aircraft noise are predicted.
- Noise from road traffic will reduce in areas to the north of the airport and increase in areas to the west and southwest of the airport as a result of HWL's Proposed Development compared to present day. Mitigation, in the form of landscape screening and compensation measures will mitigate and minimise these adverse effects.

### Noise Mitigation

To date, a number of potential mitigation measures related to noise have been identified, as listed below. These findings will be updated and extended in HWL's forthcoming PEIR, based on further studies to be undertaken.

Mitigation measures have been implemented to minimise noise emissions from HWL's Proposed Development. Embedded measures include the following:

- The proposed taxiways have been developed to minimise taxi-times, and to reduce associated noise emissions
- Retention of the A4 along its current alignment to reduce traffic noise impact on sensitive receptors
- Landscaping and green infrastructure to provide noise mitigation such as bunds and barriers
- New road alignments will seek to maximise separation between the highway and receptors
- A Code of Construction Practice has been developed to control noise impacts during construction.

### Next Steps

Further work related to air quality and noise impacts will be undertaken to support HWL's final assessment and it will be presented within the Environmental Statement at the DCO submission. The next steps include:

- Inclusion of aircraft flight operations in the technical analysis
- Revision of the operational phase impacts using a larger study area and consideration of additional assessment years
- Revision to the airport emissions assessment where additional data becomes available
- Refinement and revision of the road traffic emissions assessment, taking into account any changes made to the Surface Access Strategy following consultation
- A full assessment of impacts on designated ecological sites during the construction and operational phases
- An assessment of construction phase emissions from road traffic and rail sources

- Consideration of additional air quality pollutants
- Consideration of the effect of HWL's Proposed Development on the UK's compliance with EU Limit Values
- An assessment of emissions generated by HWL's Proposed Development in relation to the National Emissions Ceiling Directive
- Engagement with stakeholders such as local planning authorities, Natural England and Public Health England.
- A comprehensive noise survey will be undertaken. The survey will comprise monitoring at a number of sensitive receptors in study areas
- The construction and operational noise models, including the road traffic noise model will be updated with additional data to further inform the construction and operational assessments
- An assessment of construction traffic noise effects will be undertaken
- An assessment of construction vibration (including rail) will be undertaken
- Further assessment of the potential health effects due to noise from HWL's Proposed Development will be undertaken
- Further technical engagement will be undertaken to inform the assessment and the development of mitigation proposals
- The Code of Construction Practice will be updated in consultation with the Heathrow Strategic Planning Group (HSPG) to detail mitigation measures against construction noise effects
- The Property Polices relating to compensation and noise insulation, will be developed further and applied to enable avoidance of significant effects on health and quality of life.

# Decarbonisation Targets

## Overview

The ANPS, Section 3.61, directs that the issue of carbon emissions must be considered with regard to HWL's Proposed Development, "given the Government's commitment to tackle climate change, and its legal obligations under the Climate Change Act 2008."

In addition to national legal and regulatory considerations, a Sustainability Strategy for HWL's Proposed Development has been formulated. This strategy addresses carbon-related topics including transport, climate change and energy.

Key provisions of the Sustainability Strategy related to carbon emissions include the following:

- HWL is exploring innovative ways to mitigate climate change by reducing carbon emissions and ensuring that HWL can deliver net-zero carbon emissions from the buildings within Heathrow West. This will be achieved by minimising the energy requirements, making best use of the natural thermal resources and renewable technologies available and purchasing renewable electricity or offsetting the remainder

of the emissions. HWL has developed a thermal energy strategy that removes the requirement for any fossil fuel combustion, removing any associated carbon emissions.

- HWL's centralised energy centre uses only grid supplied electricity as a primary energy source, this supports the benefits from the continued decarbonisation of grid supplied electricity throughout the life cycle of the T6 Campus.
- HWL recognises that the climate is changing. To enhance resilience to a changing climate to enable the airport to operate well into the future HWL has modelled climate change projections up to the year 2100. This has informed future proofing of HWL's energy infrastructure for anticipated peak energy loads, in accordance with the requirements for the London Plan.
- A new dedicated centralised energy centre is proposed to support centralised renewable heat pump technologies utilising groundwater, along with decentralised renewable technologies such as air source heat pumps. The energy centre is designed to offer an efficient, scalable and adaptable supply of energy, with inbuilt resilience against plant failures and maintenance activities. It is intended to remove the reliance on fossil fuels and replaces this with thermal energy technology. The energy centre is expected to allow for the inclusion of Low and Zero Carbon and renewable technologies that maximise efficiency and reduce carbon emissions.
- Within T6 HWL proposes to reduce operational energy demand through the use of advanced active building façades which are expected to improve energy efficiency savings as well as the potential to harvest solar energy for on-site power generation. Technological innovations such as the use of double and triple glazed façade units are being considered to improve the insulation properties of these façades. These glazing products would enhance natural daylight into the buildings and would seek to maximise or limit solar heat gains, depending on the desired thermal conditions and energy balance. Throughout T6, the use of glazed façades is expected to improve the provision of sufficient daylight to minimise the requirement for artificial lighting and offset associated energy.
- Efficient mechanical and electrical building services will be integrated into the T6 Campus and will include smart services controls and the use of Building Energy Management Systems (BEMS), that are expected to improve continual efficiency optimisations for the advanced active facades and services. Heat recovery systems will also be controlled by the BEMS to reduce energy consumption.

The existing carbon and greenhouse gas baseline establishes that the largest contribution to greenhouse gas emissions at Heathrow is from the take-off and landing of aircraft, although total emissions arising from the airport have reduced by approximately 6% from 2015 to 2017.

## Mitigation

A range of potential mitigation measures relating to carbon and greenhouse gases has been developed, these include:

- A Code of Construction Practice which contains measures that will be adopted to minimise emissions from construction plant and vehicles
- A Sustainability Strategy that has been developed for Heathrow West to set out measures to reduce energy consumption

- A proposed temporary railhead in the area north of Staines Moor which is expected to receive 80% of the materials required for construction, reducing the number of journeys by large lorries on public roads
- Giving priority to the transport of materials by rail during construction
- Using low carbon construction materials from local sources which have reduced maintenance or replacement frequency, where practicable
- Using grey and rainwater harvesting to reduce stress on local water supplies
- Designing the proposed taxiways to minimise taxi-times, and to reduce associated emissions
- Committing to operate HWL's Proposed Development using low emission vehicles, with a fully electric airside vehicle fleet by 2035
- Designing fuel infrastructure to facilitate the distribution of sustainable aviation fuels that offer significantly reduced life cycle greenhouse gas emissions over fossil fuels
- Designing aircraft parking stands which allow aircraft to plug directly into a fixed, electricity powered energy source while they are parked on the airfield. This will help minimise the need for aircraft to use diesel-powered units.

## Summary of Potential Impacts

There is no defined threshold for determining the significance of carbon and greenhouse gas emissions from a single project or development, therefore the assessment has been based on professional judgement.

The impacts of HWL's Proposed Development in terms of carbon and greenhouse gases, including flight operations on the 2,800m Northwest Runway, expected to have major adverse impact.

The Appraisal of Sustainability of the ANPS (DfT, 2018b) concluded that the expansion would result in a significant adverse effect on carbon and greenhouse gas emissions, and therefore the outcomes of this assessment are consistent with the findings of the ANPS Appraisal of Sustainability.

Total emissions will be compared to the Government's target figure for aviation in 2050, in line with the UK's carbon reduction targets, at the next stage of the Environmental Impact Assessment.

## Next Steps

Further work will be undertaken to support the final assessment and will be presented within the Environmental Statement. Emissions from all construction related activities will be determined and emissions from the 2,800m Northwest Runway flight operations will be incorporated into HWL's analysis.

The significance of HWL's Proposed Development in terms of affecting the UK's ability to meet its 2050 emission reduction targets as per the Climate Change Act 2008 (2050 Target Amendment) Order 2019 will also be further considered in the Environmental Statement.

## Night Period Operations

Flight operations at Heathrow are currently restricted under an agreement between the airport and DfT. Although there is no formal ban on night flights at the airport, the Government has placed restrictions on them. Night-time (23:30-06:00) operations at Heathrow are heavily restricted, which sets a limit of 5,800 night-time take-offs and landings a year. A night quota limit is also in place, which caps the amount of noise the airport can make at night. Around 80% of the night flights at Heathrow occur between 04:30-06:00 with an average of 16 aircraft arriving each day between these hours. Heathrow has a voluntary ban in place that prevents flights scheduled between 04:30-06:00 from landing before 04:30. The airport does not allow any scheduled departures between 23:00-06:00.

In addition to these restrictions, HAL incentivises use of quieter aircraft by offering reduced landing fees and reduced surcharges for night operations.

The current agreements between the airport and DfT holds these rules steady until October 2028.

The ANPS addresses the issue of night-time flight operations under Section 3.54 as follows:

> *"The Heathrow North-West Runway Scheme will be accompanied by a package of measures to mitigate the impact of airport expansion on the environment and affected communities. The Government agrees with the Airports Commission's conclusion that "to make expansion possible…a comprehensive package of accompanying measures [should be recommended to] make the airport's expansion more acceptable to its local community, and to Londoners generally". This is expected to include a highly valued scheduled night flight ban of six and a half hours between 11pm and 7am."*

HAL evaluated alternative potential components of the "package of measures to mitigate the impact of airport expansion" mentioned in the ANPS in its Updated Scheme Development Report, Document 5 of 5, "Future Runway Operations." HAL's document emphasises the complex and interacting nature of the interests of airlines, the airport's neighbours, Government agencies, and other stakeholders in formulating a new package of mitigation measures. For example, early-morning flight arrivals (04:30-06:00) can be disruptive to the airport's neighbours but also have high economic value by supporting the airport's hub status.

HWL understands that, in accordance with the ANPS, HWL's Proposed Development will require a new package of mitigation measures related to night-time flight operations. HWL commits to working cooperatively with all relevant airport stakeholders to define this new package of mitigations, and HWL understands that this new package is likely to include economic incentives for selected stakeholders.

# Impacts on the Local Community

## Overview

The communities surrounding the existing airport have formed an important part of HWL's masterplanning exercise and its principle of minimising land take and providing buffers to communities have been key elements of HWL's design process. HWL's Neighbourhood and Communities document provides further detail of its approach and proposals in the

vicinity of settlements in more detail and includes extracts from HWL's 2020 Masterplan, sketches and cross section to explain the proposals.

HWL's proposals seek to minimise the effects on the Green Belt and setting of the following communities:

- to the south - Stanwell and Stanwell Moor
- north - Harmondsworth and Sipson
- west - near Polye

In the south HWL has minimised the size of the proposed Southern Parkway and integrated its design with its immediate landscape and the Twin Rivers corridor as shown in Figure 47.

HWL has developed a green infrastructure strategy and landscape proposal that establishes a new and robust Green Belt boundary that buffers the villages from the airport. HWL has proposed a new cycle and pedestrian link from Stanwell direct to the parking plaza to provide access to the Public Transport Hub and into the proposed open space straddling the twin rivers diversion.


**Figure 47. Southern Parkway**

In the north HWL has avoided the need for an A4 diversion and reduced the scale of the roads to re-establish local connections. This reduces the effects on Sipson, Harmondsworth and adjoining settlements and secures an improved setting for locally historic assets including Great Barn.

In the west HWL proposes a green and naturalised setting for the diverted River Colne with no major roads. This aims to provide a strong Green Belt boundary and an extensive recreation space including the provision of green open space to replace space lost at Pippins Park, new footpaths and cycles ways along the river and over the M25 to connect to the airport and communities east of the M25 motorway.

Certain dwellings and areas of existing development within communities may be impacted by the proposals. Areas of land required to deliver HWL's Proposed Development and effects on land are subject to further consideration during the forthcoming consultation process. Further information on impacted land is presented in HWL's document Property Policies. HWL's proposals also take account of equality outcomes for communities, as recorded in HWL's Equality Impact Assessment report.

HWL's PEIR will analyse the community, health, wellbeing and quality of life impacts arising from construction and operation of HWL's Proposed Development. This assessment also draws upon several other PEIR topics, including air quality, noise, biodiversity and water.

The study area for the assessment comprises six distinct areas that are used at different scales to assess different effects:

- Primary Impact Inner Study Area – direct effects of HWL's Proposed Development
- Cumulative Effects Inner Study Area – defined with the Inner Study Area for the HAL DCO Project to allow for a comparison of health impacts
- Core Study Area – 11 local authority areas that are most affected by the current operation of Heathrow as well as HWL's Proposed Development

In addition to the three key areas listed above, there is a Regional Context Area, National Level Study Area, and Additional Study Areas.

### ANPS Considerations

Considerations of community impacts, including health, wellbeing and quality of life, figure prominently in the ANPS. Several mentions of ANPS provisions related to community impacts are listed below:

- Section 2.27 states "expansion (of Heathrow) would have to involve a significant package of supporting measures to address the environmental and community impacts of the new runway."
- Section 3.28 mentions HWL's Proposed Development "should deliver additional jobs at the airport, through its supply chain and in the local community."
- Section 3.55 mentions that HAL has previously "announced compensation packages (covering residential property acquisition, noise insulation, and other community measures like funding for schools) of more than £1 billion at Heathrow."
- Section 3.75 notes that, "A number of mitigation measures will need to be applied to reduce the impacts of the (Proposed Development) felt by the local community and the environment. Airport expansion is also expected to be accompanied by an extensive and appropriate compensation package for affected parties."
- Section 5.247 notes that "The Government … supports the development of a community compensation fund," with the size of the community compensation fund … proportionate to the environmental harm caused by the expansion of the airport."

### Mitigation

Approaches to mitigation will be agreed wherever possible with stakeholders prior to submission of the Environmental Statement. The broad approach to mitigation is to avoid or minimise the impact on local communities wherever possible through considered

design. Where impacts cannot be avoided, compensation may be provided where appropriate, for example through financial compensation.

The ANPS considerations mentioned in the previous section indicate a robust set of mitigation measures will need to be implemented, in close collaboration with relevant stakeholders.

Health, wellbeing and quality of life have been overarching considerations in developing all mitigation measures for HWL's Proposed Development. The following key documents present some of the mitigation measures:

- A draft Temporary Workforce Accommodation Strategy that outlines the objectives that HWL will work towards in minimising any adverse impact on local accommodation markets, caused by the non-home-based construction workforce
- A Code of Construction Practice that will seek to minimise adverse impacts on residents and local businesses, for example through control of noise, dust and lighting
- HWL is willing to consider the idea of providing a Legacy Housing Fund (refer to Temporary Workforce Accommodation Strategy), and will discuss this option further with stakeholders ahead of the submission of the Environmental Statement
- Property Policies will seek to mitigate the adverse impacts caused by either the displacement of residential properties, or environmental impacts caused to residents through increases in noise

## Next Steps

Further engagement, along with feedback from this consultation, and further work will be undertaken to support the final assessment and will be presented within the Environmental Statement. This includes:

- Further detailed analysis on likely significant effects will be presented in the Environmental Statement, including those related to flight operations on the new runway
- Incorporating updated data from other PEIR/Environmental Statement chapters such as the Air Quality, Climate Change, Community, Economics and Employment, Landscape and Visual Amenity, Land Quality, Major Accidents and Disasters, Noise and Vibration, Traffic and Transport, Waste and Water assessments
- Further engagement with stakeholders including HSPG and Public Health England

Additional, more detailed baseline information will be identified and presented. If any publicly available datasets used in the health assessment are updated from the time of writing the PEIR chapter to submission of the Environmental Statement, the assessment will be updated accordingly. Engagement will also be undertaken with a range of stakeholders and feedback will help to shape the assessment presented in the Environmental Statement.

# Surface Access Mode Share Targets

## Overview

As set out in the ANPS, the expansion of the airport must accommodate significant levels of growth in both the numbers of passengers passing through the airport and the volume of air cargo. However, this growth must be managed against defined targets to ensure car trips are reduced and public transport use is increased. These mode shift targets are challenging and can be met by putting in place a comprehensive Surface Access Strategy (SAS) which is expected to make substantial improvements across all modes of transport and for all users.

Surface transport infrastructure has formed an intrinsic part of the development of HWL's Proposed Development, combining transport planning best practice with the needs of both passengers and the local community to create individual strategies for each mode of transport serving the airport.

## ANPS Surface Access Policy

Selected ANPS excerpts related to surface access are presented below.

Section 3.51 notes that the airport will be expected to achieve a public transport mode share of at least 50% by 2030, and at least 55% by 2040, for passengers. Section 5.17 adds targets for airport staff travel: from a 2013 baseline level, achieve a 25% reduction of all staff car trips by 2030, and a reduction of 50% by 2040.

Section 5.9 states that applicants must prepare an airport SAS in conjunction with its Airport Transport Forum, in accordance with the guidance contained in the Aviation Policy Framework. The airport SAS must contain specific targets for maximising the proportion of journeys made to the airport by public transport, cycling or walking. The strategy should also contain actions, policies and defined performance indicators for delivering against targets, and should include a mechanism whereby the Airport Transport Forum can oversee implementation of the strategy and monitor progress against targets alongside the implementation and operation of the preferred scheme.

Section 5.14 notes that the surface access systems and proposed airport infrastructure may have the potential to result in severance in some locations. Where appropriate, the applicant should seek to deliver improvements or mitigation measures that reduce community severance and improve accessibility.

Section 5.18 requires that applicants commit to annual public reporting on performance against these specific targets.

Section 5.38 notes that the airport should continue to strive to meet its public pledge to have landside airport-related traffic "no greater than today" (i.e., the date of the ANPS).

## Objectives of the Surface Access Strategy (SAS)

HWL established the following objectives to guide formulation of the SAS:

- Compliance: Develop a SAS that is in line with national and local transport policy, and that meets the ANPS modal share and car trip targets.
- Efficiency: Produce a compelling design which minimises land take and traffic impact. Ensure the SAS minimises vehicular travel times and provides a seamless and efficient journey to the Terminal for all transport users.

- Community & Environment: Provide new transport connections and infrastructure, across all modes of transport, to create a positive and sustainable legacy for local communities, businesses and stakeholders.
- Value: Provide an efficient surface access solution that maximises benefits for the new T6, the wider airport, local residents and existing transport users, and which also provides return on investment.
- Passenger Level-of-Service: Create a high-quality passenger arrival and departure experience which aims to be seamless for all users, and which is fully integrated with the connecting transport network.
- Accessibility: The SAS has been developed to make the benefits of HWL's Proposed Development be accessible for all on the day of opening, and in future.
- Connectivity: Provide a terminal design that is connected to public transport, walking, cycling and highway networks in all directions.
- Operational: Aim to ensure that the airport will operate efficiently through management and monitoring of the SAS. Allow resilience within the strategy to ensure that alternative access arrangements are always possible in the event of an emergency incident at, or close to, the airport.
- Phasing: Propose a series of measures to encourage sustainable travel that can be delivered incrementally in line with growth in staff and passenger numbers. Embed flexibility in the provision of airport infrastructure to ensure that operational changes can be made to meet the ANPS targets.

## Key Principles of HWL's Surface Access Strategy

### Public Transport First

HWL's Proposed Development will result in Terminals 5 and 6 becoming the busiest terminals at the airport, catering for 48% of surface access passengers and 58% of total passengers (including transfers) by 2040.

By siting the new T6 adjacent to the existing T5 and linking them with an ITP, HWL has the opportunity to create a step-change in public transport provision for passengers and the local community, by locating a multi-modal Public Transport Hub within the ITP.

The Public Transport Hub seeks to provide access to rail, London Underground, coach and bus services for through routes in all directions - making public transport the first choice for trips to/from the airport as well as onwards to the rest of the UK.

Whilst this improved public transport offer alone is expected to make a substantial contribution to meeting the ANPS targets, additional measures have been identified to help discourage unnecessary or inefficient trips by private vehicle.

HWL's Proposed Development aims to construct the Public Transport Hub in accordance with best practice accessible design parameters to increase the appeal and attractiveness of the Public Transport Hub for all users, whilst the supporting infrastructure is purpose-built to enable access for older and disabled users, especially wheelchair users.

In addition to the guidance on layout and design, HWL's Proposed Development plans to introduce a multi-layered wayfinding strategy to enable the movement of all users around the Public Transport Hub and through to the wider site.

## Compliance with ANPS Targets

HWL anticipates that its SAS will result in compliance with the targets for reduced share of passenger and staff use of private cars for access to the airport, as summarised in Table 4 (albeit noting that the year for meeting these targets is likely to change in any updated ANPS).

| ANPS Test | Year | Target % | Heathrow West Mode Share % |
|---|---|---|---|
| Passengers by public transport | 2017 ( baseline) | 39 mode share | |
| | 2030 | 50 mode share | 51 mode share |
| | 2040 | 55 mode share | 57 mode share |
| Staff car use reduction | 2013 (baseline) | 24,139 daily staff trips | |
| | 2030 | 25 reduction | 37 reduction |
| | 2040 | 50 reduction | 53 reduction |

**Table 4. ANPS Targets and HWL's Predicted Modal Share**

## Raising the Bar for Public Transport

Public Transport Accessibility Level (PTAL) is a measure of access to public transport provision measured from a defined geographical location (defined by Transport for London). PTAL uses walk time to local public transport services and service frequency to calculate the specific location's rating on a scale of zero to 6(b). A score of zero represents very poor access to public transport services whilst a score of 6(b) represents a very high (excellent) level of access to public transport services.

A manual calculation has found that T5 has a current PTAL rating of 4 and whilst this is good in many situations, in the context of an airport terminal serving millions of passengers per annum, it falls short of the levels of accessibility that may reasonably be expected by passengers and staff. The current rating clearly indicates that significant improvements could yet be made to the public transport services to increase overall accessibility levels.

HWL's Proposed Development is seeking to achieve a PTAL score of 6(b) by providing enhancements to existing public transport services as well as proposals for new services.

## Active Travel

The strategic approach of HWL's Proposed Development to the diversion of rivers and clear separation of green infrastructure from roads has unlocked space for new cycling and walking infrastructure. Maintenance routes required alongside the proposed re-routed rivers will be dual-purpose, providing an attractive and convenient walking and cycling route, as well as providing occasional vehicular access for normal waterway maintenance.

Proposed cycling routes form part of HWL's Proposed Development in and around the site. These routes include dedicated connections to T6 and T5 from the surrounding area, with a focus on access to local areas where airport staff live.

Cycle parking facilities will be available at T6, T5 and the support zone. Cycling and walking infrastructure will be provided within the Public Transport Hub, serving staff working at both T6 and T5.

### Connectivity Strategy

HWL's guiding principles of Impact, Scale, Integration and Outside-In, have been key to establishing the Connectivity Strategy, influencing the size and location of HWL's car parks and reducing the impact on the Colne Valley Regional Park. This approach also seeks to provide a long-term legacy for local communities by purposefully keeping new and enhanced road infrastructure away from green space.

HWL intends to minimise the impact of severance on local communities by careful design of new road alignments, most importantly the A4. In addition, the scale of improvements to the M25 and other roads take account of the anticipated volumes of traffic to avoid over-design.

### Access to Heathrow West

HWL's Proposed Development provides access to the terminal zone via an enhanced M25 Junction 14. The existing M25 Junction 14A will be repurposed as a cycle and pedestrian bridge.

### Diversion of the A4

HWL's Proposed Development has sought to minimise the diversion of the A4 to maintain east-west connectivity between communities, avoid severance impacts and minimise adverse impact on the Green Belt. The A4 will be diverted between the Colnbrook Bypass in the west, close to a new Junction with the A3044, and Pinglestone Close to the north of the existing airport. The realigned A4 will pass beneath the around-the-end taxiways and the M25. It will form a junction with the northern access road to Heathrow West, to the east of which it will connect with the existing alignment of the A4 Bath Road.

### A3044 Amendments

HWL's Proposed Development includes realignment of the A3044 to maintain local connectivity. At its western end, between the Colnbrook Bypass and Stanwell Moor Road, the A3044 will form a new north-south route parallel to the M25 motorway. This will form a new distributor road to the east of the M25 which also maximises the green buffer west of the M25.

### A3113 Corridor Amendments

Due to the realignment of the A3044, the A3113 connection between Junction 14 and Stanwell Moor Road would be partially provided by the new A3044. HWL anticipate that, as a result, the eastern section of the A3113 will be re-designated as the A3044 as it will form a continuous part of that route.

### Futureproofing

The past decade has seen significant changes in the way people interact with and use both public and private transport, and the next decade will likely accelerate this change. Where surface transport modes have traditionally operated largely independently of one another, with very limited integration beyond the physical infrastructure, the trend is towards further and deeper integration. Truly seamless travel necessitates the extensive development of infrastructure networks both vehicle-to-vehicle and vehicle-to-internet.

While the pace of change makes it difficult to predict exactly what the transport system will look like in 10 or 20 years' time, there are trends that can be expected within these timeframes as a result of innovation. These are largely linked to policy and include fewer single occupancy car trips, reduced car ownership, reduced greenhouse gas emissions, Mobility as a Service (MaaS), improved network resilience and increased automation. These trends have demonstrable capability to be beneficial at Heathrow and will contribute to achieving the ANPS mode share targets.

### Car Parking Strategy

The car parking strategy of HWL's Proposed Development seeks to minimise environmental impacts of car parking by reducing land take, minimising the lengths of journeys on the Strategic Road Network and removing emissions and noise associated with shuttle buses currently operating between the various car parks and the Terminals.

The first principle of HWL's Proposed Development with regard to road access is to maintain two points of access to the T5/T6 terminal zone, to support resilience, safety, security and operational efficiency. By maintaining the A4 on its current alignment and not having a satellite pier in the inter-runway area, HWL can provide access from the north to T5 and T6. The proposed revised junction arrangements on the M25 at Junction 14 enable an efficient southern access route to the T5/T6 terminal zone. This road layout has significantly influenced HWL's approach to car parking location and size. The proposed distribution of parking spaces under HWL's Proposed Development's in relation to the Strategic Road Network features new Southern and Central Parkways.

HWL's Proposed Development features a smaller Southern Parkway, with about 10,177 spaces as opposed to the 22,000 proposed by HAL. This smaller size aims to reduce the impact on the local communities in Stanwell and Stanwell Moor and on the Green Belt.

HWL's Proposed Development is not dependent on and does not prevent HAL's provision of the proposed Northern Parkway, although HWL's proposals show a reduction in the number of spaces required (18,000 rather than 24,000). T6 will accommodate up to 3,500 parking spaces (underground), replacing the existing multi-storey car park adjacent to T5. HWL anticipate that the multi-storey car parks located at the Central Terminal Area (CTA) and within the T5/T6 terminal zone will primarily cater to 'premium' short stay users, with others using the Southern, Central and Northern Parkways.

Future passenger parking provision within the airport's perimeter has been distributed based on numbers of surface access, i.e. non-transfer, passengers at the respective future terminals. HWL's Proposed Development does not affect the existing public multi-storey car parks at the CTA and Terminal 4.

Car parking on local roads will be managed by introducing and extending Controlled Parking Zone (CPZ) restrictions. Designated parking bays will be used to control the locations where parking can occur, and who will use them. Double yellow lines restrictions will be put into place on local roads (with a focus on residential roads) to mitigate parking from occurring in inappropriate locations. The extent of such CPZ measures will be subject to a separate consultation process, based on responses from the local community.

For example, HWL's parking strategy enables vehicles to efficiently access the Parkways as they have been located to capture traffic early as it leaves the Strategic Road Network. The car park structures have also been designed so they can be modified to accommodate changing proportions of staff and passenger parking demand over time.

Meanwhile access charging will discourage vehicular trips to the airport and will be set at a level to help Heathrow remain competitive compared to other UK airports.

### Staff Parking

To meet the ANPS target of reducing staff car trips by 50% by 2040, HWL's Proposed Development includes a gradual, but substantial reduction in staff parking. As HAL has the only comprehensive source of staff data, and to maintain parity with that scheme, HWL's Proposed Development aligns with HAL's strategy to retain no more than 11,600 staff parking spaces at the airport by 2040. HWL's Proposed Development plans to provide circa 9,800 staff parking spaces relating to the terminals at the airport in the future, with a further 1,800 staff spaces to be provided in relation to non-terminal uses.

### Access Fee Charging

To reduce the number of car trips to and from the airport, HWL's proposals include a similar access fee charging regime to that proposed in the HAL 2019 Preferred Masterplan. HWL proposes a fee for all vehicles accessing the airport, with the level of charge being set to ensure it acts as a deterrent for vehicular trips to the airport whilst ensuring the airport remains competitive. The access charges are intended to be the top tier of vehicle charging at the airport, with further charges being made depending on the type of trip being undertaken to the airport.

## Next Steps

HWL's team will continue to refine its SAS as it develops the full DCO application.

# Summary of Divergence from ANPS

# 11. Summary of Divergence from ANPS

1. The Invitation Letter requires that proposals set out key areas of divergence from requirements specified in the current ANPS where applicable, which may be used to support the review of the ANPS.
2. As a preliminary point, a number of sections of the ANPS will need to be updated to reflect changes to the background to the ANPS that have taken place since it was designated. These include the impact of the COVID-19 pandemic, the Government's expectation that expansion will now be delivered by 2035, the impact of DCOs at other London airports, and more generally, updated policy, guidance, legislation and case law, notably the introduction of grey belt land into Green Belt policy in the National Planning Policy Framework.

   Moreover, the ANPS review should take account of the increased recognition of the possibility of multiple promoters, including in the current Government process, to ensure that the ANPS does not inappropriately presuppose the identity of, or favour, a promoter or otherwise prejudice a level playing field between multiple promoters, but instead sets the parameters for a preferred scheme. Such changes will likely be necessary for all potential promoters of expansion of Heathrow, including HWL.

   To assist the Government in its review of the ANPS, HWL has prepared in Appendix G: Amendments to the ANPS, a table which sets out in more detail the sections that should be updated, with an explanation as to why the relevant section(s) should be reviewed and amended.
3. Notwithstanding the above, HWL has identified the following key areas of divergence from requirements specified in the current ANPS:
   - 3.1. The length and location of the runway, which HWL proposes is reduced to 2,800m and located further east, so that the proposed runway extends beyond the "redline" boundary depicted in ANPS Annex A;
   - 3.2. New terminal capacity configuration, in particular the proposed location of a new terminal to the west of Terminal 5; and
   - 3.3. Changes to the M25 motorway which HWL does not consider necessary.
   - 3.4. Changes to the M4 motorway to accommodate the 2,800m Northwest Runway.

# Appendices

# 12. Appendices

## Appendix A: Runway Assessment

### Runway Length

The following runway length analysis was prepared by IAG and its consultants. This study offers an operationally grounded assessment of runway length requirements.

Unlike theoretical models that assume maximum take-off weight (MTOW) for all aircraft—an overly conservative scenario that rarely reflects real-world operations—the IAG-led analysis is based on actual flight data, including typical aircraft loads, routes, and operating conditions. As a result, the study provides a more accurate representation of how the new runway would be used in day-to-day service, helping to ensure that the design reflects actual airline needs while avoiding unnecessary overdesign.

#### Executive Summary

The analysis conducted demonstrates that a runway length of 2,800 meters is adequate for the proposed third runway at Heathrow. The potential* demand penalty associated with this length is minimal and can be effectively mitigated through operational adjustments (Heathrow has 2x other long runways, respectively 3,658m and 3,882m).

The potential demand penalty associated with a 2,800m runway is 0.7% or an average of 14 flights a day which is manageable to mitigate.

| **Runway length – Take Off Run Available (TORA)** | **2,800m** | **3,100m** | **3,500m** |
|---|---|---|---|
| **Landings** | | | |
| TOTAL % of landings covered by R3 (all aircraft types) | 100% | 100% | 100% |
| **Take-offs** | | | |
| % of NB take-offs covered | 100% | 100% | 100% |
| % of WB take-offs covered | 89% | 96% | 98% |
| TOTAL % of take-offs covered by R3 (all aircraft types) | 95.7% | 98.6% | 99.3% |
| **3rd runway capability (% of landings and take-offs covered)** | **97.8%** | **99.3%** | **99.7%** |
| **Potential* demand penalty (number of lost ATMs) across the airport, factoring 3 runways (2x 100% capable runways + 3rd runway)** | **0.7%** | **0.2%** | **0.1%** |

** Potential demand penalty: it should be noted that not all of the constrained flights would be lost. The airport will have the ability to allocate the constrained aircraft/flights to one of the other existing 2x longer runways (e.g.: swapping a widebody aircraft for a narrowbody aircraft on the shorter runway)*

## Background and Context

In the context of Heathrow expansion, different runway lengths for a third runway ought to be assessed to ensure that a value for money concept is kept at the top of mind.

This analysis sets out the take-off runway length requirements for the different aircraft types in BA's existing (and presumed future) fleet, as well as extrapolating the findings to the rest of airlines operating to/from Heathrow. This analysis focuses on take-off as all aircraft can land on a runway that is 2,800m or longer under normal operating conditions.

Based on that data, it can be seen that a new 3,500m length runway is not essential for (the majority) of operated flights and therefore a full cost benefit analysis ought to be carried out to ascertain the optimal runway length to deliver growth at a cost that is not prohibitive to consumers and therefore to growth itself.

It should be noted that this information is shared to help potential Heathrow Expansion promoters assess the capability of a runway based on its TORA. From an airline perspective, a longer runway is always better than a shorter one but this needs to be evaluated against the cost of an extended runway (is it value for money?). The above analysis shows that a 2,800m TORA would be sufficient for most flights (especially factoring ability to use other 2x longer runways). However, if the runway can be longer than 2,800m TORA for value for money, then a longer runway should be considered.

## Analysis

### *BA Aircraft Type – Runway Length Requirements*

We have considered the runway length requirements of the BA fleet, as the largest airline user of LHR.

- In 2024, BA operated 121,546 departing flights from Heathrow. This was over half of all departing flights, which amounted to 240,064: Number of 2024 departing flights (source: OAG)

| | WB | NB | Total |
|---|---|---|---|
| **BA** | 29,645 | 91,901 | **121,546** |
| **Other airlines** | 63,302 | 55,216 | **118,518** |
| **Total** | **92,947** | **147,117** | **240,064** |

The flight distribution between BA's aircraft types was as follows (source: BA data which is slightly different from OAG):

| BA 2024 Aircraft Types | BA 2024 - # of flights |
|---|---|
| A319 | 22,092 |
| A320ceo | 40,688 |
| A320neo | 16,099 |
| A321ceo | 3 |
| A321neo | 9,252 |
| A350-1000 | 4,791 |
| A380 | 2,605 |
| B777-200ER (RR) | 3,134 |
| B777-200IGW (GE) | 5,161 |
| B777-300ER | 4,092 |
| B787-10 | 2,650 |
| B787-8 | 3,061 |
| B787-9 | 3,838 |
| **Total** | **117,466** |

However, some of these aircraft types will have retired or be close to retiring by the time the third runway opens. In the following table, we therefore assume that the B787-10iMTOW will eventually replace the B777-200s and that the B777-9 will eventually replace the B777-300ER and the A380.

We have then estimated what percentage of BA's flights could be operated on different runway lengths up to the 3500m proposed in HAL's previous Northwest Runway plan, based on the following assumptions (the **Assumptions**):

- Once at full capacity, the 3rd runway usage will be comparable to usage today (same volume of flights, same distribution of flights by aircraft type, same temperature profile, etc.);
- No tailwind;
- No slope;
- TOGA Thrust;
- No obstacles – **the below lengths presented are assumed TORA lengths (Take-Off Run Available), not tarmac length.**

- % of take-offs covered depending on runway length

| BA Assumed Aircraft Types | BA 2024 - # of flights | Comments | 2,800m | 3,100m | 3,500m |
|---|---|---|---|---|---|
| A319/320/321 family | 88,134 | | 100% | 100% | 100% |
| A350-1000 | 4,791 | | 96% | 100% | 100% |
| B787-10 | 2,650 | | 98% | 100% | 100% |
| B787-8 | 3,061 | | 100% | 100% | 100% |
| B787-9 | 3,838 | | 92% | 100% | 100% |
| B787-10iMTOW | 8,295 | New aircraft type, no actual data available. % based on estimates | 73% | 87% | 94% |
| B777-9 | 6,697 | | 93% | 100% | 100% |
| **Total** | **117,466** | | **97.2%** | **99.1%** | **99.6%** |

As per the above table, a 2,800m runway would handle 97.2% of all BA's take-offs. This is 100% of BA's narrowbody (**NB**) flights and 89% of BA's widebody (**WB**) flights.

A 2,800m runway would also cover 100% of the landings.

The BA flights not handled by the 3rd runway could be handled on the other 2x runways.

### *Overall LHR Campus – Runway Length Requirements*

In 2024, other carriers operated 118,518 departing flights from Heathrow Airport.

- Number of 2024 departing flights (source: OAG)

| | WB | NB | Total |
|---|---|---|---|
| **BA** | 29,645 | 91,901 | **121,546** |
| **Other airlines** | 63,302 | 55,216 | **118,518** |
| **Total** | **92,947** | **147,117** | **240,064** |

We have crudely assumed that the other airlines operating to/from LHR will have the same profile as BA (i.e.: same % of WB take-offs covered).

*Note: this does not factor that post-expansion, the % of NB flights may increase.*

Based on the above Assumptions and assuming the same percentage of NB flights and WB flights for other airlines are covered as for BA, the percentages of total flights which could be operated based on runway length are as follows:

| Runway length – Take Off Run Available (TORA) | 2,800m | 3,100m | 3,500m |
|---|---|---|---|
| **Landings** | | | |
| TOTAL % of landings covered by R3 (all aircraft types) | 100% | 100% | 100% |
| **Take-offs** | | | |
| % of NB take-offs covered | 100% | 100% | 100% |
| % of WB take-offs covered | 89% | 96% | 98% |
| TOTAL % of take-offs covered by R3 (all aircraft types) | 95.7% | 98.6% | 99.3% |
| **3rd runway capability (% of landings and take-offs covered)** | **97.8%** | **99.3%** | **99.7%** |
| **Potential* demand penalty (number of lost ATMs) across the airport, factoring 3 runways (2x 100% capable runways + 3rd runway)** | **0.7%** | **0.2%** | **0.1%** |

**Potential demand penalty: it should be noted that not all of the constrained flights would be lost. The airport will have the ability to allocate the constrained aircraft/flights to one of the other existing 2x longer runways (e.g.: swapping a widebody aircraft for a narrowbody aircraft on the shorter runway)*

This analysis is taking a balanced view of different factors (e.g.: wind, thrust, etc.). The main parameter not factored at this stage is Obstacles. An obstacle analysis should be performed once runway location is defined.

The analysis conducted demonstrates that a runway length of 2,800 meters is adequate for the proposed third runway at Heathrow Airport. The potential* demand penalty associated with this length is minimal and can be effectively mitigated through operational adjustments (Heathrow has 2x other long runways, respectively 3,658m and 3,882m). The potential demand penalty associated with a 2,800m runway is 0.7% or an average of 14 flights a day which is manageable to mitigate.

It should be noted that this information is shared to help potential Heathrow Expansion promoters assess the capability of a runway based on its TORA. From an airline perspective, a longer runway is always better than a shorter one but this needs to be evaluated against the cost of an extended runway (is it value for money?). The above analysis shows that a 2,800m TORA would be sufficient for most flights (especially factoring ability to use other 2x longer runways). However, if the runway can be longer than 2,800m TORA for value for money, then a longer runway should be considered.

## Runway Location

Under HWL's Proposed Development, the west end of the runway is located as close as practicable to the M25 motorway right-of-way to the west, to avoid significant impacts on M25 infrastructure and traffic flow.

The HWL team based its preliminary evaluation of the minimum required spacing between the runway end and the M25 motorway right-of-way on applicable aviation standards, as described below.

- Ground infrastructure requirements
  - Runway End Safety Area (RESA): extends 300m beyond the runway end; to be clear of any objects
  - ILS Localiser antenna (LLZ): located beyond the end of the RESA, with a clear "critical area" of approximately 50m diameter reserved around it
  - Approach lighting system (ALS): the precision ALS at each end of the runway is 900m long, measured from the landing threshold which is displaced by 300m from the runway end; ideally, the entire installation would be within the airport perimeter
- Public Safety Zone (PSZ)
  - The size of a PSZ at each end of a runway, in which development is restricted, is determined through specialised calculations defined by the DfT/CAA
  - Ideally, the PSZ would be located entirely within the airport perimeter; the PSZ should not encroach on the M25
  - An approximation of the PSZ for the Northwest Runway's west end is shown in HAL's master plan drawing; the PSZ appears to extend approximately 500m from the runway's west end
- Obstacle Limitation Surfaces (OLS)
  - The OLS applicable to the vicinity of a runway end include:
    - Take-Off Climb Surface (TOCS)
    - Precision Approach Surface (PAS)
  - TOCS: begins at ground level 60m beyond runway end; width: 180m; slope: 2%; divergence: 12.5%
  - PAS: begins at ground level 60m before landing threshold; width: 280m; slope: 2%; divergence: 15%
  - For typical runway configurations (landing threshold at runway end): PAS governs obstacles along runway approach/departure path, bit since landing threshold is displaced by 300m, TOCS governs in critical areas near runway end

Based on application of these aviation standards to the proposed location of the Northwest Runway, the team concluded that for conceptual planning purposes the west end of the runway should be located 500m east of the M25 right-of-way. The key reasons for this conclusion are listed below.

- allows for installation of the RESA, LLZ, and perimeter fence within the airport boundary (350m spacing would be sufficient for these items)

- allows for installation of the entire ALS within the airport boundary; if less than 500m spacing were provided portions of the ALS would need to be installed on structures over the M25
- likely results in most or all of the PSZ located within the airport boundary; less spacing would probably result in PSZ extending onto the M25
- allows the height of the TOCS to be at least 9m over the M25; less spacing would result in lower TOCS over the M25, which is likely to be unacceptable to other agencies, including the CAA and DfT.

Consideration was given to whether a spacing greater than 1,035m from the existing Northern Runway might allow retention of the Lakeside Energy-from-Waste plant. With its building height of approximately 42m and stack height of approximately 75m, analysis showed if the new runway's centreline were located approximately 350m farther north, the plant's height would be governed only by the inner horizontal surface instead of by the approach/take-off surfaces. The plant building's height of 42m would likely remain below the inner horizontal surface's height of 45m above runway elevation, however, the stack's height of 75m would infringe on the inner horizontal surface by about 30m. The CAA could decide, in accordance with Section 4.51 of Civil Aviation Publication (CAP) 168, that the stack would retain its current status of not adversely affecting the safety or significantly affecting the regularity of aircraft operations of the existing Northern Runway, in which case it could remain in its current location. The Lakeside Energy-from-Waste OLS encroachment as currently proposed is illustrated in Figure 48.

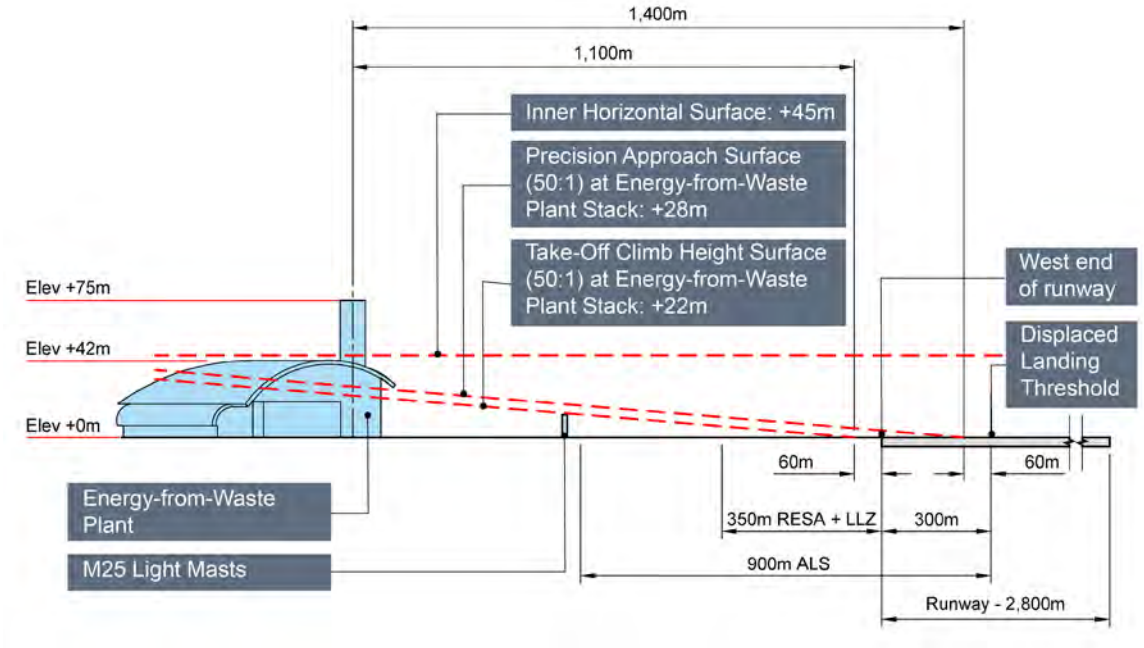



**Figure 48. Lakeside Energy-from-Waste OLS Encroachment**

# Appendix B: Aircraft Parking Stand Assessment

## T6 Aircraft Stands

To determine the total number and type of aircraft parking stands required to accommodate a terminal capacity of 40mppa, a stand demand calculation was performed. For the purposes of calculating the annual passenger capacity of T6, HWL was informed by IAG and its consultants that each Code C aircraft stand (or Narrow Body Equivalent (NBE)) aircraft stand could accommodate approximately 800,000 annual passengers. To provide a terminal capacity of 40mppa using this metric, a total of 50 Code C (NBE) aircraft stands would be required. Based on this requirement, the apron layout for T6 was developed with a total 52 Code C (NBE) aircraft stands (2 stands as a contingency) as shown in Figure 49.

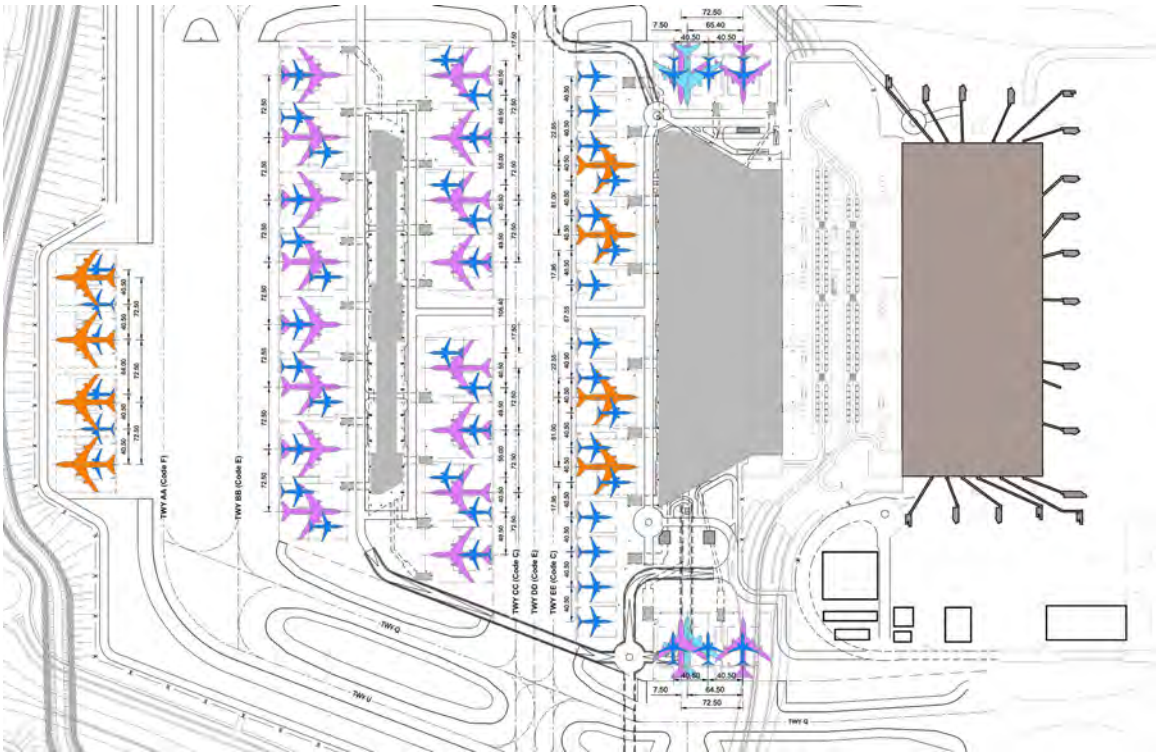


**Figure 49. T6 Aircraft Parking Stand Layout**

Several of the pier-served stands on T6A, all of the pier-served stands on T6B and all of the remote stands west of T6B are configured as Multiple Aircraft Ramp System (MARS) positions accommodating Code C, Code E and Code F aircraft in various combinations. The high percentage of MARS stands seeks to enhance the flexibility of T6 operations to cater for different demand and needs, e.g. airlines (both full-service and low-cost) and provides flexibility to accommodate other different flight operations.

As a result, the aircraft stand layout accommodates the following stand configuration modes:

1) Maximum Code C aircraft (Code C only)

2) Maximum Code E Aircraft (combination of Code E and Code C)

3) Maximum Code F Aircraft (combination of Code F, Code E and Code C)

A detailed breakdown of the number of aircraft stands by type and size in each mode associated with T6 as illustrated in Figure 49 is provided in Table 5.

| Aircraft Type and Size | Maximum Code C Aircraft (NBE) | Maximum Code E Aircraft | Maximum Code F Aircraft |
|---|---|---|---|
| **Pier Served Stands** | | | |
| Code C | 46 | 8 | 10 |
| Code E | 0 | 28 | 24 |
| Code F | 0 | 0 | 2 |
| **Active Remote Stands** | | | |
| Code C | 6 | 0 | 0 |
| Code E | 0 | 4 | 4 |
| Code F | 0 | 0 | 0 |
| **Total** | **52** | **40** | **40** |

**Table 5. Number of T6 Aircraft Stands Apron by Type and Size in Each Mode**

## North Remote Aircraft Stands

HWL's Proposed Development includes a strategically located north remote aircraft apron, situated at the western end of the airport as shown in Figure 50. This apron lies just south of the proposed new Northwest Runway and north of the existing Northern Runway. Its positioning is intentional and operationally significant: it provides a conveniently located area to temporarily stage aircraft that can be efficiently towed to both T5 and the new T6, which is planned immediately west of T5.


**Figure 50. North Remote Aircraft Parking Stand Layout**

By placing the apron in this location, the plan eliminates the inefficiencies of towing aircraft from the distant east-side maintenance and parking areas, thereby saving airlines considerable time, fuel, and operating cost. This reduction in unnecessary towing also helps to lower emissions and reduce congestion on taxiways.

Beyond its logistical benefits, the north remote apron is designed to support full aircraft readiness. It will house essential airline operational support functions such as crew ready rooms, line maintenance, ground handling and catering services. These facilities ensure that aircraft parked remotely can be rapidly turned around and placed on stand at either T5 or T6, fully serviced and ready for departure.

This apron plays a critical role in supporting the vision of a consolidated western hub at Heathrow. With T6 integrated alongside T5, airlines—in including those in the International Airlines Group (IAG) and Virgin Atlantic—strongly support the convenience and efficiency this location offers. It enables them to streamline ground operations, enhance connectivity, and better serve passengers, all within a more compact and functional airfield layout that is conveniently located in close proximity to the West Terminal Campus.

All of the remote stands at the North Remote Aircraft Stand Apron are configured as Multiple Aircraft Ramp System (MARS) positions accommodating Code C and Code E aircraft in various combinations. As a result, the aircraft stand layout accommodates the following stand configuration modes:

1) Maximum Code C aircraft (Code C only)

2) Maximum Code E Aircraft (combination of Code E and Code C)

A detailed breakdown of the number of aircraft stands by type and size in each mode associated with the North Remote Aircraft Stands as illustrated in Figure 50 is provided in Table 6.

| Aircraft Type and Size | Maximum Code C Aircraft (NBE) | Maximum Code E Aircraft |
|---|---|---|
| **Remote Stands** | | |
| Code C | 34 | 0 |
| Code E | 0 | 17 |
| **Total** | **34** | **17** |

**Table 6. Number of North Remote Apron Aircraft Parking Stands, by Type and Size in Each Mode**

# Appendix C: Passenger Terminal Capacity Assessment

## Passenger Terminal Capacity Calculation

To determine the total terminal floor area required to accommodate a target capacity of 40mppa, a terminal sizing calculation was performed. For the purposes of calculating the required floor area, a metric of approximately 11,000m$^2$ per mppa was used for planning purposes. This metric is commonly used worldwide for passenger terminals such as Hong Kong, Munich, Schiphol and Vancouver, all considered best-in-class facilities, because it provides enough space to deliver a high-quality passenger experience while maintaining operational efficiency. This allocation balances essential terminal functions—like check-in,

security, and passenger flow—helping to reduce congestion and wait times. It also allows flexibility for future changes and aligns with international standards used by many leading airports aiming for world-class status.

To provide a terminal capacity of 40mppa using this metric, a total floor area of approximately 440,000m$^2$ is required, and HWL's Proposed Development provides this amount of floor area in T6.

This area can be further broken down between T6A and T6B as follows. T6A has a proposed floor area of approximately 340,000m$^2$ on four main levels with two basement levels and a partial mezzanine level as shown in Figure 51.

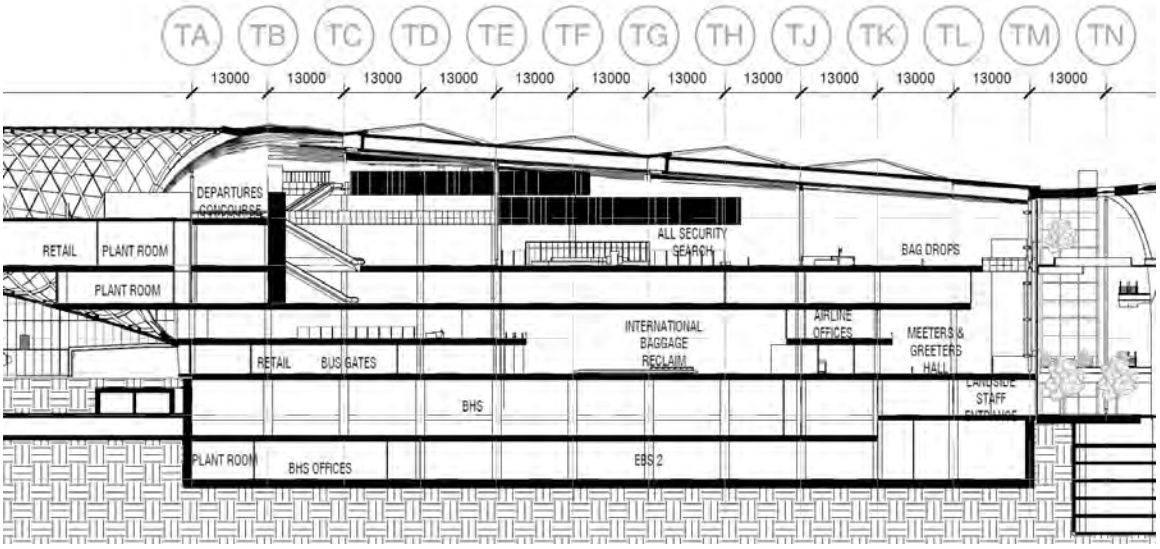



**Figure 51. T6A Building Section**

T6B (including the pedestrian bridge) has a proposed floor area of approximately 100,000m$^2$ on three main levels with one full basement level and a partial mezzanine level as shown in Figure 52.

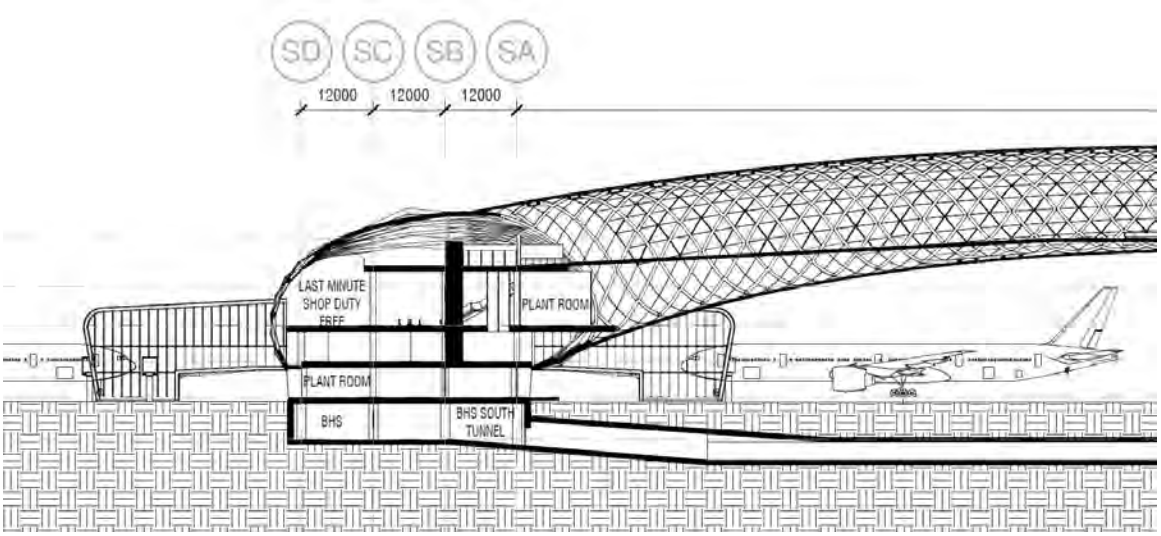



**Figure 52. T6B Building Section**

Cambridge Environmental Research Consultants

# Air quality sensitivity analysis for 2,800m Northwest Runway for Heathrow Airport

*Prepared for*

Arora Group

*4th June 2025*

CERC

## Report Information

| | |
|---|---|
| CERC Job Number: | FM1515 |
| Job Title: | Air quality sensitivity analysis for 2,800m Northwest Runway for Heathrow Airport |
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| Author(s): | Chetan Lad, Rose Jackson, David Jinks |
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| Main File(s): | FM1515_AroraGroup_R2_04Jun25 |

## Introduction

The Airports National Policy Statement (ANPS)[3], June 2018, confirmed the Heathrow Airport Limited (HAL) Northwest Runway Scheme, as the Government's (May Conservative) preferred expansion scheme for Heathrow.

The HAL 2019 Preferred Masterplan is shown in Figure 53. The proposed expansion scheme includes a 3,500m runway northwest of the existing airport, bridging over the M25 motorway.

The HAL 2019 Preferred Masterplan requires significant road realignment and re-routing, including for the M25, A3044 and A4. Other associated works include the relocation of the Colnbrook railhead and several river diversions.

**Figure 53. HAL 2019 Preferred Masterplan**

In January 2025, the Government (Starmer Labour) restated their support for expansion of Heathrow, inviting expansion proposals as part of a review of the ANPS[4].

In 2017, as part of a submission to the consultation on the draft Airports National Policy Statement (Arora's 2017 Response to DfT's NPS Consultation), Arora Group proposed a scheme to shorten the Northwest runway to 3,200m and shift the runway to the east to avoid the need to bridge over the M25 and reduce the associated road network changes.

[3] https://assets.publishing.service.gov.uk/media/5e2054fc40f0b65dbed71467/airports-nps-new-runway-capacity-and-infrastructure-at-airports-in-the-south-east-of-england-web-version.pdf, last accessed 27th May 2025

[4] https://www.gov.uk/government/publications/airport-capacity-and-expansion-a-government-update/government-update-on-airport-expansion, last accessed 27th May 2025

Cambridge Environmental Research Consultants (CERC) carried out an air quality sensitivity analysis for Arora's 2017 Response to DfT's NPS Consultation, relative to the HAL 2019 Preferred Masterplan. The 2017 analysis showed that the proposed changes in the runway's length and location did not alter the air quality conclusions of the detailed assessment of the HAL 2019 Preferred Masterplan, with regard to infringements of the legal limit for annual average $NO_2$ concentrations for human health impact, at places relevant for exposure.

In this submission, HWL's Proposed Development is largely in line with Arora's 2017 Response to DfT's NPS Consultation, with the Northwest Runway shortened by 400m at the eastern end to 2,800m. HWL's Proposed Development is shown in Figure 54.

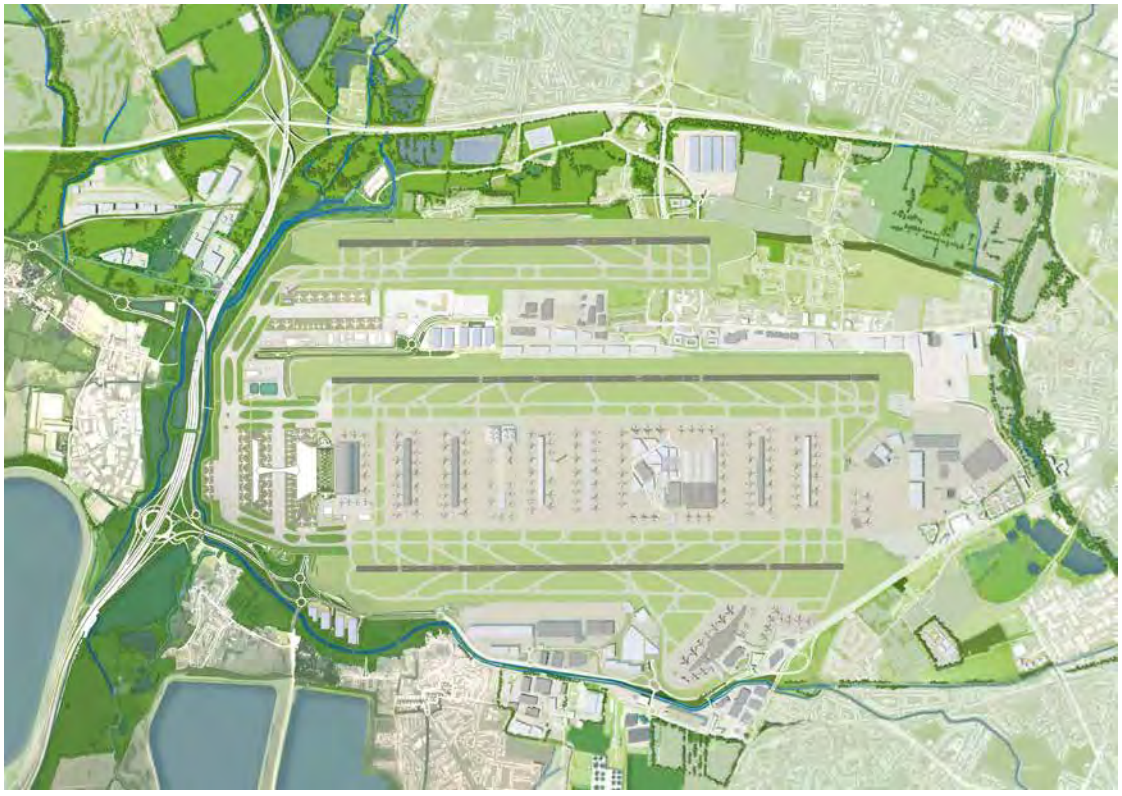


**Figure 54. HWL's Proposed Development**

HWL has commissioned CERC to carry out an air quality sensitivity analysis for HWL's Proposed Development, to assess the likely impact of the scheme relative to the HAL 2019 Preferred Masterplan.

The scope of air quality assessments for the HAL 2019 Preferred Masterplan is laid out in the HAL 2018 Heathrow Expansion EIA Scoping Report[5]. Based on the Scoping Report, the sensitivity analysis of HWL's Proposed Development considers local air pollutants for human health impacts and nitrogen deposition for the impact on ecological receptors, for both the operation and construction phases.

The air quality sensitivity analysis is considered in three parts:

- a semi-quantitative analysis of operation phase human health impacts;

[5] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR020003/TR020003-000457-HTHR%20-%20Scoping%20Report%20(Main%20Report).pdf, last accessed 27th May 2025

- a qualitative analysis of relative potential effects at ecological receptors; and
- a further qualitative analysis of construction phase impacts.

Each of these analyses is summarised in the following sections. The analysis of HWL's Proposed Development assumes the same level of airport and surface access activity as the HAL 2019 Preferred Masterplan, mainly considering geographical changes in the areas impacted.

### Analysis of Operation Phase Human Health Impacts

The sensitivity analysis of relative human health impacts focuses on annual average nitrogen dioxide ($NO_2$) compliance with the air quality objective of 40 µg/m³ (*EU Directive 2008/50/EC*, transposed into English legislation via *The Air Quality Regulations 2010*).

In line with the analysis of Arora's 2017 Response to DfT's NPS Consultation, the semi-quantitative analysis of the current proposal is based on detailed dispersion modelling results from the 2014 AMEC assessment of the HAL 2019 Preferred Masterplan[6]. Figure 55 shows a reproduction of Figures A1 and A2 from AMEC assessment on behalf of HAL, showing predicted annual average $NO_2$ concentrations (µg/m³) for 2030 without (top) and with (bottom) a northwest runway at Heathrow. It shows the contour plots of predicted annual average $NO_2$ concentrations for 2030, with and without a northwest runway from the AMEC assessment. These are reproductions of Figures A1 and A2 from that assessment.

In line with the previous analysis of Arora's 2017 Response to DfT's NPS Consultation, changes in concentrations for HWL's Proposed Development are estimated by:

- identifying the concentration contours in the AMEC modelling most associated with emissions affected by the scheme variation;
- translating these concentration contours to match the proposed airport layout in the variation; and
- estimating total concentrations by combining the modified airport contribution with the contribution from emissions assumed to be unaffected by the scheme variation.

No air quality modelling was undertaken, however considerations were made for the current baseline air quality levels, compared to the AMEC predictions for 2030, and the differences between the road traffic emission factor dataset used in the AMEC modelling compared to the most recent dataset.

[6] *Heathrow Airport Limited Heathrow's Northwest Runway Air Quality Assessment*, AMEC, 18th June 2014. Document *40 Air Quality.pdf* in https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/368787/reports-40to45.zip, last accessed 27th May 2025


**Figure 55. Predicted Annual Average $NO_2$ Concentrations (µg/M³) for 2030**

Figure 56 summarises annual average $NO_2$ concentrations (µg/m³) for 2024 at automatic air quality monitors in the vicinity of Heathrow. The air quality standard of 40 µg/m³ is met at all monitoring sites, ranging from 16.1 µg/m³ at Hillingdon Harmondsworth (urban background) to 31.6 µg/m³ at Heathrow Bath Road (roadside).

The AMEC modelling for 2030 used an urban background value of 18.4 µg/m³. As this is higher than the measured urban background concentration for 2024, it is assumed in the analysis that, at locations away from major roads, concentrations are 2 µg/m³ lower than in the AMEC modelling.

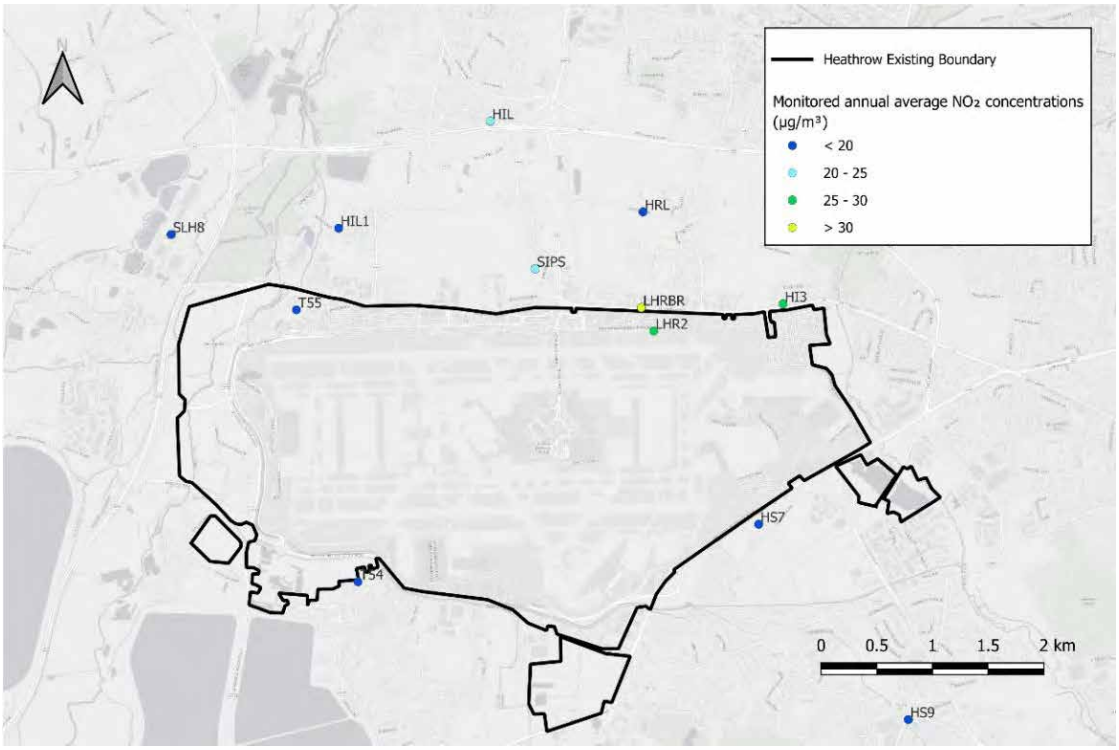



**Figure 56. Annual Average $NO_2$ Concentrations for 2024 at Automatic Air Quality Monitors**

Figure 57 shows the estimated difference between measured 2024 annual average $NO_2$ concentrations and predicted baseline concentrations for 2030 in the 2014 AMEC modelling (µg/m³) for the baseline two-runway scenario (Figure A1). In the vicinity of Heathrow, current annual average $NO_2$ concentrations at roadside locations are estimated to be typically between 5 µg/m³ and 10 µg/m³ lower than the AMEC baseline levels for 2030; on average $NO_2$ concentrations are estimated to be 6.5 µg/m³ lower than the AMEC predictions at roadside locations.

The AMEC modelling report acknowledges that the 2030 predicted concentrations are likely to be over-estimates due to low-emission vehicles not being included within the fleet projections in the emission factor datasets used for the assessment. In addition, the AMEC modelling does not consider more recently devised policy interventions, such as the 2023 Ultra Low Emission Zone (ULEZ) expansion to cover the whole of Greater London.

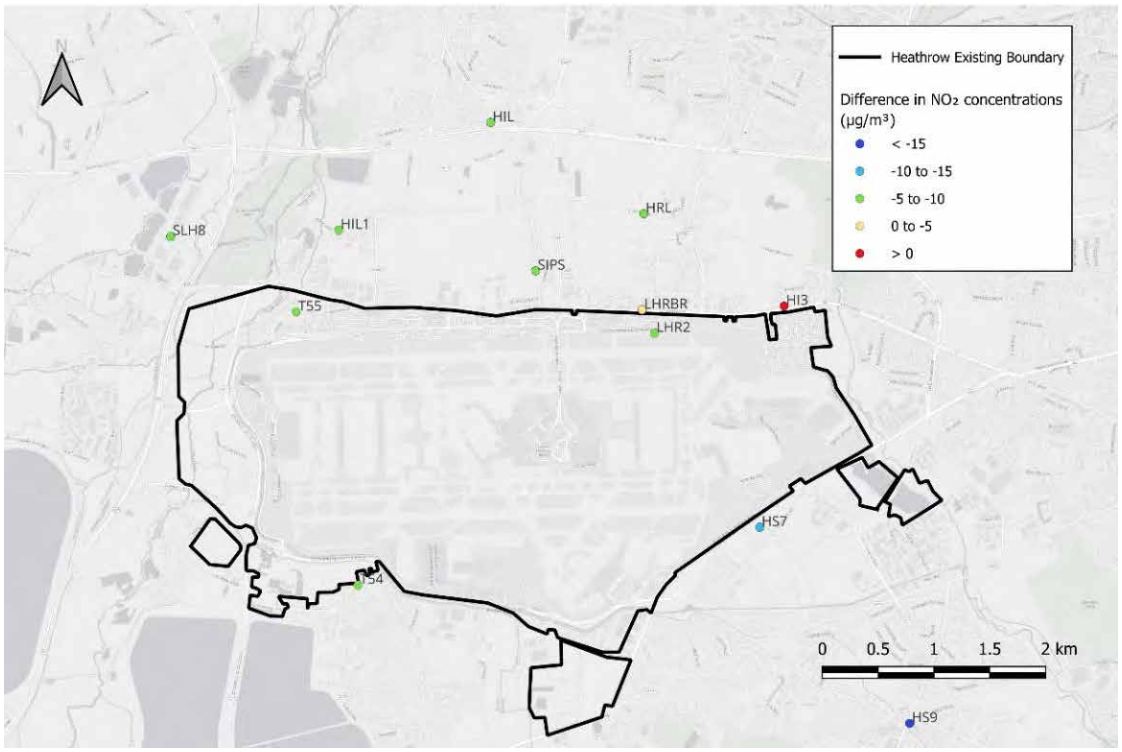



**Figure 57. Estimated Comparison of Current Air Quality Monitoring and the AMEC Modelling**

As a check, a comparison of projected 2030 emissions was carried out using version 13 of Defra's Emission Factor Toolkit (EFT)[7], the latest version released in 2025, and EFT version 5, as used in the AMEC modelling. For current traffic flows for Bath Road (annual average daily traffic flow of 16,817; 10.8% heavy vehicles; and assumed speed of 50 km/h), nitrogen oxides ($NO_x$) emissions calculated using EFT version 13 are less than half the emissions calculated using EFT version 5 (0.014 g/km/s vs 0.031 g/km/s). This comparison provides confidence that adjustment of the AMEC modelling based on current air quality monitoring is likely to be an appropriate modification for this analysis.

Figure 58 shows AMEC's estimated 2030 annual average $NO_2$ concentrations (µg/m³) for HAL's Proposal at human health receptor locations, based on AMEC modelling with adjustments using 2024 air quality monitoring 2030 $NO_2$, adjusted for the difference in concentrations between current air quality levels and the baseline 2030 modelling, i.e. by 2 µg/m³ at background locations and 6.5 µg/m³ at roadside locations.

[7] https://laqm.defra.gov.uk/air-quality/air-quality-assessment/emissions-factors-toolkit/, last accessed 28th May 2025

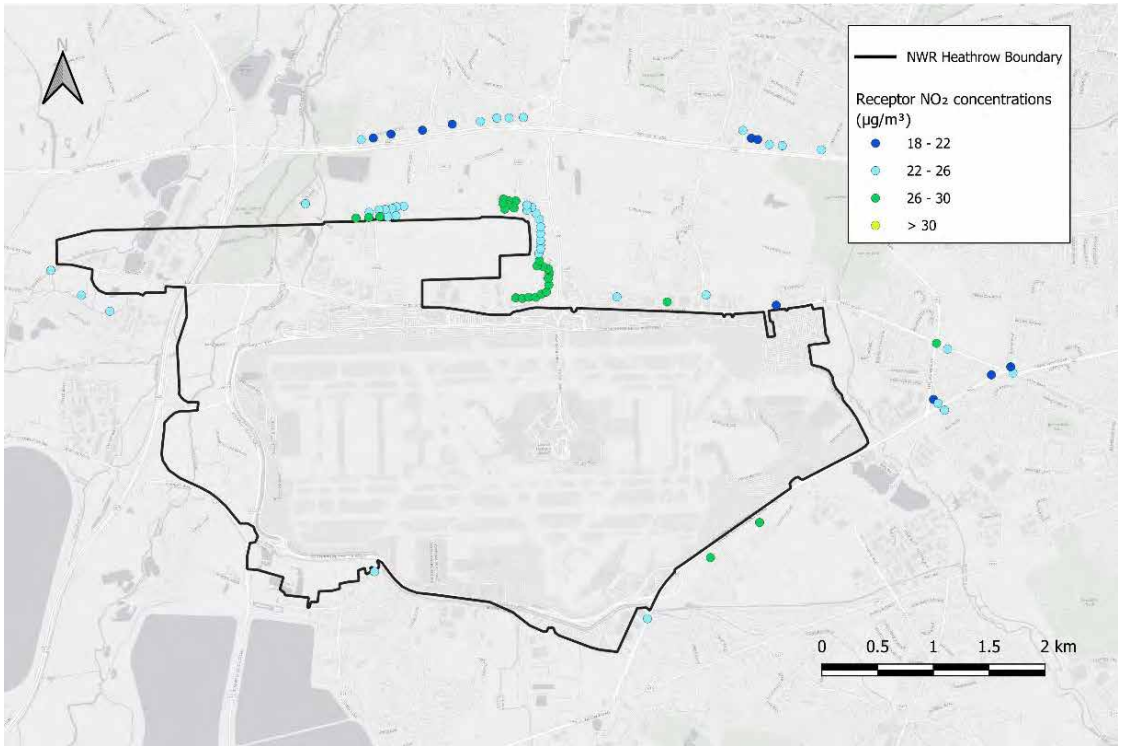



**Figure 58. Hal 2019 Preferred Masterplan: AMEC's Predicted 2030 $No_2$ Concentrations**

The amended estimates for the HAL 2019 Preferred Masterplan were compared against similar estimates for HWL's Proposed Development. As for the 2017 sensitivity analysis, concentration contours from the AMEC modelling of the HAL 2019 Preferred Masterplan for 2030 were translated to match the airport elements of HWL's Proposed Development, as shown in Figure 59.

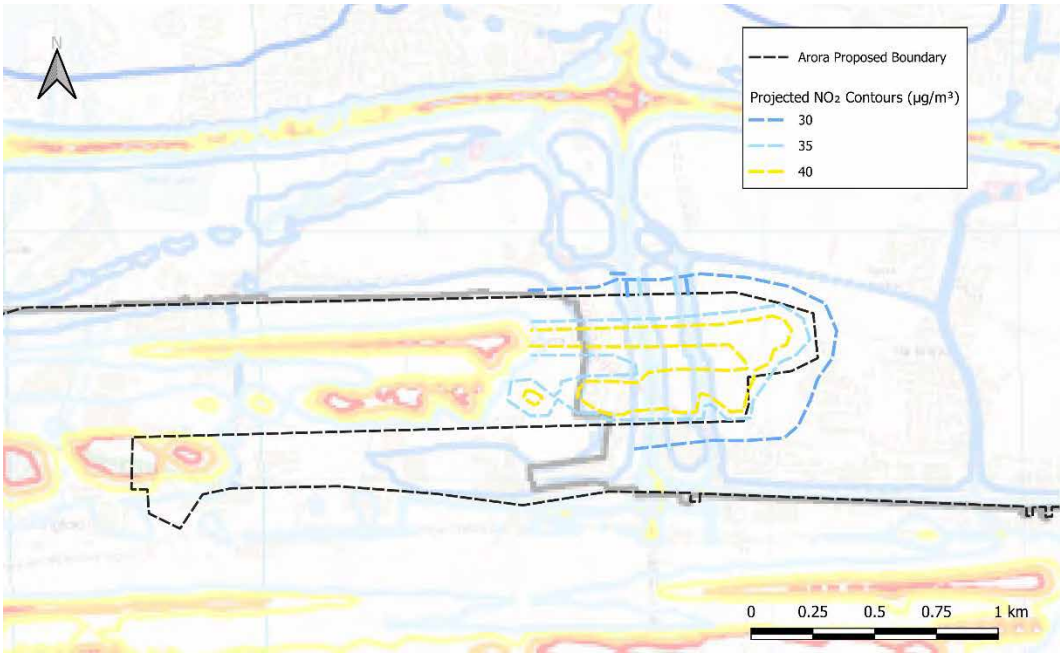



**Figure 59. Translated Airport Element Contours for HWL's Proposed Development**

In addition, the M4 spur road contours were extended to account for elevated road traffic contributions at the tunnel portals (see 2017 air quality sensitivity analysis for more details). The implied concentrations with translated concentration contours were then adjusted based on 2024 air quality modelling for the estimated concentrations for HWL's Proposed Development.

Estimated 2030 annual average $NO_2$ concentrations (µg/m³) for HWL's Proposed Development at human health receptor locations are shown in Figure 60. In line with the estimates for the HAL 2019 Preferred Masterplan, concentrations are below 30 µg/m³ at all sensitive human health receptor locations.

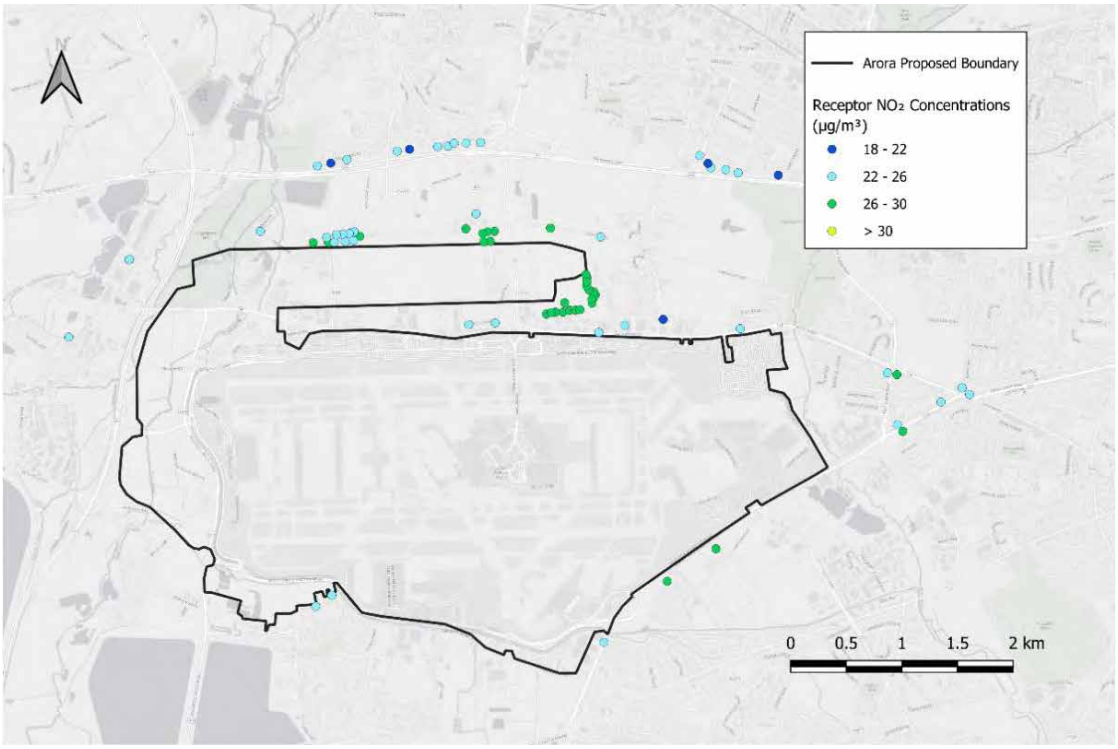



**Figure 60. HWL's Proposed Development: Estimated 2030 Annual Average $NO_2$ Concentrations**

The maximum increase in annual average $NO_2$ concentrations for HWL's Proposed Development, compared to the baseline without airport expansion, is estimated to be less than 5 µg/m$^3$. The maximum increases are estimated for residential locations on Sipson Road, where the baseline concentrations are estimated to be approximately 25 µg/m$^3$.

## Analysis of Potential Ecological Impacts

Under the requirements of the *European Council Directive 92/43/EEC* 'The Habitats Directive', transposed into UK legislation by *The Conservation of Habitats and Species Regulations 2010*: 'The Habitat Regulations', it is necessary to consider whether the proposed policy / plan may have significant impacts upon areas of nature conservation importance in line with Article 6(3) of the Habitats Directive, defined as Habitats Regulations Assessment (HRA).

An initial HRA for the HAL 2019 Preferred Masterplan was carried out by WSP on behalf of the Department for Transport in *Airports National Policy Statement – Habitats Regulations Assessment: Statement to Inform Appropriate Assessment* (June 2018)[8].

For air quality, the WSP assessment identified six European designated habitat sites for which potential effects of air quality on the integrity of the site could not be ruled out. The identified sites comprise Ramsar (wetlands of international importance), SPA (Special Protection Area) and SAC (Special Area of Conservation) sites, shown in Figure 61.

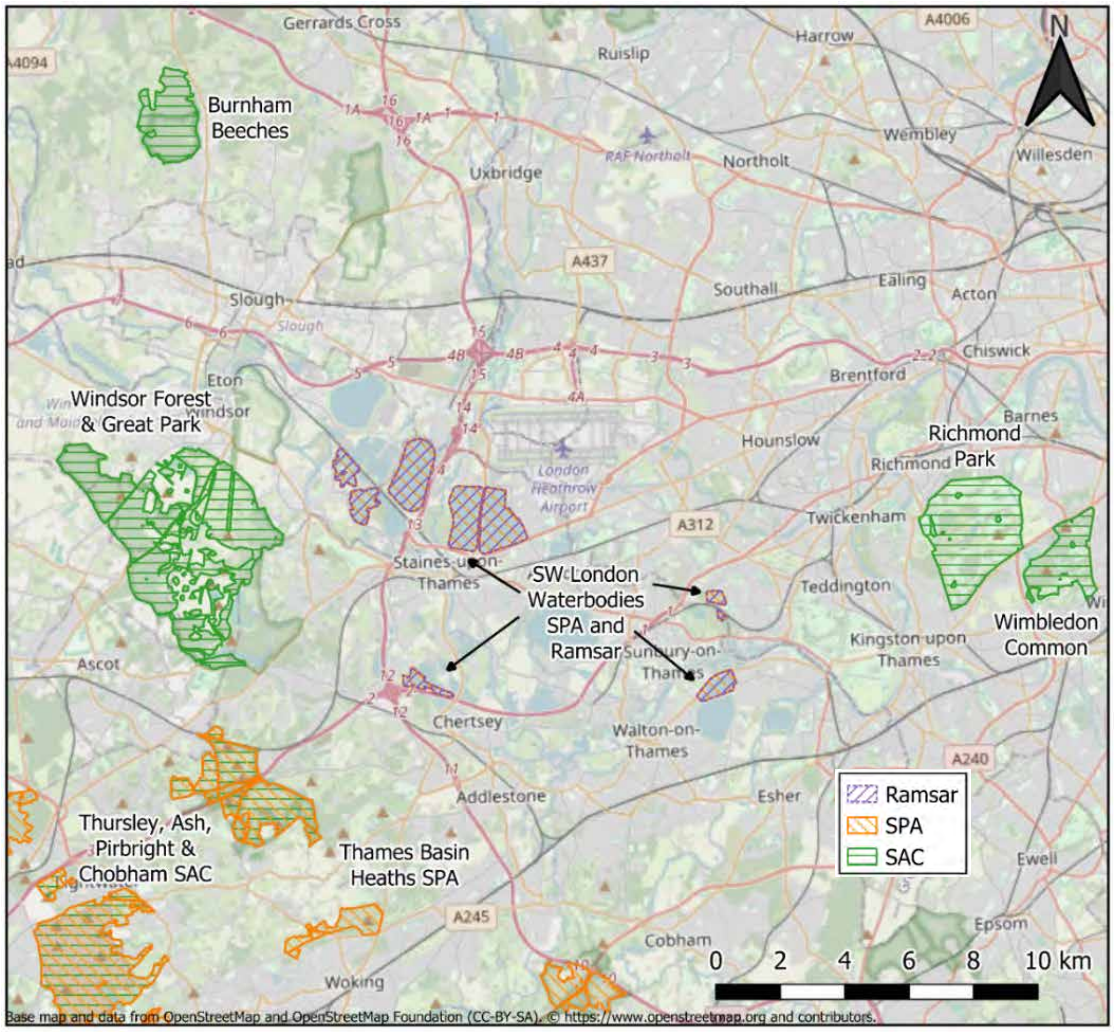



**Figure 61. European Habitats for Which HAL's Air Quality Effects Could Not Be Ruled Out**

[8] https://assets.publishing.service.gov.uk/media/5b115e2aed915d2cbae4aebb/airports-nps-habitats-regulations-assessment.pdf, last accessed 29th May 2025

The potential effects for five of these sites are associated with nitrogen deposition from operation phase surface access to the airport, i.e. designated sites within 200m of roads where airport expansion may lead to increased traffic activity. For the purpose of this sensitivity analysis, it is assumed that surface access activity levels for HWL's Proposed Development are the same as for the HAL 2019 Preferred Masterplan, therefore the potential effects at these five sites can be considered identical.

The South West London Waterbodies Ramsar and SPA sites are adjacent to the airport and therefore have the potential to be impacted by airport related activities, surface access and construction.

In the WSP report, baseline air quality for South West London Waterbodies Ramsar and SPA "*are not assessed as in 'Favourable Condition' and are in, or close to, exceedance of critical load"*. The greatest incremental change in nitrogen deposition across the Ramsar and SPA for the HAL 2019 Preferred Masterplan was identified for Staines Moor SSSI. The WSP assessment could not rule out the air quality impact on the Ramsar and SPA due to potential exceedance of the annual mean $NO_x$ critical level of 30 µg/m$^3$.

Given the probable size and duration of construction, the WSP report notes that construction works would be classed as High Risk in the proximity to South West London Waterbodies for the HAL 2019 Preferred Masterplan but acknowledges the insufficient plan details for a robust assessment at that stage.

For the relative impact of HWL's Proposed Development for South West London Waterbodies, it can be assumed that the impact of airport related activities is likely to be similar to the impact of the HAL 2019 Preferred Masterplan, as well as for comparable road network upgrade elements such as works for the Stanwell Moor junction included for both proposals.

Potential benefits of HWL's Proposed Development in terms of potential effects at South West London Waterbodies are associated with extensive road network changes planned for the M25 with the HAL 2019 Preferred Masterplan, which are not required for HWL's Proposed Development, specifically the realignment of the M25 north of Junction 14.

A summary of the potential effects of air quality at designated sites for the HAL 2019 Preferred Masterplan (a reproduction of Table 7.9 of the WSP assessment) and the relative Potential Effects of HWL's Proposed Development are provided in Table 7. The potential benefits of HWL's Proposed Development for the construction phase are discussed further in the following section (*Analysis of construction impacts*).

| European Site | HAL NWR Proposal | | Relative effects of Heathrow West Proposal | |
|---|---|---|---|---|
| | Construction Effects | Operation Effects | Construction Effects | Operation Effects |
| South West London Waterbodies SPA and Ramsar | Dust-related impacts from scheme-specific development. Surface access strategies may result in localised impacts. | N-Deposition | **Relative benefit** due to reduced surface access changes, especially for the M25. | **Potential benefits** due to no proposed changes to M25 layout between Junction 13 and 14 |
| Windsor Forest and Great Park SAC | None currently identified. However, Surface access strategies may result in localised impacts. | N-Deposition | Similar effects expected with some differences associated with the level of construction activities. | Similar effects, assuming similar activity levels for airport and surface access |
| Burnham Beeches SAC | None currently identified. However, Surface access strategies may result in localised impacts. | N-Deposition | Similar effects expected with some differences associated with the level of construction activities. | Similar effects, assuming similar activity levels for airport and surface access |
| Thursley, Ash, Pirbright and Chobham SAC and Thames Basin SPA | None currently identified. However, Surface access strategies may result in localised impacts. | N-Deposition | Similar effects expected with some differences associated with the level of construction activities. | Similar effects, assuming similar levels of surface access activity |
| Richmond Park SAC | None currently identified. However, Surface access strategies may result in localised impacts. | N-Deposition | Similar effects expected with some differences associated with the level of construction activities. | Similar effects, assuming similar levels of surface access activity |
| Wimbledon Common SAC | None currently identified. However, Surface access strategies may result in localised impacts. | N-Deposition | Similar effects expected with some differences associated with the level of construction activities. | Similar effects, assuming similar levels of surface access activity |

**Table 7. Potential air quality effects at designated HAL 2019 Preferred Masterplan sites**

## Analysis of construction impacts

Compared to HWL's Proposed Development, the HAL 2019 Preferred Masterplan requires more extensive infrastructure upgrades beyond the footprint of the expanded airport. Construction for the HAL 2019 Preferred Masterplan includes:

- Raising the northwest runway approximately 5m above grade at the western end
- Bridging over the M25 to accommodate the northwest runway, with associated realignments and gradient adjustments for a motorway tunnel
- Junction upgrades for M25 Junction 15
- Re-routing of the A4
- Relocation of the Colnbrook railhead

None of these listed elements are required for HWL's Proposed Development, due to the easterly shift and shorter proposed northwest runway compared to the HAL 2019 Preferred Masterplan. HWL's Proposed Development will however require tunnel sections for the M4 spur road and A4. The proposed tunnel for the A4 maintains the road's east-west connectivity rather than re-routing to the north of the northwest runway as proposed for the HAL 2019 Preferred Masterplan.

Both the HAL and HWL proposals require upgrades to the Stanwell Moor junction of the southern perimeter road. For the purpose of this analysis, works for this junction are assumed to be comparable for the two proposals.

### Direct construction impacts

Figure 62 shows land considered for construction works for the HAL 2019 Preferred Masterplan (based on Figure 3.1 of the HAL's 2018 Heathrow Expansion EIA Scoping Report) superimposed with expanded airport boundaries and designated European habitat sites. These areas for construction are used to analyse the direct impact of construction, from dust and emissions associated with construction site activities.

As expected, the HAL 2019 Preferred Masterplan requires construction works northwest of the current airport boundary and west of M25; this has the potential for construction phase impacts at human health receptors in Colnbrook, Poyle and Langley. The extent of these impacts will be determined in an EIA for the HAL 2019 Preferred Masterplan, but the absence of works required in these areas for HWL's Proposed Development represents a potential air quality benefit for direct construction impacts.

The HAL 2019 Preferred Masterplan considers land for construction north of the proposed northwest runway (east of the M25) which is associated with runway construction and re-routing of the A4. In the absence of more detailed information, for the purpose of this relative analysis it is assumed that there are comparable potential human health construction impacts in these areas for both the HAL 2019 Preferred Masterplan and HWL's Proposed Development.

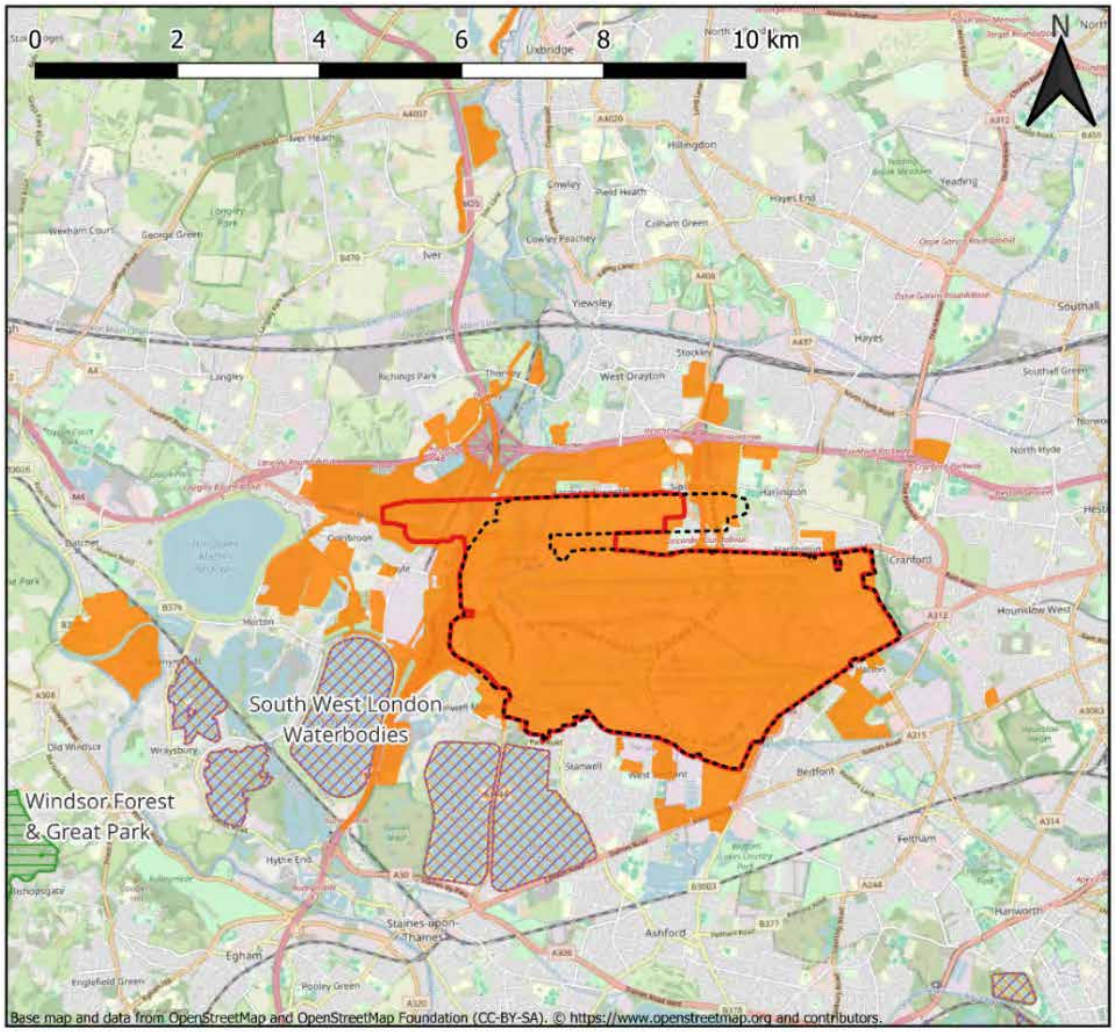



**Figure 62. Land considered for construction works for the HAL 2019 Preferred Masterplan**

For potential ecological impacts, Figure 62 also highlights works required in the vicinity of South West London Waterbodies, specifically Wraysbury Reservoir adjacent to the M25. These areas are likely to be associated with network changes to the M25 for the HAL 2019 Preferred Masterplan; these are not required for HWL's Proposed Development and therefore represent a potential air quality benefit for direct construction impacts.

### Traffic disruption

The complex works required for the M25 for the HAL 2019 Preferred Masterplan have the potential for long-term (years) of traffic disruption on one of the busiest motorway sections in Europe. To identify the potential impacts on air pollution emissions related to traffic congestion, traffic data during current works for Junction 10 of the M25 (A3 Wisley Interchange) were analysed. The upgrades to this junction began in summer 2022 and are due for completion in spring 2026.

The analysis uses data from the publicly available National Highways WebTRIS service[9], which provides 15-minute average traffic count and speed data across the whole of the National Highways managed network, comprising all motorways and trunk roads in England. Traffic speed data were compared for locations along the M25 and A3 for 2019 (pre-works and pre-Covid) against data for 2024 (during construction works).

As the WebTRIS count data are principally measured by inductive loops imbedded in the road surface, data are not available from the start of the construction works for locations directly affected by the network changes around Wisley Interchange, therefore the analysis focused on more distant sites between Junctions 9 and 11 of the M25.

Figure 63 summarises the changes in annual average traffic speeds at WebTRIS count locations during M25 Junction 10 (Wisley Interchange) construction works, comparing 2024 (during) to 2019 (baseline before) works. The site IDs are marked for selected locations. These data show lower traffic speeds during the construction for traffic approaching Junction 10 and similar or higher speeds during construction for traffic travelling away from the junction.

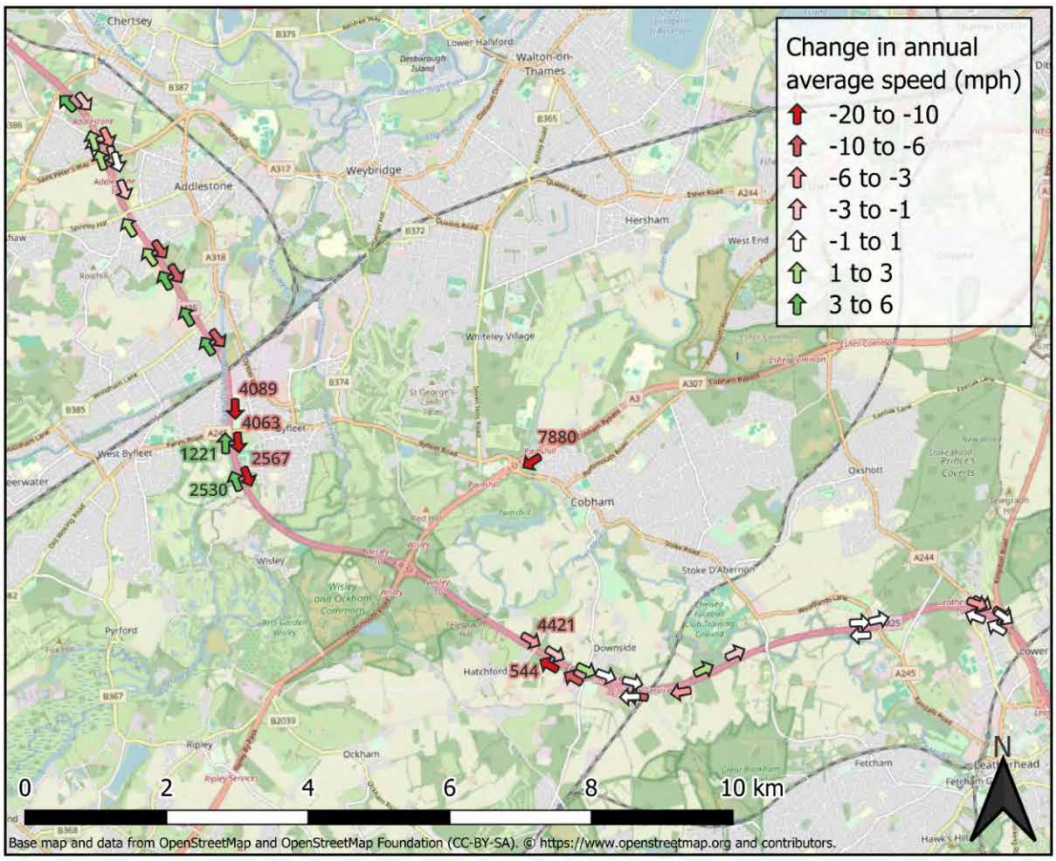



**Figure 63. Changes in Annual Average Speeds at the WebTRIS Count Locations**

The diurnal variation in traffic speeds provide more detailed information, enabling periods of potential traffic congestion to be identified.

Figure 64 shows examples of diurnal traffic speed profiles for webTRIS sites: 544 (M25 clockwise, south of Junction10); 7880 (A3 westbound, east of M25 Junction 10); and 4421

[9] https://webtris.highwaysengland.co.uk/, data downloaded 16th May 2025

(M25 anti-clockwise, south of Junction 10) where average speeds are lower during construction, but the shapes of the diurnal profiles before and during construction are similar, indicating typically free-flowing traffic during the construction period.

Figure 65 shows examples of M25 clockwise sites, north of Wisley Interchange. At these locations the 2024 speeds are higher than the 2019 baseline, indicating more free-flowing traffic. These highlight uncertainties in the analysis, e.g. congestion impacts during 2019 or more free-flowing traffic after congestion at the Wisely Junction.

Figure 66 shows examples of M25 anti-clockwise sites, north of Wisley Interchange. At these sites approaching the junction, the diurnal profiles indicate traffic congestion: much lower speeds are recorded during peak hours during the construction period. Time variation plots of these sites shown in Figure 67, Figure 68 and Figure 69, created using the R package Openair[10]. These plots show average weekday peak hour speeds of around 20 mph, indicating periods of congestion.

The complexities of the M25 works associated with the HAL 2019 Preferred Masterplan could potentially lead to similar levels of congestion on the M25 and adjoining roads. Depending on the level and location of the congestion, the subsequent air quality impacts could impact human health receptors in Colnbrook, Poyle and Langley, and habitats for part of the South West London Waterbodies.

This presents a potential construction phase air quality benefit for HWL's Proposed Development, over the HAL 2019 Preferred Masterplan, since HWL's Proposed Development does not require extensive construction works for the M25.

It is expected that traffic congestion-related air quality impacts will be fully explored in the EIA for the HAL 2019 Preferred Masterplan.

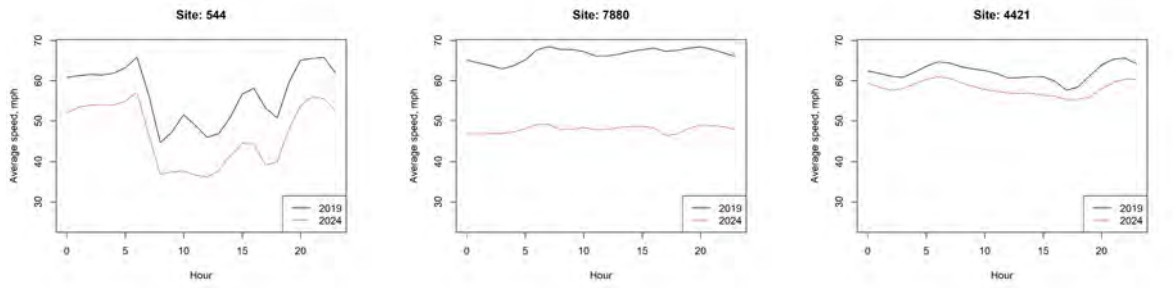



**Figure 64. Approaches to the Wisley Interchange with Effective Traffic Management**

[10] Carslaw, D. C., and K. Ropkins. 2012. "openair — An R package for air quality data analysis." *Environmental Modelling & Software* 27–28 (0): 52–61. https://doi.org/10.1016/j.envsoft.2011.09.008.

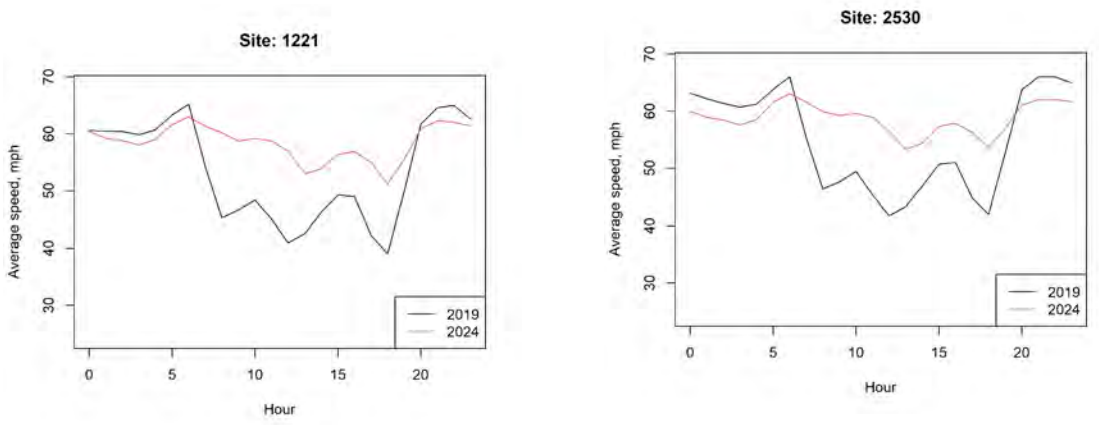



**Figure 65. Diurnal Traffic Speed Profiles for WebTRIS Sites**

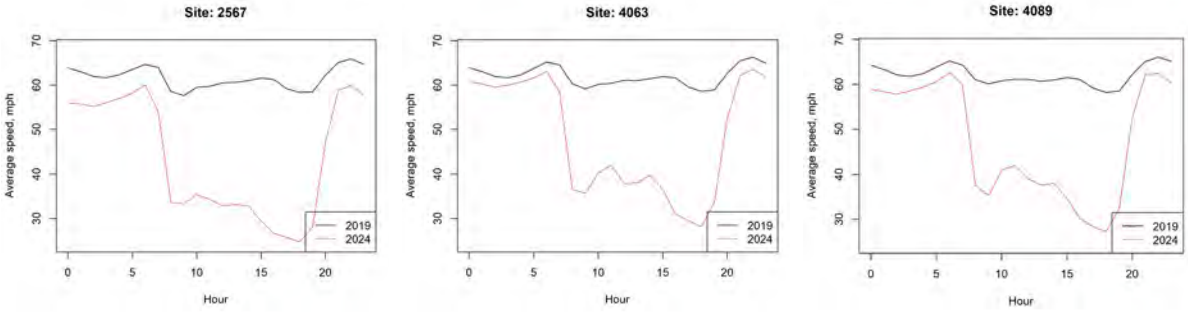



**Figure 66. Diurnal Traffic Speed Profiles for WebTRIS Sites**

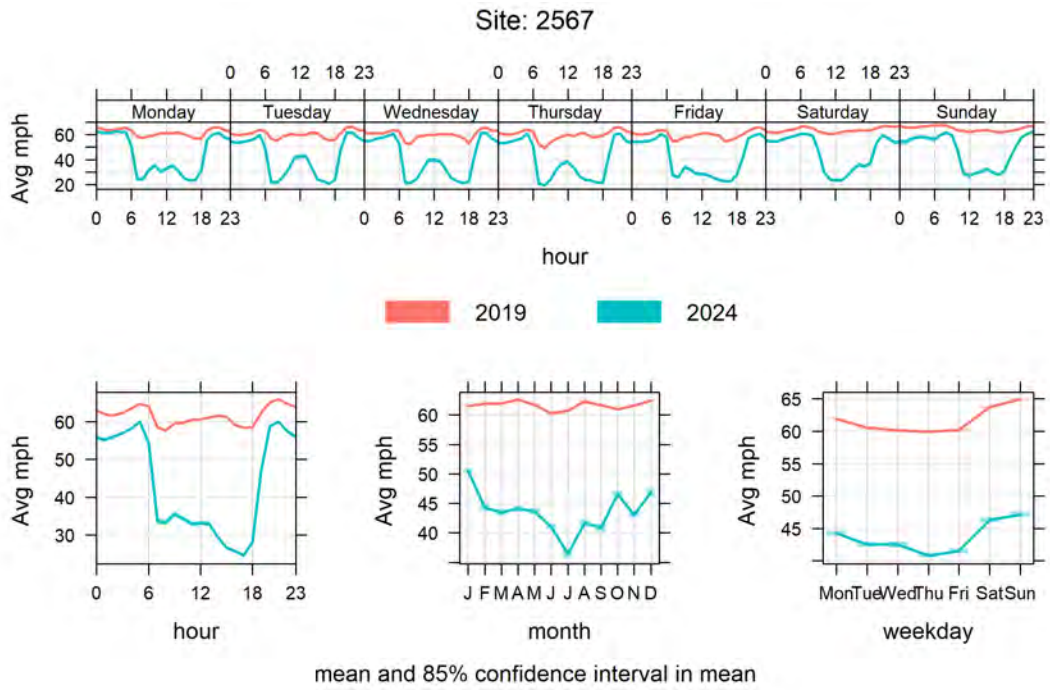



**Figure 67. Time Variation Plots of 2019 and 2024 Traffic Speeds at WebTRIS Site 2567**

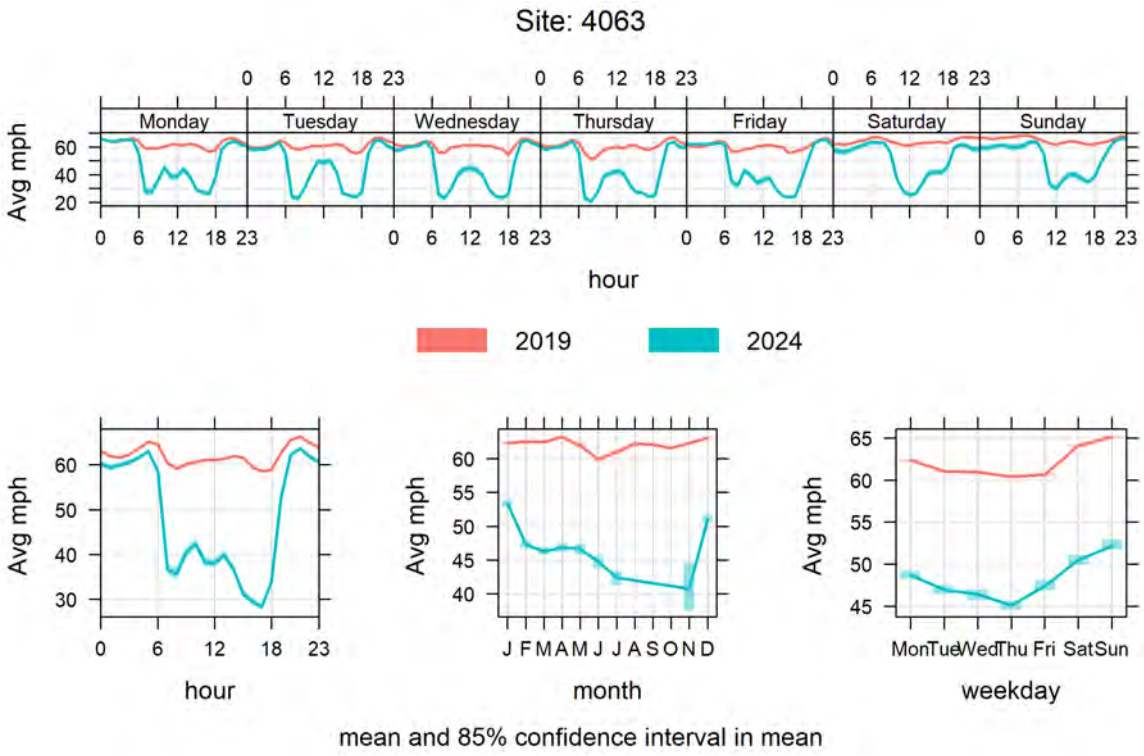



**Figure 68. Time Variation Plots of 2019 and 2024 Traffic Speeds at WebTRIS Site 4063**

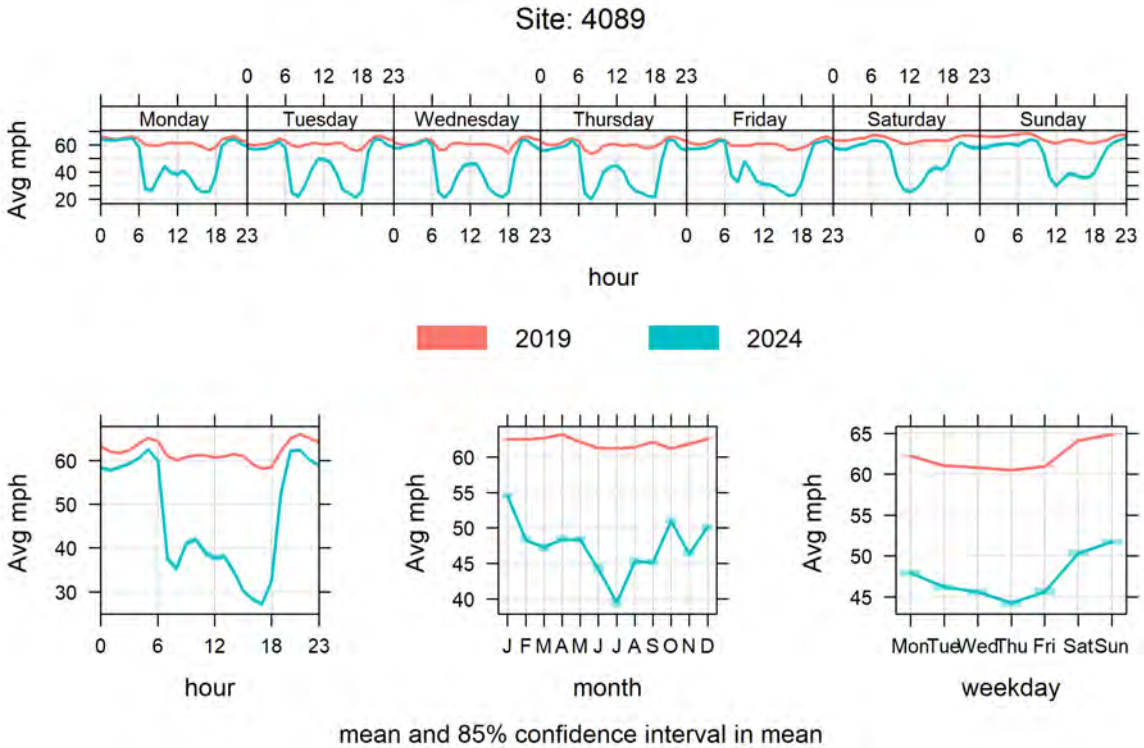



**Figure 69. Time Variation Plots of 2019 and 2024 Traffic Speeds at WebTRIS Site 4089**

Bickerdike Allen Partners
Architecture Acoustics Technology

Appendix E: Noise Assessment

# HEATHROW WEST
# INITIAL NOISE APPRAISAL

Report to

The Arora Group
World Business Centre 2
Newall Road
London Heathrow Airport
Middlesex, TW6 2SF

A11658_01_RP001_2.0
June 2025

Bickerdike Allen Partners
Architecture
Acoustics
Technology

**Bickerdike Allen Partners LLP** is an integrated practice of Architects, Acousticians, and Construction Technologists, celebrating over 60 years of continuous practice.

**Architects:** Design and project management services which cover all stages of design, from feasibility and planning through to construction on site and completion.

**Acoustic Consultants:** Expertise in planning and noise, the control of noise and vibration and the sound insulation and acoustic treatment of buildings.

**Construction Technology Consultants:** Expertise in building cladding, technical appraisals and defect investigation and provision of construction expert witness services.



**Jeff Charles**
for Bickerdike Allen Partners LLP

**Duncan Rogers**
Senior Acoustic Consultant

**David Charles**
Partner

# Introduction

A Northwest Runway at Heathrow has been discussed for many years. In 2015 the Airports Commission, setup by the UK Government, reported on airport capacity in the south-east of England and advised of the need to build a 3,500m Northwest Runway at Heathrow.

Following the Airports Commission report the Government Department for Transport (DfT) undertook a National Policy Statement (NPS) Consultation for the proposed expansion of Heathrow. Responses to that included one from Heathrow Airport Limited (HAL), in relation to the 3,500m Northwest Runway, and one from Arora. The latter response made in June 2017 considered a revised 3,200m Northwest Runway.

Appendix E: Noise Assessment of the Arora response was a noise contour assessment undertaken by Bickerdike Allen Partners LLP (BAP). This developed work undertaken for the Airports Commission to provide a comparison of the noise between the northwest runways.

BAP have subsequently been instructed by The Arora Group (Arora) to undertake an initial appraisal of the noise effects of a further option for a northwest runway located north of the current Heathrow site. This report sets out the appraisal undertaken in addition to referencing the earlier work.

This report has been prepared specifically in response to instructions received from Arora and is not intended for any other purpose.

A glossary of acoustic terminology is also contained in Appendix E: Noise Assessment.

## Runway Options Considered

In this report there is reference to three Northwest Runway options as shown below. They are all located north of the existing Heathrow site in the area situated between the M4 motorway and the current A4, so to the north of the two existing Heathrow runways. All runway options are parallel to the existing runways and have a runway centre line 1,035m from the current Northern Runway 27R/09L.

### The *HAL 2019 Preferred Masterplan*

A 3,500m long runway that stretches from west of Sipson through Harmondsworth crossing the M25 motorway to finish north of Colnbrook. This is the option from the Airports Commission which HAL made their 2017 consultation response based on.

### *Arora's 2017 Response to DfT's NPS Consultation*

A 3,200m long runway that stretches from Harlington through parts of Sipson and Harmondsworth stopping 500m short of the M25 motorway. This is the option which Bechtel compiled as part of Arora's 2017 Response to DfT's NPS Consultation. It arose following a reviewing of the challenges with the Airports Commission option and discussions with airlines and other stakeholders.

## HWL's Proposed Development

A 2,800m long runway with its west end located 500m east of the M25 motorway and passing through parts of Sipson and Harmondsworth. This option is a development of the Arora 2017 Proposal and reflects further discussions and analysis of the infrastructure needed.

The relative locations of the three runway options are illustrated in Figure 70.

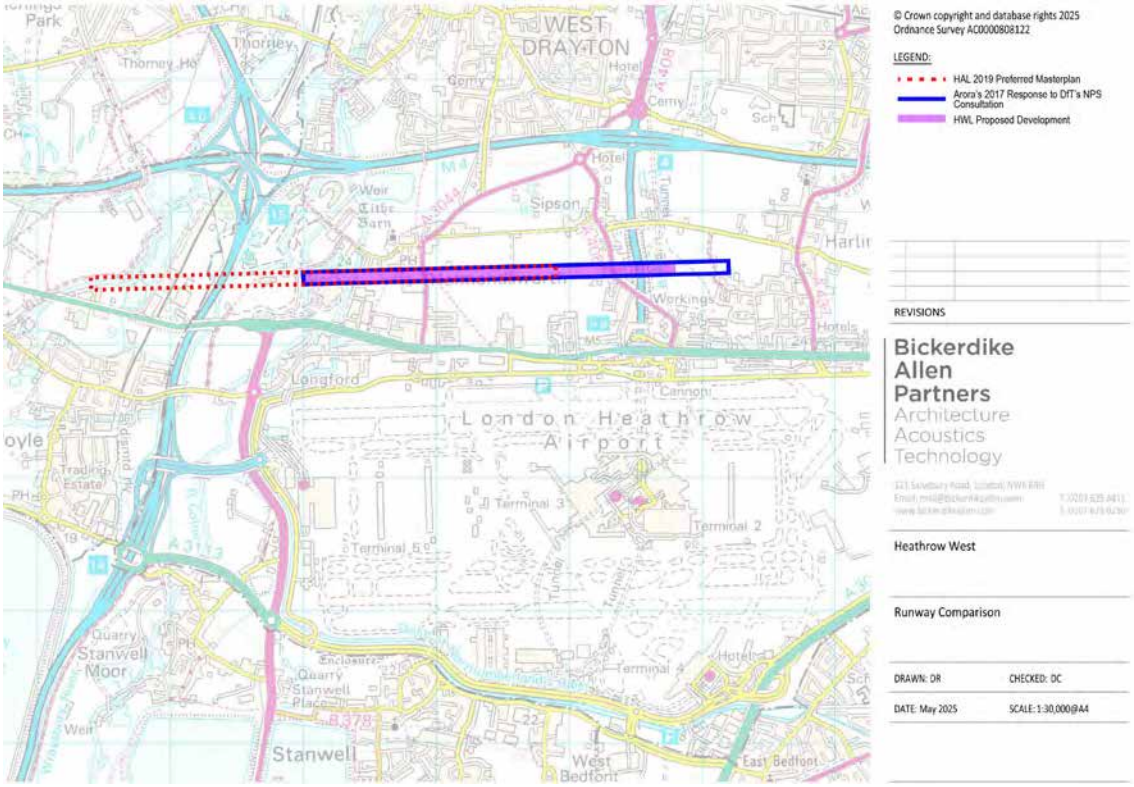



**Figure 70. Relative Locations of the Three Runway Options**

It should be noted that each of the options, in combination with the two existing runways at Heathrow, is understood to facilitate the previously forecast growth of up to 740,000 movements per year. This is because almost all the forecast flights could individually operate from any of the runways, and in the few cases where this is not possible the existing runways, which are longer, could be utilised.

## Appraisal Limitations

At this stage an initial appraisal has been undertaken due to the absence of updated information on the potential future operations. This includes the absence of:

- New Air Traffic Forecasts to update those made in 2015
- Detail of new airspace arrangements for London Area Airports
- Agreed noise contours for Heathrow, and future population details

- Details of the effects of any beneficial noise reduction policy to be implemented by Heathrow (e.g. Noise Action Plan measures etc) in the next 20 years
- Details of projected future aircraft to be flying in 20 to 25 years' time.

This initial noise appraisal has therefore utilised published information in addition to the outputs produced for the Airports Commission nearly a decade ago to allow some consideration of key matters relevant to future noise at Heathrow.

## New Runways at Heathrow: Policy Matters

Before making any technical noise appraisal, the previous and current overall official stance on a northwest runway is noted.

In 2003 the Future of Air Transport White Paper was published after many studies and consultations and included a proposal for a northwest runway at Heathrow. The Government Transport Secretary advised in 2009, that the Government supported the expansion of Heathrow by building a northwest 2,200m long runway. Subsequently the political parties that in 2010 formed a coalition government (Conservative and Liberal Democrats) announced they would prevent the construction of any northwest runway. They did however set up in late 2012 the Airport Commission to review airport capacity in the south-east of England. The Commission published its full report in July 2015 and advised of the need to build a northwest runway at Heathrow, a 3,500m long Northwest Runway, in this note referred to as HAL 2019 Preferred Masterplan.

The new Conservative Government advised in October 2016 that it accepted the Commissions advice, including a new Northwest Runway at Heathrow. It formalised its view in the Airports National Policy Statement (ANPS) in 2018, that gave provisional support for a new Northwest Runway at Heathrow. In June 2018, the House of Commons voted 415-119 in support of that northwest runway. In February 2020, the Court of Appeal ruled the plans for a northwest runway were illegal. The Supreme Court has subsequently overturned that ruling.

The most recent support for the northwest runway was made by the Chancellor of the Exchequer in January 2025. The Chancellor advised *"a third runway at Heathrow would unlock further growth, boost investment, increase exports, and make the UK more open and more connected as part of our Plan for Change"*. The present Government has indicated that the ANPS may be reviewed "at speed" if and when it receives new expansion proposals.

The most recent Government policy announcement in relation to aviation noise was the Overarching Aviation Noise Policy Statement (OANPS) in March 2023. However, with respect to a Northwest Runway at Heathrow the primary policy remains the ANPS from 2018. This sets out the decision making on noise in paras. 5.67 and 5.68, as repeated below.

*"HWL's Proposed Development must be undertaken in accordance with statuary obligations for noise. Due regard must have been given to national policy on aviation noise, and the relevant sections of the Noise Policy Statement for England, the National Planning Policy Framework, and the Governments associated planning guidance on noise.*

*However, the Airports NPS must be used as the primary policy on noise when considering the Heathrow Northwest Runway scheme and has primacy over wider noise policy sources.*

*Development consent should not be granted unless the Secretary of State is satisfied that the proposals will meet the following aims for the effective management and control of noise, within the context of Government policy on sustainable development:*

- *Avoid significant adverse impacts on health and quality of life from noise;*
- *Mitigate and minimise adverse impacts on health and quality of life from noise; and*
- *Where possible, contribute to improvements to health and quality of life."*

Separate to consideration of Heathrow, recent examples of the implementation of airport noise policy by the current Government are shown in their decisions in 2025 over London Gatwick's second runway and London Luton's expansion from 19mppa to 32mppa. While there are technical inconsistencies made in the two decision documents, the clear position on noise policy is that airport development can be approved even when there are increases in total adverse effects.

The specific details in the Luton approval letter from the Secretary of State 3 April 2025 are:

*"The Secretary of State has considered the requirements of LLP Policy LLP6 B(v) which requires airport expansion proposals to achieve further noise reduction, or no material increase in day or nighttime noise or otherwise cause excessive noise at any time of the day or night and LLP Policy LLP6 B(vii) also requires a significant diminution and betterment of the effects of aircraft operations on the amenity of local residents, occupiers and users of sensitive premises in the area. The Examining Authority [ExA]concluded that HWL's Proposed Development would cause an increase in noise levels in the future over the 2019 baseline, and although they considered that these effects may be capable of compensatory mitigation in the form of noise insulation, this would contravene the policy aims of the ANPS, NPPF (paragraph 180(e)), the ANPS, the OANPS to achieve reductions in noise levels in future. The effects would be inconsistent with Policy LLP 6B(v) which aims to "achieve further noise reduction or no material increase in day or night noise" and Policy LLP6 B(vii) to "result in a significant diminution and betterment of the effects of aircraft operations". Accordingly, the ExA attributed this great weight against the making of the Order [ER3.18.127 and ER3 .18.188]. The Secretary of State agrees. However, she notes that the OANPS allows "in the context of sustainable growth an increase in total adverse effects may be offset by an increase in economic benefits" and considers whether such effects would be offset in the Planning Balance section [ER3.18.189], concluding that the extensive consumer and economic benefits brought about by HWL's Proposed Development outweigh the total adverse effects from aviation noise."*

This very recent decision indicates that the Central Governments approach to noise is that increases in aviation noise can be allowed as long as sustainable growth is forecast.

# Airborne Aircraft Noise

## Aircraft Noise Annoyance

Airborne aircraft noise includes the noise from arriving and departing aircraft both in the air and while they are using runways for that purpose.

The introduction of jet-powered commercial transport aircraft, British de Havilland Comet, in May 1952 was followed by the Boeing 707 (1958) and the Douglas DC-8. These aircraft were followed by various aircraft, with the introduction of the Boeing 747 in 1969. These aircraft produced considerable noise and so community disturbance. The Boeing 747 across several series was in operation for many years, being mainly phased out earlier this decade.

In the UK, the Government set up the Wilson Committee on the Problem of Noise; that was informed by the 1961 Heathrow survey and the related Government Social Survey. That led to the adoption and use as a valuable planning tool for aircraft noise, the Noise and Number Index (NNI). The general usage was to describe:

| | |
|---|---|
| 35NNI | DENOTES “LOW” community annoyance |
| 45NNI | DENOTES “MODERATE “community annoyance |
| 55NNI | DENOTES “HIGH” community annoyance |

The NNI index took into account the average aircraft noise levels and the number occurring. In 1972 there were over two million people so exposed at Heathrow to exposure levels equal to or greater than 35NNI. The use of that index was subject to numerous criticisms but was used for many years both for the preparation of annual noise contours for the London Airports and in evidence for most public inquiries into major airport development plans.

After the UK Aircraft Noise Index Study - ANIS (1982), the Government replaced the NNI index with the equivalent continuous sound level $L_{Aeq,16h}$ index, and advised the approximate equivalence of NNI /$L_{Aeq,16h}$ values as;

| | | |
|---|---|---|
| 57 dB $L_{Aeq,16h}$ | FOR | 35NNI |
| 63 dB $L_{Aeq,16h}$ | FOR | 45NNI |
| 69 dB $L_{Aeq,16h}$ | FOR | 55NNI |

This index used for many years, considers the noise of the aircraft and their number in a 16-hour daytime period, a similar process but not identical to NNI. The 57 dB $L_{Aeq,16h}$ contour was taken to denote the approximate onset of significant community annoyance. Supplementing this unit today are many noise indices, e.g. N60, N65, $L_{Amax}$, $L_{den}$, and $L_{night}$. These arise from past and current studies seeking to understand and quantify the population’s response to aircraft noise.

A further UK study is in progress, the Aviation Noise Attitudes Survey 2023-2024, a large-scale social research study examining the relationship between long-term exposure to aviation noise and annoyance in the UK. This will build upon the Survey of Noise Attitudes

(SONA) 2014 work. That work illustrated the large difference in human responses, e.g. for the $L_{Aeq,16h}$ at exposures in the range 60.0-62.9 dB:

- 19.4%were “not at all” annoyed
- 16.2% were “highly” annoyed.

The CAA currently on their website note that the UK Government policy has established that the Lowest Observed Adverse Effect Level (LOAEL) relates to 51 dB $L_{Aeq,16h}$. The SONA 2014 found that the annoyance responses at around level (in the range 51.0- 53.9 dB) were:

- NOT AT ALL 49.1%
- SLIGHTLY 25.2%
- MODERATELY 14.6%
- HIGHLY ANNOYED 6.2%

As mentioned above for the previous planning index (NNI) and the current index dB $L_{Aeq,16h}$ the critical matters are simple;

- HOW NOISY are the aircraft flown
- HOW MANY are flown during the period assessed (and which routes are used)

The widespread use of the LAeq,16h index is illustrated by it being a key part of the noise controls at many UK airports as illustrated by the examples in Table 8.

| Airport | Main Noise Control Limit at Major UK Airports |
|---|---|
| Heathrow | 145.0 $km^2$ for 57 dB $L_{Aeq,16h}$ |
| Gatwick | 135.0 $km^2$ for 51 dB $L_{Aeq,16h}$ |
| Manchester | 33.6 $km^2$ for 60 dB $L_{Aeq,16h}$ |
| Stansted | 33.9 $km^2$ for 57 dB $L_{Aeq,16h}$ (now)<br>51.9 $km^2$ for 54 dB $L_{Aeq,16h}$ (2032) |
| Luton | 19.4 $km^2$ for 57 dB $L_{Aeq,16h}$ |
| London City | 9.1 $km^2$ for 57 dB $L_{Aeq,16h}$ |
| Bristol | 10.7 $km^2$ for 57 dB $L_{Aeq,16h}$ |

**Table 8. Examples of Contour Limit Controls at UK Airports**

### Noise From Individual Aircraft

The relative noise of individual aircraft can be seen in their noise certification levels. All civil aircraft have a noise certificate, with values determined under strict operating conditions. The actual levels at Heathrow will depend on operator decisions and local flying rules and will differ to an extent from the noise certification levels. For instance, take-

off weights will depend upon passenger numbers, distance to be flown, etc. However, certification levels illustrate well the relative noise of aircraft types.

Certification noise levels for a selection of aircraft types that have or currently operate at Heathrow are given in Table 9 below. These include the original Boeing 747, the 100 series, the later 400 series, and the Boeing 777-300ER, a large twin jet that has now replaced many of the Boeing 747 operations. The data for these types shows the reduction in noise from subsequent aircraft variants and from replacement aircraft.

Also included in the table are two newer aircraft, the mid-size Boeing 787 (8 Series) and the smaller Airbus A320neo. These form a considerable proportion of current Heathrow operations and are forecast to continue to do so for many years. They produce noticeably lower noise levels compared the other types, partly due to their smaller size but also due to their newer designs.

| Aircraft Type | Certification Level by Location (EPNL) | | |
|---|---|---|---|
| | LATERAL | FLYOVER | APPROACH |
| Boeing 747-100 | 100.6 | 108.6 | 107.2 |
| Boeing 747-400 | 100.2 | 96.6 | 103.3 |
| Boeing 777-300ER | 98.7 | 92.8 | 100.5 |
| Boeing 787 (8 Series) | 90.3 | 88.3 | 95.7 |
| Airbus A320neo | 85.5 | 83.3 | 92.2 |

**Table 9. Examples of Noise Certification Levels**

Taking the Boeing 787 an ERCD study of operations by a specific variant, reported in CAP1191, found it to be 7-8 dB quieter on departure than the aircraft it is replacing, the Boeing 767 and Airbus A330.

Details on the noise performance of other specific variants of the Boeing 787 are given in Table 10. This shows that the specific variant and the engine type fitted influence the noise produced. However, it confirms that the other variants which have been obtained by IAG with Trent 1000 engines will also be usefully quieter on departure.

| Aircraft Type | Certification Level by Location (EPNL) | | |
|---|---|---|---|
| | LATERAL | FLYOVER | APPROACH |
| **8 Series** | | | |
| G-Enx-1864 | 90.3 | 88.3 | 95.7 |
| Trent 1000 A | 89.6 | 89.1 | 96.9 |
| **9 Series** | | | |
| G-Enx-1867 | 90.8 | 87.0 | 95.0 |
| Trent 1000 A2 | 89.0 | 87.3 | 95.4 |
| **10 Series** | | | |
| G-Enx-1876 | 93.1 | 85.2 | 94.9 |
| Trent 1000 J3 | 92.1 | 85.2 | 96.1 |

Quoted results are for each aircraft at similar take -off and landing mass.

**Table 10. Noise Certification Levels for Boeing 787 Series by Engine Type**

The Airbus A350 is another relatively new type to operate at Heathrow. A study by ERCD, reported in CAP1733, indicated that it is also significantly quieter than the aircraft types it is replacing, i.e. Airbus A330, Boeing 777 and the A340.

When it comes to future aircraft types, at their March 2025 Summit Airbus unveiled their new narrow body aircraft design study, for a new aircraft that pushes the boundaries of modern airplane technology, highlighting;

- new wing design that will work smarter not harder
- new aircraft engines designed to consume 20% less fuel; an open fan design.

The aircraft is currently planned to enter service in the second half of the 2030s. The use of an open fan engines raises concern over noise, and currently considerable research is being undertaken on this.

In contrast Rolls Royce has been and continue to develop their ultimate turbofan, the UltraFan, which is designed to be 10% more fuel efficient than the Trent XWB. The UltraFan is compatible with 100% sustainable fuels and offers a 40% improvement in $NO_x$ and 35% lower noise. It continues the trend for jet engines from the old very noisy pure jets (no bypass air) to engines with ever greater bypass ratios increasing from around 2.0 to 10.0 now, and with the UltraFan to 15.0. That trend produces most of the power from the propellor fan rather than the jet engine exhaust.

## Past, Current and Future Noise at Heathrow

### Past Noise at Heathrow

The noise contours used to illustrate the amplitude of the aircraft noise for the areas near Heathrow show the criticality of the noise of major aircraft types. For instance, the

Heathrow noise contour area was for many years heavily influenced by the activity of the Boeing 747 Jumbo Jet.

With the change to quieter more modern aircraft the noise contour has reduced significantly. This reduction was illustrated in the Airports Commission Discussion Paper 05: Aviation Noise (July 2013) where Annex C compared historical noise contours for Heathrow at 57 dB $L_{Aeq,16h}$, as shown in Figure 71.

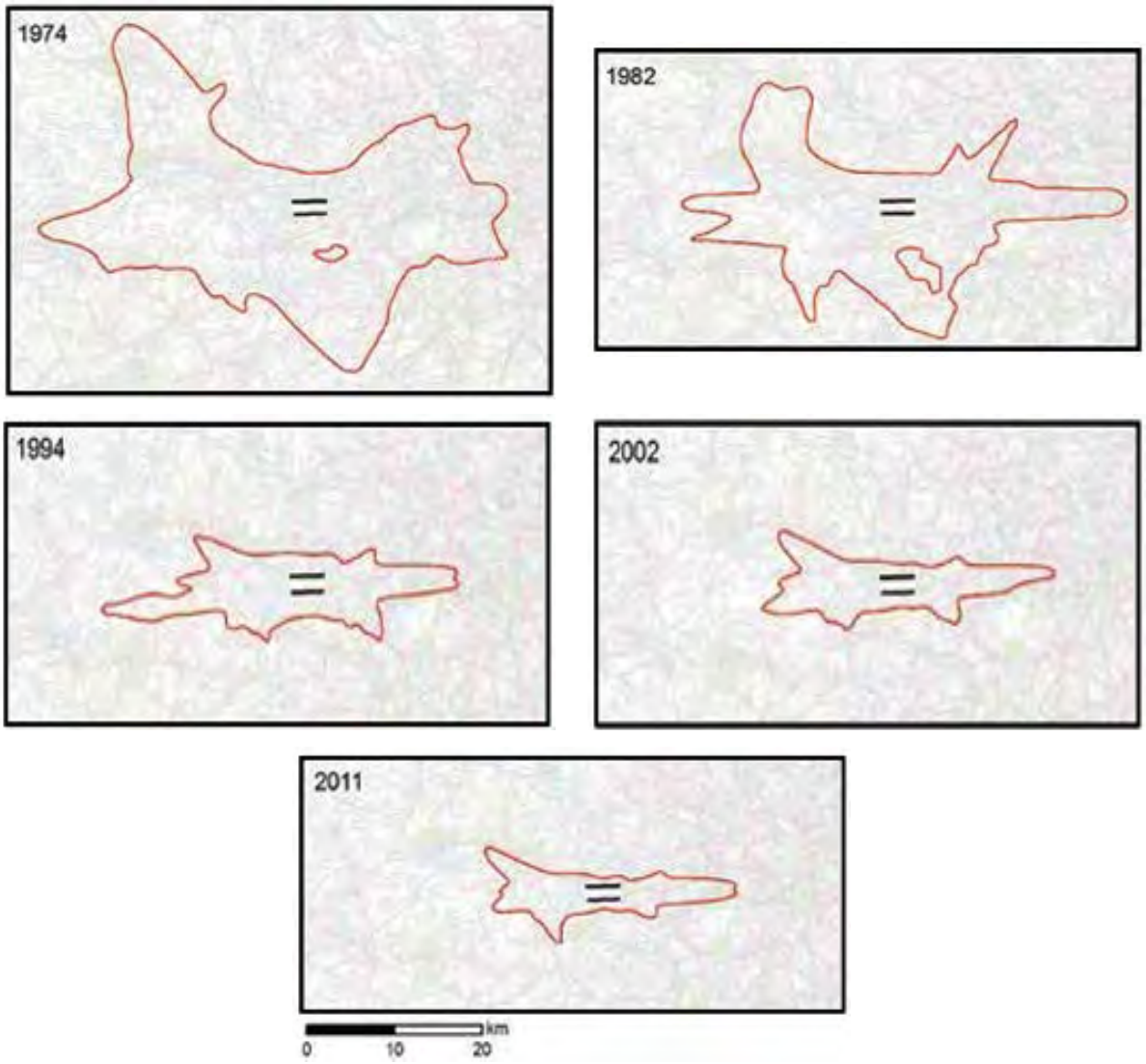



**Figure 71. Historical Noise Contours for Heathrow**

Extract Airports Commission Discussion Paper 05

The comparison shows a large reduction in the area of the contour from 1974 to 1982, and again from 1982 to 1994. This is despite the number of aircraft movements being similar in the earlier two years, circa. 250,000 annually, and higher in 1994 at over 400,000. Further reductions in contour area occurred from 1994 to 2002, and from 2002 to 2011 despite the most recent two years having activity approaching the airports limit of 480,000.

The reduction in contour area is therefore due to quieter aircraft as it has been accompanied by an increase in movements. Those movements have also generally carried more passengers over time, with the annual throughput at the airport increasing from under 20mppa in the early 1970's, through 50mppa by 1994 to almost 70mppa by 2011. The reduction in contour area is also therefore despite the growth in passenger numbers using the airport.

The population exposed to noise is related to the size of the noise contour, therefore with the reduction in the size of the contours there has been a reduction over time in the number of people exposed to noise. In the early 1970's this was circa 2 million people, but had reduced by the early 1990's to under 400,000 and was circa 250,000 by 2011.

### Current Noise at Heathrow

The recent (2023) contour area at 57 dB LAeq,16h is 74.4 km². The population and households within this contour, and the associated higher value contours, are shown in Table 11.

| Noise exposure | Population | Households | Contour area (km²) |
|---|---|---|---|
| > 57 dB $L_{Aeq,16h}$ | 187,700 | 69,900 | 74.4 |
| > 63 dB $L_{Aeq,16h}$ | 37,000 | 12,300 | 24.9 |
| > 69 dB $L_{Aeq,16h}$ | 1,600 | 500 | 6.2 |

**Table 11. Current Noise at Heathrow**

This table shows a continuing reduction from the circa 250,000 population exposed in 2011, and that Heathrow is operating well within its current noise contour limit of 145 $km^2$ at 57 dB $L_{Aeq,16h}$.

### Future Noise at Heathrow

It was for the Airports Commission forecast that by 2030, without the northwest runway, that the corresponding populations and households would be as shown in Table 12.

| Noise exposure | Population | Households | Contour area (km²) |
|---|---|---|---|
| > 57 dB $L_{Aeq,16h}$ | 217,300 | 85,800 | 78.6 |
| > 63 dB $L_{Aeq,16h}$ | 34,400 | 13,200 | 25.5 |
| > 69 dB $L_{Aeq,16h}$ | 2,100 | 800 | 6.6 |

**Table 12. Future Noise at Heathrow**

The forecasts also indicated the > 57 dB $L_{Aeq,16h}$ area would reduce to 68.6 km$^2$ by 2050 for the Do-Nothing option. It is noted that the forecast for 2030 gave larger contours than those for 2023 indicating the assumptions made at the time may have been conservative.

### *HAL 2019 Preferred Masterplan*

The forecast contour area at 57 dB for the HAL 2019 Preferred Masterplan was 111.4 km² by 2030. The population and households within this contour and the associated higher value contours are shown in Table 13.

(Option Heathrow – NWR-T-C: Minimise total affected (Carbon Traded)

| Noise exposure | Population | Households | Contour area (km²) |
|---|---|---|---|
| > 57 dB $L_{Aeq,16h}$ | 261,200 | 101,600 | 111.4 |
| > 63 dB $L_{Aeq,16h}$ | 46,000 | 17,600 | 38.6 |
| > 69 dB $L_{Aeq,16h}$ | 1,300 | 500 | 10.2 |

**Table 13. HAL 2019 Preferred Masterplan**

The forecasts for this option also indicated the > 57 dB $L_{Aeq,16h}$ area would reduce to 101.9 km$^2$ by 2050.

These forecasts are not as accurate as the numerical values might suggest as, for instance, the critical noise related decision on routes/airspace has still not been technically considered and certainly not resolved. There are also different values dependent on which of the Respite/Minimise Newly affected/Minimise Totally affected/Carbon traded/HAL aircraft mix variants are adopted. For instance, the range of population estimates for exposure to 57 dB and above varies from 227,700 to 261,200 in 2030. The precise location of the new Northwest Runway is also not known, the analysis to date uses a map prepared for illustrative purposes which, as advised in the Government's draft NPS, should not be considered as a detailed site plan.

Figure 72 indicates the extent of the area around the Airport exposed to 57 dB LAeq,16h for the future 2030 situation with the HAL 2019 Preferred Masterplan. The contour, which contains the noise of departing and arriving aircraft, with activity related to the summer 92-day period from mid-June to mid-September, stretches from Richmond/Kew/Ealing to the East to Windsor Great Park/Windsor/Eton Wick to the West. The shape and extent of the contour relates to the predicted activity on the three runways, such that most of the contour area and form is resolved by activity on the Southern Runway and the Central Runway and will not alter with detailed variations in the layout of the northwest runway.

To understand the northern zone of the contour, the assumptions over the use of the northwest runway become important. Before considering in outline those details which would determine how the overall contour would alter dependent on the choice for the Northwest Runway, it should be appreciated that the contour combines both westerly operations and easterly operations.

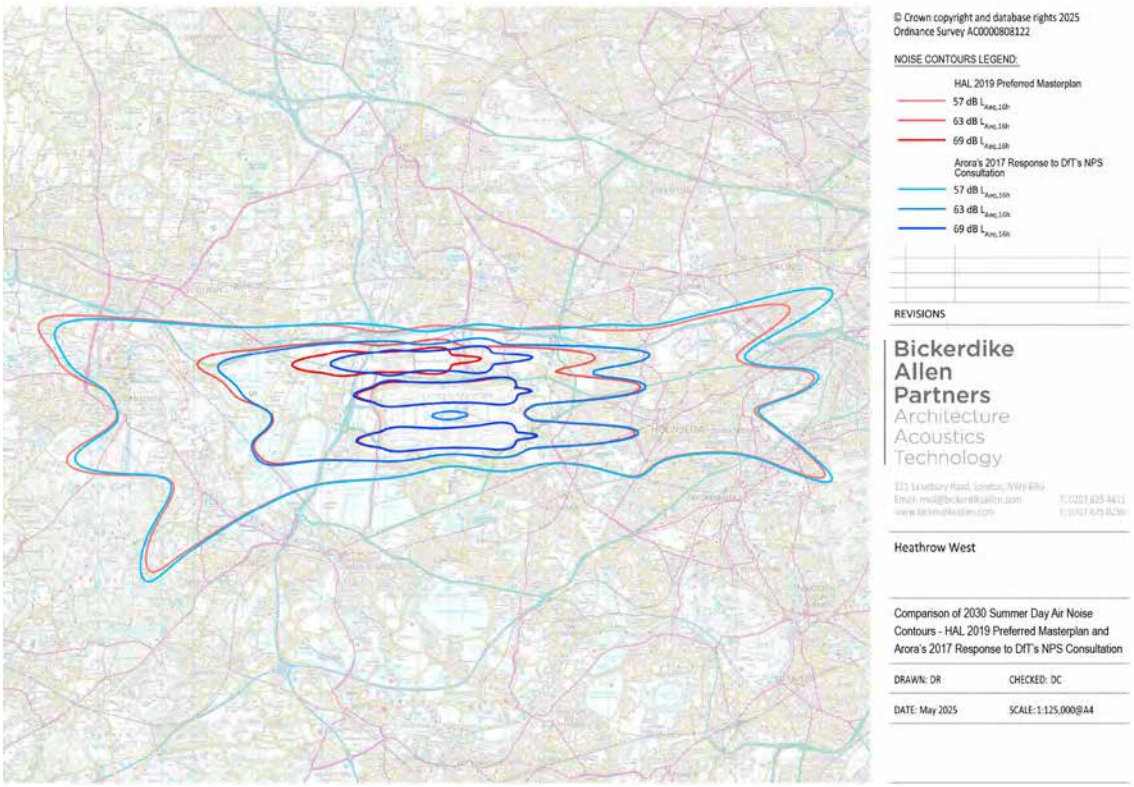



**Figure 72. Comparison of 2030 Summer Day Air Noise Contours**

Westerly operations dominate at Heathrow due to the predominance in the UK of westerly winds. The historical summer day runway modal split at Heathrow has around 78% westerly operations. With respect to the Heathrow noise contours, the main element of activity to the west towards Windsor is departing aircraft, whereas to the east landing aircraft are the main activity. The different use of Heathrow during easterly and westerly operations requires the contouring process to combine for instance the effect of many departures over Windsor with the less common arrivals from the west. Therefore, at any location within the contour the resultant value takes into account both landings and departures although their relative contributions vary with locations. The relevance of this complexity is that the effect of the Arora 2017 Proposal and Heathrow West Proposal is not straight forward.

### Arora's 2017 Response to DfT's NPS Consultation

Arora's 2017 Response to DfT's NPS Consultation included a noise contour assessment. This was undertaken by BAP and developed work undertaken for the Airports Commission. This resulted in noise contouring for both the HAL 2019 Preferred Masterplan and Arora's 2017 Response to DfT's NPS Consultation using the same noise modelling process. That is the same overall activity, split by runway, and the same aircraft noise characteristics, but with a few differences to reflect the differing layout. These were for Arora's 2017 Response to DfT's NPS Consultation:

- Use of a slightly shorter runway 3,200m, displaced to the east

- Displaced threshold on 27R of 400m, not 700m
- Displaced threshold of 09L of 400m, not zero

The scenario chosen to illustrate future noise was that described as H30-3R-T-C Heathrow 2030 do something HAL – Minimise total affected, carbon traded. Table 14 below provides data from an extract of the official report on the scenario (HAL 2019 Preferred Masterplan) given in the Airports Commission documentation.

| H30-3R-T-C, Summer average 16-hour daytime LAeq,16h (LHR NWR (H)) | | | |
|---|---|---|---|
| **Contour** | **Area (km²)** | **Population** | **Households** |
| >54 | 189.7 | 543,300 | 215,800 |
| >57 | 111.4 | 261,200 | 101,600 |
| >60 | 67.3 | 140,300 | 54,400 |
| >63 | 38.6 | 46,000 | 17,600 |
| >66 | 20.2 | 13,900 | 5,300 |
| >69 | 10.2 | 1,300 | 500 |
| >72 | 6.1 | <50 | <50 |

**Table 14. HAL 2019 Preferred Masterplan Option: 2030 Noise Contours**

The results for Arora's 2017 Response to DfT's NPS Consultation are given in Table 15 below.

| H30-3R-T-C, Summer average 16-hour daytime LAeq,16h (LHR NWR (E)) | | | |
|---|---|---|---|
| **Contour** | **Area (km²)** | **Population** | **Households** |
| >54 | 190.5 | 576,000 | 230,000 |
| >57 | 111.0 | 268,300 | 104,300 |
| >60 | 66.9 | 140,400 | 54,400 |
| >63 | 39.1 | 51,900 | 19,800 |
| >66 | 20.3 | 14,200 | 5,300 |
| >69 | 10.4 | 2,200 | 800 |
| >72 | 6.2 | 200 | 100 |

**Table 15. Arora's 2017 Response to DfT's NPS Consultation: 2030 Noise Contours**

Considering the results in the tables above and Figure 72, which compares the relative noise for the HAL 2019 Preferred Masterplan and Arora's 2017 Response to DfT's NPS Consultation, the following findings are noted;

- The overall contour area is very similar, as expected given the overall aircraft movements are the same
- The average noise (dB $L_{Aeq,16h}$) is very similar or identical for the two proposals
- The expected reduction in noise for those to the West occurs but is very small, i.e. north of Datchet less than 1 dB, but greater closer to the runway where 3 dB reductions occur
- In a similar way increases for those to the East are generally small, e.g. 1 dB or less in Osterley Park and Brentford. Higher increases occur near the runway, e.g. at Heston Park increases of 1 – 2 dB
- The population compared to 57 dB $L_{Aeq,16h}$ is about 3% greater for Arora's 2017 Response to DfT's NPS Consultation than the HAL 2019 Preferred Masterplan.

Figure 73 illustrates the differences between the noise contours at 57, 63 and 69 dB LAeq,16h for the two proposals. Neither of those modelling exercises had been updated to consider the subsequently published noise certification results for the re-engined aircraft, Airbus A320neo, Airbus A321neo and Boeing 737 MAX. The exercises also did not consider the actual performance of the Airbus A350 and the Boeing 787.

To improve the modelling, a sensitivity set of contours was produced for Arora's 2017 Response to DfT's NPS Consultation. The purpose, whilst appreciating that optimisation, route definition etc., had not been pursued was to provide a more realistic assessment of future noise.

Figure 73 also illustrates the differences between the noise contours for the Arora 2017 Response to DfT's NPS Consultation with and without the updated aircraft noise data input. The results of this re-run were slightly smaller contours.


**Figure 73. Comparison of 2030 Summer Day Air Noise Contours**

Considering the area exposed to at least 57 dB $L_{Aeq,16h}$ the sensitivity contour had an area of 107.3 km$^2$ as opposed to 111.0 km$^2$ for the original. The contained population was also smaller for the sensitivity contour at 257,900 as opposed to 268,300. This also points to the conservative nature of the Airports Commission contours.

*HWL's Proposed Development*

To quantify the effect of the changes it would be useful to run noise contours for HWL's Proposed Development option, but at present there is insufficient detail as noted earlier. However, information can be gained from comparison with Arora's 2017 Response to DfT's NPS Consultation and the HAL 2019 Preferred Masterplan.

Compared to Arora's 2017 Response to DfT's NPS Consultation, HWL's Proposed Development has:

- the western end of the Northwest Runway at the same location, which would result in the noise from departures to the east being the same noise to the east of the airport
- the Northwest Runway displaced threshold (09L) for landings from the west being 300m with the 2,800m runway as opposed to 400m with the 3,200m runway, which will slightly increase noise from landings to the west of the airport, however they will remain less than those under the HAL 2019 Preferred Masterplan which has a landing threshold 1,300m to the west of HWL's Proposed Development

- the eastern end of the Northwest Runway 400m to the west, will slightly increase noise from departures to the west of the airport, however they will remain less than those under the HAL 2019 Preferred Masterplan where the eastern end of the Northwest Runway is approximately 900m to the west
- the Northwest Runway displaced threshold (27R) for landings from the east being 300m as opposed to 400m, when coupled with the change to the eastern end of the runway will slightly decrease noise from landings to the east of the airport.

Overall, the resulting noise contours from HWL's Proposed Development are expected to be similar to those from Arora's 2017 Response to DfT's NPS Consultation. Consequently, the differences identified in Section 4.3.2 between Arora's 2017 Response to DfT's NPS Consultation and the HAL 2019 Preferred Masterplan are expected to also arise between HWL's Proposed Development and the HAL 2019 Preferred Masterplan. These are generally small reductions in noise to the west of the airport, with generally small increases to the east of the airport. The largest of these changes are under the flight paths to the Northwest Runway. The changes arise from the differences in noise from individual movements, discussed further in Section 5.0, as opposed to differences in the number of movements using the Northwest Runway.

## Noise Footprints

As noted earlier, this initial appraisal has been undertaken with the absence of updated information on the potential future operations, including new Air Traffic Forecasts to update those made in 2015. Therefore, to provide information on the difference in noise between the proposals, consideration has been given to the noise from individual movements.

Noise footprints have been prepared which illustrate the extent of the maximum noise (at 70 dB $L_{ASmax}$) to the east of the airport from individual arrivals and departure movements by two aircraft types. These are the Airbus A320neo and the Boeing 777. The former is representative of the most common types currently operating at the airport, and those that will operate for several years as the type is in production with many examples on order. The latter is the most common of the larger wide body aircraft operating at the airport and is representative of the loudest types going forward.

The noise footprints have been produced using the Federal Aviation Administration (FAA) Aviation Environmental Design Tool (AEDT) software and the Northwest Runways of the HAL 2019 Preferred Masterplan and HWL's Proposed Development. To model the arrivals straight routes have been assumed. For departures, a route that heads initially straight and then turns left over Osterley Park to head north-east has been assumed. This route is consistent with the modelling undertaken for the Airports Commission.

Figure 74 shows the Airbus A320neo noise footprints for arrivals from the east. The footprints are the same shape, with that for HWL's Proposed Development offset to the east due to the difference in the location of the landing threshold.

Figure 75 shows the Airbus A320neo noise footprints for departures to the east. The footprints are very similar in shape, with that for HWL's Proposed Development offset to the east due to the difference in the location of the western end of the Northwest Runway.

Figure 76 shows the Boeing 777 noise footprints for arrivals from the east. The footprints are the same shape, with that for HWL's Proposed Development offset to the east due to the difference in the location of the landing threshold.

Figure 77 shows the Boeing 777 noise footprints for departures to the east. The footprints are similar in shape, with that for HWL's Proposed Development shifted further east along the departure route due to the difference in the location of the western end of the Northwest Runway.

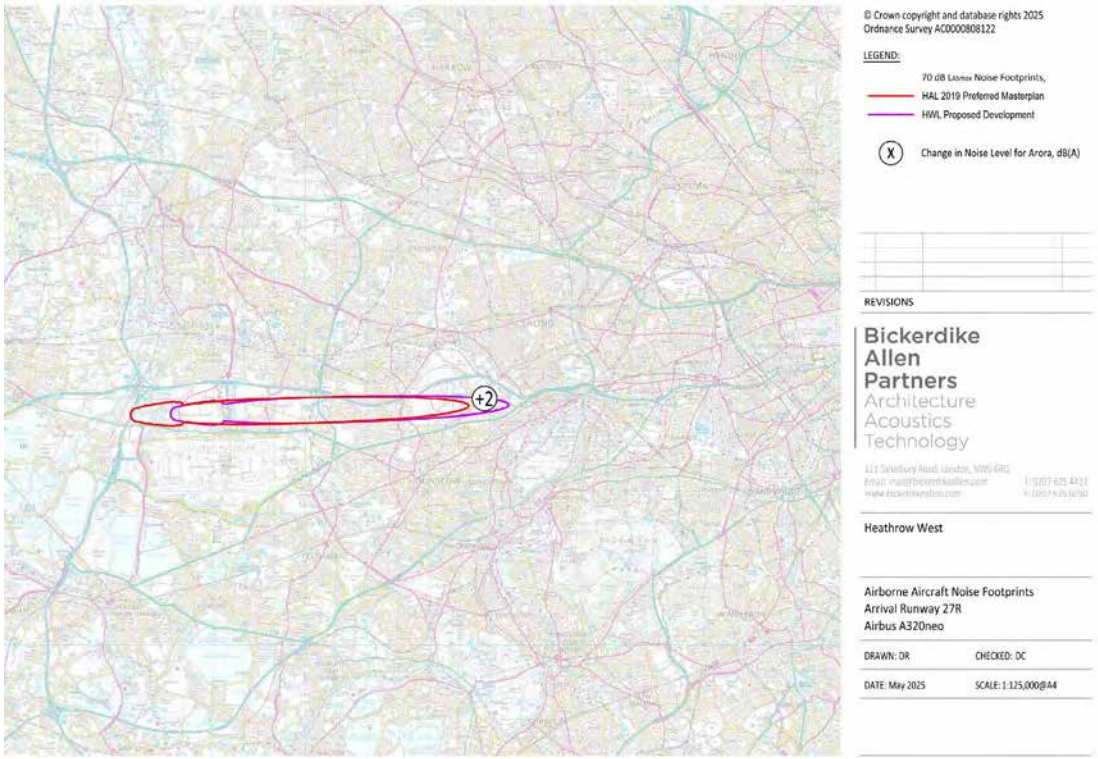



**Figure 74. Airbus A320neo Noise Footprints for Arrivals from the East**

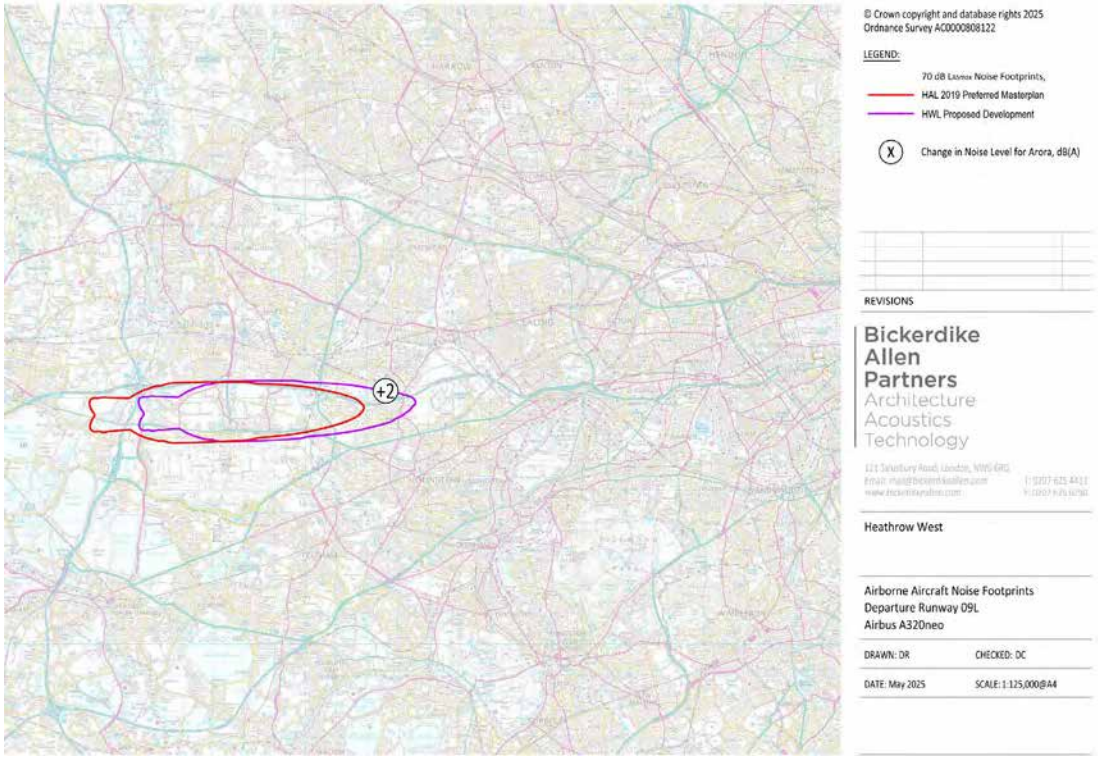



**Figure 75. Airbus A320neo Noise Footprints for Departures to the East**

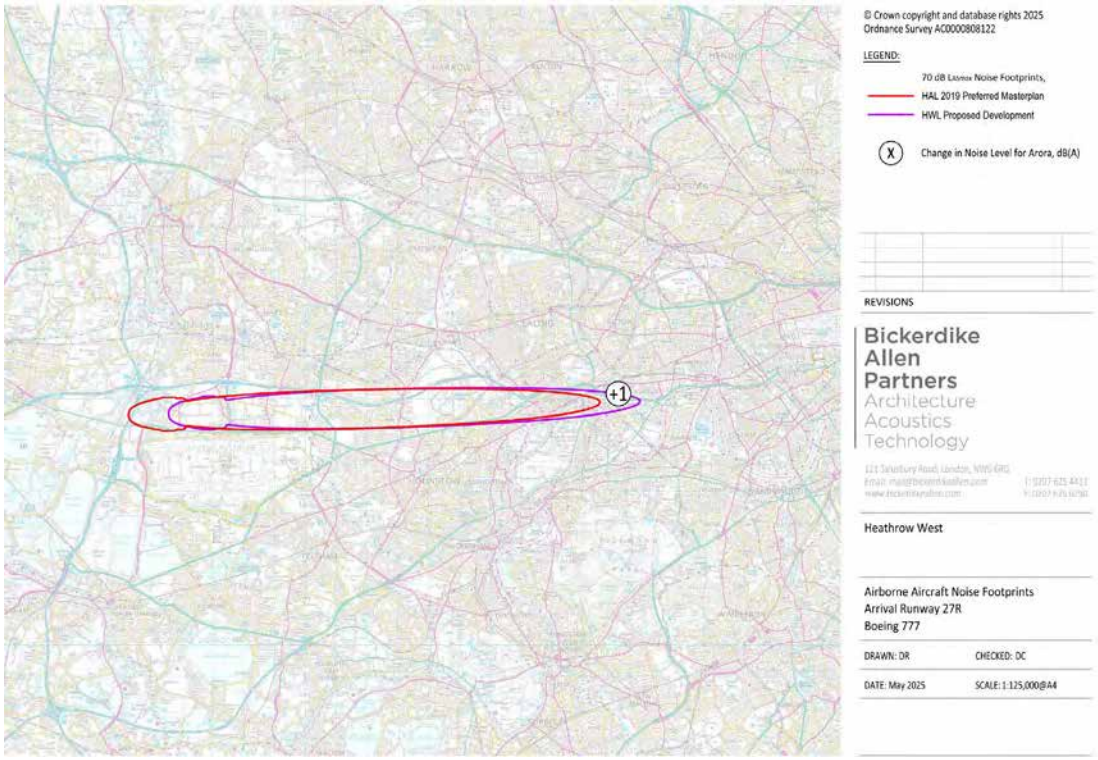



**Figure 76. Boeing 777 Noise Footprints for Arrivals from the East**

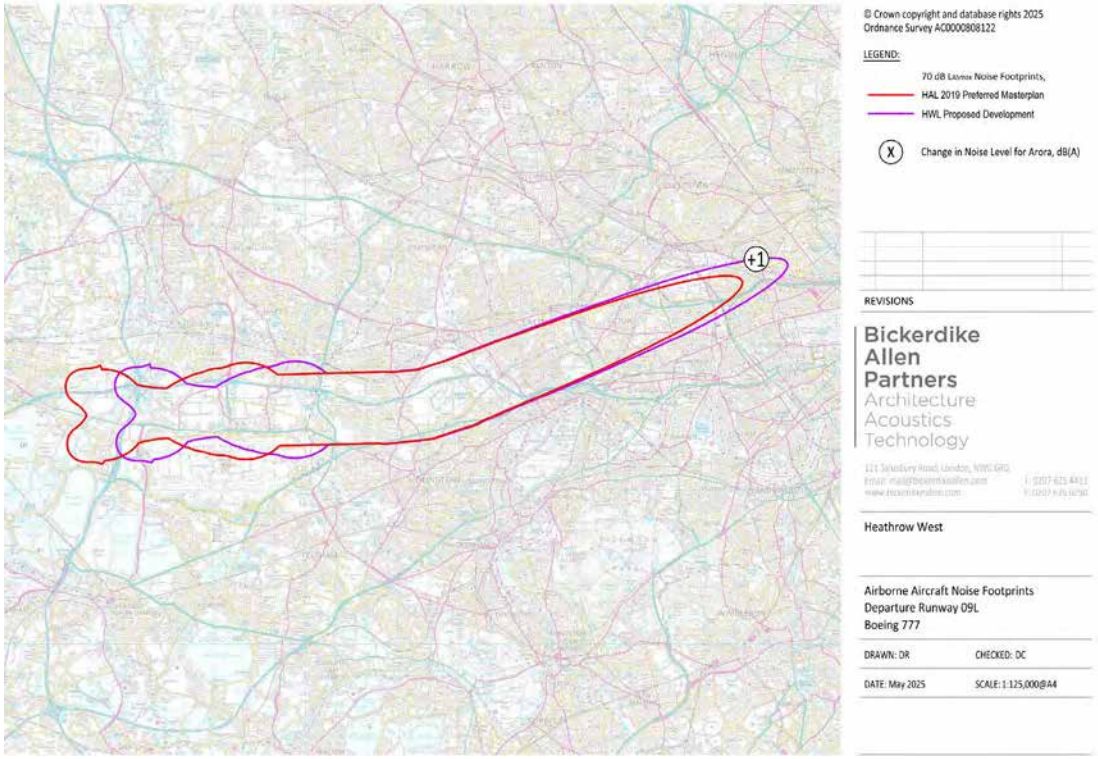



**Figure 77. Boeing 777 Noise Footprints for Departures to the East**

In each of the figures, the main difference between the footprints for the two proposals is at the eastern end. The magnitude of the change in these areas is shown on the figures and is 2 dB(A) for both Airbus A320neo operations, and 1 dB(A) for both Boeing 777 operation. In each case the noise level from HWL's Proposed Development is higher than that for the HAL 2019 Preferred Masterplan.

Corresponding comparisons could also be produced for the area to the east of the airport where similar small differences will arise, although in that area with the HAL 2019 Preferred Masterplan giving the higher values.

When it comes to changes in noise levels from individual events, as noted by ERCD in CAP2401 published in September 2024, which details the Heathrow Airport 2023 Summer and Noise Action Plan Contours, ***a 3 dB difference is generally regarded as the smallest perceptible difference between two noise levels***.

This is consistent with the findings of Anderson Acoustics (AA) who investigated respite from aircraft noise for HAL. The report *Summary of Research Journey* from January 2023 includes the outcomes from Phase 1 which were based on differences in maximum noise. It found that *sound level differences between successive flyover events of at least 3 dB $L_{Amax}$ were necessary for the difference to be 'discriminable'*.

Putting the difference in terms of the human voice, the level usually taken for normal conversation at 1m is 60 dB(A). For the voice level to be considered raised, the level would typically be 6 dB(A) higher, with a further 6 dB(A) increase required for the conversation to be considered very loud.

Given the differences between the noise footprints for the proposals are at most 2 dB(A) they would generally be regarded as not perceptible and not discriminable. The difference is also much less than the difference between a normal and a raised conversation.

## Aircraft Ground Noise

Aircraft ground noise arises from aircraft on the ground except when using the runway to depart or land. The primary sources are aircraft taxiing and using the stands, particularly if this involves the use of auxiliary power units.

Detailed information is not available for the noise analysis of aircraft ground noise. Though at this stage the critical matter is the more extensive airborne aircraft noise discussed earlier. For instance, planning permission for UK airports has generally dealt with ground noise in the context not of whether a major expansion should be allowed but in terms of ensuring the airport puts in place suitable management controls.

Initial consideration based on the layouts and the noise from taxiing aircraft notes that:

- the HAL 2019 Preferred Masterplan will require longer taxiing journeys and introduce such noise to the area to the west of the M25 motorway
- both the HAL 2019 Preferred Masterplan and HWL's Proposed Development will bring increased ground noise to residential parts of Harmondsworth and Sipson near the proposed runways
- due to both the HAL 2019 Preferred Masterplan and HWL's Proposed Development having no taxiways to the north of the proposed runway, the area just south of the M4 motorway will be less affected
- the HAL 2019 Preferred Masterplan requires aircraft landing from the east, the predominant direction (78% of operations), to land further to west such that it might lead to greater use of reverse thrust braking so they have less distance to taxi to the aprons than HWL's Proposed Development.

## Surface Access Noise

Detailed noise impact analysis is not currently possible of the considerable road traffic, a combination of passengers, staff, and cargo traffic, that would arise from the airport operating with three runways. This matter falls in the complex area of a multi-modal approach, which may well require noise amelioration measures.

The planned realignment of the M25 motorway at Junction 15, as part of the HAL 2019 Preferred Masterplan, will have an effect on noise, although the immediately surrounding area is not heavily populated. In contrast the crossing of the M4 motorway spur with the runway and taxiway under HWL's Proposed Development will be close to properties in Sipson. As for aircraft ground noise, environmental schemes to mitigate adverse conditions may be necessary.

## Construction Noise

There will be noise from construction activities for a considerable period of time with both the HAL 2019 Preferred Masterplan and HWL's Proposed Development. This will require the development of a Construction Management Plan and the development of a mitigation package. Potentially along similar lines to those for other major infrastructure projects such as Crossrail and HS2.

# Appendix E-1. Glossary of Acoustic Terminology

### The Decibel, dB

The unit used to describe the magnitude of sound is the decibel (dB) and the quantity measured is the sound pressure level. The decibel scale is logarithmic and it ascribes equal values to proportional changes in sound pressure, which is a characteristic of the ear. Use of a logarithmic scale has the added advantage that it compresses the very wide range of sound pressures to which the ear may typically be exposed to a more manageable range of numbers. The threshold of hearing occurs at approximately 0 dB (which corresponds to a reference sound pressure of $2 \times 10^{-5}$ Pascals) and the threshold of pain is around 120 dB.

The sound energy radiated by a source can also be expressed in decibels. The sound power is a measure of the total sound energy radiated by a source per second, in watts. The sound power level, $L_w$ is expressed in decibels, referenced to $10^{-12}$ watts.

### Frequency, Hz

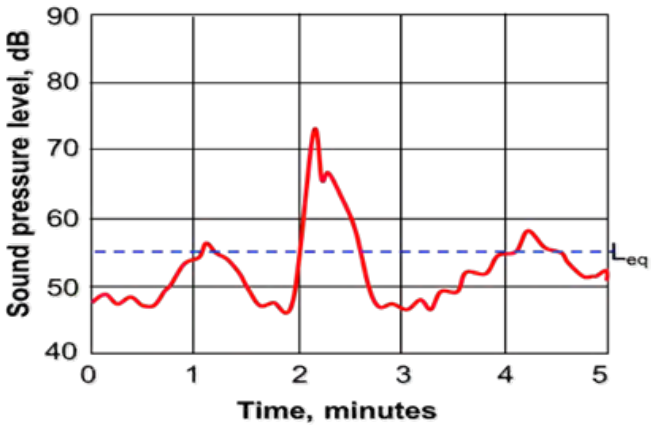
Frequency is analogous to musical pitch. It depends upon the rate of vibration of the air molecules that transmit the sound and is measure as the number of cycles per second or Hertz (Hz). The human ear is sensitive to sound in the range 20 Hz to 20,000 Hz (20 kHz). For acoustic engineering purposes, the frequency range is normally divided up into discrete bands. The most commonly used bands are octave bands, in which the upper limiting frequency for any band is twice the lower limiting frequency, and one-third octave bands, in which each octave band is divided into three. The bands are described by their centre frequency value and the ranges which are typically used for building acoustics purposes are 63 Hz to 4 kHz (octave bands) and 100 Hz to 3150 Hz (one-third octave bands).

### A-weighting

The sensitivity of the ear is frequency dependent. Sound level meters are fitted with a weighting network which approximates to this response and allows sound levels to be expressed as an overall single figure value, in dB(A).

## Environmental Noise Descriptors

Where noise levels vary with time, it is necessary to express the results of a measurement over a period of time in statistical terms. Some commonly used descriptors follow.

| Statistical Term | Description |
|---|---|
| $L_{Aeq, T}$ | The most widely applicable unit is the equivalent continuous A-weighted sound pressure level (LAeq, T). It is an energy average and is defined as the level of a notional sound which (over a defined period of time, T) would deliver the same A-weighted sound energy as the actual fluctuating sound. This is shown in the graph below:   |
| $L_{Amax,T}$ | The maximum A-weighted sound pressure level, normally associated with a time weighting, F (fast), or S (slow) |
| EPNdB | Effective Perceived Noise decibels. The measurement unit for EPNL |
| EPNL | Effective Perceived Noise Level (measured in EPNdB). Its measurement involves analysis of the frequency spectra of noise events as well as the duration of the sound |
| $L_{day}$ | Equivalent sound level of aircraft noise in dBA for the annual average 12-hour day period (07:00-19:00 local time) |

| | |
|---|---|
| $L_{den}$ | Equivalent sound level of aircraft noise in dBA for the annual average 24-hour period with 5 dB weightings for $L_{evening}$ and 10 dB weightings for $L_{night}$ |
| $L_{evening}$ | Equivalent sound level of aircraft noise in dBA for the annual average 4-hour evening period (19:00-23:00 local time) |
| $L_{night}$ | Equivalent sound level of aircraft noise in dBA for the annual average 8-hour night period (23:00-07:00 local time) |
| N60 | The number of events (flyovers or movements) that cause the maximum noise to be 60 dB or higher |
| N65 | The number of events (flyovers or movements) that cause the maximum noise to be 65 dB or higher |
| NNI | Noise and Number Index. A measure of aircraft noise exposure. Combines the sound level of an aircraft movement with the number of movements over the time period 07:00 hours to 19:00 hours for an average summer day between 16 June and 15 September |

# Appendix F: Cost Assessment (Information Redacted)

## Appendix G: Amendments to the ANPS

| RELEVANT SECTION(S) OF ANPS | ANPS TEXT | RATIONALE FOR REVIEW AND AMENDMENT |
|---|---|---|
| **SECTIONS 1: INTRODUCTION AND 2: THE NEED FOR ADDITIONAL CAPACITY** | | |
| **Paragraphs 1.1 – 1.11 and Section 2 to the ANPS** | **Background section of the Introduction and Section 2: The need for additional airport capacity** | As noted in section 11 of this Proposal Document, these sections[11] should be updated to reflect changes to the background to the ANPS that have taken place since the ANPS was designated, including:<br>• the COVID-19 pandemic and its impact on aviation demand and capacity;<br>• that expansion at Heathrow will not be delivered by 2030, and that the Government's expectation is now that it be delivered by 2035;<br>• the making of The London Luton Airport Expansion Development Consent Order 2025; and<br>• the application for the Gatwick Airport Northern Runway DCO (which the Government has indicated it is minded to approve).[12]<br>In addition, the Government should update its evidence base on airport capacity, including revised passenger demand forecasts.[13]<br>The conclusions reached by the Airports Commission, including that Heathrow Airport Limited (HAL)'s scheme (as at that time) was the most appropriate to deliver additional capacity in the South-East) should also be reviewed in light of the updated evidence base and landscape. |
| **Paragraph 1.12** | *The Airports NPS provides the primary basis for decision making on development consent applications for a North-West Runway at Heathrow Airport, and will be an important and relevant consideration in respect of applications for new runway capacity and other airport infrastructure in London and the South East of England. Other NPSs may also be relevant to decisions on airport capacity in this geographical area.* | HWL is supportive of a Northwest Runway at Heathrow Airport with its proposed design set out in this Proposal Document. As above, references to the Northwest Runway should be amended such that reference to it does not prejudice the fact that there may be multiple promoters (including HWL) and includes the possibility of HWL's Proposed Development put forward in the Proposal Document.[14] |
| **Paragraph 1.13** | *The Airports NPS sets out:*<br>• *The Government's policy on the need for new airport capacity in the South East of England;*<br>• *The Government's preferred location and scheme to deliver new capacity; and*<br>• *Particular considerations relevant to a development consent application to which the Airports NPS relates.* | It is not appropriate for the ANPS to identify the preferred scheme insofar as this would, for example, identify the HAL scheme as the "preferred scheme".<br>Rather, the ANPS should set out the parameters for any Northwest Runway Scheme (e.g., runway length, terminal capacity etc.,) so that the ANPS would support delivery of the scheme put forward by HWL or any other proposal put forward by other promoters which complies with the parameters set out in the ANPS.[15] |
| **Paragraphs 1.15, 1.40, 1.41 and paragraph 4.3** | Paragraph 1.15: *In particular, the Secretary of State will use the Airports NPS as the primary basis for making decisions on any development consent application for a new North-West Runway at Heathrow Airport, which is the Government's preferred scheme. The policies in the Airports NPS will have effect in relation to the Government's preferred scheme, having a runway length of at least 3,500m and* | Policies 1.15 and 4.3 directly link 260,000 ATM pa with a runway length of 3,500m. HWL considers that this additional capacity should not be tied to a minimum runway length. 260,000 ATM pa and a runway length of 3,500m are not mutually exclusive. This Proposal Document demonstrates that the additional capacity can be delivered by a runway length of less than 3,500m. |

[11] And any other sections in the ANPS that detail the evidence base/need for expansion at Heathrow Airport.
[12] https://www.gov.uk/government/speeches/transport-planning-gatwick-airport
[13] See paragraph 1.11 of the ANPS
[14] HWL notes that this Annex does not identify every instance where the North-West Runway is referred to in the ANPS but, for the avoidance of doubt, these should be reviewed by the Government throughout.
[15] See comments on paragraph 1.15 of the ANPS below

## Appendix G: Amendments to the ANPS

| RELEVANT SECTION(S) OF ANPS | ANPS TEXT | RATIONALE FOR REVIEW AND AMENDMENT |
|---|---|---|
| | *enabling at least 260,000 additional air transport movements per annum. It will also have effect in relation to terminal infrastructure associated with the Heathrow North-West Runway Scheme and the reconfiguration of terminal facilities in the area between the two existing runways at Heathrow Airport. For the avoidance of doubt, the Airports NPS does not identify any statutory undertaker as the appropriate person or appropriate persons to carry out the preferred scheme.*<br><br>Paragraph 1.40: *The Airports NPS has effect in relation to the delivery of additional airport capacity through the provision of a North-West Runway at Heathrow Airport. It also applies to proposals for new terminal capacity located between the new North-West Runway and the existing Northern Runway at Heathrow Airport, as well as the reconfiguration of terminal facilities in the area between the two existing runways at Heathrow Airport. Each of these elements is also capable of constituting a nationally significant infrastructure project.*<br><br>Paragraph 1.41: *The Airports NPS does not have effect in relation to an application for development consent for an airport development not comprised in an application relating to the Heathrow Northwest Runway, and proposals for new terminal capacity located between the Northwest Runway at Heathrow Airport and the existing Northern Runway and reconfiguration of terminal facilities between the two existing runways at Heathrow Airport. Nevertheless, the Secretary of State considers that the contents of the Airports NPS will be both important and relevant considerations in the determination of such an application, particularly where it relates to London or the South East of England. Among the considerations that will be important and relevant are the findings in the Airports NPS as to the need for new airport capacity and that the preferred scheme is the most appropriate means of meeting that need.*<br><br>Paragraph 4.3: *The Airports NPS applies to schemes at Heathrow Airport (in the area shown, for this purpose, illustratively, within the scheme boundary map at Annex A) that include a runway of at least 3,500m in length and that are capable of delivering additional capacity of at least 260,000 air transport movements per annum, and associated infrastructure and surface access facilities. In particular, it also applies to the reconfiguration of and provision of new terminal capacity to be located between the two existing runways at Heathrow Airport. The Secretary of State's policy in relation to other airport infrastructure in the South East of England is set out at paragraph 1.41 above.* | HWL endorses the 260,000 ATM pa minimum threshold, however, HWL would be happy to work with government if considered appropriate to raise this threshold. The runway is capable of handling significantly more ATMs, however, this is more an environmental issue rather than a technical one. However, it considers that the ANPS should prescribe a *minimum* runway length of 2,800m (as opposed to prescribing that it should be 3,500m).<br><br>HWL agrees with the statement in paragraph 1.15 that it is not appropriate for the ANPS to identify any statutory undertaker as the appropriate person or persons to carry out the preferred scheme.<br><br>HWL does not consider that the scope of when the ANPS does (or does not) have effect as set out in paragraphs 1.40, 1.41 and 4.3 should be confined to: "*proposals for new terminal capacity located between the new Northwest Runway and the existing Northern Runway at Heathrow Airport"*. New terminal capacity can be provided by a West Terminal Campus which includes a new Terminal 6 passenger terminal located to the west of Inte. HWL considers this reference to new terminal capacity should be amended to align with the text in paragraph 1.15. |
| **Paragraph 1.16** | *It is possible that an applicant for development consent in respect of the preferred scheme will promote more than one application for development consent, dealing with different components individually. To the extent that this is the case, the Secretary of State will apply the Airports NPS to such applications to the extent that he or she determines to be appropriate in the circumstances.* | This paragraph should be amended to make clear that there may be different applicants for the different components of expansion at Heathrow Airport for delivery of the Northwest Runway.<br><br>HWL considers that introducing competition to delivery of expansion at Heathrow Airport encourages innovation and ensures that any scheme is cost effective and in the interest of users and passengers, without impacting the Government's ambition of a new runway by 2035. As detailed in this Proposal Document, HWL's Proposed Development at Heathrow Airport would fit seamlessly with elements of expansion being proposed by HAL. |

## Appendix G: Amendments to the ANPS

| RELEVANT SECTION(S) OF ANPS | ANPS TEXT | RATIONALE FOR REVIEW AND AMENDMENT |
|---|---|---|
| **Paragraph 1.21** | *The Airports NPS covers development that is anticipated to be required by 2030 as well as other development required to support it. It will remain in place until it is withdrawn, amended or replaced. It will be reviewed, in accordance with the Planning Act 2008, when the Secretary of State considers it appropriate to do so. When considering whether to review the Airports NPS, the Secretary of State will look at whether there has been a significant change in any circumstances on which the policy was based and whether such change was anticipated when the Airports NPS was designated.* | As set out in the Invitation Letter, the Government's objective is now for an operational third runway at Heathrow Airport to be delivered by 2035. Accordingly, reference to 2030 in this paragraph[16] should be updated to 2035 to reflect the Government's objective. |
| **Paragraphs 1.27 – 1.30** | **Appraisal of Sustainability** | HWL considers that the Appraisal of Sustainability for the ANPS must be updated to reflect any new proposals – including the scheme detailed within this Proposal Document – submitted in response to the Government's invitation for proposals.[17]<br>This should also include a review of the conclusions reached on HAL's proposed scheme that underpins the current version of the ANPS, notably whether the conclusions reached in the extant Appraisal of Sustainability on the harm and benefits of the scheme are still robust. |
| **Paragraphs 1.31 – 1.33** | **Habitat Regulations Assessment (HRA)** | HWL considers that for the reasons given above in respect of the Appraisal of Sustainability, the HRA undertaken for the ANPS should also be reviewed and updated.[18] |
| **Paragraphs 1.34 – 1.35** | **Equality Assessment** | As above, the Equality Assessment undertaken for the ANPS should be updated to take account of any new and/or updated proposals for expansion at Heathrow Airport.[19] |
| **Paragraphs 1.36 – 1.37** | **Health Impact Analysis** | In addition, the Health Impact Analysis undertaken for the ANPS should be reviewed and updated (as necessary) given the passage of time since designation of the ANPS. |
| **SECTION 3: THE GOVERNMENT'S PREFERRED SCHEME: HEATHROW NORTHWEST RUNWAY** | | |
| **Paragraphs 3.1 – 3.75** | **Section 3: The Government's preferred scheme: Heathrow Northwest Runway** | In principle, HWL agrees with the Government's conclusion in the extant ANPS that the Heathrow Northwest Runway scheme is more appropriate than either the Gatwick Second Runway scheme or the Heathrow Extended Northern Runway scheme shortlisted by the Airports Commission to deliver increased aviation capacity in the South-East. It is noted that for this reason, Section 3 of the ANPS presupposes that HAL would be the promoter of a Northwest Runway scheme.<br>However, as set out in this Proposal Document, there are a number of improvements that could be made to deliver a Northwest Runway Scheme in a most cost-effective manner without affecting timescales for delivery and aviation safety.<br>In addition, the Government can reasonably expect to receive other proposals for expansion at Heathrow Airport from other parties who also received an Invitation Letter. |

[16] And anywhere else in the ANPS where 2030 is identified as the year for delivery of an operational third runway at Heathrow Airport.
[17] Though not identified in this table as separate entries, references elsewhere in the ANPS to the Appraisal of Sustainability should also be reviewed and updated accordingly once the review and update of the Appraisal of Sustainability has been undertaken.
[18] Per Footnote 17, Heathrow West has not repeated each reference to the HRA in the ANPS in this table but these references should also be reviewed and updated to take account of any updated HRA.
[19] Per Footnote 17, Heathrow West has not repeated each reference to the Equality Assessment in the ANPS in this table but these references should also be reviewed and updated to take account of any updated Equality Assessment.

## Appendix G: Amendments to the ANPS

| RELEVANT SECTION(S) OF ANPS | ANPS TEXT | RATIONALE FOR REVIEW AND AMENDMENT |
|---|---|---|
| | | There are a number of instances in Section 3 where reference to "Heathrow Airport" appears to be to HAL, rather than the physical airport.[20] These references should be reviewed and updated[21] so that the same term is not used to describe both HAL and the infrastructure.<br>Accordingly, the entirety of Section 3 will need to be revisited and updated, including being redrafted to not presuppose the identity of the promoter of a Northwest Runway scheme nor prejudice a level playing field between different promoters or applicants. |
| **SECTION 4: ASSESSMENT PRINCIPLES** | | |
| **Paragraph 4.11** | *While the Government has decided that a Northwest Runway at Heathrow Airport is its preferred scheme to deliver additional airport capacity (an illustrative masterplan is at Annex B of the Airports NPS), this does not limit variations resulting in the final scheme for which development consent is sought. To benefit from the full support of policy within the Airports NPS, any application(s) will have to fall within the boundaries and parameters set out in the Airports NPS. However, the form of a development for which an application is made is a matter for the applicant. The Airports NPS does not prejudice the viability or merits of any particular application, detailed scheme or applicant. It governs the location, limits and nature of such schemes. It will be for an Examining Authority, and ultimately the Secretary of State, to determine whether any future application is compliant with the Airports NPS, meets the need for additional capacity, and is of benefit to the UK, whilst minimising any harm caused.* | HWL agrees in principle that the scheme may vary. However, this paragraph should be amended to take account of the illustrative masterplan provided in this Proposal Document. |
| **Paragraph 4.36 – 4.40** | **Costs**<br>Paragraph 4.36: *The relationship between cost and affordability for a scheme is governed by the regulated funding of the airport and funding from other sources, and the need to comply with the Government's guidance on compulsory acquisition of land under the Planning Act 2008. This guidance is relevant to any scheme that will require the compulsory acquisition of land, which is expected in relation to any scheme to which this NPS applies which would include any application for development consent for a Northwest Runway at Heathrow Airport. That guidance sets out what a promoter must demonstrate if it is to be granted powers of compulsory acquisition - including in relation to impediments to a scheme and financial resources.*<br>Paragraph 4.37: *Heathrow Airport is subject to economic regulation by the Civil Aviation Authority (CAA) under the Civil Aviation Act 2012. As part of the CAA's* | As noted above, it is not appropriate for the ANPS to presuppose the identity of the promoter of a Northwest Runway. Accordingly, paragraphs 4.37 and 4.38 should be redrafted to recognise the possibility of other licence holders and how the regulatory framework might apply to them. This should take into account the CAA's recognition of both the possibility for the framework under the Civil Aviation Act 2012 to accommodate multiple airport operators,[22] and the possibility for alternative providers to recover costs in certain circumstances under the Civil Aviation Act 2012.[23][24]<br>Paragraph 4.38 should also reflect the CAA's other relevant statutory duties, including (i) the CAA's primary duty under the Civil Aviation Act 2012 to carry out its functions in a manner which it considers will further the interests of users of air transport services regarding the range, availability, continuity, cost and quality of airport operation services and (ii) the CAA's obligation to carry out its functions in a manner that will promote competition in the provision of airport operation services. This would ensure that the interests of airport users are afforded due weight, and encourage competition which can drive innovation and cost discipline. |

[20] See for example, paragraphs 3.10, 3.28, 3.34 and 3.46.
[21] And elsewhere in the ANPS where use of "Heathrow Airport" is used for HAL.
[22] See the CAA's Technical Information Note dated August 2018: technicalinformationnote-heathrowcapacityexpansion.pdf
[23] See paragraph 35 of CAP2524H: Heathrow Wests request for cost recovery: decision
[24] More generally and as set out in Section 8 (Ownership, Financing and Funding) of this Proposal Document, HWL has based its submission on the financial modelling, cost projections, and commercial assumptions on the regulatory framework currently at Heathrow and overseen by the CAA. HWL does not endorse the current regulatory model's effectiveness or appropriateness for supporting major infrastructure investment of this scale. As the Government is aware, the CAA will be consulting on these points during Autumn 2025. In order to limit the need to make changes to the ANPS as a result of any changes to the current regulatory model which the CAA may decide to make, the ANPS should avoid being overly prescriptive and defer to the CAA's powers to set the right regulatory framework for expansion.

## Appendix G: Amendments to the ANPS

| RELEVANT SECTION(S) OF ANPS | ANPS TEXT | RATIONALE FOR REVIEW AND AMENDMENT |
|---|---|---|
| | *discharge of its duty under the Civil Aviation Act 2012 to further the interests of users of air transport services (passengers and cargo owners), the CAA has granted an economic licence to the operator of Heathrow Airport to levy airport charges. This licence sets a maximum yield per passenger that can be recovered by the operator of Heathrow Airport through airport charges (the "maximum yield"). This maximum yield is set by the CAA having conducted a process that scrutinises, among other things, the business plan submitted by the licence holder and developed through constructive engagement with the airlines, as well as other submissions from airlines and stakeholders. This process of scrutiny of costs will include benchmarking exercises from industry professionals and assessments by an Independent Fund Surveyor as well as by the CAA. Expansion will also be subject to specific gateway reviews by airlines and stakeholders. The final business plan will include details of the future capital expenditure that the licensee proposes to incur.*<br><br>Paragraph 4.38: *For the development of new capacity at Heathrow, the CAA will set the maximum yield having regard to the matters required by the Civil Aviation Act 2012. The CAA will consider, among other things:*<br>• *the need to secure that the licence holder is able to finance its provision of airport operation services; and*<br>• *the economy and efficiency of the proposals set out in any business plan (including such capital expenditure proposals as are contained in it),*<br>*as part of its process of setting the maximum yield per passenger in the period covered by the price control.*<br><br>Paragraph 4.39: *The applicant should demonstrate in its application for development consent that its scheme is cost-efficient and sustainable, and seeks to minimise costs to airlines, passengers and freight owners over its lifetime.*<br><br>Paragraph 4.40: *Detailed scrutiny of any business plan put forward by the licence holder will fall under the CAA's regulatory process under the Civil Aviation Act 2012, and the detailed matters considered under that process are not expected to be scrutinised in the same way during the examination and determination of an application for development consent. The CAA is a statutory consultee for all proposed applications relating to airports or which are likely to affect an airport or its current or future operation. The applicant is expected to provide the CAA with the information it needs to enable it to assist the Examining Authority in considering whether any impediments to the applicant's development proposals, insofar as they relate to the CAA's economic regulatory and other functions, are capable of being properly managed.* | |
| **SECTION 5: ASSESSMENT OF IMPACTS** | | |
| **Paragraphs 5.12 and 5.19** | Paragraph 5.12: *The applicant will need to demonstrate that Highways England, Network Rail and any relevant highway and transport authorities and transport providers have been consulted, and are content with the deliverability of any new* | HWL considers that a Northwest Runway can be delivered at Heathrow Airport without crossing the M25. Accordingly, references to changes being required to the M25 to allow a |

## Appendix G: Amendments to the ANPS

| RELEVANT SECTION(S) OF ANPS | ANPS TEXT | RATIONALE FOR REVIEW AND AMENDMENT |
|---|---|---|
| | *transport schemes or other changes required to existing links to allow expansion within the timescales required for the preferred scheme as a whole, the requirements of the Airports NPS and other statutory requirements. This includes changes to the M25 to allow a new runway to cross the motorway, local road changes, and improvements including the diversion of the A4 and A3044, changes to the Colnbrook Freight branch railway and on-airport station works and safeguarding. On the strategic road network, it will be important to ensure that any changes to the M25 which the applicant proposes will be implemented consistently with the Secretary of State's statutory directions and guidance set out in Highways England's licence. This includes ensuring that sufficient provision is made to accommodate flexibility and future-proofing in planning the long-term development, improvement and operation of Highways England's network.*<br>Paragraph 5.19: *The Government expects the applicant to secure the upgrading or enhancing of road, rail or other transport networks or services which are physically needed to be completed to enable the Northwest Runway to operate. This includes works to the M25, local road changes and improvements including the diversion of the A4 and A3044, and on-airport station works and safeguarding, as set out in more detail in paragraph 5.12.* | new runway to cross the motorway should be deleted or amended to reflect that the Proposed Development does not require this.<br>The Northwest Runway as set out in this Proposal Document sets out a surface access strategy, including amendments to the M4 Spur which should be reflected in an updated ANPS. |
| **Paragraph 5.38** | *In addition, Heathrow Airport should continue to strive to meet its public pledge to have landside airport-related traffic no greater than today. To achieve this, it should set out and regularly review its plans to meet the mode share targets set at paragraph 5.17 above. Heathrow Airport should also develop and keep under review plans to improve the impact of road freight serving the airport.* | As noted above in relation to Section 3, some of the references to "Heathrow Airport" in this paragraph appear to be to HAL. This paragraph should be redrafted to not presuppose the identity (i.e., HAL) of any promoter of a Northwest Runway. |
| **Paragraph 5.63** | *It is recognised that Heathrow Airport already supports a number of initiatives to mitigate aircraft noise, such as developing quieter operating procedures (like steeper descent approaches) and keeping landing gear up as long as possible. The applicant is expected to continue to do so, and to explore all opportunities to mitigate operational noise in line with best practice. The implementation of such measures may require working with partners to support their delivery.* | The reference to "the applicant" in this paragraph appears to be to HAL[25]. As noted above, it is not appropriate for the ANPS to presuppose the identity of the promoter of a Northwest Runway and, therefore, this should be redrafted to suggest that an applicant should also commit to the aircraft noise mitigation already supported by Heathrow Airport. |
| **Paragraph 5.79** | *Aircraft are expected to become cleaner as technology and standards improve and fleets evolve. It is recognised that the applicant already supports a number of initiatives to reduce the carbon emissions from flights, such as reduced-engine taxiing and ground-towing, and airspace and navigational reform.* | As noted above, it is not appropriate for the ANPS to presuppose the identity of the promoter of a Northwest Runway and the final sentence should be deleted. |
| **Paragraphs 5.106 – 5.127** | **Land use including open space, green infrastructure and Green Belt** | The updated National Planning Policy Framework (December 2024) introduces the concept of grey belt to green belt policy. The ANPS should be updated to reflect this change in green belt policy.<br>HWL considers that the land between the M25 and the western boundary of the extant Heathrow Airport would constitute grey belt land. The updated ANPS should, therefore, confirm the grey belt status of the land and set out the Government's requirements for the |

[25] Any further references to "the applicant" should be reviewed and replaced with "an applicant", as appropriate.

## Appendix G: Amendments to the ANPS

| RELEVANT SECTION(S) OF ANPS | ANPS TEXT | RATIONALE FOR REVIEW AND AMENDMENT |
|---|---|---|
| | | applicant's assessment; any mitigation; and the Secretary of State's decision-making in respect of such grey belt land. |
| **Paragraphs 5.239 – 5.253** | **Community Compensation** | Various references to "Heathrow Airport" in this section appear to be to HAL, whereas others refer to the airport. References to "Heathrow Airport" in these paragraphs should be reviewed and redrafted accordingly. |
| **Paragraph 5.263** | *The Government notes that, with expansion, Heathrow Airport has publicly committed to ensuring 10,000 apprenticeships before 2030, thereby doubling the number currently available at the airport and in its supply chain and airport-related businesses.* | As noted, the reference to "Heathrow Airport" in this paragraph appears to be to HAL. This paragraph should be redrafted to not presuppose the identity (i.e., HAL) of the promoter of a Northwest Runway. |
| **Paragraph 5.264** | *The Heathrow Northwest Runway scheme represents an opportunity to grow the number of jobs and apprenticeships supported by the applicant and its supply chain and airport-related businesses, particularly in neighbouring communities.* | This paragraph should be redrafted such that reference to "*the applicant*" does not presuppose the identity (i.e., HAL) of the promoter of a Northwest Runway. |
| **Paragraph 5.265** | *Heathrow Airport should put in place arrangements for the delivery of the 5,000 new apprenticeships which it has publicly stated would be created. Heathrow Airport should set out the timetable for delivering the apprenticeships, provide information on the areas and skills to be covered by these apprenticeships, the breakdown between opportunities to be created within the core airport and those being offered by companies within its supply chain and other airport-related businesses, and the qualification level and standards which they will need to achieve. Heathrow Airport should also set out how it will publicly report progress against the target.* | As noted, some of the references to "Heathrow Airport" in this paragraph appear to be to HAL. This paragraph should be redrafted to not presuppose the identity (i.e., HAL) of the promoter of a Northwest Runway. |
| **Paragraph 5.267** | *Heathrow Airport will also need to show how these measures will be administered to ensure that they are relevant to planning when in operation. The mechanisms for enforcing these provisions should also be demonstrated, along with the appropriateness of any identified enforcing body, which may include the Secretary of State.* | |
| **Paragraph 5.268** | *The Secretary of State will consider whether Heathrow Airport has set out a credible plan to implement its commitment to deliver a total of 10,000 apprenticeships at an expanded airport.* | |
| **Annex A** | **Heathrow Northwest Runway scheme boundary map** | The scheme boundary map should be replaced with an amended redline that is sufficiently large enough to accommodate alternative proposals. Alternatively, multiple maps should be annexed showing the boundary for each respective scheme. |
| **Annex B** | **Illustrative Heathrow Northwest Runway scheme masterplan** | References to "Heathrow Airport" should be replaced with references to HAL.<br>The HWL's Proposed Development should also be provided at Annex B, or as a separate annexure with the same text explaining that the map is for illustrative purposes. |

# Appendix H: Financial Institution Testimonials

## Letter from John Baldwin, CEO of Corporate and Commercial Banking – Santander UK plc

Confidential

Santander
Corporate & Commercial

Santander Corporate Banking
2 Triton Square
Regent's Place, London
NW1 3AN

17th July 2025

To whom it may concern

**Arora Group**

We have had the pleasure of working with the Arora Group for over 17 years, and its performance across real estate has been exceptional.

During our long-standing relationship, we have funded 3 ground-up and challenging developments. These three projects have a combined current value in excess of £650m.

In its role as operators of trading businesses, in particular hotels and restaurants, we consider Arora to be best in class. Arora's financial performance is considered strong and we currently have c.£300m of current and pipeline debt against Arora owned and operated hotels.

Arora Group has always maintained its obligations to the bank with ample liquidity, timely interest payments and reporting provisions.

Overall, we hold the Arora Group in the highest regard and would not hesitate to recommend them.

If you have any further queries, please do not hesitate to contact me.

Yours sincerely

John Baldwin

John Baldwin
CEO, Corporate & Commercial Banking
Santander UK plc

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# Letter from John Feeney, Chief Executive of Corporate and Commercial Banking – Bank of Ireland Group

Bank of Ireland

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28th July 2025

To Whom It May Concern,

**Arora Group Testimonial**

We at Bank of Ireland have enjoyed a collaborative relationship with the Arora Group for over 15 years, and we consistently commend their exceptional performance across all aspects of real estate. This longevity and success are a strong testament to Surinder and his dedicated team.

Throughout our long-standing partnership, we have provided funding for numerous Arora projects. Our current customer exposure to the Group is amongst our largest , spanning various industry sectors including hotels, commercial real estate, and development. In all our dealings with the Arora Group, we have experienced the utmost transparency and integrity, a hallmark of this strong relationship. They are, and we expect to continue to be, one of our leading and most respected clients.

We are currently funding Arora Dublin T2 Limited, specifically for the 412 room, Sofitel Dublin Airport hotel project, which is progressing on time and within budget, as anticipated.

The Arora Group has consistently demonstrated strong performance as a landlord and asset manager throughout our relationship, navigating both favourable economic conditions and macro-fiscal and geopolitical challenges with resilience.

As hotel operators, we firmly believe the Arora team is a standout performer, not only in driving revenue but also in consistently leading the way in customer service.

The Group consistently produces robust financial performance. Their collaborative approach and proven expertise have earned our strong appreciation, and we wholeheartedly recommend the Arora Group as a reliable partner.

Should you have any further queries, please do not hesitate to reach out.

John Feeney
Chief Executive
Corporate and Commercial Banking

Bank of Ireland Group

Classified as Private (Amber)

## Letter from Paul Thwaite, Group Chief Executive – NatWest Group

NatWest Group

30 July 2025

To whom it may concern,

**Arora Group testimonial**

We have enjoyed a long-standing and strategic relationship with the Arora Group for over 20 years. During this time, its performance across its real estate business (development, asset management and operations) has shown a commitment to quality and strong project delivery.

NatWest Group has been pleased to support funding for several projects, including the development of the Sofitel London Heathrow Terminal 5, along with its asset management and business operations, and consider the Arora Group to be trusted and reliable partners.

Overall, we hold the Arora Group in the highest regard and would not hesitate to recommend them as a high-quality, forward-thinking, and valued partner in any real estate development or property management venture, particularly in the hospitality space.

Yours sincerely,

Paul Thwaite

Group Chief Executive

250 Bishopsgate, London EC2M 4AA

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# Appendix J: Important Notice

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