OUR EMERGING PLANS

JANUARY 2018
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1 Introduction

1.1 Purpose of this document

1.1.1 In October 2016 the Government supported the principle of a new north west runway at Heathrow. Since then, we have been busy examining how we might put together detailed plans for a three-runway airport, building on the work that was submitted to and recommended by the Airports Commission.

1.1.2 There are many options for how we develop detailed proposals for an expanded airport. This document explains the options for all of the principal physical components of an expanded airport and the choices that need to be made before we can arrive at a preferred airport-wide masterplan.

1.1.3 The purpose of this consultation is to present our emerging plans and seek your feedback. Your feedback will be crucial in shaping those plans as they are developed further as part of our preparation of an application for development consent.

1.1.4 This document contains a number of consultation questions that are particularly relevant to our emerging plans. We want to hear your views on these questions, but please do not feel constrained by them if there are other points that you want to make.

1.1.5 This document forms part of a suite of consultation documents. All of our consultation documents are summarised and brought together in the main Airport Expansion Consultation Document, which tells you where you can find more information about particular aspects of our proposals and also brings together all of the specific questions being asked through the consultation.

1.2 Heathrow expansion

1.2.1 Heathrow Airport is a critical part of Britain’s national infrastructure and an economic engine for the local area. Heathrow is the UK’s only hub airport and the UK’s biggest port by value for trade with countries outside the EU. Heathrow currently serves 194 routes to more than 80 countries, connecting the UK to the rest of the world. It is not just passengers that travel through Heathrow: over £100bn worth of imports and exports with countries from outside the EU were shipped through Heathrow (2016), helping British businesses access customers in every corner of the globe.

1.2.2 Heathrow is a cornerstone of the local economy. Over 70,000 people work at the airport, making it one of the largest single-site employers in the country. The global connections served from Heathrow sustain thousands of high-skilled jobs in London and the Thames Valley, with two thirds of the UK’s top 300 companies locating themselves within 25 miles of the airport.

1.2.3 Over the past decade, significant investment has transformed Heathrow into the best airport in Western Europe as rated by our passengers. The world is now welcomed to Britain with world-class terminals and service, showcasing our country at its best.

1.2.4 But Heathrow’s existing runways are full and have been for over a decade. International airlines have grown their route networks at European airports like Paris and Frankfurt instead. These airports have capitalised on opportunities from new connections to growing economies in Asia and the Americas. That has meant Britain losing out to our European competitors in the race for foreign investment, jobs and trade. Britain cannot secure its economic future while its biggest airport and cargo port by value cannot grow.

1.2.5 The Government has concluded that Heathrow needs to expand to secure the UK’s status as an international hub. This consultation will ensure our local communities can shape the design of an expanded Heathrow from an early stage.
1.3 Our consultation process

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

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

- **Consultation 1**
  - Building on the Airports Commission’s recommendations, we have been working to further develop options for building the future airport. This is where we are now and this consultation is a critical part of expanding Heathrow. The feedback we receive will help us deliver all of our commitments to expand in a sustainable way, while increasing opportunities for people and businesses across our local communities.

- **Consultation 2**
  - We will consult on our preferred scheme that we intend to include in our DCO application. This will include more detailed information on all aspects of expansion including the likely environmental effects and the ways we intend to reduce them.

- **Further engagement**
  - After our second consultation, we will continue to engage with our communities and stakeholders as we prepare our DCO application.

Early engagement

1.3.2 In developing the options that are set out in this consultation we have worked with a number of stakeholders to understand key technical opportunities and constraints.

Consultation 1

1.3.3 Building on the Airports Commission’s recommendations we have been working to further develop options for building the future airport. This is where we are now and this consultation is a critical part of expanding Heathrow. The feedback we receive will help us deliver all of our commitments to expand in a sustainable way, while increasing opportunities for people and businesses across our local communities.

Ongoing engagement

1.3.4 Between our consultations we will engage with our communities and stakeholders to develop our proposals. The Community Engagement Board will be a key part of this engagement to ensure local communities can effectively contribute to the development of our proposals (see page 13 for more information).

Consultation 2

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Further engagement

1.3.11 After our second consultation, we will continue to engage with our communities and stakeholders as we prepare our DCO application.
Airspace Principles Consultation

1.3.7 The expansion of the airport and construction of a third runway provides us with a once-in-a-generation opportunity to review how airspace is used around Heathrow, enabling us to reduce the number of people affected by noise while increasing the number of flights. Changes to airspace are the responsibility of the Civil Aviation Authority (CAA) and are subject to a different approval process.

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

1.3.9 We recommend you look at the Airspace Principles Consultation Document which provides further information on this important issue together with details of how you can feedback.

1.3.10 More information on the Airspace Principles Consultation can be found at www.heathrowconsultation.com

1.4 Relationship to other consultation documents

1.4.1 This document forms part of a suite of documents published as part of this first stage of consultation. It concentrates specifically on our emerging plans for expansion and relates closely to the following other consultation documents:

- **Expansion Consultation Document**: Provides an overview of our approach to consultation, our emerging plans and options and our approach to addressing the effects of expansion;

- **Scheme Development Report**: Explains the process being followed and the progress made to date in developing options for the components of an expanded airport and its supporting facilities. It describes in some detail those options which we have considered but are not progressing. The shortlisted options from that process are summarised in this document and it is these options on which we want to invite your views;

- **Community Information Booklets – West, North, East, South West**: Provides local residents and businesses with a summary of the key elements of our proposals which could effect the areas in which they live and work; and

- **Development Consent Order Process Information Paper**: Provides an overview of the consenting process required to get permission for Heathrow's expansion.
2 Our scheme development process

2.1 Designing a three runway airport masterplan

2.1.1 The north west runway masterplan submitted to the Airports Commission and subsequently supported by Government was necessarily at a high level. It was always acknowledged that this would need to be subject to further detailed development. This requires us to thoroughly review all of the components of an expanded airport.

2.1.2 The principal components are as follows:

- runway and taxiways;
- terminals, satellites and aprons;
- M25 motorway realignment and junctions;
- A4, A3044 and other local road diversions; and
- river diversions and flood storage.

2.1.3 These components are key to shaping a preferred masterplan and determining its associated land requirements beyond the existing airport boundary.

2.1.4 Our scheme development work has progressed as far as evaluating the options for these principal components. This means that we have tested these component options against five key disciplines to understand how they perform. The five key evaluation disciplines are:

- **Operations and service**: which includes airfield and airspace efficiency, passenger experience, security, hub connectivity, surface access, cargo and logistics;
- **Delivery**: which relates to issues including buildability, efficiency, safety and security, and programme
- **Business case**: which captures issues including cost, commercial case, and capacity;
- **Sustainability and community**: which includes climate change, visual impact, cultural heritage, biodiversity, air quality, community, and noise; and
- **Planning and property**: which includes issues relating to land requirements, third party risk, and planning policy fit.

2.1.5 This evaluation also enables us to narrow down the options by ‘discontinuing’ those that perform poorly against the disciplines. Further detail on our scheme development process, including on the options evaluated and discontinued and those preferred as described in this document, can be found in the **Scheme Development Report** consultation document. You are welcome to make comments on the **Scheme Development Report** and the options which we have discontinued as part of your overall consultation feedback. This document, however, concentrates only on those options that we consider perform most strongly.
2.1.6 In addition to these principal components, we have considered the effect of the airport’s expansion on the following:

- **Airport supporting facilities**: facilities essential to the operation of the airfield including aircraft maintenance, customs controlled cargo sheds, fuel facilities, waste water treatment, pollution control, car parking, etc;

- **Displaced uses**: existing businesses and facilities which would be displaced by the construction of the new runway;

- **Housing**: homes which would also be displaced by the new runway and, potentially, homes which may be required to support Heathrow’s increased workforce;

- **Airport related development**: development which has a direct economic and operational link with the airport including hotels, general cargo facilities, flight catering, supply chain offices, etc;

- **Construction facilities; and**

- **Green Infrastructure**

2.1.7 These components have not, however, progressed as far as the evaluation stage although we present our latest work and thinking in each case in the following chapters of this document.

2.1.8 It should be noted, in particular, that we have not included a chapter on ‘Green Infrastructure’ as this component of our scheme can only be properly considered once the principal and other components are more defined. Green infrastructure refers to the network of green space and water environments that will feature in our masterplan. Landscaping and environmental mitigation works in particular will need to respond to the potential effects created by the other components and the expanded airport’s operation, whilst presenting an unprecedented opportunity to bring about improvements to green infrastructure in the local area. As such, our scheme development in this respect is at a very early stage and thus we are unable to detail any options for this component. We have, however, set out our proposed approach which can be viewed in the consultation document *Our Design Approach to the Natural Environment*. This principally focuses on our approach to biodiversity, landscape and visual amenity, and the water environment. This will of course be an integral piece of our overall masterplan.

2.1.9 We see all of these components as different pieces of a jigsaw, each of which needs to be shaped and then pieced together to develop our preferred masterplan.
2.1.10 Understanding each of these components is important if we are to maximise the benefits of an expanded Heathrow to the local and national economy, whilst limiting its environmental effects on the surrounding communities. Your feedback will inform the choices that need to be made about which options to progress and the degree to which they can meet these objectives.

2.1.11 This document sets out the context within which our emerging plans and options need to be considered before setting out and explaining the various components listed above. This consultation presents our work in progress. It is a key opportunity to inform the development of the various component options before they can be assembled together into an airport-wide masterplan. Our next stage of consultation will seek feedback on a preferred masterplan.

2.1.12 It is also possible that further design development, environmental opportunities or constraints, and/or consultation feedback could lead to the identification of new options not identified in this report.

2.2 The role of cost and affordability

2.2.1 The scheme development process has consequently been designed to take into account affordability and financeability considerations alongside criteria within the other discipline areas. Affordability is not only driven by cost but is materially influenced by capacity and the ability of existing and new airlines to introduce more choice and accelerate traffic growth. This multi-disciplinary approach to scheme development will ensure that all relevant matters are taken into account and potentially competing considerations are appropriately balanced. The process is being approached on the basis of no pre-set weighting between the main discipline areas.

2.2.2 The CAA economic regulatory regime and DCO regime are separate and have their own objectives and requirements, both of which must be complied with. Under the regulatory regime, and specifically as a consequence of a direction made by the Secretary of State further to section 16 of the Civil Aviation Act 1982, Heathrow is expected to engage constructively with its airline partners, on plans and proposals for the development and delivery of key projects. In the DCO context, Heathrow will consult more widely with communities and other stakeholders, including airlines, on options and proposals for the scheme, and demonstrate that the views of all stakeholders and a range of considerations are taken into account and properly balanced.
3 Planning policy context

This Chapter considers the national and local planning policies which will be relevant in determining our Development Consent Order (DCO) application.

3.1 Airports Commission and the draft NPS

3.1.1 The Government set up the Airports Commission in 2012 to investigate how the UK could maintain its position as Europe’s most important aviation hub.

3.1.2 After almost three years of study, the unanimous conclusion of the Airports Commission was that the Heathrow north west runway scheme in combination with a significant package of measures to address its environmental and community effects presented the strongest case for meeting this objective. It also concluded that Heathrow can be a better neighbour for local communities than it is today, while delivering significantly enhanced connectivity and substantial long-term economic and strategic benefits for the UK as a whole.

3.1.3 In October 2016, the Government agreed with the Airports Commission conclusion that Heathrow expansion is a vital project to secure the UK’s status as an international aviation hub.

3.1.4 In February 2017, the Government published the draft Airports National Policy Statement (NPS) for consultation. A revised version of the draft NPS was published for consultation in October 2017 with the intention, subject to the outcome of the consultation, that the final NPS would be designated by the Secretary of State for Transport in mid-2018.

3.1.5 Once designated, the NPS will provide the principal planning policy to be applied in determining Heathrow’s DCO application. The role and importance of the NPS is explained in our separate Information Paper on the DCO process.

3.1.6 Included at Annex B of the draft NPS is an illustrative scheme layout of an expanded Heathrow Airport (reproduced at Figure 3.1 below). Some of the figures in this document make reference to ‘Illustrative Airport Expansion Boundary V4.9’. It should be noted that V4.9 is a refinement of the V3 masterplan boundary which we previously submitted to the Airports Commission and which is now shown in Annex B of the draft NPS.

3.1.7 The Airports Commission made it clear, however, that the scheme to be advanced should evolve through the planning process in response to consultation and further detailed assessment. The draft NPS also makes clear that the Airports Commission scheme is illustrative.

3.1.8 As set out in the previous chapter, we are now developing our proposals further with the benefit of input from a wide range of stakeholders and informed by detailed environmental and technical studies.

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1 “It should be noted that any of the plans described below would need to be subject to more detailed design and environmental assessment, and further public consultation, to prepare for planning consent.” Airports Commission Final Report, paragraph 5.1.

2 “In preparation for the planning process, the private sector promoter will want to engage with communities, local authorities and other stakeholders including airlines as it finalises its masterplan and will want to give due consideration to measures that will mitigate the social and environmental impacts of construction.” Airports Commission Final Report, paragraph 16.29.
Whilst the draft NPS remains draft and may be subject to further amendment following consultation, it does set out policy principles which are important in informing Heathrow’s masterplan. These draft policy principles are extensive and it would not be appropriate to set them all out here but the principal considerations include the following:

- that there is a clear need for a new runway at Heathrow to ensure that the UK can maintain and increase its connectivity with the rest of the world;
- a new runway to the north-west of Heathrow is expected to be at least 3,500m in length and capable of delivering additional passenger capacity of at least 260,000 air transport movements per annum (ATMs), taking the capacity of Heathrow to at least 740,000 ATMs;
- the scheme is expected to include associated infrastructure and surface access facilities, including changes to the M25, local road diversions and transport infrastructure necessary to support the increased number of people who will need to access the expanded airport and to achieve a public transport mode share of at least 50% by 2030 and 55% by 2040; and
- an application should identify existing and proposed land uses near the expanded airport, including any effects of replacing existing development or uses – in this context it is notable that the illustrative masterplan included within Annex B of the draft NPS includes proposals for cargo, parking, environmental mitigation and a range of airport supporting facilities.

The draft NPS also contains important policies for good design, policies to limit and mitigate community impacts, including those relating to noise, air quality, flood risk and ecology – all of which need to be considered in detail as part of the emerging masterplan, and many of which are referred to in our other consultation documents.

The development of the north west runway is in the national interest. The draft NPS makes clear that the north west runway at Heathrow is considered to be the only realistic solution that can meet the requirement for additional aviation capacity to maintain the UK’s position as Europe’s most important aviation hub.  

The draft NPS sets out the Government’s support for the need for the expansion of Heathrow:

“3.72 – The needs case has shown the importance of developing more capacity more quickly, and in a form which passengers and businesses want to use. The Heathrow Northwest Runway scheme is best placed to deliver this capacity, delivering the greatest benefits sooner as well as providing the biggest boost to the UK’s international connectivity, doing so in the 2020s at a point when without the scheme 4 out of 5 London airports would be full, with all the problems to passengers this could entail.”

The NPS highlights the importance of the north west runway for freight as well as passengers:

“3.71 – The Heathrow Northwest Runway scheme delivers the greatest support for freight. The plans for the scheme include a doubling of freight capacity at the airport. Heathrow Airport already carries more freight by value than all other UK airports combined, and twice as much as the UK’s two largest container ports.”

As we develop our masterplan, it will be important to ensure that the project enables these benefits to be delivered in full.

The terms of reference given to the Airports Commission by the Government were to examine the scale and timing of any requirement for additional capacity to maintain the UK’s position as Europe’s most important aviation hub (Airports Commission final report, paragraph 1.3).
3.2 Regional and local planning context

3.2.1 Heathrow Airport is located predominantly within the London Borough of Hillingdon but there are nine local planning authorities (LPA) in close proximity to the airport. A plan indicating the administrative boundaries surrounding Heathrow Airport is provided at Figure 3.2.

![Figure 3.2: Administrative boundaries of LPAs]

3.3 London planning policy

3.3.1 For those boroughs within London, local planning policy is supplemented by London-wide policies. The main policy document at the London level is The London Plan 2016, which identifies Heathrow and its immediate vicinity as an Opportunity Area (OA). OAs are areas of previously developed (brownfield) land “with significant capacity to accommodate new housing, commercial and other development linked to existing or potential improvements to public transport accessibility”. OAs are intended to be London’s main growth areas. The Heathrow OA is identified as having the potential to deliver around 12,000 jobs and a minimum of 9,000 new homes.

3.3.2 It is usual for the local authorities affected by an OA designation to work with the Mayor of London to produce an Opportunity Area Planning Framework (OAPF) to co-ordinate and plan the development of the OA. However, no progress has been made to date in the preparation of a Heathrow OAPF despite the designation being in place for many years.

3.3.3 The London Plan is also under review, and a new draft London Plan was published in December 2017. One of the main characteristics of the new draft London Plan is its intention to increase housing delivery from c.20,000 homes per year to c.65,000 homes per year across London’s boroughs, with complementary policies for employment development. The new draft London Plan also indicates that the targets for homes and jobs around Heathrow will be reviewed if expansion of the airport proceeds.

Key
- Current Heathrow Boundary
- Administrative boundaries of Local Planning Authorities (LPAs)

4 These Figures are updated in the draft London Plan published in December 2017, which proposes 13,000 new homes and 11,000 new jobs in the Opportunity Area and suggests that there may be further potential for growth in the event that the new runway goes ahead.
3.4 Local planning authorities

3.4.1 One of the responsibilities of each authority is to produce a Local Plan. Local Plans include general policies for housing, employment, transport, the environment, etc, and ‘designations’ of land represented on maps, commonly known as ‘policies maps’. We have included a consolidated plan of the adopted and current draft emerging policies maps at Appendix 1.

3.4.2 Those consolidated maps show the current and emerging planning constraints and designations around the airport. It is apparent, for instance, that a great deal of the land near the airport which is not currently developed is designated as Green Belt, or has environmental designations. Other designations include policies from the authorities for housing development and employment.

3.4.3 Local authorities are required to keep their Local Plans up to date. In particular, the Government’s National Planning Policy Framework (the NPPF) requires each local authority to plan to meet its forecast housing and employment needs.

3.4.4 Local Plans and even the London Plan do not set policy for nationally significant infrastructure such as a new runway. Local policy designations such as Green Belt and heritage or ecology designations will continue to be important but the principal policies relating to any new runway at Heathrow will be those set out by the Government in the final version of the NPS.

3.4.5 When the Airports NPS is designated by Government, Local Plans may need to be updated to take account of Heathrow’s expansion.

3.5 Metropolitan Green Belt

3.5.1 Metropolitan Green Belt is extensively designated around Heathrow; this is shown on the map at Figure 3.3.

3.5.2 Within the Green Belt planning permission is only granted in ‘very special circumstances’. The development of Terminal 5 is an example of how the airport’s growth was regarded as sufficiently important to justify the development of land which was at the time designated as Green Belt.

3.6 Colne Valley Regional Park

3.6.1 The Colne Valley Regional Park lies to the west and north west of Heathrow and is designated as a Regional Park by London Borough of Hillingdon, Slough Borough Council and South Bucks District Council. The objectives of the Colne Valley Regional Park are concerned with enhancing its landscape quality, its ecological and heritage value at the same time as providing opportunities for recreation.

3.6.2 Open land in the Colne Valley is also designated as Green Belt, as illustrated in Figure 3.3.

5 http://www.colnevalleypark.org.uk/about
3.6.3 Local authorities in close proximity to the airport may need to review their local plan policies, including Green Belt policies, to meet their own population and housing growth requirements, regardless of whether the third runway goes ahead. The extent to which the third runway might add to growth pressures is discussed later in this document.

3.7 Environmental and heritage designations

3.7.1 In the London Borough of Hillingdon, the policies maps (see Appendix 1) show that some of the Green Belt land is designated as either a Nature Conservation Site of Metropolitan or Borough Importance. In Slough Borough Council, the Green Belt holds some Wildlife Heritage Sites, and a Linear Park designation.

3.7.2 In Spelthorne Borough Council, the Wraysbury, King George VI and Staines Reservoirs to the south of the airport are designated as Sites of Special Scientific Interest (SSSIs), Special Protection Areas and Ramsar Sites.

3.7.3 There are a number of flooding designations in the local area. There are Areas Liable to Flood to the west of the airport in the London Borough of Hillingdon and Slough Borough Council, and Flood Risk Zones to the south west of the airport, between the Wraysbury and King George VI Reservoirs, in Spelthorne Borough Council. These zones include areas in the catchments of the Rivers Colne and Crane.

3.7.4 The villages and settlements close to the airport provide an important part of its setting and context. Many have Conservation Areas and most have a number of listed buildings.

3.7.5 These designations continue to be taken into account as we develop our proposals further.
3.7.6 As part of this consultation, we have published documents relating to *Our Approach to Historic Environment* and *Our Design Approach to the Natural Environment*, which set out more details on how we propose where practicable to respect and enhance environmental and heritage assets as part of our expansion proposals. Those documents set out principles which have already informed our scheme development and which will be particularly important as we develop the detail of a preferred masterplan.

3.8 HSPG

3.8.1 The Heathrow Strategic Planning Group (HSPG) was formed by a number of local authorities, county councils and Local Enterprise Partnerships close to Heathrow Airport over two years ago with the key purpose of enabling more collaborative and consistent planning for the benefits and impacts that Heathrow brings to the sub-region. Previously, those authorities lacked any formal mechanism for strategic or ‘sub-regional’ planning and governance.

3.8.2 Having established an overarching goal of achieving integrated sustainable development, the group is principally concerned with matters relating to land-use planning, including transportation, infrastructure, housing, economic development and environmental management. We are engaging constructively with the HSPG on our emerging plans for expansion notwithstanding the different positions some of the members may have on a third runway.

3.8.3 We are jointly working with the group on commissioning a number of strategic studies to inform the potential development of a Joint Spatial Planning Framework (JSPF). These studies and any subsequent planning framework will consider any growth requirements arising from Heathrow’s expansion in addition to those which the various authorities are already obliged to address in their areas. It could helpfully set out a strategy for managing the scale of change anticipated as the airport grows and continue to guide strategic planning in the sub-region well after Heathrow’s expansion has been delivered.
4 Heathrow today

4.1.1 This Chapter briefly describes Heathrow today, in 2018.

4.1.2 Heathrow is the UK’s only hub airport. Hub airports combine direct passengers, transfer passengers and freight to enable long-haul aircraft to fly to destinations all over the world that cannot be served by ‘point to point’ airports which rely on local demand alone. Hub airports differ markedly from airports such as Gatwick, Stansted or Luton, which offer ‘point to point’ services and do not offer the combinations of long-haul and short-haul services that allow significant volumes of transfers. Today, Heathrow serves 194 routes to more than 80 countries.

4.1.3 The current airport totals approximately 1,200 hectares. Its principal land uses are shown in Figure 4.1.

4.1.4 Since 2005, the airport has operated at 98% of its runway capacity for flights. Heathrow is the busiest two runway airport in the world. Every year, approximately 475,000 aircraft take off and land with the airport being capped at 480,000 air transport movements (ATMs) which was imposed upon the operation of the two runway airport in the planning permission granted for Terminal 5 in 2001.

4.1.5 Four terminals serve circa 76 million passengers per annum with supporting apron and baggage handling facilities. Over the last decade, the airport has invested over £11bn to improve passenger facilities, with the new Terminal 5 opening in 2008 and Terminal 2 replaced in 2014.

4.1.6 The terminals are supported by efficient road access from the M25 and M4 road network, good local road access and the airport’s own landside perimeter road network. There are rail, underground, coach and bus stations in all the terminal areas.

4.1.7 Large areas of the perimeter are used for passenger and colleague car parking, with frequent bus services linking these areas to the front door of the terminals.

4.1.8 Heathrow is a major port. One quarter of all UK exports by value travel through the airport. Approximately 1.5 million tonnes per annum of cargo are handled through significant cargo infrastructure located on the southside of the airport. Outside the airport boundary, a high number of freight and logistics businesses are located which support and enable the movement of such large freight volumes. See Appendix 2 for plans showing the location of these type of uses around the airport.

4.1.9 Heathrow has one of the largest aircraft maintenance facilities in Europe to support the operation of the two major home based airlines, British Airways and Virgin Atlantic. This is located on the eastern side of the airport.

4.1.10 There are many airport supporting facilities that are essential to the safe and efficient operation of the airport, such as ground support equipment, airside fire stations, snow removal and aircraft de-icing equipment, aircraft fuel storage, heating and cooling facilities, surface water pollution control lakes, and so on.

4.1.11 Additionally, a number of hotels support the airport operation – a few hotels are located adjacent to terminals but many are located a short bus ride away around the airport perimeter. Offices for airport colleagues are located in close proximity to the terminals, cargo and maintenance facilities. See Appendix 2 for a plan of hotels and offices local to the airport.

4.1.12 The above summary illustrates how the airport is a critical part of Britain’s national infrastructure and an economic driver of the local and regional economy. The airport site employs approximately 76,000 people in a range of jobs related to the operation of the airport directly – including airline employees, security, passenger services and maintenance. Another 38,000 jobs are supported off-airport, mainly in the surrounding area, in the airport’s supply chain and as a result of spending in the area.
Figure 4.1: Plan and land uses of current airport layout
5 Runways and taxiways

This Chapter explores Heathrow’s runways and taxiways today, summarises the scheme development process we have gone through, and identifies the shortlist of options for these key components, on which we invite your views.

5.1 Runways today

5.1.1 Heathrow has two runways, 3,902m and 3,660m in length, which are arranged in an east-west orientation as shown in Figure 5.1. The runways are separated by approximately 1,425 metres and designed to handle the largest commercial aircraft such as the Airbus A380.

Figure 5.1: Two runway layout of Heathrow Airport
5.1.2 The runways are generally operated in segregated mode, where one runway is used for arriving aircraft and the other is used for departing aircraft. At some times of the day, for example early in the morning when there is a build-up of airborne holding for arriving aircraft, tactical measures such as using both runways for landings can be applied to minimise delay.

5.1.3 The preferred mode of operation is for arriving and departing aircraft to fly into the wind. If the wind direction is from the west, one runway is used for aircraft departing towards the west and the other is used for aircraft arriving from the east. If the wind direction is from the east, then the reverse applies.

5.1.4 Heathrow uses runway alternation, the switching of the runways for departing and arriving aircraft, primarily to provide respite from noise and overflying to those living under the flow of aircraft. In westerly operations, the runways are alternated at 3pm each day. In easterly operations, Heathrow does not alternate the runways due to the legacy of the now rescinded Cranford Agreement because there is insufficient runway taxiway infrastructure to enable full departures from the northern runway.

5.1.5 During the day, a ‘westerly preference’ is operated at Heathrow. This means that during periods of light easterly winds (up to 5 knots) planes continue to land in a westerly direction.

5.1.6 Heathrow operates seven days a week. Flights can land and take off during the night time; ‘night flights’ are classed as those operating between 23:00 and 07:00. A ‘night flights’ regime, approved by the Secretary of State, has been in place since winter 2006/7, which restricts the operation of aircraft during this time. The noisiest aircraft are not allowed to operate, and other types of aircraft are restricted based on the noise they generate.

Figure 5.2: Summary of time spent in easterly and westerly operations

6 The Cranford Agreement was established in the 1950s. It prevented planes from taking off over the village of Cranford, which lies to the east of Heathrow’s northern runway. In 2010 the Coalition Government supported the removal of the Cranford Agreement, and acknowledged that we should take the necessary steps to implement easterly alternation as soon as possible, to ensure a fairer distribution of noise. This led to planning permission being granted for the infrastructure necessary to give effect to the ending of the Cranford Agreement in February 2017, following a public inquiry in 2015. The infrastructure necessary to give effect to easterly alternation will be provided as part of our DCO application.
5.2 Requirements for growth

5.2.1 The design and precise location of the new north west runway is critically important to the successful operation of the airport. It is also of great importance to the communities around the airport and there are multiple issues to consider before settling the runway's precise location within the masterplan.

5.2.2 The work of the Airports Commission and the draft NPS establish that the new runway must be to the north west of the airport, with the western emphasis of the runway considered particularly important as it allows planes to fly higher over London and the densely developed communities to the east of Heathrow, thus reducing the noise impact of the expanded airport. Paragraph 5.9 of the Airports Commission Final Report stated that:

"It is important to note that this proposal differs very significantly from that supported by the Government before 2010. It provides a full-length runway, maximising the potential to improve capacity, connectivity and resilience, and it is sited further to the west, which has the key benefit of reducing its noise and wider community impacts”

5.2.3 Beyond this principle, however, much detail remains to be settled, although it is clearly important that the new runway is capable of operating efficiently together with the existing runways and other airport facilities. This is particularly important if the expanded airport is to optimise its potential as a hub airport.

5.2.4 The draft NPS confirms the north west location of the runway and advises that it should be at least 3,500 metres long with the capacity to enable an increase in aircraft movements at Heathrow by at least 260,000 ATMs.

5.3 Ways of operating

5.3.1 The choices available on how Heathrow is operated in the future can have important consequences for aircraft noise impacts. Specifically, how the runways are alternated, where aircraft touchdown on the runways, the precise timing of the night curfew and how new capacity is released will have implications on the layout of the airport. These issues are explained below.

Runway alternation

5.3.2 Alternating the use of the three runways will provide predictable respite for local communities. Delivering alternation introduces complexity into the design process. There are two significant consequences for the airfield design and its land take:

• The new runway needs to be located a certain distance north of the existing northern runway to ensure that the runways operate independently; and
• More taxiway infrastructure is required to provide the capacity for more complex ground aircraft operations, so that any terminal and apron at the airport can use any runway.

5.3.3 There are options for the way in which alternation is achieved using three runways. The choice that needs to be made, however, has important consequences for the distribution of noise around the airport and the factors to be considered are, therefore, explained more fully in the Our Approach to Noise consultation document where we ask for your feedback on what you consider to be most important.

5.3.4 In order to balance the number of arriving aircraft with the number of departing aircraft in a three-runway airport, one runway must be dedicated to landing aircraft (L), one to departing aircraft (D) and the other runway must be used for both landing and departing aircraft at the same time, i.e. mixed mode (DL).
5.3.5 The centre runway cannot be used in mixed mode due to the capacity impacts for having to protect for potential aircraft traffic conflicts in the event of a missed approach.

5.3.6 By rotating these operations around the three runways, we can establish four different modes of operation, as shown in Figure 5.3 and 5.4.

<table>
<thead>
<tr>
<th>Runway</th>
<th>Mode 1</th>
<th>Mode 2</th>
<th>Mode 3</th>
<th>Mode 4</th>
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<tr>
<td>Northern</td>
<td>M</td>
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<td>L</td>
<td>D</td>
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<td>Centre</td>
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<tr>
<td>Southern</td>
<td>D</td>
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Key: D = Departures; L = Landing and M = Mixed (Departures and Landing)

Figure 5.3: Rotating runway use to produce alternative operating modes
Figure 5.4: The eight operating modes and how they provide respite

**Key**
- Arriving / Landing (L)
- Departures (D)
- Mixed (M)
5.4 Displaced thresholds

5.4.1 We are considering designing the new runway and its associated infrastructure so that aircraft touch down approximately 550 metres further along the runway than typically they would today. This is known as a ‘displaced threshold’. The effect of this measure is that, in addition to the westerly runway location, aircraft will be flying higher over London as they approach Heathrow to land on the new runway, reducing noise impacts for local communities. The image in Figure 5.5 illustrates the combined effect on the altitude of aircraft associated with these measures and compares this to current operations. Similarly for aircraft landing in an easterly direction they will also be higher over communities west of the airport.

5.4.2 The infrastructure changes associated with the third runway also provide an opportunity within our overall masterplan to develop modifications to the existing runway infrastructure. Displaced thresholds could be introduced across the whole airport subject to safety and operational considerations and provide the potential to reduce noise levels further for those currently overflown.

Future night flight restrictions

5.4.3 As Heathrow is a noise designated airport, the Government is responsible for setting restrictions on night-time flying (defined as the period between 11pm and 7am). These restrictions currently limit Heathrow to 5,800 night-time take-offs (reducing to 5,150 from 2018) and landings a year between 23:30 and 06:00 (known as the Night Quota period), with restrictions on the noise class of aircraft that can operate – known as a Quota Count or QC value. From October 2018 the noise quota limits will be 2,415 in winter and 2,735 in summer.

5.4.4 The Government’s support for the Heathrow north west runway was accompanied by a requirement that there should be a ban on scheduled night flights for a period of six and a half hours, between the hours of 23:00 and 07:00. This is confirmed in the draft NPS. The exact start and finish times of the ban are not defined and this will be determined through consultation and assessment as part of our DCO application.

5.4.5 Restrictions on night flights need to strike a balance between protecting the local community from night noise and the benefits that night flights generate for the UK economy.

5.4.6 There is high demand from passengers for flying in the night period given the markets that the flights operate to and from and the significant contribution these flights make to the UK’s economy. An independent study carried out by Oxford Economics showed that Heathrow flights between 23:30 and 06:00 contributed £158 million in ‘value added’ (GDP) in 2011, directly supported 3,200 jobs and generated £37 million in tax revenue.
5.4.7 There is particularly high demand for early morning arrivals to allow business travellers to have a full day of business in the UK or connect to an onward flight and still have a full day of business at their destination.

5.4.8 Such a ban on night flights would provide further predictable respite. We are very conscious of the need to protect the local community from night noise and we already take a proactive role in reducing noise from the airport. In addition to these measures, Heathrow has set airport charges to encourage airlines to use quieter aircraft and has committed to working with the local community, NATS and airlines to develop a voluntary Quiet Night Charter which will establish challenging but achievable targets. Further details of these measures are explained in our Approach to Noise consultation document. Restrictions on night flights need to strike a balance between protecting the local community from night noise and the benefits that night flights generate for the UK economy.

5.4.9 Based on our assessment of the economic and environmental effects of late night and early morning flights we have stated a preference for the six and a half hour ban on scheduled flights to be from 23:00 to 05:30. This reduces noise for people affected by arrivals and departures by beginning before and ending after the times of the current voluntary restricted periods.

5.4.10 For the purpose of resilience, Heathrow will continue to seek a dispensation regime in exceptional circumstances only for departing and arriving flights during the six and a half hour ban. This may be used in times of significant network disruption (such as air traffic controller strikes) or to deal with operational issues (such as the loss of a runway), and its purpose would be to minimise the impact to passenger journeys and global airline operations.

Questions about night time flights are asked in our Approach to Noise consultation document.

5.4.11 Phased release of capacity

Air Transport Movements (ATMs) are currently limited at Heathrow to 480,000 per annum through a planning condition which was imposed on the grant of permission for Terminal 5. The draft NPS requires expansion to enable at least an additional 260,000 ATMs from the airport.

5.4.12 As an interim measure, i.e. before the construction and operation of the new runway, we have published proposals to release capacity immediately following the approval of our DCO application. This would be achieved through the increased use of the existing runways as the first phase of expansion. Initial analysis suggests that approximately 25,000 ATMs per annum could be accommodated on the two existing runways by implementing new procedures and efficiency improvements whilst maintaining current resilience levels.

5.4.13 This early release of capacity (approximately three years in advance of the completion of the new runway) could add up to 35 daily new routes or additional frequencies on existing routes which would bring significant economic benefits estimated at up to £1.5 billion by connecting to new markets and to existing markets more frequently. The early release of capacity would generate new jobs and bring benefits which would help ensure that the expansion of the airport is affordable for airlines and passengers.

5.4.14 However, the increased use of the existing runways may also bring increased impacts which would be subject to noise management mitigation measures, and any proposal would need to be considered against the clear tests set out in the NPS. More information is provided in our Approach to Noise consultation document.
**Airspace change**

5.4.15 We need to design new flight paths to enable the expansion of Heathrow and this cannot be achieved through our DCO application. Changes to airspace are the responsibility of the Civil Aviation Authority and are subject to a different approval process. We are undertaking a separate and parallel consultation on the principles of the new airspace design that will be needed for an expanded Heathrow but we are not asking questions about airspace in this DCO consultation.

5.5 Options – runway layout

**Runway width**

5.5.1 The new runway will be required to accommodate the largest commercial aircraft in service at Heathrow: the A380 family, Code F aircraft. The industry standard runway width for a Code F aircraft is 60 metres with 7.5 metre shoulders. We are expecting a revision to this within the next year and the new standard is expected to be 45 metres with 7.5 metre shoulders and a graded area of 7.5 metres. This new standard is being used as the working assumption for the runway width in our design.

**Runway height**

5.5.2 The height of the M25 motorway to the west of Heathrow means that any third runway in a north west alignment must be elevated to cross over the M25, or the M25 carriageway needs to be lowered to provide sufficient head room for the motorway.

5.5.3 Bridging over the existing level of the M25 has been discontinued by us as an option because it would be necessary to raise the airfield level by +9 metres. This would require a significant import of construction fill material that could not be delivered within the required phasing timescales and would have significant construction impacts on local areas. It would make tying the new runway into the existing airfield more challenging due to gradient design standards we have to comply with. In addition, the environmental effects such as the visual impact of a higher runway may have resulted in an increased impact. Figure 5.6 below shows how the M25 could sit beneath the new runway.

![Figure 5.6: The required separation between the M25 and the runway](image)
5.5.4 Our preferred option is a combination of lowering and re-aligning the M25 carriageway by up to 7 metres and raising the runway by approximately 3 to 5 metres. This results in the lowest airfield possible whilst maintaining the M25 on an alignment as close to existing levels. Figure 5.7 shows the range of options being considered which affect both the height of the runway and the M25 carriageway.

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

Runway separation

5.5.6 The new runway must be both parallel to the existing runways and separated by sufficient distance to enable independent runway operations. This is essential to meet key requirements of the draft NPS, specifically:

- give the potential to deliver respite from noise to local communities. Two of the eight runway operating modes require parallel arrivals streams to the two northern most runways (see Figure 5.4); and
- to deliver the runway throughput required to provide at least an additional 260,000 ATMs. If the approaches were dependent on each other, then the spacing between arriving aircraft would need to be increased, which would reduce the number of aircraft that could land or take off in any hour. Figure 5.8 below illustrates the capacity improvement created by independent runway operations, using an example of landing six aircraft.

Figure 5.7: Options for the height of the runway and M25 carriageway
5.5.7 The requirements for the operation of closely spaced parallel runways are specified in international design standards\(^8\). To achieve independent operations the minimum separation of the new runway from the existing northern runway must be at least 1,035 metres.

5.5.8 As well as ensuring independent runway operation, approximately 1,035 metres separation provides sufficient space for any additional terminal, apron and taxiway infrastructure on a northern apron whilst limiting further property loss in Harmondsworth and avoiding the loss of St Mary's Church, the cemetery and the Tithe Barn. It also avoids conflict with Junction 15 of the M25. We therefore see little benefit in moving the new runway any further north than approximately 1,035 metres from the existing northern runway. Consequently, we are not considering any other options for the separation of the new runway. Figure 5.9 below shows the relationship between a 1,035 metres spaced runway and Harmondsworth.

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**Figure 5.8: Dependent and independent arrival runway throughputs**

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8 ICAO Document 9643, Manual on Simultaneous Operations on Parallel or Near-Parallel Runways (SOIR).
Figure 5.9: Relationship between a 1,035m spaced runway and Harmondsworth
**Runway length**

5.5.9 Determining the required runway length is complex because it is dependent upon a range of factors that are potentially variable over time. The key influencing operational factors are:

- Aircraft performance characteristics now and in the future;
- Landing and take-off weights including fuel, passenger, baggage and cargo;
- Runway elevation above sea level;
- Air temperature range – taking account of climate change impacts;
- Strength and direction of the wind;
- Average runway gradient along the runway length;
- Surface condition of runway, such as dry, wet, ice, snow; and
- Distance from Heathrow to the markets that airlines wish to fly to both now and in the future.

5.5.10 The effects on land uses and communities on the ground are also very important.

5.5.11 Our current analysis is explained in more detail in Section 3 of the [Scheme Development Report](#). Our work on this issue is not yet fully complete and further consultation, engagement, design development and assessment is necessary before we can determine the precise runway length.

5.5.12 There remains a possibility that potential benefits could be achieved from a slightly different runway length whilst still meeting the performance requirements set out in the revised draft NPS. Our current analysis shows that the new runway should have an operational length for departing aircraft of at least 3,200 metres.

5.5.13 We are testing a variety of sensitivities for current and emerging new aircraft types, a range of maximum take-off weights as well as temperature scenarios to understand the runway length required, as well as benchmarking airports worldwide, to enable us to conclude this assessment.

5.5.14 A longer runway may have noise benefits which we are testing. These potential benefits need to be balanced against land take requirements. Our next steps are to continue to work with the airlines at Heathrow to determine the exact operational lengths required for departing and landing aircraft in both normal and disrupted operations. In our next consultation we will propose a preferred masterplan with detailed proposals for the runway.

**Runway location**

5.5.15 The north west runway scheme selected by the Airports Commission sat between the communities of Colnbrook and Brands Hill to the west, Sipson to the east and Harmondsworth to the north. Other communities are also located nearby. The broad runway location favoured by the Airports Commission is shown on the illustrative plan provided at Annex B of the draft NPS, re-provided at Figure 3.1 earlier in this document and it has formed the starting point for our assessment. We recognise that the precise positioning of the runway will be very important to Heathrow's neighbours and our options testing has included detailed analysis on the impacts to understand the consequences of locational choices.

5.5.16 Section 3 of the [Scheme Development Report](#) explains in detail how we initially considered four “families” of runway locations, each with different lengths and each with the same 1,035 metre distance north of the existing northern runway, as shown in Figure 5.10.
Figure 5.10: Runway Family Options considered – in the context of the Airports Commission runway proposal
5.5.17 These options can be summarised as follows:

- **Runway Location Option Family A:** The options in this family all have the eastern end of the runway to the west of the village of Sipson with the runway extending westwards. The 3,500m option is effectively the same as the Airports Commission proposed runway;

- **Runway Location Option Family B:** The options in this family all have the western end of the runway fixed at a point to the east of the M25 with the runway extending eastwards. These runway options do not cross the M25 but have substantial impacts on Sipson and extend closer to Harlington;

- **Runway Location Option Family C:** The options in this family have the eastern end of the runway fixed at a point to the west of the village of Harlington with the runway extending westwards. This family of options is similar to Family B and looked to explore the benefits and impacts of moving the runway further eastwards; and

- **Runway Location Option Family D:** The options in this family are similar to Family A but have the eastern end of the runway fixed at a point immediately to the west of the M4 Spur motorway with the runway extending westwards. This option looked to explore the benefits and impacts of moving the runway further east compared to the option Family A (impacting further on Sipson), but not as far east as the option Families B and C.

5.5.18 We concluded that only Option Family A, which is based on the Airports Commission Scheme, should be taken forward because of its greater consistency with the draft NPS and better performance particularly in environmental and property loss terms compared to the other three families.

5.5.19 Our assessment was that options which extend east of the M4 spur and Sipson (Option Families B and C) should be discontinued because they are inconsistent with the scheme selected by the Airports Commission and subsequently identified in the draft NPS. Based on our preliminary environmental and community evaluation, such options would involve the loss of an additional 400 to 450 properties plus increased noise impacts.

5.5.20 Whilst Families A or D would also have substantial local impacts, these impacts would be significantly less than Families B or C. Families A and D, however, require the runway to cross the M25 and to extend into the Colne Valley. When these matters were assessed as part of our evaluation, we found that the crossing of the M25 was deliverable in engineering terms, that the impact on the M25 could be managed through the careful phasing of construction and that the increased cost is necessary to develop a runway solution which limited its local impact as far as practicable.

5.5.21 Our evaluation also led us to discontinue options in Family D. Whilst this family would have less overall property and noise impacts than Families B and C, local impacts were considered significantly worse than Option Family A. Family D involves shifting the runway further east so that it would dissect Sipson village. Because of its more easterly positioning more of Harlington would also be exposed to higher noise levels.

5.5.22 We therefore concluded that the best runway length and location is to be found in Option Family A which is most similar to that examined by the Airports Commission.

**Precise runway location**

5.5.23 Following this exercise, remaining options all form part of Family A. These are shown in Figure 5.11. Two options start from the same location west of Sipson and extend either 3,200 metres or 3,500 metres west and the third is 300 metres shorter at the eastern end, with the western end in the same location as the Airports Commission scheme.
5.5.24 Our work is now starting to focus on the precise length and positioning of the Family A runway options, taking into account operational factors and the impact on local communities. We are considering a range of options between 3,200 metres and approximately 3,500 metres for the length of the new runway, as well as options for the exact runway end locations and how they will sit in relation to the Colnbrook and Sipson communities.

5.5.25 Preliminary analysis shows that Family A with a 3,200 metre runway (option A3), 300 metres further west from Sipson, would have slightly fewer people exposed to noise levels in the higher bands.

5.5.26 We are also looking closely at the impact of the runway position on Harmondsworth and Sipson. Work is most advanced on Harmondsworth because of the generally fixed northern position of the new runway and our preliminary thoughts are described below. Similar principles are being examined for Sipson.

5.5.27 Harmondsworth is significantly affected by the new runway. As Figure 5.12 shows, the airport expansion results in the demolition of the southern part of the village. Adopting the minimum runway separation of 1,035 metres enables the High Street and the northern part of the village to be retained but it will be in very close proximity to the new airport boundary for each of the runway options which each have a slightly different effect on what is retained and hence where mitigation can be introduced.

5.5.28 At its closest point, the retained extent of Harmondsworth is located within approximately 15 metres of the boundary of the proposed Heathrow expansion area. The boundary between Harmondsworth and the Heathrow expansion area needs to be designed to filter views experienced by residents, and also to help to mitigate noise effects. Within the centre of Harmondsworth, there are a number of Listed Buildings, and it will be important that any boundary treatment does not impact further on the fabric or setting of these buildings. Figure 5.12 shows the potential relationship of the airfield boundary with Harmondsworth in the different runway options.
The approximate expansion boundary potentially affects a larger area of Harmondsworth.

Figure 5.12: Runway options relative to Harmondsworth
5.5.29 Figure 5.13 shows how the different runway options relate to Sipson as well as Harmondsworth.
5.5.30 Each option has a different relationship at its western end with Poyle and Colnbrook, as shown in Figure 5.14.
5.5.31 It is apparent that setting the precise runway location requires a wide range of factors to be taken into account, as well as close liaison with each affected community.

**Boundary treatments**

5.5.32 Careful design will be necessary to develop the most sensitive proposals for boundary treatment and environmental mitigation for each affected community. A vegetated noise barrier or bund with planting could provide a visual screen and noise mitigation between the airfield and the settlements, as exemplified at Figure 5.15.

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5.5.33 As these design ideas evolve we will engage directly with the affected communities to help develop a preferred approach for presentation in our second consultation.

**Tell us what you think**

Please tell us what you think about the options for the new runway. What factors do you think should be important in fixing the precise location and length of the runway?

More information on our consultation and how you can provide us your views can be found at www.heathrowconsultation.com.
5.6 Taxiways today

5.6.1 The taxiway system enables aircraft to circulate safely and efficiently between the terminals and the runways under the guidance of the air traffic controllers.

5.6.2 The current taxiway system is shown in Figure 5.16. It comprises four parallel taxiways (shown in green), two serving each of the existing runways, which are linked by cross-field taxiways (shown in orange). There are also taxiways south of the southern runway to connect Terminal 4 and the cargo area to the rest of the airport (shown in yellow). The Rapid Exit Taxiways (RETs) and Runway Access Taxiways (RATs) connect the taxiways to the runways and are used by aircraft exiting and entering the runways. These main taxiways are connected together and to the aircraft stands by many smaller taxiway links.

5.6.3 Heathrow's runways currently do not have any taxiways which are located around the ends of the runways (ATETs...i.e. Around the End Taxiways); if aircraft need to access Terminal 4 or the cargo area, they have to cross the southern runway.

Figure 5.16: Existing taxiway system
5.7 Taxiway options

5.7.1 A three parallel runway airport will involve complex movements between the runways and the aprons for both arriving and departing aircraft. How aircraft flow around the central runway in a three runway airport is potentially the most important part of the expanded airport operation.

5.7.2 A well-designed taxiway system must provide efficient and safe links that deliver predictable journey times for passengers and lower operating costs for airlines. This will require additional land but will also have noise and air quality benefits.

5.7.3 We are considering three broad areas for new taxiways to link the new expanded airport to the existing taxiway system: west of T5, west of the central runway, and north and south of the central runway. We may need more than one area to deliver our proposals.

5.7.4 West of T5, as shown in Figure 5.17, the taxiway (shown in yellow) would provide alternative north-south routing for aircraft, thereby reducing congestion within the existing airport. Early assessment work is showing a strong operational need for this taxiway but it requires additional Green Belt land.
5.7.5 A taxiway west of the central runway, as shown in red in Figure 5.17, is more efficient than taxiing aircraft across an active runway as currently happens to access Terminal 4. These types of taxiways, known as ATETs, are in operation at Atlanta and in consideration at airport developments in Hong Kong and Singapore. Western ATETs were preferred to eastern ones because the majority of apron capacity will be on the west of the airport and so the resulting bias of aircraft movements will be towards the west. Early assessment work is showing a strong operational need for this taxiway but requires Green Belt.

5.7.6 Ground noise from taxiing aircraft means that ATETs need to be carefully located. Western ATETs would be located between the existing airport and the M25 and would be located relatively further away from local communities than eastern ATET options. Section 5 of the Scheme Development Report explains that eastern ATET options have been discontinued because of the additional impacts they would have on Harlington and Cranford.

5.7.7 North and south of the central runway, as shown in Figure 5.17 (in blue), significant works are required to cater for the introduction of displaced thresholds and to provide new runway exits and entrances to the north side of the runway to reduce airfield congestion within the existing airport. Our assessment work is on-going.

5.7.8 To the north of the existing northern runway our preliminary work indicates that a taxiway could have substantial operational benefits and allow aircraft to move more freely on the airfield (see Figure 5.18). It may however require the displacement of commercial uses immediately to the north of the existing runway and would bring additional noise from taxiing aircraft to residents of Harlington. We are currently evaluating this further, taking into account operational, affordability, property and environmental factors. Any proposal would need to carefully balance the costs and benefits with particular attention to how it would affect local communities.

Tell us what you think

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

More information on our consultation and how you can provide us your views can be found at www.heathrowconsultation.com.
This chapter examines Heathrow's existing terminals and aprons, summarises the scheme development process we have gone through, and identifies the ways in which we may expand these facilities to accommodate the needs of expansion.

6.1 Today

6.1.1 Heathrow currently operates four separate terminals that together serve about 76 million passengers per year. The terminals are numbered 2, 3, 4 and 5 and are commonly referred to by an abbreviation: for example, ‘Terminal 5’ as ‘T5’. Terminal 1 was closed in 2015 but its baggage facility continues to support the new Terminal 2 operation. Terminal locations and their approximate passenger through-put in 2016 are shown in Figure 6.1.

Figure 6.1: Terminal locations and millions of passengers per annum (as an approximation of passenger throughput)
6.1.2 Terminal 2, the Queen's Terminal, was opened in 2014 and is the airport’s newest terminal. The terminal currently consists of a main building (T2A) and one satellite to the east (T2B) that passengers reach via a tunnel. The terminal is used by the Star Alliance member airlines such as United Airlines, Lufthansa, Singapore Airlines and Air Canada. A second phase of T2 has planning permission, to be constructed following the demolition of the former Terminal 1 building (positioned to the north of T2A).

6.1.3 Terminal 3 is the oldest terminal at the airport having opened in 1967. It is the terminal of departure or arrival for 17 million passengers per year. It is used by Virgin Atlantic, Emirates and OneWorld airlines such as British Airways, Qantas, American Airlines and Cathay Pacific. Our long term plan is to close and redevelop this terminal to provide more modern facilities.

6.1.4 Terminal 4 opened in 1986 and is located south of both runways. It is the smallest terminal in terms of capacity. It serves circa 8 million passengers per year and is used by Qatar Airways, the Skyteam airlines such as Air France, KLM, China Southern, Kenya Airways and independent airlines such as Etihad Airways and El Al.

6.1.5 The largest terminal at the airport is Terminal 5, consisting of the main building (T5A) and two satellites to the east (T5B and T5C); it is used by British Airways and Iberia.

**Terminal capacity**

6.1.6 The capacity of a terminal building in terms of annual passenger numbers depends on a number of factors, including service standards, building capacity and the stand capacity available to service aircraft.

6.1.7 The values presented in Figure 6.2 are the approximate capacities used by us, expressed as million passengers per annum (or MPPA) based on the current operating model and service standards across terminals and aprons.

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**Figure 6.2: Passenger terminals serving 80 MPPA**
6.1.8 Aprons are designated spaces on an airfield for the parking, loading and unloading, refuelling and boarding of aircraft.

6.1.9 Heathrow has four main aprons: one for each terminal building. Additionally, it has a cargo apron to the south for designated freight aircraft, and a maintenance apron to the east. Heathrow’s aprons provide parking for a wide range of aircraft from the relatively small Airbus A320 through to the largest commercial passenger aircraft, such as Airbus A380s. All aprons can be flexed to accommodate multiple types of aircraft.

6.2 Requirements for growth

6.2.1 We estimate that the existing terminals and apron can serve a minimum of 80 and up to 85 MPPA which can be unlocked through various infrastructure and terminal improvements. This is 45 to 50 MPPA short of the 130 MPPA assumed by the draft NPS.

6.2.2 To provide new terminal capacity, either in dedicated terminal buildings or ‘satellites’, aircraft parking and circulation (apron) space is needed. New apron capacity will be necessary for the increased number of aircraft using the airport.

6.2.3 Heathrow will seek to make efficient use of existing infrastructure and land within the airport boundary, where it is feasible and cost effective to do so. With major investment and redevelopment of the airport we estimate that the site could handle up to 100 MPPA.

6.2.4 Additional apron space should be built between the three runways where land is available to do so, as opposed to development beyond or outside the runways. This will minimise average taxi distance between aprons and the runways, which reduces fuel consumption and emissions.

6.2.5 All new terminal capacity should be located on the public transport spine, which is the main train and London Underground route between the Central Terminal Area (location of T2 and T3) and T5. The rationale for this is that it would maximise the number of journeys made to the airport by public transport and support our goal of fewer front doors for passengers with consequent way finding benefits.

6.2.6 All options must be capable of delivering capacity in time to meet demand – this means that very careful consideration needs to be given to redeveloping existing terminal buildings because their lost capacity would need to be re-provided in addition to capacity for expansion.

6.3 Options

6.3.1 As shown in Figure 6.3, we are considering the best place for new terminal, satellite and aprons within those areas highlighted as North, West and East. Further detail can be found in Section 4 of the Scheme Development Report. In summary:

- The facilities we operate at T2 and T5 will be maintained at current operational capacity because they are modern and efficient;
- T4 is not considered suitable to expand for the purpose of serving the northern or western aprons due to the distance from the third runway, but will be retained;
- T3 will be retained and will not be redeveloped to serve new aprons – the site is not large enough to cater for the additional capacity required nor could we redesign it as a new terminal for the purpose of serving the northern apron because we cannot deliver the capacity in time to meet the demand from the new runway. However, in the very long term we will ensure our plans enable this facility to be redeveloped; and
- No terminals, satellites and aprons outside the three-runway system are proposed (north of the northern runway or south of the southern runway).
6.3.2 As we refine our options we are taking into account various considerations which includes the distribution of capacity across the airport. There are choices about how much of this is focused in the north, west and east. We do expect that there will be some additional capacity from the existing terminal and apron facilities, but this is unlikely to be adequate. Overall the land requirement for the terminals would be broadly similar for each and it is therefore a choice of where to plan for this growth. Terminals, however, need aprons to support them, so the decisions on each are closely linked.

6.3.3 A new northern apron will be necessary to serve the expanded airport but there are choices for the size of that apron.

6.3.4 An enlarged western apron between T5 and the M25 motorway could result in a smaller northern apron. We would need to balance operational passenger experience with potential conflicts with road and river infrastructure which would extend west of T5 outside the current airport boundary. This would also result in less development for terminal and airfield infrastructure to the south west of Sipson; if not used for airfield infrastructure or terminal buildings, this area may lend itself to airport supporting facilities or airport related development because of their proximity to the taxiways and terminals.

6.3.5 A large northern apron could result in less apron infrastructure west of T5 and retain use of junction 14a of the M25, as well as providing an opportunity to locate airport supporting facilities in this space.

6.3.6 Expansion of the eastern apron will require relocation of airfield taxiway and aircraft maintenance infrastructure, which benefits from using the existing airport more efficiently but requires significant time to build.
Further work is necessary to settle the most appropriate strategy, informed by further assessment. As we develop our proposals in more detail we believe the key considerations will be:

- How to maximise capacity on the public transport spine – this delivers the best passenger experience, encourages the use of public transport and reduces the number of mode and level changes;

- How to grow hub capacity in the west campus – currently T5 is occupied by IAG (predominately British Airways) and we have assumed that they will continue to be present. We will therefore need to review how options can maximise the opportunity to co-locate airlines that frequently connect with each other to optimise connections and efficiency. We anticipate that the western campus should be able to serve at least 65 MPPA to support a range of transfer passenger forecasts;

- How to grow the west campus to the optimal level. It will be important that new terminal capacity remains passenger focussed and does not become too big and difficult to operate; and

- Whether there will need to be a satellite in the northern campus. Although we believe that capacity between the additional runways should be maximised, there are potential efficiencies of bringing passengers closer to the aircraft in terms of reduced taxiing distances and providing a more balanced distribution of terminal capacity.

In all of our scheme development work, planning, community and environmental issues will continue to be taken fully into account.
This chapter examines the relationship between the new runway and the M25 alignment and junctions and explains the options for realignment of the motorway and proposed works to the junctions.

7 Realigned M25 motorway

7.1 Today

7.1.1 The M25 is located to the west of Heathrow, running in a north-south direction between Junction 15 (J15) and Junction 13 (J13), and connecting to the airport by Junction 14 (J14) and 14a (J14a) as shown in Figure 7.1.

7.1.2 This section of the M25 close to Heathrow is one of the busiest parts of the UK motorway network; between J14 and J15 the M25 carries over 220,000 vehicles every day with congestion regularly occurring. A small proportion of this traffic is airport related.

7.1.3 The expansion of Heathrow to the west would extend the airport boundary, bringing it into conflict with the existing alignment of the M25 and the locations of J14 and J14a. We have therefore considered options for realigning the M25 carriageway between J13 and J15, and for reconfiguring the junctions.

Figure 7.1: The existing M25 carriageway and junction layout
7.2 Requirements for growth

7.2.1 The M25 is one of the busiest roads in the UK and we will ensure that it remains open at all times with minimal disruption to users during the construction phase of Heathrow’s expansion.

7.2.2 We will ensure that the needs of Highways England, who are responsible for the operation, maintenance and improvement of the motorways and trunk roads, are incorporated so that design and safety standards are met and our plans work with the current M25/M4 interchange (J15) just north of the new runway.

7.2.3 The project will agree an approach with Highways England to manage the weaving of traffic when several motorway junctions are in close proximity to each other as well as being in a tunnel under the new runway.

7.2.4 The preferred option will need to meet our timescales to open the new runway, and its construction impacts will need to be managed to reduce impacts to local communities and road users.

7.3 Options for carriageway alignment

7.3.1 We have looked at options to retain the existing alignment of the M25 by bridging the runway over the carriageway, or by tunnelling the M25 under a runway at ground level, or diverting the M25 around the west end of the runway. In considering options for the M25 we have given careful consideration to the height (vertical alignment) and position (horizontal alignment) of the carriageway. More detail can be found in Section 6 of the Scheme Development Report.

7.3.2 Our current thinking incorporates a mix of the options we have evaluated to date which is to re-position the M25 carriageway approximately 150 metres to the west, lower it by approximately 7 metres into a tunnel and raise the runway height by 3 to 5 metres so that it passes over the M25 between J14a and J15.

7.3.3 This will enable the M25 to vertically and horizontally tie back into the existing J15 to the north of the runway and in to the existing M25 route south of the runway, as shown on Figure 7.2.

Figure 7.2: Tie-in points between realigned and current M25 carriageways
7.3.4 Option AB1, as presented in Figure 7.3, illustrates the option described above. There is also a variant to this, called option AB2, that allows for collector-distributor roads (explained below in Fig. 7.4) to run alongside the M25 to serve local traffic accessing nearby junctions.

7.3.5 Option AB1, without collector-distributor roads, would have a reduced land requirement and would be cheaper and easier to deliver but would have a reduced capacity. Option AB2, with collector-distributor roads, would improve journey times for both airport and non-airport traffic but would be more complex to deliver, have a greater land requirement and be more complex to deliver and more costly to build.

7.3.6 The alignment of both options is very close to residential properties in Elbow Meadow and up to 10 properties may be directly impacted.
7.3.7 Bridging the runway over the M25 as well as tunnelling the M25 under the runway has been discontinued due to delivery complexity and the impacts to road users during the construction period.

7.3.8 Diverting the M25 around the west end of the runway has been discontinued for its significant impacts to environmental and community interests, as well as higher costs and construction complexity.

7.4 Options for junction alignment

7.4.1 As part of our design work we are reviewing the need for the inclusion of collector-distributor roads between the realigned M25 junctions. Collector-distributor roads carry traffic between main junctions separate to traffic on the main carriageway. They overcome issues where two junctions are in close proximity, and there may be insufficient space for merge / diverge (changing lanes) between them. Collector-distributors can link two junctions into one extended junction. Collector-distributors also segregate traffic before entering tunnels, avoiding traffic weaving in tunnels which is discouraged by Highways England guidance.

7.4.2 Figure 7.4 explains how a collector-distributor road could be laid out and shows how it helps to avoid weaving of traffic between junctions and allows those travelling between J14 and J15 to avoid using the ‘mainline’ of the motorway.

Figure 7.4: Indicative layout of collector-distributor roads
7.4.3 As set out in section 6 of the **Scheme Development Report** our evaluation process has currently shortlisted five junction options, and we are in the process of reviewing junction options further to incorporate collector-distributor roads. There are two broad families of options:

- Options with two junctions (J14 and J14A); and
- Options with only one junction (J14), in which case the retained option is likely to be bigger.

7.4.4 Figure 7.5 shows the likely maximum extent of junction options together with two options which have not been discontinued through the evaluation process to date.

7.4.5 Option JA2 is an example which keeps both J14 and J14a in place and features a flyover at J14 to improve journey time performance. It performed well across all disciplines in our evaluation, albeit it does not include collector-distributors.

7.4.6 Option JC2 is an example of a junction arrangement which removes J14a altogether, therefore necessitating a substantial upgrade to J14 to accommodate displaced traffic. This option is likely to be required if we proposed an expanded terminal and apron area west of Terminal 5 (large western campus) where the airfield would leave insufficient space to keep J14a. It may also be needed if increased traffic diverts onto the Southern Perimeter Road from the closure of the Western and Northern Perimeter Roads (see Local Roads below). We are still exploring these issues because the layout of the aprons, taxiways, rivers and other infrastructure may mean that J14a cannot be retained. The maximum footprint area in Figure 7.5 shows the corridor within which we are refining our options for the junction. Options will also continue to be developed through discussions with Highways England.

![Figure 7.5: Summary of M25 Junction Options](image-url)
7.4.7 Our current thoughts on the remaining options are that options such as JA2, which would broadly follow the existing road alignment and which would involve less significant works to J14 and J14a would have relatively reduced impacts but would offer potentially less capacity and connectivity (subject to further traffic analysis).

7.4.8 Of the options which do remove the existing J14a entirely, JC2 is recognised as being relatively intrusive and complex to construct but would provide necessary replacement capacity for that lost at J14a. A number of options were discontinued because they were too extensive and encroached significantly into Stanwell Moor.

**Tell us what you think**

*Please tell us what you think about the re-positioning of the M25.*
*Please tell us which family of options you prefer for the alterations to Junctions 14 and 14A and reasons why.*

More information on our consultation and how you can provide us your views can be found at www.heathrowconsultation.com.
8 Local road diversions

This chapter examines the role of local roads and junctions and the relationship between these and airport expansion and explains the options for diversion of the local roads (A4, A3044) and proposed works to other local connections and junctions.

8.1 Today

8.1.1 Heathrow is surrounded by two rings of local roads, as shown on Figure 8.1. The inner ring is formed by the northern, eastern, southern and western perimeter roads; the outer ring consists of the A4, A312, A30 and A3044.

8.1.2 Heathrow is connected to the Western Perimeter Road (WPR) by an access road to Terminal 5 and from the A4 and the Northern Perimeter Road (NPR) to the Central Terminal Area (CTA) by the M4 Spur and the northern tunnel.

8.1.3 The Southern Perimeter Road (SPR), A3044 and A3113 Airport Way meet at the Stanwell Moor Junction.

8.1.4 These roads are presented in Figure 8.1.

Figure 8.1: Local Roads around Heathrow Airport

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Key
- Current Heathrow Airport
- Existing Local Roads
- Existing Perimeter Roads
8.1.5 Terminal 5 is located on the western side of Heathrow and can be accessed from J14a of the M25 or the Western Perimeter Road, as shown in Figure 8.2.

8.1.6 Currently, the only public road link to the Central Terminal Area is the northern tunnel, which runs from the ‘Emirates’ roundabout at the southern end of the M4 Spur. The existing northern tunnel is a dual carriageway with two lanes in each direction. This is shown in Figure 8.3.
8.2 Requirements for growth

8.2.1 Figure 8.4 shows diagrammatically that the provision of the new north west runway will impact directly on a range of road infrastructure, including the A4 to the north of the existing airport and the A3044 to the west.

8.2.2 In addition to re-providing the specific functions of each road, all local road options need to be designed to highway design standards, deliverable within the programme timescales and respect Heathrow’s neighbours by growing the airport without increasing airport related traffic.

8.3 Options

Options for the diversion of the A4

8.3.1 As a result of the expansion of Heathrow, the A4 will be severed between Colnbrook and the M4 Spur, removing the connection with the A3044, affecting the connectivity between communities on the north side of the airport and to the airport itself.

8.3.2 We recognise that it will be important to re-provide the local road functions, including public transport and walking and cycling provision. The A4 may also need to accommodate increased traffic from the closure of the Northern Perimeter Road.

8.3.3 Section 7 of the Scheme Development Report explains how a shortlist of options was developed and Figure 113 in that report contains the evaluation of options. Figure 8.5 below shows those options we have short listed through our evaluation process.

8.3.4 The alignments are approximate at this stage. Like the existing road, initial traffic analysis indicates that the replacement would probably need to be provided as a dual carriageway.

8.3.5 Three options have been shortlisted in our evaluation: 2e, 3a and 6c as shown in Figure 8.5.

Figure 8.4: Local roads around Heathrow severed by Expansion (shown in red)
Figure 8.5: Shortlisted options for the replacement of the A4

Key
- Current Heathrow Airport
- Illustrative Airport Expansion Boundary AC V4.9
- Runways
- Potential A4 alignment
- Potential A4 in cutting or underpass
- Existing A4 alignment
- Area potentially affected by road options under consideration

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8.3.6 Option 2E uses a new route north of the third runway between the A4 at Colnbrook and the A4 to the west of Sipson, bypassing both Harmondsworth and Sipson. There are various alignments around Saxon Way Trading Estate. This option contains a section of tunnel running under the third runway. This option re-provides east-west connectivity and creates an opportunity for new connectivity for residents and businesses, such as bus routes.

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

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

8.3.9 We are also considering a ‘do minimum’ option (option DM) as an interim measure but not as a long term solution. This would use the existing A4 road alignment to the west of the M25 and a short section of Holloway Lane. Whilst this option retains the existing road it did not provide sufficient capacity or connectivity. It has been retained as a potential option because it could provide local enhancements particularly in the early stages of delivery.

8.3.10 We are in the process of refining the alignment of the replacement route options and Figure 8.5 identifies the zones to the north and east of the runway where we are looking at options for how the route for the replacement A4 could be located (labelled as ‘area potentially affected’).

8.3.11 Our next steps are to further assess the options to determine if a single carriageway is adequate or if two lanes of carriageway are required. With your feedback, we also intend to fine tune the alignment to optimise the new road layout.

Tell us what you think

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

More information on our consultation and how you can provide us your views can be found at www.heathrowconsultation.com.

8.3.10 We are in the process of refining the alignment of the replacement route options and Figure 8.5 identifies the zones to the north and east of the runway where we are looking at options for how the route for the replacement A4 could be located (labelled as ‘area potentially affected’).

8.3.11 Our next steps are to further assess the options to determine if a single carriageway is adequate or if two lanes of carriageway are required. With your feedback, we also intend to fine tune the alignment to optimise the new road layout.

Options for the replacement of the A3044

8.3.12 The expansion project would remove 7.2km of the 8.7km length of the A3044, severing it between the villages of Harmondsworth and Stanwell Moor (see Figure 8.4). This would sever connectivity between the A4 and A3113 routes, limit access for commercial and residential property to the western side of the airport and limit access to Poyle and Colnbrook via Bath Road. A replacement route is necessary to maintain connectivity and provide an alternative route for traffic diverting from the closure of the Western Perimeter Road. We will also seek to provide opportunities to improve local accessibility – e.g. to Poyle Industrial Estate.

8.3.13 As considered for the diversion of the A4 it will be important to re-provide the local road functions, including public transport and walking and cycling provision.

8.3.14 Section 7 of the Scheme Development Report explains the options that have been evaluated; the short-listed options are shown in Figure 8.6:

• Family 2: Options providing north-south connectivity for the A3044 from the realigned A4 (north or south of the new runway) to a suitable location in the vicinity of the existing M25 Junction 14, either one or the other side of the M25; and

• Family 3: Options providing north-south connectivity for the A3044 from locations on the A4 between Colnbrook and Brands Hill to a suitable location along Horton Road, west of the existing M25 Junction 14.
We have concluded that there is insufficient space to the east of the M25 to re-establish the current A3044 and the Western Perimeter Road connectivity. This is because of the potential retention of the M25 Junction 14a and land constraints due to the diversion of the rivers and the potential arrangements for the western apron. Only options to the west of the M25 are considered to be deliverable and not in conflict with the expanded airport. Of these options, 3D and 3G performed well in our evaluation.

Option 3D is a short, direct route east of Poyle and north of Colnbrook avoiding the village centres. This would result in the loss of some commercial and residential properties which partly contributes to its higher cost than some options, but would keep traffic away from existing communities. This option provides an opportunity to provide a direct access to Poyle Industrial Estate, bypassing local communities.

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

Options 2A and 2Ai are north-south routes that run under the new runway. 2A connects to a re-aligned A4 north of the new runway (option 2e or 3a) whereas 2Ai connects to a re-aligned A4 (option 6c) which is in a cutting or tunnel under the expanded airfield. This route is more costly and complex to deliver and would result in the loss of some commercial and residential properties. This option also provides an opportunity to provide a direct access to Poyle Industrial Estate, bypassing local communities.
8.3.19 Again, these options are subject to further rigorous assessment, including justifying the need for replacement, and obtaining the views of key stakeholders, including local communities, the highway authorities and operators and other businesses who rely on the A3044. We are continuing to work on options to refine them all. Our next steps are to:

- further assess the options to determine if a single carriageway is adequate or if two lanes of carriageway are required;
- further assess the options to ensure that they are providing for the re-provision of the A3044 with north-south connectivity re-established and would not act as a shortcut between the M4 and the M25; and
- review our assessments in the light of this consultation.

8.3.20 Located to the south west side of Heathrow Airport, the Stanwell Moor Junction is an important junction, connecting the A3044, A3113 Airport Way (which provides direct access to M25 J14) and the Southern Perimeter Road. The existing junction is an at-grade partially signalised roundabout with three to four circulatory lanes.

8.3.21 Typically, the junction performs well with adequate capacity provided at all times, however some queuing is evident in the weekday AM and PM peaks. This may be attributed to some traffic avoiding the heavily congested M25, although it is consistent with normal peak period congestion on heavily used major routes.

8.3.22 Our preliminary traffic model shows a large increase in traffic due to the severing of the A3044 between the villages of Harmondsworth and Stanwell Moor, the potential removal of Junction 14a of the M25 and a potential new southern access route into the Central Terminal Area via the Southern Perimeter Road. This would in turn potentially lead to greater traffic flow from Junction 14 of the M25 in order to access Heathrow Terminal 5 and the Central Terminal Area. The existing at-grade Stanwell Moor Junction will not have sufficient capacity to deal with this increase.

8.3.23 Our evaluation has resulted in four short-listed options for the junction, illustrated at Figure 8.7.
8.3.24 Section 7 of the *Scheme Development Report* provides full details of our evaluation and shows that Option SMJ 2 and SMJ 3 are the best performing options. This is because they deliver additional highways capacity in a way which follows the alignment of the existing roads and therefore minimises property loss and encroachment close to the existing communities. Option SMJ 1 and SMJ 5 are more extensive and are less preferred because of their higher encroachment into surrounding areas.

8.3.25 Again, these interim conclusions are subject to further rigorous assessment, including justifying the need for replacement, and obtaining the views of key stakeholders, especially local communities, the highway authorities and operators.

8.3.26 Our next steps are to further assess and refine the options in order to determine the necessary operational performance of the junctions and to develop the junction designs in discussion with stakeholders, in the light of responses to this consultation.

**Tell us what you think**

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

More information on our consultation and how you can provide us your views can be found at www.heathrowconsultation.com.

**The Northern Perimeter Road**

8.3.27 The expansion of the airport will result in the loss of the Northern Perimeter Road (NPR) to the west of the Emirates roundabout. Due to space constraints, it is not anticipated that this road will be replaced so its functions will need to be transferred to other routes in the future road network, most likely the chosen options for the A4 and the A3044.
The Western Perimeter Road

8.3.28 The expansion of the airport is likely to result in the loss of the Western Perimeter Road (WPR). As with the NPR, it is not anticipated that the WPR will be replaced so its functions will need to be transferred to other routes in the future road network, most likely the chosen options for the A4 and the A3044.

The Southern Perimeter Road

8.3.29 The Southern Perimeter Road (SPR) is an existing road that runs along the southern perimeter of Heathrow with two lanes in each direction.

8.3.30 Our preliminary forecasts suggest that with expansion, the SPR would operate at the upper end of what a dual carriageway can handle in terms of capacity, taking into account planned increases in cargo at the airport, the potential introduction of a Southern Access Tunnel to the CTA and increases in coach and bus transport (see below). The proposed loss of the NPR will also put more pressure on the SPR as a key access route. There would also be benefit in improving facilities for pedestrians and cyclists to better connect areas of employment by cycle and to improve local connectivity.

8.3.31 We are at an early stage of option development, but potential responses could include increasing the road to three lanes both ways, providing an alternative access to the Cargo Area or introducing demand management measures, such as road user charging.

8.3.32 The precise makeup of measures will need to be confirmed through ongoing engagement, together with the assessment of emerging masterplan components, and testing combinations of options via highway modelling. Our evaluation process will also ensure that environmental and community issues are factored in to any emerging preference, which would then be consulted on as part of the next stage of consultation.

Central terminal area access

8.3.33 The existing northern tunnel is the only public road link into the Central Terminal Area (CTA) and therefore critical to the operation of the airport. This tunnel runs between the CTA and the Emirates Roundabout, located at the southern end of the M4 Spur with additional arms to access the A4 and the Northern Perimeter Road. The tunnel currently has a speed limit imposed of 30mph. Typically, the northern tunnel to the CTA performs well with adequate link capacity except during morning and evening peak periods.

8.3.34 The existing northern tunnel will not be affected by the construction of the new runway, but it could be enhanced to provide pedestrian and cycle access. However, a second access to the CTA, may be required for resilience, capacity and connectivity. Such a tunnel would improve car and public transport access from the south of the airport but it would also generate traffic on the routes leading to the tunnel south of the airport. Figure 8.8 below shows two potential options for a second tunnel. Option S5 would use and improve an existing cargo tunnel at the airport (this option would require a new airside cargo tunnel to be built elsewhere at the airport), whilst Option S6 would require a new tunnel.
Tell us what you think

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

More information on our consultation and how you can provide us your views can be found at www.heathrowconsultation.com.

Terminal 5 access

8.3.35 As a result of expansion, the current access to Terminal 5 from J14a of the M25 may be severed by new taxiways or may be lost completely depending on the selected option for the M25 junctions. The WPR will also be lost so the connection from local roads to Terminal 5 will be severed.

8.3.36 We are currently evaluating options for enhancing access to Terminal 5 in the event of the loss of J14A – including the need to enhance the capacity of the Stanwell Moor Junction as described above and will need to review access arrangements when these components have been fixed. We are not seeking feedback on T5 access at this stage.

Options for other local connections

8.3.37 We also expect there to be impacts on other roads because of the airport’s expansion and we are considering how to replace local connectivity by providing new improved or diverted routes. This work will be subject to full assessment and evaluation in accordance with our scheme development process and, if required, further consultation on the preferred scheme that we intend to include in our DCO application.

Figure 8.8: Two options for a new Southern Access to the Central Terminal Area
This chapter explains the functions of local rivers and flood storage areas, examines how these may be impacted by expansion and analyses the options to maintain river flows and to re-provide areas of flood storage.

9.1 Today

Heathrow Airport is located within the lower River Colne catchment and the River Crane catchment. The proposed expansion falls largely to the west of the existing airport, primarily within the Colne Valley river system. This is a complex catchment, containing a number of different channels that flow to the west of the airport, some of which are man-made. The three main rivers in the Colne Valley are the River Colne, the Colne Brook and the Wraysbury River. The Duke of Northumberland's River and the Longford River also flow around the western airport boundary, but they do not have associated floodplains. The watercourses within the lower Colne Valley are shown in Figure 9.1.

Figure 9.1: Rivers and floodplain east and west of M25

Key
- Current Heathrow Boundary
- Existing channels
- Existing water bodies
- Flood Zone 2
- Flood Zone 3
9.1.2 The River Colne catchment in the vicinity of the airport has a long history of flooding. The most notable event was in 2003, with other recorded flooding in 1987, 1993, 2000, 2001 and as recent as 2014. We are aware of flood alleviation schemes already implemented by the Environment Agency (EA) within the wider River Colne catchment and which benefit local communities. These include:

- The Lower Colne Improvements Scheme (1999-2003), including the flood diversion channel at Stanwell Moor; and
- The Colnbrook Flood Alleviation Scheme (2005).

9.1.3 The Environment Agency’s Flood Zone Maps indicate that Colnbrook, Poyle, Stanwell Moor, Longford and West Drayton are identified as being at risk of flooding during the 1% annual exceedance probability event – this is a large flood event with a 1% chance of occurring annually. The airport is not shown to be at risk and there are no recorded incidents of it suffering flooding from rivers.

9.1.4 We are committed to protecting the quality of the water environment. It is therefore important that the expansion of the airport does not cause significant deterioration in the quality of the water environment in the Colne Valley. In seeking to provide solutions for river conveyance and flood management we will seek to take opportunities to provide improved public access to the natural environment.

9.2 Requirements for growth

9.2.1 Our options development has been informed by various requirements set out in planning policy and legislation. The draft NPS sets a number of requirements with respect to the water environment, river diversions and flood risk management derived from the:

- National Planning Policy Framework (NPPF); and
- the Water Framework Directive (WFD).

9.3 Conveyance options

9.3.1 Our work to date to maintain flow conveyance through the Colne Valley is summarised in Section 8 of the Scheme Development Report. We have considered a range of options that include river alignments that flow under the runway and alternatives that include diversions of some rivers around the western end of the runway. These options are illustrated in Figure 9.2 below.

9.3.2 In all of our options the River Colne, River Wraysbury, the Longford River and the Duke of Northumberland’s River flow through a covered river corridor under the runway. This covered river corridor is being designed to allow animal and fish passage through the Colne valley, including consideration of planting requirements, lighting, irrigation, airflow and diverse channel design.

9.3.3 To facilitate passage under the runway the rivers have been combined into two river channels – the Rivers Colne and Wraysbury to the west and the Longford River and Duke of Northumberland’s to the east. All rivers are separated out and return to their current channels and flow conditions downstream of the expanded airfield. Aligning these rivers under the runway minimises the land requirement and earthworks associated with the rivers and keeps the rivers as close as possible to their existing alignment.
In two of our options, additional diversion channels are introduced that would convey flows in open channels around the western end of the new runway. Diverting river channels around the runway would maintain more rivers in open channels, but would involve a high land requirement, require complex construction sequencing and the need to cross the M25 and M4 motorways. It will also present challenges to the conveyance of flood flows.

Based on these principles, and after evaluation, we have shortlisted four options for the alignment of rivers in the Colne Valley, which are shown in Figure 9.2, as follows:

- Option C1a maintains all rivers as close to their existing alignments as possible, with the River Colne, River Wraysbury, Duke of Northumberland's and Longford Rivers, and the Colne Brook all conveyed under the runway to be returned to their existing alignments downstream;
- Option C1c is similar to C1a, but the Colne Brook is diverted around the western end of the new runway;
- Option C1d includes an additional diversion channel around the western perimeter of the airfield, diverting a proportion of low flows from the River Colne and River Wraysbury, via the Colne Brook. This loss of flow from the Colne/Wraysbury system is balanced by a reduction in the flow through the Poyle Channel, which connects the River Wraysbury and the Colne Brook; and
- Option C1e is similar to option C1c, with the addition of more extensive new channels to the west around Colnbrook village. A new channel, conveying some low flows from the River Colne and River Wraysbury, is created to the west of the Colne Brook, flowing to the west of Colnbrook Village and then returning flow to the Colne Brook to the west of Poyle. As in C1d flows are balanced through a reduction in flows through the Poyle Channel.
9.3.6  As we refine our options, we are working to develop solutions that will provide ecological and habitat connectivity within the Colne Valley where possible. We will also need to take into account the position of airport infrastructure and realigned roads.

9.4  Flood storage options

9.4.1  The new runway would be built partly in the flood plain of the Colne Valley rivers. Preliminary modelling and estimates of the volume of existing flood storage that will be lost due to the expansion of Heathrow indicate that the volume of compensatory storage the scheme will need to provide for the Colne Brook is of the order of 290,000m³, with storage of the order of 140,000m³ required for the River Colne and Wraysbury rivers.

9.4.2  As set out in Section 8 of the Scheme Development Report, options were shortlisted for flood storage. We have identified a range of sites which could be used for flood storage to the north and/or to the south of the airport. Figure 9.3 below shows the potential areas where flood storage could be located.

Figure 9.3: Areas for assessed storage options
9.4.3 Area S2 would potentially provide storage under the new runway and under an expanded western apron. This option has been retained for further evaluation although there is potential for conflict with airfield operations and other land uses for formal storage areas. It would involve in part the maximisation of river corridors and the utilisation of in-channel storage. This option scored well from a planning and property perspective because the land requirement would be largely contained within the airport boundary. This option could form part of the solution but there could be interaction with current landfill sites, which would create significant complexity and cost.

9.4.4 Area S5 represents the principle of new upstream flood storage solutions. Land would be lowered or existing channels widened to increase flood storage capacity upstream of the new runway. This approach scored well in terms of delivery and business case because provision is largely off site and its development would impact less on the airport. It scored less well in terms of property and planning, however, because of land requirements and potential conflict with environmental designations.

9.4.5 Refinement of the potential sites within option family S5 has resulted in the shortlisting of sites, which are summarised in Figure 9.4 and in the table below. Note these will be subject to change as we carry out more work during the ongoing development of the scheme.

9.4.6 The table below summarises our preliminary thinking on the remaining off-airport flood storage options. Not all of these sites will be required for flood storage and we are likely to seek an appropriate balance between upstream or on-site solutions with a combination of sites providing the required capacity for water storage if a flood event occurs.

Tell us what you think

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

More information on our consultation and how you can provide us your views can be found at www.heathrowconsultation.com.

Figure 9.4: Off-airport shortlisted flood storage options
<table>
<thead>
<tr>
<th>Flood storage component option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Denham Quarry</td>
<td>Currently, the proposed storage option is to use the freeboard within the existing lake to the east of the quarry, with an assumed depth for flood storage of 0.5m. Further storage volume could be obtained at the site by expanding the lake and/or increasing the freeboard of the lake with local embankments.</td>
</tr>
<tr>
<td>West of Uxbridge Industrial Estate</td>
<td>The site is located immediately to the east of the M25, between Slough Road and the B470. There is an existing lake in the centre of the site. An offline flood storage basin is being considered, primarily for flood flows from the River Colne, but also potentially from Colne Brook.</td>
</tr>
<tr>
<td>East of Bangors Road South</td>
<td>This site is located immediately to the west of the M25. The River Colne runs north to south through the site. The possibility being considered at this site is to use the existing watercourse in the greenfield corridor to create a 1km long multi-stage channel with a greater capacity for flood storage than the existing channel.</td>
</tr>
<tr>
<td>Long Mead</td>
<td>The site is immediately to the north of the M4, to the east of the junction with the M25. A scheme here would lower ground levels by around a metre on this existing floodplain to increase the storage available. The high groundwater limits the depth of excavation, as there are existing ponds in the area.</td>
</tr>
<tr>
<td>Colne Brook at Poynings</td>
<td>The site is located to the west of the junction between the M4 and M25, and is currently used for agriculture. The intention here would be for the development of an offline flood storage area, through excavation, installation of embankments and associated hydraulic control structures.</td>
</tr>
<tr>
<td>Thorny Mill Road to Railway</td>
<td>The site is to the north east of the junction between the M4 and M25. There are two distinct sections of this site. The first is an offline flood storage area on the right bank of Colne Brook, in the parcel of land between the M25, Thorny Mill Road and the railway line. The second option is to use the 0.5m freeboard in the existing lake. How the lake level reacts to fluvial flooding through groundwater connectivity is currently under investigation.</td>
</tr>
<tr>
<td>West of Orlitts Lake</td>
<td>The site is to the south west of the junction between the M4 and M25. The option would be an online flood storage basin connected to the realigned Colne Brook. This is the same proposal adopted for the Airports Commission flood risk assessment.</td>
</tr>
<tr>
<td>South of Saxon Lake</td>
<td>Saxon Lake is an existing lake immediately to the south of the M4. The proposal would be to excavate a new basin immediately adjacent to the existing Saxon Lake. This would allow connectivity to the Duke of Northumberland's River.</td>
</tr>
<tr>
<td>Harmondsworth Moor</td>
<td>This site is within Harmondsworth Moor, a recreational site between the M4 and proposed runway. Due to the topography, the current preferred solution is a widened multi-stage channel which conveys low and flood flows. The approximate length of this widened section of channel would be 1km, however given the existing ground levels, significant excavation would be required.</td>
</tr>
</tbody>
</table>

Table 9.1: Remaining Flood Storage Options
This chapter examines essential airport supporting facilities and explains the options available to expand these facilities to meet the needs of expansion.

### 10.1 Today

10.1.1 Without airport supporting facilities the airport would not be able to operate – they are essential to the safe and efficient day to day operation. They are operated by the airport, or by airlines, tenants or contracting companies. The location of these is shown in Figure 10.1.

10.1.2 Facilities such as aircraft maintenance and cargo sheds employ a significant number of colleagues and generate a lot of supporting economic activity in the regional supply chain.

10.1.3 Heathrow’s major airport supporting functions include:

- **Cargo operations**: comprise custom-controlled areas (all imports and exports must move through these) and general warehousing and support activities. There are two types of customs-related temporary storage facility that process and hold cargo – Internal (ITSF) and External (ETSF). The former is within the airport, and the latter outside it. ITSF accounts for the majority of the cargo area within the airport – around 80%. It needs to be located inside the customs controlled area of an airport. Other cargo facilities within the airport include general warehousing and storage, animal quarantine, and Royal Mail facilities. Cargo operations are located predominantly in the south of the airport, with some operations located just outside the boundary further south. The existing cargo areas are shown at Figure 10.3;

- **Aircraft Maintenance, Repair and Overhaul (MRO) facilities**: provide scheduled inspection and maintenance activities of aircraft. These facilities comprise hangar bays, aircraft washing facilities, stores and repair workshops, and ground run pens to test engines. These facilities are located predominantly in the east of the airport;

- **Land for airport operations and industrial uses**: includes utilities, construction compounds (for the on-going maintenance of the airport estate), and potentially in-flight catering facilities. It also includes a range of small, fixed facilities to ensure the safe and efficient running of the airport, including emergency facilities, parking for service equipment and vehicles, baggage facilities, fuelling facilities and air traffic control; and

- **Balancing ponds**: capture surface runoff from the airport and help manage control of pollutants.
10.1.4 Altogether cargo, MRO and other airport supporting facilities cover substantial areas of land at the airport or directly adjacent to it, as summarised in the table below.

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Gross Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cargo facilities</td>
<td>45 ha within the operational boundary, and 9 ha adjacent</td>
</tr>
<tr>
<td>MRO facilities</td>
<td>93 ha within the operational boundary</td>
</tr>
<tr>
<td>Other airport operational land</td>
<td>76 ha within the operational boundary</td>
</tr>
<tr>
<td>Balancing Ponds</td>
<td>7 ha within the operational boundary and 128 ha in surrounding areas</td>
</tr>
</tbody>
</table>

Table 10.1: Airport supporting facilities at Heathrow

10.1.5 Other supporting facilities (such as aviation fuel facilities, waste water treatment and drainage) are considered later in this Chapter.

10.1.6 Car parking facilities are dealt with in Chapter 11, while hotel and office requirements are examined in Chapter 14.

10.2 Requirements for growth

10.2.1 The following growth factors have been used when considering the necessary scale of the facilities required as part of Heathrow’s expansion:

- Annual Air Transport Movements (ATMs): an increase of at least 260,000 from an average of 473,000 today – up by approximately 55%
- Annual passenger numbers: an increase from 76 MPPA to approximately 130 MPPA – up by approximately 72%
- Cargo forecast: an increase from 1.5m tonnes per year to 3m tonnes per year – up by approximately 100%
10.2.2 Expansion impacts existing facilities over a long development timeline, thereby providing a unique opportunity to reorganise and enhance the existing estate of supporting facilities to maximise efficiency for all operators and users, enable improved resilience and minimise operational cost across the airport. Over the years, the need to develop certain terminal facilities and to accommodate larger aircraft has limited the availability of space for support facilities, resulting in a sometimes piecemeal provision of these facilities around the airport.

10.2.3 Figure 10.2 highlights facilities that may be displaced by expansion and, in a number of cases, need to be replaced.

10.2.4 Our evaluation of options for most supporting facilities is less advanced than our work on some of the main infrastructure components addressed in previous Chapters. We have not yet assessed the options in detail. In this Chapter, therefore, we explain our work in progress, seek your views generally and illustrate sites adjacent to the expanded airport that may be required for the growth of supporting facilities.

10.3 Options for cargo

10.3.1 The Revised Draft NPS (paragraph 3.71) places particular weight on the fact that expansion at Heathrow delivers the greatest support for freight. With expansion we have committed to a doubling of freight capacity at the airport.

10.3.2 Heathrow plays a significant role in UK trade. It accounts for 70% of all UK air cargo, the equivalent of 32% of all UK trade by value, exceeding the combined value exported through the UK’s top three sea ports.

10.3.3 There is approximately 45ha of cargo floorspace within the airport, and 9ha in Dnata City (just outside the operational boundary) – see Figure 10.3. Given the opportunities available to improve the processing and storage of cargo at Heathrow, including a more efficient use of existing space, we estimate that we need to increase the footprint of our cargo operation to a total gross area of up to 95 ha.
Figure 10.3: Plan showing existing cargo operations

Key
- Current Heathrow Boundary
- Runways
- Taxiways
- Cargo
- Existing Terminals / Satellites

1. Existing Dnata City Plot
2. Existing British Airways World Cargo Centre
3. Existing Cargo APP - Horseshoe Plot
With this in mind, we have considered three avenues for increasing cargo capacity. These are:

- the intensification of existing facilities within the airport boundary;
- the provision of additional cargo shed capacity; and
- the provision of dedicated transhipment facilities.

**The intensification of existing facilities within the airport boundary**

This involves increasing cargo capacity within the IAG facility and the redevelopment of the Horseshoe facility (see Figure 10.3). We have identified two options for the intensification of the existing on-airport Horseshoe site, which would be likely to provide handling capacity of around a million tonnes per annum.

This approach also involves converting the existing general cargo sheds within the customs boundary to ITSFs, and together would achieve a maximum handling capacity of c.2.38 million tonnes. Even with this approach, therefore, further facilities will be required in order to double our cargo capacity.

**The provision of additional shed capacity**

We have identified four options for the location of additional shed capacity of which only two are realistically viable.

The first option is located close to the Horseshoe site within the existing airport boundary. Grass Area 17A, located adjacent to the T4 apron, is currently used for the storage of construction materials but would be suitable for a new cargo facility as it has good landside and airside access and is close to the existing cargo operations.

A second option would be to locate a cargo facility between the new north west runway and the existing north runway. It would have good landside and airside access, and access to the M4 spur. This option will be tested further before our next consultation.

**The provision of dedicated transhipment facilities**

Transhipment facilities enable the processing of goods at a ‘middle’ or intermediate destination – in this instance, where Heathrow is the middle point between the place of departure and the final destination. We have identified three options for the location of these facilities.

The first option is ‘business as usual’, where the transhipment activities take place in the existing locations, i.e. at the IAG site, Horseshoe site, and at Dnata City. To cope with increased demand, these facilities (including control posts and airside roads) would need to expand, albeit on the same site (this would involve optimisation and densification of the existing space).

An alternative would be an airside transhipment facility in the west or northern aprons – these would be ideal locations given this is where the aircraft which generate the greatest transhipment volume are located. Alternatively, we are considering developing multiple dispersed transhipment facilities on the west/northern and eastern aprons, which would make the transhipment facilities more accessible to a wider variety of airlines.

We are continuing to develop and refine our cargo options as part of our scheme development process and are confident that we can increase freight capacity at the airport. These initiatives will be supported by improvements in operational performance and efficiency, such as improving landside and airside roads, reducing connection times for transiting freight and introducing new procedures at control posts. You can read more about our assessment process in Section 11 of the **Scheme Development Report**.
Freight hub

10.3.14 Separate to the above options, we have also considered developing a Modal Hub, which would consolidate freight operations – possibly with a rail hub – in order to reduce traffic on the roads. However, some of the characteristics of air cargo may limit the effectiveness of this operation, including generating the requisite volumes of cargo required to justify freight trains. We have developed three options for the location of this type of facility, which you can read about in Section 11 of the Scheme Development Report.

10.3.15 The three options we have considered for a modal hub are:

- Option A: Near Colnbrook, on land to the north of the A4 currently served by a rail-head that spurs off the Great Western Railway line. A control post is being considered to grant airside access to facilitate the Heathrow construction process, after which part of the site could be converted to a multi-modal logistics hub and distribution centre that could handle cargo that is linked to both the rail and trunk road network;

- Option B: To the south of the Cargo Centre, if the Southern Rail Access proposal is progressed. The site would still require a change of gauge and last mile logistics to the cargo area adding delay and cost to the operation. This option is wholly dependent on a new rail link which is not part of the Heathrow expansion programme; or

- Option C: In the event of any future closure of T4, there could be an opportunity to use the existing rail link to T4 as a potential rail freight hub on the site of the existing Terminal 4. We could also use existing rail tunnels that run under the cargo area and ventilation shafts at Sealand Road to deliver cargo to the surface.

10.3.16 These options are shown in Figure 10.4.

Figure 10.4: Options for a freight hub
10.3.17 Transferring goods by rail has the potential to remove a large number of vehicles from the road network, however the nature of air cargo makes this difficult to realise due to:

- limits on the availability of track paths on the railway network at suitable times;
- it may be difficult to assemble the regular volumes which are required to justify freight trains and take capacity in the timetables; and
- rail involves a level of double / triple handling and therefore cost and can add time to the process.

10.3.18 We think there may be longer term potential for inter-continental rail freight, contingent on other factors including rail infrastructure development of the national rail network. These are complex and potentially long term issues and, for the time being, we have considered that proposals for a modal hub should not be taken forward at this stage of scheme development.

**Truck park**

10.3.19 We have also considered developing a Truck Park to mitigate the current lack of appropriate facilities for long distance drivers close to the airport which creates congestion today at the cargo areas and on local roads where uncontrolled parking can create problems. The provision of a purpose-built Truck Park could reduce congestion and help to manage HGV demand – it would be a secured parking facility awaiting access to the cargo centre, run by a ‘call-forward system’ to ensure efficiency of operations. We have identified four options for the location of this type of facility, which you can read about in Section 11 of the Scheme Development Report. These options are identified at Figure 10.5.
In relation to these options our work to date has identified the following considerations:

- **Option A**: whilst this option may in theory work well with a rail freight hub, we are not yet convinced of the economics of airport related rail freight, although the site may offer opportunities for a consolidation centre;
- **Option B**: the site is an existing truck park and is well located to the west of the airport with good access to the main cargo area;
- **Option C**: again, this site is well located for access to the cargo area, although the site may be suitable for other airport related purposes (see Chapter 16); and
- **Option D**: the site is close to the existing cargo area but less well located than sites to the west which could intercept and consolidate traffic from the motorway network before it reaches the cargo area.

Issues relating to specific sites are considered in more detail in Chapter 16.

### Options for maintenance, repair and overhaul (MRO)

**10.4.1** Heathrow Airport has significant MRO facilities for aircraft operating from the airport. Located on a single site at the eastern end of the airport, it is one of the largest facilities in Europe, employs a skilled workforce and contributes to the airport’s economic benefits in the local area.

**10.4.2** With expansion, it is expected that the number of facilities required for this function will increase. Section 12 of the *Scheme Development Report* describes the factors that influence the demand the additional MRO facilities. We anticipate that we will need up to four new hangar bays for current and future home-based airline operators and space for at least one ground run pen (high speed engine test areas).

**10.4.3** We have identified three types of options to accommodate this growth, but also review the opportunity to re-shape MRO operations at the airport:

- New MRO demand is accommodated and consolidated in to a single zone;
- MRO is dispersed across the aprons to be closer to terminal operations; or
- New MRO demand is accommodated and consolidated in to a single zone with a degree of decentralisation such as a forward maintenance facility near the apron of a home based operator. (eg: British Airways at T5)

**10.4.4** We discontinued the second option (a dispersed strategy) due to it potentially leading to an inefficient operation (resulting in a high number of aircraft taxiing movements), and its potential to create unacceptable environmental impacts (air quality and ground noise) due to the location of ground run pens.

**10.4.5** We are now proceeding with options that continue to consolidate MRO in the east or relocate it to the new northern apron, or continue to consolidate MRO in the east with forward maintenance facilities (hangar and ground run pen) in the operational aprons (west, south or north aprons).

**10.4.6** For each option we have assumed that efficiencies can be achieved in the layout of the MRO facilities to limit the extent to which an increased footprint for MRO will be required.

### Options for other airport supporting facilities

**10.5.1** Heathrow’s expansion will require growth in a number of critical supporting facilities within the airport and on its boundary to support the increase in passengers, air transport movements, cargo and airport colleagues.
10.5.2 Many of these facilities and uses have specific requirements for their location and function – some must be airside, or within aprons, or within close proximity of utilities (e.g. fire stations and energy). In some cases, these uses are heavily regulated – for example emergency services – which determines their scale and location.

10.5.3 With this in mind, we are evaluating options for the approach to and location of airport supporting facilities only where there are appropriate alternatives which might have effects outside the airport boundary. These include:

- our approach to **airline catering** – with options relating to re-providing facilities displaced by the expansion of the airport boundary, and potentially consolidating catering facilities. More detail is provided on this in Chapter 14; and

- our approach to **engineering compound sites** (stores, workshops, compounds and batching plants across the campus) – with options to accommodate them within the airport, adjacent to it, or slightly further afield.

10.5.4 Any demand and land requirement implications of these options are considered in Chapters 14 and 16 of this document.

**Aviation fuel facilities**

10.5.5 As well as the facilities for receiving and distributing fuel, Heathrow needs facilities to store fuel between its delivery and use to ensure there is a continuous supply of fuel to aircraft. Heathrow’s current facilities allow approximately 2 days of fuel demand to be stored but there is an objective to increase this to 3 days to protect against any interruption to supply.

10.5.6 Figure 10.6 and the text below describe the existing fuel storage facilities at Heathrow.
10.5.7 Heathrow is supplied by three privately owned pipelines, a rail connection and a small fleet of road tankers when required. The fuel is received at the Northern Fuel Receipt Facility (NFRF) and the Southern Fuel Receipt Facility (SFRF), where it is filtered before being routed to the storage facilities.

10.5.8 The fuel is stored at either the Perry Oaks Fuel Farm or the Cargo Depot Fuel Farm, which together can store a total of 39 million litres of usable fuel, before being distributed to the aircraft stands through the airport’s hydrant system.

10.5.9 The existing fuel network is estimated to be able to supply up to a maximum of circa 27 million litres per day. The forecast average peak fuel demand for an expanded airport is estimated to increase to approximately 34 million litres per day. This estimate takes account of the introduction of more fuel-efficient aircraft and the impact this will have on demand.

10.5.10 Depending on the locations chosen for the more significant components of airport infrastructure, e.g. the terminals and aprons, the Perry Oaks and Cargo Depot fuel storage facilities may need to be relocated. When considering the options for new fuel storage facilities, therefore, it is assumed that a site may need to accommodate the total fuel storage required for the airport.

10.5.11 The fuel storage facilities need to comply with stringent design regulations, which require that the tanks are contained in a bund which has sufficient capacity to contain a fuel spill of a volume equal to 110% of the largest tank within the bund. In order to make efficient use of space, it is preferable to specify that there are 4 to 6 tanks within a bund to meet the maximum capacity of 60 million litres of fuel storage per bund.

10.5.12 Section 10 of the Scheme Development Report explains the assessment work we have done to short-list six options, which are indicated in Figure 10.7.
10.5.13 The most preferred option is the Expanded Perry Oaks site. This site already has connections to the existing supply pipelines and the airport hydrant, it is secure, and by locating the new facility on the existing site, most of the current facilities can be reused. Also preferred by most disciplines were the Grass Area 17a and northern apron sites. All three of these options are located within the existing or expanded airport boundary and therefore have no external land requirement impacts.

10.5.14 Off-site options continue to be explored because there may be competing demands for space on airport. The best performing off site option is the Esso West London site. This option scores well because the principle of a fuel farm has already been established at this site. However, it would involve displacing existing uses.

10.5.15 During the evaluation, an additional site was identified: retaining the current Esso West London site and extending it to the south, to accommodate the additional capacity required. Further investigation is being carried out on the suitability of this option. The Gypsum site (known as Thorney Mill) has some environmental constraints but it has the advantage of being a rail-served site and therefore remains an option.

Wastewater treatment

10.5.16 Heathrow is working with Thames Water and the Environment Agency to develop a sustainable solution for the disposal of wastewater, which not only considers the requirements of an expanded Heathrow and the surrounding communities, but also the wider population in West London. In the long term this may include Sustainable Urban Drainage Solutions (SUDS) which separate surface water drainage from the waste water system by replicating natural drainage systems, thereby reducing the need to process large volumes of water through Water Treatment Works.

10.5.17 The majority of Heathrow’s waste water is currently discharged to the Bath Road Sewer to the north of the airport. The remainder is discharged to a sewer south of the airport. Both sewers convey flows to Mogden Waste Water Treatment Works (WWTW). Thames Water has advised that the Bath Road Sewer is currently operating at its full capacity, and consequently no additional flows can be directed to it unless measures are taken to reduce the current demand or increase the capacity. Mogden WWTW is also at its maximum capacity and is unable to treat additional wastewater flows without an upgrade to the existing treatment facilities. A significant proportion of the sewer and treatment capacity is reserved to accommodate the large volume of surface water that infiltrates the foul water system during storm events.

10.5.18 Any increase in capacity will involve investment in new treatment and network infrastructure and the upgrade of existing facilities (including settlement tanks, sludge tanks and pumping stations). There are currently three options to provide the additional wastewater treatment capacity required for the expanded airport:

- Upgrade the existing treatment facilities at Mogden WWTW in west London;
- Upgrade the existing treatment facilities local to the airport and divert some or all flows to this treatment location; and
- Construct a new WWTW local to the airport to treat some or all the flows from the expanded airport and surrounding communities.

10.5.19 The solution could also involve a combination of these options and feasibility studies and evaluation are currently underway by Thames Water.
10.5.20 Many waste water flows at the airport are currently pumped because of the topography of the site. As there is no location from which all flows could easily gravitate to a WWTP, pumping will always be required, which means there can be some flexibility in the location of any new WWTP. A WWTP can therefore be located away from built up areas to avoid any potential issues with odour. Two locations are being considered, one to the north of the third runway near Saxon Lake and another to the south of the site near Mayfield Farm, on land already in Heathrow’s ownership, as shown in Figure 10.8.

10.5.21 In summary, all three approaches for additional wastewater treatment capacity (outlined above) are still under consideration, and we will continue to work with Thames Water to develop these options further.
Drainage and pollution control

10.5.22 The airport has a large impervious surface area which prevents water percolating down through the ground to the aquifer. Runoff from runways, taxiways, etc. needs to be captured, attenuated, treated (as it is sometimes contaminated with glycol from pavement and aircraft de-icing) and discharged at an acceptable quality and at controlled flow rates into the water courses.

10.5.23 Figure 10.9 shows the existing drainage system at Heathrow. For a description of the operation of each of the catchments, please refer to Section 9 of the Scheme Development Report.
10.5.24 The expansion of the airport will result in an increase in the amount of surface water runoff to be managed. The current drainage system does not have sufficient capacity to treat the additional contaminated flows. In addition:
- the existing storage lagoon at Spout Lane is likely to be removed to accommodate the airport expansion; and
- there may be limited capacity at the existing foul treatment works at Mogden. If this is to be the treatment location for foul flows arising from the expansion, an off-set facility with additional capacity may be required.

10.5.25 The drainage strategy needs to comprise four parts acting in sequence, as follows:
- Capture
- Attenuate
- Treat
- Release

10.5.26 At this point in the scheme development process, the critical questions are those relating to land requirements and the range of treatment approaches that could be applied, i.e. the release and treat elements. The attenuate and capture elements of the strategy will need to respond to the detailed design of the airport masterplan and, as such, have been considered in less detail at this stage in the process. The work done so far on the development of options has therefore focused on the treat and release components of the strategy.

10.5.27 A number of treatment technologies and conceptual approaches to treatment and release of runoff have been developed and evaluated, as well as specific land parcels that could be used to deliver the chosen treatment facility. In each case pre-existing treatments would remain for the southern and eastern catchments and there would be no discharge of contaminated runoff into the sewer network in normal operations. The following options have been considered:
- a. Option 1: treatment facility to the south west of the third runway
- b. Option 2: treatment facility to the north of the third runway
- c. Option 3: treatment facility to the north west of the third runway

10.5.28 We have evaluated land parcels to match the remaining treatment options, carrying forward a range to the next stage for consideration. You can read more about these sites in Section 9 of the *Scheme Development Report*, although the overall land requirements are considered further in this document in Chapters 15 and 17.

**Public Utilities**

10.5.29 The area surrounding Heathrow Airport contains a well-developed network of public utilities, as shown in Figure 10.10. The road network and land surrounding the airport is densely served, with virtually every utility service ranging from major public utility distribution infrastructure down to domestic service connections. There are also private utility networks and, as a result of recent privatisations and increases in competition within utility markets, there are frequently multiple host utility companies providing the same service.
10.5.30 There are several major utility services that will need to be diverted, relocated or protected and some services will need to be expanded to meet the increased demands of the expanded airport:

- Overhead power lines, managed by National Grid;
- Overhead power lines, underground cabling and distribution infrastructure, managed by SSE;
- Bath Road sewer, Colne Valley sewer and other wastewater network infrastructure, managed by Thames Water;
- Iver South Sludge Mains, managed by Thames Water;
- Raw water tunnels and potable water distribution network pipelines, managed by Affinity Water;
- Fibre optic telecommunications infrastructure along Bath Road, managed by BT;
- High, intermediate and low pressure gas pipelines, managed by National Grid; and
- Aviation fuel pipelines, managed by British Pipeline Agency Limited (BPA).

10.5.31 Many of these services are concentrated in the land to the west of the airport, either side of the M25 corridor, along the existing A4 Bath Road and along the southern boundary of the existing airport.

10.5.32 We are working closely with each of the statutory undertakers and other organisations who own and manage these assets to develop options for asset diversions which minimise disruption to customers, local communities and the operation of the airport.

10.6 Potential locations for airport supporting facilities

10.6.1 The table below draws together the analysis so far and demonstrates the scale of airport supporting facilities likely to be required to meet the principal demands of expansion.
<table>
<thead>
<tr>
<th>Category</th>
<th>The position now</th>
<th>To support expansion</th>
</tr>
</thead>
</table>
| Cargo                        | Approx. 54 ha of cargo (45ha on the airport, and 9ha in the Dnata site) including ITSF and transhipment, processing up to 1.5million tonnes of cargo                                                                                                                                                                                                                                                                   | Potentially up to 95 ha of gross area for cargo facilities on airport, with efficiencies such as growing existing ITSF in particular and other warehousing operations in order to process double the amount of cargo.  
Efficiencies are likely to be made, and we are looking at re-configuration options to include intensification within the airport as well as new transhipment areas within the airport.  
Even with efficiencies, it is likely that an area of land will be required outside the boundary, but close to the existing cargo area. |
| MRO                          | 93 ha (gross) of MRO space, consolidated in the eastern maintenance base on the existing campus.                                                                                                                                                                                                                                                          | Expansion will require growth in MRO facilities including hangars and a ground run pen, and potentially a forward maintenance unit outside the existing base.  
Any options for growth will principally be focussed on efficiencies and reconfiguration of the existing MRO area, together with the potential for some remote facilities closer to the aprons and should not require any other additional land.                                      |
| Airfield Control Tower       | Single 87m high facility with Visual Control Room                                                                                                                                                                                                                                                                                                      | A second tower similar to the existing tower on the new northern apron. (We are also reviewing an alternative approach utilising digital tower technology, which if proven, will not require this second conventional tower). |
| Other Airport Supporting Facilities | 76 ha gross of other industrial or airport-operational land supporting the airport's operations including catering, ground service vehicle storage, engineering compounds and emergency facilities. This is currently spread across the campus, within the airfield or within the airport's operational boundary.                                                                                           | Most of the growth in airport-operational facilities is determined by the configuration of the airport – it is likely that their location will be driven by functional demand and efficiencies are difficult to make.  
Overall demand for these uses is likely to be around 127 ha gross area of land, but some of this will be within stands and aprons.  
Some elements – such as control posts, catering and engineering compounds – could require land outside but linked directly to the airport with airside access. |

Taking account of these principal land uses and other similar scale supporting facilities and based on our current assessment, we estimate that an expanded airport could potentially require up to 95ha of additional land beyond the scale of these existing airport supporting facilities.
10.6.2 The precise extent of additional land for airport supporting facilities is dependent on a range of factors which have yet to be resolved, including the precise configuration of terminals, aprons and taxiways.

10.6.3 It is clear, however, that land will need to be developed outside the existing airport boundary to meet at least part of this requirement, even if best use is made of the existing airport land.

10.6.4 Potential options for expansion to meet operational requirements are limited to land either adjacent to or close to the expanded airfield boundary. Principal options are shown in Figure 10.11 below:

Tell us what you think
Please tell us what you think about the locations and sites that we have identified as being potentially suitable for airport supporting facilities. More information on our consultation and how you can provide us your views can be found at www.heathrowconsultation.com.
11 Car parking

This Chapter considers the implications of the need for us to reorganise car parking within the airport as part of our expansion plans.
It will be necessary for car parking to be carefully controlled in order for us to achieve a mode shift to public transport and to make efficient use of land.

11.1 Today

11.1.1 We manage our own roads within the airport boundary. A full perimeter road provides access around the airport, and connects with the surrounding local roads and highways. Each terminal has a forecourt that allows passengers to be dropped off at the front of the terminal.

11.1.2 There are car parking facilities serving each of the terminals, both close to the terminal and around the airport perimeter.

11.1.3 Heathrow controlled (passenger and colleague) and tenanted parking space accounts for approximately 101 ha of Heathrow’s footprint, often on a single level, with about 51,500 spaces. The table below indicates the scale of the parking at Heathrow.

<table>
<thead>
<tr>
<th>Type of Parking</th>
<th>Number of Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passenger</td>
<td>23,500 spaces</td>
</tr>
<tr>
<td>Colleague</td>
<td>15,500 spaces</td>
</tr>
<tr>
<td>Tenanted</td>
<td>12,500 spaces</td>
</tr>
<tr>
<td>Third Party</td>
<td>9,000 spaces</td>
</tr>
</tbody>
</table>

Table 11.1: Scale of car parking spaces at Heathrow today

11.1.4 Passenger and colleague car parks include space for private cars, car rental, bus and coach parking, and taxi ranks. Our 23,500 public car parking spaces for use by passengers include:
- Short stay car spaces, including valet parking, primarily in multi-storey parks adjacent to the terminal buildings;
- Business, including ‘POD’ parking spaces, surface parking, located further away from the terminals; and
- Long stay spaces, provided mostly at surface level.

11.1.5 Over 76,000 people work at the Heathrow site, approximately half of whom drive to work. Heathrow provides 15,500 colleague car park spaces at various sites around the airport. The provision of colleague parking is subject to a cap of 17,000 spaces agreed at the time of the T5 Inquiry. Heathrow colleague and passenger parking is also subject to a cap of 42,000 spaces, although this does not include tenanted and third-party car parking.

11.1.6 Heathrow runs a car share scheme, which is available to all employees and some third parties (Heathrow Airport ID holders), capturing over 7,900 registered members across 250 companies. An online tool matches two or more members who live locally or en-route, in order to facilitate car sharing across employees and third parties. Drivers get priority parking in Heathrow-managed car parks.

11.1.7 The current principal car parks are shown in Figure 11.1.
11.1.8 Other parking facilities include:

- **Taxi feeder park**: a waiting facility for licensed taxis, which dispatches taxis to the taxi ranks at each of the terminals, on demand;

- **Authorised vehicle area**: a waiting facility for private hire vehicles authorised by Heathrow Airport Ltd, to pick up passengers who have pre-booked. This and the taxi feeder park are located along the Northern Perimeter Road;

- **Car hire facilities**: located across a number of sites along the Northern Perimeter Road at surface level sites, managed by seven car hire firms; and

- **Bus and coach parks**: which serve the Central Terminal Area and Terminal 5, providing the standing areas, forecourts, coach washes, and driver welfare facilities for long distance coaches, inter-terminal passenger connection buses, and colleague and passenger car park coach services.

11.1.9 Heathrow's expansion will impact directly on a number of these facilities, particularly along the northern border of the airport today.

11.2 Requirements for growth

11.2.1 There are a number of factors, commitments and requirements influencing the demand for new parking facilities, described in detail in Section 13 of the *Scheme Development Report*. You can also read more about our overall approach to transport issues in our *Our Approach to the Development of a Surface Access Strategy* consultation document.

11.2.2 A key factor is our commitment to expand the airport without increasing airport related traffic.
11.2.3 The draft NPS requires the proportion of journeys made to the airport by public transport, cycling and walking to increase, to achieve a public transport mode share of at least 50% by 2030, and at least 55% by 2040 for passengers. It further requires that we demonstrate how we will achieve a 25% reduction in all staff car trips by 2030, and a reduction of 50% by 2040 from a 2013 baseline level. This is to optimise the sustainability of the airport and reduce congestion. Our emerging car parking strategy is being prepared in this context. With expansion, we expect to manage parking in a way that helps achieve the wider objectives outlined above.

11.2.4 We do not propose to rely upon remote off-airport car parks operated by third parties, over which we have no control. We are therefore focusing on provision within, adjacent or close to the airport.

11.2.5 Much of the capacity at Heathrow is in surface car parks, which are an inefficient use of land. Many of these car parks lie on the north side of the airport and will be directly impacted by expansion. There is scope for a new masterplan to plan greater efficiency, particularly given the requirement for more land for other operational and support facilities.

11.2.6 We are considering moving away from having many car parks that require frequent bus transfers, towards a smaller number of larger car parks adjacent to the terminal or with direct terminal access via a (possibly automated) people mover system. The following strategy is proposed to achieve this:

- **Consolidation of parking for passengers:** To move towards a more consolidated approach to parking where clusters of car parks are grouped together with good access to the road network and direct links to airport terminals. This would help reduce the amount of traffic circulating around the airport and ensure car parks operate efficiently and are located where good road access can be secured;

- **Reduction and consolidation of colleague parking:** In order to meet the overall target for a reduction in colleague car trips, the amount of parking available for colleagues will reduce with parking for colleagues managed in a more integrated way. We will prioritise public transport use and give parking priority to those colleagues who cannot realistically travel to work by public transport or are prepared to car share; and

- **Smart and clean parking:** To maximise the use of new technology to ensure car parks operate in an efficient way, including better signage, different pricing structures and incentives for colleagues to switch to car sharing. This could also include a form of emissions based pricing for access to car parks with cleaner less polluting vehicles paying less and having better access to terminals.
In addition, we propose the following principles:

- for new tenanted areas to have minimal parking (and which cannot in any case exceed local planning authority parking standards);
- to reduce land requirements where possible with multi-level parking;
- to generally retain existing public multi-storey car parks;
- to provide flexibility by consolidating remote parking along main local access spines;
- car parks on the edge of the airport with dedicated connections to terminals are to be considered to make better use of on-airport space;
- parking for airside and landside airport vehicle/coach/transit parking and maintenance needs to be provided; and
- to consolidate car rental into fewer or a single location.

11.3 Options

11.3.1 We have identified a number of different options for how and where we can accommodate parking within our masterplan; no evaluation of the options has been carried out to date.

11.3.2 A range of car parking typologies is being considered to ensure the most efficient use of the land, for example underground, surface, ground plus one storey, and multi-storey car parks (MSCPs).

11.3.3 We are also considering a range of options for car parking within underutilised areas of the existing airport, on land adjacent to the expanded airport and nearby. These are shown in Figure 11.2.

11.3.4 Our plans could include car parking sites located close to the strategic road network, which provide the opportunity to intercept passengers and staff and connect them to the terminals etc, for example, through automated links. Such sites may offer significant way-finding and accessibility benefits associated with having potentially two main car parking locations, each with capacity for up to 20,000 spaces. There could be one close to the M4 access and one in the west/south west accessed from the M25. Utilising such sites would free up space within the airport for more critical airfield infrastructure and airport supporting uses.

11.3.5 We will undertake a detailed evaluation of the potential options informed by the emerging *Surface Access Strategy*. Traffic demand modelling, masterplan development and the outcomes from this consultation.

**Tell us what you think**

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

More information on our consultation and how you can provide us your views can be found at www.heathrowconsultation.com.
Figure 11.2: Potential car parking options remote from terminal

Key
- Current Heathrow Airport
- Illustrative Airport Expansion Boundary
- Potential Remote Car Parking Options

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12 Displaced uses

This Chapter outlines the options available for addressing the direct impact of the airport's expansion on existing facilities which would be displaced by the expansion of the airport.

12.1 Today

12.1.1 Several buildings and facilities in use today will need to be displaced (i.e. required to be removed) as a result of the expansion of Heathrow Airport, including business properties, utilities and airport-related facilities, open space, recreation and community facilities, as well as homes. The majority of these are located to the north and north west of the existing airport boundary where the third runway is planned to be located. Figure 12.1 identifies the general location of some of the uses that will be affected by the airport expansion. The precise location of the expanded airport boundary is yet to be determined and therefore we will need to continue to review the extent of the displaced uses.

12.1.2 This Chapter considers certain specific displaced commercial uses, infrastructure and major facilities which would be displaced and which, for a variety of reasons, require early consideration of appropriate response strategies with other more generic displaced uses also addressed later in the Chapter. These uses are as follows:

- Harmondsworth and Colnbrook Home Office Immigration Removal Centres
- Lakeside Waste Management Facilities
- British Airways’ Waterside office
- BT Data Centre and Maintenance Depot
- SSE Substation and Pylons
- Total Fuel Depot
- Other displaced commercial uses

12.1.3 The replacement of some of these uses may be delivered through Heathrow's DCO application, through the local planning process, or be left to the market to respond to the demand created by the loss of these facilities. Alternative locations may be sought close to Heathrow, or further afield, depending on each facility's existing and future requirements and its relationship with the Airport.

12.1.4 In considering the sites on which to relocate these displaced uses, but also in considering what land may be available for new uses that may be required as a result of Heathrow’s growth, a detailed exercise has been undertaken to examine the suitability for development of land in the vicinity of the airport. That exercise is set out in full in Section 17 of the Scheme Development Report but is also summarised in Chapter 16 of this document. That summary includes a key plan of potential sites – those sites are referred to by name or reference number in this and the following sections of this document.
Figure 12.1: Plan showing the location of some of the principal displaced existing uses affected by the airport expansion.
12.1.5 For some displaced uses we are already in the process of investigating viable options for their relocation. For others, more work is necessary before a clear strategy can be proposed but we present the progress of our current thinking for each below. In all cases, unless the displaced use is the property of a statutory undertaker or is otherwise legally protected, we will need to consider whether replacement with a new facility is necessary, feasible and represents the most cost-effective solution to the need to displace them.

12.2 Immigration Removal Centres (IRC)

12.2.1 Harmondsworth and Colnbrook IRCs are Home Office facilities located on adjacent sites north of the A4 Colnbrook Bypass and east of the Duke of Northumberland’s River.

12.2.2 Detention at immigration removal centres plays a vital role as part of the infrastructure which allows the Government to maintain effective immigration control and secure the UK’s borders. Continuous service provision of the IRCs at Heathrow is necessary. This consideration extends to the need to provide appropriate road access to the IRCs.

12.2.3 The power to detain a person who is liable to removal is set out in paragraph 16 of Schedule 2 to the 1971 Immigration Act. The power to detain a person who is liable to deportation is set out in paragraph 2 of Schedule 3 of the 1971 Immigration Act and section 36 of the UK Borders Act 2007 (automatic deportation).

12.2.4 Home Office policy makes clear that detention must only ever be used sparingly and for the shortest period necessary. There is a presumption of liberty for any individual.

12.2.5 The Home Office operates eight IRCs throughout the country (seven in England and one in Scotland). Most are operated under contract with private suppliers, and there is a service level agreement to manage those operated by HM Prisons and Probation Service (HMPPS).

12.2.6 Contracted out IRCs have their contracts managed by a Home Office commercial team to ensure suppliers are delivering to agreed standards. Primary healthcare services in IRCs in England are commissioned by NHS England.

12.2.7 The Heathrow IRCs are currently operated by Mitie Care and Custody.

12.2.8 The consulting strategy for the development of the IRCs has yet to be finalised but the preferred route would be inclusion the DCO. The draft NPS (at paragraph 5.130) identifies the need to replace the IRCs in order to ensure their continued operation.
12.2.9 Given the important function the IRCs play, a single replacement site would need to be identified which is in close proximity to the airport and with good access to entry points. The single replacement facility will need to provide equivalent amenities and capacity to the existing facilities.

12.2.10 To facilitate a site-selection process, specific criteria were identified and agreed between Heathrow and the Home Office. A list of features considered ‘essential’ to the design and operation of the replacement facility was first identified. Any site which did not satisfy these minimum requirements was considered operationally unsatisfactory. In addition, to assist the selection process, a list of ‘desirable’ design and operational requirements was identified. The criteria lists include Home Office operational criteria, as well as planning and environmental criteria. The full list of criteria is contained within Section 16.3 of the **Scheme Development Report**.

12.2.11 This process has now resulted in the identification of the following preferred list of sites with their general location indicated in Figure 12.3:

- Site E1 (IRC3): Mayfield Farm;
- Site B1 (IRC7): Land East of M4 Spur;
- Site A4 (IRC8): Land at Holloway Lane; and
- Site F1 land fronting Airport Way and Stanwell Moor Road.
12.2.12 More information, including a plan showing the potential shortlisted sites, and the benefits and drawbacks of each shortlisted site can be found within Section 16.4 of the *Scheme Development Report*.

**Site E1 (IRC3) – Mayfield Farm**

12.2.13 The site occupies an important location with immediate proximity to the southern part of the airport. Although the site is located within designated Green Belt, it is considered that the site's Green Belt function is limited. On this basis, this site could potentially be suitable for built development, and in particular a ‘very special’ use of national significance which the replacement IRCs are considered to be.

12.2.14 Moreover, the London Borough of Hounslow has recently published for consultation a West of Borough local plan which proposes the release of the land from the Green Belt if access could be improved by a new southern rail link.

12.2.15 Any emerging designs would need to appropriately protect and respond to the site's important features and designations, including the two Scheduled Monuments (located at the eastern and north-western corners of the site) and an Archaeological Priority Zone.

12.2.16 Mayfield Farm is also a candidate site for other airport related uses – see Chapter 16.

**Site B1 (IRC7) – Land East of M4 Spur**

12.2.17 This site occupies an important location in close proximity to the northern side of the expanded airport with excellent connections to the local highway network and the M4.

12.2.18 The site is located within designated Green Belt, and performs a Green Belt function, separating Sipson from Harlington. The IRC is a nationally important use, however, which may be appropriate in this location, with good access to the airport and to the road network – particularly if a suitable buffer remains between the site and Harlington.

12.2.19 We are aware that the part of the site is designated as a Site of Importance for Nature Conservation. However, recent activity on the site (for aggregate removal) has meant that built development to facilitate the IRCs in this location may be acceptable.

**Site A4 (IRC8) – Land at Holloway Lane**

12.2.20 Like Site B1(IRC7), this site occupies a key location in close proximity to the northern boundary of the expanded airport, and will also have excellent connections to the local highway network and the M4. Although the entirety of the site is designated Green Belt, the ‘northern triangle’ element (closer to the M4) is considered less important in Green Belt terms, to the separation of the settlements at Harmondsworth and Sipson. This part of the site therefore has the potential to accommodate the replacement IRC without impacting on residential amenity and without undermining the primary function of the Green Belt.

12.2.21 Development in this location for a replacement IRC would need to recognise the sensitivities of the area and the adjoining land uses through detailed design study work.

**Site F1 – Land to the South West of existing airport boundary**

12.2.22 This site performs a Green Belt function, in particular providing a green buffer between the settlements of Stanwell Moor and Stanwell. However, the site in our view occupies a unique, strategic location at an important entrance to the airport from the south and west. It is for this reason that there may be exceptional circumstances that allow the site to be developed for a ‘very special’ use such as the replacement IRCs.

12.2.23 The site is in close proximity to residential properties to the south and west and therefore development of this site for a replacement IRC will need to be of the highest design quality which respects the adjacent uses and their occupiers.
Tell us what you think

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

More information on our consultation and how you can provide us your views can be found at www.heathrowconsultation.com.

12.3 Lakeside Waste Management Facilities (GVL)

12.3.1 The Lakeside Waste Management Facilities are located on Lakeside Road, in Lakeside Industrial Estate, Colnbrook within the administrative area of Slough Borough Council.

12.3.2 The Energy from Waste facility opened in 2010 and is located to the south west of the M25/M4 junction, in the path of the proposed runway and taxiways.

12.3.3 The facilities comprise the following:

- Non-hazardous EfW Facility (EfW), operated by Lakeside (a JV of Grundon and Viridor Ltd);
- Hazardous (Clinical) Waste Incinerator (CWI) operated by Grundon;
- Materials Recovery Facility (MRF), operated by Grundon;
- Waste Transfer Station (WTS), operated by Grundon;
- Transport Depot and Regional Offices; and
- Waste Industry Education Centre

12.3.4 The EfW facility incinerates approximately 450,000 tonnes of non-recyclable waste per annum from a catchment area spanning from West London to Wiltshire. It processes household, commercial and industrial waste, and the incineration process generates electricity for the national grid. The High Temperature Incineration plant processes some 10,000 tonnes per annum and the Materials Recovery Facility (MRF) some 125,000 tonnes per annum.
12.3.5 These facilities provide important waste management capacity recognised by the draft NPS which states.

"The Government recognises the role of the Lakeside Energy from Waste plant in local waste management plans. The applicant should make reasonable endeavours to ensure that sufficient provision is made to address the reduction in waste treatment capacity caused by the loss of the Lakeside Energy from Waste plant." 

12.3.6 We are working closely with the operator of the Lakeside plant to consider how the facility could be relocated.

12.3.7 If a new energy from waste plant is to be in place before the current one is demolished, a replacement EfW facility would need to be consented through a separate early planning application rather than within the Heathrow DCO. This would enable progress to be made on a replacement in a timely way to consider the need, scope and potential location of a replacement facility.

12.3.8 Any planning application for a replacement facility would need to comply with important planning policy tests including those on waste hierarchy and proximity principles.

12.3.9 A site selection exercise has commenced to search for potentially suitable locations in the surrounding area which could accommodate facilities providing the same waste management capacity.

12.3.10 Once a preferred site has been identified and the planning and business case agreed, a standalone planning application can proceed. A key part of facilitating this will be early dialogue with the appropriate Local Planning Authority and consultation with local people on the proposals.

12.3.11 The MRF and WTS have limited operational links with the EfW and could potentially be reprovided on a separate local site if necessary.

12.4 British Airways’ Waterside Office

12.4.1 The Waterside office complex is located north of the A4 Colnbrook Bypass and east of Harmondsworth Moor. The site contains campus style facilities which comprise IAG’s and British Airways (BA) UK headquarters (IAG is the parent company of BA) in a four-storey building containing approximately 60,000 square metres of office floor space and other uses including the BA operations control centre. A Community Learning Centre and associated car parking is also located in the north-western part of the site. In total the campus extends to about 14ha.

12.4.2 The Waterside office was developed in the Green Belt following the then Secretary of State’s approval of the planning application in 1992.

12.4.3 The site is located in the path of the proposed third runway. IAG and BA have indicated that a replacement will be required for these facilities.

12.4.4 Joint working has begun on a site selection process to establish a preferred location for any replacement facility although the consenting route is still to be determined. As part of this process we will look at opportunities for sites with better public transport accessibility.

12.4.5 References are included elsewhere in this document to sites that our scheme development process has indicated may be suitable for office type development.
12.5 BT Data Centre And Maintenance Depot

12.5.1 The BT Data Centre and Maintenance Depot are located north of the A4 and the IRCs, and east of the Duke of Northumberland's River and within the area which would be impacted by the new runway, therefore requiring the removal of these facilities. An image of the facilities is shown on Figure 12.6.

12.5.2 The BT Data Centre does not need to be located close to the airport in order to operate and function. A potential alternative site not at Heathrow airport has already been identified elsewhere in the South East of England and studies are ongoing to understand if this location is feasible.
12.5.3 The maintenance depot operates independently of the data centre and therefore has no need to be relocated on the same site. The existing depot services vehicles being used in the local area, and therefore BT have an operational requirement for the replacement facility to be in a similar general location to ensure operational continuity is maintained. Transit times for servicing of vehicles are a key factor in the location of the site. We are engaging with BT over the location and specification of a new facility that remains close to the highway network in order to reduce the road impact of servicing vehicles.

12.5.4 The consulting route for delivery is still to be determined.

12.6 Total fuel depot

12.6.1 The existing Total Fuel Depot site of c.1.5 ha is located within Poyle industrial estate immediately west of the M25 as indicated on Figure 12.7. The existing facilities on site include:

- The Colnbrook Rail Terminal;
- The Colnbrook Pipeline; and
- Associated infrastructure located at the Northern Fuels Receipt Facility (NFRF).

Figure 12.7: Plan of Total Fuel Depot

Key
- Current Heathrow Boundary
- Displaced Total Fuel Depot

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12.6.2 The depot receives aviation jet fuel, arriving by train, and distributes it to the airport via an underground pipeline.

12.6.3 The rail line that serves the facility is likely be severed by the new third runway.

12.6.4 In this event, the Rail Terminal would ideally be relocated to a site served by a rail line in close proximity to the NFRF. A new underground pipeline would then be constructed to connect the Rail Terminal to the NFRF.

12.6.5 We have considered a number of sites for the potential relocation of the facility but they have yet to be evaluated as part of the scheme development process. Due to the specific requirements of the Rail Terminal, the number of available relocation options are limited to a zone around the rail line. There are two sites that may be suitable options:

- Thorney Mill Road site (to the north of the M4 and east of the M25), Site I5; and
- North of the operational boundary of the airport and south west of the M25/M4 junction (between the M4 and the Colnbrook-By-pass), Site H6.

12.6.6 Subject to evaluation of these and other sites, site H6 may be a preferred strategy for the relocated facilities because of the site's proximity to the airport. The consenting route for delivery is still to be determined. Although there is no evaluation which can be reported in our Scheme Development Report, Appendix 5 describes information on these two and other sites.

12.6.7 These sites are identified in Figure 12.8 below.

Figure 12.8: Plan of potential replacement sites for Total Fuel Depot
12.7 SSE substation and pylons

12.7.1 The SSE Substation is located on the Poyle industrial estate, and close to the M25. The substation is fed by a series of pylons running north/south for 1.4 km just to the west of the M25. The most southerly pylon is positioned at the substation itself and the most northerly pylon is located close to the junction of the M25/M4. The existing SSE Substation and power lines are shown at Figures 12.9 and 12.10.
12.7.2 Given the alterations which are proposed for the M25, the pylons and the substation will need to be relocated.

12.7.3 We currently propose that this relocation is achieved through the normal planning processes in advance of our DCO application in order to allow a timely start to the M25 works and we are investigating this with SSE. An alternative position for the substation will need to be identified to suit the location of the new powerline route and to maintain connection to the local area it currently serves. Further information on the potential options for the substation relocation is set out in Section 14 of the Scheme Development Report.

12.7.4 When considering the options for the relocation of the overhead lines and the substation we will be guided by the technical requirements imposed by SSE. However, it will also be critical to consider options which minimise disruption to the local community. Consultation on these options is most likely to occur through an early stand-alone planning application process rather than through our DCO.

12.8 Other displaced uses

12.8.1 In addition to the above initially identified displaced uses, Heathrow’s expansion will displace other commercial and industrial uses which are coming to light as further stakeholder engagement continues.

12.8.2 Aggregate Industries’ operation of a rail and road-served aggregates site to the south west of the M25/M4 junction (see Figure 12.1) is one example. The operational area of the site covers c.10 acres and comprises a rail unloading system together with a rail fed asphalt plant and ready mix concrete plant. Complementing the operations is an asphalt recycling operation.

12.8.3 The site is a major supplier of asphalt to construction projects throughout the west London area and adjacent counties, having particular importance for major road building/renewal projects.
12.8.4 Similar issues arise for this use as they do for the Total Fuel Depot. The facility is located in the path of the proposed third runway. Potential relocation sites are being discussed with Aggregate Industries, with the focus being on the land adjacent to the rail line to the north of the new runway. The site at Thorney Mill shown in Figure 12.8 is one possibility.

12.8.5 Some of the other commercial and industrial floorspace displaced by Heathrow’s expansion may be considered ‘airport-related’ – in that it is located close to the airport because it serves a function related to the airport’s operation, – for example hotel rooms used by staff and passengers, cargo and freight forwarding facilities that rely on the airport’s cargo processing facilities, offices in the airport’s supply chain, and catering and maintenance facilities supplying services to airlines. A full description of these categories is given at Chapter 10.

12.8.6 The table below summarises the estimated scale of displaced airport-related commercial and industrial floorspace, based on information relating to the Airports Commission Masterplan footprint (as such, the scale of displacement highlighted below may change to some extent following development of our masterplan).

<table>
<thead>
<tr>
<th>Category</th>
<th>Approximate Area / Rooms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel rooms</td>
<td>2,335 to 2,960 rooms</td>
</tr>
<tr>
<td>ETSF Cargo</td>
<td>18,000sqm</td>
</tr>
<tr>
<td>Freight Forwarding</td>
<td>6,000sqm</td>
</tr>
<tr>
<td>Catering</td>
<td>16,000sqm</td>
</tr>
<tr>
<td>Other Logistics</td>
<td>68,000sqm</td>
</tr>
<tr>
<td>Maintenance</td>
<td>1,000sqm</td>
</tr>
<tr>
<td>Office (supply chain, local and international)</td>
<td>55,000sqm</td>
</tr>
<tr>
<td>Office (airport-operational)</td>
<td>35,000sqm</td>
</tr>
</tbody>
</table>

Table 12.1: Scale of commercial and industrial airport-related displaced uses

12.8.7 Between 2,300 and 3,000 hotel rooms are likely to be displaced by the expansion of the airport.

12.8.8 The Sofitel Hotel at Terminal 5 may be impacted by some of the options for terminal and apron development described elsewhere in this document. This would mean a loss of hotel rooms at the higher end of the scale. If during the emergence of our preferred plan the need to remove this becomes confirmed, we will engage with the owners to investigate their preferred business strategy.

12.8.9 The need to replace these hotels has been added to the predicted demand for more hotels that will be generated by the growth of the airport. Strategies for the new and replacement hotels, together with other airport related development are discussed in Chapter 16.

Displaced industry and warehousing uses

12.8.10 Depending on the final masterplan, there may be some flight catering facilities displaced accounting for at least 16,000 m² of employment floorspace.

12.8.11 Depending on the final masterplan, there may be cargo handling facilities around the airport (ETSF) which are displaced, accounting for approximately 18,000 m² of employment floorspace.

12.8.12 There may also be displacement of some freight forwarding facilities linked to the cargo that the airport processes (representing approximately 6,000m² of employment floorspace), and some other (non-cargo) warehousing and logistics facilities (representing 68,000m² of employment floorspace). Many of these are located to the north and north west of the existing airport.
Displaced offices

12.8.13 Depending on the final masterplan, there may be some offices displaced – including large single occupiers and smaller businesses in the airport’s supply chain, or small local offices and larger international-scale corporate businesses. In addition, some of the offices on the airport may need to be displaced. Overall, these displaced offices amount to approximately 90,000 m² of employment floorspace.

12.8.14 All of these displaced uses need to be considered in the context of the general need for more airport related development which will be necessary over time as a result of the growth of airport activity with the third runway. Chapter 14 of this document considers that growth.

12.8.15 Employment-generating uses not related to airport activities will also be displaced – for example agricultural land, extractive industries, petrol filling stations, shops, pubs and food services, or office or industrial floorspace that is unrelated to the operation at the airport.

Tell us what you think

Do you have any comments on the land uses that will be affected by Heathrow’s expansion?

More information on our consultation and how you can provide us your views can be found at www.heathrowconsultation.com.
This chapter considers the loss of housing in the communities close to the airport as a direct result of the airport’s expansion and our proposals for mitigating and compensating for this. It also considers the potential demand for new housing resulting from the increased employment generated by Heathrow’s growth.

13.1 Today

13.1.1 Heathrow lies in a densely populated sub-region with access to a significant population and potential labour pool in London and the Thames Valley. There are currently approximately 76,000 direct jobs at the airport itself, making Heathrow one of the largest single site workplaces in the UK.

13.1.2 Over half a million economically active people live within five miles of the airport and Heathrow Airport’s workers travel from an even wider area across London and the South East assisted by public and private transport connections.

Figure 13.1 demonstrates Heathrow’s location at the centre of the Heathrow ‘travel to work area’ (TTWA) – defined as a functional labour market which is relatively self-contained. This TTWA includes part or all of thirteen local authorities and has a total population of over 1.6 million people. In practice Heathrow draws its workers from an even greater area than the TTWA. Approximately 20% of Heathrow’s direct workforce commute from more than the airport’s one hour travel time area, which extends significantly beyond the TTWA.

12 Taken from HAL Employee Survey 2012/13.
Figure 13.1: Heathrow Airport’s travel to work area
13.2 Requirements of growth

13.2.1 We anticipate that direct jobs (those involved in the operation of the airport) could increase by 17,900 by 2030 and 35,600 by 2040. In addition, there could be up to 22,600 more jobs in the supply chain around the airport – sometimes called ‘indirect’ jobs – by 2040. The combined direct and indirect employment generation could therefore support a total increase of 58,000 jobs on or near the airport by 2040.

13.2.2 This represents an increased share of around 7.5% from Heathrow’s functional labour market (the TTWA).

Where will these additional workers come from?

13.2.3 Currently just over 50% of Heathrow’s direct and indirect workforce commute from the five immediate neighbouring boroughs (Hillingdon, Hounslow, Ealing, Slough and Spelthorne) and 75% live within an hour of the airport.

13.2.4 Heathrow commissioned modelling and the work of the Airports Commission indicates that new jobs at the airport will be broadly similar in skill profile to those which already exist, as future assessment of the effect of automation and productivity gains are largely uncertain. The expectation is that the future workforce will broadly follow the same commuting patterns as now. However, locations further afield will become increasingly better connected to Heathrow through major transport infrastructure improvements (such as Crossrail and Western Rail Access).

13.2.5 Some of the additional workers at Heathrow in the future will already live in this travel to work area. In the five boroughs around Heathrow there are over 37,000 existing residents who are looking for work. Heathrow has a track record in employing local people who are out of work through its initiatives such as the Heathrow Academy, which grows local skills in retail, construction, aviation and logistics. The Academy works with airport partners to provide recruitment, training and apprenticeship programmes for a range of applicants providing opportunities for local residents to access skills and employment, reducing unemployment. Over 50% of Heathrow’s entire engineering workforce have been through the apprenticeship scheme.

13.2.6 Expansion will provide the opportunity to double the number of apprenticeships across the airport to 10,000 and extend programmes to champion employability skills training in schools. This promise would primarily be delivered by expanding existing skills, outreach and apprenticeship programmes, such as school and university programmes, and career fairs. We have established a Skills Taskforce to advise on this and expect the Heathrow Academy to be instrumental in delivering it. Further details on these are set out in the The Case for Heathrow Expansion.

13.2.7 Across the five Boroughs that provide half of Heathrow’s workers, over 65,000 homes are targeted to be built in the next decade. Planning policy seeks to direct particularly significant housing growth towards Opportunity Areas (OAs) within London. There are a number of these OAs which are located within the TTWA, including Heathrow, Park Royal and Old Oak Common, Wembley, Paddington, and the Lower Lea Valley, which will become accessible to Heathrow with the opening of Crossrail. In total, these OAs are expected to deliver almost 80,000 homes in the coming decades. These locations will therefore house economically-active workers who will potentially seek employment at an expanded Heathrow Airport.

13 Annual Population Survey 2017
13.2.8 There are, therefore, multiple sources of workers for meeting the employment needs of an expanded Heathrow. Heathrow's new jobs, while very significant locally, are not of such a scale as to cause significant new pressures on the wider TTWA.

13.2.9 It is of course the responsibility of local planning authorities to identify the most suitable locations for additional house building in their areas. This process of spatial planning through Local Plan reviews is ongoing and could be assisted by the preparation of a Joint Strategic Planning Framework by the HSPG.

13.2.10 Heathrow’s employment growth in recent years has been readily absorbed locally and incorporated into the trend-based projections that form the basis of local authorities’ policy-making and housing targets. Additional housing demand that might potentially be generated by Heathrow’s expansion will, in our view, be relatively small in comparison with the overall scale of housing need for which the authorities need to plan. The Government recognises this in its Updated Appraisal Report of Airport Capacity in the South East, stating:

“Any expansion related increase in demand should be seen in the wider context of housing demand going forward. For example, many local authorities are facing increasing demand for housing due to population growth and changing household patterns, regardless of airport expansion and the potential new workers it could bring to the area. Set against this, any pressures placed upon the locality due to expansion are likely to be small and could be dispersed across the surrounding areas. Local authorities will assess and plan for the development needed in their areas — including housing — through the local plan making process”.

13.2.11 Our current analysis of the position is consistent with this and we do not believe that the expansion of Heathrow will generate a need for additional homes.

13.2.12 Notwithstanding that, we are working closely with the HSPG on its potential preparation of a Joint Strategic Planning Framework to potentially inform longer term strategic planning in the sub-region. The studies being undertaken to inform this work will consider further the potential pressures that expansion might place on the local housing market. We will work with the HSPG to consider how the best outcomes for the area can be achieved in light of those studies.

13.3 Loss of housing – our compensation offer

13.3.1 To construct and operate an expanded Heathrow we will need to acquire areas of land which currently include residential, commercial and agricultural properties. We have drafted a number of discretionary policies for eligible homeowners affected by the proposals, which are:

- All eligible residential property owners in the inclusive compulsory purchase zone will be offered the unaffected market value of the home plus a Home Loss Payment of 25% of the unaffected market value, stamp duty costs for the purchase of a house of an equivalent value and reasonable legal fees and removal or other disturbance costs;

- A Wider Property Offer to purchase eligible residential properties on the same terms has been extended to an area containing approximately 5,500 homes around the compulsory purchase zone – see Figure 13.2. As part of our consultations, we are likely to consult on a variety of options that may impact on the boundaries of the compulsory purchase zone based on the scheme recommended to Government by the Airports Commission in its Final Report. This consultation exercise may change the extent of the compulsory purchase zone;

- We have also established a hardship scheme which aims to assist property owners who have a compelling need to sell their home but have been unable to in the open market;

13.3.2 We will also work closely with the most impacted communities to assess, manage and mitigate adverse effects on community facilities and their users.
Figure 13.2: Draft Wider Property Offer Plan

Key
- Current Heathrow Boundary
- Illustrative Airport Expansion Boundary AC V4.9
- Runways
- Indicative Wider Property Offer zone
- Indicative Compulsory Purchase zone

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13.3.3 This property compensation offer exceeds that which has been made for any other large-scale infrastructure or development project.

13.3.4 We have a track record in community engagement and we support local communities through the Heathrow Community Fund. Additional measures will be put in place to ensure the surrounding communities have additional support in preparation for expansion.

13.3.5 Additionally, we will engage with local businesses to ensure they are compensated for disruption caused by the need to relocate due to compulsory acquisition. And we will engage with local communities and local authorities in respect of the loss of community and education facilities.

13.3.6 Further information about our property policies and compensation offer can be found in the *Property Policies Information Paper.*
This Chapter considers the extent to which the increased operations at the airport – including passenger and cargo activity – will create demand for more employment floorspace including hotels, offices, warehousing and other airport-related development both on and near to the airport.

It does not refer to other land uses that may be required for the project including for roads, rivers, landscaping, mitigation, etc.

14.1 Today

14.1.1 ‘Airport-related development’ is a term which is used to describe a range of development that is related to the airport’s operation, such as hotels, offices, and warehousing. In some cases, this is provided within the operational boundary where there is a particularly strong functional link with the airport operation (e.g. terminal-linked hotels and supply chain offices), but often it is located outside but close to the airport.

14.1.2 Research by Lichfields, on behalf of Heathrow and with HSPG input, has been undertaken to establish the scale of existing airport-related development today, which supports or is supported by the airport, and to make predictions on the future scale of potential demand resulting from the airport’s expansion.

14.1.3 Over the following pages, we consider the key broad categories of development which closely relate to activity at the airport: hotels, industry and warehousing, and offices, as follows:

<table>
<thead>
<tr>
<th>Hotels</th>
<th>Industry and Warehousing</th>
<th>Offices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal-linked hotels</td>
<td>Cargo handling – ETSF</td>
<td>Airport supply-chain offices</td>
</tr>
<tr>
<td>Bus-linked hotels</td>
<td>Freight forwarding</td>
<td>Small-scale offices</td>
</tr>
<tr>
<td>More distant hotels</td>
<td>Airline catering</td>
<td>Large-scale international, corporate office</td>
</tr>
<tr>
<td></td>
<td>Maintenance (additional to MRO)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other warehousing and logistics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Light and heavy industrial</td>
<td></td>
</tr>
</tbody>
</table>

14.1.4 The research has identified both the scale and location of existing airport related development. The scale is explained below and the location of the airport related facilities is shown in Appendix 2.

Hotels

14.1.5 Hotels are important to the operation of the airport. Some are located very close to the airport, or even linked to terminals, while others are adjacent to the airport and linked by bus, or not linked to the airport at all but within a reasonable distance. These different types of hotels have different relationships with the airport.

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15 The term ‘airport related development’ as used in this document bears the above meaning and is not intended to bear the same meaning as the term ‘airport-related development’ in sections 14(1)(i) and 23 of the Planning Act 2008.

16 Heathrow Employment Land Forecasting Study – Stage 2 Report – Draft; Future State Assessment, Lichfields, 5 July 2017 (this report is currently draft and confidential)
14.1.6 The research has identified the spread and scale of these different types of hotels within a ‘core assessment area’,17 and sub-divided them as:

- **Terminal-linked hotels:** almost all of the hotel rooms at these hotels are likely to be predominantly used by passengers or colleagues at the airport, crew or other airport users;
- **Bus-linked hotels:** identified based on their connection to a direct and highly regular bus service to the terminals and located just outside the operational boundary. It is highly likely that up to 85% or more of customers are users or colleagues of the airport; and
- **More distant hotels:** serving airport users’ needs, which are often located further afield from the airport, but nonetheless partially related to Heathrow Airport. We estimate that around 35% of rooms in these hotels are used by our passengers or colleagues.

14.1.7 Based on these criteria, the research identified 280 hotels within the core assessment area with rooms that are used by colleagues and passengers, comprising approximately 11,000 beds. Lichfield’s research can be summarised as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Beds</th>
<th>Heathrow-related Beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal-linked hotels</td>
<td>2,699</td>
<td>2,699</td>
</tr>
<tr>
<td>Bus-linked hotels</td>
<td>7,872</td>
<td>6,646</td>
</tr>
<tr>
<td>More distant hotels</td>
<td>4,285</td>
<td>1,394</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>14,856</strong></td>
<td><strong>10,739</strong></td>
</tr>
</tbody>
</table>

14.1.8 The immediate proximity of a number of hotels to the northern boundary of the airport means that its northward expansion will cause a significant loss of hotel space, which may need to be replaced.

14.1.9 The research identified different categories of industrial and warehousing land within the core assessment area and divided them into two main groups based on their relationship with the airport.

**Group 1: Industrial and Warehousing land directly related to the operation of the airport (passengers, cargo, and aircraft movements)**

14.1.10 The uses within this first group are located largely off the airport but still directly related to the operation of the airport. They directly relate to the cargo that is processed by the airport, and the scale of aircraft movements:

- **ETSF cargo handling:** includes land both on the airport and further afield, to support airlines’ cargo handling operations, directly related to the airport. 100% of these operations are related to Heathrow;
- **Freight forwarding:** includes businesses away from the airport boundary that facilitate airlines’ freight forwarding operations, directly related to the airport;18
- **Airline catering:** requires a close location to the airport, given the perishable nature of the goods, and penalties imposed for late deliveries; these operations need to be physically near to the aircraft which they serve; and
- **Off-airport maintenance:** in this case, ‘maintenance’ refers to the wide range of activities relating to maintenance of aircraft (excluding airside aircraft maintenance), ground vehicles and other day-to-day operations at the Airport.

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17 The ‘Core Assessment Area’ is the area with immediate concentration of airport-related uses and/or uses for which proximity to Heathrow Airport is a principal business location factor. This was set at approximately five miles from the operational boundary of the Airport, including land in ten local authorities.

18 These businesses are assumed to not require an airside-landside interface, meaning they do not need to cross the security and customs cordon. The distinction between Freight Forwarding and ITSF is generally that the former does not require an airside-landside interface. The distinction between ETSF and Freight Forwarding is less distinct, with the latter generally also including customs supervision of goods. 100% of these operations are related to Heathrow.
Group 2: Industrial and Warehousing less directly related to the operation of the airport

14.1.11 Uses in this second group are united in their commercial preference to be located close to the airport:

- **Other airport-related warehousing and logistics**: essentially captures a range of warehousing and logistics activities within the core assessment area. Given Heathrow is one of the UK’s leading ports for global trade, the scale of this is significant. While many of these businesses will have chosen to be close to Heathrow to benefit from its location, the area around Heathrow is also a very significant location for warehousing and logistics operations in its own right, and a proportion of this group will be less related to Heathrow Airport; and

- **Light and heavy industrial**: includes manufacturing businesses engaged in supplying goods to the airport to support its operations. Depending on the exact nature of the business, between 10% and 60% of light and heavy industrial uses are estimated to be directly related to the airport.

14.1.12 In total, approximately 3.2m m² of industry and warehousing has been identified within the core area, over half of which is thought to be directly related to the airport.

14.1.13 The research findings are summarised below.

<table>
<thead>
<tr>
<th>Category</th>
<th>Total Floorspace (square metres)</th>
<th>Heathrow-related Floorspace (square metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETSF (Cargo Handling)</td>
<td>512,224</td>
<td>512,224</td>
</tr>
<tr>
<td>Freight Forwarding</td>
<td>389,341</td>
<td>389,341</td>
</tr>
<tr>
<td>Catering</td>
<td>64,829</td>
<td>64,829</td>
</tr>
<tr>
<td>Maintenance</td>
<td>101,023</td>
<td>101,023</td>
</tr>
<tr>
<td>Other warehousing/</td>
<td>1,797,868</td>
<td>441,404</td>
</tr>
<tr>
<td>logistics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light Industrial</td>
<td>153,291</td>
<td>25,339</td>
</tr>
<tr>
<td>Heavy Industrial</td>
<td>166,902</td>
<td>23,723</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3,185,478</td>
<td>1,557,883</td>
</tr>
</tbody>
</table>
Offices

14.1.14 The same research has identified the scale and spread of offices related to the airport within the core assessment area and we have grouped them into the following three categories:

- **Office space used to support supply chain operations**: captures the office space used by firms or operations which sit within the airport's supply chain, such as car hire businesses, travel companies, and airlines. These offices are located close to Heathrow for ease of access to the airport. These users could include back-office functions, headquarters, or customer service operations; for example, the Virgin offices at the World Business Centre. We consider 100% of this office space to be directly related to the airport;

- **Small-scale local demand**: captures those office users which want proximity to the airport for their business purposes, but they do not provide services directly to support the running of the airport. This category could include businesses whose employees are regular users of the airport. These offices are defined by their proximity to the good quality transport links connecting Heathrow Airport, and are notably located close to the six closest stations on the rail and tube lines running to Heathrow; and

- **Large-scale international corporate demand**: where the office users seek proximity to the airport and typically occupy offices in business parks, and benefit from good access to the airport to support the international nature of their businesses on a day-to-day basis. For example, their operations may involve multiple staff flying in or out of Heathrow to other office branches internationally. Some of these organisations have their own shuttle bus connections to the airport.

14.1.15 Circa 800,000m² of office space has been identified in the core area, around half of which is estimated to relate to Heathrow Airport.

14.1.16 The research is summarised in the table below – this is in addition to on airport office space directly related to the airport which is captured in Chapter 10.

<table>
<thead>
<tr>
<th>Category</th>
<th>Total Floorspace (square metres)</th>
<th>Heathrow-related Floorspace (square metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office space in uses concerned with the airport supply chain</td>
<td>109,157</td>
<td>109,157</td>
</tr>
<tr>
<td>Small scale local demand requiring proximity to the airport</td>
<td>162,738</td>
<td>53,704</td>
</tr>
<tr>
<td>Large scale international corporate users requiring proximity to the airport</td>
<td>552,169</td>
<td>276,085</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>824,064</strong></td>
<td><strong>438,946</strong></td>
</tr>
</tbody>
</table>

14.2 Requirements for growth

**Terminal-linked hotels and bus-linked hotels**

14.2.1 The research has identified demand for:

- Approx 1,900 on-airport, terminal-linked rooms (of which around 1,100 are under construction already);
- Approx 4,600 rooms with direct links to the airport e.g. by bus (of which around 600 are under construction already); and
- Approx 1,100 rooms in more distant hotels.

14.2.2 ‘Terminal-linked’ rooms are considered to be 100% related to the airport. Benchmarking studies show that Heathrow has fewer of these types of hotel rooms than other airports, and may need more in the future to meet the needs of a global hub airport. As a result, when assessing the scale of development that might be brought forward by Heathrow, around 50% was added to the objectively-assessed demand for ‘terminal-linked’ rooms (approx. 1,200, instead of 800 rooms) to bring Heathrow up to international standards.
14.2.3 Heathrow’s expansion will also displace between 2,355 hotel rooms and approximately 2,960 hotel rooms depending on the extent of development and the nature of the masterplan selected.

14.2.4 Overall, the identified demand for new terminal linked and direct linked hotel rooms has been set at around 5,200 rooms (accounting for those already under construction but not included in the baseline), rising to 6,300 rooms with the inclusion of more distant hotels. Replacement of displaced hotel rooms would require between 2,355 and 2,960 rooms. The overall demand for hotel capacity could therefore be up to c.9,260 rooms.

**Airline catering**

14.2.5 Given the perishable nature of the goods, these operations need to be physically close to the airport. We consider the demand for additional airline catering operations to be in line with the anticipated growth in passenger numbers. We have also considered the likelihood of a trend towards more long-haul flights (with more complex and varied catering requirements). The research estimates a demand for up to an additional 51,000m² of gross floor area by 2040.

**Maintenance (non-MRO)**

14.2.6 The majority of maintenance facilities associated with the airport are currently located within one to two miles of the airport perimeter, given the requirement to be close to the aircraft the facilities serve. Additional future facilities are likely to want to locate within a similar reasonable distance of the airport. We anticipate that the demand will rise in proportion with the increased activity of a three runway Heathrow. We have, however, considered a slight reduction in this ratio from 2030 onwards, to capture predicted future efficiency savings in the maintenance sector. It is estimated that an increase in demand for maintenance facilities of up to 27,000m² by 2040.

**Cargo handling (ETSF)**

14.2.7 By 2040 we aim to process double our cargo handling capacity. In addition to ITSF demand (see Chapter 10 for more information on ITSF), this increased level of cargo handling will also generate demand for further ETSF to support the processing of cargo at this level. The key determining factor for location is highway access for HGVs, (rather than immediate proximity to the airport) delivering and collecting goods from across the UK and overseas, and to the ITSF operations at Heathrow Airport. We estimate an increase in demand of up to 534,000m² for ETSF cargo handling facilities by 2040, in addition to demand identified for ITSF in Chapter 10.

**Freight forwarding**

14.2.8 We consider that the growth of freight forwarding is closely linked to the flow of cargo imports and exports via the Airport. There is scope for most freight forwarders to grow their business within their existing space, partly due to recent expansions or relocations by key firms, consolidation in the sector, and efficiency improvements of floor space use. Proximity to the airport – within five miles – will continue to drive the location of these. The research estimates an increase in demand of up to 106,000m² of freight forwarding facilities by 2040.

**Light and heavy industry**

14.2.9 A relatively modest increase in local demand is anticipated for additional light and heavy industry development in the next twenty to thirty years, driven also by the increase in cargo processing. This is because there is little market evidence to suggest there are particular advantages of these businesses locating close to the airport. The research estimates an increase in demand of up to circa 25,000m² for light industrial facilities and up to circa 24,000m² for heavy industrial (manufacturing) facilities by 2040.
Other airport-related warehousing and logistics

14.2.10 Technological change is leading to a higher efficiency in the logistics supply chain, leading to improved productivity levels and higher density warehousing and logistics facilities, particularly when combined with a shortage of land in the local area, and the high value of this land. The research estimates an increase in demand of up to circa 445,000m² for other warehousing and logistics space by 2040.

Offices

14.2.11 The expanded airport will generate demand for additional office space – a combination of small-scale local office space, offices in the airport’s supply chain and international-scale corporate offices. Estimates of demand for these types of office space are as follows:

- **Office space used to support supply chain operations:**
  In total, the research estimates an increase in demand of up to circa 63,000m² by 2040.

- **Offices – Small-scale local demand:**
  The research estimates an increase in demand for an additional 31,000 m² for this type of office space by 2040.

- **Offices – Large-scale international corporate demand:**
  Despite a market-wide shift away from business parks and towards inner-city locations, international corporate businesses will continue to seek office space which is geographically close to the airport, in order to support their international business ambitions. The research estimates an additional demand of 218,000m² for this type of office space by 2040.

14.3 Demand summary

14.3.1 We can summarise the demand estimated for all airport related development, including the quantum of displaced facilities, as follows:

<table>
<thead>
<tr>
<th>Floorspace (m²)</th>
<th>Current provision</th>
<th>Of which is likely to be displaced</th>
<th>New demand</th>
<th>2040 (Current + new demand)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airline Catering</td>
<td>c. 65,000</td>
<td>c. 16,000</td>
<td>c. 51,000</td>
<td>c. 116,000</td>
</tr>
<tr>
<td>Maintenance</td>
<td>c. 102,000</td>
<td>c. 1,000</td>
<td>c. 27,000</td>
<td>c. 129,000</td>
</tr>
<tr>
<td>Cargo Handling (ETSF)</td>
<td>c. 512,000</td>
<td>c. 18,000</td>
<td>c. 534,000</td>
<td>c. 1,046,000</td>
</tr>
<tr>
<td>Freight Forwarding</td>
<td>c. 389,000</td>
<td>c. 6,000</td>
<td>c. 106,000</td>
<td>c. 495,000</td>
</tr>
<tr>
<td>Light Industry</td>
<td>c. 25,000</td>
<td>c. 0</td>
<td>c. 25,000</td>
<td>c. 50,000</td>
</tr>
<tr>
<td>Heavy Industry</td>
<td>c. 24,000</td>
<td>c. 0</td>
<td>c. 24,000</td>
<td>c. 48,000</td>
</tr>
<tr>
<td>Other Airport-related Warehousing and Logistics</td>
<td>c. 441,000</td>
<td>c. 68,000</td>
<td>c. 445,000</td>
<td>c. 886,000</td>
</tr>
<tr>
<td>Office Supporting Airport Supply Chain</td>
<td>c. 109,000</td>
<td>c. 46,000</td>
<td>c. 63,000</td>
<td>c. 172,000</td>
</tr>
<tr>
<td>Small-scale Local Office Demand</td>
<td>c. 54,000</td>
<td>c. 7,000</td>
<td>c. 31,000</td>
<td>c. 85,000</td>
</tr>
<tr>
<td>Large-scale International Corporate Office Demand</td>
<td>c. 276,000</td>
<td>c. 2,000</td>
<td>c. 218,000</td>
<td>c. 494,000</td>
</tr>
<tr>
<td>Total</td>
<td>c. 1,997,000</td>
<td>c. 164,000</td>
<td>c. 1,524,000</td>
<td>c. 3,521,000</td>
</tr>
<tr>
<td>Hotel Rooms</td>
<td>c.10,800</td>
<td>c. 2,355 to 2,960</td>
<td>c. 6,300</td>
<td>c.18,700*</td>
</tr>
</tbody>
</table>

Table 14.1: *Net demand less hotels already under construction within the airport today
14.3.2 It is important to recognise that this is a gross total demand estimate for a wide range of airport employment related development, much of which will not arise until later in the period to 2040 and some of which may not need to be located in immediate proximity to the airport (some could be up to 5 miles away).

14.4 The delivery of airport related development

14.4.1 Heathrow has not yet decided the extent to which it should seek to develop some of this airport related development itself. Much depends on the nature of the relationship between the airport and the land use in question. All of the uses described above have a relationship with the airport, some are more direct than others. A summary of our observations in this respect are set out below:

<table>
<thead>
<tr>
<th>Airport-Related Land Use</th>
<th>Strength of relationship &amp; potential role for Heathrow in delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETSF &amp; Freight Forwarding</td>
<td>ETSF and Freight Forwarding are intrinsically linked to the operation of the airport – they respond to the scale of cargo that is processed and need to provide enough well-located, controlled space to satisfy the need to store, process and move goods effectively. We have committed to a significant increase in the amount of cargo handling capacity at the airport, and to ensure that there is no additional airport related traffic with expansion. There could be benefit in planning their location carefully in relation to the airport’s expansion to ensure they are efficiently and sustainably located.</td>
</tr>
<tr>
<td>Catering</td>
<td>Catering is an important function which relies on swift access to the aircraft to operate effectively. Consideration should be given to the potential for industry changes which may reduce demand in the future, but securing additional capacity for airline catering could maintain and improve efficient airline operations and avoid congestion on local roads. As such there could be benefit in exercising control over the location of at least an element of the additional demand for new catering facilities.</td>
</tr>
<tr>
<td>Maintenance</td>
<td>An expanded airport will have an enlarged fleet of aircraft, ground vehicles and other machinery that will need to be maintained as part of a safe and efficient operation. From an operational perspective, there would be benefit for some of this demand to be controlled and delivered in addition to on airport (MRO) maintenance.</td>
</tr>
</tbody>
</table>
Airport-Related Land Use | Strength of relationship & potential role for Heathrow in delivery
--- | ---
Logistics | This category of industrial land use is less directly related to the cargo operation of the airport – instead it reflects the demand for general warehousing in the region that is catalysed by being close to a major cargo hub. There is, therefore, less need to plan for the full extent of this future demand.
Manufacturing | This category of land use is less directly related to the airport’s operation and does not need to be located in very close proximity.
Offices | The airport generates demand for a range of supply chain, small-scale and international scale office space. Some of these categories are more related to the airport’s operation than others. We consider that the office space related to the airport’s supply chain needs to be confidently provided for. Equally there could be economic benefit (through income, job creation and business rates) in planning for some of the demand for international scale office space.
Hotels | The airport relies on hotel rooms for passengers and colleagues, including airline crew. The provision of new hotel rooms should include a terminal-linked offer and a local offer linked by a bespoke bus service or other public transport. We consider that all demand for terminal-linked hotel rooms should be delivered by Heathrow as it is on-airport and intrinsically linked to the airport’s operational needs. There would be benefit in also planning for other local airport related hotels given their importance in meeting the needs of airport users and workers.

14.4.2 Airport related development beyond the extended airport boundary could be brought forward through a variety of mechanisms and parties. It may be appropriate for Heathrow itself to deliver some of this development through its DCO. Indeed, this would allow the Secretary of State to control the amount and location of such development. It may also be appropriate for some of this development to be delivered by Heathrow or other developers through planning applications made to the relevant local planning authorities. Local planning authorities may prefer to influence the location of such development through their Local Development Plans.

Tell us what you think

Do you have any views on how the demand for additional airport related development might best be delivered?

14.4.3 Heathrow is still developing its thinking on these issues, but we are interested to have your views on the general locations, and particular sites, that we have identified for potential airport related development in Chapter 16.
This chapter sets out our emerging thinking on the construction of the expanded airport. It includes an overview of the key phases in the construction programme, the sites that may be required to support the construction works and the measures that would help to mitigate or reduce the construction effects anticipated to arise as a result of the works.

15.1 Construction components

15.1.1 The expansion of Heathrow will involve a large number of concurrent activities that will require a high volume of materials and a large workforce. We are developing solutions that aim to manage the flow of materials and workforce with the objective of optimising construction operations, maximising productivity and reducing adverse effects on local communities, the environment and airport operations.

15.1.2 This is proposed to be achieved by implementing a number of measures including the use of rail for importing materials to and from site, optimisation of road deliveries and provision of bus services from key hubs to transport the construction workforce. The logistics solutions will make use of existing and new temporary infrastructure and systems both on, near and off the site.

15.1.3 In addition to the use of sites around the airport, we propose to utilise four remote Logistics Hubs elsewhere in the country that will be delivered with the aim of increasing off site activities and overall productivity and spreading the economic benefit of the expansion project. Remote sites would assist us with managing the flow of materials and workforce with the objective to maximise productivity and reduce adverse effects on the public, the environment and airport operations. Bids have been invited for these sites and the invitation has sparked considerable interest. Criteria for assessing those sites include their ability to connect to the Heathrow construction site by rail. We are also exploring opportunities to coordinate logistics with other major projects.
15.1.4 The key components of the construction operation are expected to include some or all of the following activities:

- **Contractor compounds**: which are areas allocated to the management of people and resources, including the location of the contractors’ dedicated office space, plant and maintenance and repair operations (for the construction operation), and a storage or laydown area for construction materials. The use of these compounds for the storage of key materials close to the construction sites reduces the risk of running out of materials, and the associated disruption this would cause to the construction programme;

- **Control posts and site entrances**: which provide security checks for materials and workforce entering and leaving construction sites. These are typically located in easy-to-access areas for both workers and construction vehicles; and

- **A re-provided rail head** will provide the principal means to manage the arrival of bulk material to the construction zone. Much of this material will be transported from the Heathrow Expansion Project Logistics Hubs located across the UK. The use of rail is better for the environment and reduces the amount of vehicles on national and local roads. The rail head will be located on the Colnbrook branch of the Great Western Main Line (‘GWML’). The rail head will be the principal import and export facility for earth and landfill, aggregates such as sand and cement and containerised goods for construction purposes. The daily capacity of the line is dictated by the number of train paths available to move trains from the railhead on to the GWML. Further work with Network Rail is required to establish capacity, but it is likely that the railhead will operate 24 hours a day to utilise available paths during the night time hours when passenger services are much reduced. The optimum location for the rail head is immediately north of the north west runway where it crosses the M25 into the Colne Valley – close to the existing rail logistics facilities.

- **Lorry parks and call forwarding plants**: which are areas allocated to manage the flow of HGVs arriving and departing the construction zone. These would be managed by access and control posts and a Delivery Management System. They regulate arrivals and departures across the construction zone and ensure minimal impact to the local community;

- **Consolidation zones**: which are areas where several loads of material are consolidated into a single vehicle movement. Following additional security checks these loads are then driven to the destination construction site;

- **Batching plants**: for concrete and asphalt are required to produce and store construction materials in situ. They support construction of buildings and infrastructure as well as local roads and motorway works. HGVs and transit mixers will move these materials across the construction zone. Despite the anticipated contribution of off-site manufacture a number of these facilities are likely to be required, located in close proximity to the railhead to enable the efficient delivery of aggregates;

- **Pre-cast concrete plants**: will provide the ability to manufacture high-volume pre-cast products within the construction zone. The manufacture of large, bespoke pre-cast structural elements of the new infrastructure on site will reduce the need to transport these along public roads from elsewhere in the country;

- **Prefabrication facilities**: will provide the manufacture of a variety of elements, from structural to fit-out components, within the construction zone. Fabrication of these in a controlled, enclosed environment local to the construction sites will ensure against unnecessary transport movements on the local roads;

- **Structural steelwork preassembly facilities**: to provide space on-site to bring together steelwork components for construction;

- **Temporary car parking**: to be used by the workforce in addition to public transport;
• **Temporary construction workers’ accommodation:** would provide accommodation for workers who do not live locally, although no decisions have yet been made about whether such a facility may be necessary;

• **Borrow Pits:** will be used to supply mineral resources for the required fill material on site. Following excavation, the pits may be reinstated as lakes, or restored using excavated waste from the landfill sites that cannot be left in-situ within the airport boundary; and

• **Stockpile Sites:** will be used to temporarily store material in advance of it being placed in its final location. The use of such sites may be necessary during the early phases when the earth becomes available earlier that it is required in the programme. Stockpiling will also reduce the risk of delays once the earth is required and the associated disruption this would cause to the construction programme. The stockpile sites will be connected to the main construction site via haul roads and conveyors.

### 15.2 Construction phases

#### 15.2.1 The expansion project is expected to be developed in phases which can be grouped as follows:

- Creating the space for expansion
- Airfield expansion; and
- Campus development

#### 15.2.2 The first phase, ‘creating the space for expansion’, will start soon after the DCO consent is granted and will focus on the site preparation works required to clear and level the construction areas, as well as providing the necessary logistics infrastructure for the main proposed construction activities. This phase will include the re-provision of displaced properties and the construction of new roads, utilities and rivers. It will include the following key activities:

- Site establishment works including logistics;
- Advance mitigation works and site clearance;
- Construct replacement facilities for initial displaced buildings;
- Removal of existing structures;
- Diversion/re-alignment of existing rivers;
- Diversion of existing utilities; and
- Provision of new roads.

#### 15.2.3 The second phase, ‘airfield expansion’, will include the earthworks required for the creation of the new formation level (the level at which excavation completes and construction starts) and the construction of the new runway and taxiways. Most earthworks activities will take place in the first three years of construction. The runway will follow the completion of the formation level and activities will be phased so the runway construction in one zone can commence while earthworks are still ongoing in another zone. Our preliminary assessment shows that raising the runway above the current height of the M25 by approximately 3m to 5m, in conjunction with lowering the new section of the M25 by approximately 7m, will provide the optimum solution between motorway and runway alignment and earthworks cut and fill balance.
15.2.4 Our approach to reduce the need to import fill material is to maximise the excavation of existing mineral resources. We have identified possible locations for borrow pits that have the potential to supply the required fill. We are also exploring potential mineral sources within the airfield. We are investigating solutions that minimise material stockpiling, but where this is not possible we are identifying possible site areas where material can be stockpiled until it is placed in its final location. The construction of the new runway, taxiway and other civil works and systems will be phased to suit the completion of the earthworks in each zone and to include any ground settlement period required. Activities that will be carried out during this phase include:

- Drainage installation;
- Foundations construction;
- Construction of concrete pavements;
- Construction of subsurface tunnels;
- Creation of services (electrical and lighting);
- Construction of associated airfield facilities (signs, markings and perimeter roads); and
- Testing and commissioning of the runway and taxiways

15.2.5 The runway and taxiways construction will take between two to three years to complete.

15.2.6 The third phase, ‘campus development’, will include the construction of the new terminals and satellites. Terminal construction will start following the creation of the space in the proposed terminal locations and, therefore, will run concurrently with the second phase for a short period. Construction of new terminal capacity will be phased over a period of up to 15 years. The western campus includes two main areas of development:

- Western apron, which may include additional stand and terminal capacity to the west of T5A
- Northern apron, which may include additional stand and terminal capacity and facilities between the new runway and existing Northern Runway

15.2.7 There are extensive landside constraints to building additional stand and terminal capacity to the west of T5A including roads, rivers, buildings, underground utilities and proposed new rail projects. To overcome these constraints, terminal capacity construction may be phased.

15.2.8 Development of additional stand and terminal capacity in the north is also subject to re-provision of facilities and clearing the site. The constraints include the A4 road, other facilities and car parks.

15.2.9 Construction activities will ramp up during the creation of the campus and will peak when both the new runway and terminals are under construction. During this period, we estimate that there will be a peak construction workforce of between 10,000 and 15,000, which can be compared with the peak of 8,000 workers during the construction of Terminal 5 and the peak of 5,000 workers during the construction of Terminal 2. The workforce will then reduce following the completion of the runway and will be largely localised in the terminals and built facilities.
15.3 Impacts of construction

15.3.1 Heathrow will employ best practice management and delivery systems to manage the works. As part of the scheme development, mitigation to avoid or reduce the likely impacts of construction on communities and the environment will be developed. Construction activities will create conditions where there may be the potential for temporary increases in noise, dust generation, traffic and general disruption at various locations. Where there is potential for these effects, specific mitigation will be developed for implementation such as noise controls, dust suppression and traffic management measures.

15.3.2 Different construction approaches will be reviewed to establish where it may be possible to avoid or reduce impacts by utilising different methods of construction. For example, we are exploring design, manufacturing and assembly solutions that streamline the delivery process, reduce material use and waste, with the aim of reducing construction traffic associated with materials transfer across different work site locations.

15.3.3 The expansion of Heathrow will require a considerable workforce especially at peak construction. We are investigating opportunities to reduce the number of workers on site by increasing off site manufacturing and pre-fabrication through the Logistics Hubs initiative and improving on-site execution.

15.3.4 The majority of the construction workforce will travel to site each day either by public transport or by car. Travel by public transport will be encouraged, and due to the airport’s geographical location and connectivity, it can be assumed much of the workforce will travel to site using existing services from London. However, there will still be a proportion of the workforce residing to the north, south and west of Heathrow where the public transport provision is less well developed, even allowing for the new Elizabeth Line. Consequently, these workers will be more inclined to drive to the site. To make the expansion of Heathrow an attractive place to work for the construction workforce, provision will be made to cater for both public and private transport.
15.3.5 We are currently developing strategies and measures that support training and skills development and address the quality of working conditions and specific attention given to fair pay, adequate benefits, safety and gender equality. Our expansion plans will create 5,000 new apprenticeships which will help people to develop skills and sustainable careers.

15.3.6 As part of the environmental impact assessment process, a Code of Construction Practice will be prepared, which will direct how construction activities will be managed. This document will set out the requirements for mitigation and the monitoring of potential environmental impacts throughout the construction programme, such as construction noise, dust generation and traffic management and routing.

15.3.7 To reduce the effects of a large number of activities taking place at the same we will:
   - Use rail freight to import bulk materials, reducing the vehicle movements and effects on local roads
   - Use pre-booked delivery slots to allow the time of each delivery to be controlled
   - Provide bus services to transport the construction workforce to and from parking zones, areas of accommodation and linking to the public transport network
   - Use on, near and off-site logistic hubs

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

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

15.3.10 The majority of the construction activities on site will be undertaken during normal working hours from Monday to Friday to help manage impacts on local communities. The start and end times for each shift would vary within a range chosen to manage potential congestion and reduce effects on public transport services. Some activities may require double shifting and working on Saturdays.

15.3.11 There will be also other activities which will require continuity of working, such as large concrete pours or tunnelling, where the working pattern may include night and weekend working. These types of activities will be minimised wherever possible and it is anticipated that they will be confined to specific areas and for short specified periods of time.

15.3.12 Additionally, some maintenance and logistics support activities would take place during the night. For example, these would include pre-placement of materials for the subsequent day shift, refuelling mobile and fixed plant, managing early HGV arrivals at lorry parks and/or the site control posts and receiving/marshalling/dispatching trains from the railhead to suit rail paths. These will generally be low noise activities confined to specific areas of the site.

15.4 Construction workforce accommodation

15.4.1 Heathrow’s location in London benefits from a well-developed housing market and public transport links, so the requirement for construction accommodation facilities is less than for more remote infrastructure construction sites. There are also some established systems to use room availability within the current hotel capacity in the local vicinity of Heathrow.

15.4.2 For the proportion of the construction workforce that will require accommodation during construction we are exploring a number of approaches including the reuse of existing assets (e.g. residential properties, hotels) or the construction of new temporary facilities in dedicated areas of the site, similar to that established for the construction of Heathrow Terminal 5.
15.4.3 The overall approach to construction workers’ accommodation will consider the effects on local housing markets, services and infrastructure to avoid adverse effects on communities.

15.5 Construction site options

15.5.1 The expansion of Heathrow is a large construction project which will require temporary use of land, above and beyond the proposed permanent land use, to support construction and logistics operations. This section explains the approach and the extent of land which is likely to be necessary to achieve an efficient and sustainable construction process over a phased construction programme.

15.5.2 The land which is anticipated to be required for construction over this period is shown in Figure 15.2.
Figure 15.2: Sites considered for construction

Key
- Current Heathrow Airport
- Illustrative Airport Expansion Boundary AC V4.9
- Runways
- Potential temporary Construction Sites
- Potential Borrow Pits for Construction
- Potential sites for Construction, Borrow Pits or Stockpiling
15.5.3 The potential sites have been identified through a site selection process, which focused first on land around the immediate perimeter of the airfield, in particular along the northern and western boundary where the majority of works would take place. Given the potential demands for land around the airfield, consideration was also then given to land parcels further afield.

15.5.4 To guide the selection of potential areas of land for the longlist of options, the following requirements were set:

- sites should not have competing land uses that have no alternative site for relocation, although some sites may still be acceptable for construction use if they are to be redeveloped in later stages;
- sites should not have a significant impact upon the community, including but not limited to the loss of property, amenities and recreational space;
- sites should not have a serious impact on Horton Brook;
- sites should not result in the loss of mature woodland habitat or be in close proximity to ancient woodland;
- sites must not be nationally designated, e.g. a Site of Special Scientific Interest;
- Borrow Pits should be able to achieve sufficient volume for the available area; and
- haul routes to sites should be a short haul distance to the airfield and should not be in very close proximity to residential property.

15.5.5 Much of the land around the airport is designated Green Belt where planning permission for development should only be given in ‘very special circumstances’. However, the use of this land must be balanced against the fact that the construction support sites would only be used for a temporary period during the early phases of development and would then be returned to their existing state or enhanced. Furthermore, the use of sites in close proximity to the airport would reduce the impact of construction traffic on the surrounding highway network and should reduce the impact on surrounding communities.

15.5.6 A number of the sites are also being considered as stockpile areas where earth could be stored in advance of its use in the expansion works, if it is available before the required point in the programme. These sites are:

- H1 (CS-13) – Land to the north of Colnbrook By-Pass, to the west of Sutton Lane to the south of the M4 and to the east of the M25;
- A4 (CS-14) – Land at Holloway Lane;
- A4 (CS-15) – Land at Holloway Lane; and
- A4 (CS-16) – Land at Holloway Lane.

15.5.7 Some areas may need to be discontinued due to other competing land uses where there is no alternative site for relocation.

Tell us what you think

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

More information on our consultation and how you can provide us your views can be found at www.heathrowconsultation.com.
16 Developing a preferred strategy

This Chapter presents our emerging thinking about the masterplan that needs to be developed to support proposals for the expansion of the airport with a north west runway, taking account of all of the components reviewed in the previous chapters of this document.

These components all potentially form part of the jigsaw that needs to be put together to create a preferred masterplan for an expanded Heathrow.

16.1 Introduction

16.1.1 Starting with the illustrative masterplan supported by the Airports Commission (which we have reproduced at Figure 3.1), we have been undertaking a process to test each potential component of the airport’s expansion to inform how we best define and assemble the most appropriate airport-wide masterplan. That masterplan needs to meet many objectives but, in particular, it needs to achieve the scale, efficiency and economic benefits anticipated for the UK’s hub airport by the draft NPS whilst mitigating and compensating for its impacts. Our work to date is explained in the Scheme Development Report and the options which we have distilled from that process are reported in this document.

16.1.2 In arriving at a preferred masterplan, it is important to understand the physical and environmental constraints around the airport. To assist with this, we have examined the development potential of land within the vicinity of the airport, the results of which are reported in this chapter.

16.1.3 Before considering the scope for airport supporting facilities and airport related development, we consider it helpful to re-cap below the key outputs from the earlier chapters which have described the requirements of the principal components of expansion.

16.2 Airfield infrastructure

16.2.1 Chapters 5 to 9 of this document describe the work we have undertaken on the principal infrastructure components of the expansion project – particularly the runway, taxiways, aprons and terminals but also on the works associated with the M25, local roads, rivers and flood plains which lie in close proximity to the airport.

16.2.2 These principal components will form the framework for our DCO application but we cannot yet assemble them into a masterplan because there are options for each on which we are seeking your views. Some of these options are incompatible with each other, and further work needs to be undertaken to understand how these components might best fit together. It is only when this point is reached that assembly of our masterplan can be sensibly undertaken.

16.2.3 The first plan identifies areas of land which we know will be required for any airport infrastructure, at the same time as identifying additional land which may or may not be required depending upon the options selected following this consultation. This plan is shown in Figure 16.1:
Figure 16.1: Land potentially required for airfield Infrastructure

Key
- Current Heathrow Airport
- Land required for airfield
- Land potentially required for airfield infrastructure
16.2.4 As explained in Chapters 5 and 6, there are important decisions to be made in relation to:

- the precise location and length of the runway – which could affect any land requirement at the east end of the runway, although we have for current purposes used the 3,500m Airports Commission’s runway location;
- the inclusion or otherwise of taxiways around the western end of the existing northern runway;
- the extent to which the requirement for increased airport aprons should be met to the north or west of the airport; and
- the location of new terminal and apron capacity.

16.2.5 All of these matters require further careful assessment, informed by the views arising from this consultation.

16.3 Roads and junctions

16.3.1 Chapters 7 and 8 describe how expansion will require diversion and re-provision of a number of national and local roads and junctions, including the M25 and Junctions 14/14A, the A4, the A3044, the Stanwell Moor Junction, the Southern Perimeter Road and access to the Central Terminal Area. A composite plan indicating areas potentially affected by road and junction changes is shown at Figure 16.2 below.
Figure 16.2: Areas potentially affected by road and junction changes

Key
- Current Heathrow Airport
- Land Required for Airfield
- Area Potentially affected by road and junction options under consideration
16.4 Airport supporting facilities

16.4.1 Expansion will bring an increase of at least 55% in air transport movements, 72% in passenger throughput and a doubling of cargo handling capacity at the airport. This growth has direct consequences for all of the supporting facilities on the airport, such as cargo, maintenance, operational activities – as well as fuel, utilities, waste water, drainage, etc.

16.4.2 Chapter 10 has described the work being undertaken to understand the scale of growth required in these facilities and the opportunities to rationalise their distribution across the airport so that the expansion of the airport can be achieved without a proportionate expansion of the airport's footprint.

16.4.3 Work to date suggests that not all of this necessary growth in supporting facilities can be achieved within the existing airport boundary or the expanded airport boundary to provide the principal new airfield infrastructure. Development is likely beyond that boundary and Chapter 10 identifies options for that development to the west or south west of the airport close to Stanwell, to the south around Mayfield Farm and to the north west of Sipson, which could provide the necessary access to the existing and proposed airside areas. Other airport supporting facilities may be located to the north west of the new runway, close to the location where it would be sensible to re-provide the rail head. This potential expansion for airport supporting facilities is shown in Figure 16.3 below:
Figure 16.3: Sites potentially required for airport supporting facilities
16.4.4 Chapter 11 explains the benefits of consolidating car parking at Heathrow in order to make more efficient use of land and to achieve more sustainable outcomes with car parking consolidated in perhaps two principal gateway locations at the airport. Considerably more work is required to identify and optimise the best locations but options are presented in Chapter 11 and in Figure 16.4 below.
Figure 16.4: Potential Car Park Locations
16.5 Displaced uses

16.5.1 Chapter 12 describes how the new runway would displace a number of significant uses to the north and west of the airport – and discusses options for their relocation.

16.5.2 Our emerging thinking for some specific displaced uses is explained in Chapter 12 and can be summarised as follows:

- A new Immigration Removal Centre should be re-provided as part of the DCO and four potential relocation sites are identified to the north, south and west of the airport (see Figure 12.3);

- Detailed work is being undertaken to consider how best to mitigate the loss of the Lakeside Energy from Waste facility. Any relocation of the existing facility would need to be pursued through a separate planning application, so that the replacement could be achieved before the existing facility is demolished following the grant of development consent for the new runway. Options are not, therefore, presented in this consultation; and

- No decisions have yet been made about the relocation of the IAG offices at Waterside, although close working is continuing with IAG about available options.

16.5.3 Chapter 13 explains how we plan to compensate for the loss of housing.

16.6 Construction

16.6.1 Chapter 15 discusses sites that may be required temporarily during the construction phase of the expansion project. A plan showing the potential location of temporary construction sites is shown in Figure 16.5 below.
Figure 16.5: Potential construction Sites

Key
- Current Heathrow Airport
- Land required for airfield
- Potential temporary Construction Sites
- Potential Borrow Pits for construction
- Potential sites for Construction, Borrow Pits or Stockpiling
16.7 Green and Blue infrastructure

16.7.1 Chapter 9 describes options for the realignment of rivers and different options to meet flood storage requirements. In addition, through our design approach to the natural environment we have identified areas which could be landscaped, planted, restored or enhanced in order to mitigate and off-set the effects of the airport expansion. Figures 16.6 and 16.7 below show the potential location of green infrastructure, landscape and ecology enhancements and blue infrastructure, (water, flood storage and drainage). As explained in Section 2.1 these plans are indicative strategy plans, rather than firm site specific proposals but they provide a picture of the overall emerging approach. These are extremely important elements that will, in due course, integrate into and help bring together our overall masterplan.
Figure 16.6: Proposed approach to Green Infrastructure
Figure 16.7: Blue Infrastructure, Water and Drainage

Key
- Current Heathrow Airport
- Land required for airfield
- Existing water bodies
- Existing surface water treatment location
- Existing balancing reservoirs
- Existing contaminated flow lagoon
- Area potentially affected by river diversion options under consideration
- Potential drainage and pollution control treatment area option
- Potential compensatory flood storage area options
16.7.2 All of these matters need to be reviewed and developed further, with the benefit of feedback from this consultation.

16.8 Airport related development

16.8.1 Chapter 14 reviews the scale of development demand that may be generated over time for airport related development such as cargo and catering facilities, hotels and offices.

16.8.2 We have reviewed the suitability of potential sites close to the airport for accommodating airport supporting and/or airport related development. These are set out in section 16.9 below.

16.9 Site search and assessment for airport supporting facilities and/or airport related development

16.9.1 We have undertaken a review of potential development sites near the airport to understand their suitability to accommodate airport supporting and/or airport related development. This section explains the process that we undertook and our initial findings.

16.9.2 The starting point was to consider which land parcels may be most suitable for accommodating development. The methodology that we followed is set out further in Section 17 of the Scheme Development Report and is summarised briefly below.

16.9.3 In order to arrive at a set of potential development sites for evaluation purposes we set ourselves a series of working assumptions and rules. The process started with a ‘blank canvas’, meaning in effect that all land parcels and sites around the airport were theoretically potential sites for development based on geographical and physical boundaries. To enable us to undertake an initial sieve we applied ‘discontinuation’ rules. This process resulted in parcels of land not being considered if they failed any of the following:

- land where a substantial proportion of the existing use is for residential purposes on the basis that London Plan and local policy seek to avoid the further loss of residential stock unless there is a planned replacement;
- land currently beneficially occupied by other land uses, save for where the land is significantly underutilised; and
- land with an area less than 2ha;
- land more than 2 miles from the expanded airfield boundary, apart from those sites which are rail served in which case the search area would be expanded along rail lines (assuming that access from the potential site to the rail line is relatively straightforward);
- land with a substantial proportion of formal (designated) recreational space (not including golf courses); and
- land containing significant waterbodies.

16.9.4 All of the sites considered are shown in Figure 16.8.
Figure 16.8: List of Sites Considered

Key
- Current Heathrow Airport
- Illustrative Airport Expansion Boundary AC V4.9
- Runways
- Potential development sites considered

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16.9.5 These sites were then assessed for their potential suitability for airport supporting facilities and/or airport related development.

16.9.6 It is extremely important to stress at this stage that we do not have proposals for the development of any of these sites – rather, we are identifying them as potential candidates for airport supporting facilities and/or airport related development, subject to further investigation and in particular, subject to the results of this consultation.

16.9.7 Our review of the sites in Figure 16.8 is set out in Section 17 of the Scheme Development Report. These sites which we consider may be suitable for airport supporting facilities or airport related development are shown in Figure 16.9.

16.9.8 Appendix 3 sets out a site by site review of those sites which may be potentially suitable for development. It identifies the characteristics of each site and the reasons why we consider they may be potentially suitable for airport supporting and/or airport related development. It also identifies where particular care would need to be taken to protect important amenities, environmental constraints or Green Belt functions. A large majority of the sites would need to be subject to detailed design studies before they could be brought forward for development. Some of this development may of course be brought forward by other parties but it is still important that we get your views, at this early stage, on what sites may be more or less suitable. We will continue to work with the local authorities to establish the most appropriate way forward.
Figure 16.9: Sites potentially suitable for airport related development
16.9.9 Note that, at this stage, all site boundaries are approximate and are based on the best information we have available at this time. These will be subject to further work and possible amendment. We have endeavoured to contact potentially affected land owners and users but, given the number and scale of sites involved, we may not have notified everyone. We encourage potentially affected land owners and users to respond to our consultation. More information on our consultation and how you can provide us your views can be found at www.heathrowconsultation.com.

Tell us what you think

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

More information on our consultation and how you can provide us your views can be found at www.heathrowconsultation.com.

16.10 Next steps towards a masterplan

16.10.1 All of these components need to be defined and brought together to provide an integrated masterplan. The plans in this chapter provide the principal layers of what will be needed to develop our masterplan.

16.10.2 Heathrow will continue to develop its masterplan in the light of the five evaluation disciplines identified in section 2.1 above, and your consultation feedback. That is why it is important that you tell us your views.

16.10.3 We intend to consult again once we have identified our preferred masterplan. We will explain how consultation feedback, community engagement, environmental assessment and option evaluation has influenced our preferred options and how these have been carefully pieced together into a coherent masterplan.

Tell us what you think

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

More information on our consultation and how you can provide us your views can be found at www.heathrowconsultation.com.
Appendix 1 – Adopted and draft policies maps
Appendix 1 – Adopted and draft policies maps

Slough Local Development Framework (Feb 2010)

South Bucks District Development Plan (2011)

Saved South Bucks Local Plan Policies

Core Strategy Policies

Opportunity Site (MOS boundary)

Area of Outstanding Natural Beauty

National Nature Reserve

Ramillies Rookery SAC

Local Wildlife Site

Biodiversity Opportunity Area

Ancient Woodland

Scheduled Ancient Monument

Site of Special Scientific Interest

Historic Park or Garden

Cooper Valley Park

Local Nature Reserve

Saved Bucks Minerals and Waste Local Plan Policies

Preferred Areas for Sand and Gravel Extraction (Operational)

Policy 5

Safeguarded Multi-Model Facility

Policy 15

Safeguarded Aggregate Rail Depot Site

Policy 7

Land excluded from the Mineral Consultation Area

Policy 1
Appendix 2 – Plans of airport related development local to Heathrow Airport today

Key
- Current Heathrow Boundary
- Indicative Core Assessment Area
- Terminal-linked Hotels (On-Airport)
- Bus-linked Hotels (Off-Airport with Direct Airport Links)
- More Distant Hotels Serving Airport User’s Needs

Plan demonstrating hotels local to Heathrow Airport
Appendix 2 – Plans of airport related development local to Heathrow Airport today

Plan demonstrating location of Industrial and Warehousing land, directly related to the operation of the airport (passengers, cargo, and aircraft movements)
Appendix 2 – Plans of airport related development local to Heathrow Airport today

Plan demonstrating location of Industrial and Warehousing less directly related to the operation of the airport (i.e. not processing cargo or supporting aircraft or passenger movements)
Appendix 2 – Plans of airport related development local to Heathrow Airport today
## Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>A2</th>
<th>Land at Saxon Way trading estate</th>
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</thead>
<tbody>
<tr>
<td><strong>Development potential</strong></td>
<td></td>
<td>Potential development site (in part)</td>
</tr>
<tr>
<td><strong>Context</strong></td>
<td></td>
<td><strong>Site location/characteristics</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>The site is located to the south east of the M25/M4 junction, north of the existing airport. The site is bounded by Harmondsworth Moor to the north, west and south. To the east is an area of farmland, and the village of Harmondsworth is located further to the south east. A small area of registered common land is understood to be located to the south west, with allotments adjacent to the south east.</td>
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<tr>
<td></td>
<td></td>
<td><strong>Existing use(s)</strong></td>
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<tr>
<td></td>
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<td>The site primarily consists of the Saxon Trading Estate which comprises a collection of industrial warehouse units surrounded by surface level parking. The south western corner of the estate consists of an underused area of hard standing. Two underused brownfield sites are located immediately south of the estate and appear to be used for open storage.</td>
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<tr>
<td></td>
<td></td>
<td><strong>Planning policy</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>The saved policies from the Hillingdon UDP confirm that the site is located within the Green Belt. The site is also located within the Colne Valley Regional Park, a Comprehensive Regeneration Area and a site of importance for nature conservation (Borough grade) lies adjacent to the east.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Appropriate uses</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>The site represents operational brownfield land within the Green Belt, used primarily for industrial activities. The site can largely be considered in 2 parts. The main Saxon Trading Estate contains existing industrial premises. It is therefore considered that this part of the site should be retained. However the underused land parcel at the south west corner of the estate and the 2 parcels further south of the estate may provide potential development opportunities. The impact of any development on the openness of the Green Belt would need to be carefully considered, but the urban nature of the parcels and the adjacent industrial estate provide potential context for robust justification for development in the Green Belt. The small element of common land would also need to be considered. In terms of potential land uses, the adjacent warehousing would suggest that industrial uses may be appropriate or given the proximity the site will likely have to the expanded airport boundary, it could also offer the potential for airport supporting facilities.</td>
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</table>
Appendix 3 – Sites potentially suitable for airport related development

| Potential development site (ref. and name) | A2  
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<tr>
<td>Land at Saxon Way trading estate</td>
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Site plan

![Site Plan of Land at Saxon Way trading estate]
### Potential development site (ref. and name)
- A4 Land at Holloway Lane

### Development potential
Potential development site (in part)

### Context

#### Site location/characteristics
The site is located south of the M4 and west of the M4 Spur. The site contains the land north of Harmondsworth and north west of Sipson, as well as the land between the two villages. The site is severed from north east to south west by Holloway Lane, and is known to have been partially used for landfill.

#### Existing use(s)
The land is largely used for agricultural purposes, some of which is Grade 1 agricultural land. The plots are surrounded by hedgerows and semi improved grassland. The area also contains pockets of commercial premises including a garden centre and a gas distribution centre.

#### Planning policy
The saved policies of the adopted Hillingdon UDP confirm the site to be within Green Belt and part of the site falls within an Archaeological Priority Area.

#### Appropriate uses
The site represents a large Green Belt area which is primarily used for agricultural purposes although it does contain commercial premises. The site is considered to fulfil an important Green Belt function providing separation between Harmondsworth and Sipson although the M4 to the north provides a physical barrier. Notwithstanding the site’s Green Belt function, the southern portion of the site is likely to be situated immediately adjacent to the expanded airport boundary. This potentially provides the opportunity for direct airside access which is a critical requirement for airport supporting facilities.

In addition, the northern element of the site (closer to the M4) is, in our view, less important in Green Belt terms to the separation of the settlements. We therefore suggest that this part of the site has the potential for development without impact on residential amenity and without undermining the primary function of the Green Belt. On this basis, the northern element may be suitable for a range of potential uses including offices and hotels, or relocation of the Home Office Immigration Removal Centres.

Any development on this site will require careful consideration of the impact on the amenity of residents within Harmondsworth and Sipson.
## Appendix 3 – Sites potentially suitable for airport related development

<table>
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<tr>
<th>Potential development site (ref. and name)</th>
<th>A4 Land at Holloway Lane</th>
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<tr>
<td>Site plan</td>
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## Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>A5</th>
<th>West Sipson / Bath Road</th>
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<tbody>
<tr>
<td>Development potential</td>
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<td>Potential development site</td>
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</table>

### Context

**Site location/characteristics**

The site represents an area of land to the north of the A4, and south west of Sipson. The area is bounded to the west by residential properties on Pinglestone Close and Zealand Avenue, and to the east by residential properties on Blunts Avenue.

**Existing use(s)**

The site comprises 2 parcels of land currently in agricultural use, two commercial estates and an area of recreation ground. Permission was granted on 4 September 2009 for the erection of a 623-bedroom hotel at 276 Bath Road which is being implemented. The commercial estates contain a mix of uses including hotels, office and other commercial premises. The recreation ground is located to the east of the site, adjacent to Blunts Avenue.

**Planning policy**

Site is designated within the adopted Hillingdon UDP proposals map as being within the Green Belt and an Area of Environmental Opportunity. In addition, parts of the site are designated as Industrial and Business Areas.

**Appropriate uses**

The site occupies a unique location between the existing northern runway and the potential new north west runway. The Green Belt function of the site is considered to be limited given that it will be surrounded on 3 sides by the expanded airport. As a result the site may be potentially suitable for airport supporting facilities.

However, there are important land uses to consider. In particular any development of the site which comes forward will need to minimise impact as far as possible on the existing homes on Blunts Avenue and the existing businesses on Bath Road (where they are retained). We also recognise that the playing field at the eastern end of the site will need careful consideration given the surrounding airfield activity.
## Appendix 3 – Sites potentially suitable for airport related development

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<tr>
<th>Potential development site (ref. and name)</th>
<th>A5 West Sipson / Bath Road</th>
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Site plan

![Site plan](image-url)
### Appendix 3 – Sites potentially suitable for airport related development

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<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>A7 North Sipson / M4 Spur</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development potential</td>
<td>Potential development site (in part)</td>
</tr>
<tr>
<td><strong>Context</strong></td>
<td><strong>Site location/characteristics</strong></td>
</tr>
<tr>
<td></td>
<td>The site is located to the east of Sipson. It is bound by residential properties to the west and M4 Spur to the east, and is split north south by Sipson Lane.</td>
</tr>
<tr>
<td></td>
<td><strong>Existing use(s)</strong></td>
</tr>
<tr>
<td></td>
<td>The site is largely green open space, although it is fragmented by commercial activities on parts of the land.</td>
</tr>
<tr>
<td></td>
<td><strong>Planning policy</strong></td>
</tr>
<tr>
<td></td>
<td>The saved policies of the adopted Hillingdon UDP confirm the site to be located within the Green Belt.</td>
</tr>
<tr>
<td></td>
<td><strong>Appropriate uses</strong></td>
</tr>
<tr>
<td></td>
<td>Whilst this land has a very important relationship with Sipson given its proximity, the site does not perform a particularly important Green Belt function. It is our view that the Green Belt’s natural boundary is formed by the M4 Spur. We therefore consider that this site has some development potential. However we recognise that any development would need to be sensitively planned and sympathetic to Sipson, which may suggest development is limited toward the north of the site (although this will be subject to further testing). Possible uses include airport supporting facilities, including, office and hotel uses.</td>
</tr>
</tbody>
</table>
### Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>A7 North Sipson / M4 Spur</th>
</tr>
</thead>
</table>

**Site plan**

![Site plan of North Sipson / M4 Spur](image-url)
## Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>B1 Sipson Lane North</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development potential</td>
<td>Potential development site (in part)</td>
</tr>
<tr>
<td>Context</td>
<td><strong>Site location/characteristics</strong></td>
</tr>
<tr>
<td></td>
<td>The site is located to the east of the M4 Spur junction. The site bounded by the M4 to the north, sport facilities and Sipson Lane to the south, and M4 Spur to the west. To the east are the residential properties of Harlington.</td>
</tr>
<tr>
<td></td>
<td><strong>Existing use(s)</strong></td>
</tr>
<tr>
<td></td>
<td>To the west the site is used largely for quarry related activities. The area to the east has been formally quarried and is currently used for agricultural purposes. The south west corner of the site is used for some commercial activities which appears to include vehicle storage. Adjacent to this is a recreation ground.</td>
</tr>
<tr>
<td></td>
<td><strong>Planning policy</strong></td>
</tr>
<tr>
<td></td>
<td>The saved policies of the adopted Hillingdon UDP confirm that the site is located in the Green Belt and an Area of Environmental Opportunity.</td>
</tr>
<tr>
<td></td>
<td><strong>Appropriate uses</strong></td>
</tr>
<tr>
<td></td>
<td>The majority of this site is open land between the M4 spur and Harlington. It is recognised to perform a valuable Green Belt function, although the western side of the site is considered to have a different character given the proximity of the M4 Spur due to noise, lighting, etc.</td>
</tr>
<tr>
<td></td>
<td>Our current thinking is that the land adjacent to the M4 Spur may have development potential for particular uses for which the site’s exceptional location is especially suited. For example, our work is suggesting that this may be one of the few locations that could accommodate a new car parking ‘gateway’ for the expanded airport given its proximity to the M4. In addition, other nationally important developments such as the relocated Immigration Removal Centres might be appropriate. Given the potential importance of the site, consideration is to be given to key potential loss of the recreation facilities to the north of Sipson Lane. The eastern side of the site which serves a more valuable Green Belt function providing separation to Harlington may be used for landscape and environmental mitigation. The site is crossed by the Heathrow Express underground tunnels which will need to be protected.</td>
</tr>
</tbody>
</table>
Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>B1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sipson Lane North</td>
<td></td>
</tr>
</tbody>
</table>

Site plan
## Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>B2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sipson Land South / Harlington</td>
<td></td>
</tr>
</tbody>
</table>

### Development potential

Potential development site (in part)

### Context

**Site location/characteristics**

The site is located to the east of the M4 Spur, south of Sipson Lane. The site bounded to the south by the commercial premises on the A4 and to the east by residential properties within Harlington.

**Existing use(s)**

Similar to B1, to the west the site is used largely for quarry related activities. The area to the east has been formally quarried and is currently used for agricultural purposes. To the north off Sipson Lane is a building occupied by the Sant Nirankari Mission.

**Planning policy**

The saved policies of the adopted Hillingdon UDP confirm that the site is located within the Green Belt and an Area of Environmental Opportunity.

**Appropriate uses**

The site has similar characteristics to Site B1. It too is recognised to fulfil an important Green Belt function, particularly the buffer around Harlington, however, the western side of the site adjacent to the M4 Spur is considered to have a different character. There is therefore the potential for particular uses to be located here, such as car parking or airport supporting facilities, given the site’s strong positioning close to the airport and the local and national highways networks.

The eastern side of the site which serves a more valuable Green Belt function providing separation to Harlington could potentially be used for landscape and environmental mitigation. The site is crossed by the Heathrow Express underground tunnels which will need to be considered.
## Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>B2 Sipson Land South / Harlington</th>
</tr>
</thead>
</table>

Site plan
## Appendix 3 – Sites potentially suitable for airport related development

| Potential development site (ref. and name) | B3  
| Stockley Road / Shepiston Lane |
|------------------------------------------|-----------------------------|
| Development potential | Potential development site |
| Context | Site location/characteristics  
The site is located to the north east of the M4/M4 Spur junction. It is bound by Stockley Road to the west, Stockley Park to the north, Cherry Lane Cemetery and allotments to the east and Shepiston Lane to the south.  
Existing use(s)  
The site comprises an area of open green space.  
Planning policy  
The saved policies of the adopted Hillingdon UDP confirm that the site is within the Green Belt, Area of Environmental Opportunity and a Nature Conservation Site of Borough Grade II or Local Importance.  
Appropriate uses  
The site is designated Green Belt, but in our assessment it fulfils a limited Green Belt role and function, primarily as it surrounded by urban development. The site is highly accessible from the airport and could therefore be suitable for a number of potential uses, including industrial and parking uses. However, we recognise that any development which comes forward would need to be very carefully planned to respect the important amenity of the adjacent designated cemetery. A careful design and landscape approach would be required. |
Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>B3 Stockley Road / Shepiston Lane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site plan</td>
<td></td>
</tr>
</tbody>
</table>
## Appendix 3 – Sites potentially suitable for airport related development

| Potential development site (ref. and name) | C1  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Land at Cranford Lane</td>
</tr>
</tbody>
</table>

### Development potential

Potential development site (in part)

### Context

#### Site location/characteristics

The site is located to the east of Harlington, and south of the M4. The eastern boundary is defined by the River Crane and Cranford Park, and the southern boundary by properties along the A4.

#### Existing use(s)

The land is used for agricultural purposes, and is split by Cranford Lane.

#### Planning policy

The saved policies of the adopted Hillingdon UDP confirm the site to be located within the Green Belt and an Area of Environmental Opportunity. The site lies adjacent to a SINC.

#### Appropriate uses

The large majority of the site is considered to perform an important Green Belt function and it also has ecological value as a SINC. On this basis our current thinking is that the majority of the site is best suited to landscaping which could enhance the amenity of Cranford Park to the west.

However, the southern part of the site is considered to have a different character to the rest, primarily due to the commercial activity that occurs along Bath Road and presents a development opportunity. Suitable uses in this location could include offices or hotels.
Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>C1 Land at Cranford Lane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site plan</td>
<td><img src="image" alt="Site Plan" /></td>
</tr>
</tbody>
</table>
Appendix 3 – Sites potentially suitable for airport related development

| Potential development site (ref. and name) | C2  
|--------------------------------------------|--
| Land at East Perimeter Road                |

### Context

**Site location/characteristics**
The site is located to the east of the existing airport adjacent to the River Crane. Airport related car parking is located immediately to the north and west, with the airport maintenance base and the Eastern Perimeter Road to the south.

**Existing use(s)**
The land is green open space.

**Planning policy**
The saved policies of the adopted Hillingdon UDP confirm the site to be located within the Green Belt, an environmental opportunity area, a Public Safety Zone and a designated SINC.

**Appropriate uses**
The Green Belt function of the site is considered to be limited given the nature of the surrounding airport development. The site has some development potential, however, this is constrained by the height limitations, as well as noise and safety considerations, owing to its location close to the eastern end of the current northern runway. Our emerging thoughts are therefore that this site could be potentially used for car parking.

We recognise that any development of the site would need to respect the site's location and characteristics, in particular its nature conservation value.
### Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>C2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land at East Perimeter Road</td>
<td></td>
</tr>
</tbody>
</table>

Site plan

![Site plan image](image-url)
## Potential development site (ref. and name)

<table>
<thead>
<tr>
<th>D1/D2</th>
<th>Land at Hatton Cross / Faggs Road</th>
</tr>
</thead>
</table>

### Development potential
Potential development site

### Context

**Site location/characteristics**
The sites are located to the south of Hatton Cross and are separated by Hatton Road. The northern site is bounded by the A30 to the north, commercial premises to the east, Hatton Road to the south and residential properties off Myrtle Avenue to the south west. To the south of Hatton Road, the site is defined by commercial premises to the east, sports pitches to the west and the Duke of Northumberland’s River to the south.

**Existing use(s)**
The land is largely green open space, but also includes a burial ground and a NATS facility.

**Planning policy**
The adopted Hounslow Planning Policy map confirms the site to be located in the Green Belt and part of the site to be designated as a SINC.

**Appropriate uses**
The sites are considered to occupy important locations close to the airport boundary and with good access to Hatton Cross. Although the sites are designated Green Belt land, our assessment is that the Green Belt is fragmented (i.e. the wider area is not characterised by a large and continuous area of Green Belt land, and are abutted by brownfield land). The sites therefore could offer some development potential, for instance for industrial or hotel/office commercial uses. We note that Hounslow’s emerging West of the Borough Plan proposes to release the sites from the Green Belt.

We recognise that there are a number of site specific constraints which would, however, need to be carefully addressed should these sites come forward, including the need to consider nature conservation, existing watercourses and height limitations on Site D2 due to the proximity of the southern runway. Any redevelopment of the site will exclude the burial ground.
## Appendix 3 – Sites potentially suitable for airport related development

| Potential development site (ref. and name) | D1/D2  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Land at Hatton Cross / Faggs Road</td>
</tr>
</tbody>
</table>

![Site plan](image)
### Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>E1 Mayfield Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development potential</td>
<td>Potential development site</td>
</tr>
<tr>
<td><strong>Context</strong></td>
<td>Site location/characteristics</td>
</tr>
<tr>
<td></td>
<td>The site is located to the south of the airport. It is bound by Stanwell Road to the north, the A30 to the south and east, and an existing fuel farm to the west.</td>
</tr>
<tr>
<td></td>
<td>Existing use(s)</td>
</tr>
<tr>
<td></td>
<td>The land is largely used for agricultural purposes, although it includes an occupied farm house.</td>
</tr>
<tr>
<td></td>
<td>Planning policy</td>
</tr>
<tr>
<td></td>
<td>The adopted Hounslow Local Plan confirms the site to be located within the Green Belt and partially designated as a SINC.</td>
</tr>
<tr>
<td></td>
<td>Appropriate uses</td>
</tr>
<tr>
<td></td>
<td>The site occupies an important location with immediate proximity to the southern part of the airport. We do recognise that the site is designated Green Belt, however we believe that the Green Belt function is limited given the fragmented nature of Green Belt in the wider area. This is recognised by Hounslow which has proposed the site for Green Belt release in the emerging West of the Borough Plan. Therefore, this site could potentially be suitable for a range of uses, for instance industrial, parking, office and hotel uses. In addition, our current thinking is that the site may be able to accommodate a “special” use of national significance, such as the replacement Home Office Immigration Removal Centres.</td>
</tr>
<tr>
<td></td>
<td>We recognise however that the suitability of this site for such uses is subject to addressing particular site constraints, including the Ancient Monument designations (towards the north of the site) - these areas should be protected. In addition, any development would have to consider safety restrictions associated with the adjacent fuel depot (to the west).</td>
</tr>
</tbody>
</table>
Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>E1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mayfield Farm</td>
<td></td>
</tr>
</tbody>
</table>

Site plan
## Appendix 3 – Sites potentially suitable for airport related development

| Potential development site (ref. and name) | E2  
| Land at Staines Road / Clockhouse Lane |
| Development potential | Potential development site |
| Context | Site location  
The site is located to the south of Site E1. The A30 is located to the north, industrial premises to the west and Clockhouse Lane to the east.  
Existing uses  
The site contains a water body to the east and an open of open green space to the west, which contains two parcels of brownfield previously developed land.  
Planning policy  
The adopted Hounslow Local Plan confirms the site to be located within the Green Belt.  
Appropriate uses  
Although a large part of the site is taken up with a water body, and it contains historic landfill, we are aware that planning permission was granted in 2015 for a hotel-led development in this location. Therefore the site may be used for infrastructure uses associated with the airport (for instance balancing ponds), industrial uses, hotel or landscaping. |
### Appendix 3 – Sites potentially suitable for airport related development

| Potential development site (ref. and name) | E2  
|-------------------------------------------|------  
|                                            | Land at Staines Road / Clockhouse Lane |

#### Site plan

![Site plan of Land at Staines Road / Clockhouse Lane](image-url)
## Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>E3 Land at London Road / Short Lane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development potential</td>
<td>Potential development site</td>
</tr>
<tr>
<td><strong>Context</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Site location/characteristics</strong></td>
<td>The site is located south west of Site E1. The A30 forms the southern boundary, Short Lane to the west and the existing fuel farm to the north.</td>
</tr>
<tr>
<td><strong>Existing use(s)</strong></td>
<td>The site is largely used for agricultural purposes, but it also contains some small scale commercial premises and a limited number of residential properties, as well as the Ashford and Staines Community Centre.</td>
</tr>
<tr>
<td><strong>Planning policy</strong></td>
<td>The adopted Spelthorne Planning Policy map confirms the site to be located in the Green Belt, and partially located within a Site of High Archaeological Potential.</td>
</tr>
<tr>
<td><strong>Appropriate uses</strong></td>
<td>Our current thinking is that the site occupies an important location with good access to the south of the airport. Given this important location the site is potentially well suited to a range of airport related development, including industrial uses, as well as airport supporting facilities. We recognise that the site is in close proximity to the nearby fuel depot and therefore there will be safety considerations associated with any potential development opportunity. In addition, we recognise the need to take full account of the community hall and nearby residential properties.</td>
</tr>
</tbody>
</table>
## Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>E3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land at London Road / Short Lane</td>
<td></td>
</tr>
</tbody>
</table>

[Site plan image]
### Appendix 3 – Sites potentially suitable for airport related development

| Potential development site (ref. and name) | E4  
|-------------------------------------------|-----
| Land at Bedfont Road / Long Lane          |     

#### Development potential
Potential development site

#### Context

<table>
<thead>
<tr>
<th><strong>Site location/characteristics</strong></th>
<th>The site is located to the south of the airport. It is framed by Bedfont Road to the north, Crane Road to the east and Long Lane to the west. The existing fuel farm is located to the south.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing use(s)</strong></td>
<td>The site comprises a fragmented mix of open space and, industrial and commercial premises.</td>
</tr>
<tr>
<td><strong>Planning policy</strong></td>
<td>The adopted Spelthorne Planning Policy map confirms the site to be located in the Green Belt, and partially located within a Site of High Archaeological Potential.</td>
</tr>
<tr>
<td><strong>Appropriate uses</strong></td>
<td>This site is not considered to fulfil an important Green Belt function. It is surrounded by industrial premises which step into the landscape at various locations, and does not in our view form part of a strong strategic Green Belt network. The Green Belt in this area is considered to be heavily fragmented.</td>
</tr>
<tr>
<td></td>
<td>The site is also in poor condition having been used by a number of different operators in the past. Given the proximity to the southern part of the airport it is our current thinking that this site (including land to the north west off Bedfont Road/Long Lane) could potentially be used for a number of potential airport related uses, including industrial uses and airport supporting facilities. Cargo facilities would be especially logical given the links to the cargo premises immediately to the north on the existing airport.</td>
</tr>
<tr>
<td></td>
<td>We do recognise however that should this site come forward for development it would need to properly respect the residential properties on Long Lane.</td>
</tr>
</tbody>
</table>
## Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>E4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land at Bedfont Road / Long Lane</td>
<td></td>
</tr>
</tbody>
</table>

### Site plan

![Site Plan](image-url)
### Appendix 3 – Sites potentially suitable for airport related development

| Potential development site (ref. and name) | F1  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Land bounded by Stanwell Moor Road, Horton Road and Airport Way</td>
<td></td>
</tr>
</tbody>
</table>

#### Development potential
Potential development site

#### Context

<table>
<thead>
<tr>
<th>Site location/characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>The site is bounded to the north by Airport Way, to the east by Stanwell Moor Road and to the South by Horton Road. To the west the site is bounded by residential properties along Spout Lane. The existing airport is located immediately to the north east of the site. A recreation ground is located to the south west of the site and a RAMSAR (site of wetland importance) to the south of the site at King George VI Reservoir.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Existing use(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The site primarily consists of green open space and recreation ground.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Planning policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>The adopted policies of Spelthorne Borough Council confirm the site is located within the Green Belt and Noise Contours. The north west portion of the site is located in Flood Zone 2 and a Public Safety Zone.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Appropriate uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>The site is recognised to perform an important Green Belt function, in particular providing a green buffer between the settlements of Stanwell Moor and Stanwell. However, it is considered that this site occupies a unique, strategic location at an important entrance to the airport from the strategic highway network to the south and west. On this basis there may therefore be exceptional circumstances that allow the majority of the site to be developed for airport related uses. The impact of any development on the openness of the Green Belt would need to be carefully considered, but the strategic importance of the location to the future operation of the airport provides potential context for justification. In terms of potential land uses the strategic location of the site would suggest that large office or hotel uses could be appropriate, or the relocated Immigration Removal Centres. It is however recognised that any development of this site will need to be of the highest design quality and, importantly, respect adjacent uses and their occupiers, and carefully consider the recreational space to the south west.</td>
</tr>
</tbody>
</table>


## Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Land bounded by Stanwell Moor Road, Horton Road and Airport Way</td>
</tr>
</tbody>
</table>

![Site plan](image_url)
## Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Site bounded by Southern Perimeter Road, Park Road and Stanwell Moor Road.</td>
</tr>
<tr>
<td>Development potential</td>
<td>Potential development site</td>
</tr>
<tr>
<td>Context</td>
<td>Site location/characteristics</td>
</tr>
<tr>
<td></td>
<td>The site is bounded to the north by Southern Perimeter Road, to the west by Stanwell Moor Road and to the south by Park Road and residential properties. To the east the site is bounded by residential properties. The exiting airport lies immediately north. Staines Reservoirs which are a RAMSAR Site lie to the south of the site, and a Site of Nature Conservation Importance (SINC) is located on the north west corner of the site, as well as immediately to the south.</td>
</tr>
<tr>
<td></td>
<td>Existing use(s)</td>
</tr>
<tr>
<td></td>
<td>The site primarily functions as an existing quarry. There are also areas of green space and woodland on the site</td>
</tr>
<tr>
<td></td>
<td>Planning policy</td>
</tr>
<tr>
<td></td>
<td>The adopted policies of Spelthorne Borough Council identify the site as Green Belt land, with areas which are designated as sites of high archaeological potential. In addition, the site falls within the Noise Contours area. A SINC is located in the north west corner of the site.</td>
</tr>
<tr>
<td></td>
<td>Appropriate uses</td>
</tr>
<tr>
<td></td>
<td>The site is within the Green Belt and currently is considered to act as a ‘buffer’ between Stanwell and the operational airport. However, the site is part occupied by Cemex for mineral extraction. Furthermore, the site occupies an important location acting as one of the principal entrances into the airport. It is therefore considered that exceptional circumstances exist to justify the redevelopment of the site for airport related development, including airport supporting facilities. In addition, given the site’s characteristics, in particular its location relative to the strategic highway network, it is expected to have development potential as a new ‘gateway’ to the expanded airport including car parking, hotels and offices.</td>
</tr>
<tr>
<td></td>
<td>Importantly, however, it is recognised that any development to come forward in this location would need to properly respect adjacent land uses and, in particular, the residential properties to the south. Detailed design studies would need to be undertaken to support any proposals.</td>
</tr>
</tbody>
</table>
### Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site plan</td>
<td>Site bounded by Southern Perimeter Road, Park Road and Stanwell Moor Road.</td>
</tr>
</tbody>
</table>

Site plan
## Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>F7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site to the north of Wraysbury Reservoir and to the south of Horton Road, bounded to the east by Wraysbury River</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Development potential</th>
<th>Potential development site</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Context</strong></td>
<td></td>
</tr>
<tr>
<td>Site location/characteristics</td>
<td>The site is an area of previously developed land to the south of Horton Road and to the north east of the Wraysbury Reservoir. Poyle Industrial Estate lies immediately north, and a Site of Special Scientific Interest to the south west.</td>
</tr>
<tr>
<td>Existing use(s)</td>
<td>The site is currently used for parking/open storage</td>
</tr>
<tr>
<td>Planning policy</td>
<td>Slough Borough Council has designated the site as falling within the Strategic Gap and Colne Valley Regional Park. In addition the site is designated as Green Belt land and an area liable to flood.</td>
</tr>
<tr>
<td>Appropriate uses</td>
<td>The site comprises an area of hardstanding which currently provides facilities for truck parking. The site has a number of constraints which would restrict its redevelopment potential. Most notably is the site’s immediate proximity to a Site of Special Scientific Interest. However, given the existing activity on site, it is considered that there is potential to utilise the site for a coordinated truck park operation.</td>
</tr>
</tbody>
</table>
## Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>F7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site to the north of Wraysbury Reservoir and to the south of Horton Road, bounded to the east by Wraysbury River</td>
<td></td>
</tr>
</tbody>
</table>

### Site plan

![Site plan](image-url)
### Appendix 3 – Sites potentially suitable for airport related development

| Potential development site (ref. and name) | G4  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Land bounded by Bath Road, Poyle Road and Colne Brook</td>
</tr>
</tbody>
</table>

#### Development potential

Potential development site (in part)

#### Context

**Site location/characteristics**

The site comprises an area of green land and water bodies, and is located to the south of Bath Road and to the west of Poyle Road. The site is bounded to the north by residential properties, and to the south lies the Hilton Hotel and car park. Poyle industrial estate lies to the east.

**Existing use(s)**

Site is green field land and partially in use for agricultural purposes. There is also a waterbody on site and was historically in use as a landfill.

**Planning policy**

Slough Borough Council has designated the site as falling within the Green Belt, Strategic Gap and forming part of the Colne Valley Regional Park. The site also falls within an area liable to flood (flood Zone 3 in parts).

**Appropriate uses**

The site is within the designated Green Belt and the Colne Valley Regional Park. However, the site has marked differences in character. To the east it is framed by residential properties, the northern section of the Polye industrial estate and the Hilton hotel. However, the western side of the site has stronger landscape characteristics, given the open expanse of large agricultural fields.

The role of the Green Belt and Regional Park is considered to be significantly less to the east of the site, and as a result our current thinking is that this part of the site could potentially be developed for employment uses, forming an extension to Poyle industrial area. The impact of any development would need to be carefully considered, but the urban nature of the adjacent industrial area could provide justification for development to the east given that the open corridor of the Colne Valley and the openness of the Green Belt would not be substantially impacted.
### Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>G4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land bounded by Bath Road, Poyle Road and Colne Brook</td>
<td></td>
</tr>
</tbody>
</table>

**Site plan**

![Site plan](image_url)
### Appendix 3 – Sites potentially suitable for airport related development

| Potential development site (ref. and name) | G5  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Land bounded by the Arthur Jacob Nature Reserve, Stanwell Road and Poyle Road.</td>
</tr>
<tr>
<td>Development potential</td>
<td>Potential development site (in part)</td>
</tr>
</tbody>
</table>

| Context | Site location/characteristics  
The site is bounded to the east by Poyle Industrial Estate, the Arthur Jacob Nature Reserve to the west and the Wraysbury Reservoir to the south. The site is approximately 1 mile from the airport boundary to the east. The Wraysbury Reservoir is designated as a Ramsar Site and a Site of Special Scientific Interest. |
|         | Existing use(s)  
The site consists of green open space, a former quarry, and industrial uses. Residential dwellings are also located on the site. |
|         | Planning policy  
The site sits within both the Royal Borough of Windsor and Maidenhead, and Slough Borough Council. The adopted development framework documents for Slough Borough Council designates the site as falling within an area liable to flood, the Green Belt, Strategic Gap and Colne Valley Regional Park. |
|         | RBWM designate the site as falling within the Green Belt. |
|         | Appropriate uses  
The majority of the site is greenfield land, however the north eastern part is brownfield land used primarily for industrial activities. The site sits within the Colne Valley Regional Park and the Green Belt. With these points in mind, and given the waterbodies to the west, it is considered that the western part of the site may be best suited to landscape uses. However, it is considered that the eastern part of the site has the potential to be developed for employment uses (e.g. industrial and office uses) without impacting adversely on the open corridor of the Colne Valley or the openness of the Green Belt. These employment uses could effectively form an extension to the Poyle industrial area. The impact of any development on the openness of the Green Belt and isolated residential properties would have to be carefully considered, but the use of part of the site for industrial activities being immediately adjacent to the existing industrial uses could provide sufficient justification. |
### Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>G5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Land bounded by the Arthur Jacob Nature Reserve, Stanwell Road and Poyle Road.</td>
</tr>
</tbody>
</table>

**Site plan**
### Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>G6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Site to the north of Bath Road and south of Colnbrook Industrial Estate</strong></td>
<td></td>
</tr>
</tbody>
</table>

#### Development potential
Potential development site

<table>
<thead>
<tr>
<th>Context</th>
<th>Site location/characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>The site is a small area of green land bounded by Bath Road to the south, the M25 to the east and Colnbrook industrial estate to the north and west.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Existing use(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The site was previously used as a golf driving range.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Planning policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slough Borough Councils adopted policy documents designate the site as falling in the Green Belt, Strategic Gap, Colne Valley Regional Park and as an area liable to flood.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Appropriate uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>The site sits within the designated Green Belt and the Colne Valley Regional Park. However, due to the site constraints, it is considered that the site performs a limited Green Belt function. Whilst the potential impact upon the openness of the Green Belt and the nature of the Colne Valley would need to be carefully considered in the case of any built form, the expectation is that this site may be considered for development potential, especially as part of the site is likely to be required for M25 works. In terms of potential land uses, the site could be most suited to industrial uses which would effectively form an extension to the Poyle Industrial Estate.</td>
</tr>
</tbody>
</table>
## Appendix 3 – Sites potentially suitable for airport related development

| Potential development site (ref. and name) | G6  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Site to the north of Bath Road and south of Colnbrook Industrial Estate</td>
</tr>
</tbody>
</table>

Site plan

![Site plan for G6 site](image-url)
## Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>G7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land bounded to the north by Bath Road, to the east by Stanwell Moor Road, to the south by the Heathrow exit junction of the M25, and to the west by the M25.</td>
<td></td>
</tr>
</tbody>
</table>

### Development potential
- Potential development site

### Context
- **Site location/characteristics**
  The site is an area of land bounded by Bath Road to the north, to the east by Stanwell Moor Road, to the south by the M25 junction, and to the west by the M25. The airport sits immediately adjacent to the site to the east and The River Colne runs through the site. It has been used historically for landfill. Two small areas of common land are registered at the site in the north west and north east corners, and it contains a Site of Importance for Nature Conservation. A listed building is also located in the north west corner of the site.

- **Existing use(s)**
  The site is currently green open land. Two residential properties are located at the north of the site fronting Bath Road.

- **Planning policy**
  The saved policies from Hillingdon’s UDP confirm the site is located within the Green Belt, within the Public Safety Zone, and within a Comprehensive Rehabilitation Area. In addition, a Nature Conservation Site of Metropolitan Importance is located on the site.

- **Appropriate uses**
  The site is greenfield land and is bound on all sides by the local highway network, in close proximity to the north western boundary of the existing airport.
  
The site falls within the designated Green Belt and the Colne Valley Regional Park, however it is considered to perform a limited Green Belt function, in part due to being bounded on all sides by road infrastructure. With this in mind, and given the proximity to the airport, the expectation is that this site offers development potential, although it is most likely required for airport supporting facilities.
### Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>G7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land bounded to the north by Bath Road, to the east by Stanwell Moor Road, to the south by the Heathrow exit junction of the M25, and to the west by the M25.</td>
<td></td>
</tr>
</tbody>
</table>

Site plan

[Site plan image]
## Appendix 3 – Sites potentially suitable for airport related development

| Potential Development Site (Ref. and Name) | G8  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Site bounded by Poyle Industrial Estate, Wraysbury River and the M25</strong></td>
</tr>
<tr>
<td>Development Potential</td>
<td>Potential development site</td>
</tr>
</tbody>
</table>
| **Context**                              | **Site location/characteristics**  
The site is an area of green land bounded by Poyle industrial estate to the west, Poyle New Cottages to the north, the M25 to the east and the Wraysbury River to the south  
**Existing use(s)**  
The site is currently in use as green open space. Prior to this the site was historically used as a landfill.  
**Planning policy**  
Slough Borough Council has designated the site as falling within the Green Belt, Strategic Gap and Colne Valley Regional Park. In addition, the northern part of the site falls within the Public Safety zone.  
**Appropriate uses**  
The site is adjacent to the existing Poyle Industrial Estate to the west and north west. To the east, the site is bound by the M25, whilst the local highway network bounds the site to the south. The site itself represents greenfield land. The site is not considered to fulfil an important Green Belt function, especially given the physical influence of the M25 immediately to the east. As a result, given the nature of the site and the characteristics of the adjoining uses, the site is considered to be appropriate for development without undermining any important wider Green Belt function. Possible appropriate uses include industrial, office, hotel and other commercial uses. It may also be required for essential M25 works. |
## Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential Development Site (Ref. and Name)</th>
<th>G8</th>
<th>Site bounded by Poyle Industrial Estate, Wraysbury River and the M25</th>
</tr>
</thead>
</table>

Site Plan

![Site Plan](image-url)
### Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>G9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land to the north of airport way and to the east of the M25.</td>
<td></td>
</tr>
</tbody>
</table>

**Development potential**
Potential development site

**Context**

**Site location/characteristics**
The site is located to the east of the M25, to the north of Airport Way and, mostly, to the west of the River Colne. Green land and a small number of industrial properties sit to the east of the site, with the airport boundary situated further east.

**Existing use(s)**
The site is currently open land used for landscaping. Previously it has been in use as a historic landfill.

**Planning policy**
The saved policies from the Hillingdon UDP confirm the site is located within the Green Belt, and within a Comprehensive Rehabilitation Area.

**Appropriate uses**
It is recognised that the site has a number of planning designations, including Green Belt land and a Site of Importance for Nature Conservation. The impact of any development on the openness of the Green Belt will need to be carefully considered, but given the isolated nature of the site and the different context created as a result of the airport expansion, the parcel is considered to make a limited contribution to the Green Belt.

Given its location, the expectation is that the site is considered one of the most logical extensions to the airport, which can be achieved without undermining the Green Belt. This site is very well suited to a number of potential uses from airfield infrastructure, airport supporting or related activities, including hotel/office use.
### Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>G9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site plan</td>
<td>Land to the north of airport way and to the east of the M25.</td>
</tr>
</tbody>
</table>
## Appendix 3 – Sites potentially suitable for airport related development

| Potential development site (ref. and name) | H1/H2/H6  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Land to the north of Colnbrook by-pass, to the west of Sutton Lane to the south of the M4 and to the east of the M25.</td>
</tr>
</tbody>
</table>

### Development potential

- Potential development site (in part)

### Context

<table>
<thead>
<tr>
<th>Site location/characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>The site is located to the north of Colnbrook By Pass, to the east of Sutton Lane, to the west of the M25 and to the south of the M4. Residential properties are located to the west and south. The sites exclude Orlitts and Old Slade water bodies, and the adjacent Thames Water plant, and is split by two brooks to the east and west.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Existing use(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The site contains previously landfilled, now restored land to the west and industrial premises to the east adjacent to the railway line which split this part of the site.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Planning policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slough BC have designated the site as being within the Green Belt, Strategic Gap and Colne Valley Regional Park. In addition, parts of the site are designated as land with the potential to flood. It is identified as an Existing Business Area.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Appropriate uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>This site forms a large area to the south of the M4 and to the north west of the airport. It can be considered in 2 parts: the larger element to the west of the lakes which comprise undeveloped, greenfield land; and the smaller element at the eastern end (extending up to the M25/M4 junction) which is brownfield land used primarily for industrial purposes.</td>
</tr>
</tbody>
</table>

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Save for the small amount of the site in existing industrial use, the site in its entirety is designated as Green Belt, Strategic Gap and Colne Valley Regional Park. The site is considered to perform a Green Belt function, which does provide a gap between the existing airport and Slough to the east. However, it is recognised that the gap may be significantly affected by the development of the third runway.</td>
</tr>
</tbody>
</table>

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The current expectation is that there is the potential for this large area of land to be carefully masterplanned. This will ensure that the site can take advantage of its strategic location close to the rail line to provide elements of airport supporting uses, but to also allow the ‘green corridor’ through the Colne Valley to be maintained and enhanced. It is recognised that there are a number of constraints on and adjacent to the site and the area needs to be carefully planned to recognise these, including particularly the need for the green corridor.</td>
</tr>
</tbody>
</table>
### Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>H1/H2/H6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Land to the north of Colnbrook by-pass, to the west of Sutton Lane to the south of the M4 and to the east of the M25.</td>
</tr>
</tbody>
</table>

**Site plan**

![Site plan](image)
## Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>H3 Site to the south of Colnbrook by-pass and to the north of Colnbrook village.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development potential</td>
<td>Potential development site (in part)</td>
</tr>
<tr>
<td><strong>Context</strong></td>
<td><strong>Site location/characteristics</strong></td>
</tr>
<tr>
<td></td>
<td>The site is located to the south of Colnbrook by-Pass and to the north of Colnbrook village, and consists largely of the green space around residential areas. A number of listed buildings and a conservation area are located immediately to the south of the site, and one listed building is located within the site.</td>
</tr>
<tr>
<td></td>
<td><strong>Existing use(s)</strong></td>
</tr>
<tr>
<td></td>
<td>The site covers a mix of existing uses including green open space and parks and gardens, along with some industrial premises and commercial uses.</td>
</tr>
<tr>
<td></td>
<td><strong>Planning policy</strong></td>
</tr>
<tr>
<td></td>
<td>Slough BC have designated the site as falling within the Green Belt, an area liable to flood, the Strategic Gap and the Colne Valley Regional Park.</td>
</tr>
<tr>
<td></td>
<td><strong>Appropriate uses</strong></td>
</tr>
<tr>
<td></td>
<td>The site is irregular in shape and is constrained by adjacent uses, principally the areas of existing residential along the entire length of its southern boundary.</td>
</tr>
<tr>
<td></td>
<td>In terms of land designations, the site lies within the designated Green Belt, Colne Valley Regional Park and Strategic Gap. In addition, the proximity of adjacent residential would limit development potential.</td>
</tr>
<tr>
<td></td>
<td>The character of the site may be altered if it accommodates new local road infrastructure, and areas adjacent to the airfield boundary to the north may provide rare airside access opportunities facilitating some development for airport supporting or related uses. Areas to the south nearer residential properties should maintain a green buffer.</td>
</tr>
</tbody>
</table>
### Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>H3</th>
<th>Site to the south of Colnbrook by-pass and to the north of Colnbrook village.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site plan</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

![Site plan](image)
### Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>H4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Site to the south of Colnbrook by-pass and to the north of Poyle Industrial Estate.</strong></td>
<td></td>
</tr>
</tbody>
</table>

#### Development potential

- Potential development site

#### Context

**Site location/characteristics**

The site is an area of green land bordered to the north by Colnbrook-By-pass, to the east by the M25 and to the south by Poyle Industrial Park. A railway line borders the site to the west. The Lakeside Waste Management Facilities are located to the north of the site, along with several other industrial units.

**Existing use(s)**

The site is currently in use as green open space. Previously the site has been used as landfill.

**Planning policy**

Slough BC have designated the site as falling within Green Belt, the Strategic Gap and Colne Valley Regional Park.

**Appropriate uses**

The site is a small, isolated parcel of greenfield land which sits adjacent to the M25 and north of Poyle. The site is positioned within close proximity to the airport which is located to the west of the site.

The site is designated Green Belt land, however it is considered to perform a limited function given the physical limitations imposed by adjacent road infrastructure. Furthermore, it is recognised that the site context may be significantly affected by the development of the third runway.

Therefore, it is the expectation that this site could take advantage of its location to provide an element of airport related development and airport supporting facilities, potentially including industrial uses.
### Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>H4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site to the sough of Colnbrook by-pass and to the north of Poyle Industrial Estate.</td>
<td></td>
</tr>
</tbody>
</table>

**Site plan**

![Site Plan](image-url)
### Appendix 3 – Sites potentially suitable for airport related development

| Potential development site (ref. and name) | IS  
|-------------------------------------------|------------------------------------------
| Thorney Mill Road aggregate site.         |                                          |
| Development potential                     | Potential development site               |
| Context                                   |                                          |
| Site location/characteristics             | The site is an existing aggregates site to the north of Thorney Mill Road and to the south of the River Colne. |
| Existing use(s)                           | The site is currently in use as a rail linked aggregate depot. |
| Planning policy                           | South Bucks DC adopted policy map designates the site as lying within the Green Belt, Colne Valley Regional Park and a Biodiversity Opportunity Area. In addition the site is safeguarded as an aggregate rail depot site. The south-eastern part of the site falls within the London Borough of Hillingdon. The Council's Saved UDP policy map confirms the site falls within the Green Belt, and immediately adjacent to a Site of Nature Conservation of Borough Grade II Importance. In addition, the site is safeguarded in Buckinghamshire's current Minerals and Waste Plan. |
| Appropriate uses                          | The site is positioned to the east of the M25 and north of the airport. It represents operational brownfield land within the Green Belt which is being used as a rail linked aggregate depot. Undeveloped Green Belt land bounds the site to the north and east, with a golf course to the west. The established safeguarding allocation presents the opportunity for the site to be used for rail linked industrial activities in the future. |
## Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>I5 Thorney Mill Road aggregate site.</th>
</tr>
</thead>
</table>

### Site plan

![Site map of Thorney Mill Road aggregate site.]
## Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>J1 Western International Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development potential</td>
<td>Potential development site</td>
</tr>
</tbody>
</table>

### Context

#### Site location/characteristics
The site is located to the north of the M4, to the South of Hayes Road, to the east of The Parkway and to the west of Southall Lane. The site contains a listed and is adjacent to a Site of Importance for Nature Conservation.

#### Existing use(s)
The northern half of the site is in use as an industrial site. The south is vacant greenfield land.

#### Planning policy
The site is located in the LB Hounslow. The southern part of the site has been designated as Green Belt, Archaeological Priority Areas and Advert Special Control Areas. In addition, this portion of the site is allocated as a site for minerals safeguarding in the local plan. As part of emerging policy, the southern portion of the site is proposed for a partial de-designation from the Green Belt to potentially provide an industrial hub with airport related development or airport supporting facilities.

#### Appropriate uses
The site can characteristically be considered in 2 parts; the northern brownfield element which comprises industrial development, and the southern greenfield element.

The northern part of the site is already intensively developed for employment uses and therefore provides little development opportunity. The southern portion of the site is not considered to fulfil an important Green Belt function given the location of surrounding infrastructure and built form, and it is considered that justification exists for its release for industrial, hotel, office uses or airport supporting facilities.
Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>J1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western International Market</td>
<td></td>
</tr>
</tbody>
</table>

Site plan
## Appendix 3 – Sites potentially suitable for airport related development

| Potential development site (ref. and name) | GCS  
| Heathpark Golf Course |
| Development potential | Potential development site |
| **Context** | |
| Site location/characteristics | The site is located to the north of the Crowne Plaza hotel, to the west of Stockley Road and to the south of Lavender Rise. The site is bounded to the west and north by residential properties. |
| Existing use(s) | Site has previously been in use as an operational golf course, with the area to the north accommodating industrial activities. |
| Planning policy | The saved policies from the Hillingdon UDP confirm that the site is located in the Green Belt and in an environmental opportunity area. |
| Appropriate uses | This site has previously been in use as an operational golf course. It is considered that the land north of the former golf course should be included given the fragmented industrial activities on site. The impact of any development on the openness of the Green Belt would need to be carefully considered, but the urban nature of the parcels to the north, south and west suggest that the site does not perform an important Green Belt function. The site is bound by residential uses, and therefore it is recognised that any development that comes forward in this location will need to be carefully planned. The current expectation is that the site could potentially benefit from its proximity to the transport network and is considered potentially appropriate for hotel and office development. |
Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>GCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heathpark Golf Course</td>
<td></td>
</tr>
</tbody>
</table>

Site plan
## Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>NS7 Land to the south of Bedfont Road and between Clare Road and Northumberland Close</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development potential</td>
<td>Potential development site</td>
</tr>
<tr>
<td><strong>Context</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Site location/characteristics</strong></td>
<td>The site is an area of green land between Northumberland Close and Clare Road. The site is bounded to the north by Bedfont Road and to the south by Stanwell Field Church of England Primary School. Residential properties, separated from the site by an area of green space, adjoin the site to the west and industrial units are located to the east. The site lies adjacent to the airport boundary.</td>
</tr>
<tr>
<td><strong>Existing use(s)</strong></td>
<td>Site is currently in use as green space, with some areas of underused hardstanding associated with the adjacent industrial estate. Some industrial uses are also located on the site.</td>
</tr>
<tr>
<td><strong>Planning policy</strong></td>
<td>Spelthorne Council adopted policy identifies the land as Green Belt and within the noise contours.</td>
</tr>
<tr>
<td><strong>Appropriate uses</strong></td>
<td>The site principally comprises of greenfield land, but has an element of industrial use on the eastern side which is associated with the larger industrial uses in the estate further to the east. The impact of any development on the openness of the Green Belt would need to be carefully considered, but the urban nature of the industrial uses to the east and the fragmented nature of surrounding Green Belt land provide potential robust justification. The site occupies an important location with good access to the south of the airport and on this basis is potentially well suited to a range of airport related development and airport supporting facilities, including cargo/industrial uses (similar to those uses immediately to the east). We recognise that any development of this site would need to take full account of the sensitive adjoining uses, including residential properties to the west and north east, and the school to the south.</td>
</tr>
</tbody>
</table>
Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>NS7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Land to the south of Bedfont Road and between Clare Road and Northumberland Close</td>
</tr>
</tbody>
</table>

Site plan

[Map showing the location of potential development site NS7 near Bedfont Road, Clare Road, and Northumberland Close]
### Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>NS8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Land to the north of Long Lane Recreation Ground, to the south of Northumberland close and to the west of Long Lane.</td>
</tr>
</tbody>
</table>

### Development potential

Potential development site

### Context

**Site location/characteristics**
The site is an area of green land bounded on all sides by development with access off Long Lane. Residential properties surround the site to the east and south west, and a primary school bording the site to the west. Industrial units are located to the north. The site is located south of the airport boundary.

**Existing use(s)**
Green open space

**Planning policy**
Spelthorne adopted policy map identifies the land as Green Belt

**Appropriate uses**
The site is comprised of a small parcel of greenfield land positioned to the south of an established industrial estate. The site is designated as Green Belt however its function is limited due to the fragmented nature of Green Belt in the surrounding area and the urban form of development on all sides. Given the close proximity of the site to the industrial estate to the north and the close proximity to the airport and the adjacent uses it has the potential to be promoted as a logical extension to the industrial/employment uses immediately to the north and for potential airport supporting uses.

We recognise, however, that any development of this site would need to take full account of the sensitive adjoining uses, in particular the school to the west and the areas of residential to the south east and north east. In addition, suitable access arrangements would need to be carefully planned.
### Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>NS8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Land to the north of Long Lane Recreation Ground, to the south of Northumberland close and to the west of Long Lane.</td>
</tr>
</tbody>
</table>

**Site plan**

![Site map of Stanwell and West Bedfont with highlighted area for NS8 development site](image-url)
### Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential Development Site (Ref. and Name)</th>
<th>Central Park Trading Estate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development Potential</td>
<td>Potential development site</td>
</tr>
<tr>
<td>Context</td>
<td></td>
</tr>
<tr>
<td><strong>Site location/characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Site is located to the north of Staines Road, to the east of Green Lane and to the west of an area of industrial units. The immediate wider area is characterised by industrial uses. A listed boundary stone is located to the southern end of the site.</td>
<td></td>
</tr>
<tr>
<td><strong>Existing use(s)</strong></td>
<td></td>
</tr>
<tr>
<td>Green space and car park.</td>
<td></td>
</tr>
<tr>
<td><strong>Planning policy</strong></td>
<td></td>
</tr>
<tr>
<td>The site is designated as Green Belt in Hounslow’s adopted policy. Hounslow’s emerging West of Borough Plan allocates the site for redevelopment for employment uses following its release from the Green Belt.</td>
<td></td>
</tr>
<tr>
<td><strong>Appropriate uses</strong></td>
<td></td>
</tr>
<tr>
<td>The site is an area of green space that includes a car park, and is positioned adjacent to a trading estate characterised by industrial uses. The site lies to the west of the airport.</td>
<td></td>
</tr>
<tr>
<td>The site is currently designated Green Belt land however, London Borough of Hounslow has recently promoted this site for release from the Green Belt, stating that in their view it no longer meets the purposes of the Green Belt. Accordingly, Hounslow suggest this site would be suitable for employment related uses, specifically light industrial use and supporting services.</td>
<td></td>
</tr>
<tr>
<td>The site lies adjacent to industrial uses to the east and west and on this basis is considered to be a potential development site for similar uses.</td>
<td></td>
</tr>
</tbody>
</table>
### Potential Development Site (Ref. and Name)

<table>
<thead>
<tr>
<th>Reference</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS1</td>
<td>Central Park Trading Estate</td>
</tr>
</tbody>
</table>

#### Site Plan

![Site Plan](image)
## Appendix 3 – Sites potentially suitable for airport related development

<table>
<thead>
<tr>
<th>Potential development site (ref. and name)</th>
<th>HS3 Land at Dick Turpin Way</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development potential</td>
<td>Potential development site</td>
</tr>
<tr>
<td>Context</td>
<td>Site location/characteristics</td>
</tr>
<tr>
<td></td>
<td>The land is bound to the north by Great South-West Road, Faggs Road to the south and Balancing Reservoir to the east. The site is vacant green space with some existing portakabins on site, and residential properties to the south. The site is immediately adjacent to the airport boundary.</td>
</tr>
<tr>
<td></td>
<td>Existing use(s)</td>
</tr>
<tr>
<td></td>
<td>The site primarily consists of under used agriculture land although it contains some commercial premises.</td>
</tr>
<tr>
<td></td>
<td>Planning policy</td>
</tr>
<tr>
<td></td>
<td>Hounslow's adopted policy map designates the site as Green Belt land. The emerging West of Borough Plan allocates the site for redevelopment for industrial uses following release from the Green Belt.</td>
</tr>
<tr>
<td></td>
<td>Appropriate uses</td>
</tr>
<tr>
<td></td>
<td>The site primarily consists of poorly used agricultural land, and contains some commercial properties. It is positioned close to Hatton Cross station and is immediately adjacent to the existing airport boundary.</td>
</tr>
<tr>
<td></td>
<td>The site is currently designated Green Belt land, although Hounslow is promoting its release from the Green Belt, commenting that exceptional circumstances exist for its re-designation for employment related uses, specifically light industrial activities.</td>
</tr>
<tr>
<td></td>
<td>The site lies adjacent to industrial/commercial uses to the west and north, and there is therefore an expectation that this site could be a potential development site for similar uses. In addition, given the proximity to the airport boundary, airport related development or airport supporting facilities could be suitable.</td>
</tr>
</tbody>
</table>
Appendix 3 – Sites potentially suitable for airport related development

| Potential development site (ref. and name) | HS3  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Land at Dick Turpin Way</td>
</tr>
</tbody>
</table>

Site plan

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

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

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  www.heathrowconsultation.com
- **call** our freephone number:
  0800 307 7996 (open Monday to Friday, 9am-6pm)
- send an **email** to us at:
  info@heathrowconsultation.com
- Follow us on **Twitter**
  @LHRConsultation