Heathrow

EASTERLY ALTERNATION INFRASTRUCTURE PROJECT

ENVIRONMENTAL IMPACT ASSESSMENT
Environmental Statement, Volume II
Chapter 2: Heathrow Airport and its Surrounds

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Heathrow

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2. Heathrow Airport and its Surrounds

2.1 Introduction

2.1.1 This Chapter of the Environmental Statement describes the geographical context of the Site and its surroundings (outlined in **Figure 2.2** in **Appendix 2.2: Heathrow Airport and its Surrounds Figures, Volume III** of the Environmental Statement), the physical and operational characteristics of the Airport, and future development expected at the Airport. Additional baseline information can be found within the relevant environmental aspect **Chapters 6** to **12** of the Environmental Statement.

2.2 Site location and context

2.2.1 Heathrow Airport is located approximately 15 miles (circa 24 km) west of Central London and lies within the administrative boundary of the London Borough of Hillingdon (LBH). The Airport also borders the London Boroughs of Hounslow to the east and Spelthorne to the south. The Airport is situated on approximately 1,227 hectares (ha) of land and operates two parallel runways with four operational terminals (Terminal 2, Terminal 3, Terminal 4 and Terminal 5).

2.2.2 The Airport is broadly bounded to the north by the A4, to the west by the A3044, to the east by the A30 and to the south by the Duke of Northumberland's River. Approximately 600m from the western perimeter of the Airport lies the M25, which has a direct link to Terminal 5 and the Airport's perimeter road from Junction 14a. The M4 provides a direct link to the Airport's central terminal area and its perimeter road from Junction 4 via the 'M4 spur'.

2.2.3 The Airport sits in two main river catchments, namely the catchment of the River Colne in the west and of the River Crane to the east. It is bounded by a number of associated watercourses west of the Airport, including the River Colne, the Colne Brook and the Wraysbury River. In addition, the Duke of Northumberland's River and the Longford River flow around the Airport's western and southern boundaries. To the west and south of the Airport are a series of water reservoirs supplying London, namely the Queen Mother, Wraysbury, King George VI and Staines Reservoirs.

2.2.4 The Airport lies within a semi-urban area with several settlements bordering the perimeter. Longford, Harmondsworth, Harlington and Sipson villages lie to the north, Poyle and Colnbrook to the west, while Stanwell Moor, Stanwell, Hatton and East Bedfont lie to the south[8] (see **Figure 1.1** in **Appendix 1.1: Introduction Figures, Volume III** of the Environmental Statement). Cranford is situated to the east. Despite the largely urban nature of its immediate surrounds, to the north-west, south-west and west, the Airport surroundings become much less developed and are more rural in character.

2.2.5 The topography of the Airport and surrounding areas is relatively flat, ranging from around 19m in elevation to the west, to 26m in the east.

2.3 *Current land use*

2.3.1 The land on the Airport is largely comprised of a complex network of taxiways which connect the passenger terminals, aircraft apron and aircraft stand areas across the airfield to the runways (as shown in **Figure 2.1** in **Appendix 2.2**). The infrastructure includes signage, marking and lighting systems which are compliant with the UK Civil Aviation Authority's (CAA) 'Civil Aviation Publication (CAP) 168 – Licensing of Aerodromes'[1]. This enables the safe movement and manoeuvring of aircraft between the runways and stands. The other prominent characteristic of the Airfield is 'airfield grassland' that is intensively managed to avoid attracting birds and other wildlife in the interest of safety. Further details on this infrastructure are set out in the remainder of this Section.

Runways:

2.3.2 The Airport has two runways: the northern runway (09L/27R) being 3,902m long and the southern runway (09R/27L) being 3,660m long. Both are oriented east to west.

2.3.3 **Graphic 2.1** illustrates the numbering of the runways.

Graphic 2.1 Numbered runways at Heathrow Airport.

Terminals:

2.3.4 The Airport operates four terminals, referred to as Terminal 2, Terminal 3, Terminal 4 and Terminal 5, where passengers arrive at and depart from the Airport. Terminal 1 is no longer in use for passenger and aircraft operations. Terminal 2 and Terminal 3 form a cluster of terminal buildings known as the Central Terminal Area (CTA), which is situated in the central part of the Airport between the northern and southern runways.

2.3.5 Terminal 4 is located on the south-eastern section of the airfield to the east of the cargo terminal and south of Runway 09R/27L (the southern runway). It is connected to the CTA via the Heathrow Cargo Tunnel.

2.3.6 Terminal 5 is situated between the northern (09L/27R) and southern (09R/27L) runways at the western end of the airfield. It comprises a main four-storey terminal building and two

[1] Civil Aviation Authority, (2022). *CAP 168: Licensing of Aerodromes*. [online] Available at: https://www.caa.co.uk/our-work/publications/documents/content/cap-168/ [Accessed: 02 October 2024].

satellite buildings, which are linked to the main terminal building by an underground people mover transit system.

2.3.7 Cargo facilities are located on the southern part of the airfield with aircraft maintenance facilities situated at the far eastern end of the airfield between the two runways. The Air Traffic Control (ATC) tower is located in the central part of the airfield between the CTA and Terminal 5. The height of the ATC tower structure is 87 metres, which provides unobstructed 360 views of the airfield for controllers.

Taxiways

2.3.8 The Airport has a taxiway network to circulate aircraft between the terminals and the runways under the guidance of air traffic control. This is shown on **Figure 2.1** (**Appendix 2.2**). The taxiway network comprises four parallel taxiways (two serving each of the runways), which are linked by cross field taxiways. There are also taxiways south of the southern runway, including one parallel taxiway, connecting Terminal 4 and the cargo area to the rest of the Airport. Runway links, including exit taxiways and Runway Access Taxiways (RATs), connect the parallel taxiways to the runways and are used by aircraft entering and exiting the runways. More minor taxiway links and cul-de-sac taxi lanes connect all the taxiways to the aircraft stands.

Aprons

2.3.9 Aprons are a designated space on an airfield for the parking of aircraft, refuelling, and the loading and unloading of passengers and freight. Each terminal building at the Airport has its own aprons. Additionally, there is a cargo apron in the south of the Airport for designated freight aircraft and maintenance aprons in the east of the Airport.

2.3.10 The aprons provide parking space for a wide range of passenger and cargo aircraft, from the smaller turboprop ATR72 or Boeing 737 up to large aircraft such as the Airbus A380 or Boeing 747.

Ancillary facilities

2.3.11 Ancillary facilities support the operation and maintenance of the Airport and are shown in **Figure 2.1**. They include maintenance and repair facilities, warehousing and cargo storage facilities and other Airport operational land (such as surface water pollution control, balancing ponds, construction compounds for ongoing work, in–flight catering facilities, air traffic control, baggage and parking). These are located throughout the Airport.

Grassland

2.3.12 Aside from areas of hardstanding and other built features such as terminal buildings and carparks, the Airport is mainly comprised of airfield grassland which occurs between runways and taxiways. A minimum uniform sward height of 15-25 cm ensures the grassland remains of poor quality with low species diversity in line with the Airport's bird strike

management policy as prescribed by the CAA under their Publication CAP 772[2]. Further details are provided in **Chapter 12: Biodiversity**.

2.4 Current operations

2.4.1 There are approximately 650 arrivals and 650 departures every day at the Airport. In 2019, prior to the COVID-19 pandemic, the Airport handled approximately 81 million passengers and 476,000 Air Transport Movements (ATMs)[3]. In 2020, as a result of the COVID-19 pandemic, annual passenger numbers fell to approximately 22 million and around 205,000 aircraft movements with most of this activity occurring in January and February 2020. In 2021, annual passenger numbers were approximately 19.4 million with around 195,000 ATMs occurring that year. In 2022, the Airport had recovered to serve 61.6 million passengers, operating approximately 380,000 movements (see **Table 2.1**). The Airport's post-COVID-19 pandemic recovery continued in 2023 with 79.1 million passengers and approximately 414,000 ATMs.

2.4.2 **Table 2.1** shows the total number of aircraft movements from 2018 through to 2023.

Table 2.1 Annual Passenger Numbers and ATMs since 2018 at Heathrow Airport

Year	Annual Passengers	ATMs
2018	80,102,017	477,775
2019	80,886,671	478,060
2020	22,111,009	204,732
2021	19,393,145	195,340
2022	61,599,199	380,325
2023	79,151,723	413,938

2.4.3 The Airport's runways are numbered to reflect the compass heading for aircraft using the runway, (090 or 270 degrees), along with the orientation of the runway, L for left and R for right as observed by the pilot. As set out in **Chapter 1: Introduction**, the Airport operates either on 'easterly' or 'westerly' operations, dictated by the wind conditions. During easterly operations, all aircraft movements (arrivals and departures) are in an easterly direction. During westerly operations, all aircraft movements are in a westerly direction.

[2] Civil Aviation Authority, (2017). *CAP 772: Wildlife hazard management at aerodromes*. [online] Available at: https://www.caa.co.uk/publication/download/13426 [Accessed: 02 October 2024].

[3] Heathrow Airport Limited, (2024). *Traffic statistics*. [online] Available at: https://www.heathrow.com/company/investor-centre/reports/traffic-statistics [Accessed 02 October 2024].

2.4.4 The Airport operates in 'segregated mode' where one runway is designated for arrivals and the other designated for departures.

2.4.5 **Graphic 2.2** illustrates the use of the Airport's runway system over a two-week period for each runway during westerly operations. During the day, when planes are landing and taking off to the west (westerly operations), the use of the two runways are alternated to provide local communities with regular respite. This occurs at 15:00 each day when the Airport switches which runway is used for departures and which is used for arrivals. The pattern of alternation changes every week, so that communities get respite in the morning one week and in the evening the next. The schedule is published in advance on a yearly basis and is available on the Applicant's website[4].

2.4.6 Heathrow Airport Limited makes every effort to adhere to the published runway alternation schedule. The UK Government has set rules to allow aircraft to land out of alternation (i.e. on the departures runway) to help reduce delays in the air to arriving flights. Between 06:00-07:00 this is a regular occurrence as this is the busiest time of the day for arrivals into Heathrow Airport. After 07:00, such arrivals are more sporadic based on demand throughout the day. During westerly operations, after 07:00 this procedure is known as Tactically Enhanced Arrivals Mode (TEAM).

2.4.7 **Graphic 2.3** illustrates the existing operations during easterly operations (where no alternation occurs at present).

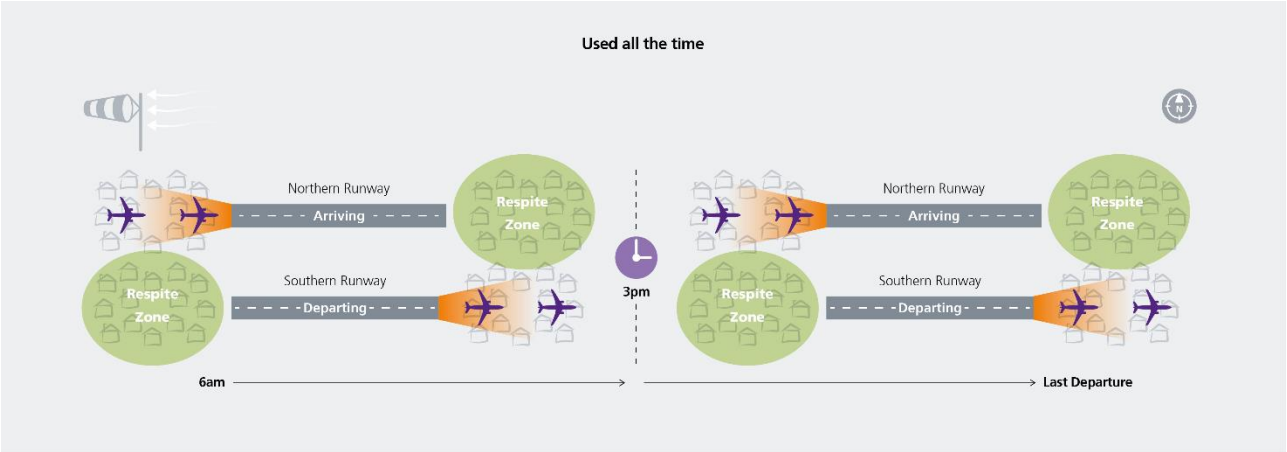
2.4.8 **Graphic 2.4** illustrates how the runway system will alternate, with the Proposed Development over a two-week period during easterly operations. The designators for each runway are:

- Runway 09L = northern runway on easterly operations;
- Runway 27R = northern runway on westerly operations;
- Runway 09R = southern runway on easterly operations; and
- Runway 27L = southern runway on westerly operations.

[4] Heathrow Airport Limited, (n.d.). *Runway Alternation*. [online] Available at: https://www.heathrow.com/company/local-community/noise/operations/runway-alternation [Accessed: 02 October 2024].

Graphic 2.2 Direction of arrivals and departures on 27R and 27L during westerly operations (over a two week period)

Graphic 2.3 Direction of arrivals and departures on 09R and 09L during easterly operations (existing)



Graphic 2.4 Direction of arrivals and departures on 09R and 09L during easterly operations (proposed)

2.4.9 The 'Respite Zones' shown in green in **Graphics 2.2** to **2.4** show areas which experience predictable periods of respite as a result of runway alternation. Respite is considered to mean predictable relief from aircraft noise for a period of time for local communities. 'Relief' can be defined as a break from or a reduction in aircraft noise.

2.4.10 For safety and performance reasons, aircraft typically take off and land into the wind. This is because an aircraft's wing relies on the speed of the air moving over it (airspeed) to lift it off the ground. The UK's prevailing wind is from a south westerly direction, meaning the Airport is on westerly operations for most of the time. The percentage of westerly and easterly operations varies from week-to-week and month-to-month but over the last 20 years (2004-2023) westerly operations have occurred approximately 73% of the time meaning the arrivals and departures to the east have occurred around approximately 27% of the time. A full breakdown of the westerly/easterly split is reported by the Applicant and is available online[5]. The split between westerly and easterly operations varies year-to-year, with generally a higher proportion of westerly operations occurring in the summer months[6].

[5] Based on data published by Heathrow – Heathrow Airport Limited (n.d.) *Operational Data*. [online] Available at: https://www.heathrow.com/company/local-community/noise/data/reports/operational-data [Accessed: 02 October 2024].

[6] Based on Table 1 of ERCD Report 2001 – Civil Aviation Authority (2021) *'Heathrow Airport 2021 Summer and Noise Action Plan Contours', ERCD Report*. [online] Available at:

2.4.11 When winds are light (below five knots – about six miles per hour) aircraft can potentially take off or land in either direction. Rules are set by UK Government to determine the mode of operation in these circumstances. These are called a "directional preference" which dictate direction of operations when the winds are light and there is a choice. At Heathrow, winds are light on average 20% of the time.

2.4.12 During the day, a 'westerly preference' is operated at the Airport. This was introduced in the 1960s to reduce the number of aircraft taking off in an easterly direction over London, the most heavily populated side of the Airport. Following consultation in 2001, the UK Government decided that the westerly preference should be removed at night and particularly during the early morning period when there are more arrivals than departures. This means that instead of westerly preference at night, the Airport rotates between westerly and easterly operations to provide a fairer distribution of aircraft noise to the east and west of the Airport. This is contingent on whether the wind direction is suitable or is below five knots.

Night-time operations

2.4.13 Currently at the Airport there is a combination of mandatory and voluntary measures that are applied to control noise from aircraft operations during the night period. Many of the measures relate to the 'quota count' (QC) system which applies to the major London Airports (Heathrow, Gatwick and Stansted). The quota count system is imposed by the Secretary of State and classifies all aircraft according to noise criteria for departures and arrivals.

2.4.14 Since there are very few aircraft departing or arriving at night runway alternation is more feasible. The Airport can switch landings between the northern and southern runways and, if the weather allows it, they can operate on easterly or westerly operations.

2.4.15 Those four options allow the Airport to operate night-time runway alternation on a four-weekly cycle:

- Week 1: Aircraft fly in from the west to land on the northern runway;
- Week 2: Aircraft fly in from the east to land on the northern runway;
- Week 3: Aircraft fly in from the west to land on the southern runway; and
- Week 4: Aircraft fly in from the east to land on the southern runway.

Local airspace

2.4.16 Air traffic at Heathrow Airport is managed by the air navigation service provider, NATS Holdings (NATS), formally National Air Traffic Services. NATS ensures that aircraft are sequenced (i.e. spaced) for safe separation during arrival to and departure from Heathrow

https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/local-community/noise/reports-and-statistics/reports/noise-action-plan-contours/LHR_2021_Summer_and_NAP_Contours.pdf [Accessed: 02 October 2024].

by controlling the speed and lengths of routings prior to aircraft being directed onto a final approach or following take off.

2.4.17 At the Airport, aircraft operations are influenced by a range of factors. These include daily weekly and seasonal variations in weather, and the number of aircraft arrivals and departures, as well as their points of origin and destination. The following factors play an important role in the operation of airspace and the safe and efficient movement of aircraft through it:

- Meteorological conditions (i.e. wind direction, air pressure and temperature, fog etc.);
- Aircraft flight paths and their corresponding altitudes;
- Airport operating hours;
- Volume and type of air traffic and their separation;
- Modes of operation and associated capacity; and
- Noise Abatement Procedures.

2.4.18 Flight paths are three dimensional corridors that enable aircraft to operate safely and efficiently between destinations, and to land and take-off from Airports. Ideally, aircraft will fly the most direct route and at optimum altitude for a range of flight efficiency reasons. However, it is not always possible for aircraft to fly optimum routes because of safety considerations, restricted airspace, competing demands of other airspace users and noise abatement considerations.

2.4.19 Heathrow has a full suite of published arrival and departure procedures to and from each of their runways. This includes a full set of departure routes (Standard Instrument Departures (SIDs)) from runway 09L (northern runway on easterly operations), even though they are not currently flown on a regular basis.

Departures

2.4.20 All runways at the Airport are served by a set of SIDs accommodating both easterly and westerly departures. The decision of the runway in use is the responsibility of ATC, although this is ultimately determined by the wind direction.

2.4.21 The primary purpose of a SID is to ensure aircraft departing the runway remain clear of obstacles (e.g. tall buildings, radio masts, terrain) until they safely reach the en-route network. SIDs ensure that aircraft are kept within the confines of Controlled Airspace and ensure safe separation from aircraft arriving at the Airport or following other routes to/from adjacent aerodromes. The latter is particularly important in the London airspace.

2.4.22 All aircraft perform differently and may be affected by weather conditions which can cause them to drift left or right, so there will be some variation in the position of different aircraft relative to the centreline of the SID. For this reason, when the SIDs were designed by Department for Transport (DfT) in the 1960s, the UK Government set corridors, known as Noise Preferential Routes (NPRs), which extend 1.5 kilometres (km) either side of the SID route centreline. Over time, as aircraft performance and navigation technology have

developed, the position of aircraft over the ground has become more consistent on departure routes.

2.4.23 NPRs are established around the Airport up to an altitude of 4000ft extending from the departure runways; these are shown on **Graphic 2.5**.

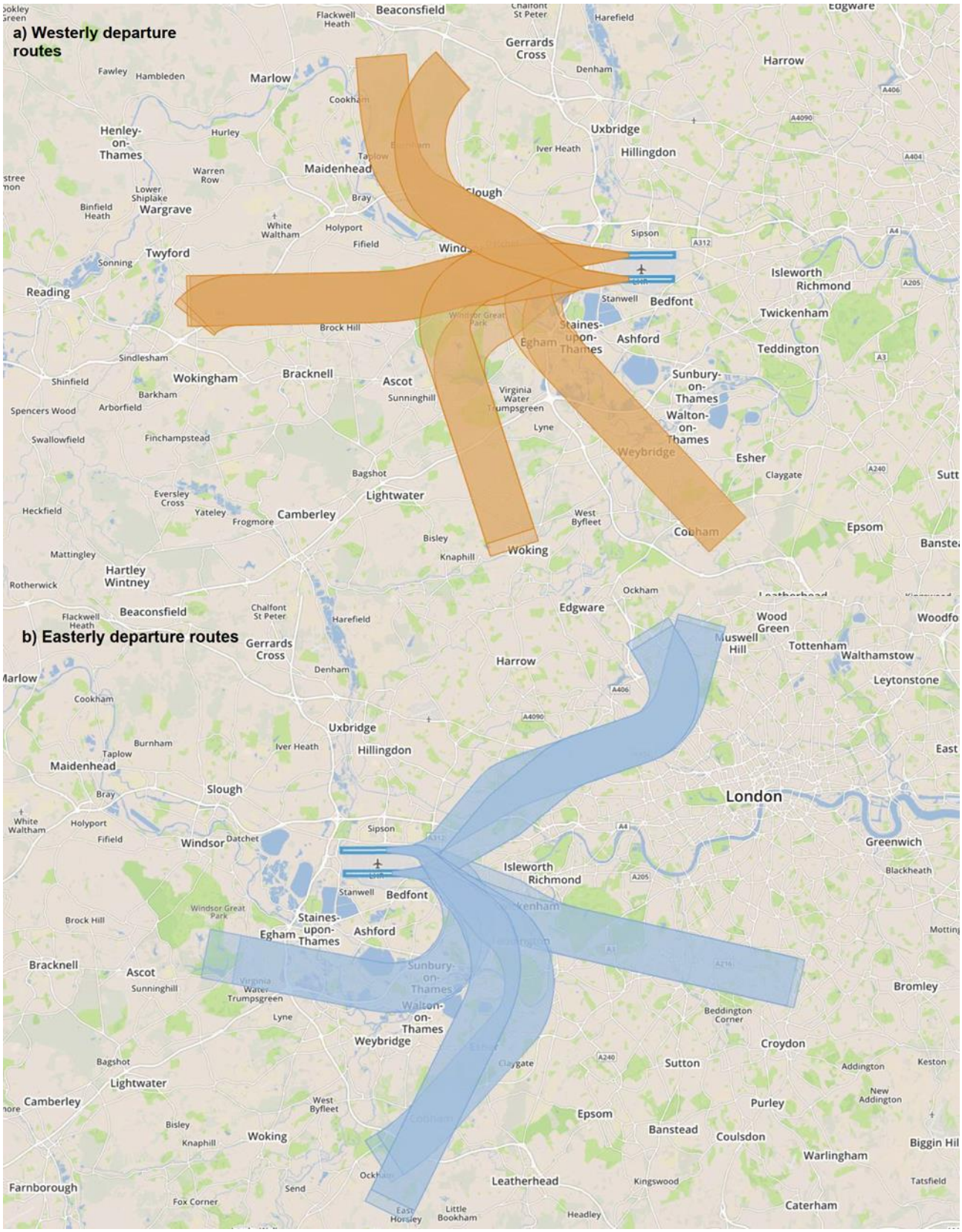
2.4.24 DfT has set rules regarding the height of aircraft on departure. The rules state that:

- After take-off, aircraft must reach 1,000ft at 6.5km from 'start of roll' (the departure);
- After passing this point, the aircraft shall maintain a gradient of climb not less than 4% to an altitude of not less than 4,000ft; and
- Aircraft must stay within the NPR to 4,000ft.

2.4.25 The climb rates will vary because aircraft climb at different rates depending on factors such as the type of aircraft, weather conditions or how fully laden they are. For example, bigger aircraft such as Airbus A380s will climb more slowly compared with smaller aircraft such as an Airbus A319 or Airbus A320, and therefore they may be lower than a smaller aircraft in the same position.

2.4.26 The SIDs ensure that departing aircraft stay within the NPRs until at least 4,000ft, at which point ATC may instruct pilots to fly a more direct heading to their destination. There is an exception to this rule for easterly Compton (CPT) departures. As the number of flights using Heathrow Airport increased, the route became challenging to manage because of its proximity to the Ockham holding stack and the Heathrow Airport arrival flow to the south of the Airport. Instead of allowing aircraft to fly the published SID, NATS' ATCs manually direct aircraft on this route to separate them from the stream of arrivals making their way from the southerly holding stacks to the Airport.

Graphic 2.5 Heathrow Airport's NPRs[7] (a) Westerly departure routes and b) Easterly departure routes)



Arrivals

2.4.27 When arriving at the Airport, aircraft join the Instrument Landing System (ILS) centreline (i.e. a radio beam which is aligned with the runway centreline to guide aircraft in a straight line on approach to the runway for landing). Aircraft join the ILS from 7.5 nautical miles away from the runway during the day, and 10 nautical miles away at night, and at between 2,500ft to 3,000ft. Once aircraft have been directed out of one of the four holding stacks, aircraft then follow a set of instructions issued by ATC[8]. These instructions direct the aircraft onto the ILS.

2.4.28 ATC also work with pilots to achieve Continuous Descent Approach (CDA) which avoids the need for extended periods of level flight and keeps aircraft higher for longer, using reduced thrust and therefore reducing arrival noise. CDA involves aircraft maintaining a steady angle of approach. In addition, CDA reduces fuel burn and emissions, which leads to an overall environmental benefit. For monitoring purposes, a descent will be deemed to have been continuous provided that no segment of level flight longer than 2.5 nautical miles occurs below 6,800ft QNH (QNH is the pressure set on the altimeter sub-scale to indicate elevation above mean sea level) and 'level flight' is interpreted as any segment of flight having a height change of not more than 50ft over a track distance of 2 nautical miles or more, as recorded in the airport Noise and track-keeping system. The Applicant reports monthly on their Operational Data website the percentage of arrivals that performed CDA. On average around 88% of aircraft coming into the Airport use CDA.

Night flights

2.4.29 There is no formal ban on night flights at the Airport but since the 1960s, the UK Government has placed restrictions on them and the structure of the current night flying restrictions at the Airport has been in place since October 2022. Night-time (23:30 - 06:00) operations at the Airport are heavily regulated by the UK Government, which sets a limit of 5,800 night-time take-offs and landings a year in order to strike a balance between the benefit of night flights and their potential local impacts. A night quota limit is also in place, which caps the amount of noise the Airport can make at night.

2.4.30 The night flight restrictions are part of the UK Government's defined noise measures under the Civil Aviation Act 1982[9]. The restrictions include:

- There are two time periods: 23:00 - 07:00 and 23:30 - 06:00 both with restrictions on certain types of aircraft;

[8] ATC instructs the pilot to fly a radar heading or 'vector'. The radar heading is given as a compass bearing e.g. an instruction to fly a heading of 090º will result in the aircraft turning towards the east. There are no useable published routes between the stacks and final approach, therefore vectors are required for all aircraft arriving via the stacks.

[9] HM Government (1982) *Civil Aviation Act 1982 (as amended)*. [online] Available at: https://www.legislation.gov.uk/ukpga/1982/16/contents [Accessed: 02 October 2024].

- 23:30 - 06:00 is known as the Night Quota Period (NQP) and has limits on the number of movements which are set by the DfT. The limits are set on a seasonal basis: summer and winter;
- Heathrow Airport is currently limited to 5,800 night flights a year: 3,250 in the summer season and 2,550 in the winter season; and
- Heathrow Airport is also permitted to carry over up to 10% of the 'left over' movements from summer to winter, which means the winter season limits vary more than the summer limits. The summer season is defined using British Summer Time. The Applicant is not permitted to accumulate the carry-over from one year to the next[10].

2.4.31 Around 80% of the night flights at the Airport are between 04:30 - 06:00 with an average of 16 aircraft arriving each day between these hours. The Airport operates a voluntary ban in place that prevents flights scheduled between 04:30 - 06:00 from landing before 04:30. The Airport also does not schedule any departures between 23:00 - 06:00.

2.4.32 The Proposed Development would not affect the Applicant's current approach to night flight operations or night-time runway alternation, as described in **Section 2.4**.

UK's Airspace Modernisation Strategy

2.4.33 Separately from the Proposed Development, Heathrow is sponsoring an Airspace Change Proposal for the long-term modernisation of the airspace design at and around Heathrow Airport ("the Heathrow airspace modernisation ACP")[11]. This is being progressed under the separate regulatory process for approval of changes to the design of UK airspace administered by the Civil Aviation Authority (CAA). The CAA has the statutory function of deciding whether to approve changes to airspace design and has published guidance on this regulatory process in CAP 1616.[12]

2.4.34 The Heathrow airspace modernisation ACP was initiated in July 2021 and forms part of a wider programme to redesign and modernise airspace across the South East of England, called the Future Airspace Strategy Implementation (FASI). FASI is a subset of the wider Airspace Modernisation Strategy which is co-sponsored by the Department for Transport and the CAA. The Airspace Modernisation Strategy sets out a strategic plan for modernising UK airspace with the aim of delivering "*quicker, quieter and cleaner journeys and more capacity for the benefit of those who use and are affected by UK airspace*." A single coordinated masterplan for the interdependent Airspace Change Proposals is being created

[10] Heathrow Airport Limited (n.d.) *Night flights*. [online] Available at: https://www.heathrow.com/company/local-community/noise/operations/night-flights#:~:text=Night%20flight%20restrictions&text=Overview%20of%20restrictions%3A,are%20set%20by%20the%20DfT [Accessed: 02 October 2024].

[11] Reference ACP-2021-056 – CAA, (2024)., 'Heathrow Airspace Modernisation (FASI South)', Available from https://www.caa.co.uk/our-work/publications/documents/content/cap1616sup/ [Consulted on 17 July 2024)

[12] Reference ACP-2021-056 – CAA, (2024)., 'Heathrow Airspace Modernisation (FASI South)', Available from https://www.caa.co.uk/our-work/publications/documents/content/cap1616sup/ [Consulted on 17 July 2024)

by the Airspace Change Organising Group (ACOG)[13]. The masterplan will identify where airspace changes are required to support the delivery of the Airspace Modernisation Strategy.

2.4.35 The Heathrow airspace modernisation ACP involves the redesign of the airspace around Heathrow based on a two runway operation, including the introduction of Performance Based Navigation. The Heathrow airspace modernisation ACP may incorporate changes to flight paths and procedures for Heathrow as a whole, including its operation during easterly operations.

2.4.36 The Heathrow airspace modernisation ACP is at an early stage of the CAP 1616 process with a multitude of early design options for individual components parts of the airspace system still under consideration. Those airspace design options have not yet have been assembled into system-wide options which will need to undergo further appraisal, environmental assessment and public consultation, and are dependent on what other airports and NATS propose as part of their ACPs. Consequently, the outcome of the Heathrow airspace modernisation ACP and the wider FASI modernisation will not be known during the consideration of the planning application for the Proposed Development. As the proposals for the Heathrow airspace modernisation ACP develop, they will be subject to their own process of consultation and environmental assessment as detailed in CAP 1616.

2.4.37 Therefore, whilst long term future airspace may change, recognising the significant uncertainties about what the future airspace design might be, the Environmental Impact Assessment is based on the existing airspace design which is already established for the purposes of easterly operations. The current airspace design provides a good representation of airspace for the purposes of assessing the effects of easterly alternation.

2.4.38 Heathrow will follow the necessary regulatory process to demonstrate the impact of increased use of Runway 09L (northern runway) for departures and Runway 09R (southern runway) for arrivals during easterly alternation within the current notified airspace. In other words, the existing flight paths would not change as a result of easterly alternation, and therefore provide a reliable basis for the environmental assessment which accompanies this planning application.

Airspace Change associated with full Easterly Operations

2.4.39 Heathrow Airport has in the past, including during the COVID-19 pandemic period when reduced operations occurred, used the northern runway for both arrivals and departures during both westerly and easterly operations. This allowed the southern runway to be closed completely so that it could be resurfaced. This meant that departures occurred in an easterly direction from the northern runway and demonstrates that the existing airspace is fully capable of supporting easterly operations.

2.4.40 Whilst the published flight paths already exist, the increased use of this runway configuration will result in a change to the distribution of aircraft over the ground compared with existing operations (through increased easterly departures from 09L on the northern

[13] ACOG, (n.d.)., 'Airspace Masterplan' Available at: https://www.acog.aero/airspace-masterplan/masterplan/ (Accessed: 02 October 2024)

runway and easterly arrivals to 09R on the southern runway) and has potential to require modifications. As an example, the Applicant has identified that the 09R (southern runway) missed approach procedure[14] may require adapting. Therefore, if an airspace change is required this will be managed through the CAA CAP processes. As with all such processes, any ACP will take some time and will follow its own separate process[15].

2.4.41 Any airspace change necessarily follows a land use planning decision (rather than the other way around) and its outcome, therefore, cannot be known or used at this stage to inform the environmental assessment. This assessment, therefore, assumes the continued use of the existing airspace to provide the best assessment of the likely significant effects of easterly alternation. Any changes to the published airspace arrangements necessitated by easterly alternation would be determined and assessed through the CAA's Airspace Change process.

2.5 Future development at the Airport

2.5.1 The Airport has a standard method of operations (see **Section 2.4**). Under The Town and Country Planning (General Permitted Development) (England) Order 2015[16] Airport operators can undertake certain types of operational development without requiring planning permission under Permitted Development Rights (PDR). Future changes to the Airport may fall under these PDR, whilst others may require planning permission. Potential interactions between the Proposed Development and other developments at the Airport have been assessed in **Chapter 13: Cumulative Effects**.

[14] A missed approach is a procedure followed by a pilot when the approach cannot be completed to a full-stop landing. For example, a sudden gust of wind affecting the speed of the aircraft or another aircraft has been unable to vacate the runway in a timely manner. On average there are 2 missed approaches per day at Heathrow.

[15] Any ACP for Easterly Alternation is not as complex as the ACP for Airspace Modernisation as the flight paths already exist and there are not expected to be any dependencies with neighbouring Airports.

[16] HM Government (2015) *The Town and Country Planning (General Permitted Development) (England) Order 2015*. [online] Available at: https://www.legislation.gov.uk/uksi/2015/596/contents [Accessed: 02 October 2024].