



Department
for Transport

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

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

Moving Britain Ahead

June 2018

The Department for Transport has actively considered the needs of blind and partially sighted people in accessing this document. The text will be made available in full on the Department's website. The text may be freely downloaded and translated by individuals or organisations for conversion into other accessible formats. If you have other needs in this regard please contact the Department.

Department for Transport
Great Minster House
33 Horseferry Road
London SW1P 4DR
Telephone 0300 330 3000
Website www.gov.uk/dft
General enquiries: <https://forms.dft.gov.uk>



© Crown copyright 2018

Copyright in the typographical arrangement rests with the Crown.

You may re-use this information (not including logos or third-party material) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence, visit <http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/> or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or e-mail: psi@nationalarchives.gsi.gov.uk

Where we have identified any third-party copyright information you will need to obtain permission from the copyright holders concerned.

Contents

Contents	3
1. Introduction	5
Background	5
Purpose and scope of the Airports NPS	7
Duration	8
Territorial extent	8
European Union	9
Appraisal of Sustainability	9
Habitats Regulations Assessment	10
Equality Assessment	10
Health Impact Analysis	11
Relationship between the Airports NPS and the Aviation Policy Framework	11
Development covered by the Airports NPS	12
2. The need for additional airport capacity	13
The importance of aviation to the UK economy	13
The need for new airport capacity	14
The Airports Commission	16
Alternatives to additional runway capacity	16
The Airports Commission's shortlisting process	17
The Airports Commission's conclusions	17
The Government's work	18
3. The Government's preferred scheme: Heathrow Northwest Runway	19
Overview	19
Heathrow Northwest Runway and Gatwick Second Runway	21
Heathrow Northwest Runway and Heathrow Extended Northern Runway	29
Carbon emissions	30
Strategic environmental assessment	31
Conclusion	32
4. Assessment principles	34
General principles of assessment	34

Scheme variation	35
Environmental Impact Assessment	36
Habitats Regulations Assessment	37
Equalities	38
Assessing alternatives	39
Criteria for 'good design' for airports infrastructure	39
Costs	40
Climate change adaptation	41
Pollution control and other environmental protection regimes	42
Common law nuisance and statutory nuisance	44
Security and safety considerations	44
Health	45
Accessibility	46
5. Assessment of impacts	47
Introduction	47
Surface access	47
Air quality	50
Noise	54
Carbon emissions	58
Biodiversity and ecological conservation	61
Land use including open space, green infrastructure and Green Belt	64
Home Office assets	68
Resource and waste management	68
Flood risk	70
Water quality and resources	74
Historic environment	77
Landscape and visual impacts	81
Land instability	83
Dust, odour, artificial light, smoke and steam	83
Community compensation	85
Community engagement	87
Skills	87
Ruling out a fourth runway	89
Annex A: Heathrow Northwest Runway scheme boundary map	90
Annex B: Illustrative Heathrow Northwest Runway scheme masterplan	91

1. Introduction

Background

- 1.1 The UK aviation sector plays an important role in the modern economy, contributing around £20 billion per year¹ and directly supporting approximately 230,000 jobs.² The positive impacts of the aviation sector extend beyond its direct contribution to the economy by also enabling activity in other important sectors like business services, financial services, and the creative industries. The UK has the third largest aviation network in the world, and London's airports serve more routes than the airports of any other European city.
- 1.2 However, London and the South East are now facing longer term capacity problems. Heathrow Airport is operating at capacity today, Gatwick Airport is operating at capacity at peak times, and the whole London airports system is forecast to be full by the mid-2030s.³ There is still spare capacity elsewhere in the South East for point to point and especially low cost flights. However, with very limited capability at London's major airports, London is beginning to find that new routes to important long haul destinations are being set up elsewhere in Europe. This is having an adverse impact on the UK economy, and affecting the country's global competitiveness.⁴
- 1.3 In September 2012, the Coalition Government established the independent Airports Commission 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, and identify and evaluate how any need for additional capacity should be met in the short, medium and long term.⁵
- 1.4 In its Interim Report in December 2013, the independent Airports Commission concluded that there was a need for one additional runway to be in operation in the South East of England by 2030.⁶ It also confirmed three shortlisted capacity schemes for further analysis: a Second Runway at Gatwick Airport (proposed by Gatwick Airport Ltd.), a Northwest Runway at Heathrow Airport (proposed by Heathrow Airport Ltd.), and an Extended Northern Runway at Heathrow Airport (proposed by Heathrow Hub Ltd.). The Airports Commission then consulted further on the three shortlisted schemes, plus proposals for a new airport in the inner Thames Estuary. In September 2014, the Airports Commission concluded not to consider further an inner Thames Estuary scheme.⁷
- 1.5 In its Final Report in July 2015, the Airports Commission unanimously concluded that the proposal for a Northwest Runway at Heathrow Airport, combined with a significant

¹ ONS, Input-Output Supply and Use tables, 2014

² ONS, Business Register and Employment Survey, 2014

³ <https://www.gov.uk/government/publications/airport-expansion-updated-cost-and-benefits-appraisal> Updated Appraisal Report, p11

⁴ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/440316/airports-commission-final-report.pdf Airports Commission: Final Report, p3

⁵ <https://www.gov.uk/government/organisations/airports-commission>

⁶ <https://www.gov.uk/government/publications/airports-commission-interim-report>

⁷ <https://www.gov.uk/government/publications/inner-thames-estuary-airport-summary-and-decision>

package of measures to address its environmental and community impacts, presented the strongest case and offered the greatest strategic and economic benefits.

- 1.6 The Airports Commission's remit also required it to look at how to make best use of existing airport infrastructure, before new capacity becomes operational.⁸ The Commission noted in its final report that a new runway will not open for at least 10 years. It therefore considered it imperative that the UK continues to grow its domestic and international connectivity in this period, which it considered would require the more intensive use of existing airports other than Heathrow and Gatwick.⁹
- 1.7 On 14 December 2015, the Government accepted the Airports Commission's recommendation for increased capacity in the South East of England, and its shortlisted scheme options. The Government also confirmed that it would begin work on the building blocks of an Airports National Policy Statement ('Airports NPS'), and this is what happened.¹⁰
- 1.8 The Government believes that an NPS is the most appropriate method to put in place the planning framework for a new runway in the South East of England.¹¹ All three shortlisted airport schemes would have been classed as nationally significant infrastructure projects under the Planning Act 2008, and the Government's view is that an Airports NPS, and a development consent application made under the Planning Act 2008, is the most appropriate route to deliver the Government's preferred scheme.
- 1.9 In its announcement on 14 December 2015, the Government made clear that it would be important to undertake further work regarding the final location of the preferred scheme. This included additional work on air quality, noise, carbon, and mitigating impacts on affected local communities.
- 1.10 On 25 October 2016 the Government announced that a Northwest Runway at Heathrow Airport, combined with a significant package of supporting measures, was its preferred scheme to deliver additional airport capacity in the South East of England. It also confirmed that this would be included in a draft Airports NPS, to be the subject of consultation according to the procedures laid down in the Planning Act 2008.¹²
- 1.11 The draft Airports NPS and supporting Appraisal of Sustainability were published on 2 February 2017 and a 16 week public consultation was launched. On publishing the draft Airports NPS, the Government made a commitment to continue updating its evidence base on airport capacity, including revised passenger demand forecasts and the impact of the publication of the final Air Quality Plan (the UK plan for tackling roadside nitrogen dioxide concentrations). On 24 October 2017, the Government published and conducted an 8 week public consultation on a revised draft Airports NPS and other documents which were published alongside it. The revisions were made on the basis of changes to the evidence base and as a result of initial consideration of the responses to the February consultation and other broader government policy changes. Having considered the responses to both the February and October consultations, and the report published by the Transport Committee on 23 March 2018, the Government has made some further changes, principally to provide greater clarity and reflect updates to wider Government policies.

⁸ *Airports Commission: Interim Report*, paragraph 5.2

⁹ *Airports Commission: Final Report*, paragraph 16.40

¹⁰ <https://www.gov.uk/government/speeches/aviation-capacity>

¹¹ Throughout this document, unless specified otherwise, the term "NPS" refers to the Airports NPS. Other NPSs, for example the National Networks NPS, are referred to in full as required

¹² <https://www.gov.uk/government/speeches/airport-capacity>

Purpose and scope of the Airports NPS

- 1.12 The Airports NPS provides the primary basis for decision making on development consent applications for a Northwest Runway at Heathrow Airport, and will be an important and relevant consideration in respect of applications for new runway capacity and other airport infrastructure in London and the South East of England. Other NPSs may also be relevant to decisions on airport capacity in this geographical area.
- 1.13 The Airports NPS sets out:
- The Government's policy on the need for new airport capacity in the South East of England;
 - The Government's preferred location and scheme to deliver new capacity; and
 - Particular considerations relevant to a development consent application to which the Airports NPS relates.
- 1.14 It sets out planning policy in relation to applications for any airport nationally significant infrastructure project in the South East of England, and its policies will be important and relevant for the examination by the Examining Authority, and decisions by the Secretary of State, in relation to such applications.
- 1.15 In particular, the Secretary of State will use the Airports NPS as the primary basis for making decisions on any development consent application for a new Northwest Runway at Heathrow Airport, which is the Government's preferred scheme. The policies in the Airports NPS will have effect in relation to the Government's preferred scheme, having a runway length of at least 3,500m and enabling at least 260,000 additional air transport movements per annum.¹³ It will also have effect in relation to terminal infrastructure associated with the Heathrow Northwest Runway scheme and the reconfiguration of terminal facilities in the area between the two existing runways at Heathrow Airport. For the avoidance of doubt, the Airports NPS does not identify any statutory undertaker as the appropriate person or appropriate persons to carry out the preferred scheme.
- 1.16 It is possible that an applicant for development consent in respect of the preferred scheme will promote more than one application for development consent, dealing with different components individually. To the extent that this is the case, the Secretary of State will apply the Airports NPS to such applications to the extent that he or she determines to be appropriate in the circumstances.
- 1.17 For a scheme to be compliant with the Airports NPS, the Secretary of State would expect to see these elements comprised in its design, and their implementation and delivery secured, particularly with regard to runway length and increased capacity of air transport movements. Other NPSs may also be relevant to decisions on nationally significant infrastructure projects at airports but, if there is conflict between the Airports NPS and other NPSs, the conflict should be resolved in favour of the NPS that has been most recently designated.
- 1.18 Under section 104 of the Planning Act 2008, the Secretary of State must decide any application in accordance with any relevant NPS unless he or she is satisfied that to do so would:

¹³ The Airports NPS stipulates the length of the new runway to ensure that the new infrastructure can accommodate the largest commercial aircraft, as they operate many of the long haul flights that support the UK's position as a major aviation hub

- Lead to the UK being in breach of its international obligations;
- Be unlawful;
- Lead to the Secretary of State being in breach of any duty imposed by or under any legislation;
- Result in adverse impacts of the development outweighing its benefits; or
- Be contrary to legislation about how the decisions are to be taken.¹⁴

1.19 The Airports NPS refers in some places to other relevant documents. These other documents may be replaced, updated or amended over the lifetime of the Airports NPS, and so successor documents should be referred to when this is the case.

1.20 Unlike the regime for the granting of planning permission under the Town and Country Planning Act 1990, there is no provision in the Planning Act 2008 for the making of an ‘outline’ application for development consent, followed by ‘reserved matters’ approval. This does not mean, however, that development cannot be phased, so that particular parts are brought forward at different times, or that the details of a proposal cannot be reserved for determination later. Guidance by the Ministry of Housing, Communities and Local Government recognises that development projects advanced through the development consent order process may be phased, but emphasises that every phase of the project contained in a development consent application must be considered in the application for the order and the order itself.¹⁵

Duration

1.21 The Airports NPS covers development that is anticipated to be required by 2030 as well as other development required to support it. It will remain in place until it is withdrawn, amended or replaced. It will be reviewed, in accordance with the Planning Act 2008, when the Secretary of State considers it appropriate to do so. When considering whether to review the Airports NPS, the Secretary of State will look at whether there has been a significant change in any circumstances on which the policy was based and whether such change was anticipated when the Airports NPS was designated.

Territorial extent

1.22 The Airports NPS covers England only. Some aspects of aviation noise policy are devolved but others are reserved.¹⁶

1.23 Aviation policy is largely a reserved matter, though planning policy is not. Specifically:

- The National Assembly for Wales has devolved powers relating to airports in terms of land use planning and surface access policy;
- The Scottish Parliament has competence for planning in Scotland, and some powers in relation to aerodromes are also devolved to the Scottish Parliament; and
- The Northern Ireland Executive and Assembly have devolved powers relating to airports in terms of regional land use planning, surface access policy and funding,

¹⁴ Planning Act 2008, section 104 – decisions in cases where an NPS has effect

¹⁵ <https://www.gov.uk/government/publications/guidance-on-the-pre-application-process-for-major-infrastructure-projects>

¹⁶ For the avoidance of doubt, references to matters which are “reserved” in this section refer to those matters of legislative responsibility reserved to the Westminster Parliament under the UK’s devolution arrangements

and environmental policy. The Northern Ireland Executive also has responsibility for airport economic regulation, has powers over land in relation to aviation safety, has the ability to grant aid for airports infrastructure, and may exercise certain controls relating to the management of airports.

European Union

- 1.24 On 29 March 2017 the Government formally notified the European Council of its intention to withdraw from the European Union, as provided for under Article 50 of the Treaty on European Union. Until the UK has left the EU, it remains a full Member of the European Union and all the rights and obligations of EU membership remain in force. Therefore, for the time being, European Union legislation applies to the development of this policy and to decision making in relation to the preferred scheme.
- 1.25 The UK and EU negotiating teams reached agreement in March 2018 on the terms of a transition or implementation period that will start on 30 March 2019, when the UK formally ceases to be a member of the EU, and last until 31 December 2020. The agreed text states that “Union law shall be applicable to and in the United Kingdom during the transition period”. The limited exceptions to this are set out in the published text.
- 1.26 The Government has also introduced legislation to ensure that the UK exits the EU with maximum certainty and continuity. The EU Withdrawal Bill ends the supremacy of European Union (EU) law in UK law and converts EU law as it stands at the moment of exit into domestic law. The same rules and laws will apply on the day after exit as on the day before. It will then be for democratically elected representatives in the UK to decide on any changes to that law, after full scrutiny and proper debate.

Appraisal of Sustainability

- 1.27 An Appraisal of Sustainability is required by the Planning Act 2008 in relation to any NPS. An Appraisal of Sustainability, which describes the analysis of reasonable alternatives to the preferred scheme, has been carried out to inform the Airports NPS. The Appraisal of Sustainability informs the development of the Airports NPS by assessing the potential economic, social and environmental impacts of options to increase airport capacity.
- 1.28 The Appraisal of Sustainability also incorporates a strategic environmental assessment (pursuant to Directive 2001/42/EC as transposed by SI 2004/1633).¹⁷ The Appraisal of Sustainability was published alongside the Airports NPS.
- 1.29 The overall conclusions of the Appraisal of Sustainability show that (provided any scheme remains within the parameters and boundaries in this policy), whilst there will be inevitable harm caused by a new Northwest Runway at Heathrow Airport in relation to some topics, the need for such a scheme, the obligation to mitigate such harm as far as possible, and the benefits that such a scheme will deliver, outweigh such harm. However, this is subject to the assessment of the effects of the preferred scheme, identification of suitable mitigation, and measures to secure and deliver the relevant mitigation.

¹⁷ Directive 2001/42/EC of the European Parliament and of the Council on the assessment of the effects of certain plans and programmes on the environment

1.30 The preferred scheme has been subject to further refinement by Heathrow Airport since the conclusion of the work of the Airports Commission. These refinements were not captured within the Airports Commission's appraisals and are not expected to significantly alter the key appraisal findings. The Government expects any applicant to carry out a further and more detailed study, and to secure appropriate mitigation measures, ahead of seeking development consent.

Habitats Regulations Assessment

1.31 The Airports NPS has also been assessed under the Habitats and Wild Birds Directive and Regulations.¹⁸ A Habitats Regulations Assessment has been undertaken at a strategic level, and was published alongside the Airports NPS.

1.32 The strategic level Habitats Regulations Assessment, conducted in accordance with the Conservation of Habitats and Species Regulations 2010,¹⁹ concluded that the potential for the preferred scheme to have adverse effects on the integrity of European sites for the purposes of Article 6(3) of the Habitats Directive could not be ruled out. This is because more detailed project design information and detailed proposals for mitigation are not presently available and inherent uncertainties exist at this stage. The Airports NPS has thus been considered in accordance with Article 6(4) of the Habitats Directive. Consideration has been given to alternative solutions to the preferred scheme, and the conclusion has been reached that there are no alternatives that would deliver the objectives of the Airports NPS in relation to increasing airport capacity in the South East and maintaining the UK's hub status. In line with Article 6(4) of the Directive, the Government considers that meeting the overall needs case for increased capacity and maintaining the UK's hub status, as set out in chapter two, amount to imperative reasons of overriding public interest supporting its rationale for the designation of the Airports NPS. At detailed design stage, and in so far as it may be necessary, the matters set out in the Airports NPS will be relevant to determining whether there are alternative solutions and imperative reasons of overriding public interest, provided that the design remains consistent with the objectives of the Airports NPS.

1.33 Any development brought forward through an Airports NPS that was likely to have a significant effect on a European site, either alone or in combination with other plans or projects, would be subject to a project-level Habitats Regulations Assessment at the detailed design stage. If it could not be concluded that there would be no adverse effects on site integrity, the project would not receive development consent on this basis, unless (a) there were no alternative solutions, (b) there were imperative reasons of overriding public interest in support, and (c) the necessary compensatory measures to protect the site were secured.

Equality Assessment

1.34 The Airports NPS has been informed by an Equality Assessment, which was published alongside the Airports NPS.

1.35 Under the Equality Act 2010, public bodies have a statutory duty to ensure race, disability and equality are considered in the exercise of their functions. The Equality

¹⁸ Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna; and Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds

¹⁹ <http://www.legislation.gov.uk/ukksi/2010/490/contents/made> Since the revised draft Airports National Policy Statement was published, the Conservation of Habitats and Species Regulations 2017 have come into force

Assessment considered the potential equalities implications of airport expansion, including the effect on persons or groups of persons who share certain characteristics protected by the Equality Act 2010. The Equality Assessment concludes that all of the shortlisted schemes will have effects on these groups, but that such effects can be managed and can ultimately be within appropriate limits. The Airports NPS requires that final impacts on affected groups should be the subject of a detailed review, carefully designed through engagement with the local community, and approved by the Secretary of State. It should be possible to fully or partially mitigate negative equalities impacts through good design, operations and mitigation plans.

Health Impact Analysis

- 1.36 The Airports NPS has been subject to a Health Impact Analysis, which was published alongside the Airports NPS.
- 1.37 The Health Impact Analysis identified impacts which would affect the population's health, including noise, air quality and socio-economic impacts. In order to be compliant with the Airports NPS, a further project level Health Impact Assessment is required. The application should include and propose health mitigation, which seeks to maximise the health benefits of the scheme and mitigate any negative health impacts.

Relationship between the Airports NPS and the Aviation Policy Framework

- 1.38 The Airports NPS sets out Government policy on expanding airport capacity in the South East of England, in particular by developing a Northwest Runway at Heathrow Airport. Any application for a new Northwest Runway development at Heathrow will be considered under the Airports NPS. Other Government policy on airport capacity has been set out in the Aviation Policy Framework, published in 2013.²⁰ The Airports NPS does not affect Government policy on wider aviation issues, for which the 2013 Aviation Policy Framework and any subsequent policy statements still apply.²¹
- 1.39 On 21 July 2017, the Government issued a call for evidence on a new Aviation Strategy.²² Having analysed the responses, the Government has confirmed that it is supportive of airports beyond Heathrow making best use of their existing runways. However, we recognise that the development of airports can have positive and negative impacts, including on noise levels. We consider that any proposals should be judged on their individual merits by the relevant planning authority, taking careful account of all relevant considerations, particularly economic and environmental impacts.

²⁰ <https://www.gov.uk/government/publications/aviation-policy-framework>

²¹ This includes changes to the UK airspace policy published in the Government's response to the consultation, *UK Airspace policy: a framework for balanced decisions on the design and use of airspace*

²² *Beyond the Horizon: The Future of Aviation*

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/636625/aviation-strategy-call-for-evidence.pdf - see paragraphs 7.19 to 7.21

Development covered by the Airports NPS

- 1.40 The Airports NPS has effect in relation to the delivery of additional airport capacity through the provision of a Northwest Runway at Heathrow Airport. It also applies to proposals for new terminal capacity located between the new Northwest Runway and the existing Northern Runway at Heathrow Airport, as well as the reconfiguration of terminal facilities in the area between the two existing runways at Heathrow Airport. Each of these elements is also capable of constituting a nationally significant infrastructure project.
- 1.41 The Airports NPS does not have effect in relation to an application for development consent for an airport development not comprised in an application relating to the Heathrow Northwest Runway, and proposals for new terminal capacity located between the Northwest Runway at Heathrow Airport and the existing Northern Runway and reconfiguration of terminal facilities between the two existing runways at Heathrow Airport. Nevertheless, the Secretary of State considers that the contents of the Airports NPS will be both important and relevant considerations in the determination of such an application, particularly where it relates to London or the South East of England. Among the considerations that will be important and relevant are the findings in the Airports NPS as to the need for new airport capacity and that the preferred scheme is the most appropriate means of meeting that need.
- 1.42 As indicated in paragraph 1.39 above, airports wishing to make more intensive use of existing runways will still need to submit an application for planning permission or development consent to the relevant authority, which should be judged on the application's individual merits. However, in light of the findings of the Airports Commission on the need for more intensive use of existing infrastructure as described at paragraph 1.6 above, the Government accepts that it may well be possible for existing airports to demonstrate sufficient need for their proposals, additional to (or different from) the need which is met by the provision of a Northwest Runway at Heathrow. As indicated in paragraph 1.39 above, the Government's policy on this issue will continue to be considered in the context of developing a new Aviation Strategy.

2. The need for additional airport capacity

The importance of aviation to the UK economy

- 2.1 International connectivity, underpinned by strong airports and airlines, is important to the success of the UK economy. It is essential to allow domestic and foreign companies to access existing and new markets, and to help deliver trade and investment, linking us to valuable international markets and ensuring that the UK is open for business. It facilitates trade in goods and services, enables the movement of workers and tourists, and drives business innovation and investment, being particularly important for many of the fastest growing sectors of the economy.
- 2.2 International connectivity attracts businesses to cluster round airports, and helps to improve the productivity of the wider UK economy. Large and small UK businesses rely on air travel, while our airports are the primary gateway for vital time-sensitive freight services. Air travel also allows us ever greater freedom to travel and visit family and friends across the globe, and brings millions of people to the UK to do business or enjoy the best the country has to offer.
- 2.3 The UK benefits from a strong and substantially privatised airport sector, with a regulatory system that supports growth while ensuring the interests of passengers are at its heart. The Government believes that this is the right approach for the airport sector, but that Government has an important role to play in strategic decisions like planning future airport capacity.
- 2.4 The UK has the third largest aviation network in the world after the USA and China,²³ and London's airports serve more routes than any other European city.²⁴ The UK's airports handled over 268 million passengers in 2016, a 6.7% increase from the previous year.²⁵ The sector benefits the UK economy through its direct contribution to GDP and employment, and by facilitating trade and investment, manufacturing supply chains, skills development, and tourism.
- 2.5 In 2014 the UK aviation sector generated around £20 billion²⁶ of economic output, and directly employed around 230,000 workers,²⁷ supporting many more jobs indirectly. The UK has the second largest aircraft manufacturing industry in the world after the USA, and will benefit economically from growth in employment and exports from future aviation growth.²⁸ Air Passenger Duty remains an important contributor to Government revenue, raising over £3 billion in 2015/16.²⁹ Heathrow Airport directly supports around 75,000 jobs on site.³⁰

²³ *The Global Competitiveness Report 2014-2015*, World Economic Forum, 2015, based on available airline seat kilometres

²⁴ *Airports Commission: Final Report*, p55

²⁵ <https://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-Airport-data/Airport-data-2016/>

²⁶ ONS, Input-Output Supply and Use tables, 2014

²⁷ ONS, Business Register and Employment Survey, 2014

²⁸ UK Aerospace Industry Survey, Aerospace, Defence, Security Trade Association, 2010

²⁹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/691309/Feb18_Receipts_NS_Bulletin_Final.pdf

³⁰ <https://www.heathrowexpansion.com/local-community/local-benefits/>

- 2.6 Businesses from across the UK utilise our aviation network to access markets worldwide. The UK's strong services sector, which provides significant export earnings for the country, is particularly reliant on aviation. The sector includes, among others, financial services, insurance, creative industries, education, and health – all of which rely on face-to-face engagement with customers for success.
- 2.7 Air freight is also important to the UK economy. Although only a small proportion of UK trade by weight is carried by air, it is particularly important for supporting export-led growth in sectors where goods are of high value or time critical. Heathrow Airport is the UK's biggest freight port by value.³¹ Over £178 billion of air freight was sent between UK and non-European Union countries in 2016, representing over 45% of the UK's extra-European Union trade by value.³² This is especially important in the advanced manufacturing sector, where air freight is a key element of the time-critical supply chain. By 2030, advanced manufacturing industries such as pharmaceuticals or chemicals, whose components and products are predominantly moved by air, are expected to be among the top five UK export markets by their share of value.³³ In the future, UK manufacturing competitiveness and a successful and diverse UK economy will drive the need for quicker air freight.
- 2.8 Aviation also brings many wider benefits to society and individuals, including travel for leisure and visiting family and friends. This drives further economic activity. In 2013, for example, the direct gross value added of the tourism sector, one of the important beneficiaries of a strong UK aviation sector, was £59 billion.³⁴ Likewise, 2015 saw the value of inbound tourism rise to over £22 billion,³⁵ with the wider UK tourism industry forecast to grow significantly over the coming decades.
- 2.9 The importance of aviation to the UK economy, and in particular the UK's hub status, has only increased following the country's decision to leave the European Union. As the UK develops its new trading relationships with the rest of the world, it will be essential that increased airport capacity is delivered, in particular to support development of long haul routes to and from the UK, especially to emerging and developing economies.

The need for new airport capacity

- 2.10 However, challenges exist in the UK's aviation sector, stemming in particular from capacity constraints. These constraints are affecting our ability to travel conveniently and to a broader range of destinations than in the past. They create negative impacts on the UK through increased risk of flight delays and unreliability, restricted scope for competition and lower fares, declining domestic connectivity, erosion of the UK's hub status³⁶ relative to foreign competitors, and constraining the scope of the aviation sector to deliver wider economic benefits.
- 2.11 The UK now faces a significant capacity challenge. Heathrow Airport is currently the busiest two-runway airport in the world, while Gatwick Airport is the busiest single runway airport in the world. London's airports are filling up fast, and will all be full by the mid-2030s if we do not take action now.³⁷

³¹ <https://www.uktradeinfo.com/Statistics/BuildYourOwnTables/Pages/Home.aspx>

³² <https://www.uktradeinfo.com/Statistics/Pages/Statistics.aspx>

³³ HSBC Trade Forecast Tool, Accessed 2015

³⁴ Estimates of the Economic Importance of Tourism 2008-2013, Office for National Statistics, December 2014

³⁵ <https://www.visitbritain.org/2015-snapshot>. This figure represents tourism by all modes of transport. The equivalent figure for inbound tourists by air is £19 billion in 2015

³⁶ Defined as the frequency of flights and the density of a route network

³⁷ *Updated Appraisal Report*, p11

- 2.12 Aviation demand is likely to increase significantly between now and 2050.³⁸ All major airports in the South East of England³⁹ are expected to be full by the mid-2030s, with four out of five full by the mid-2020s. By 2050 demand at these airports is expected to outstrip capacity by at least 34%, even on the department's low demand forecast.⁴⁰ There is relatively little scope to redistribute demand away from the region to less heavily utilised capacity elsewhere in the country.⁴¹
- 2.13 The UK's hub status, stemming from the convenience and variety of its direct connections across the world, is already being challenged by restricted connectivity.⁴² Hub airports at Paris, Frankfurt and Amsterdam have spare capacity and are able to attract new flights to growth markets in China and South America.⁴³ These competitors have benefited from the capacity constraints at Heathrow Airport, and have seen faster growth over the past few years. The UK's airports also face growing competition from hubs in the Middle East like Dubai, Abu Dhabi, Doha and Istanbul. Heathrow Airport was overtaken by Dubai in 2015 as the world's busiest international passenger airport.⁴⁴
- 2.14 The consequences of not increasing airport capacity in the South East of England – the 'do nothing' or 'do minimum scenarios' – are detrimental to the UK economy and the UK's hub status. International connectivity will be restricted as capacity restrictions mean airlines prioritise their routes, seeking to maximise their profits. Capacity constraints therefore lead to trade-offs in destinations, and while there is scope to respond to changing demand patterns, this necessarily comes at the expense of other connections. Domestic connectivity into the largest London airports will also decline as competition for slots encourages airlines to prioritise more profitable routes.
- 2.15 Operating existing capacity at its limits means there will be little resilience to unforeseen disruptions, leading to delays. Fares are likely to rise as demand outstrips supply, and the lack of available slots makes it more difficult for new competitors to enter the market.
- 2.16 The Government believes that not increasing capacity will impose costs on passengers and on the wider economy. The Airports Commission estimated that direct negative impacts to passengers, such as fare increases and delays, would range from £21 billion to £23 billion over 60 years.⁴⁵ Without expansion, capacity constraints would impose increasing costs on the rest of the economy over time, lowering economic output by making aviation more expensive and less convenient to use, with knock-on effects in lost trade, tourism and foreign direct investment.
- 2.17 It is very challenging to put a precise figure on these impacts, but using alternative approaches the Airports Commission estimated these costs to be between £30 billion and £45 billion over 60 years.⁴⁶ The Airports Commission urged caution interpreting these figures, which overlap with the direct passenger costs reported above and so are not wholly additional. But they do illustrate that not increasing airport capacity carries real economic costs to the whole economy beyond aviation passengers. Having reviewed this further, the Government accepts this analysis and considers that

³⁸ *Updated Appraisal Report*, p8

³⁹ Defined as Gatwick, Heathrow, London City, Luton and Stansted

⁴⁰ *Updated Appraisal Report*, p11

⁴¹ *Airports Commission: Interim Report*, pp117-126

⁴² For more analysis on the UK's hub status, see *Airports Commission: Interim Report*, pp90-92

⁴³ *Airports Commission: Final Report*, p249

⁴⁴ <http://www.aci.aero/News/Releases/Most-Recent/2016/09/09/Airports-Council-International-releases-2015-World-Airport-Traffic-Report-The-busiest-become-busier-the-year-of-the-international-hub-airport>

⁴⁵ *Airports Commission: Final Report*, p81; present value over 60 years

⁴⁶ *Airports Commission: Final Report*, p81

recent demand growth in the South East suggests an even greater possible cost if expansion is not undertaken.⁴⁷

2.18 The Government also acknowledges the local and national environmental impacts of airports and aviation, for example noise and emissions, and believes that capacity expansion should take place in a way that satisfactorily mitigates these impacts wherever possible. Expansion must be deliverable within national targets on greenhouse gas emissions and in accordance with legal obligations on air quality.

The Airports Commission

2.19 To address these issues, in September 2012, the Coalition Government established the independent Airports Commission, led by Sir Howard Davies. The Airports Commission had two objectives:

- To produce an Interim Report, setting out the nature, scale and timing of steps needed to maintain the UK's global hub status alongside recommendations for making better use of the UK's existing runway capacity over the next five years; and
- To produce a Final Report, setting out recommendations on how to meet any need for additional airport capacity in the longer term.⁴⁸

2.20 The Airports Commission was asked to take appropriate account of the national, regional and local implications of any expansion. As well as seven discussion papers and an appraisal framework, the Airports Commission delivered its recommendations to Government in its Interim Report in December 2013 and its Final Report in July 2015. It also published a summary and decision paper in September 2014 on whether to add an inner Thames Estuary airport proposal to a shortlist for further appraisal.⁴⁹

Alternatives to additional runway capacity

2.21 The Airports Commission explored potential alternatives to additional runway capacity, which included:

- Doing nothing;
- A 'do minimum' set of alternatives with very limited provision for additional capacity;
- Redistribution methods, for example changing the rate of Air Passenger Duty, changing slot allocation regimes, traffic distribution rules, and prohibiting certain types of flights;
- Investment in high speed rail and improved surface access options; and
- New technologies.⁵⁰

2.22 The Airports Commission found that none of these options delivered a sufficient increase in capacity, and that many required investment far in excess of the cost of runway expansion. However, the Airports Commission did note that the need to make best use of existing infrastructure would remain.⁵¹

⁴⁷ Updated Appraisal Report, p11

⁴⁸ <https://www.gov.uk/government/organisations/airports-commission/about/terms-of-reference>

⁴⁹ <https://www.gov.uk/government/publications/inner-thames-estuary-airport-summary-and-decision>

⁵⁰ Airports Commission: Final Report, p84

⁵¹ Airports Commission: Final Report, paragraph 16.1 and 16.40

The Airports Commission's shortlisting process

- 2.23 The Airports Commission consulted widely on its appraisal framework, which contained its criteria for sifting proposed schemes,⁵² and the Government is satisfied that the appraisal framework was appropriate. The Airports Commission received 52 proposals, with three options developed by the Airports Commission itself. The Airports Commission took advice from a number of relevant stakeholders, including NATS Holdings, the Civil Aviation Authority, Network Rail, and the Highways Agency (as it then was). The Government believes that the Airports Commission has analysed all the options put forward to the appropriate degree of detail, and discounted non-shortlisted schemes fairly and objectively according to the sift criteria. The Government does not consider that any of the non-shortlisted schemes represents a reasonable alternative to its preferred scheme.
- 2.24 The three shortlisted schemes were:
- Gatwick Second Runway scheme;
 - Heathrow Northwest Runway scheme (which the Airports Commission recommended and is the Government's preferred scheme); and
 - Heathrow Extended Northern Runway scheme.
- 2.25 The Government has made clear in its announcement of 14 December 2015 that it agrees with the Airports Commission's three shortlisted schemes for expansion, and has taken forward its further work on this basis. As set out at paragraph 1.40 of this document, the Airports NPS will only have effect in relation to a scheme located at Heathrow Airport for the provision of a Northwest Runway, and not the other shortlisted schemes.

The Airports Commission's conclusions

- 2.26 In its Interim Report in December 2013,⁵³ the Airports Commission concluded that there was a need for one additional runway to be in operation in the South East of England by 2030. It also set in train a period of further consultation on three shortlisted schemes (Gatwick Second Runway scheme, Heathrow Northwest Runway scheme, and Heathrow Extended Northern Runway scheme), as well as the option of a new airport in the inner Thames Estuary. In September 2014, the Airports Commission concluded that a new airport in the inner Thames Estuary did not perform sufficiently well to warrant consideration alongside the three schemes that it decided to shortlist.
- 2.27 In its Final Report in July 2015, the Airports Commission concluded that the proposed Northwest Runway at Heathrow Airport presented the strongest case for expansion and would offer the greatest strategic and economic benefits to the UK. A copy of the illustrative Heathrow Northwest Runway scheme masterplan is included at Annex B. The Airports Commission also made clear that expansion would have to involve a significant package of supporting measures to address the environmental and community impacts of the new runway.
- 2.28 The Commission's remit also required it to look at how to make best use of existing airport infrastructure, before new capacity becomes operational.⁵⁴ The Commission noted in its final report that a new runway will not open for at least 10 years. It

⁵² <https://www.gov.uk/government/publications/sift-criteria-for-long-term-capacity-options-at-uk-airports>

⁵³ *Airports Commission: Interim Report*, p11

⁵⁴ *Airports Commission: Interim Report*, paragraph 5.2

therefore considered it imperative that the UK continues to grow its domestic and international connectivity in this period, which it considered would require more intensive use of existing airports other than Heathrow and Gatwick.⁵⁵

The Government's work

- 2.29 The Government has reviewed the Airports Commission's work and the representations Government has received on the issue of airport capacity, and is confident that the Airports Commission's arguments and reasoning are clear and thorough.
- 2.30 The Airports Commission undertook an extensive appraisal over two and a half years, consulting widely and analysing all the evidence before making its final recommendations. Since then, the Government has reviewed the Airports Commission's work and concluded that its evidence base on the case for expansion and its use of this evidence are both sound.⁵⁶ This has given the Government the assurance required to use the evidence to inform its further work, which is set out in more detail later. The Government has therefore considered the Airports Commission data in great depth and also carried out its own further work, all of which informs the Airports NPS.
- 2.31 In coming to these decisions, the Government has fully considered the Airports Commission's Interim and Final Reports, as well as the inner Thames Estuary summary and decision paper. The Government also received a range of information from a variety of stakeholders in response to those reports, which was taken into account by the Government in reaching its preference.
- 2.32 Having reviewed the work of the Airports Commission and considered the evidence put forward on the issue of airport capacity, the Government believes that there is clear and strong evidence that there is a need to increase capacity in the South East of England by 2030 by constructing one new runway. The Government also agrees with the Airports Commission that this can be delivered within the UK's obligations under the Climate Change Act 2008.⁵⁷ The Government considers that following the country's decision to leave the European Union the country will increasingly look beyond Europe to the rest of the world, and so the importance of maintaining the UK's hub status, and in that context long haul connectivity in particular, has only increased.
- 2.33 The next chapter of the Airports NPS sets out how the Government has identified the most effective and appropriate way to address the overall need for increased airport capacity, and maintain the UK's hub status, while meeting air quality and carbon obligations and identifies that the Northwest Runway at Heathrow is the Government's preferred scheme.

⁵⁵ *Airports Commission: Final Report*, paragraph 16.40

⁵⁶ <https://www.gov.uk/government/publications/airport-expansion-further-review-and-sensitivities-report>

⁵⁷ <https://www.gov.uk/government/publications/airport-expansion-dft-review-of-the-airports-commissions-final-report> *Review of the Airports Commission Final Report*, p19

3. The Government's preferred scheme: Heathrow Northwest Runway

Overview

- 3.1 While the previous chapter of the Airports NPS sets out the Government's underlying policy and evidence on the need to expand airport capacity in the South East of England, this chapter sets out why the Government has stated its preference for the Heathrow Northwest Runway scheme.
- 3.2 As set out in the previous chapter, the Airports Commission undertook a detailed shortlisting process, which resulted in three shortlisted schemes being considered by the Government for additional airport capacity:
 - Gatwick Second Runway scheme;
 - Heathrow Northwest Runway scheme (which the Airports Commission recommended and is the Government's preferred scheme);
 - Heathrow Extended Northern Runway scheme.
- 3.3 The Government accepted the Airports Commission's three shortlisted schemes on 14 December 2015, agreeing with the Airports Commission's conclusion that one new runway in the South East of England by 2030 would be required to meet the need for additional capacity.
- 3.4 Following the publication of the Airports Commission's Final Report, the Government undertook further work on:
 - Air quality;
 - Noise;
 - Carbon emissions; and
 - Impacts on local communities.
- 3.5 The Government has carried out additional sensitivities, which show the worst case scenarios on noise, carbon and the economy, within the Appraisal of Sustainability.
- 3.6 The work on air quality, which demonstrated that expansion (with mitigation) is capable of taking place within legal limits, is outlined in the Government's air quality re-analysis⁵⁸ and the Appraisal of Sustainability. Both documents contain a worst case scenario.
- 3.7 The Government agrees with the Airports Commission's assessment that a new runway is deliverable within the UK's climate change obligations.⁵⁹

⁵⁸ <https://www.gov.uk/government/publications/airport-expansion-further-updated-air-quality-re-analysis>

⁵⁹ <https://www.gov.uk/government/publications/airport-expansion-dft-review-of-the-airports-commissions-final-report> *Review of the Airports Commission Final Report*, p19

- 3.8 Following engagement with all three shortlisted scheme promoters, the Government has recommended a package of community supporting measures.
- 3.9 The Government also carried out additional work in relation to surface access, and further economic analysis. This work has allowed the Government to consider carefully the effectiveness of each of the three schemes to meet the need for additional capacity.
- 3.10 The detailed results of this work can be found in a number of reports published by the Government on 25 October 2016:
- A formal review by the Department for Transport of the Airports Commission’s Final Report;⁶⁰
 - An air quality re-analysis to test the Airports Commission’s work against the Government’s air quality plan;⁶¹
 - A further review of the Airports Commission’s analytical approach, providing greater assurance in those areas where needed;⁶²
 - A comparison of the originally shortlisted schemes’ compensation packages against other expansion projects around the world;⁶³
 - An assurance report by Highways England on the schemes’ road surface access proposals;⁶⁴ and
 - A non-binding statement of principles between Heathrow Airport and the Secretary of State for Transport on the Heathrow Northwest Runway scheme.⁶⁵
- 3.11 On 25 October 2016, the Government announced that its preferred scheme to meet the need for new airport capacity in the South East of England was a Northwest Runway at Heathrow Airport.⁶⁶ It also confirmed that this would be included in a draft Airports NPS, which would be subject to consultation in accordance with the procedures laid down in the Planning Act 2008.
- 3.12 The draft Airports NPS and supporting Appraisal of Sustainability were published on 2 February 2017 and a 16 week public consultation was launched. On publishing the draft Airports NPS, the Government made a commitment to continue updating its evidence base on airport capacity, including revised passenger demand forecasts and the impact of the publication of the final Air Quality Plan (the UK plan for tackling roadside nitrogen dioxide concentrations). On 24 October 2017, the Government published and conducted an 8 week public consultation on a revised draft Airports NPS and other documents which were published alongside it. The revisions were made on the basis of changes to the evidence base and as a result of initial consideration of the responses to the February consultation and other broader government policy changes. Having considered the responses to both the February and October consultations, and the report published by the Transport Committee on 23 March 2018, the Government has made some further changes, principally to provide greater clarity and reflect updates to wider Government policies. The Government believes that the Heathrow Northwest Runway scheme, of all the three shortlisted schemes, is the most effective and most appropriate way of meeting the

⁶⁰ <https://www.gov.uk/government/publications/airport-expansion-dft-review-of-the-airports-commissions-final-report>

⁶¹ <https://www.gov.uk/government/publications/airport-expansion-further-analysis-of-air-quality-data>

⁶² <https://www.gov.uk/government/publications/airport-expansion-further-review-and-sensitivities-report>

⁶³ <https://www.gov.uk/government/publications/airport-expansion-global-comparison-of-airport-mitigation-measures>

⁶⁴ <https://www.gov.uk/government/publications/airport-expansion-highways-england-assurance-report>

⁶⁵ <https://www.gov.uk/government/publications/heathrow-airport-limited-statement-of-principles>

⁶⁶ <https://www.gov.uk/government/speeches/airport-capacity>

needs case set out in chapter 2. As such, the Government has also concluded that the other shortlisted schemes do not represent true alternatives to the preferred scheme.

- 3.13 The remainder of this chapter is broken down into two distinct sections. The first section focuses on why the Government prefers the Heathrow Northwest Runway Scheme to the Gatwick Second Runway scheme in terms of delivering additional airport capacity by 2030. The second section focuses on why the Government prefers the Heathrow Northwest Runway scheme to the Heathrow Extended Northern Runway scheme.
- 3.14 Increasing airport capacity in the South East of England and maintaining the UK's hub status can be expected to result in both positive and negative impacts, as would be the case for any major infrastructure project. Important positive impacts are expected to include better international connectivity and providing benefits to passengers and the UK economy as a whole (for example for the freight industry). The negative impacts are expected to include environmental impacts, for example on air quality and affected local communities.
- 3.15 In its considerations on a preferred scheme, the Government has fully taken into account the work of the Airports Commission, information provided by a variety of stakeholders, and the results of the Government's further work outlined in paragraphs 3.4-3.10 above. As set out below, the Government has considered the positive and negative effects from each of the three shortlisted schemes, and reached its conclusion by weighing these expected effects, along with considering how positive effects can be enhanced and negative effects mitigated.

Heathrow Northwest Runway and Gatwick Second Runway

- 3.16 In identifying the preferred scheme, a wide range of factors has been taken into account, including:
- International connectivity and strategic benefits;
 - Passenger and wider economic benefits;
 - Domestic connectivity and regional impacts;
 - Surface access links;
 - Views of airlines, regional airports and the business community;
 - Financeability;
 - Deliverability; and
 - Local environmental impacts.
- 3.17 While the Government acknowledges the differences between the three shortlisted schemes, carbon impacts (unlike the factors above) have not been considered as a differentiating factor between schemes due to the Airports Commission's overarching assessment that all three are deliverable within the UK's climate change obligations.

International connectivity and strategic benefits, including freight

- 3.18 Heathrow Airport is best placed to address this need by providing the biggest boost to the UK's international connectivity. Heathrow Airport is one of the world's major hub airports, serving around 180 destinations worldwide with at least a weekly service,

including a diverse network of onward flights across the UK and Europe.⁶⁷ Building on this base, expansion at Heathrow Airport will mean it will continue to attract a growing number of transfer passengers, providing the added demand to make more routes viable. In particular, this is expected to lead to more long haul flights and connections to fast-growing economies, helping to secure the UK's status as a global aviation hub, and enabling it to play a crucial role in the global economy.

- 3.19 By contrast, expansion at Gatwick Airport would not enhance, and would consequently threaten, the UK's global aviation hub status. Gatwick Airport would largely remain a point to point airport, attracting very few transfer passengers. Heathrow Airport would continue to be constrained, outcompeted by competitor hubs which lure away transfer passengers, further weakening the range and frequency of viable routes. At the UK level, there would be significantly fewer long haul flights in comparison to the preferred scheme, with long haul destinations served less frequently. Expansion at Heathrow Airport is the better option to ensure the number of services on existing routes increases and allows airlines to offer more frequent new routes to vital emerging markets.
- 3.20 This was demonstrated by the forecasts produced by the Airports Commission, and continues to be found in the department's 2017 forecasts.⁶⁸ Compared to no expansion, the Government estimate that a Northwest Runway at Heathrow Airport by 2040 would result in 113,000 additional flights a year across the UK as a whole (including 43,000 long haul), and 28 million additional passengers a year. By way of comparison, the Heathrow Extended Northern Runway would add 85,000 more flights and 22 million additional passengers.⁶⁹ ⁷⁰
- 3.21 Compared to no expansion, the Second Runway scheme at Gatwick would add 15,000 flights and 10 million passengers by 2040, across the UK as a whole, increasing to 77,000 and 23 million respectively in 2050. The Government project that 8,000 of these additional flights would be long haul in 2040, rising to 17,000 in 2050.⁷¹ Gatwick Airport has recently been successful in securing a number of long haul routes to the USA and Canada from low cost carriers, a new market segment.
- 3.22 As set out above, the ease with which businesses can move staff around the globe is an important facilitator of trade and for businesses locating and remaining in the UK. The broader range and greater frequency of long haul flights at Heathrow Airport best meets this need. It would deliver benefits for UK passengers (both business and leisure) by allowing them to travel to more destinations flexibly. These benefits include the additional frequency of flights, for example connecting the UK to long haul destinations daily instead of weekly, or several times a day instead of daily. Businesses from across the UK currently take advantage of Heathrow Airport's international connections, and will continue to benefit from these following expansion. In particular, the additional capacity delivered at Heathrow Airport will support growth

⁶⁷ CAA, 2016

⁶⁸ An important uncertainty to the central estimates concerns the forecasts of future aviation demand and allocation across UK airports. The Airports Commission reflected this uncertainty using five demand scenarios, as well as two carbon policy regimes. The Department for Transport has further considered uncertainty through the use of low, central and high demand scenarios. Further uncertainty arises from the choice of individual modelling assumptions. More information on the Airports Commission's scenarios and sensitivity analysis, can be found in the *Further Review and Sensitivities Report*. More information on the department's 2017 scenarios and sensitivity analysis can be found in the Updated Appraisal Report

⁶⁹ *Updated Appraisal Report*, p14 and 17. This number includes all point to point and transfer passengers at UK airports, and refers to terminal passengers who are counted each time they land or take off at a UK airport. Further disaggregation is provided in the Updated Appraisal Report

⁷⁰ Due to the expected use of larger planes with higher load factors, the department's 2017 forecasts find smaller increases in ATMs are needed to deliver similar increases in passenger numbers. This is particularly evident for Gatwick, where load factors have increased notably over the past few years. Further information is provided in the Updated Appraisal Report

⁷¹ *Updated Appraisal Report*, p 14 and 17

in important sectors of the UK economy, including tourism, financial services, and the creative industries.

- 3.23 The aviation sector can also boost the wider economy by providing more opportunities for trade through air freight. The time-sensitive air freight industry, and those industries that use air freight, benefit from greater quantity and frequency of services, especially long haul. By providing more space for cargo, lowering costs, and by the greater frequency of services, this should in turn provide a boost to trade and GDP benefits.⁷²
- 3.24 As set out above, expansion at Heathrow Airport delivers the biggest boost in long haul flights, and the greatest benefit therefore to air freight. This is further facilitated by the existing and proposed airport development of freight facilities as part of the Northwest Runway scheme. Heathrow Airport currently has a substantial freight handling operation, around 20 times larger by tonnage⁷³ than that at Gatwick Airport, and accounting for 34% of the UK's non-European Union trade by value – around 170 times more than Gatwick Airport.⁷⁴ Expansion at Heathrow Airport will further strengthen the connections of firms from across the UK to international markets.

Passenger and wider economic benefits

- 3.25 Without expansion, passengers and other users of airports are likely to suffer from higher fares and more delays. High demand for air travel at airports with limited or no scope for increased capacity could weaken competition, allowing airlines to charge higher fares. As airports fill up and operate at full capacity, there is little resilience to deal with any disruption, leading to delays.
- 3.26 Expansion via the Heathrow Northwest Runway scheme is best placed to address this need. Heathrow Airport is currently the busiest two runway airport in the world, already operating at full capacity, with substantial pent up demand from passengers and airlines. Expansion at Heathrow Airport would increase the availability of services, and increase competition between airlines. This would lower fares that passengers can expect to face relative to no expansion, leading to significant benefits to business and leisure passengers and the wider economy. Crucially, the extent of the pent up demand at Heathrow Airport means that these benefits will be experienced more rapidly once the new capacity is operational, with both Heathrow schemes providing more passenger benefits by 2050 than the Gatwick Second Runway scheme, and with total benefits (not including wider trade benefits) of up to £74 billion over 60 years for the Northwest Runway scheme.⁷⁵ ⁷⁶ These benefits are expected to be realised by passengers across the UK as they make use of the additional services provided by the expanded airport. Cumulative benefits delivered by a Northwest Runway scheme remain highest throughout most of the appraisal period, until the mid-2070s, although total benefits are slightly lower than would be delivered by Gatwick expansion over the full 60 year assessment.⁷⁷
- 3.27 The Government also recognises the role airports can play in supporting wider economic growth in the local community. Expansion at Heathrow Airport is expected to result in larger benefits to the wider economy than expansion at Gatwick Airport. These additional benefits come from workers moving to more productive jobs around the expanded airport as well as the productivity benefits from firms who will enjoy lower aviation transport costs. Heathrow Airport already has a more developed cluster

⁷² Updated Appraisal Report, p16

⁷³ <https://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-airport-data/Airport-data-2016/>

⁷⁴ HMRC, 2016, <https://www.uktradeinfo.com/Statistics/BuildYourOwnTables/Pages/Home.aspx>

⁷⁵ For clarity of presentation, only the central demand scenario estimate is presented here. This value is the same for the department's carbon-traded and carbon-capped scenarios – see the Updated Appraisal Report for further details

⁷⁶ This includes passenger benefits to UK residents, non-UK residents and international-to-international interliners

⁷⁷ Updated Appraisal Report, p45

of businesses in its surrounding area, which should enable an even larger economic boost from expansion in the local economy.⁷⁸

- 3.28 Expansion via the Heathrow Northwest Runway scheme should deliver additional jobs at the airport, through its supply chain and in the local community. The Heathrow Northwest Runway scheme is expected to generate up to 114,000 additional jobs in the local area by 2030,⁷⁹ with Heathrow Airport also pledging to provide 5,000 additional apprenticeships by this time. The number of local jobs created at an expanded Heathrow Airport is predicted to be much greater than at Gatwick Airport (up to 21,000 by 2030 and 60,000 by 2050),⁸⁰ and the jobs would also be created more quickly. The numbers are higher at Heathrow Airport because the additional capacity is forecast to be used more quickly following expansion and, importantly, because the types of services offered at an expanded Heathrow Airport are likely to be more complex, particularly with the greater number of full service airlines operating there.
- 3.29 Expansion brings a wide set of non-monetised benefits such as local job creation, trade, and freight benefits, which indicate a stronger case for a Heathrow scheme than for the Gatwick Second Runway scheme.⁸¹

Domestic connectivity

- 3.30 The Government recognises the importance that the nations and regions of the UK attach to domestic connectivity, particularly connections into Heathrow Airport. Airports across the UK provide a vital contribution to the economic wellbeing of the whole of the UK. Without expansion, there is a risk that, as airlines react to limited capacity, they could prioritise routes away from domestic connections. The Government therefore sees expansion at Heathrow Airport as an opportunity to not only protect and strengthen the frequency of existing domestic routes, but to secure new domestic routes to the benefit of passengers and businesses across the UK.
- 3.31 Passengers from across the UK are likely to benefit from the improved international connectivity provided by expansion. In 2040, 5.9 million additional passengers from outside London and the South East are forecast to make one way international journeys⁸² from Heathrow Airport. Under a Gatwick Second Runway scheme, 3.8 million additional passengers from outside London and the South East would be forecast to make one way international journeys from Gatwick Airport in 2040. By way of comparison, under a Heathrow Extended Northern Runway scheme, 4.6 million additional passengers from outside London and the South East would be forecast to make one way international journeys from Heathrow Airport in 2040. While expansion will also see some displacement of passengers from regional airports to the London system, overall regional airports are expected to continue displaying strong growth in passenger numbers by 2050.⁸³
- 3.32 An expanded Heathrow Airport should therefore mean that more passengers from across the UK are likely to benefit from lower fares and access to important international markets from the airport.
- 3.33 The Government expects to see expansion at Heathrow Airport driving an increase in the number of UK airports with connections specifically into the airport. Heathrow

⁷⁸ Updated Appraisal Report, p27

⁷⁹ Updated Appraisal Report, p29

⁸⁰ Ibid.

⁸¹ Updated Appraisal Report, p42

⁸² Defined as any passenger who travels to (or from) an international destination from a region outside of London and the South East, and uses the expanded airport as part of this journey. A one-way journey is counted as either an outbound or an inbound journey. Return passengers are therefore counted twice.

⁸³ Updated Appraisal Report, p20

Airport and Gatwick Airport set out plans on domestic connectivity which they say they could deliver by 2030:

- at least 14 domestic routes for Heathrow Airport, compared to the eight routes currently in operation; and
- at least 12 domestic routes for Gatwick Airport, compared to the six currently offered.⁸⁴

The following table provides examples of potential domestic routes:⁸⁵

Heathrow Airport under expansion in 2030⁸⁶	Gatwick Airport under expansion in 2030
<p>8 domestic routes operating today (Aberdeen, Belfast City, Edinburgh, Glasgow, Inverness, Leeds Bradford, Manchester, Newcastle)</p> <p>plus Belfast International, Durham Tees Valley, Humberside, Liverpool, Newquay, Prestwick</p> <p>Total: 14</p>	<p>6 domestic routes operating today (Aberdeen, Belfast International, Edinburgh, Glasgow, Inverness, Newquay)</p> <p>plus Belfast City, Derry-Londonderry, Dundee, Leeds Bradford, Manchester, Newcastle</p> <p>Total: 12</p>

Government expectation on domestic connectivity

3.34 The Government recognises that air routes are in the first instance a commercial decision for airlines and are not in the gift of an airport operator. But the Government is determined that new routes will be secured, and will hold Heathrow Airport to account on this. The Government requires Heathrow Airport to demonstrate it has worked constructively with its airline customers to protect and strengthen existing domestic routes, and to develop new domestic connections, including to regions currently unserved.

Surface access links

3.35 To realise the benefits of expansion, passengers and users must have good access to the airport. On this basis Heathrow Airport has the advantage, because of its more accessible location and more varied surface access links.

3.36 Heathrow Airport already has good surface transport links to the rest of the UK. It enjoys road links via the M25, M4, M40 and M3, and rail links via the London Underground Piccadilly Line, Heathrow Connect, and Heathrow Express. In the future, it will connect to Crossrail, and link to HS2 at Old Oak Common. Plans are being developed for improved rail access: the proposed Western Rail Access could link the airport to the Great Western Main Line, and Southern Rail Access could join routes to the South Western Railway network and London Waterloo Station. This varied choice of road and rail connections makes Heathrow Airport accessible to both passengers

⁸⁴ The DfT 2017 aviation forecasts do not take account of the ability of airport levers to strengthen specific routes. Domestic routes proposed by promoters are therefore not included in the updated forecasts

⁸⁵ Table excludes UK Crown Dependencies

⁸⁶ Taken from promoter plans for domestic connections at Heathrow Airport and Gatwick Airport, compared to existing domestic connections at both airports. The Government would expect Heathrow Airport's plan to be broadly equivalent for the Extended Northern Runway proposal if it was taken forward

and freight operators in much of the UK, and provides significant resilience to any disruption.

- 3.37 Access to Gatwick relies on the M23 and the Brighton Main Line, which means it serves London well but makes it less convenient for onward travel to the rest of the UK. It is also less resilient than Heathrow Airport. Heathrow Airport has advantages over Gatwick Airport with its greater integration into the national transport network, benefitting both passengers and freight operators. It also currently has significantly larger freight operations than Gatwick Airport, around 20 times larger in terms of total tonnage⁸⁷ and around 170 times larger in terms of value.⁸⁸
- 3.38 The airport scheme promoters have pledged to meet the cost of surface access schemes required to enable a runway to open. For Gatwick Airport, this covers the full cost of the works (including the M23 and A23) needed to support expansion. The two Heathrow schemes would pay for the full cost of M25, A4 and A3044 works, as well as other local road works. They would make a contribution towards the cost of the proposed Western Rail Access and Southern Rail Access schemes. Improvements which are already underway, such as Thameslink and Crossrail, will be completed, and the Government has not assumed any change to these schemes' existing funding.
- 3.39 The majority of the surface access costs where a split of beneficiaries is expected (for example, where multiple businesses and the public at large benefit from a new road junction or rail scheme) are likely to be borne by Government, where the schemes provide greater benefits for non-airport users. The airport contribution would be subject to a negotiation, and review by regulators.
- 3.40 Because of the early stages of development, there is some variability of surface access costs, which are subject to more detailed development and, for example, choices over precise routes. The additional public expenditure effects of the options would likely be as follows:
- For both Heathrow proposals, there is no Government road spend directly linked to expansion; the promoter would pay for changes to the M25, A4 and A3044 and any local roads. The Western and Southern Rail schemes are at different levels of development and the cost estimates will change as these schemes are developed. The Government would expect the costs of the schemes to be partly offset by airport contributions, which would be negotiated when the schemes reach an appropriate level of development.
 - For the Gatwick proposal, there would be no additional public expenditure solely because of expansion, as all road enhancement costs for airport expansion would be met by the scheme promoter. The Government has assumed that any improvements to the Brighton Main Line that may be required would take place regardless of expansion and would be publicly funded.

Views and support of airlines, regional airports and the business community

- 3.41 The benefits of expansion will be delivered only if airlines and the industry choose to use the new capacity, and pay for it via airport charges. There is much greater airline support for expansion via the Heathrow Northwest Runway scheme than the other two schemes, subject to various concerns being met, for example on costs.
- 3.42 The majority of regional airports who have stated a public preference support expanding Heathrow Airport, on the basis of its current status as the UK's hub (though

⁸⁷ <https://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-airport-data/Airport-data-2016/>

⁸⁸ <https://www.uktradeinfo.com/Statistics/BuildYourOwnTables/Pages/Home.aspx>

Birmingham Airport has supported expansion at Gatwick Airport). This support is driven by airports' considerations on connectivity and other commercial issues.

- 3.43 Expansion is critical for business confidence in the UK. The Heathrow Northwest Runway scheme has strong support from the wider business community across the whole of the UK, including from the Confederation of British Industry,⁸⁹ the British Chambers of Commerce,⁹⁰ the Federation of Small Businesses,⁹¹ the manufacturers' organisation EEF,⁹² and regional business groups across the UK. 61% of the directors asked by the Institute of Directors stated that their preference was for expansion at Heathrow Airport, compared to 39% who favoured expansion at Gatwick Airport.⁹³

Financeability

- 3.44 While the Gatwick Second Runway scheme would be significantly cheaper than the two schemes at Heathrow, with the Heathrow Northwest Runway the most expensive of the three shortlisted schemes, all three are private sector schemes which the Government believes could be financeable without Government support.⁹⁴
- 3.45 The level of debt and equity required for the Gatwick Second Runway scheme would be significantly lower than for the Heathrow schemes, but the Airports Commission noted that the Gatwick Second Runway scheme would have comparatively higher demand risk, which is harder for Government to mitigate compared to the Heathrow schemes.⁹⁵ Both Heathrow schemes build on a strong track record of proven demand that has proven resistant to economic downturns. Independent financial advisers have undertaken further work for the Government, and agree that all three schemes are financeable without Government support.

Deliverability and safety

- 3.46 The three shortlisted schemes involve different levels of delivery risk. Gatwick Airport said its Second Runway scheme is capable of being delivered by 2025, while Heathrow Airport said its Northwest Runway scheme is capable of being delivered by 2026. The Gatwick Second Runway scheme would be much simpler to build. The process for delivering powers for the Heathrow schemes will be more complex because the schemes themselves are more complex. The delivery dates for both Heathrow schemes are therefore likely to be more risky than that for the scheme at Gatwick.
- 3.47 The Airports Commission worked with the Civil Aviation Authority and NATS Holdings to review the operational and airspace implications of all three shortlisted schemes, including conducting fast-time simulation modelling of the proposed airspace routes. This work concluded that, while safely managing the expected increase in air traffic for any scheme will be challenging, it should nevertheless be achievable given modernisation of airspace in the South East of England and taking advantage of new technologies – changes which will be necessary with or without expansion.
- 3.48 The Airports Commission also asked the Health and Safety Laboratory (HSL) to review the scale of increase in crash risk associated with each of the schemes. This review considered two risks: the background risk, which accounts for aircraft cruising in UK airspace, and an airfield crash rate, relating to aircraft taking off and landing at a

⁸⁹ <http://mediacentre.heathrow.com/pressrelease/details/81/Expansion-News-23/4789>

⁹⁰ <http://www.britishchambers.org.uk/press-office/press-releases/bcc-while-britain-dithers-on-aviation,-others-do.html>

⁹¹ <https://www.fsb.org.uk/media-centre/press-releases/heathrow-s-third-runway-sends-clear-signal-britain-is-open-for-business>

⁹² <https://www.eef.org.uk/about-eef/media-news-and-insights/media-releases/2016/oct/eef-comment-on-heathrow-expansion>

⁹³ <https://www.iod.com/news-campaigns/news/articles/Business-leaders-welcome-Airports-Commission-recommendations>

⁹⁴ The Airports Commission estimated capital costs at £9 billion for the Gatwick Second Runway scheme, £14.4 billion for the Heathrow Extended Northern Runway Scheme, and £17.6 billion for the Heathrow Northwest Runway scheme, not including surface access costs

⁹⁵ *Airports Commission: Final Report*, p270

specific airfield.⁹⁶ This review concluded that “the changes to the background crash risk are minimal regardless of whether or not expansion takes place at the airports.”⁹⁷ In addition the increase in airfield crash risks for both airports was proportionate to the additional number of flights anticipated, meaning that the “scenario for Heathrow with the highest crash rates represents an increase of 60% in the crash rate compared to 2013. At Gatwick Airport, the crash rate is more than doubled in the scenario with the highest rates.”⁹⁸ As noted by HSL, “there is a high level of uncertainty in the calculated crash rates” due to the limited number of previous incidents to assess. Of the over 36 million aircraft movements examined by HSL that are of relevance to either Heathrow or Gatwick’s airfield crash risk, only three resulted in accidents.⁹⁹ The Civil Aviation Authority conducted a preliminary safety assessment of the schemes and concluded that the schemes were feasible in principle from a safety perspective.¹⁰⁰

Local environmental, health and community impacts

- 3.49 Decisions on airport capacity must rightly balance local, environmental and social considerations against the national and local benefits stemming from expansion. As set out above, in terms of economic and strategic benefits, expansion via the Heathrow Northwest Runway scheme best meets the need for additional capacity in the South East of England. However, set against these positive impacts, airport expansion can also have negative impacts. For example, all three schemes will have significant impacts on the environment and local communities.
- 3.50 The Appraisal of Sustainability presents an assessment of the likely environmental, social and economic impacts of all three schemes. The Health Impact Analysis also presents an assessment of the health impacts. The following discussion of assessments of the three schemes considers the impacts of expansion without the benefits of the mitigation package put forward by scheme promoters or required by the Government under this NPS. The *Updated Appraisal Report* monetises, where possible, the air quality, noise and carbon impacts affecting people from each of the three schemes. These monetised values are small relative to the size of the monetised economic benefits of each scheme over the 60-year appraisal period. The Appraisal of Sustainability shows that, while all three schemes are expected to lead to a reduction in air quality and increased noise (without consideration of potential mitigations of the three schemes), the Gatwick Second Runway scheme would have a lower level of adverse effects relating to noise and air quality than either scheme at Heathrow. All three schemes will have an impact on the natural environment, including biodiversity, water and landscape. Negative effects upon quality of life, health and amenity were assessed, when unmitigated, to be of a greater magnitude for the two Heathrow expansion schemes and of a lower magnitude for the Gatwick Second Runway scheme. This is primarily because Gatwick Airport is in a more rural location, with fewer people impacted by the airport. The Appraisal of Sustainability also outlines measures to mitigate these local impacts to ensure that legal obligations will be met.

⁹⁶ *Operational Efficiency: Ground Risk Analysis*, Health and Safety Laboratory, p3
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/437269/operational-efficiency-ground-risk-analysis.pdf

⁹⁷ *Operational Efficiency: Ground Risk Analysis*, Health and Safety Laboratory, pvi
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/437269/operational-efficiency-ground-risk-analysis.pdf

⁹⁸ *Operational Efficiency: Ground Risk Analysis*, Health and Safety Laboratory, p15
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/437269/operational-efficiency-ground-risk-analysis.pdf

⁹⁹ *Operational Efficiency: Ground Risk Analysis*, Health and Safety Laboratory, p9
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/437269/operational-efficiency-ground-risk-analysis.pdf

¹⁰⁰ *Airports Commission: Final report*, p243

As set out below, the Government believes this demonstrates how the commitment to ensure that local impacts of expansion will be mitigated satisfactorily can be met.

- 3.51 Heathrow Airport has committed to ensuring its landside airport-related traffic is no greater than today. The airport will be expected to achieve a public transport mode share of at least 50% by 2030, and at least 55% by 2040, for passengers.
- 3.52 The Government agrees with the evidence set out by the Airports Commission that expansion at Heathrow Airport is consistent with the UK's climate change obligations.¹⁰¹
- 3.53 The Appraisal of Sustainability identifies that, in addition to changes due to local noise and air quality impacts, communities may be affected by airport expansion through loss of, and/or additional demand for housing, community facilities or services, including recreational facilities. In addition, there will be effects on parks, open spaces and the historic environment, which will affect the quality of life of local communities which benefit from access to these facilities and features. These effects will be of a higher magnitude for the two Heathrow expansion schemes and a lower magnitude for Gatwick Second Runway. Overall, each of the three schemes is expected to have negative impacts on local communities, with more severe impacts expected from the Heathrow schemes. Impacts of all three schemes will not be felt equally across social groups. Equality impacts are set out in chapter four.
- 3.54 The Heathrow Northwest Runway scheme will be accompanied by a package of measures to mitigate the impact of airport expansion on the environment and affected communities.¹⁰² The Government agrees with the Airports Commission's conclusion that "to make expansion possible...a comprehensive package of accompanying measures [should be recommended to] make the airport's expansion more acceptable to its local community, and to Londoners generally".¹⁰³ This is expected to include a highly valued scheduled night flight ban of six and a half hours between 11pm and 7am (with the exact start and finish times to be determined following consultation), and the offer of a predictable, though reduced, period of respite for local communities.
- 3.55 To mitigate environmental and social impacts, Heathrow Airport and Gatwick Airport both announced compensation packages (covering residential property acquisition, noise insulation, and other community measures like funding for schools), of more than £1 billion at Heathrow Airport and more than £200 million at Gatwick Airport (over 15-20 years from 2020). Heathrow Airport's package reflects the much greater number of people affected in the local area.

Heathrow Northwest Runway and Heathrow Extended Northern Runway

- 3.56 The Heathrow Extended Northern runway scheme has two advantages over the Heathrow Northwest Runway scheme: lower capital costs (£14.4 billion for the Extended Northern Runway scheme compared to £17.6 billion for the Northwest Runway scheme), and significantly fewer houses being demolished (242 rather than 783), as well as avoiding impacts on a number of commercial properties.

¹⁰¹ <https://www.gov.uk/government/publications/airport-expansion-dft-review-of-the-airports-commissions-final-report> *Review of the Airports Commission Final Report*, p19

¹⁰² By way of comparison, the Government engaged Ernst & Young to prepare a report on the approaches taken by other international airports in addressing the local impacts of the airport - <https://www.gov.uk/government/publications/airport-expansion-global-comparison-of-airport-mitigation-measures>

¹⁰³ *Airports Commission: Final Report*, p4

- 3.57 However, the Government made a preference for the Heathrow Northwest Runway based on a number of factors:
- Resilience;
 - Respite from noise for local communities; and
 - Deliverability.
- 3.58 The Heathrow Northwest Runway scheme would provide respite by altering the pattern of arrivals and departures across the runways over the course of the day to give communities breaks from noise. However, respite would decrease from one half to one third of the day. The Heathrow Extended Northern Runway scheme has much less potential for respite. It would use both runways for arrivals and departures for most of the day, although it may be able to ‘switch off’ one runway for a short time during non-peak periods with a corresponding reduction in capacity.¹⁰⁴
- 3.59 The Heathrow Northwest Runway scheme should provide greater resilience than the Heathrow Extended Northern Runway scheme because of the way the three separate runways could operate more flexibly when needed to reduce delays, and the less congested airfield. It delivers greater capacity (estimated on a like for like basis by the Airports Commission at 740,000 flights departing and arriving per annum compared to the Extended Northern Runway scheme at 700,000),¹⁰⁵ accordingly higher economic benefits, and a broader route network. It also provides greater space for commercial development, which could be used to enhance onsite freight capacity.
- 3.60 The Airports Commission assessed the Heathrow Extended Northern Runway scheme to be deliverable.¹⁰⁶ However, the Extended Northern Runway scheme has no direct global precedent. As such, there is greater uncertainty as to what measures may be required to ensure that the airport can operate safely, and what the impact of those measures may be, including the restriction on runway capacity.

Carbon emissions

- 3.61 Although not a differentiating factor between the three shortlisted schemes, the Government has considered the issue of carbon emissions, given the Government’s commitment to tackle climate change, and its legal obligations under the Climate Change Act 2008.
- 3.62 The Airports Commission identified carbon impacts from expansion in four areas: a net increase in air travel; airside ground movements and airport operations; changes in travel patterns as a result of the scheme’s surface access arrangements; and construction of new infrastructure. Emissions from air travel, specifically international flights, are by far the largest of these impacts.¹⁰⁷
- 3.63 To address uncertainties over the future policy treatment of international aviation emissions,¹⁰⁸ the Airports Commission used two carbon policy scenarios in its analysis.
- 3.64 The first was a ‘carbon capped’ scenario, in which emissions from the UK aviation sector are limited to the Committee on Climate Change’s planning assumption for the

¹⁰⁴ *Airports Commission: Final Report*, pp180-184

¹⁰⁵ *Airports Commission: Final Report*, p29

¹⁰⁶ *Airports Commission: Final Report*, p236

¹⁰⁷ Intra-UK flights account for approximately 6% of the total emissions from all flights departing UK airports. These emissions are included in the UK’s carbon budgets

¹⁰⁸ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/186683/aviation-and-climate-change-paper.pdf *Airports Commission: discussion paper 03: aviation and climate change*, pp12-16

sector of 37.5 million tonnes of carbon dioxide in 2050. The second was a 'carbon traded' scenario, in which emissions are traded as part of a global carbon market, allowing reductions to be made where they are most efficient across the global economy.

- 3.65 The Airports Commission then assessed whether the needs case could be met under each of these scenarios, that is whether expansion would still deliver the necessary improvements and provide benefits to passengers and the wider economy. The Government has updated this analysis to take account of the latest passenger demand forecasts.
- 3.66 This further analysis reinforces the conclusion that any one of the three shortlisted schemes could be delivered within the UK's climate change obligations, as well as showing that a mix of policy measures and technologies could be employed to meet the Committee of Climate Change's planning assumption.¹⁰⁹
- 3.67 Of the three shortlisted schemes, the Heathrow Northwest Runway scheme produces the highest carbon emissions in absolute terms. However, this is in part due to the greater additional connectivity provided by the scheme, and, in relation to the increase in emissions caused by expansion under any of the schemes, the differences between the schemes are small. Both of the carbon policy scenarios incorporated measures to ensure that the increased emissions from any of the shortlisted schemes were not additional overall either at the global level (in the carbon traded case) or at the UK level (in the carbon capped case).
- 3.68 The further analysis also shows that, in both carbon policy scenarios, the Heathrow Northwest Runway scheme would deliver significant benefits to passengers and the wider economy (such as lower fares, improved frequency and higher productivity), and would do so more quickly than the Gatwick Second Runway scheme. Both Heathrow schemes provide more passenger benefits by 2050 than the Gatwick Second Runway scheme.
- 3.69 The Government has considered this further analysis, and concludes both that expansion via a Northwest Runway at Heathrow Airport (as its preferred scheme) can be delivered within the UK's carbon obligations, and that the scheme is the right choice on economic and strategic grounds regardless of the future regime to deal with emissions from international aviation.¹¹⁰

Strategic environmental assessment

- 3.70 Strategic environmental assessments are required by the law. A strategic environmental assessment is set out in full in the Appraisal of Sustainability.¹¹¹ It demonstrates that airport expansion will attract additional air traffic, which impacts upon quality of life and wellbeing, in particular through noise, air quality, housing, community facilities, and access to nature and cultural heritage. Negative impacts upon quality of life were of a greater scale within the two Heathrow schemes and of lower magnitude for the Gatwick Second Runway scheme. However, when assessing against the objective of maximising economic benefits and improving competitiveness and employment, the Heathrow Northwest Runway scheme generates the most benefits, as well as producing the highest direct benefits to passengers.

¹⁰⁹ Updated Appraisal Report, p36

¹¹⁰ Updated Appraisal Report, p35 and p42

¹¹¹ <https://www.gov.uk/government/publications/appraisal-of-sustainability-for-the-revised-draft-airports-national-policy-statement>

Conclusion

- 3.71 This section summarises the factors the Government considered when evaluating each of the three schemes shortlisted by the Airports Commission against the needs case presented in chapter 2. As part of this, the Government identified where schemes could have negative impacts, for example on the local environment. It considered the predicted beneficial effects of the three schemes, particularly in relation to the needs case and economic considerations. It also assessed how the schemes could conform to wider Government strategic objectives and meet legal obligations, for example on air quality. Bringing these considerations together, the Government's decision on a preferred scheme balances this range of factors, enabling it to determine which scheme, overall, is the most effective and appropriate means of meeting the needs case and maintaining the UK's hub status in particular.
- 3.72 The Appraisal of Sustainability provides an assessment of the schemes against a number of the factors considered in this chapter. It concludes that the Heathrow Northwest Runway scheme is best placed to maximise the monetised economic benefits that the provision of additional airport capacity could deliver in the short term, although this scheme is likely to do so with the greatest negative impact on local communities. However, the Appraisal of Sustainability also identifies measures which can help to mitigate these impacts, for example by reducing noise, ensuring that the development is in accordance with legal obligations on air quality, showing how future carbon targets could be met, and assessing future demand scenarios.
- 3.73 Building on this assessment, the Government has identified a number of attributes in the manner of strategic effects, which it believes only the preferred scheme is likely to deliver to meet the overall needs case for increased capacity in the South East of England and to maintain the UK's hub status. The Government has afforded particular weight to these:
- Expansion via the Heathrow Northwest Runway scheme would provide the biggest boost to connectivity, particularly in terms of long haul flights. This is important to a range of high value sectors across the economy in the UK which depend on air travel, as well as for air freight. It will enable more passengers to fly where they need to, when they need to.
 - Expansion via the Heathrow Northwest Runway scheme would provide benefits to passengers and to the wider economy sooner than the other schemes. This is regardless of the technical challenges to its delivery. It would also provide the greatest boost to local jobs.
 - Heathrow Airport is better connected to the rest of the UK by road and rail. Heathrow Airport already has good road links via the M25, M4, M40 and M3, and rail links via the London Underground Piccadilly Line, Heathrow Connect and Heathrow Express. In the future, it will be connected to Crossrail, and linked to HS2 at Old Oak Common. The number of such links provides resilience.
 - 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 handles more freight by value than all other UK airports combined, and twice as much as the UK's two largest container ports.
- 3.74 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 soonest 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. Taken together, benefits to passengers and the wider economy are substantial, even having regard to the proportionally greater environmental disbenefits estimated for the Heathrow Northwest Runway. Even though the preferred scheme's environmental disbenefits are larger than those of the Gatwick Second Runway scheme, when all benefits and disbenefits are considered together,¹¹² overall the Heathrow Northwest Runway scheme is considered to deliver the greatest net benefits to the UK.

3.75 A number of mitigation measures will need to be applied to reduce the impacts of the Heathrow Northwest Runway scheme felt by the local community and the environment. Airport expansion is also expected to be accompanied by an extensive and appropriate compensation package for affected parties. With these safeguards in place, the Government considers that the Heathrow Northwest Runway scheme delivers the greatest strategic and economic benefits, and is therefore the most effective and appropriate way of meeting the needs case.

¹¹² Updated Appraisal Report, p44

4. Assessment principles

General principles of assessment

- 4.1 The statutory framework for deciding applications for development consent is contained in the Planning Act 2008. This chapter of the Airports NPS sets out general policies in accordance with which applications relating to a Northwest Runway at Heathrow Airport are to be decided. This chapter is specific to assessments necessary for the Heathrow Northwest Runway scheme, but is not exhaustive as to the assessments that may be applicable to that scheme.
- 4.2 The Airports NPS covering the Heathrow Northwest Runway scheme establishes the needs case for that proposed development, provided it adheres to the detailed policies and protections set out in the Airports NPS, and the legal constraints contained within the Planning Act 2008. The statutory framework for deciding nationally significant infrastructure project applications where there is a relevant designated NPS is set out in section 104 of the Planning Act 2008.¹¹³
- 4.3 The Airports NPS applies to schemes at Heathrow Airport (in the area shown, for this purpose, illustratively, within the scheme boundary map at Annex A) that include a runway of at least 3,500m in length and that are capable of delivering additional capacity of at least 260,000 air transport movements per annum, and associated infrastructure and surface access facilities. In particular, it also applies to the reconfiguration of and provision of new terminal capacity to be located between the two existing runways at Heathrow Airport. The Secretary of State's policy in relation to other airport infrastructure in the South East of England is set out at paragraph 1.41 above.
- 4.4 In considering any proposed development, and in particular when weighing its adverse impacts against its benefits, the Examining Authority and the Secretary of State will take into account:
 - Its potential benefits, including the facilitation of economic development (including job creation) and environmental improvement, and any long term or wider benefits; and
 - Its potential adverse impacts (including any longer term and cumulative adverse impacts) as well as any measures to avoid, reduce or compensate for any adverse impacts.
- 4.5 In this context, environmental, safety, social and economic benefits and adverse impacts should be considered at national, regional and local levels. These may be identified in the Airports NPS, or elsewhere. The Secretary of State will also have regard to the manner in which such benefits are secured, and the level of confidence in their delivery.

¹¹³ Planning Act 2008, section 104 – decisions in cases where an NPS has effect

- 4.6 The National Networks NPS sets out the Government's policies to deliver development of nationally significant infrastructure projects on the national road and rail networks and strategic rail freight interchanges. It provides planning guidance for promoters of nationally significant infrastructure projects on the road and rail networks, and the basis for the examination by the Examining Authority and decisions by the Secretary of State.
- 4.7 Where the applicant's proposals in relation to surface access meet the thresholds to qualify as nationally significant infrastructure projects under the Planning Act 2008, or is associated development under section 115 of the Planning Act 2008, the Secretary of State will consider those aspects by reference to both the National Networks NPS and the Airports NPS, as appropriate. To the extent that discrete aspects of the surface access proposals do not qualify as nationally significant and cannot be included in a development consent application as associated development (for example), the applicant will be expected to pursue or secure necessary consent(s) through the most appropriate alternative consenting regime. This might include, for example, the Town and Country Planning Act 1990, the Highways Act 1980, or the Transport and Works Act 1992, promoted by a third party if need be.
- 4.8 The Secretary of State will consider any relevant nationally significant road and rail elements of the applicant's proposals in accordance with the National Networks NPS and with the Airports NPS. If there is conflict between the Airports NPS and other NPSs, the conflict should be resolved in favour of the NPS that has been most recently designated. The Airports NPS and the National Networks NPS may also be a material consideration in decision making on applications for road and rail schemes associated with or related to the preferred scheme that fall under the Town and Country Planning Act 1990, the Transport and Works Act 1992, or other legislation relating to planning. Whether, and to what extent, the Airports NPS and the National Networks NPS are a material consideration will be judged on a case by case basis by the relevant decision makers.
- 4.9 The Examining Authority should only recommend, and the Secretary of State will only impose, requirements in relation to a development consent, that are necessary, relevant to planning, relevant to the development to be consented, enforceable, precise, and reasonable in all other respects.¹¹⁴ The need for requirements in respect of the phasing of the scheme is likely to be an important consideration, so that effects of construction and operational phases are properly mitigated, as well as any changes in the operations of the airport that may occur in line with the phasing of physical works and commencement of operations. Guidance on the use of planning conditions or any successor to it should be taken into account where requirements are proposed.
- 4.10 Obligations under section 106 of the Town and Country Planning Act 1990 should only be sought where they are necessary to make the development acceptable in planning terms, (including where necessary to ensure compliance with the Airports NPS), directly related to the proposed development, and fairly and reasonably related in scale and kind to the development.¹¹⁵

Scheme variation

- 4.11 While the Government has decided that a Northwest Runway at Heathrow Airport is its preferred scheme to deliver additional airport capacity (an illustrative masterplan is at

¹¹⁴ National Planning Policy Framework, March 2012, paragraph 206, or any successor document

¹¹⁵ Town and Country Planning Act 1990, section 106; Regulation 122(2) Community Infrastructure Levy Regulations 2010; National Planning Policy Framework, March 2012, paragraph 204

Annex B of the Airports NPS), this does not limit variations resulting in the final scheme for which development consent is sought. To benefit from the full support of policy within the Airports NPS, any application(s) will have to fall within the boundaries and parameters set out in the Airports NPS. However, the form of a development for which an application is made is a matter for the applicant. The Airports NPS does not prejudice the viability or merits of any particular application, detailed scheme or applicant. It governs the location, limits and nature of such schemes. It will be for an Examining Authority, and ultimately the Secretary of State, to determine whether any future application is compliant with the Airports NPS, meets the need for additional capacity, and is of benefit to the UK, whilst minimising any harm caused.

Environmental Impact Assessment

- 4.12 All proposals for projects that are subject to the European Union's Environmental Impact Assessment Directive,¹¹⁶ and are likely to have significant effects on the environment, must be accompanied by an environmental statement, describing the aspects of the environment likely to be significantly affected by the project.¹¹⁷ The Directive specifically requires an Environmental Impact Assessment to identify, describe and assess effects on human beings, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage, and the interaction between them. Schedule 4 to the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017¹¹⁸ sets out the information that should be included in the environmental statement. This includes a description of the likely significant effects of the proposed project on the environment, covering the direct effects and any indirect, secondary, cumulative, short-, medium- and long-term, permanent and temporary, positive and negative effects of the project, and also the measures envisaged for avoiding or mitigating significant adverse effects.
- 4.13 When examining a proposal to which the Airports NPS applies, the Examining Authority should ensure that likely significant effects at all stages of the project have been adequately assessed. The effects of any changes in operations, including the number of air traffic movements, during the construction and operational phases must be properly assessed and appropriate mitigation secured for any significant effects. Any requests for environmental information not included in the original environmental statement should be proportionate and focus only on likely significant effects. In the Airports NPS, the terms 'effects', 'impacts' or 'benefits' should accordingly be understood to mean likely significant effects, impacts or benefits.
- 4.14 When considering significant cumulative effects, any environmental statement should provide information on how the effects of an applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been granted, as well as those already in existence if they are not part of the baseline).¹¹⁹
- 4.15 The Examining Authority should consider how significant cumulative effects, and the interrelationship between effects, might as a whole affect the environment, even

¹¹⁶ Directive 2014/52/EU of the European Parliament and of the Council amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment. The amendments to Directive 2011/92/EU made by Directive 2014/52/EU have been transposed into domestic legislation. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 have, subject to transitional arrangements, with amendments, consolidated the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 and various amending regulations

¹¹⁷ <http://www.legislation.gov.uk/ukxi/2017/572/contents/made>

¹¹⁸ Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (S.I. 2017/572)

¹¹⁹ The applicant should refer to the Planning Inspectorate's advice on assessing cumulative effects <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2015/12/Advice-note-17V4.pdf>

though they may be acceptable when considered on an individual basis or with mitigation measures in place.

- 4.16 In some instances it may not be possible at the time of the application for development consent for all aspects of the proposal to have been settled in precise detail. Where this is the case, the applicant should explain in its application which elements of the proposal have yet to be finalised, and the reasons why this is the case.
- 4.17 Effort should be made to refine the detail of the proposed development. However, where details are still to be finalised, such as in respect of the phasing of the development and operational changes at the airport, the applicant is advised to set out in the environmental statement the relevant design parameters used for the assessment. The environmental statement should explain, with reference to the parameters, what the maximum extent of the proposed development may be (for example in terms of site area) or the extent of change in respect of operational impacts, and assess the potential adverse effects which the project could have, to ensure that the impacts of the project as it may be constructed have been properly assessed.
- 4.18 Should the Secretary of State decide to grant development consent for an application where details are still to be finalised, this will need to be reflected in appropriate development consent requirements in the development consent order. It may be the case that development consent is granted for a proposal and, at a later stage, the applicant wishes (for technical or commercial reasons) to construct it in such a way that it is outside the terms of what has been consented, for example because its extent will be greater than has been provided for in terms of the consent. In this situation, it will be necessary for the applicant to apply for a change to be made to the development consent provided under the Planning Act 2008.

Habitats Regulations Assessment

- 4.19 Prior to granting development consent, the Secretary of State as competent authority must comply with the duties under the Conservation of Habitats and Species Regulations 2017. Under these regulations, if the competent authority considers that the proposed development is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and is not connected with or necessary to the management of that site, it must make an Appropriate Assessment of the implications for the site in view of the site's conservation objectives.¹²⁰ ¹²¹ The applicant should also refer to the Airports NPS sections on biodiversity, land use, and air quality. The competent authority must consult Natural England to ensure that impacts on European sites are adequately considered.
- 4.20 The applicant is required to provide sufficient information with their applications for development consent to enable the Secretary of State to carry out an Appropriate Assessment if required. This information should include details of any measures that are proposed to minimise or avoid any likely significant effects on a European site. The information provided may also assist the Secretary of State in concluding that an Appropriate Assessment is not required because significant effects on European sites

¹²⁰ This includes candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation and Special Protection Areas, and is defined in Regulation 8 of the Conservation of Habitats and Species Regulations 2017

¹²¹ Directive 2011/92/EU was amended in 2014 by Directive 2014/52/EU. As amended, Article 2(3) of the Directive provides that, where an obligation to assess environmental effects arises simultaneously from the EIA Directive and the Habitats Directive (Directive 92/43/EU) and/or the Wild Birds Directive (Directive 2009/147/EC), Member States "shall, where appropriate, ensure that coordinated and/or joint procedures" are provided for

are sufficiently unlikely that they can be excluded. If it is concluded there is likely to be a significant effect, or such effects cannot be ruled out (alone or in combination), an Appropriate Assessment is required.

- 4.21 If an Appropriate Assessment for a proposed airport development concludes that it is not possible to rule out an adverse effect on the integrity of a European site, the Habitats Directive permits a derogation, subject to the proposal meeting three tests. These tests are (a) that there are no less damaging alternative solutions, (b) that there are imperative reasons of overriding public interest for the proposal going ahead, and (c) that adequate and timely compensation measures will be put in place to ensure the overall coherence of the network of protected sites is maintained. At detailed design stage, and in so far as it may be necessary, the matters set out in the Airports NPS will be relevant to determining whether there are alternative solutions and imperative reasons of overriding public interest, provided that the design remains consistent with the objectives of the Airports NPS.
- 4.22 Where a development may negatively affect any priority natural habitat type or priority species,¹²² any imperative reasons of overriding public interest case would need to be established solely on one or more of the grounds relating to human health, public safety or beneficial consequences of primary importance to the environment. The competent authority may only rely on other (i.e. social or economic) imperative reasons of overriding public interest if it has first obtained an opinion from the European Commission.

Equalities

- 4.23 The Airports Commission's stated objective on equalities was "to reduce or avoid disproportionate impacts on any social group".¹²³ At consultation stage, the Airports Commission carried out a high level Equality Impact Assessment.
- 4.24 The Appraisal of Sustainability to the Airports NPS sets out an assessment of equalities impacts, informed by the work of the Airports Commission. The Airports Commission was clear that its assessment was based upon current scheme design, and that a more detailed Equality Impact Assessment would likely be necessary as design, supporting measures and operational plans were developed.
- 4.25 The Airports Commission's assessment identified different types of equalities impacts for each of its shortlisted schemes, but no substantial difference in the overall extent of equalities impacts. The Airports Commission's assessment, and the assessment carried out for the Appraisal of Sustainability that informs the Airports NPS, both concluded that negative equalities impacts could be well mitigated through good design and operation, and supporting measures and plans.
- 4.26 The Department for Transport has reviewed the Airports Commission's work, informed by the Equality Assessment carried out as part of the Appraisal of Sustainability. The Government is satisfied that the scope of the Airports Commission's work was appropriate at this stage of scheme development, that the Airports Commission's approach was consistent with the Equality Act 2010, and that its conclusion is consistent with the evidence produced.
- 4.27 For any application to be considered compliant with the Airports NPS, it must be accompanied by a project level Equality Impact Assessment examining the potential impact of that project on groups of people with protected characteristics. In order to

¹²² As listed in Annex I and II of the Habitats Directive

¹²³ *Airports Commission: Appraisal Framework*, p98

benefit from the support of the Airports NPS, the results of that project level Equality Impact Assessment must be within the legal limits and parameters of acceptability outlined in the Appraisal of Sustainability that informs the Airports NPS.

Assessing alternatives

- 4.28 The applicant should comply with all legal obligations and policy set out in the Airports NPS on the assessment of alternatives. In particular:
- The Environmental Impact Assessment Directive requires projects with significant environmental effects to include a description of the reasonable alternatives studied by the applicant which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the significant effects of the project on the environmental effects;
 - There may also be other specific legal obligations requiring the consideration of alternatives, for example, under the Habitats and Water Framework Directives; and
 - There may be policies in the Airports NPS requiring consideration of alternatives, for example the flood risk sequential test.

Criteria for 'good design' for airports infrastructure

- 4.29 The applicant should include design as an integral consideration from the outset of a proposal.
- 4.30 Visual appearance should be an important factor in considering the scheme design, as well as functionality, fitness for purpose, sustainability and cost. Applying 'good design' to airports projects should therefore produce sustainable infrastructure sensitive to place, efficient in the use of natural resources and energy used in their construction, and matched by an appearance that demonstrates good aesthetics as far as possible.
- 4.31 A good design should meet the principal objectives of the scheme by eliminating or substantially mitigating the adverse impacts of the development, for example by improving operational conditions. It should also mitigate any existing adverse impacts wherever possible, for example in relation to safety or the environment. A good design will also be one that sustains the improvements to operational efficiency for as many years as is practicable, taking into account capital cost, economics and environmental impacts.
- 4.32 Scheme design will be an important and relevant consideration in decision making. The Secretary of State will need to be satisfied that projects are sustainable and as aesthetically sensitive, durable, adaptable and resilient as they can reasonably be, having regard to regulatory and other constraints and including accounting for natural hazards such as flooding. The Secretary of State will also need to be satisfied that extant security, customs and immigration measures are maintained or reprovided.
- 4.33 The scheme should take into account, as far as possible, both functionality, including fitness for purpose and sustainability, and aesthetics, including the scheme's contribution to the quality of the area in which it would be located. The applicant will want to consider the role of technology in delivering new airports projects. Professional, independent advice on the design aspects of a proposal should be undertaken to ensure good design principles are embedded into infrastructure proposals.

- 4.34 There may be opportunities for the applicant to demonstrate good design in terms of siting and design measures relative to existing landscape and historical character and function, landscape permeability, landform, and vegetation.
- 4.35 The applicant should be able to demonstrate in its application how the design process was conducted and how the proposed design evolved. Where a number of different designs were considered, the applicant should set out the reasons why the favoured choice has been selected. The Examining Authority and Secretary of State will take into account the ultimate purpose of the infrastructure and bear in mind the operational, safety and security standards which the design has to satisfy.

Costs

- 4.36 The relationship between cost and affordability for a scheme is governed by the regulated funding of the airport and funding from other sources, and the need to comply with the Government's guidance on compulsory acquisition of land under the Planning Act 2008.¹²⁴ This guidance is relevant to any scheme that will require the compulsory acquisition of land, which is expected in relation to any scheme to which this NPS applies which would include any application for development consent for a Northwest Runway at Heathrow Airport. That guidance sets out what a promoter must demonstrate if it is to be granted powers of compulsory acquisition - including in relation to impediments to a scheme and financial resources.
- 4.37 Heathrow Airport is subject to economic regulation by the Civil Aviation Authority (CAA) under the Civil Aviation Act 2012. As part of the CAA's discharge of its duty under the Civil Aviation Act 2012 to further the interests of users of air transport services (passengers and cargo owners), the CAA has granted an economic licence to the operator of Heathrow Airport to levy airport charges. This licence sets a maximum yield per passenger that can be recovered by the operator of Heathrow Airport through airport charges (the "maximum yield"). This maximum yield is set by the CAA having conducted a process that scrutinises, among other things, the business plan submitted by the licence holder and developed through constructive engagement with the airlines, as well as other submissions from airlines and stakeholders. This process of scrutiny of costs will include benchmarking exercises from industry professionals and assessments by an Independent Fund Surveyor as well as by the CAA. Expansion will also be subject to specific gateway reviews by airlines and stakeholders. The final business plan will include details of the future capital expenditure that the licensee proposes to incur.
- 4.38 For the development of new capacity at Heathrow, the CAA will set the maximum yield having regard to the matters required by the Civil Aviation Act 2012. The CAA will consider, among other things:
- the need to secure that the licence holder is able to finance its provision of airport operation services; and
 - the economy and efficiency of the proposals set out in any business plan (including such capital expenditure proposals as are contained in it),
- as part of its process of setting the maximum yield per passenger in the period covered by the price control.

¹²⁴ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/236454/Planning_Act_2008_-_Guidance_related_to_procedures_for_the_compulsory_acquisition_of_land.pdf

- 4.39 The applicant should demonstrate in its application for development consent that its scheme is cost-efficient and sustainable, and seeks to minimise costs to airlines, passengers and freight owners over its lifetime.
- 4.40 Detailed scrutiny of any business plan put forward by the licence holder will fall under the CAA's regulatory process under the Civil Aviation Act 2012, and the detailed matters considered under that process are not expected to be scrutinised in the same way during the examination and determination of an application for development consent. The CAA is a statutory consultee for all proposed applications relating to airports or which are likely to affect an airport or its current or future operation. The applicant is expected to provide the CAA with the information it needs to enable it to assist the Examining Authority in considering whether any impediments to the applicant's development proposals, insofar as they relate to the CAA's economic regulatory and other functions, are capable of being properly managed.

Climate change adaptation

- 4.41 The Planning Act 2008 requires the Secretary of State to have regard to the desirability of mitigating, and adapting to, climate change in designating an NPS.¹²⁵
- 4.42 This section sets out how the Airports NPS puts Government policy on climate change adaptation into practice, and in particular how the applicant and the Secretary of State will take into account the effects of climate change when developing and considering airports infrastructure applications. Climate change mitigation is essential to minimise the most dangerous impacts of climate change, as previous global greenhouse gas emissions will already mean some degree of continued climate change for at least the next 30 years. Climate change is likely to mean that the UK will experience on average hotter, drier summers and warmer, wetter winters. There is potentially an increased risk of flooding, drought, heatwaves, intense rainfall events and other extreme events such as storms and wildfires, as well as rising sea levels.
- 4.43 Adaptation is therefore necessary to deal with the potential impacts of these changes that are already happening. New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the provision of green infrastructure.
- 4.44 The Government has published a set of UK Climate Projections, and every five years prepares a statutory UK Climate Change Risk Assessment and National Adaptation Programme.¹²⁶ In addition, the Climate Change Act 2008 adaptation reporting power has been used by Government to invite reporting authorities (a defined list of public bodies and statutory undertakers, including airports) to consider the impact on them of current and predicted climate change, and to report on progress implementing adaptation actions.¹²⁷ Successive strategies for adaptation reporting will be laid alongside five yearly updates to the National Adaptation Programme.
- 4.45 New airports infrastructure will typically be a long-term investment which will need to remain operational over many decades, in the face of a changing climate. Consequently, the applicant must consider the impacts of climate change when planning design, build and operation. Any accompanying environmental statement

¹²⁵ Planning Act 2008, section 10(3)(a)

¹²⁶ Climate Change Act 2008, section 58

¹²⁷ Climate Change Act 2008, section 62

should set out how the proposal will take account of the projected impacts of climate change.

- 4.46 Detailed consideration must be given to the range of potential impacts of climate change using the latest UK Climate Projections available at the time, and to ensuring any environmental statement that is prepared identifies appropriate mitigation or adaptation measures. This should cover the estimated lifetime of the new infrastructure. Should a new set of UK Climate Projections become available after the preparation of any environmental statement, the Examining Authority should consider whether it needs to request additional information from the applicant.
- 4.47 Where transport infrastructure has safety-critical elements, and the design life of the asset is 60 years or greater, the applicant should apply the latest available UK Climate Projections, considering at least a scenario that reflects a high level of greenhouse gas emissions at the 10%, 50% and 90% probability levels, to assess the impacts of climate change over the lifetime of the development.
- 4.48 The applicant should demonstrate that there are no critical features of infrastructure design which may be seriously affected by more radical changes to the climate beyond those projected in the latest set of UK Climate Projections. Any potential critical features should be assessed, taking account of the latest credible scientific evidence on, for example, sea level rise, and on the basis that necessary action can be taken to ensure the operation of the infrastructure over its estimated lifetime through potential further mitigation or adaptation.
- 4.49 Any adaptation measures should be based on the latest set of UK Climate Projections,¹²⁸ the most recent UK Climate Change Risk Assessment,¹²⁹ consultation with statutory consultation bodies, and any other appropriate climate projection data. Any adaptation measures must themselves also be assessed as part of any Environmental Impact Assessment and included in the environmental statement, which should set out how and where such measures are proposed to be secured.
- 4.50 If any proposed adaptation measures themselves give rise to consequential impacts, the Secretary of State will consider the impact in relation to the application as a whole and the assessment principles set out in the Airports NPS.
- 4.51 Adaptation measures can be required to be implemented at the time of construction where necessary and appropriate to do so.
- 4.52 Where adaptation measures are necessary to deal with the impact of climate change, and that measure would have an adverse effect on other aspects of the project or the surrounding environment, the Secretary of State may consider requiring the applicant to ensure that the adaptation measure could be implemented should the need arise, rather than at the outset of the development.

Pollution control and other environmental protection regimes

- 4.53 Issues relating to discharges or emissions from a proposed project which affect air quality, water quality, land quality or the marine environment, or which include noise, may be subject to separate regulation under the pollution control framework or other consenting and licensing regimes. Relevant permissions will need to be obtained for any activities within the development that are regulated under those regimes before the activities can be operated.

¹²⁸ <http://ukclimateprojections.metoffice.gov.uk/>

¹²⁹ <https://www.gov.uk/government/publications/uk-climate-change-risk-assessment-government-report>

- 4.54 In deciding an application, the Secretary of State should focus on whether the development is an acceptable use of the land, and on the impacts of that use, rather than the control of processes, emissions or discharges themselves. The Secretary of State should assess the potential impacts of processes, emissions or discharges to inform decision making, but should work on the assumption that, in terms of the control and enforcement, the relevant pollution control regime will be properly applied and enforced. Decisions under the Planning Act 2008 should complement but not duplicate those taken under the relevant pollution control regime.
- 4.55 These considerations apply in an analogous way to other environmental regulatory regimes, including those on land drainage, flood defence, and biodiversity.
- 4.56 When an applicant applies for an environmental permit, the relevant regulator (in this case the Environment Agency) requires that processes are in place that are sufficient for the grant of the permit and to ensure compliance with conditions attached to any permit. In examining the impacts of the project, the Examining Authority may wish to seek the views of the regulator on the scope of the permit or consent and any management plans (such as any produced for noise) that would be included in an environmental permit application.
- 4.57 The applicant should begin pre-application discussions with the Environment Agency as early as possible. It is expected, however, that an applicant will have first considered what the Environment Agency is likely to require as a starting point for discussion. Some consents require a significant amount of preparation: as an example, the Environment Agency strongly recommends the applicant should start work towards submitting the permit application at least six months prior to the submission of a development consent order application, where it wishes to parallel track the applications. This will help ensure that applications take account of all relevant environmental considerations and that the relevant regulators are able to provide timely advice and assurance to the Examining Authority and the Secretary of State.
- 4.58 The Secretary of State will be satisfied that development consent can be granted taking full account of environmental impacts. This will require close cooperation with the Environment Agency, the local planning authority and pollution control authority, and other relevant bodies, such as Natural England, Drainage Boards, and water and sewerage undertakers, to ensure that, in the case of potentially polluting developments:
- The relevant pollution control authority is satisfied that potential releases can be adequately regulated under the pollution control framework; and
 - The effects of existing sources of pollution in and around the project are not such that the cumulative effects of pollution when the proposed development is added would make that development unacceptable, particularly in relation to statutory environmental quality limits.
- 4.59 The Secretary of State should not refuse consent on the basis of regulated impacts unless there is good reason to believe that any relevant necessary operational pollution control permits or licences or other consents will not subsequently be granted.

Common law nuisance and statutory nuisance

- 4.60 Section 158 of the Planning Act 2008 provides a defence of statutory authority in civil or criminal proceedings for nuisance. Such a defence is also available in respect of anything else authorised by an order granting development consent. The defence does not extinguish the local authority's duties under Part III of the Environmental Protection Act 1990 to inspect its area and take reasonable steps to investigate complaints of statutory nuisance and to serve an abatement notice where satisfied of its existence, likely occurrence or recurrence.
- 4.61 During the examination of an application for development consent for infrastructure covered under the Airports NPS, possible sources of nuisance under section 79(1) of the Environmental Protection Act 1990 and under sections 76 and 77 of the Civil Aviation Act 1982 should be considered by the Examining Authority. The Examining Authority should also consider how those sources of nuisance might be mitigated or limited so they can recommend appropriate requirements that the Secretary of State might include in any subsequent order granting development consent.
- 4.62 The defence of statutory authority is subject to any contrary provision made by the Secretary of State in any particular case by an order granting development consent.¹³⁰

Security and safety considerations

- 4.63 National security considerations apply across all national infrastructure sectors. The Department for Transport acts as the sector sponsor department for the aviation sector, and in this capacity has lead responsibility for security matters and for directing the security approach to be taken, working with the Civil Aviation Authority. The Department for Transport works closely with Government agencies, including the Centre for the Protection of National Infrastructure, to reduce the vulnerability of the aviation sector to terrorism and other national security threats.
- 4.64 Government policy is to ensure that, where possible, proportionate protective security measures are designed into new infrastructure projects at an early stage in the project development. The nature of the aviation sector as a target for terrorism means that security considerations will likely apply in the case of the infrastructure project for which development consent may be sought under the Airports NPS.
- 4.65 Where national security implications have been identified, the applicant should consult with relevant security experts from the Centre for the Protection of National Infrastructure and the Department for Transport to ensure that physical, procedural and personnel security measures have been adequately considered in the design process, and that adequate consideration has been given to the management of security risks. If the Department for Transport, taking advice from the Civil Aviation Authority, Centre for the Protection of National Infrastructure and others it considers appropriate, forms the opinion that it is satisfied that current and potential future security needs are adequately addressed in the project and that relevant guidance on these matters has been appropriately taken into account in the application, it will provide confirmation of this to the Secretary of State, and the Examining Authority should not need to give any further consideration to the details of the security measures during the examination.

¹³⁰ Planning Act 2008, section 158(3)

- 4.66 The applicant should only include such security-related information in the application as is necessary to enable the Examining Authority to examine the development consent issues and make a properly informed recommendation on the application.
- 4.67 In exceptional cases where examination of an application would involve public disclosure of information about defence or national security which would not be in the national interest, the Secretary of State can intervene and may appoint an examiner to consider evidence in closed session.
- 4.68 Air transport is one of the safest forms of travel, and the UK is a world leader in aviation safety. Maintaining and improving that record, while ensuring that regulation is proportionate and cost-effective, remains of primary importance to the UK. Since 2003, rules and standards for aviation safety in Europe have increasingly been set by the European Aviation Safety Agency. The UK will continue to work closely with the European Aviation Safety Agency to ensure that a high and uniform level of civil aviation safety is maintained across Europe. The preferred scheme at Heathrow must comply with the UK's civil aviation safety regime, regulated by the Civil Aviation Authority.
- 4.69 There remains a considerable threat to aviation security from terrorism. The UK meets this threat with a multi-layered aviation security regime built on intelligence, effective risk management and robust, proportionate measures, brought together under the National Aviation Security Programme. The regulations governing aviation security in the UK have their basis in UK and European law, and are enforced by the Civil Aviation Authority on behalf of the Secretary of State. The design and operation of the Heathrow Northwest Runway scheme, to which the Airports NPS relates, must comply with aviation security regulations and guidance in the same way as existing airports. There may also be other security considerations linked to any application for development consent under the Airports NPS.

Health

- 4.70 The construction and use of airports infrastructure has the potential to affect people's health, wellbeing and quality of life. Infrastructure can have direct impacts on health because of traffic, noise, vibration, air quality and emissions, light pollution, community severance, dust, odour, polluting water, hazardous waste and pests.
- 4.71 New or enhanced airports infrastructure may also have indirect health impacts, for example if they affect access to key public services, local transport, opportunities for cycling and walking, or the use of open space for recreation and physical activity. It should also be noted, however, that the increased employment stemming from airport expansion may have indirect positive health impacts.
- 4.72 As described elsewhere in the Airports NPS, where the proposed project has likely significant environmental impacts that would have an effect on human beings, any environmental statement should identify and set out the assessment of any likely significant health impacts.
- 4.73 The applicant should identify measures to avoid, reduce or compensate for adverse health impacts as appropriate. These impacts may affect people simultaneously, so the applicant, the Examining Authority and the Secretary of State (in determining an application for development consent) should consider the cumulative impact on health.

Accessibility

- 4.74 The Government is committed to creating a more accessible and inclusive transport network that provides a range of opportunities and choices for all people to connect with jobs, services and leisure opportunities. This commitment extends to all the users of new airports infrastructure, and to the associated surface access facilities.
- 4.75 In 2008, the Department for Transport published *Access to Air Travel for Disabled Persons and Persons with Reduced Mobility – Code of Practice*,¹³¹ which sets out the legal framework and gives advice and information. Since then, the Equality Act 2010 has updated and extended the legal framework for accessibility.¹³²
- 4.76 In accordance with legal and best practice in relation to accessibility:
- The Government requires the applicant to include clear details of how plans will improve access on and around the airport by designing and delivering schemes (both new construction and upgrade or refurbishment) that address the accessibility needs of all those who use, or are affected by, surface access infrastructure, including those with physical and/or mental impairments as well as older users. Every opportunity to deliver improvements in accessibility on and to the existing national road network should also be taken;
 - The Government will continue to work to ensure that all bus and train fleets comply with legal access standards by 2020, and to improve rail station access for those with impairments in accordance with legislation and best practice; and
 - The car will continue to play an important role, providing disabled people with independence where other forms of transport are not accessible or available. Easy access and car parking provision at the airports is essential to this goal and must meet standards set down in guidance (such as the Department for Transport's *Inclusive Mobility*).¹³³

¹³¹

<http://webarchive.nationalarchives.gov.uk/+/http://www.dft.gov.uk/transportforyou/access/aviationshipping/accesstoairtravelfordisabled.pdf>

¹³² <http://www.legislation.gov.uk/ukpga/2010/15/contents>

¹³³ <https://www.gov.uk/government/publications/inclusive-mobility>

5. Assessment of impacts

Introduction

- 5.1 This chapter focuses on the potential impacts of the Heathrow Northwest Runway scheme, the assessments that any applicant will need to carry out, and the specific planning requirements that they will need to meet, in order to gain development consent.
- 5.2 In its Final Report, the Airports Commission recommended that “to make expansion possible...a comprehensive package of accompanying measures [should be recommended to] make the airport’s expansion more acceptable to its local community, and to Londoners generally”.¹³⁴
- 5.3 When the Government stated in December 2015 that it agreed with the Airports Commission that one additional runway was required in the South East of England by 2030, it also emphasised the importance of securing the best possible deal for communities affected by the preferred scheme to increase airport capacity. The Government undertook further work, including through engagement with all three shortlisted scheme promoters, during 2016 to develop a package of location-specific measures to mitigate the impacts of increased capacity, and to enhance beneficial effects.
- 5.4 The Government announced on 25 October 2016 that its preferred scheme to deliver additional airport capacity in the South East of England was a Northwest Runway at Heathrow Airport. Alongside this, it set out a number of supporting measures that any application for development consent will be required to demonstrate and secure in order to mitigate the impacts of expansion on the environment and affected communities.

Surface access

Introduction

- 5.5 The Government’s objective for surface access is to ensure that access to the airport by road, rail and public transport is high quality, efficient and reliable for passengers, freight operators and airport workers who use transport on a daily basis. The Government also wishes to see the number of journeys made to airports by sustainable modes of transport maximised as much as possible. This should be delivered in a way that minimises congestion and environmental impacts, for example on air quality.
- 5.6 A Northwest Runway at Heathrow Airport will have a range of impacts on local and national transport networks serving the airport, during both the construction and operational phases. Passengers, freight operators and airport workers share the

¹³⁴ *Airports Commission: Final Report*, p4

routes to and from the airport with other road and rail users, including commuters, leisure travellers and business users. Without effective mitigation, expansion is likely to increase congestion on existing routes and have environmental impacts such as increased noise and emissions.

- 5.7 The Airports Commission identified three major rail improvements which would support a new Northwest Runway at Heathrow Airport. These were Crossrail, a Western Rail Link to Heathrow and Southern Rail Access to the airport. Notwithstanding the requirements for the applicant's assessment set out below, Government has supported, or is supporting, all three of these schemes subject to a satisfactory business case and the agreement of acceptable terms with the Heathrow aviation industry. Crossrail is in construction and full services are anticipated to commence in 2019. The Western Rail Link to Heathrow was one of the schemes named as being in the 'develop' phase in the Rail Network Enhancements Pipeline, published in March 2018 and, subject to obtaining planning consent, it is expected to commence operations before 2030. Any Southern Rail Access to Heathrow is at an earlier stage of development and, subject to an acceptable business case and obtaining planning consent, should commence operations as soon as reasonably practicable after a new runway has opened.
- 5.8 It is important that improvements are made to Heathrow Airport's transport links to be able to support the increased numbers of people and freight traffic which will need to access the expanded airport, should development consent be granted.

Applicant's assessment

- 5.9 The applicant must prepare an airport surface access strategy in conjunction with its Airport Transport Forum, in accordance with the guidance contained in the Aviation Policy Framework.¹³⁵ The airport surface access strategy must reflect the needs of the scheme contained in the application for development consent, including any phasing over its development, implementation and operational stages, reflecting the changing number of passengers, freight operators and airport workers attributable to the number of air traffic movements. The strategy should reference the role of surface transport in relation to air quality and carbon. The airport surface access strategy must contain specific targets for maximising the proportion of journeys made to the airport by public transport, cycling or walking. The strategy should also contain actions, policies and defined performance indicators for delivering against targets, and should include a mechanism whereby the Airport Transport Forum can oversee implementation of the strategy and monitor progress against targets alongside the implementation and operation of the preferred scheme.
- 5.10 The applicant should assess the implications of airport expansion on surface access network capacity using the WebTAG methodology stipulated in the Department for Transport guidance,¹³⁶ or any successor to such methodology. The applicant should consult Highways England, Network Rail and highway and transport authorities, as appropriate, on the assessment and proposed mitigation measures. The assessment should distinguish between the construction and operational project stages for the development comprised in the application.
- 5.11 The applicant should also consult with Highways England, Network Rail and relevant highway and transport authorities, and transport operators, to understand the target completion dates of any third party or external schemes included in existing rail, road or other transport investment plans. It will need to assess the effects of the preferred

¹³⁵ <https://www.gov.uk/government/publications/aviation-policy-framework>, paragraphs 4.20-4.21

¹³⁶ <https://www.gov.uk/guidance/transport-analysis-guidance-webtag>

scheme as influenced by such schemes and plans. Such consultation and assessment, both of third party schemes on which the preferred scheme depends, and others which interact with it, all of which may be subject to their own planning, funding and approval processes, must be understood in terms of implications of the timings for the applicant's own surface access proposals.

- 5.12 The applicant will need to demonstrate that Highways England, Network Rail and any relevant highway and transport authorities and transport providers have been consulted, and are content with the deliverability of any new transport schemes or other changes required to existing links to allow expansion within the timescales required for the preferred scheme as a whole, the requirements of the Airports NPS and other statutory requirements. This includes changes to the M25 to allow a new runway to cross the motorway, local road changes, and improvements including the diversion of the A4 and A3044, changes to the Colnbrook Freight branch railway and on-airport station works and safeguarding. On the strategic road network, it will be important to ensure that any changes to the M25 which the applicant proposes will be implemented consistently with the Secretary of State's statutory directions and guidance set out in Highways England's licence. This includes ensuring that sufficient provision is made to accommodate flexibility and future-proofing in planning the long-term development, improvement and operation of Highways England's network.
- 5.13 For schemes and related surface access proposals or other works impacting on the strategic road network, the applicant should have regard to DfT Circular 02/2013, *The Strategic Road Network and the delivery of sustainable development*¹³⁷ (or prevailing policy), and the National Networks NPS. This sets out the way in which the highway authority for the strategic road network will engage with communities and the development industry to deliver sustainable development and economic growth, whilst safeguarding the primary function and purpose of the network.
- 5.14 The surface access systems and proposed airport infrastructure may have the potential to result in severance in some locations. Where appropriate, the applicant should seek to deliver improvements or mitigation measures that reduce community severance and improve accessibility.

Mitigation

- 5.15 In its application, the applicant should set out the mitigation measures that it considers are required to minimise and mitigate the effect of expansion on existing surface access arrangements.
- 5.16 The applicant should demonstrate in its assessment that the proposed surface access strategy will support the additional transport demands generated by airport expansion. This should be appropriately secured.
- 5.17 Any application for development consent and accompanying airport surface access strategy must include details of how the applicant will increase the proportion of journeys made to the airport by public transport, cycling and walking to achieve a public transport mode share of at least 50% by 2030, and at least 55% by 2040 for passengers. The applicant should also include details of how, from a 2013 baseline level, it will achieve a 25% reduction of all staff car trips by 2030, and a reduction of 50% by 2040.¹³⁸
- 5.18 The applicant should commit to annual public reporting on performance against these specific targets. The airport surface access strategy should consider measures and

¹³⁷ <https://www.gov.uk/government/publications/strategic-road-network-and-the-delivery-of-sustainable-development>

¹³⁸ These mode share targets are derived from *Heathrow Airport Ltd. Statement of Principles*, part 5, paragraph 1.6
<https://www.gov.uk/government/publications/heathrow-airport-limited-statement-of-principles>

incentives which could help to manage demand by car users travelling to and from the airport, as well as physical infrastructure interventions, having at all times due regard to the effect of its strategy on the surrounding area and transport networks. The strategy should also include an assessment of the feasibility of the measures proposed as well as the benefits and disbenefits related to those measures, including any implications for Highways England, Network Rail and affected relevant highway authorities and transport providers. These measures could be used to help achieve mode share targets and should be considered in conjunction with measures to mitigate air quality impacts as described in the Airports NPS.

- 5.19 The Government expects the applicant to secure the upgrading or enhancing of road, rail or other transport networks or services which are physically needed to be completed to enable the Northwest Runway to operate. This includes works to the M25, local road changes and improvements including the diversion of the A4 and A3044, and on-airport station works and safeguarding, as set out in more detail in paragraph 5.12.
- 5.20 Where a surface transport scheme is not solely required to deliver airport capacity and has a wider range of beneficiaries, the Government, along with relevant stakeholders, will consider the need for a public funding contribution alongside an appropriate contribution from the airport on a case by case basis. The Government recognises that there may be some works which may not be required at the time the additional runway opens, but will be needed as the additional capacity becomes fully utilised. The same principle applies that, where a transport scheme is not solely required to deliver airport capacity, the Government, along with relevant stakeholders, will consider the need for a public funding contribution alongside an appropriate contribution from the airport on a case by case basis.

Decision making

- 5.21 The applicant's proposals will give rise to impacts on the existing and surrounding transport infrastructure. The Secretary of State will consider whether the applicant has taken all reasonable steps to mitigate these impacts during both the development and construction phase and the operational phase. Where the proposed mitigation measures are insufficient to effectively offset or reduce the impact on the transport network, arising from expansion, of additional passengers, freight operators and airport workers, the Secretary of State will impose requirements on the applicant to accept requirements and / or obligations to fund infrastructure or implement other measures to mitigate the adverse impacts, including air quality.
- 5.22 Provided the applicant is willing to commit to transport planning obligations to satisfactorily mitigate transport impacts identified in the transport assessment (including environment and social impacts), with costs being considered in accordance with the Department for Transport's policy on the funding of surface access schemes, development consent should not be withheld on surface access grounds.

Air quality

Introduction

- 5.23 Increases in emissions of pollutants during the construction or operational phases of the scheme could result in the worsening of local air quality. Increased emissions can contribute to adverse impacts on human health and on the natural environment.

- 5.24 The European Union has established common, health-based and ecosystem based ambient concentration limit values for the main pollutants in the Ambient Air Quality Directive (2008/50/EC) ('the Air Quality Directive'),¹³⁹ which member states are required to meet by specified dates.
- 5.25 Where compliance by those dates has not been achieved, the member state is required to put in place an action plan showing how the period of exceedance in each non-compliant area will be kept as short as possible. In December 2015, the UK submitted its national air quality plan for nitrogen dioxide, including a zonal plan for Greater London and the South East, for the approval of the European Commission.
- 5.26 In November 2016 the High Court ordered the Government to produce a modified air quality plan that delivers compliance in the shortest possible time. The Government published a final, modified air quality plan on 26 July 2017. The European Commission were notified of this plan on 31 July 2017.¹⁴⁰
- 5.27 Other relevant legislation includes the fourth daughter Air Quality Directive (2004/107/EC), which sets targets for levels in outdoor air of certain toxic heavy metals and polycyclic aromatic hydrocarbons, and the National Emission Ceilings Directive (2016/2284/EU),¹⁴¹ which sets national emission limits for a range of atmospheric pollutants.
- 5.28 Air quality impacts are generated by all types of infrastructure development to varying degrees, and the geographical extent and distribution can cover a large area. At Heathrow Airport in 2015, aircraft movements were modelled to have contributed 17% on average to local NO_x concentrations at nearby roadside locations. Road transport, by comparison, accounted for 64% of NO_x concentrations in the same areas. Off-road transport and mobile machinery (a category which would include airside vehicles) contributed 5%¹⁴².
- 5.29 The Airports Commission identified (and in some cases quantified the impact of) a number of measures that would help mitigate any negative impacts on air quality.¹⁴³ In addition, for the Heathrow Northwest Runway scheme, the Airports Commission recommended the following supporting measures:
- That Heathrow Airport should be held to performance targets to increase the percentage of employees and passengers accessing the airport by public transport; and
 - That the introduction of a congestion or access charge for road vehicles should be considered.
- 5.30 The Airports Commission undertook extensive analysis on air quality and concluded that expansion could take place within legal obligations (including in a high demand growth scenario). The Department for Transport conducted a study of the implications of the Government's 2015 national air quality plan on the conclusions of the Airports Commission's air quality assessment.¹⁴⁴
- 5.31 Since this work was completed in June 2016, updated international evidence on vehicle emission forecasts was published at the end of September 2016. The Department for Transport has conducted further analysis to assess the impact that this updated evidence base would have on estimated compliance with EU limit values of

¹³⁹ The Ambient Air Quality Directive (2008/50/EC) was brought into law in England through the Air Quality Standards Regulations 2010

¹⁴⁰ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/633270/air-quality-plan-detail.pdf

¹⁴¹ This Directive succeeds an earlier National Emissions Ceilings Directive (2001/81/EC) and contains transitional provisions

¹⁴² Based on 2015 data from the Pollution Climate Mapping Model for roads affected by Heathrow emissions

¹⁴³ <https://www.gov.uk/government/consultations/airports-commission-air-quality-assessment>

¹⁴⁴ <https://www.gov.uk/government/publications/airport-expansion-further-analysis-of-air-quality-data>

expansion options at Heathrow Airport and Gatwick Airport. This analysis has been updated to take account of the revised aviation demand forecasts and the Government's final air quality plan. The result of this analysis helped inform the Government's view that, with a suitable package of policy and mitigation measures, including the Government's modified air quality plan, the Heathrow Northwest Runway scheme would be capable of being delivered without impacting the UK's compliance with air quality limit values.

Applicant's assessment

5.32 The applicant should undertake an assessment of the project, to be included as part of the environmental statement, demonstrating to the Secretary of State that the construction and operation of the Northwest Runway will not affect the UK's ability to comply with legal obligations. Failure to demonstrate this will result in refusal of development consent.

5.33 The environmental statement should assess:

- Existing air quality levels for all relevant pollutants referred to in the Air Quality Standards Regulations 2010 and the National Emission Ceilings Regulations 2002 (as amended) or referred to in any successor regulations;
- Forecasts of levels for all relevant air quality pollutants at the time of opening, (a) assuming that the scheme is not built (the 'future baseline'), and (b) taking account of the impact of the scheme, including when at full capacity; and
- Any likely significant air quality effects of the scheme, their mitigation and any residual likely significant effects, distinguishing between those applicable to the construction and operation of the scheme including any interaction between construction and operational changes and taking account of the impact that the scheme is likely to cause on air quality arising from road and other surface access traffic.

5.34 Defra publishes future national projections of air quality based on evidence of future emissions. Projections may be updated as the evidence base changes. The applicant's assessment should, in so far as practicable, be based on the latest available projections.

Mitigation

5.35 The Secretary of State will need to be satisfied that the mitigation measures put forward by the applicant are acceptable, including at the construction stage. A management / project plan may help record and secure mitigation measures.

5.36 Mitigation measures may affect the project design, layout, construction and operation, and / or may comprise measures to improve air quality in pollution hotspots beyond the immediate locality of the scheme.

5.37 While the precise package of mitigations should be subject to consultation with local communities and relevant stakeholders to ensure the most effective measures are taken forward, an extensive range of mitigation measures is likely to be required.

5.38 In addition, Heathrow Airport should continue to strive to meet its public pledge to have landside airport-related traffic no greater than today. To achieve this, it should set out and regularly review its plans to meet the mode share targets set at paragraph 5.17 above. Heathrow Airport should also develop and keep under review plans to improve the impact of road freight serving the airport.

5.39 Other mitigation measures which may be put forward by the applicant could include, but are not limited to:

- Landing charges structured to reward airlines for operating cleaner flights (for example NOx emissions charging);
- Zero- or low-emission hybrid or electric vehicle use (ultra-low emission vehicles), charging and fuel facilities;
- Reduced or single engine taxiing (improved taxiing efficiency);
- Reducing emissions from aircraft at the gate (for example installation of fixed electrical ground power and preconditioned air to aircraft stands to reduce the use of auxiliary power unit);
- Modernised heating supplies in airport buildings;
- Changes to the layout of surface access arrangements;
- Traffic restrictions and / or traffic relocation around sensitive areas;
- An emissions-based access charge; and
- Physical means, including barriers to trap or better disperse emissions and speed control on roads.

5.40 Mitigation measures at the construction stage should also be provided and draw on best practice from other major construction schemes, including during the procurement of contractors. Specific measures could include but are not limited to:

- Development of a construction traffic management plan (which may include the possible use of rail and consolidation sites or waterways);
- The use of low emission construction plant / fleet, fitting of diesel particulate filters, and use of cleaner engines;
- The use of freight consolidation sites;
- Active workforce management / a worker transport scheme;
- Construction site connection to grid electricity to avoid use of mobile generation; and
- Selection of construction material to minimise distance of transport and increase recycling percentages of the material where appropriate.

5.41 The implementation of mitigation measures may require working with partners to support their delivery.

Decision making

5.42 The Secretary of State will consider air quality impacts over the wider area likely to be affected, as well as in the vicinity of the scheme. In order to grant development consent, the Secretary of State will need to be satisfied that, with mitigation, the scheme would be compliant with legal obligations that provide for the protection of human health and the environment.

5.43 Air quality considerations are likely to be particularly relevant where the proposed scheme:

- is within or adjacent to Air Quality Management Areas,¹⁴⁵ roads identified as being above limit values, or nature conservation sites (including Natura 2000 sites and Sites of Special Scientific Interest);
- would have effects sufficient to bring about the need for new Air Quality Management Areas or change the size of an existing Air Quality Management Area, or bring about changes to exceedances of the limit values, or have the potential to have an impact on nature conservation sites; and
- after taking into account mitigation, would lead to a significant air quality impact in relation to Environmental Impact Assessment and / or to a deterioration in air quality in a zone or agglomeration.

Noise

Introduction

- 5.44 The impact of noise from airport expansion is a key concern for communities affected, and the Government takes this issue very seriously. High exposure to noise is an annoyance, can disturb sleep, and can also affect people's health. Aircraft operations are by far the largest source of noise emissions from an airport, although noise will also be generated from ground operations and surface transport, and during the construction phase of a scheme.
- 5.45 Aircraft noise is not only determined by the number of aircraft overhead, but also by engine technologies and airframe design, the paths the aircraft take when approaching and departing from the airport, and the way in which the aircraft are flown.
- 5.46 Over recent decades, there have been reductions in aviation noise due to technological and operational improvements, and this trend is expected to continue.¹⁴⁶ New technology is already making aircraft quieter. Newer generation aircraft coming into service have a noise footprint typically 50% smaller on departure than the ones they are replacing, and at least 30% smaller on arrival. In addition, further opportunities for noise reductions are expected in the next decade as part of the UK airspace modernisation programme. One of the key benefits of this programme is expected to be "reduced noise from aircraft overflying communities, with less 'holding' at lower altitudes".¹⁴⁷ However, evidence has shown that people's sensitivity to noise has increased in recent years, and there has been growing evidence that exposure to high levels of aircraft noise can adversely affect people's health.¹⁴⁸ Expansion will lead to a rise in the number of flights in the local area compared to a no expansion scenario.
- 5.47 The Government wants to strike a fair balance between the negative impacts of noise (on health, amenity, quality of life and productivity) and the positive impacts of flights. There is no European or national legislation which sets legally binding limits on aviation noise emissions. Major airports are, however, under a legal obligation¹⁴⁹ to

¹⁴⁵ <https://uk-air.defra.gov.uk/aqma/>

¹⁴⁶ *The Sustainable Aviation Noise Roadmap, A Blueprint for Managing Noise from Aviation Sources to 2050:*

<http://www.sustainableaviation.co.uk/road-maps/>

¹⁴⁷ UK Airspace Policy: A framework for balanced decisions on the design and use of airspace, p21, para 3.9,

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/588186/uk-airspace-policy-a-framework-for-balanced-decisions-on-the-design-and-use-of-airspace-web-version.pdf

¹⁴⁸ CAP 1164, *Aircraft noise, sleep disturbance and health effects 2014:*

<http://publicapps.caa.co.uk/modalapplication.aspx?appid=11&mode=detail&id=6275>

CAP 1506, *Survey of noise attitudes 2014: Aircraft*

<http://www.gov.uk/government/publications/survey-of-attitudes-to-aviation-noise>

¹⁴⁹ The EU Environmental Noise Directive 2002/49 which is implemented in England by the Environmental Noise (England) Regulations 2006 (S.I. 2006/2238 as amended)

develop strategic noise maps and produce Noise Action Plans based on those maps, on a five yearly basis. They are also required to review and, if necessary, revise action plans when a major development occurs affecting the existing noise situation. In addition, the Government already expects the noise-designated airports (Heathrow, Gatwick and Stansted) to produce noise exposure maps on an annual basis.

5.48 The International Civil Aviation Organisation introduced the concept of a ‘Balanced Approach’ to noise management (resolution A33/7). This is given legal effect in the UK through EU Regulation 598/2014.¹⁵⁰

5.49 The Airports Commission undertook a thorough assessment of the noise impacts of the proposed development. The Airports Commission used a “noise scorecard” to assess the noise impacts of the scheme in 2030, 2040 and 2050.¹⁵¹ The noise scorecard included both conventional metrics, which assess noise levels over a period of time (daytime, night time and 24-hour), and more innovative metrics that assess the number of times a location is overflown by aircraft whose noise impacts exceed a specified level.

5.50 The Airports Commission’s assessment was based on ‘indicative’ flight path designs, which the Government considers to be a reasonable approach at this stage in the process. Precise flight path designs can only be defined at a later stage after detailed airspace design work has taken place. This work will need to consider the various options available to ensure a safe and efficient airspace which also mitigates the level of noise disturbance. Once the design work has been completed, the airspace proposal will be subject to extensive consultation as part of the separate airspace decision making process established by the Civil Aviation Authority.

5.51 The Airports Commission concluded that “expansion at Heathrow must be taken forward with a firm guarantee that the airport and its airlines will be held to the very highest standards of noise performance”. In addition, the Airports Commission stated that “the airport should not be allowed to expand without appropriate conditions being put in place in respect of its noise impacts”.¹⁵²

Applicant’s assessment

5.52 Pursuant to the terms of the Environmental Impact Assessment Regulations,¹⁵³ the applicant should undertake a noise assessment for any period of change in air traffic movements prior to opening, for the time of opening, and at the time the airport is forecast to reach full capacity, and (if applicable, being different to either of the other assessment periods) at a point when the airport’s noise impact is forecast to be highest. This should form part of the environmental statement. The noise assessment should include the following:

- A description of the noise sources;
- An assessment of the likely significant effect of predicted changes in the noise environment on any noise sensitive premises (including schools and hospitals) and noise sensitive areas (including National Parks and Areas of Outstanding Natural Beauty);
- The characteristics of the existing noise environment, including noise from aircraft, using noise exposure maps, and from surface transport and ground operations

¹⁵⁰ Regulation (EU) No 598/2014 of the European Parliament and of the Council on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Union airports within a Balanced Approach and repealing Directive 2002/30/EC

¹⁵¹ *Airports Commission: Final Report*, p170-171

¹⁵² *Airports Commission: Final Report*, p276

¹⁵³ Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (S.I. 2017/572)

associated with the project, the latter during both the construction and operational phases of the project;

- A prediction on how the noise environment will change with the proposed project; and
- Measures to be employed in mitigating the effects of noise.

These should take into account construction and operational noise (including from surface access arrangements) and aircraft noise. The applicant's assessment of aircraft noise should be undertaken in accordance with the developing indicative airspace design. This may involve the use of appropriate design parameters and scenarios based on indicative flightpaths.

5.53 Operational noise, with respect to human receptors, should be assessed using the principles of the relevant British Standards and other guidance. For the prediction, assessment and management of construction noise, reference should be made to any British Standards and other guidance which give examples of mitigation strategies. In assessing the likely significant impacts of aircraft noise, the applicant should have regard to the noise assessment principles, including noise metrics, set out in the national policy on airspace.

Mitigation

5.54 Noise management at airports where a noise problem has been identified is subject to the concept of a 'Balanced Approach', referred to above. EU Regulation 598/2014, which adopts the Balanced Approach,¹⁵⁴ also lays down a procedure for the adoption of noise-related operating restrictions, in particular a requirement for prior consultation.

5.55 The Government recognises that aircraft noise is a significant concern to communities affected and that, as a result of additional runway capacity, noise-related action will need to be taken. Such action should strike a fair balance between the negative impacts of noise and positive impacts of flights.

5.56 The Government also recognises that predictable periods of relief from aircraft noise (known as respite) are important for communities affected, and that noise at night is widely regarded as the least acceptable aspect of aviation noise for those communities, with the costs on communities of aircraft noise during the night (particularly the health costs associated with sleep disturbance) being higher.

5.57 While the package and detail of noise mitigation measures should be subject to consultation with local communities and other stakeholders to ensure the most appropriate and effective measures are taken forward, in the context of Government policy on sustainable development, the Government expects the applicant to make particular efforts to avoid significant adverse noise impacts and mitigate other adverse noise impacts as a result of the Northwest Runway scheme and Heathrow Airport as a whole.

5.58 The Secretary of State will consider whether the mitigation measures put forward by the applicant following consultation are acceptable. The noise mitigation measures should ensure the impact of aircraft noise is limited and, where possible, reduced compared to the 2013 baseline assessed by the Airports Commission.¹⁵⁵

¹⁵⁴ For the purposes of EU Regulation 598/2014, an airport means an airport which has more than 50,000 civil aircraft movements per calendar year (a movement being a take-off or landing), on the basis of the average number of movements in the last three calendar years before the noise assessment

¹⁵⁵ With reference to the 2013 baseline for the 54 decibel LAeq, 16h noise contour assessed by the Airports Commission. LAeq,16h indicates the annual average noise levels for the 16-hour period between 0700 – 2300

- 5.59 The applicant should specifically seek to deliver the mitigation measures set out in paragraphs 5.60-5.62 below.
- 5.60 The applicant should put forward plans for a noise envelope. Such an envelope should be tailored to local priorities and include clear noise performance targets. As such, the design of the envelope should be defined in consultation with local communities and relevant stakeholders, and take account of any independent guidance such as from the Independent Commission on Civil Aviation Noise. The benefits of future technological improvements should be shared between the applicant and its local communities, hence helping to achieve a balance between growth and noise reduction. Suitable review periods should be set in consultation with the parties mentioned above to ensure the noise envelope's framework remains relevant.
- 5.61 The applicant should put forward plans for a runway alternation scheme that provides communities affected with predictable periods of respite (though the Government acknowledges that the duration of periods of respite that currently apply will be reduced). Predictability should be afforded to the extent that this is within the airport operator's control.¹⁵⁶ The details of any such scheme, including timings, duration and scheduling, should be defined in consultation with local communities and relevant stakeholders, and take account of any independent guidance such as from the Independent Commission on Civil Aviation Noise.
- 5.62 The Government also expects a ban on scheduled night flights for a period of six and a half hours, between the hours of 11pm and 7am, to be implemented.¹⁵⁷ The rules around its operation, including the exact timings of such a ban, should be defined in consultation with local communities and relevant stakeholders, in line with EU Regulation 598/2014. In addition, outside the hours of a ban, the Government expects the applicant to make particular efforts to incentivise the use of the quietest aircraft at night.
- 5.63 It is recognised that Heathrow Airport already supports a number of initiatives to mitigate aircraft noise, such as developing quieter operating procedures (like steeper descent approaches) and keeping landing gear up as long as possible. The applicant is expected to continue to do so, and to explore all opportunities to mitigate operational noise in line with best practice. The implementation of such measures may require working with partners to support their delivery.
- 5.64 Noise mitigation measures at the construction stage should also be provided. These should draw on best practice from other major construction schemes, with due regard given to any relevant British Standards and other guidance, and should be taken into account during the procurement of contractors.
- 5.65 Other measures to mitigate noise during the construction and operation of the development may include one or more of the following:
- Reducing noise at point of generation and containment of noise generated;
 - Where possible, optimising the distance between source and noise-sensitive receptors, and incorporating good design to minimise noise transmission through screening by natural barriers or other buildings; and
 - Restricting activities allowed on the site.
- 5.66 The Secretary of State will expect the applicant to put forward proposals as to how these measures may be secured and enforced, including the bodies who may enforce

¹⁵⁶ Examples of circumstances outside of an airport operator's control might be severe weather disruption and similar events

¹⁵⁷ 11pm to 7am is the standard night period used in noise measurement, and is used in World Health Organisation guidelines and the Environmental Noise Directive

the measures. These bodies might include the Secretary of State, local authorities (including those over a wider area), and / or the Civil Aviation Authority.

Decision making

- 5.67 The proposed development must be undertaken in accordance with statutory obligations for noise.¹⁵⁸ Due regard must have been given to national policy on aviation noise, and the relevant sections of the Noise Policy Statement for England,¹⁵⁹ the National Planning Policy Framework,¹⁶⁰ and the Government's associated planning guidance on noise.¹⁶¹ However, the Airports NPS must be used as the primary policy on noise when considering the Heathrow Northwest Runway scheme, and has primacy over other wider noise policy sources.
- 5.68 Development consent should not be granted unless the Secretary of State is satisfied that the proposals will meet the following aims for the effective management and control of noise, within the context of Government policy on sustainable development:
- Avoid significant adverse impacts on health and quality of life from noise;
 - Mitigate and minimise adverse impacts on health and quality of life from noise; and
 - Where possible, contribute to improvements to health and quality of life.

Carbon emissions

Introduction

- 5.69 The Planning Act 2008 requires that a national policy statement must give reasons for the policy set out in the statement and an explanation of how the policy set out in the statement takes account of Government policy relating to the mitigation of, and adaptation to, climate change.¹⁶² The Government has a number of international and domestic obligations to limit carbon emissions. Emissions from both the construction and operational phases of the project will be relevant to meeting these obligations.
- 5.70 The Government's key objective on aviation emissions, as outlined in the Aviation Policy Framework, is to ensure that the aviation sector makes a significant and cost-effective contribution towards reducing global emissions.¹⁶³ This must be achieved while minimising the risk of putting UK businesses at a competitive international disadvantage. The development of the Heathrow Northwest Runway scheme being considered under the Airports NPS does not override this objective.
- 5.71 The UK's obligations on greenhouse gas emissions are set under the 2008 Climate Change Act. Under this framework, the UK has a 2050 target to reduce its greenhouse gas emissions by at least 80% on 1990 levels, and has a series of five year carbon budgets on the way to 2050.

Coverage of aviation emissions under the UK's Climate Change Act

- 5.72 Whilst UK domestic aviation emissions are included in the 2050 target, international aviation emissions are not currently formally included within the UK's 'net carbon account' for greenhouse gas emissions and are therefore not included in the 2050 target as defined by the Climate Change Act, nor within the first five carbon budgets. The Climate Change Act says that the Government must "take into account" the

¹⁵⁸ EU Regulation 598/2014; The Environmental Noise (England) Regulations 2006

¹⁵⁹ Noise policy statement for England, March 2010, <https://www.gov.uk/government/publications/noise-policy-statement-for-england>

¹⁶⁰ National Planning Policy Framework, March 2012, paragraph 123, or any successor document

¹⁶¹ <https://www.gov.uk/guidance/noise--2>

¹⁶² Planning Act 2008, section 5(8)

¹⁶³ *Aviation Policy Framework*, paragraph 12

“estimated amount of reportable emissions from international aviation for the budgetary period or periods in question” when setting carbon budgets. The Committee on Climate Change has interpreted the requirement to take these emissions into account as requiring the UK to aim to meet a 2050 target which includes these emissions, and has made its recommendations for the levels of the existing carbon budgets on this basis.

5.73 The Government has accepted the Committee on Climate Change’s recommendations on the first five carbon budgets. The fifth carbon budget, for the period 2028-2032, was set in July 2016 in line with the Committee on Climate Change’s advice. In effect, this means that carbon budgets for other sectors of the UK economy have been set at a level which the Committee on Climate Change considers is consistent with meeting the overall 2050 target when international aviation emissions are included.

Impacts

5.74 The carbon impact of the proposed development falls into four areas: increased emissions from air transport movements (both international and domestic) as a result of increased demand, emissions from airport buildings and ground operations, emissions from surface transport accessing the expanded airport, and emissions caused by construction. The first is by far the largest of these impacts.

5.75 The Airports Commission used two sets of carbon scenarios: one in which a cap is imposed on UK aviation emissions in line with the Committee on Climate Change’s planning assumption of 37.5 million tonnes of CO₂ in 2050; and another in which an international trading mechanism allows carbon emissions from aviation to be offset by paying for emissions reductions in other sectors of the global economy. The analysis also assumed certain carbon-limiting developments largely outside the applicant’s control. These include growth in numbers of more fuel-efficient aircraft, increasing use of biofuels, and other airline operational measures.

Applicant’s assessment

5.76 Pursuant to the terms of the Environmental Impact Assessment Regulations,¹⁶⁴ the applicant should undertake an assessment of the project as part of the environmental statement, to include an assessment of any likely significant climate factors. The applicant should provide evidence of the carbon impact of the project (including embodied carbon), both from construction and operation, such that it can be assessed against the Government’s carbon obligations, including but not limited to carbon budgets. The applicant should quantify the greenhouse gas impacts before and after mitigation to show the impacts of the proposed mitigation. This will require emissions to be split into traded sector and non-traded sector emissions, and for a distinction to be made between international and domestic aviation emissions.

5.77 As far as possible, the applicant’s assessment should also seek to quantify impacts including:

- Emissions from surface access due to airport and construction staff;
- Emissions from surface access due to freight and retail operations and construction site traffic.
- Emissions from surface access due to airport passengers / visitors; and
- Emissions from airport operations including energy and fuel use.

¹⁶⁴ Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (S.I. 2017/572). Regulation 5(2)(c) refers to the significant effects of the proposed development on, among other factors, climate.

This should be undertaken in both a 'do minimum' and also in the 'do something' scenario for the opening, peak operation, and worst case scenarios.

Mitigation

5.78 The Secretary of State will need to be satisfied that the mitigation measures put forward by the applicant are acceptable, including at the construction stage. A management / project plan may help clarify and secure mitigation at this stage. The applicant is expected to take measures to limit the carbon impact of the project, which may include, but are not limited to:

- Zero or low-emission hybrid or electric vehicle use (ultra-low emission vehicles), charging and fuel facilities;
- Reduced engine taxiing (improved taxiing efficiency);
- Reducing emissions from aircraft at the gate;
- Reduced emissions from airport buildings (for example from lower carbon heating);
- Changes to the layout of surface access arrangements; and
- Encouraging increased use of public transport by staff and passengers.

5.79 Aircraft are expected to become cleaner as technology and standards improve and fleets evolve. It is recognised that the applicant already supports a number of initiatives to reduce the carbon emissions from flights, such as reduced-engine taxiing and ground-towing, and airspace and navigational reform.

5.80 Mitigation measures at the construction stage should also be provided and draw on best practice from other major construction schemes, including during the procurement of contractors. Specific measures could include but are not limited to:

- Development of a construction traffic management plan (which may include the possible use of rail and consolidation sites);
- Transport of materials to site by alternative modes to road (for example by rail or water);
- Increased efficiency in use of construction plant;
- Use of energy efficient site accommodation;
- Reduction of waste, and the transport of waste;
- Construction site connection to grid electricity to avoid use of mobile generation;
- Selection of construction material to utilise low carbon options; and
- Selection of construction material to minimise distance of transport.

5.81 The implementation of mitigation measures may require working with partners to support their delivery.

Decision making

5.82 Any increase in carbon emissions alone is not a reason to refuse development consent, unless the increase in carbon emissions resulting from the project is so significant that it would have a material impact on the ability of Government to meet its carbon reduction targets, including carbon budgets.

5.83 Evidence of appropriate mitigation measures (incorporating engineering plans on configuration and layout, and use of materials) in both design and construction should be presented as part of any application for development consent. The Secretary of

State will consider the effectiveness of such mitigation measures in order to ensure that, in relation to design and construction, the carbon footprint is not unnecessarily high. The Secretary of State's view of the adequacy of the mitigation measures relating to design, construction and operational phases will be a material factor in the decision making process.

Biodiversity and ecological conservation

Introduction

- 5.84 Biodiversity is the variety of plant and animal life in the world or in a particular habitat, and encompasses all species of plants and animals and the complex ecosystems of which they are a part. Government policy for the natural environment, including on biodiversity, is set out in the *Natural Environment White Paper*.¹⁶⁵ The biodiversity section in the *Natural Environment White Paper* sets out a vision of moving progressively from new biodiversity loss to net gain, by supporting healthy, well-functioning ecosystems and establishing more coherent ecological networks that are more resilient to current and future pressures. It is also a requirement of the Water Framework Directive to protect and enhance biodiversity associated with the water environment. Geological conservation relates to the sites that are designated for their geology and / or geomorphological importance.¹⁶⁶
- 5.85 The Government's biodiversity strategy is set out in *Biodiversity 2020: A Strategy for England's wildlife and ecosystem services*.¹⁶⁷ Its aim is to halt overall biodiversity loss, support healthy, well-functioning ecosystems, and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people. The contribution that the planning system should make to enhancing the local and natural environment, including establishing coherent ecological networks, is set out in the National Planning Policy Framework, to which the applicant should also refer.¹⁶⁸
- 5.86 The National Planning Policy Framework states that pursuing sustainable development involves seeking positive improvements in the quality of the built, natural and historic environment, as well as in people's quality of life. This includes moving from a net loss of biodiversity to achieving net gains for nature.¹⁶⁹
- 5.87 The wide range of legislative provisions at the international and national level that can impact on planning decisions affecting biodiversity and ecological conservation is set out in the Planning Practice Guidance on biodiversity and ecosystems.¹⁷⁰ This includes a description of the potential impacts on internationally, nationally and locally protected sites which may arise through development, and should therefore be considered through further assessment.
- 5.88 Airport development may require the netting of open watercourses to manage the risk of bird strike, which may have a detrimental impact on water environment and biodiversity.

Applicant's assessment

- 5.89 The applicant should ensure that the environmental statement submitted with its application for development consent clearly sets out any likely significant effects on

¹⁶⁵ <https://www.gov.uk/government/publications/the-natural-choice-securing-the-value-of-nature>

¹⁶⁶ A list of designated sites is included in the Geological Conservation Review held by the Joint Nature Conservation Committee

¹⁶⁷ <https://www.gov.uk/government/publications/biodiversity-2020-a-strategy-for-england-s-wildlife-and-ecosystem-services>

¹⁶⁸ National Planning Policy Framework, March 2012, paragraph 109, or any successor document

¹⁶⁹ National Planning Policy Framework, March 2012, paragraph 9, or any successor document

¹⁷⁰ <http://planningguidance.communities.gov.uk/blog/guidance/natural-environment/biodiversity-ecosystems-and-green-infrastructure/>

internationally, nationally and locally designated sites of ecological or geological importance, protected species, and habitats and other species identified as being of principal importance for the conservation of biodiversity.

- 5.90 The Environmental Impact Assessment should reflect the principles of *Biodiversity 2020* and identify how the effects on the natural environment will be influenced by climate change, and how ecological networks and their physical and biological process will be maintained.
- 5.91 The applicant should show how the project has taken advantage of and maximised opportunities to conserve biodiversity and geological conservation interests.

Mitigation

- 5.92 The Secretary of State will consider what requirements should be attached to any consent and / or in any planning obligations entered into in order to ensure that mitigation measures are delivered and monitored for their effectiveness.
- 5.93 The Secretary of State will take account of any mitigation measures agreed between the applicant and Natural England, and whether Natural England has granted or refused, or intends to grant or refuse, any relevant licences, including protected species mitigation licences.
- 5.94 The applicant's proposal should address the mitigation hierarchy (which supports efforts to conserve and enhance biodiversity), which is set out in the National Planning Policy Framework.¹⁷¹
- 5.95 Compensation ratios relating to the effects of the preferred scheme should be considered in more detail during the design. The application of 2:1 compensation ratio is considered to represent the minimum requirement. However, there are other mechanisms for establishing compensation ratios, such as Defra's biodiversity offsetting metric. Equally, it is important to note that habitat ratios form only one part of potential compensation which should be considered, and the location and quality of any compensation land is of key importance. In this regard, habitat creation, where required, should be focused on areas where the most ecological and ecosystems services benefits can be realised.

Decision making

- 5.96 As a general principle, and subject to the specific policies set out below and the Infrastructure Planning (Decisions) Regulations 2010,¹⁷² development should avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives. The applicant may also wish to make use of biodiversity offsetting in devising compensation proposals to counteract any impacts on biodiversity which cannot be avoided or mitigated.¹⁷³ Where significant harm cannot be avoided or mitigated, as a last resort appropriate compensation measures should be sought. The development consent order, or any associated planning obligations, will need to make provision for the long term management of such measures.
- 5.97 In taking decisions, the Secretary of State will ensure that appropriate weight is attached to designated sites of international, national and local importance, protected

¹⁷¹ National Planning Policy Framework, March 2012, paragraph 118, or any successor document

¹⁷² <http://www.legislation.gov.uk/ukxi/2010/305/regulation/7/made>

¹⁷³ <https://www.gov.uk/government/collections/biodiversity-offsetting> Biodiversity offsets are measurable conservation outcomes resulting from actions designed to compensate for residual adverse biodiversity impacts arising from a development after mitigating measures have been taken. The goal of biodiversity offsets is to achieve no net loss and, preferably, a net gain of biodiversity

species, habitats and other species of principal importance for the conservation of biodiversity, and to biodiversity and geological interests within the wider environment.

International sites

5.98 The most important sites for biodiversity are those identified through international conventions and European Directives. The Habitats Regulations provide statutory protection for European sites and require an assessment of impacts upon such sites.¹⁷⁴ The Government considers that the following wildlife sites should have the same protection as European sites:

- Potential Special Protection Areas and possible Special Areas of Conservation;
- Listed or proposed Ramsar sites;¹⁷⁵ and
- Sites identified or required as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

5.99 At this stage, it is not possible to rule out adverse effects of the Heathrow Northwest Runway scheme, given that more detailed project design information, and detailed proposals for mitigation, are not presently available. However, the applicant will need to demonstrate that Article 6(3) or 6(4) of the Habitats Directive are complied with in order to satisfy the competent authority that development consent can be granted on that basis.

Sites of Special Scientific Interest

5.100 Many Sites of Special Scientific Interest are also designated as sites of international importance and will be protected accordingly. Those that are not, or those features of Sites of Special Scientific Interest that are not covered by an international designation, will be given a high degree of protection. All National Nature Reserves are notified as Sites of Special Scientific Interest.

5.101 Where a proposed development on land within or outside a Site of Special Scientific Interest is likely to have an adverse effect on the site (either individually or in combination with other developments), development consent should not normally be granted. Where an adverse effect on the site's notified special interest features is likely, an exception should be made only where the benefits of the development at this site clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest. The Secretary of State will ensure that the applicant's proposals to mitigate the harmful aspects of the development and, where possible, to ensure the conservation and enhancement of the site's biodiversity or geological interest, are acceptable. Where necessary, requirements and / or planning obligations should be used to ensure these proposals are delivered.

Regional and local sites

5.102 Sites of regional and local biodiversity interest (which include Local Nature Reserves, Local Wildlife Sites and Nature Improvement Areas) have a fundamental role to play in meeting overall national biodiversity targets, contributing to the quality of life and the wellbeing of the community, and supporting research and education. The Secretary of State will give due consideration to such regional or local designations. However,

¹⁷⁴ This includes candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation and Special Protection Areas, and is defined in Regulation 8 of the Conservation of Habitats and Species Regulations 2010

¹⁷⁵ Potential Special Protection Areas, possible Special Areas of Conservation and proposed Ramsar sites are sites on which Government has initiated public consultation on the scientific case for designation as a Special Protection Area, candidate Special Area of Conservation or Ramsar site

given the need for new infrastructure, these designations should not be used in themselves to refuse development consent, although adequate compensation should always be considered, and ecological corridors and their physical processes should be maintained as a priority to mitigate widespread impacts.

Irreplaceable habitats including ancient woodland and veteran trees

- 5.103 Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Once lost, it cannot be recreated. The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the national need for and benefits of the development, in that location, clearly outweigh the loss. Aged or veteran trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided.¹⁷⁶ Where such trees would be affected by development proposals, the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons for this.

Biodiversity within and around developments

- 5.104 The proposed development comprised in the preferred scheme should provide many opportunities for building in beneficial biodiversity as part of good design. When considering proposals, the Secretary of State will consider whether the applicant has maximised such opportunities in and around developments, and particularly to establishing and enhancing green infrastructure. The Secretary of State may use requirements or planning obligations where appropriate in order to ensure that such beneficial features are delivered.

Protection of other habitats and species

- 5.105 In addition to the habitats and species that are subject to statutory protection or international, regional or local designation, other habitats and species have been identified as being of principal importance for the conservation of biodiversity in England and Wales and therefore requiring conservation action. The Secretary of State will ensure that the applicant has taken measures to ensure that these other habitats and species are protected from the adverse effects of development. Where appropriate, requirements or planning obligations may be used in order to deliver this protection. The Secretary of State will refuse consent where harm to these other habitats, or species and their habitats, would result, unless the benefits of the development (including need) clearly outweigh that harm. In such cases, compensation will generally be expected to be included in the design proposals.

Land use including open space, green infrastructure and Green Belt

Introduction

- 5.106 Access to high quality open spaces and the countryside¹⁷⁷ and opportunities for sport and recreation can be a means of providing necessary mitigation and / or compensation requirements. Green infrastructure can enable developments to provide positive environmental and economic benefits.

¹⁷⁶ This does not prevent the loss of such trees where the decision maker is satisfied that their loss is unavoidable

¹⁷⁷ All open space of public value, including not just land but also areas of water (such as rivers, canals, lakes and reservoirs) which offer important opportunities for sport and recreation and can act as a visual amenity

- 5.107 Green Belts, defined in a development plan,¹⁷⁸ are situated around certain cities and built up areas, including London. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open. The essential characteristics of Green Belts are their openness and their permanence. Further information on the purposes and protection of Green Belt is set out in the National Planning Policy Framework.¹⁷⁹
- 5.108 Best and most versatile agricultural land is land which is most flexible, productive and efficient in response to inputs and which can best deliver future crops for food and non-food uses such as biomass, fibres and pharmaceuticals. The National Planning Policy Framework sets out how local planning authorities should take into account the economic and other benefits of best and most versatile agricultural land.¹⁸⁰ Planning practice guidance for the natural environment provides additional guidance on best and most versatile agricultural land and soil issues.
- 5.109 Development of land will affect soil resources, including physical loss of and damage to soil resources, through land contamination and structural damage. Indirect impacts may also arise from changes in the local water regime, organic matter content, soil biodiversity and soil process.
- 5.110 Construction and operation of airport facilities is a potential source of contaminative substances (for example, through de-icing or leaks and spills of fuel). Where pre-existing land contamination is being considered through development, the objective is to ensure that the site is suitable for its intended use. Risks would require consideration in accordance with the contaminated land statutory guidance as a minimum.¹⁸¹

Applicant's assessment

- 5.111 The applicant should identify existing and proposed land uses¹⁸² near the project, including any effects of replacing an existing development or use of the site with the proposed project or preventing a development or use on a neighbouring site from continuing. The applicant should also assess any effects of precluding a new development or use proposed in the development plan. The assessment should be proportionate to the scale of the preferred scheme and its likely impacts on such receptors.
- 5.112 Existing open space, sports and recreational buildings and land should not be developed unless the land is no longer needed or the loss would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location. If the applicant is considering proposals which would involve developing such land, it should have regard to any local authority's assessment of need for such types of land and buildings.
- 5.113 During any pre-application discussions with the applicant, the local planning authority should identify any concerns it has about the impacts of the application on land use, having regard to the development plan and relevant applications and including, where relevant, whether it agrees with any independent assessment that the land is no longer needed. These are also matters that local authorities may wish to include in their Local Impact Report which can be submitted after an application for development consent has been accepted.

¹⁷⁸ Or else so designated under the Green Belt (London and Home Counties) Act 1938

¹⁷⁹ National Planning Policy Framework, March 2012, paragraphs 79-92, or any successor document

¹⁸⁰ National Planning Policy Framework, March 2012, paragraph 112, or any successor document

¹⁸¹ <https://www.gov.uk/government/publications/contaminated-land-statutory-guidance>

¹⁸² For example, where a planning application has been submitted

- 5.114 The general policies controlling development in the countryside apply with equal force in Green Belts but there is, in addition, a general presumption against inappropriate development within them. Such development should not be approved except in very special circumstances which are already the subject of Government guidance.¹⁸³ The applicant should therefore determine whether the proposal, or any part of it, is within an established Green Belt and, if so, whether its proposal may be considered inappropriate development within the meaning of Green Belt policy. Metropolitan Open Land and land designated a Local Green Space in a local or neighbourhood plan are subject to the same policies of protection as Green Belt, and inappropriate development should not be approved except in very special circumstances.
- 5.115 The applicant should take into account the economic and other benefits of best and most versatile agricultural land. Where significant development of agricultural land is demonstrated to be necessary, the applicant should seek to use areas of poorer quality land in preference to that of a higher quality. The applicant should also identify any effects, and seek to minimise impacts, on soil quality, taking into account any mitigation measures proposed.
- 5.116 For developments where land may be affected by contamination, or existing mitigation is in place in respect of historic contamination, the applicant should have regard to the statutory regime contained in Part IIA of the Environmental Protection Act 1990 and relevant Government guidance relating to or dealing with contaminated land.¹⁸⁴
- 5.117 The applicant should safeguard any mineral resources on the proposed site for the preferred scheme as far as possible.

Mitigation

- 5.118 The applicant can minimise the direct effects of a project on the existing use of the proposed site, or proposed uses near the site, by the application of good design principles, including the layout of the project and the protection of soils during construction.¹⁸⁵
- 5.119 Where green infrastructure is affected, the applicant should aim to ensure the functionality and connectivity of the green infrastructure network is maintained and any necessary works are undertaken, where possible, to mitigate any adverse impact and, where appropriate, to improve that network and other areas of open space, including appropriate access to National Trails and other public rights of way.
- 5.120 The Secretary of State must also consider whether mitigation of any adverse effects on green infrastructure or open space is adequately provided for by means of requirements, planning obligations, or any other means, for example to provide exchange land and provide for appropriate management and maintenance agreements. Any exchange land should be at least as good in terms of size, usefulness, attractiveness, quality and accessibility. Alternatively, where sections 131 and 132 of the Planning Act 2008 apply,¹⁸⁶ any replacement land provided under those sections will need to conform to the requirements of those sections.
- 5.121 Where the preferred scheme has an impact on a mineral safeguarding area, the Secretary of State must ensure that the applicant has put forward appropriate mitigation measures to safeguard mineral resources.

¹⁸³ https://www.gov.uk/guidance/housing-and-economic-land-availability-assessment#paragraph_044

¹⁸⁴ <https://www.gov.uk/government/collections/land-contamination-technical-guidance>

¹⁸⁵ <https://www.gov.uk/government/publications/code-of-practice-for-the-sustainable-use-of-soils-on-construction-sites>

¹⁸⁶ <http://www.legislation.gov.uk/ukpga/2008/29/section/131> and <http://www.legislation.gov.uk/ukpga/2008/29/section/132>

- 5.122 Where a project has a sterilising effect on land use, there may be scope for this to be mitigated through, for example, using the land for nature conservation or wildlife corridors.
- 5.123 Public rights of way, National Trails and other rights of access to land are important recreational facilities for walkers, cyclists and equestrians. The applicant is expected to take appropriate mitigation measures to address adverse effects on National Trails, other public rights of way and open access land and, where appropriate, to consider what opportunities there may be to improve access. In considering revisions to an existing right of way, consideration needs to be given to the use, character, attractiveness and convenience of the right of way. The Secretary of State should consider whether the mitigation measures put forward by an applicant are acceptable and whether requirements or other provisions in respect of these measures might be attached to any grant of development consent.

Decision making

- 5.124 The Secretary of State should not grant consent for development on existing open space, sports and recreational buildings and land, including playing fields, unless an assessment has been undertaken either by the local authority or independently, which has shown the open space or the buildings and land to be no longer needed, or the Secretary of State determines that the benefits of the project (including need) outweigh the potential loss of such facilities, taking into account any positive proposals made by the applicant to provide new, improved or compensatory land or facilities.
- 5.125 Where networks of green infrastructure have been identified in development plans, they should normally be protected from development and, where, possible, strengthened by or integrated within it. The Secretary of State will also have regard to the effect of the development upon and resulting from existing land contamination, as well as the mitigation proposed.
- 5.126 The Secretary of State will take into account the economic and other benefits of the best and most versatile agricultural land, and ensure the applicant has put forward appropriate mitigation measures to minimise impacts on soils or soil resources.
- 5.127 When located in the Green Belt, projects may comprise inappropriate development. Inappropriate development is by definition harmful to the Green Belt and there is a presumption against it except in very special circumstances. The Secretary of State will need to assess whether there are very special circumstances to justify inappropriate development. Very special circumstances will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations. In view of the presumption against inappropriate development, the Secretary of State will attach substantial weight to the harm to the Green Belt, when considering any application for such development. In exchange for, or so as to ensure the re-provision of, lost Green Belt land,¹⁸⁷ the Secretary of State may require the provision of other land by the applicant, to be declared as Green Belt under the Green Belt (London and the Home Counties) Act 1938. The provision of such land should be in accordance with the National Planning Policy Framework or any successor document, and take into account relevant development plan policies.

¹⁸⁷ The term "Green Belt land" refers to land designated as Green Belt land under a local development plan and/or land declared as Green Belt under the 1938 Act.

Home Office assets

Introduction

- 5.128 There are two Immigration Removal Centres (IRCs) to the north-west of Heathrow Airport, run as one facility, within the land shown inside the red line on the scheme boundary map (at Annex A). 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. The IRCs are Harmondsworth IRC and the Colnbrook IRC.
- 5.129 Continuous service provision of the IRCs at Heathrow is necessary. This consideration extends to the need to provide appropriate road access to the IRCs.

Assessment

- 5.130 The applicant should show how it has considered the impacts of the project upon the existing IRCs. This should include the process in identifying alternative means of addressing the impact of the project on the IRCs, including the means by which they will be reprovided.
- 5.131 The applicant should discuss the provision to be made in substitution for the existing IRCs with the Home Office and any local authority whose area is likely to be affected by a replacement facility.
- 5.132 The applicant's assessment should also set out how a replacement IRC would function in relation to neighbouring land uses, as well as how it can best be accommodated without adversely affecting such uses. These are also matters which local authorities may wish to address in their local impact report, which can be submitted after an application for development consent has been submitted.

Decision making

- 5.133 The Secretary of State considers that replacement facilities in substitution for the affected IRCs should be provided prior to any works which may significantly interfere with the service and facilities provided by the existing IRCs. The Secretary of State will consider whether the applicant has taken all reasonable steps to mitigate impacts of the project on the existing IRCs. Where necessary, the Secretary of State will impose requirements or obligations upon the applicant to deliver suitable replacement facilities.
- 5.134 Provided that the applicant is willing to commit to appropriate provision of such facilities on a continuous service basis and with constant road access, and to mitigate the effect of the project on the existing and replacement IRCs, development consent should not be withheld on the grounds of its effects on the existing IRCs.

Resource and waste management

Introduction

- 5.135 Government policy on hazardous and non-hazardous waste is intended to protect human health and the environment by producing less waste and by using it as a resource wherever possible. Where this is not possible, waste management regulation ensures that waste is disposed of in a way that is least damaging to the environment and to human health.
- 5.136 Sustainable waste management is implemented through the waste hierarchy:

- Waste prevention;
- Preparing for reuse;
- Recycling;
- Other recovery, including energy recovery; and
- Disposal.

5.137 The targets for preparation for re-use and recycling of municipal waste (50%), and for construction and demolition waste (70%) set out by the Waste Framework Directive (2008/98/EC)¹⁸⁸ should be considered ‘minimum acceptable practice’ for the construction and operation of any new airport infrastructure. Exceeding these targets if possible by aiming for exemplar performance in resource efficiency and waste management is recommended, to align with the principles of the EU Action Plan for the Circular Economy.¹⁸⁹

5.138 Large airport infrastructure projects may generate hazardous and non-hazardous waste during construction and operation. The Environment Agency’s environmental permitting regime incorporates operational waste management controls for certain activities. When the applicant applies to the Environment Agency for an environmental permit, the Environment Agency will require the application to demonstrate that processes are in place to meet all relevant conditions.

5.139 In addition, the Heathrow Northwest Runway scheme would involve the removal of the Lakeside energy from waste plant.

5.140 Waste generated and sent to landfill during construction and operation will be an ongoing management issue, and will continue to have adverse effects on the environment into and beyond the operational phase. The principal adverse effects of sending waste to landfill include:

- Permanent loss of materials from potential use higher up the waste management hierarchy;
- Reduction of local and regional landfill capacity;
- Visual, noise, health and other nuisance impacts on local communities;
- Environmental degradation and pollution;
- Greenhouse gas emissions; and
- Environmental implications of transporting waste to landfill sites.

Applicant’s assessment

5.141 The applicant should set out the arrangements that are proposed for managing any waste produced in the application for development consent. The arrangements described should include information on the proposed waste recovery and disposal system for all waste generated by the development. The applicant should seek to minimise the volume of waste sent for disposal unless it can be demonstrated that the alternative is the best overall environmental, social and economic outcome when considered over the whole lifetime of the project.

5.142 The effects of removing the Lakeside energy from waste plant upon capacity for treatment of waste will require assessment.

¹⁸⁸ <http://ec.europa.eu/environment/waste/framework/>

¹⁸⁹ http://ec.europa.eu/environment/circular-economy/index_en.htm

Mitigation

- 5.143 The applicant should set out a comprehensive suite of mitigations to eliminate or significantly reduce the risk of adverse impacts associated with resource and waste management.
- 5.144 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.

Decision making

- 5.145 The Secretary of State will consider the extent to which the applicant has proposed an effective process that will be followed to ensure effective management of hazardous and non-hazardous waste arising from all stages of the lifetime of the development. The Secretary of State should be satisfied that the process set out provides assurance that:
- Waste produced will be properly managed, both onsite and offsite;
 - The waste from the proposed development can be dealt with appropriately by the waste infrastructure which is, or is likely to be, available. Such waste arising should not have an adverse effect on the capacity of existing waste management facilities to deal with other waste arising in the area; and
 - Adequate steps have been taken to ensure that all waste arising from the site is subject to the principles of the waste hierarchy¹⁹⁰ and are dealt with at the highest possible level within the hierarchy.
- 5.146 Where necessary, the Secretary of State will require the applicant to develop a resource management plan to ensure that appropriate measures for sustainable resource and waste management are secured.

Flood risk

Introduction

- 5.147 Climate change over future decades is likely to result in milder, wetter winters and hotter, drier summers in the UK, while sea levels will continue to rise. Within the lifetime of the proposed development, these factors will lead to increased flood risk in areas susceptible to flooding, and to an increased risk of flooding in some areas not currently thought of as being at risk. In addition to increasing flood risk, longer term climate change will result in changes to weather-related disruption, most often caused by wind, rain, snow and ice. The applicant, the Examining Authority and the Secretary of State in taking decisions should take account of the policy on climate change adaptation as set out in the National Planning Policy Framework¹⁹¹ and other supporting guidance.¹⁹²
- 5.148 The National Planning Policy Framework sets out that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk.¹⁹³ But where development is necessary, it should be made safe without

¹⁹⁰ Article 4 of the revised EU Waste Framework Directive (Directive 2008/98/EC) sets out the 'waste hierarchy' with five steps for dealing with waste, ranked according to environmental impact

¹⁹¹ National Planning Policy Framework, March 2012, paragraph 99, or any successor document

¹⁹² <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances> and <https://www.gov.uk/government/publications/adapting-to-climate-change-for-risk-management-authorities>

¹⁹³ National Planning Policy Framework, March 2012, paragraphs 100-104, or any successor document

increasing flood risk elsewhere. Supporting guidance¹⁹⁴ explains that essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk is permissible in areas of high flood risk, subject to the Exception Test. In addition, as set out in the National Planning Policy Framework, new development should be planned to avoid increased vulnerability to the range of impacts arising from climate change.¹⁹⁵

- 5.149 Loss of flood plain storage may increase the overall flood risk for the catchment. The extent of any impact will depend on the ability of the development to manage storage of water on or off-site.
- 5.150 There is the potential for airport expansion to result in increased risk from climate change effects, particularly to increased surface water runoff rate and pressure on potable water supply. There may also be effects on groundwater.
- 5.151 Where the Airports NPS mentions the UK Climate Change Risk Assessment, the reader should refer to the most recent version of the document.

Applicant's assessment

- 5.152 Applications for projects in the following locations should be accompanied by a flood risk assessment:
- Flood Zones 2 and 3 (medium and high probability of river and sea flooding);
 - Flood Zone 1 (low probability of river and sea flooding) for projects of 1 hectare or greater, or projects which may be subject to other sources of flooding (local watercourses, surface water, groundwater or reservoirs), or where the Environment Agency has notified the local planning authority that there are critical drainage problems.
- 5.153 The applicant should identify and assess the risks of all forms of flooding to and from the preferred scheme, and demonstrate how these flood risks will be managed, taking climate change into account.¹⁹⁶
- 5.154 In preparing a flood risk assessment the applicant should:
- Consider the risk of all forms of flooding arising from the development comprised in the preferred scheme, in addition to the risk of flooding to the project, and demonstrate how these risks will be managed and, where relevant, mitigated, so that the development remains safe throughout its lifetime;¹⁹⁷
 - Take into account the impacts of climate change, clearly stating the development lifetime over which the assessment has been made;
 - Consider the need for safe access and exit arrangements;
 - Include the assessment of residual risk after risk reduction measures have been taken into account, and demonstrate that this is acceptable for the development;
 - Consider if there is a need to remain operational during a worst case flood event over the preferred scheme's lifetime; and
 - Provide evidence for the Secretary of State to apply the Sequential Test and Exception Test,¹⁹⁸ as appropriate.

¹⁹⁴ <http://planningguidance.communities.gov.uk/blog/guidance/flood-risk-and-coastal-change/>

¹⁹⁵ National Planning Policy Framework, March 2012, paragraph 99, or any successor document

¹⁹⁶ <https://www.gov.uk/guidance/flood-risk-assessment-for-planning-applications>

¹⁹⁷ Updated flood maps are available on the Environment Agency's website

¹⁹⁸ National Planning Policy Framework, March 2012, paragraphs 100-104, or any successor document

- 5.155 Where the preferred scheme may be affected by, or may add to, flood risk, the applicant is advised to seek early pre-application discussions with the Environment Agency, and, where relevant, other flood risk management bodies such as lead local flood authorities, Internal Drainage Boards, sewerage undertakers, highways authorities and reservoir owners and operators. These discussions can be used to identify the likelihood and possible extent and nature of the flood risk, help scope the flood risk assessment, and identify the information that may be required by the Secretary of State to reach a decision on the application. If the Environment Agency has concerns about proposals on flood risk grounds, the applicant is encouraged to discuss these concerns at a sufficiently early stage with the Environment Agency and explore ways in which the proposal might be amended, or additional information provided, which would satisfy the Environment Agency's concerns, before the application for development consent is submitted.
- 5.156 For local flood risk (surface water, groundwater and ordinary watercourse flooding), local flood risk management strategies and surface water management plans provide useful sources of information for consideration in a flood risk assessment. Surface water flood issues need to be understood to allow them to be taken into account, for example by clearly identifying and managing flow routes.
- 5.157 When assessing the potential impacts of climate change on airports which can be wider than flooding impacts, such as implications from heat and water availability and the potential adaptation strategies for them, the applicant should take into account the latest UK Climate Change Risk Assessment, the latest set of UK Climate Projections, and other relevant sources of climate change evidence.

Mitigation

- 5.158 The applicant should ensure that the preferred scheme design takes into account flood risk, and should put forward measures to mitigate the impact of flooding.
- 5.159 Mitigation measures will need to be developed as part of the applicant's application for development consent to ensure that it is safe from flooding, and will not increase flood risk elsewhere for the proposed development's lifetime, taking into account climate change.
- 5.160 To satisfactorily manage flood risk and the impact of the natural water cycle on people, property and ecosystems, good design and infrastructure may need to be secured using requirements or planning obligations. This may include the use of sustainable drainage systems but could also include vegetation to help to slow runoff, hold back peak flows, and make landscapes more able to absorb the impact of severe weather events.
- 5.161 In the Airports NPS, the term sustainable drainage systems is used and taken to cover the whole range of sustainable approaches to surface water drainage management including:
- Source control measures including rainwater recycling and drainage;
 - Infiltration devices to allow water to soak into the ground, that can include individual soakaways and communal facilities;
 - Filter strips and swales, which are vegetated features that hold and drain water downhill mimicking natural drainage patterns;
 - Filter drains and porous pavements to allow rainwater and runoff to infiltrate into permeable material below ground and provide storage if needed;

- Basins and ponds to hold excess water after rain and allow controlled discharge that avoids flooding; and
 - Flood routes to carry and direct excess water through developments to minimise the impact of severe rainfall flooding.
- 5.162 Site layout and surface water drainage systems should be able to cope with events that exceed the design capacity of the system, so that excess water can be safely stored on or conveyed from the site without adverse impacts.
- 5.163 The surface water drainage arrangements for any project should be such that the volumes and peak flow rates of surface water leaving the site are no greater than the rates prior to the proposed project, taking into account climate change, unless specific off-site arrangements are made and result in the same net effect.
- 5.164 It may be necessary to provide surface water storage and infiltration to limit and reduce both the peak rate of discharge from the site and the total volume discharged from the main application site. There may be circumstances where it is appropriate for infiltration attenuation storage to be provided outside the project site, if necessary through the use of a planning obligation or a development consent order requirement.
- 5.165 The sequential approach should be applied to the layout and design of the project. Vulnerable uses should be located on parts of the site at lower probability and residual risk of flooding. The applicant should seek opportunities where appropriate to use open space for multiple purposes such as amenity, wildlife habitat, and flood storage uses. Opportunities can be taken to lower flood risk by improving flow routes, flood storage capacity and using sustainable drainage systems.

Decision making

- 5.166 Where flood risk is a factor in determining an application for development consent, the Secretary of State will need to be satisfied that, where relevant:
- The application is supported by an appropriate flood risk assessment; and
 - The Sequential Test¹⁹⁹ has been applied as part of site selection and, if required, the Exception Test.²⁰⁰
- 5.167 When determining an application, the Secretary of State will need to be satisfied that flood risk will not be increased elsewhere, and will only consider development appropriate in areas at risk of flooding where, informed by a flood risk assessment, following the Sequential Test and, if required, the Exception Test, it can be demonstrated that:
- Within the site, the most vulnerable development is located in areas of lowest flood risk unless there are overriding reasons to prefer a different location; and
 - Over its lifetime, development is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be safely managed, including by emergency planning, and that priority is given to the use of sustainable drainage systems.
- 5.168 The applicant should take into account the potential impacts of climate change using the latest UK Climate Change Risk Assessment, the latest set of UK Climate Projections, and other relevant sources of climate change evidence. The applicant should also ensure any environment statement that is prepared identifies appropriate mitigation or adaptation measures. This should cover the estimated lifetime of the new

¹⁹⁹ National Planning Policy Framework, March 2012, paragraph 101, or any successor document

²⁰⁰ National Planning Policy Framework, March 2012, paragraph 102, or any successor document

infrastructure. Should a new set of UK Climate Projections become available after the preparation of an environmental statement, the Examining Authority or the Secretary of State will consider whether they need to request additional information from the applicant as part of the development consent application.

- 5.169 When determining an application, the Secretary of State will need to be satisfied that the potential effects of climate change on the development have been considered as part of the design.
- 5.170 For construction work which has drainage implications, approval for the preferred scheme's overall approach to drainage systems will form part of any development consent issued by the Secretary of State.²⁰¹ The Secretary of State will therefore need to be satisfied that the proposed drainage system complies with any technical standards issued by the Government²⁰² or to any National Standards²⁰³ issued under Schedule 3 to the Flood and Water Management Act 2010.²⁰⁴ In addition, the development consent order, or any associated planning obligations, will need to make provision for the adoption and maintenance of any sustainable drainage systems, including any necessary access rights to property. The Secretary of State will need to be satisfied that the most appropriate body would be given the responsibility for maintaining any sustainable drainage systems, taking into account the nature and security of the infrastructure on the proposed site. The responsible body could include, for example, the applicant, the landowner, the relevant local authority, or another body such as the Internal Drainage Board.
- 5.171 If the Environment Agency continues to have concerns, and therefore objects to the grant of development consent on the grounds of flood risk, the Secretary of State can grant consent, but would need to be satisfied that all reasonable steps have been taken by the applicant and the Environment Agency to attempt to resolve the concerns. Similarly, if the lead local flood authority objects to the development consent on the grounds of surface or other local sources of flooding, the Secretary of State can grant consent, but would need to be satisfied that all reasonable steps have been taken by the applicant and the lead local flood authority to attempt to resolve the concerns.

Water quality and resources

Introduction

- 5.172 Airport infrastructure projects can have adverse effects on the water environment, including groundwater, inland surface water and transitional waters.²⁰⁵ During construction and operation, it can lead to increased demand for water, involve discharges to water, and cause adverse ecological effects resulting from physical modifications to the water environment. There may also be an increased risk of spills and leaks of pollutants to the water environment. These effects could lead to adverse impacts on health or on protected and other species and habitats, and could, in

²⁰¹ Drainage implications as defined in Paragraph 7(2) of Schedule 3 to the Flood and Water Management Act 2010
<http://www.legislation.gov.uk/ukpga/2010/29/schedule/3/crossheading/requirement-for-approval>

²⁰² <https://www.gov.uk/government/publications/sustainable-drainage-systems-non-statutory-technical-standards>

²⁰³ The National Standards set out requirements for the design, construction, operation and maintenance of sustainable drainage systems, and may include guidance to which the Secretary of State will have regard

²⁰⁴ <http://www.legislation.gov.uk/ukpga/2010/29/contents>

²⁰⁵ As defined in the Water Framework Directive (2000/60/EC), transitional waters are bodies of surface water in the vicinity of river mouths which are partly saline in character as a result of their proximity to coastal waters by which are substantially influenced by freshwater flows

particular, result in surface waters, groundwaters or protected areas²⁰⁶ failing to meet environmental objectives established under the Water Framework Directive.²⁰⁷

- 5.173 The Government's planning policies make clear that the planning system should contribute to and enhance the natural and local environment by, among other things, preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, water pollution. The Government has issued guidance on water supply, wastewater and water quality considerations in the planning system.²⁰⁸ Where applicable, an application for development consent has to contain a plan with accompanying information identifying water bodies in a river basin management plan.²⁰⁹
- 5.174 Development may result in an increased potential for impacts on the water environment, especially the quality of the surface and groundwater through the discharge of waters contaminated with de-icer along with hydrocarbons and other pollutants.

Applicant's assessment

- 5.175 The applicant should make sufficiently early contact with the relevant regulators, including the Environment Agency, for abstraction licensing and environmental permitting, and with the water supply company likely to supply the water. Where the proposed development is subject to an Environmental Impact Assessment and the development is likely to have significant adverse effects on the water environment, the applicant should ascertain the existing status of, and carry out an assessment of, the impacts of the proposed project on water quality, water resources and physical characteristics as part of the environmental statement.
- 5.176 Any environmental statement should describe:
- The existing quality of water affected by the proposed project;
 - Existing water resources affected by the proposed project and the impacts of the proposed project on water resources;
 - Existing physical characteristics of the water environment (including quantity and dynamics of flow) affected by the proposed project, and any impact of physical modifications to these characteristics;
 - Any impacts of the proposed project on water bodies or protected areas under the Water Framework Directive and source protection zones around potable groundwater abstractions; and
 - Any cumulative effects.
- 5.177 The applicant should assess the effects on the surrounding water and wastewater treatment network in cooperation with the relevant water and sewerage undertaker(s). It should also address any future water infrastructure needed for the preferred scheme, including for supplies and sewerage treatment, and the effects on the surrounding water and wastewater treatment network. This assessment would be based on the additional wastewater flows which would need to be treated at sewage treatment works and should be developed through liaison with the relevant water and sewerage undertaker(s).

²⁰⁶ Protected areas are areas which have been designated as requiring special protection under specific community legislation for the protection of their surface water and groundwater or for the conservation of habitats and species directly depending on water

²⁰⁷ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for Community action in the field of water policy

²⁰⁸ <http://planningguidance.communities.gov.uk/blog/guidance/water-supply-wastewater-and-water-quality/>

²⁰⁹ <http://www.legislation.gov.uk/uksi/2009/2264/made>

Mitigation

- 5.178 The impact on local water resources can be minimised through planning and design for the efficient use of water, including water recycling.
- 5.179 The Secretary of State will need to consider whether the mitigation measures put forward by the applicant which are needed for operation and construction (and which may be over and above any which may form part of the development consent application) are acceptable.
- 5.180 The project should adhere to any national standards for sustainable drainage systems, which introduce a hierarchical approach to drainage design that promotes the most sustainable approach but recognises the feasibility and use of conventional drainage systems as part of a sustainable solution for any given site given its constraints.
- 5.181 The risk of impacts on the water environment can be reduced through careful design to adhere to good pollution practice.

Decision making

- 5.182 Activities that discharge to the water environment are subject to pollution control, and the considerations set out at paragraphs 4.53-4.59 above covering the interface between planning and environmental permitting therefore apply. These considerations will also apply in an analogous way to the abstraction licensing regime regulating activities that take water from the environment, and to the control regimes relating to works to, and structures in, on, or under, a controlled water.
- 5.183 The Secretary of State will generally need to give more weight to impacts on the water environment where a project would have adverse effects on the achievement of the environmental objectives established under the Water Framework Directive.
- 5.184 The Secretary of State will need to be satisfied that a proposal has had regard to the Thames river basin management plan and the Water Framework Directive and its daughter Directives on priority substances and groundwater. In terms of Water Framework Directive compliance, the overall aim of development should be to prevent deterioration in status of water bodies, to support the achievement of the objectives in the Thames river basin management plan and not to jeopardise the future achievement of good status for any affected water bodies. If the development is considered likely to cause deterioration of water body status or to prevent the achievement of good groundwater status or of good ecological status or potential, compliance with Article 4.7 of the Water Framework Directive must be demonstrated. Any use of Article 4.7 must be reported in the Thames river basin management plan.
- 5.185 The Secretary of State will need to consider the interactions of the preferred scheme with other plans, such as statutory water resources management plans.
- 5.186 The Secretary of State will need to consider proposals put forward by the applicant to mitigate adverse effects on the water environment, taking into account the likely impact of climate change on water availability, and whether appropriate requirements should be attached to any development consent and / or planning obligations. If the Environment Agency continues to have concerns, and objects to the grant of development consent on the grounds of impacts on water quality / resources, the Secretary of State can grant consent, but will need to be satisfied that all reasonable steps have been taken by the applicant and the Environment Agency to try to resolve the concerns.

Historic environment

Introduction

- 5.187 The construction and operation of airports and associated infrastructure has the potential to result in adverse impacts on the historic environment above and below ground. This could be as a result of the scale, form and function of the development, and the wider impacts it can create in terms of associated infrastructure to connect the airport to existing transport networks, changes in aircraft movement on the ground and in the surrounding airspace, additional noise and light levels, and the need for security and space to ensure the airport's operation.
- 5.188 The historic environment includes all aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.
- 5.189 Those elements of the historic environment that hold value to this and future generations because of their historic, archaeological, architectural or artistic interest are called 'heritage assets'. Heritage assets may be buildings, monuments, sites, places, areas or landscapes, or any combination of these. The sum of the heritage interests that a heritage asset holds is referred to as its significance. Significance derives not only from a heritage asset's physical presence, but also from its setting.²¹⁰
- 5.190 Some heritage assets have a level of significance that justifies official designation. Categories of designated heritage assets are:
- World Heritage Sites;
 - Scheduled Monuments;
 - Listed Buildings;
 - Protected Wreck Sites;
 - Protected Military Remains;
 - Registered Parks and Gardens;
 - Registered Battlefields; and
 - Conservation Areas.²¹¹
- 5.191 Non-designated heritage assets of archaeological interest that are demonstrably equivalent to Scheduled Monuments should be considered subject to the policies for designated heritage assets.²¹² The absence of designation for such heritage assets does not indicate lower significance.
- 5.192 The Secretary of State will also consider the impacts on other non-designated heritage assets on the basis of clear evidence that the assets have a significance that merits consideration in that decision, even though those assets are of lesser value than designated heritage assets. The non-designated heritage assets would be identified

²¹⁰ Setting of a heritage asset is the surroundings in which it is experienced. Its extent is not fixed, and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance, or may be neutral

²¹¹ The issuing of licences to undertake works on protected wreck sites in English waters is the responsibility of the Secretary of State for Culture, Media and Sport and does not form part of development consent orders. The issuing of licences for protected military remains is the responsibility of the Secretary of State for Defence

²¹² There will be archaeological interest in a heritage asset if it holds, or may potentially hold, evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and the people and cultures that made them

either through the development plan process by local authorities, including through 'local listing', or through the nationally significant infrastructure project examination and decision making process.

Applicant's assessment

- 5.193 As part of the environmental statement, the applicant should provide a description of the significance of the heritage assets affected by the proposed development, and the contribution of their setting to that significance. The level of detail should be proportionate to the asset's importance, and no more than is sufficient to understand the potential impact of the proposal on the significance of the asset. Consideration will also need to be given to the possible impacts, including cumulative, on the wider historic environment. At a minimum, the relevant Historic Environment Record²¹³ should be consulted and the heritage assets assessed using appropriate expertise. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, the applicant should include an appropriate desk-based assessment and, where necessary, a field evaluation. The applicant should ensure that the extent of the impact of the proposed development on the significance of any heritage asset affected can be adequately understood from the application and supporting documents.
- 5.194 Detailed studies will be required on those heritage assets affected by noise, light and indirect impacts based on the guidance provided in *The Setting of Heritage Assets*²¹⁴ and the *Aviation Noise Metric*.²¹⁵ Where proposed development will affect the setting of a heritage asset, accurate representative visualisations may be necessary to assess the impact.
- 5.195 The applicant is encouraged, where opportunities exist, to prepare proposals which can make a positive contribution to the historic environment, and to consider how their scheme takes account of the significance of heritage assets affected. This can include, where possible:
- Enhancing, through a range of measures such as sensitive design, the significance of heritage assets or setting affected;
 - Considering measures that address those heritage assets that are at risk, or which may become at risk, as a result of the scheme; and
 - Considering how visual or noise impacts can affect heritage assets, and whether there may be opportunities to enhance access to or interpretation, understanding and appreciation of the heritage assets affected by the scheme.

Careful consideration in preparing the scheme will be required on whether the impacts on the historic environment will be direct or indirect, temporary or permanent.

Decision making

- 5.196 In determining applications, the Secretary of State will seek to identify and assess the particular significance of any heritage asset that may be affected by the proposed development (including by development affecting the setting of a heritage asset), taking account of the available evidence and any necessary expertise from:

²¹³ Historic Environment Records are information services maintained and updated by (or on behalf of) local authorities and National Park Authorities with a view to providing access to comprehensive and dynamic resources relating to the historic environment of an area for public benefit and use. Details of Historic Environment Records in England are available from the Heritage Gateway website. Historic England should also be consulted where relevant

²¹⁴ <https://www.historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets/>

²¹⁵ <https://www.historicengland.org.uk/images-books/publications/aviation-noise-metric/>

- Relevant information provided with the application and, where applicable, relevant information submitted during examination of the application;
- Any designation records included on the National Heritage List for England;
- Historic landscape character records;
- The relevant Historic Environment Record(s) and similar sources of information;
- Representations made by interested parties during the examination; and
- Expert advice, where appropriate and when the need to understand the significance of the heritage asset demands it.

5.197 The Secretary of State must also comply with the regime relating to Listed Buildings, Conservation Areas and Scheduled Monuments set out in The Infrastructure Planning (Decisions) Regulations 2010.²¹⁶

5.198 In considering the impact of a proposed development on any heritage assets, the Secretary of State will take into account the particular nature of the significance of the heritage asset and the value that they hold for this and future generations. This understanding should be used to avoid or minimise conflict between their conservation and any aspect of the proposal.

5.199 The Secretary of State will take into account: the desirability of sustaining and, where appropriate, enhancing the significance of heritage assets; the contribution of their settings; and the positive contribution their conservation can make to supporting sustainable communities – including to their quality of life, their economic vitality, and to the public's enjoyment of these assets. The Secretary of State will also take into account the desirability of new development making a positive contribution to the character and local distinctiveness of the historic environment. The consideration of design should include scale, height, massing, alignment, materials, use and landscaping (for example screen planting).

5.200 When considering the impact of a proposed development on the significance of a designated heritage asset, the Secretary of State will give great weight to the asset's conservation. The more important the asset, the greater the weight should be. The Secretary of State will take into account the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation, the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality, and the desirability of new development making a positive contribution to local character and distinctiveness.

5.201 Once lost, heritage assets cannot be replaced, and their loss has a cultural, environmental, economic and social impact. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. Given that heritage assets are irreplaceable, any harm or loss should require clear and convincing justification.

5.202 Substantial harm to or loss of a Grade II Listed Building or a Grade II Registered Park or Garden should be exceptional. Substantial harm to or loss of designated sites of the highest significance, including World Heritage Sites, Scheduled Monuments, Grade I and II* Listed Buildings, Protected Wreck Sites, Registered Battlefields, and Grade I and II* Registered Parks and Gardens should be wholly exceptional.

5.203 Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of development, recognising that the greater the

²¹⁶ <http://www.legislation.gov.uk/uksi/2010/305/regulation/3/made>

harm to the significance of the heritage asset, the greater the justification that will be needed for any loss.

5.204 Where the proposed development will lead to substantial harm to or the total loss of significance of a designated heritage asset, the Secretary of State will refuse consent unless it can be demonstrated that the substantial harm or loss of significance is necessary in order to deliver substantial public benefits that outweigh that loss or harm, or alternatively that all of the following apply:

- The nature of the heritage asset prevents all reasonable uses of the site;
- No viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation;
- Conservation by grant funding or some form of charitable or public ownership is demonstrably not possible; and
- The harm or loss is outweighed by the benefit of bringing the site back into use.

5.205 Where the proposed development will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use.

5.206 Not all elements of a World Heritage Site or conservation area will necessarily contribute to its significance. The Secretary of State will treat the loss of a building (or other element) that makes a positive contribution to the significance of a World Heritage Site or conservation area's significance either as substantial harm or less than substantial harm, as appropriate, taking into account the relative significance of the elements affected and their contribution to the significance of the World Heritage Site or conservation area as a whole.

5.207 Where the loss of significance of any heritage asset is justified on the merits of the new development, the Secretary of State will consider imposing a requirement on the consent, or require the applicant to enter into an obligation, that will prevent the loss occurring until it is reasonably certain that the relevant part of the development is to proceed.

5.208 The applicant should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance and better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably.²¹⁷

Recording

5.209 A documentary record of our past is not as valuable as retaining the heritage asset, and therefore the ability to record evidence of the asset should not be a factor in deciding whether consent should be given.

5.210 Where the loss of the whole or part of a heritage asset's significance is justified, the Secretary of State will require the applicant to record and advance understanding of the significance of the heritage asset before it is lost (wholly or in part). The extent of the requirement should be proportionate to the nature and level of the asset's significance. The applicant should be required to publish this evidence and to deposit copies of the reports with the relevant Historic Environmental Record. They should

²¹⁷ Further good practice advice on decision making in the historic environment can be found at: <https://www.historicengland.org.uk/images-books/publications/gpa2-managing-significance-in-decision-taking/>

also be required to deposit the archive generated in a local museum or other public repository willing to receive it.

- 5.211 Where appropriate, the Secretary of State will impose requirements to the development consent order to ensure that the work is undertaken in a timely manner, in accordance with a written scheme of investigation that complies with the policy in the Airports NPS and has been agreed in writing with the relevant local authority, and that the completion of the exercise is properly secured.
- 5.212 Where there is a high probability that a development site may include as yet undiscovered heritage assets with archaeological interest, the Secretary of State will consider requirements to ensure appropriate procedures are in place for the identification and treatment of such assets discovered during construction.

Landscape and visual impacts

Introduction

- 5.213 For airport development, landscape and visual effects also include tranquillity effects, which would affect people's enjoyment of the natural environment and recreational facilities. In this context, references to landscape should be taken as covering local landscape, waterscape and townscape character and quality, where appropriate.

Applicant's assessment

- 5.214 Where the development is subject to an Environmental Impact Assessment, the applicant should undertake an assessment of any likely significant landscape and visual impacts and describe them in the environmental statement. The landscape and visual assessment should reference any landscape character assessment and associated studies as a means of assessing landscape impacts relevant to the preferred scheme. In addition, the applicant's assessment should take account of any relevant policies based on these assessments in local development documents.
- 5.215 The applicant's assessment should include any significant effects during construction of the preferred scheme and / or the significant effects of the completed development and its operation on landscape components and landscape character, including historic characterisation. This should include assessment of any landscape and visual impacts as a result of the development, for example surface access proposals or aviation activity.
- 5.216 The assessment should include the visibility and conspicuousness of the preferred scheme during construction and the presence and operation of the preferred scheme and potential impacts on views and visual amenity. This should include any noise and light pollution effects, including on local amenity, tranquillity and nature conservation.

Mitigation

- 5.217 Adverse landscape and visual effects may be minimised through appropriate design (including choice of materials), and landscaping schemes. Materials and designs for the Heathrow Northwest Runway scheme should be given careful consideration.

Decision making

Landscape impact

- 5.218 Landscape effects depend on the nature of the existing landscape likely to be changed and nature of the effect likely to occur. Both these factors need to be considered in judging the impact of the preferred scheme on the landscape. The preferred scheme

needs to be designed carefully, taking account of the potential impact on the landscape. Having regard to siting, operational and other relevant constraints, the development should aim to avoid or minimise harm to the landscape, providing reasonable mitigation where possible and appropriate.

Development proposed within nationally designated areas

- 5.219 Great weight should be given to conserving landscape and scenic beauty in nationally designated areas. National Parks, the Broads and Areas of Outstanding Natural Beauty have the highest status of protection in relation to landscape and scenic beauty. Each of these designated areas has specific statutory purposes which help ensure their continued protection and which the Secretary of State has a statutory duty to have regard to in decisions.
- 5.220 The Secretary of State should refuse development consent in these areas except in exceptional circumstances and where it can be demonstrated that it is in the public interest. Consideration of such applications should include an assessment of:
- The need for the development, including in terms of any national considerations, and the impact of consenting, or not consenting it, upon the local economy;
 - The cost of, and scope for, developing elsewhere, outside the designated area, or meeting the need for it in some other way; and
 - Any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.
- 5.221 Where consent is given in these areas, the Secretary of State should be satisfied that the applicant has ensured that the preferred scheme will be carried out to high environmental standards and, where possible, includes measures to enhance other aspects of the environment. Where necessary, the Secretary of State should consider the imposition of appropriate requirements to ensure these standards are delivered.

Developments outside nationally designated areas which might affect them

- 5.222 The duty to have regard to the purposes of nationally designated areas also applies when considering applications for projects outside the boundaries of these areas which may have impacts within them. The development should aim to avoid compromising the purposes of designation, and such projects should be designed sensitively given the various siting, operational, and other relevant constraints.

Developments in other areas

- 5.223 Outside nationally designated areas, there are local landscapes and townscapes that are highly valued locally and may be protected by local designation. Where a local development document in England has policies based on landscape character assessment, these should be given particular consideration. However, local landscape designations should not be used in themselves as reasons to refuse consent, as this may unduly restrict acceptable development.
- 5.224 In taking decisions, the Secretary of State will consider whether the preferred scheme has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to avoid adverse effects on landscape or to minimise harm to the landscape, including by reasonable mitigation.

Visual impact

- 5.225 The Secretary of State will judge whether the visual effects on sensitive receptors, such as local residents, and other receptors, such as visitors to the local area, outweigh the benefits of the development.

Land instability

Introduction

- 5.226 The effects of land instability may result in landslides, subsidence or ground heave. Failing to deal with this issue could cause harm to human health, local property and associated infrastructure, and the wider environment. They occur in different circumstances for different reasons and vary in their predictability and in their effect on development.

Applicant's assessment

- 5.227 Where necessary, land stability should be considered in respect of new development, as set out in the National Planning Policy Framework and supporting planning guidance.²¹⁸ Specifically, proposals should be appropriate for the location, including preventing unacceptable risks from land instability. If land stability could be an issue, the applicant should seek appropriate technical and environmental expert advice to assess the likely consequences of proposed developments on sites where subsidence, landslides and ground compression is known or suspected. Applicants should liaise with the Coal Authority if necessary.
- 5.228 A preliminary assessment of ground instability should be carried out at the earliest possible stage before a detailed application for development consent is prepared. The applicant should ensure that any necessary investigations are undertaken to confirm that their sites are and will remain stable, or can be made so as part of the development. The site needs to be assessed in the context of surrounding areas where subsidence, landslides and land compression could threaten the development during its anticipated life or damage neighbouring land or property. This could be in the form of a land stability or slope stability risk assessment report.

Mitigation

- 5.229 The applicant has a range of mechanisms available to mitigate and minimise risks of land instability. These include:
- Establishing the principle and layout of new development, for example avoiding mine entries and other hazards;
 - Ensuring proper design of structures to cope with any movement expected and other hazards such as mine and / or ground gases; or
 - Requiring ground improvement techniques, usually involving the removal of poor material and its replacement with suitable inert and stable material. For development on land previously affected by mining activity, this may mean prior extraction of any remaining mineral resource.

Dust, odour, artificial light, smoke and steam

- 5.230 The construction and operation of airports infrastructure has the potential to create a range of emissions such as dust, odour, artificial light, smoke and steam. All have the potential to have a detrimental impact on amenity or cause a common law nuisance or statutory nuisance under Part III, Environmental Protection Act 1990.²¹⁹ These may also be covered by pollution control or other environmental consenting regimes.

²¹⁸ <https://www.gov.uk/guidance/land-stability>

²¹⁹ <http://www.legislation.gov.uk/ukpga/1990/43/part/III>

- 5.231 Because of the potential effects of these emissions and in view of the availability of the defence of statutory authority against nuisance claims described previously, it is important that the potential for these impacts is considered by the applicant in its application, by the Examining Authority in examining applications, and by the Secretary of State in taking decisions on development consent.
- 5.232 For nationally significant infrastructure projects of the type covered by the Airports NPS, some impact on amenity for local communities is likely to be unavoidable. Impacts should be kept to a minimum and should be at a level that is acceptable.

Applicant's assessment

- 5.233 Where the development is subject to an Environmental Impact Assessment, the applicant should assess any likely significant effects on amenity from emissions of dust, odour, artificial light, smoke and steam, and describe these in the environmental statement.
- 5.234 In particular, the assessment provided by the applicant should describe:
- The type and quantity of emissions;
 - Aspects of the development which may give rise to emissions during construction, operation and decommissioning;
 - Premises or locations that may be affected by the emissions;
 - Effects of the emission on identified premises or locations; and
 - Measures to be employed in preventing or mitigating the emissions.
- 5.235 The applicant is advised to consult the relevant local planning authority and, where appropriate, the Environment Agency, about the scope and methodology of the assessment.

Mitigation

- 5.236 The Secretary of State should ensure the applicant has provided sufficient information to show that any necessary mitigation will be put into place. In particular, the Secretary of State should consider whether to require the applicant to abide by a scheme of management and mitigation concerning emissions of dust, odour, artificial light, smoke and steam from the development to reduce any loss to amenity which might arise during the construction and operation of the development. A construction management plan may help clarify and secure mitigation.

Decision making

- 5.237 The Secretary of State should be satisfied that all reasonable steps have been taken, and will be taken, to minimise any detrimental impact on amenity from emissions of dust, odour, artificial light, smoke and steam. This includes the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.
- 5.238 If development consent is granted for a project, the Secretary of State should consider whether there is a justification for all of the authorised project (including any associated development) being covered by a defence of statutory authority against nuisance claims. If the Secretary of State cannot conclude that this is justified, then the defence should be disapplied, in whole or in part, through a provision in the development consent order.

Community compensation

Introduction

- 5.239 The Secretary of State recognises that, in addition to providing economic growth and employment opportunities, airport expansion will also have negative impacts upon local communities. This will include impacts through land take requiring the compulsory acquisition of houses that fall within the new boundary of the airport, exposure to air quality impacts, and aircraft noise, that is both an annoyance and can have an adverse impact on health and cognitive development.
- 5.240 The Secretary of State expects the applicant to provide an appropriate community compensation package, relevant to planning. This will include financial compensation to residents who will see their homes compulsorily acquired, as well as ongoing financial compensation to the local community. In addition to controlling and reducing aircraft noise impacts, the applicant will be required to commit appropriate resources to mitigate the impacts of aircraft through noise insulation programmes for both private homes and public buildings such as schools.
- 5.241 A number of statutory protections are provided in these areas, and the applicant must fulfil its statutory duties in a timely and efficient manner.
- 5.242 Under planning law, residential and agricultural owners in the area within the red line on the map shown in Annex A will be able to make a claim for statutory blight upon the designation of the Airports NPS.
- 5.243 In addition, compensation can be sought in respect of loss of value of a property arising from the development during construction (under the Compulsory Purchase Act 1965)²²⁰ and for loss of value arising from the operation of an expanded airport (under Part 1 of the Land Compensation Act 1973)²²¹ after one year of operation.
- 5.244 People are entitled to know what steps will be taken to help protect them against aircraft noise and, where appropriate, to help them to move house.
- 5.245 In addition to statutory requirements, Heathrow Airport has publicly committed to a community compensation package comprising a number of more generous offers:
- To pay 125% of market value, plus taxes and reasonable moving costs, for all owner occupied homes within the compulsory acquisition zone;²²²
 - To pay 125% of market value, plus taxes and reasonable moving costs, for all owner occupied homes within an additional voluntary purchase / acquisition zone incorporating the area known as the Heathrow Villages;²²³
 - Following a third party assessment, to provide full acoustic insulation for residential property within the full single mode easterly and westerly 60dB LAeq (16hr)²²⁴ noise contour of an expanded airport;
 - Following a third party assessment, to provide a contribution of up to £3,000 for acoustic insulation for residential properties within the full single mode easterly and

²²⁰ <http://www.legislation.gov.uk/ukpga/1965/56/contents>

²²¹ <http://www.legislation.gov.uk/ukpga/1973/26/contents>

²²² <http://your.heathrow.com/newpropertycompensation/>

²²³ <http://your.heathrow.com/newpropertycompensation/>

²²⁴ Leq is the measure used to describe the average sound level experienced over a period of time (usually sixteen hours for day and eight hours for night) resulting in a single decibel value. Leq is expressed as LAeq when it refers to the A-weighted scale

westerly 57dB LAeq (16hr) or the full 55dB Lden²²⁵ noise contours of an expanded airport, whichever is the bigger; and

- To deliver a programme of noise insulation and ventilation for schools and community buildings within the 60dB LAeq (16hr) contour.²²⁶

5.246 In addition to the statutory requirements and the public commitments made by Heathrow Airport, the Government also supports the Airports Commission's recommendation for an additional component of ongoing community compensation proportionate to environmental impacts.

5.247 The Airports Commission suggested this should take the form of a national noise levy paid for by passengers. The Government does not consider a national levy appropriate, but supports the development of a community compensation fund at an expanded Heathrow Airport. The Government expects that the size of the community compensation fund will be proportionate to the environmental harm caused by expansion of the airport. The Government notes that, in its consideration of a noise levy, the Airports Commission considered that a sum of £50 million per annum could be an appropriate amount at an expanded Heathrow Airport, and that, over a 15 year period, a community compensation fund could therefore distribute £750 million to local communities.

5.248 Expansion at Heathrow Airport is likely to increase the amount of locally collected business rates in the area. The Government will consider how authorities can benefit from this through a business rate retention scheme and the opportunities for authorities to work together to share the benefits. Heathrow Airport is currently the highest single site business rates payer in the UK.²²⁷

Applicant's assessment

5.249 The Government expects to see arrangements being made for the community compensation schemes which Heathrow Airport has publicly stated would be provided, and for a community compensation fund.

5.250 The applicant should seek to minimise impacts on local people, to consult on the details of its works, and to put them in place quickly. The Government also looks to the applicant to consult on the detail of a community compensation fund.

Decision making

5.251 The Secretary of State will consider whether and to what extent the applicant has sought to minimise impacts on local people, has consulted on the details of its works, and has put mitigations in place, at least to the level committed to in Heathrow Airport's public commitments. This includes whether the applicant has set out appropriate eligibility criteria, how delivery will be ensured, and whether the applicant has made reasonable efforts to put the works in place quickly.

5.252 The Secretary of State will also consider whether the applicant has consulted on the details of a community compensation fund, including source of revenue, size and duration of fund, eligibility, and how delivery will be ensured.

5.253 The Secretary of State will expect the applicant to demonstrate how these provisions are secured, and how they will be operated. The applicant will also need to show how these measures will be administered to ensure that they are relevant to planning when in operation. The mechanisms for enforcing these provisions should also be

²²⁵ Lden is the 24 hour LAeq calculated for an annual period, but with a five decibel weighting for evening and a ten decibel weighting for night to reflect people's greater sensitivity to noise within these periods

²²⁶ <http://your.heathrow.com/newpropertycompensation/>

²²⁷ <http://www.cvsuk.com/news-resources/news/draft-list-release>

demonstrated, along with the appropriateness of any identified enforcing body, which may include the Secretary of State.

Community engagement

Introduction

- 5.254 The Government recognises that the planning, construction, and subsequent operation of a Northwest Runway will bring both significant impacts and opportunities to communities living around Heathrow Airport. Communities will wish to participate fully in the development and delivery of expansion, and the Government expects them to be able to do so.
- 5.255 There will be many opportunities for communities to engage as expansion is taken forward. The Government is required to consult on and publicise the Airports NPS, and the applicant is subject to pre-application consultation duties. Additional consultations on issues such as airspace change, overseen by the Civil Aviation Authority, will take place outside of the planning process. Ongoing engagement will also be required as the applicant takes forward its compensation package.
- 5.256 The Government wishes to maximise local stakeholder engagement with the expansion process, and it wishes to encourage any applicant and local stakeholders to strengthen the way in which the airport and local stakeholders work together to make engagement effective. Local stakeholders, including those representing communities around Heathrow Airport, have the experience and expertise to identify solutions tailored to their specific circumstances. A number of engagement forums already exist at Heathrow Airport. These have developed over time in response to emerging needs and are consistent with the Government's view that, in principle, it encourages collaborative local solutions.
- 5.257 A community engagement board will be developed at Heathrow Airport to help to ensure that local communities are able to contribute effectively to the delivery of expansion, including to consultations and evidence gathering during the planning process.

Applicant's assessment

- 5.258 The applicant must engage constructively with the community engagement board throughout the planning process, with its membership (including an independent chair), and with any programme(s) of work the community engagement board agrees to take forward.

Decision making

- 5.259 The Secretary of State will consider whether the applicant has engaged constructively with this community engagement board throughout the planning process.

Skills

Introduction

- 5.260 The Government is committed to helping people into jobs and improving the skills of the UK workforce, with a target of three million new apprenticeships being created in the current Parliament.²²⁸ Continuing to create jobs and new training opportunities will

²²⁸ <https://www.gov.uk/government/news/government-kick-starts-plans-to-reach-3-million-apprenticeships>

help to consolidate the national economic recovery, put the UK on the path to full employment and raise the nation's productivity. Apprenticeships have an essential role to play within this work, helping individuals to develop key skills which will benefit both them and employers.

- 5.261 To help deliver the Government's wider skills agenda, the Department for Transport published *Transport Skills Strategy: building sustainable skills* in January 2016, setting out its skills strategy for transport, including aviation, and an additional 30,000 apprenticeships by 2020 across the road and rail sectors.²²⁹ The Strategic Transport Apprenticeship Taskforce has been created to deliver this work.²³⁰
- 5.262 The Government notes that Heathrow Airport already makes a significant contribution to local employment and already has a number of skills and employment initiatives designed to support the business needs of the airport. The Heathrow Academy, established in 2004, supports recruitment and retention of local residents across the retail, construction, aviation and logistics sectors, and includes apprenticeships as a part of the package.²³¹
- 5.263 The Government notes that, with expansion, Heathrow Airport has publicly committed to ensuring 10,000 apprenticeships before 2030, thereby doubling the number currently available at the airport and in its supply chain and airport-related businesses.²³²
- 5.264 The Heathrow Northwest Runway scheme represents an opportunity to grow the number of jobs and apprenticeships supported by the applicant and its supply chain and airport-related businesses, particularly in neighbouring communities.

Applicant's assessment

- 5.265 Heathrow Airport should put in place arrangements for the delivery of the 5,000 new apprenticeships which it has publicly stated would be created. Heathrow Airport should set out the timetable for delivering the apprenticeships, provide information on the areas and skills to be covered by these apprenticeships, the breakdown between opportunities to be created within the core airport and those being offered by companies within its supply chain and other airport-related businesses, and the qualification level and standards which they will need to achieve. Heathrow Airport should also set out how it will publicly report progress against the target.
- 5.266 The Government expects the applicant to maximise the employment and skills opportunities for local residents, including apprenticeships.
- 5.267 Heathrow Airport will also need to show how these measures will be administered to ensure that they are relevant to planning when in operation. The mechanisms for enforcing these provisions should also be demonstrated, along with the appropriateness of any identified enforcing body, which may include the Secretary of State.

Decision making

- 5.268 The Secretary of State will consider whether Heathrow Airport has set out a credible plan to implement its commitment to deliver a total of 10,000 apprenticeships at an expanded airport.

²²⁹ <https://www.gov.uk/government/publications/transport-infrastructure-skills-strategy-building-sustainable-skills>

²³⁰ <https://www.gov.uk/government/news/strategic-transport-apprenticeship-taskforce-to-boost-apprenticeships>

²³¹ <http://www.heathrow.com/company/heathrow-jobs/heathrow-academy>

²³² <https://www.heathrowexpansion.com/uk-growth-opportunities/job-opportunities/>

5.269 The Secretary of State will consider how these provisions are secured, and how they will be operated.

Ruling out a fourth runway

Introduction

- 5.270 As part of its work, the Airports Commission considered the possibility that, in addition to the increased capacity provided by a Northwest Runway at Heathrow Airport, the airport might wish in the future to develop a fourth runway. The Airports Commission found no sound case for such a development.
- 5.271 First, the Airports Commission concluded that the airspace around the airport would be increasingly difficult to manage if a fourth runway was built. It noted that the airport could safely support 800,000 air transport movements per year at a four runway site, only 60,000 more than under the (three runway) Heathrow Northwest Runway scheme, but that the airspace impacts would lead to reduced numbers of air transport movements at the other airports in the London area.
- 5.272 Second, the Airports Commission concluded that it would be increasingly challenging to physically accommodate a fourth runway at the Heathrow Airport site. Taken together, these conclusions mean that building a fourth runway at Heathrow Airport would result in significant costs while providing less overall additional benefit.
- 5.273 Finally, the Airports Commission noted that there would be no guarantee that the potential demand for a further runway would be backed by a strong economic or environmental case. Any project to deliver a fourth runway at Heathrow Airport would be costly and extremely difficult to deliver given all of these considerations.
- 5.274 The Airports Commission also noted the importance of a clear signal from Government on limiting expansion to reassure local communities that Heathrow Airport will not expand any further.

Decision making

- 5.275 The Government agrees with the Airports Commission's recommendation and the analysis that underpins it, and therefore does not see a need for a fourth runway at Heathrow Airport. An application in the vicinity of Heathrow Airport for a fourth runway would not be supported in policy terms, and should be seen as being in conflict with the Airports NPS.

Annex A: Heathrow Northwest Runway scheme boundary map



© Heathrow Airport Limited.

This drawing may contain Ordnance Survey Mastermap and Raster data. OS Copyright Acknowledgement. Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and database right. All rights reserved. Heathrow Airport Limited, O.S. Licence Number 100020071.

