

Working paper summarising affordability and financeability modelling for capacity expansion at Heathrow airport

CAP1812



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About this document

This working paper sets out our updated assessment of the affordability and financeability of the development of new runway capacity at Heathrow. It follows on from the initial assessment of affordability and financeability included within our consultation in April 2018, updating that assessment to take account of developments in HAL's masterplanning process for the expansion of Heathrow airport.

Views invited

We welcome views on all the issues raised in this working paper.

Please e-mail responses to economicregulation@caa.co.uk by no later than 13 August 2019. We cannot commit to take into account representations received after this date.

We expect to publish the responses we receive on our website as soon as practicable after the period for representations expires. Any material that is regarded as confidential should be clearly marked as such and included in a separate annex. Please note that we have powers and duties with respect to information under section 59 of the Civil Aviation Act 2012 and the Freedom of Information Act 2000.

If you would like to discuss any aspect of this document, please contact Dan Rock (economicregulation@caa.co.uk).

Updated assessment of affordability and financeability

Introduction

- 1.1 This working paper follows on from the initial assessment of the affordability and financeability included within the April 2018 Consultation.¹ It sets out our updated assessment and has also been used to inform our response to the Department for Transport's (DfT's) January 2019 request² for our views on whether there are "credible scenarios" in which Heathrow Airport Limited ("HAL") can deliver its proposed masterplan in line with the Secretary of State's ambition on airport charges remaining affordable.³
- 1.2 Since the April 2018 Consultation, there have been a number of developments in the wider expansion and masterplanning process, including that HAL has:
- identified a single preferred masterplan;
 - changed the scope of the work due to take place during the H7 price control period (presently envisaged to be for the five year period between 2022 and 2026);
 - revised its cost projections to set the overall capital expenditure envelope to deliver the new runway and associated infrastructure to about £14 billion⁴ (in line with the change in the scope of work during H7 price control period noted above); and
 - provided us with updated cost and revenue projections based on its single preferred masterplan.

¹ See CAP1658: Economic regulation of capacity expansion at Heathrow: policy update and consultation ("the April 2018 Consultation") www.caa.co.uk/CAP1658

² https://www.caa.co.uk/uploadedFiles/CAA/Content/Accordion/Standard_Content/Commercial/Airports/DfT%20response%20to%20Sept%202018%20enhanced%20engagement.pdf

³ In October 2016 the Secretary of State stated that "The aim should be to deliver a plan for expansion that keeps landing charges close to current levels", see <https://www.gov.uk/government/news/government-decides-on-new-runway-at-heathrow>

⁴ In 2014 prices

- 1.3 Throughout this working paper we refer to HAL's "preferred masterplan". Nonetheless it is important to recognise that it is still subject to consultation with airlines and through the statutory process under the Planning Act 2008.
- 1.4 The Government designated the Airports National Policy Statement (the "NPS") in June 2018.⁵ The NPS states that an applicant for development consent "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."⁶ An approach to capacity expansion that minimises whole life efficient costs should contribute towards making charges affordable and be consistent with the interests of consumers.
- 1.5 Stakeholders have consistently said that capacity expansion should be both affordable and financeable. Airlines, in particular, have retained a sharp focus on affordability, regarding it as a key indicator of success for the airport-airline engagement process, which is the focus of our "Section 16" reporting to Secretary of State and DfT.⁷
- 1.6 The assessment of affordability and financeability set out in this working paper is intended to update stakeholders on these matters following HAL's work on its single preferred master plan. HAL will also produce its statutory consultation for Heathrow expansion as part of the planning process, which it is due to launch on 18 June 2019.⁸
- 1.7 The April 2018 Consultation on affordability and financeability noted that the modelling of these issues relies on the quality and accuracy of the input data (including forecasts of costs, non-aeronautical ("non-aero") revenues and passenger traffic). While HAL has now produced its preferred master plan, significant uncertainties remain. These are in relation to the level of early

⁵ See: <https://www.gov.uk/government/speeches/airports-national-policy-statement>

⁶ Paragraph 4.39 of the NPS:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/714106/airports-nps-new-runway-capacity-and-infrastructure-at-airports-in-the-south-east-of-england-web-version.pdf

⁷ For more details of our Section 16 reporting, see: <https://www.caa.co.uk/Commercial-industry/Airports/Economic-regulation/H7/Enhanced-Engagement-Section-16/>

⁸ <http://mediacentre.heathrow.com/pressrelease/details/81/Expansion-News-23/11085>

spending (i.e. before planning consent has been granted) and the level of overall programme spending. While we have modelled a base case (based on HAL's current masterplan) and a higher capital expenditure ("capex") scenario (with delays to the profile of capital spending), this approach does not necessarily reflect the full range of uncertainty with respect to these matters. We intend to consult further on early costs and the implications of the regulatory treatment of these costs for the regulatory and wider programme timetable later this month.

- 1.8 Following this working paper, we expect that the next assessment of affordability and financeability to be set out by HAL and included in its initial business plan. We anticipate that HAL will submit this to the CAA in December 2019 and commence its engagement with airlines on the plan at the same time.

Summary

- 1.9 The analysis in this working paper is high level and illustrative and is intended to update stakeholders in the light of the latest available information on capacity expansion at Heathrow. While the base case is informed by information from HAL's masterplan, the scenarios are illustrative rather than detailed "bottom up" or engineering led options. Nonetheless, the analysis is intended to inform stakeholders' understanding of the extent to which there are credible scenarios in which expansion of Heathrow is both affordable and financeable.
- 1.10 The analysis indicates that there are a range of credible scenarios that are both affordable and financeable. There are also scenarios where affordability and financeability would be more difficult. These broad findings are consistent with the results of our assessment in the April 2018 Consultation.
- 1.11 The scenarios we have assessed for this working paper are focused on HAL's masterplan, rather than variances that might emerge in the longer run, for instance if trends in commercial revenues or operating costs turn out to be different from current expectations. We also note that stakeholders may have their own views on the scenarios it is most appropriate to consider and on how affordability and financeability should be assessed.

- 1.12 We have continued to assume that affordability can reasonably be judged in terms of airport charges per passenger that are broadly consistent with 2016 levels in real terms. It was in 2016 when the Secretary of State indicated his preference for capacity expansion at Heathrow and stated that “the aim should be to deliver a plan for expansion that keeps landing charges close to current levels”.⁹ In assessing affordability, and considering our approach to affordability in the future, we will continue to be guided by our overall focus on the interests of consumers, informed by the views of airlines, and retaining their support for capacity expansion at Heathrow.
- 1.13 As for financeability, our work remains at a relatively early stage and our analysis is in terms of a simple notional financial structure (consistent with the approach economic regulators tend to take in setting price controls). Over the coming months, we expect to significantly enhance our analysis of financeability as we are developing our financial modelling capability and have appointed Centrus as strategic financial advisors.
- 1.14 Given our analysis is at a relatively early stage, it also has wider limitations:
- while the base data on capex comes from HAL’s masterplanning process and has been subject to a degree of detail assessment, (a) HAL is continuing to consult on and develop its masterplan and (b) other key aspects of the base input data (including on operating expenditure (“opex”), non-aero revenues and passenger traffic) have been derived from relatively high level and stylized analysis;
 - the scenarios are intended to be plausible assessments of possible upsides and downsides, but are not based on detailed engineering assessments and do not reflect the full range of possible outcomes for the capacity expansion programme and affordability and financeability; and
 - the regulatory framework and price control arrangements have yet to be finalised, so there are a number of important aspects to be further developed, including the cost of capital, incentive framework, and the

⁹ See <https://www.gov.uk/government/news/government-decides-on-new-runway-at-heathrow>

treatment of early costs (together with the possible implications of this for the wider programme timetable). The analysis assumes a notional financial structure similar to the arrangements used to set the existing Q6 price control and we will consider further whether this approach remains appropriate for our work on capacity expansion. All these factors could have a significant influence on both affordability and financeability.

The financial model, data and scenarios

The financial model

- 1.15 The analysis described in this working paper was conducted using the same underlying model which we used to conduct the analysis we published in the April 2018 Consultation.¹⁰
- 1.16 We made this model available¹¹ and have since received feedback on it from a range of stakeholders. We have subsequently updated the model in the light of these comments. The aims of the updates were to:
- improve the reliability and useability of the model; and
 - adopt best practice where practical.
- 1.17 We note that many of the stakeholder comments indicated that this model is not easy to use. In response to this feedback we are developing a new price control model ("PCM"). The PCM represents the next major step in our modelling capability. The PCM will provide a wider range of functionality while being more transparent.

Data and assumptions

- 1.18 The main drivers of the model results are the following input data and assumptions:

¹⁰ The notional regulatory framework described by the Regulatory Financial Model remains unchanged from April 2018.

¹¹ See: <https://www.caa.co.uk/Commercial-industry/Airports/Economic-regulation/H7/Financial-Modelling/>

- an opening regulatory asset base (derived from the current Q6 price control period) and depreciation profiles;
- capital expenditure (capex);
- operating expenditure (opex);
- non-aero revenues (commercial revenues HAL derives from operating the airport that are in addition to airport charges);
- passenger traffic volumes; and
- the cost of capital.

1.19 The analysis presented in this working paper is based on data provided by HAL following its programme milestone known as M4 Exit (“M4E”). This is the first point at which HAL has identified a single preferred masterplan for expansion.

1.20 Important context for the M4E numbers is that they relate to a different phasing of construction from the “Westerly Option” numbers that we used for our analysis of affordability and financeability in the April 2018 Consultation. The overall level of capex before runway opening has remained at about £14 billion, albeit that the change in phasing means that, by that point, a different scope of works¹² will have been completed.

1.21 We understand from discussions with HAL that its focus in developing the M4E figures has principally been on the capital expenditure (capex), for which a detailed and phased disaggregation was available.

1.22 Closely related to the capex figures are the capacity and passenger volumes used in the model. We used HAL’s data for our base case passenger volume profile. This profile reflects an assumption of relatively high¹³ passenger demand growth and was developed with input from airlines (and so is not a HAL forecast). As well as the additional volumes resulting from the incremental runway capacity, three key drivers contribute to further growth within this profile:

- fleet “densification” (i.e. a greater number of seats per aircraft over time);

¹² Which will still be consistent with national policy statement requirements.

¹³ In the context of other passenger volume forecasts such as HAL’s P50 case.

- optimisation of slot and network use to boost passenger load factors; and
- consolidation of some carriers' London network at Heathrow in a staged manner following runway opening.

- 1.23 This passenger demand profile was then constrained to the capacity profile that HAL developed in conjunction with the M4E capex profile.
- 1.24 We have discussed with HAL how best to produce projections for opex and non-aero revenues. For the period of the H7 price control, opex and non-aero revenues will derive largely from existing infrastructure. We expect that, with the opening of new capacity (currently planned for late 2026), opex and non-aero revenues will increase as passenger numbers rise.
- 1.25 Nonetheless, we remain at a relatively early stage in the process for producing detailed forecasts of opex and non-aero revenues. The detail of new terminal infrastructure has yet to be designed and security standards and arrangements may evolve over time. We have discussed and worked with HAL on how best to make projections of opex and non-aero revenues consistent with the capex and passenger volume profiles. The high level approach to these projections is discussed further in Appendix B, which also includes charts summarising the input data used in our scenarios.
- 1.26 We discuss the cost of capital and depreciation profiles in the section below.

Scenarios

- 1.27 Our overall aim is to assess whether there are 'credible scenarios' for the development of expansion that are both affordable and financeable. To do this, we examined a range of scenarios and looked at what each of those implied for airport charges and a range of measures of creditworthiness (as discussed further in the financiability section below).
- 1.28 The focus of our analysis is on the impact of capex and associated risks (such as construction delays and their consequential impacts). We have taken this approach as it aligns with HAL's focus in producing its masterplan. Capex tends to have a greater impact on both affordability and financeability than items such as opex and non-aero revenues (since, historically, opex has tended to grow in a