

Economic regulation of Heathrow Airport Limited: H7 Initial Proposals

Section 1: Overall approach and building blocks

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Chapter 1

Overall approach to regulation

Introduction

- 1.1 In the April 2021 Way Forward Document, we confirmed that we intend to set a five-year price control for H7, calculated on the basis of the continued use of:
- a “single till” covering commercial and regulated revenues;
 - a RAB and allowed return/cost of capital; and
 - assumptions about passenger numbers, operating and capital costs and commercial revenues (key price control “building blocks”).
- 1.2 We have applied similar price controls to HAL in previous regulatory periods, and they have also been used in many other regulated industries. This approach is designed to further the interests of consumers, including by protecting them from the risk of abusive conduct. Without the price control and associated incentive arrangements there would be a risk of excessive prices, a lack of investment and/or declining service standards. A core element of this approach is to encourage the regulated firm to improve efficiency to the long-term benefit of consumers.
- 1.3 Nevertheless, in view of the continuing impact of the covid-19 pandemic on the aviation industry and HAL, it is appropriate to consider changes to the approach we adopted to setting the Q6 price control. For instance, our preferred option is to retain a five-year price control but to introduce a new traffic risk sharing (“TRS”) mechanism to help deal with the continued uncertainty over traffic levels during H7.
- 1.4 This chapter:
- summarises the views we set out on uncertainty mechanisms and risk sharing arrangements in the April 2021 Way Forward Document;
 - explains the main points made by stakeholders on these matters and the overall approach to regulation summarised above;
 - set outs out our latest views and Initial Proposals; and
 - summarises next steps and implementation issues.

Background and the April 2021 Way Forward Document

- 1.5 Following discussion of possible risk sharing mechanisms in previous consultations, in the April 2021 Way Forward Document we said that we were minded to develop passenger traffic or revenue risk sharing arrangements to deal with the significant level of uncertainty about future passenger traffic volumes, as the aviation industry and HAL recover from the impacts of the covid-19 pandemic.

- 1.6 In this context, we considered that changes were needed to further the interests of consumers by:
- clarifying and limiting the risks that HAL might see significant gains or losses depending on the pace of the recovery in passenger traffic volumes (over which HAL has limited control). This could directly benefit consumers through lower charges and limit the upward pressure on HAL's cost of capital, which would feed through to higher charges; and
 - allowing us to continue to facilitate the benefits for consumers that accrue from a five-year price control for the H7 period. These include stability in the regulatory regime and airport charges which enable both HAL and the airlines (that serve consumers at Heathrow airport) to plan their businesses for the benefit of consumers.
- 1.7 We discussed the advantages and disadvantages of either TRS or revenue risk sharing, and said that we would consider this issue further. We also said that:
- to moderate the impact of general uncertainty (and not just extreme events), there was a reasonable case for applying some risk sharing to all deviations from the forecasts used to calibrate the H7 price control, rather having 'dead bands' with no risk sharing;
 - to protect HAL from extreme events, there might be stronger risk sharing for larger deviations from our forecast. But even in these cases it would be important for HAL to retain some incentive to support the growth in passenger numbers and to avoid perverse incentives that might act contrary to the interests of consumers;
 - implementing risk sharing by adjusting the RAB in the following regulatory period (rather than by adjusting charges later in the same period) could be in the interests of consumers, as it would reduce the risk of airport charges increasing at a time when airlines were already facing lower than expected demand; and
 - we would consider the relative merits of basing the risk sharing mechanism on either annual or cumulative differences between outturns and forecasts.
- 1.8 In response to HAL's proposal for a reopener condition in its licence, we reiterated our previous view that policy guidance on when reopening a price control could be a more effective approach than a formal reopener. This reflected, among other things:
- the likelihood that the circumstances that might justify reopening a price control could be complex in nature and so difficult to enshrine in a formal licence condition, given that HAL will already have a reasonable degree of protection from traffic-related shocks; and
 - the limited certainty that a formal reopener would provide in practice because of the need for specificity and certainty in licence conditions, whereas policy guidance could facilitate a more flexible approach.

Stakeholders' views

Overall form of control

- 1.9 HAL welcomed confirmation that we would use a five-year regulatory framework, and stated that it largely agrees with the key reasons we set out for implementing risk sharing in H7. However, it re-iterated its previous proposals for:
- revenue risk sharing rather than TRS, to accommodate uncertainty about commercial revenues (for example reflecting changes in consumer behaviour after the covid-19 pandemic and future changes to VAT policy) and to reflect HAL's financial performance in the round; and
 - the use of dead bands, which it argued would foster both closer commercial cooperation with airlines and commercial incentives on HAL. It stated that, without dead bands, all fluctuations in performance would be passed on to consumers.
- 1.10 HAL agreed with our broad suggestion to implement risk sharing by adjusting the RAB but also commented on how this approach should be implemented. It stated that the adjustment should be based on annual (rather than cumulative) differences, so that HAL's RAB can be adjusted each year. This would help mitigate the impacts of large deviations on HAL's credit metrics and financial covenants. It also said that, to assist financeability in the case of material or prolonged deviations from forecast, the H7 price control should be adjusted to reflect such changes to the RAB in the same way as the current development capex adjustment.¹
- 1.11 In addition to its proposed revenue risk sharing mechanism, HAL repeated its previous suggestions that there should be a reopener condition in its licence. It provided a draft proposal which stated, among other things, that:
- HAL would be able to apply for an adjustment to the price control following a material change of circumstances (for example a change of more than 20 per cent of revenues for at least two years in succession) or where a "fundamental assumption" adopted in our final proposals proved to be incorrect; and
 - we would be required to respond to any such application within 60 days, either implementing the proposed adjustment or rejecting the application.
- 1.12 The AOC/LACC said that airlines do not support revenue risk sharing and they explicitly rejected HAL's proposal. They remained open to a well-designed TRS scheme and proposed the following principles for the mechanism:
- it must lead to a transparent and evidence-based reduction in HAL's cost of capital;
 - it should be based on an understanding of efficient opex and commercial revenues across a range of traffic scenarios;

¹ See Condition C1.9 of HAL's licence.

- it should not weaken or distort HAL's incentives for achieving efficiencies and growth; and
- it should take full account of the single till, especially as some mechanisms could lead to higher charges for airlines at times when demand is lower than expected.

1.13 British Airways (BA) also welcomed our support for a five-year price control using a single till and calculated from RAB-based building blocks. It supported the principles put forward by the AOC/LACC in relation to a TRS mechanism as well as highlighting the possible risk of price volatility. It rejected HAL's proposed revenue risk sharing mechanism, which it argued would result in outcomes that would be substantially inferior in certain scenarios.

1.14 BA also suggested that an alternative mechanism could be considered using a passenger number divisor based on Heathrow's existing capacity (rather than our forecasts).

Other uncertainty mechanisms

1.15 In addition to revenue risk sharing and a reopener provision, HAL proposed arrangements to deal with several other uncertainties:

- an expansion of the current 'S factor' in the price control formula (which allows a partial pass-through of costs resulting from changes to security standards) to cover costs arising from changes to health and safety standards;
- provision for an adjustment to the price control if a legal or regulatory change or decision meant that HAL could no longer collect the revenues forecast for its new terminal drop-off charge;
- a new pass-through mechanism in the price control formula for CAA licence fees;
- a new "expansion framework trigger" in the licence to describe a process to develop the regulatory framework for expansion and the treatment of expansion costs in particular; and
- whereas the current price control formula includes provision for the partial pass-through of the impact of the 2017 business rate revaluation, HAL proposed instead that business rates should be recovered through other regulated charges (ORCs) and any change in business rates recovered through the ORC mechanism.

1.16 Airlines stated that they do not agree with business rates being treated as an ORC (as they are not influenceable at an operational level like other ORCs) nor with CAA licence fees being passed through. Regarding expansion they stated that:

- it was not a matter for H7 but, in the event that expansion plans materialise during H7, airlines will review these plans and engage with CAA on the process of how they might be considered; and

- we should give consideration to (a) alternative delivery mechanisms, (b) ensuring a detailed framework and governance process is in place in advance of any further expenditure, and (c) the level of costs incurred by HAL to date.

Our views

The overall form of the H7 price control

- 1.17 For the reasons set out above, we continue to consider that a risk sharing mechanism should be included in the price control formula for H7. We consider that a TRS mechanism is preferable to revenue risk sharing for H7 as a means of implementing this in the interests of consumers. In particular, we note that:
- revenue risk sharing would reduce HAL's incentives to optimise commercial revenues. Furthermore, revenue risk sharing could distort HAL's incentives on decisions which have implications for both commercial revenues and opex (as HAL would bear the full risk of opex changes during H7 but a reduced share of risk for revenue changes). Under the single till approach, optimising commercial revenues also benefits consumers by leading to lower charges in future;
 - TRS should promote transparent, accountable, proportionate and consistent regulation, as it is simpler and clearer than revenue risk sharing (which would be based on an amended definition of revenues that excludes ORCs, revenues from the terminal drop-off charge, and any other revenues that are subject to specific pass-through or similar mechanisms); and
 - TRS has already been applied at a number of other European airports, and so may bring less risk of unintended consequences than revenue risk sharing. Under revenue risk sharing, for example, a special adjustment might be required if HAL were to restructure, outsource or bring back in-house any of its commercial activities in a way that leads to artificial changes in its recorded revenues.
- 1.18 While HAL argued for revenue risk sharing on the grounds that it would help to address certain specific uncertainties arising during H7, we consider that most of these uncertainties fall within the normal range of commercial risk that HAL faces in each five-year period. The only exception is revenue from the new terminal drop-off charge, for which we are proposing a specific partial pass-through (see Chapter 5). We also note that, even under HAL's proposed revenue risk sharing mechanism, it would continue to bear full commercial revenue risk, as well as full traffic risk, as long as revenues were within eight per cent of the forecast used to set the price control.
- 1.19 Our proposed TRS mechanism is designed for the specific circumstances of the exceptional uncertainty observable at the start of H7. Given the experience of the impact of the covid-19 pandemic it is likely that enhanced risk sharing arrangements will be appropriate for the future, but we will not make any final decisions on these matters as part of this price control review. If we decide to include similar risk sharing arrangements in future price controls (i.e. for H8 and beyond), a TRS mechanism may provide a more suitable starting point for such

arrangements, but we would also want to learn from the experience of the operation of these arrangements during the H7 period.

- 1.20 We consider the TRS mechanism should be based on cumulative deviations between forecast and outturn traffic levels during H7, rather than annual deviations. It is deviations over the whole price control period that have the greatest potential to create risk rather than annual deviations (which may cancel out). Also, if a mechanism were based purely on annual deviations and this were to feed through to annual changes in prices this could cause a degree of unhelpful instability in the level of airport charges.
- 1.21 We recognise HAL's argument that updating the RAB calculations during H7 may assist with financeability. We think that such updating is possible with either an annual or a cumulative approach. So, we propose that HAL's RAB should be updated each year to reflect a "running total" of cumulative deviations to date during H7. That said, we do not agree that charges during H7 should be adjusted in a similar way to the "development capex" adjustment. This approach would add further complexity to the price control and could lead to higher charges for airlines and the consumers they serve when they are already facing the impact of low demand, while it would have only a minor impact on HAL's financeability.
- 1.22 We agree with some of the points raised by airlines, for example that the TRS mechanism should take account of how opex and commercial revenues vary with traffic levels. While we also agree that the mechanism should not unduly distort HAL's incentives for efficiency and growth, we note some weakening of incentives is almost unavoidable with a risk sharing mechanism. Nevertheless, by adopting TRS rather than revenue risk sharing and through our choice of parameters (see below), we have sought to limit such effects.
- 1.23 The airlines also said that the TRS mechanism must lead to a transparent and evidence-based reduction in HAL's cost of capital. While we agree that the introduction of TRS should reduce HAL's cost of capital (relative to the cost of capital that would apply without TRS), we discuss in Chapter 9 the difficulties we face in trying to estimate a precise impact. The TRS also helps limit adjustments for asymmetric risk as discussed in Chapter 7. In any case, limiting the upward pressure on HAL's cost of capital is only one of the advantages of TRS. Others include stability in the regulatory regime and airport charges as the introduction of TRS makes it more practicable to set a five-year price control, which furthers the interests of consumers by allowing for the smoothing of charges and for a medium-term view of HAL's financeability.
- 1.24 As noted above, BA suggested an alternative mechanism based on Heathrow's existing capacity rather than forecasts of likely traffic volumes during H7. Our current view is that:
- in practice this approach would require hypothetical forecasts of the efficient costs and commercial revenues for an airport operating at full capacity, together with assumptions or projections about how these costs and revenues would vary for different levels of traffic below full capacity;
 - our current approach, based on an assessment of efficient costs and revenues for a realistic "central case" traffic forecast, is more straightforward, easier to implement and significantly more transparent;

- it is not clear that this proposed approach would easily lend itself to different degrees of risk sharing, such as stronger risk sharing for more extreme outcomes, which is an important element of our current proposal; and
- to the extent that this proposal is motivated by concerns about HAL attempting to artificially restrict capacity,² we consider this risk to be small. In any case we have other tools that could be used in such circumstances, such as through investigatory/enforcement activity under Condition B3 (Promoting economy and efficiency) of HAL's licence.

- 1.25 The proposed TRS mechanism described below is intended to reduce the impact of the general uncertainty about traffic levels in H7 and also to give HAL a relatively high (but not complete) degree of protection from the impact of more extreme events.
- 1.26 In addition, for the reasons set out in the April 2021 Way Forward Document and summarised above, to the extent that additional broad-based protection from unanticipated shocks is appropriate, we remain of the view that policy guidance on the circumstances that might justify reopening a price control is preferable to a formal reopener condition in HAL's licence.
- 1.27 As for the specifics of the "reopener condition" put forward by HAL, we do not consider that the proposed definition of a material change is helpful, especially as HAL will already benefit from the TRS mechanism (and the other uncertainty mechanisms discussed below). We also do not consider it sensible to impose rigid timescales on a process that, by definition, would only be invoked in highly unusual, and likely complex, circumstances.
- 1.28 We will consider these matters further as part of our work on Final Proposals. Given the other steps we are taking to improve risk sharing arrangements, we will need to give careful consideration to the case for providing guidance on reopening the H7 price control, and the nature and scope of any such guidance. If we do put in place any guidance on reopening the price it would be appropriate for it to be as clear as practicable, so to provide an appropriate degree of transparency for all stakeholders.

Other uncertainty mechanisms

- 1.29 In addition to our proposed TRS mechanism, we agree there may be a case for including specific arrangements to deal with revenues or costs that are particularly uncertain. However, the case for such arrangements is strongest for revenues or costs that are material and wholly or largely outside of HAL's control. The strength of any pass-through or similar mechanism should depend on the extent to which HAL should be able to exercise at least some control over the relevant revenue or cost, or else take action to mitigate the impact of any potential change.
- 1.30 We agree in principle with HAL's proposal to expand the S factor and address this in the next section. Our proposed approaches to dealing with business rates

² See paragraph 6.11 and 6.12 of [BA's response](#) to the April 2021 Way Forward document.

and revenues from the terminal drop-off charge are described in Chapters 13 and 5.

- 1.31 We do not agree with HAL's proposal for an expansion trigger in its licence. We agree with the general principle that work on the development of a revised regulatory framework should resume if there were to be a sufficiently strong likelihood of progress on expansion resuming. However, it is impossible to predict if or when this might happen or what the circumstances would be at the time. It is important, therefore, to retain flexibility for all parties rather than imposing in advance a particular process or timetable.

Initial Proposals

- 1.32 We propose to introduce a TRS mechanism for HAL in H7. We consider this to be in consumers' interests as:
- a risk sharing mechanism will reduce the risk of significant gains or losses for HAL that could arise from changes in passenger numbers over which it has only limited control, avoid unnecessary upward pressure on HAL's cost of capital, facilitate the certainty and advantages a five-year price control for the H7 period, and help to clarify the risks that HAL is expected to bear during that period; and
 - by adopting traffic rather than revenue risk sharing, we will reduce the risk of weakening or distorting HAL's incentives for efficiency and growth, adopt a clearer and simpler approach, and reduce the risk of unintended consequences.
- 1.33 Our selection of parameters for the proposed TRS mechanism was informed by, among other things:
- the intention to retain an incentive on HAL to increase volumes at the airport;
 - an assessment of the overall impact on HAL's EBITDA of changes in traffic levels, taking account of expected changes in opex and commercial revenues as well as the direct impact on aeronautical revenues. Our projections of opex and commercial revenues for different traffic levels were based on CEPA/Taylor Airey's analysis, as described in Chapters 4 and 5;
 - a comparison with risk sharing mechanisms used at other regulated airports and in other regulated industries. This covered both the degree of risk sharing and the point at which different levels of risk sharing (or other specific arrangements) kick in; and
 - an analysis of previous traffic volatility, and the number of times that different levels or types of caps would have been breached.
- 1.34 We also took account of the interaction between different risk sharing parameters. In a mechanism with a central band and an outer band, for example, if there is moderate risk sharing within the central band then this might allow us to push out the point at which stronger risk sharing kicks in. In contrast, if there is no risk sharing at all in the central band (i.e. it is a dead band) then this central band would need to be relatively narrow in order to provide a similar overall level of risk protection.

- 1.35 For these Initial Proposals we have included ranges for the risk sharing factors. We will consider these further (including any new evidence on the variability of opex and commercial revenues) before confirming specific values in our Final Proposals.
- 1.36 Consistent with the approach discussed in previous consultations, our proposed mechanism features:
- moderate risk sharing in a central band around the forecast of passenger levels used to calibrate the H7 price control. This aims to moderate the impact of heightened uncertainty about traffic levels in H7 and, therefore, to reduce the risk that HAL might see significant gains or losses simply because traffic recovers at a different pace. The proposed risk sharing factor in this band is between 40 and 60 per cent. Our assessment of the overall impact of traffic changes on aeronautical revenues, commercial revenues and opex indicates that risk sharing factors within this range should preserve reasonably strong incentives for HAL to encourage further traffic growth, while also blunting the impact of forecasting risk;
 - stronger risk sharing in an outer band, which we propose should start when cumulative traffic levels in H7 are more than 10 per cent higher or lower than our forecast. This threshold would have been breached by the impact of the covid-19 pandemic, but not by traffic variations in other recent periods. Stronger risk sharing in this outer band is intended to significantly reduce HAL's exposure to the risk of extreme passenger traffic outcomes in future and, therefore, to clarify the risks that HAL is expected to bear during the H7 period. The proposed risk sharing factor in this band is 90 to 100 per cent, which should provide HAL with a relatively high level of protection from the impact of further traffic changes while preserving a modest incentive to generate additional traffic.
- 1.37 Our Initial Proposal is therefore that:
- HAL's RAB will be updated each year to reflect a proportion of the cumulative impact of differences between outturn and the forecast of traffic levels used to calibrate the H7 price control, where
 - allowed revenues for each year will be calculated by multiplying either outturn or forecast traffic levels by the maximum allowable airport charge (excluding the correction factor) for that year,
 - cumulative allowed revenues for the H7 period so far will be calculated by adding the allowed revenues for previous years in H7, uplifted for inflation and the "real" pre-tax WACC,³ and

³ Uplifting by the WACC is necessary to reflect the return on any incremental change (positive or negative) to the RAB, since we are not adjusting charges during H7 to reflect such changes.

- the cumulative impact of differences between forecast and outturn traffic levels will then be calculated as the difference between cumulative allowed revenues calculated using outturn traffic levels and forecast traffic levels;
- the proportion of the impact reflected in the RAB adjustment will be
 - 40 to 60 per cent for differences in cumulative allowed revenues of up to 10 per cent, and
 - 90 to 100 per cent for differences in cumulative allowed revenues of more than 10 per cent.

- 1.38 In Chapter 2 on passenger forecasts we indicate that we intend to include a “shock factor” adjustment in our traffic forecasts for the H7 period. This is a downward adjustment of 1.07% to base traffic forecasts to reflect the potential for negative shocks with no corresponding upside potential. In the past, these have included the volcanic ash cloud, SARS, 9/11 and the Gulf War among others. To maintain internal consistency, our proposed TRS mechanism will be based on a comparison of outturn traffic volumes with forecast traffic volumes including the shock factor, as this is the forecast we use to calibrate the H7 price control. If, instead, we were to base the TRS mechanism on forecasts excluding the shock factor, this would lead to a risk of consumers paying twice for those shocks that HAL has already been compensated for through the use of the shock factor.
- 1.39 This mechanism will not affect the level of airport charges that HAL is allowed to recover during the period of the H7 price control, but it will affect charges in future periods as the RAB will be higher or lower than it would otherwise have been had the mechanism not applied. We will need to introduce specific arrangements for the H8 price control to reflect the fact that any adjustment required for the final year of H7 will not be known at the time that we finalise the H8 price control.
- 1.40 For the reasons set out above, we do not intend to add a formal reopener provision to HAL’s licence. However, we continue to consider that policy guidance on the types of circumstances that could justify reopening a price control might be helpful.
- 1.41 We will also engage with stakeholders to confirm the details of an expanded S factor, which in H7 will cover changes in health and safety requirements as well as security requirements. Among other things, it will be important to discuss the drafting of the amended provision, to ensure that the boundaries of the mechanism are clear, and also to consider whether changes are required to any other parts of the current provision (for example, to uplift the current deadband in line with inflation).
- 1.42 We consider that the approach to calibrating and reconciling TRS arrangements set out above will:
- help to clarify the risks that HAL is expected to bear during the H7 price control period;
 - reduce the risk of significant gains or losses caused by passenger traffic variations over which HAL’s management has limited control;

- avoid unnecessary upward pressure on HAL's cost of capital; and
- facilitate the certainty and stability of airport charges associated with a five-year price control.

1.43 As such, this approach should further the interests of consumers, while at the same time helping to secure that HAL is able to finance its activities.

Next steps and implementation

1.44 We welcome stakeholders' views on any aspect of the issues raised in this chapter and will consider their representations as part of our work to develop final proposals.

1.45 Even though it will not affect charges during H7, we intend to add to HAL's licence or include in policy guidance a description of how the RAB adjustments resulting from the TRS mechanism should be calculated. This will provide enhanced certainty to HAL and to other stakeholders.

1.46 We will continue to engage with stakeholders on developing arrangements to deal with uncertainty, including on the case for and scope of any guidance on reopening an existing price control and details of the expanded S factor, as well as any issues arising from our proposed TRS mechanism (including the calibration of the sharing factors and bands).

Chapter 2

Passenger forecasts

Introduction

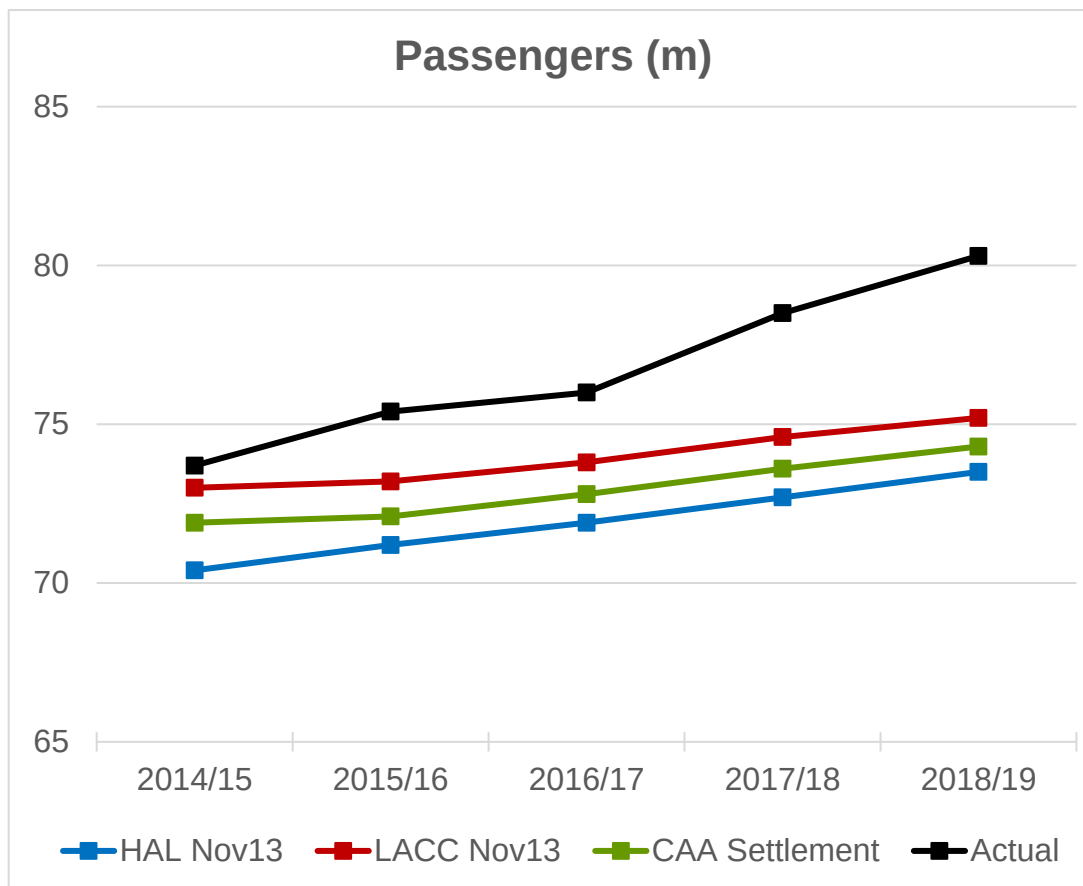
- 2.1 The number of passengers using Heathrow airport is vital to the overall economics of the airport and to driving the appropriate levels of operating and capital costs necessary for the effective provision of AOS by HAL. Covid-19 has also demonstrated the vulnerability of the wider aviation sector and Heathrow to pandemic risk, with dramatic reductions in passenger numbers and uncertainty about the recovery.
- 2.2 As noted in Chapter 1 as part of these Initial Proposals we are introducing new TRS arrangements designed to help better manage the risks associated with variations in passenger numbers. Nonetheless, the underlying forecasts of passenger numbers is vital to setting an appropriate price control as the expected number of passengers remains key to determining the airport charge per passenger during the H7 period, the affordability of airport charges and financeability of new investment.
- 2.3 Bearing these considerations in mind, developing appropriate forecasts of passenger numbers is a key step in allowing us to properly consider our primary statutory duty to further the interests of consumers when establishing allowances for operating costs, capex and commercial revenues that are efficient and deliver value for money.
- 2.4 The rest of this chapter describes our approach to assessing HAL's forecast passenger volumes at Heathrow over the H7 period and how we have provided an independent assessment of passenger forecasts. It sets out:
- background information, including on Q6 passenger forecasts, HAL's initial H7 forecasts and a summary of what we said on passenger forecasts in the April 2021 Way Forward Document;
 - a summary of stakeholders' responses to the Way Forward consultation;
 - our views on this feedback;
 - HAL's updated passenger forecasts;
 - our Initial Proposal, including our views on HAL's modelling and the adjustments that we have made to its approach;
 - our approach to quality assurance; and
 - next steps and implementation.

Background

- 2.5 The CAA published its Final Proposals for the Q6 HAL price control in October 2013. Figure 2.1 shows actual passenger numbers at Heathrow, the CAA Q6

forecast and the HAL and airline ('LACC') Q6 forecasts. Actual passenger numbers exceeded the CAA's forecast in each year of the Q6 price control and by 19 million (5.2%) across the Q6 period.

Figure 2.1: CAA passenger forecast and actuals for Heathrow, Q6



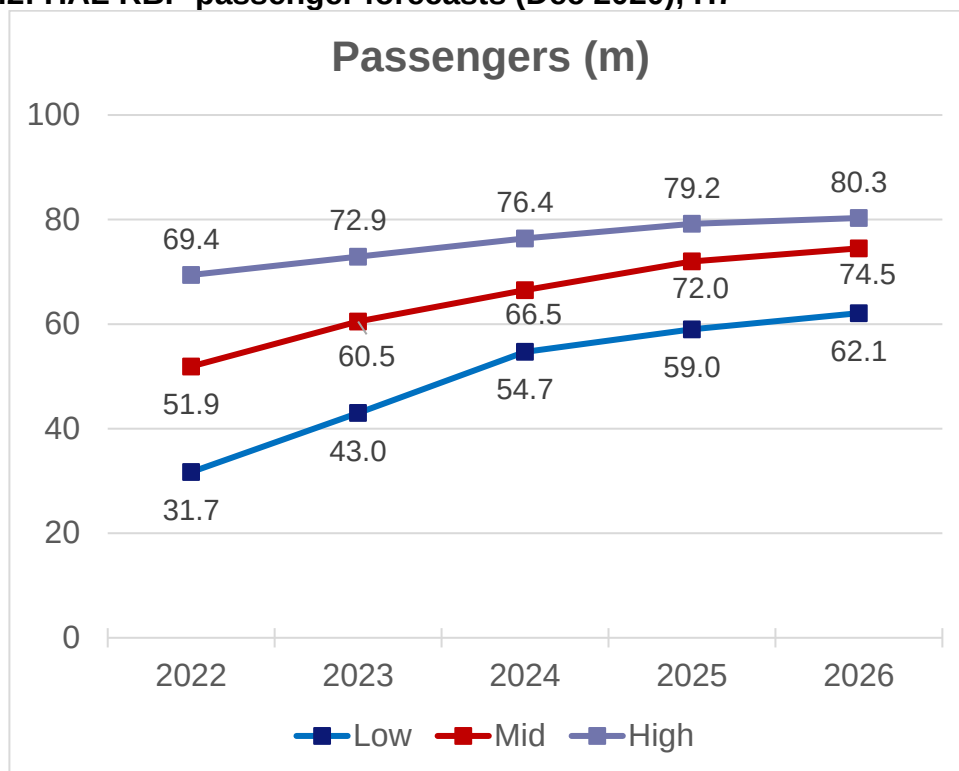
Source: CAA

- 2.6 Following the impact of the covid-19 pandemic, in April 2020 passenger numbers collapsed at Heathrow airport to approximately 3% of the levels expected when the interim price control and airport/airline commercial deal was put in place for 2020 and 2021. They have started to recover but in August 2021 remained at only about 30% of pre-pandemic levels.

HAL's approach to passenger forecasting for the H7 period

- 2.7 As part of CE with airlines HAL explained its approach to passenger forecasting, highlighting that its established approach to forecasting was not set up to deal with the size of, nor the uncertainty associated with, the impact of the covid-19 pandemic and that updates to the models and process were required.
- 2.8 HAL issued its RBP in December 2020, using an updated method for the passenger forecast. It showed a steady recovery from the impact of the covid-19 pandemic. None of the output scenarios exhibited a return to 2019 passenger volumes (80.9m passengers), although HAL's "high" case approached this level in 2026 (forecasting 80.3m passengers). The "mid" case forecast 325.5m passengers for the whole of H7, with 74.5m passengers in 2026. These cases are reproduced at Figure 2.2 below.

Figure 2.2: HAL RBP passenger forecasts (Dec 2020), H7



Source: HAL RBP Dec 2020

April 2021 Way Forward Document

- 2.9 We recognised the continued challenges in forecasting in such uncertain circumstances and, noting HAL's commitment to issue an updated RBP in June 2021, set out our expectation that HAL's forecasts should evolve in response to new information on the likely course of the recovery.
- 2.10 We noted that HAL's broad approach to forecasting appeared reasonable and that we intended to base our approach around HAL's suite of forecasting models and:
- directly apply adjustments to HAL's models; and/or
 - request HAL to make changes on our behalf.

Stakeholders' views

- 2.11 In response to the April 2021 Way Forward Document, HAL:
- indicated that the existing forecasting suite of models performs better than previous methods, but needed targeted changes in light of the impact of the covid-19 pandemic; and
 - said the inclusion of the impact of the covid-19 pandemic in the demand shock factor would not "double count" the impact of the pandemic, and that the risk of a future pandemic is not nullified by the existence of covid-19, and hence should be incorporated.

2.12 By contrast, AOC/LACC said that:

- HAL had failed to develop appropriate scenarios in its RBP, which had been a key requirement from the airlines and the CAA;
- HAL's projections were inconsistent with the industry consensus of a return to the level of passengers seen in 2019 by 2024 and were, therefore, overly pessimistic. It said that, despite the near-term outlook worsening, strong demand is expected once travel restrictions are lifted and that the recovery of passenger numbers would be quicker at Heathrow than elsewhere; and
- the updated HAL forecast model was untested and expressed its concern that the CAA will use it to determine passenger traffic in H7. It also requested access to HAL's models.⁴

2.13 British Airways:

- agreed with the CAA's assessment of HAL's forecasting method and the lack of appropriate traffic scenarios supplied by HAL;
- noted its concern that the CAA may use HAL's models to produce the traffic forecast and suggested the CAA should develop its own passenger forecast model; and
- opposed the use of demand shock factors which it understood to be already incorporated in the assessment of the WACC.

Our views

2.14 We consider that HAL's forecasting approach allows the impact of the covid-19 pandemic on passenger numbers to be reflected in a consistent and transparent way. We note HAL's views on the risk of a future pandemic and agree that this should be accounted for in the price control. However, we consider that applying a shock factor to passenger forecasts would not be the appropriate mechanism for dealing with pandemic risk. We discuss this further below and in Chapter 7.

2.15 Although HAL has produced four detailed reference scenarios, which were subsequently combined into three output forecast cases, we agree with airlines that the sole use of the "mid" case across the remainder of the RBP did not meet our expectations for a range of scenarios as set out in our guidance in the June 2020 Consultation.

2.16 We note airlines' concerns over the CAA utilising HAL's forecast models and we set out our reasoning in the "Use of HAL's forecasts" section below. We also note BA's view on the inclusion of a shock factor in the forecast. However, we consider that it is valid to account for non-pandemic downside asymmetric

⁴ As of mid-October 2021, HAL has not granted this request.

shocks in the demand forecast and we note that the way we estimate the WACC in Chapter 9 takes account only of systematic risk and not downside asymmetric risks.

HAL's passenger forecasting method and Updated RBP forecast

HAL's forecasting method

2.17 HAL forecasting method is detailed in its RBP and updated RBP. Broadly, it comprises:

- a demand model ("DM") which uses econometrics to forecast total market demand for direct passengers at the five main London airports (London 5), and transfer passengers across 22 hub airports (Hub 22). The DM does not produce a Heathrow-specific forecast;
- a supply model ("SM") which uses assumptions about airline capacity plans at Heathrow to forecast passenger numbers as the product of aircraft movements, "seats per movement" and load factors;
- a travel restrictions model ("TRM") which amends the SM in line with expectations around the duration and severity of covid-19 related travel restrictions by geographic market. This is complemented by demand overlays in response to the impact of the covid-19 pandemic in the DM; and
- a Monte Carlo method ("MC") which provides a forecast range based on variations in the assumed values of aircraft movements, seats per movement and load factors. This aims to reflect natural variations in the forecast drivers and deliver a more accurate forecast.

2.18 To cover the range of possible economic and epidemiologic outcomes across H7 arising from the impact of the covid-19 pandemic, HAL produced four reference scenarios and assumed a probability of occurrence for each, broadly guided by the probability of the relevant underpinning Oxford Economics GDP scenario. From the most optimistic to least, these are:

- "Pent-up Demand" ("PUD"): 10%;
- "Steady Build" ("SB"): 50%;
- "Gradual Opening" ("GO"): 30%; and
- "Autumn Reversal" ("AR"): 10%.

2.19 A scenario weighting process combines the MC results from these four reference scenarios, weighted by assumed probability of the occurrence of each, and generates "unshocked" "mid" (P50), "high" (P90) and "low" (P10) forecasts.