Consumers and Markets Group

Economic regulation of Heathrow Airport: H7 Final Proposals Section 2: Building Blocks

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Introduction

4.1 The allowance that we make for HAL's operating expenditure ("opex") in the H7 price control is a key building block in the calculation of airport charges. Opex comprises a number of components including security, staff costs, maintenance, facilities, utilities, rent and rates. It is the costs of operating the airport on a day to day basis. The experience of consumers using the airport will be materially affected by how well HAL spends the opex to deliver a good quality airport experience.

4.2 Setting an appropriate allowance for opex furthers the interests of consumers by ensuring that airport charges are calculated by reference to an efficient level of these costs and:

- helps secure that users' reasonable demands for AOS at Heathrow are met,; and
- promotes economy and efficiency on the part of HAL in its provision of AOS.

4.3 We aim to incentivise HAL to run the airport efficiently in H7. We do this by setting an allowance for efficient opex for the five year control period together with applying incentives for service quality (see chapter 3 (Outcome Based Regulation)). If HAL is able to operate the airport while incurring less opex than the amount of this "opex allowance", it is able to retain the difference (other things being equal) until the next price control is set. Conversely, if HAL incurs more opex than the allowance, it must fund the shortfall (other things being equal) until the next price control is set. Applying incentives for service quality helps to protect against any risk that opex could be saved by providing a lower service quality. While our estimate of opex is intended to cover the costs for the five year period, we include a number of adjustment factors for specific items of costs over which HAL has only limited control, such as costs associated with any unforeseen tightening of security standards, which it is not reasonable to expect HAL to incur within the opex estimate.

4.4 Taken together, these arrangements provide strong incentives on HAL to deliver services efficiently and, so, are a key way in which we further the interests of consumers regarding the costs of the AOS provided by HAL, while having regard both to the need to secure that HAL can finance its activities and promoting economy and efficiency.

4.5 Our overall approach to developing estimates of opex combines detailed bottom-up expert scrutiny of each opex category, based on the range of evidence available, with top-down review of the estimates derived from our bottom-up analysis. Therefore, the results of our work have been sense checked against historical trends in overall opex in absolute terms and on a "per passenger" basis, in collaboration with our advisers.

4.6 This chapter sets out the background to our assessment of opex, including a summary of our Initial Proposals, together with:

- a summary of stakeholders' responses;
- our assessment of those responses; and
- our updated analysis and Final Proposals.

Background and Initial Proposals

4.7 Over the course of Q6, HAL was able to reduce its opex base in real terms from £1.3bn in 2014 to £1.2bn in 2019 (2018 prices[1]). HAL has told us that this was driven by reductions in people costs, savings in supplier costs and facilities operations, reduced utility costs and savings through investment in infrastructure such as automation of certain processes.

4.8 As the extent of the covid-19 pandemic became apparent during 2020, HAL took a number of further steps to reduce its opex including by:

- consolidating operations, for example, by operating fewer terminals;
- reducing staff costs;
- renegotiating contracts with suppliers; and
- stopping some activities.

4.9 HAL has said that these actions enabled it to save around £260m of opex from 2019 to 2020.[2] HAL also stated that it expects material increases in opex in 2022 as passenger volumes recover. We recognise current recruitment challenges across the aviation sector, with many airports (including Heathrow) struggling to ramp up staff numbers quickly enough to cater for recent material increases in passenger numbers. We have taken account of these challenges in developing our Final Proposals, for example we agree with HAL that its salaries and remuneration policies will need to remain competitive to retain and attract staff during H7, and so we have assumed a period of relatively rapid growth in average nominal wages early in H7.

[1] Using data from HAL's Regulatory Accounts and RPI-deflated prices

[2] In 2020 prices

4.10 To inform our Initial Proposals, we asked expert consultants CEPA/Taylor Airey ("CTA") to carry out a detailed review of HAL's forecasts and to work with us to produce independent estimates of these costs. This work involved:

- identifying the key assumptions that drive HAL's forecasts;
- challenging the evidence base underpinning those assumptions; and
- where necessary, presenting alternative assumptions where these were supported by a stronger logic and/or more realistic assumptions given the available information.

4.11 CTA's overall approach to estimating opex has followed a "base-step-trend" method that can be summarised as follows:

- setting a **base** level of opex. CTA chose 2019 as the base year for its analysis. This was considered to be a pragmatic option as 2019 was the last full year before expenditures were affected by the covid-19 pandemic. CTA then made a number of adjustments to the starting baseline where it considered that HAL's out-turn costs in 2019 were not representative of the underlying costs that were expected to be incurred in future years;
- adding overlays or **step** changes to represent one-off or discrete changes in costs. These overlays include both downward adjustments where CTA identified that HAL has been able, or ought to be able, to make specific savings, and upward adjustments where CTA identified that HAL would face specific cost pressures. CTA also made step adjustments to capture certain changes in costs resulting from the covid-19 pandemic; and
- setting out the longer-term **trend** in costs. CTA applied three main ongoing year-by-year adjustments when rolling forward opex which covered: (i) changes in costs caused by reductions or increases in passenger numbers compared to the 2019 base year; (ii) input price inflation; and (iii) underlying "frontier shift" or productivity growth.

4.12 In developing its forecasts, CTA made a number of adjustments to the opex projections that HAL put forward in its RBP Update 1. In particular, CTA:

- made more extensive adjustments to the 2019 base year (the baseline) costs than HAL had allowed for. These adjustments represented CTA's view of the efficient level of the starting point for projecting opex;
- assumed a different level of opex in the modelling of cost overlays where HAL either had not provided sufficient evidence to support its claimed level of additional costs, or had not provided assurance that the costs included in the overlays did not overlap with "business as usual" activities accounted for elsewhere in HAL's forecasts;

- agreed that some of the opex reductions achieved by HAL in 2020 will be temporary, but considered that some of HAL's pandemic-related efficiency measures can be carried forward to H7;
- assumed that the security transformation programme[3] would have a more significant benefit in terms of people costs than HAL had identified;
- developed detailed modelling for operational and non-operational staff costs to replace HAL's proposed top-down elasticity assumptions applied across all categories of people costs[4], which CTA considered were not properly supported by the evidence;
- replaced HAL's forecasts of input price inflation with its own forecasts; and
- proposed that the ongoing "frontier shift" efficiency challenge for H7 should be higher than HAL had allowed for at 1% per annum. HAL argued that it could achieve an ongoing efficiency of 0.1% per annum in H7 due to general productivity improvements.[5]

4.13 We published CTA's report [6] and invited input on the issues raised. Noting the degree of uncertainty on forecasting that prevailed at the time of Initial Proposals and the fact that further analysis was still to be carried out, we developed a range for opex based on two scenarios. We described these two scenarios as "lower-" and "upper quartile" forecasts. We created these two scenarios by reference to:

- a "ceiling", which was equal to the opex estimates from HAL's RBP Update 1, scaled to the CAA's "Mid case" passenger forecasts; and
- a "floor", which was equal to the CTA "mid case" scenario.

4.14 We positioned the upper end of our range (or "upper quartile") at 75% of the way from the floor to the ceiling. The lower end (or "lower quartile") of our range was 25% of the way from the floor to the ceiling.

[3] The security transformation project aims to deliver enhanced operational efficiencies for the security process, primarily through further deployment of technology solutions, such as enhanced image processing

[4] HAL assumed, in effect, that a single elasticity should be used to represent variability in these costs relating to passenger volumes, irrespective of the type of cost or the roles of those staff within individual sub-categories (such as operational and non-operational staff)

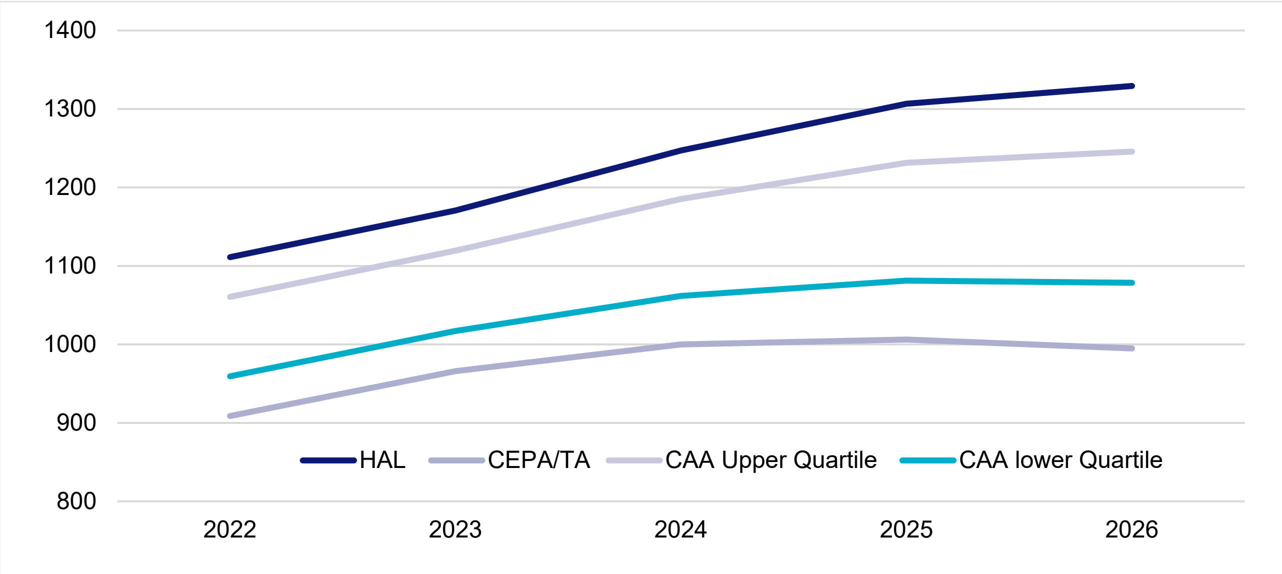
[5] HAL also argued that it could achieve a further 1.1% saving per annum relating to the capital substitution effect. However, this further efficiency improvement was dependent on CAA making an allowance in full for its "Optimal" capex plan of £4.2bn.

[6] H7 Review of Opex and Commercial Revenues: Initial Proposals (caa.co.uk)

4.15 Our upper quartile scenario estimated that opex would increase from £1,063 million in 2022 to £1,263 million in 2026. Our lower quartile scenario estimated that opex would increase from £993 million in 2022 to £1,142 million in 2026.[7]

4.16 The upper quartile of our range (including the impact of using our passenger forecasts for the H7 period) was around 4% lower than HAL's proposed opex while the lower quartile was around 11% lower over H7 as a whole. Our ranges for the Initial Proposals for opex are shown in the chart below alongside the forecasts made by HAL and CTA.

Figure 4.1: Summary of HAL, CTA and CAA upper quartile and lower quartile opex projections (£m, 2020 CPI prices)



Source: CAA

Other opex issues

Business rates

4.17 In our Initial Proposals, we proposed to retain the existing 80/20 cost sharing arrangement for business rates so that HAL would retain an efficiency incentive, including in relation to any negotiations on revaluation with the Valuation Office Agency ("VOA"). These arrangements would have meant that, if our forecast of business rates turned out different from the actual rates payable following the rates revaluation, the difference in these costs would be partially passed through to consumers.

Pension deficit repair costs

4.18 We noted airlines' views that HAL had included significant pension deficit repair costs ("PDRCs") for the duration of H7 which airlines considered consumers

[7] All figures in this paragraph are expressed in 2020 prices

should not bear. Given the longer-term nature of pension deficit repair costs, we noted the advantages of consistent treatment over time. We expressed an expectation that HAL would carry out a new Defined Benefit ("DB") pension scheme assessment in mid-2022, which would assess the scale of any deficit at that point to inform our considerations for the final stages of our H7 process. Our Initial Proposals retained HAL's forecasts of these costs of between £20 and £25 million (nominal) per year.

Stakeholders' views

4.19 Stakeholders' responses to our Initial Proposals are published on our website.[8] We received responses on opex from HAL, BA, VAA, AOC/LACC.

HAL

4.20 HAL referred to updated projections in its RBP Update 2 which was included with HAL's response to the Initial Proposals. Based on this revised analysis, HAL said that CTA had underestimated its total H7 opex requirement by £739 million over the five years, and, as a consequence, even the top end of our opex range was unrealistic and undeliverable.

4.21 HAL drew particular attention to CTA's estimate of opex for 2022, which HAL pointed out was lower than out-turn costs in 2020 even though passenger volumes in 2022 were projected to be significantly higher than passenger numbers in 2020.

4.22 HAL also submitted a report from Frontier Economics which it said provided support for its views on opex.

CAA approach

4.23 HAL raised a number of detailed concerns with the CAA's overall approach. In particular, HAL said that:

- the use of HAL's forecast as the "ceiling" for the CAA's range was poor regulatory practice and set a precedent that HAL said could incentivise it to submit extreme forecasts in the future;
- it disagreed with the construction of our range, noting that the choice of the 25th and 75th percentile appeared to be arbitrary;

[8] Available online: https://www.caa.co.uk/commercial-industry/airports/economic-regulation/h7/consultations-and-policy-documents/

- the CAA had failed to acknowledge the management stretch[9] already included within HAL's forecast;
- CTA's forecasts of costs included significant errors that resulted in its estimate of opex being significantly too low; and
- the CAA appeared to have carried out no assessment of whether an efficient operator would actually be able to achieve such cost savings in practice.

Baseline and efficiency

4.24 HAL argued that applying an overall ongoing efficiency adjustment of 1% to reflect movement of the efficiency frontier during H7 was an error because CTA had "double counted" savings by applying efficiency adjustments both as part of its overall top-down annual adjustment and within its overlays for specific categories of opex, in particular by applying efficiency adjustments relating to the security programme. HAL also argued that CTA had applied excessive efficiency adjustments to the baseline when it applied a 1.4% overall adjustment and further specific permanent savings.

4.25 HAL also said that the level of efficiency improvements assumed by CTA would not be achievable because we had not made sufficient allowance for capital expenditure that would enable efficiency improvements.

Treatment of overlays (one-off adjustments)

4.26 HAL had particular concerns about the assumptions that CTA had used when forecasting security costs. It argued that CTA's assessment of security opex produced extremely challenging results and did not reflect some of the operational constraints resulting from its ongoing security transformation programme, as well as from volatility and difficulty in forecasting short-term passenger demand.

4.27 HAL disagreed with the:

- "ramp-up" opex assumptions for reopening Terminal 4;
- approach taken by CTA to forecasting insurance cost growth over H7;
- reduction that CTA applied to HAL's proposed resilience overlay; and
- efficiency adjustment of 25% that CTA applied when making allowance for the London Living Wage.

[9] That is, improvements in overall opex efficiency due to HAL's management actions that cannot be explained using cost drivers such as passenger volumes.

4.28 HAL noted that there are increased expectations from passengers on hygiene and cleanliness which can only be achieved through additional expenditure that had not been included within CTA's calculations. It also:

- told us that it is expecting a revaluation of business rates to come into force in 2023;
- disputed the disallowance of any adjustment for passengers requiring support ("PRS") noting that satisfaction levels for these passengers have remained behind that of other passengers; and
- welcomed that the CAA has proposed to retain Heathrow's forecasts of PDRCs during H7[10].

Elasticities and input price inflation

4.29 HAL said that the assumptions CTA used for input price inflation did not reflect the cost pressures that HAL is exposed to and were, therefore, underestimated.

4.30 HAL disagreed with the selection of elasticities and questioned their value in relation to projecting specific categories of opex like security, operational, non-operational and pension people costs.[11]

Airlines

4.31 Detailed responses on opex were provided by AOC/LACC, BA and VAA who broadly agreed with the approach adopted by CTA, but disagreed with the way in which we had used CTA's findings in developing our Initial Proposals.

CAA approach

4.32 Airlines supported the CTA report which they considered to be evidence based, sensible, and logically presented. Airlines suggested that CTA's work on opex corroborated earlier analysis that they had submitted in relation to these matters.

4.33 Airlines also submitted a study by PA Consulting ("PA") which reviewed CTA's work on opex. Airlines said that the PA report supported the approach and projections made by CTA.

4.34 However, airlines were critical of the CAA's approach to developing a range for opex, noting in particular that they considered HAL's projections of opex to be significantly overstated and said that much greater weight should be placed on the result of CTA's work.

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[10] See above paragraph 4.18 for details of HAL's forecasts for PDRCs in H7

[11] More details on the CTA elasticities used for Initial Proposals, and the elasticities that HAL proposed, are given in Section 4 of the CTA Report

4.35 VAA said that the CAA's ranges for opex were set at an inappropriate level, had not been considered in sufficient detail and were, therefore, not fit for purpose.

Baseline and efficiency

4.36 At a more detailed level, airlines suggested that the covid-19 pandemic had enabled HAL to achieve permanent structural changes in its cost base and that this had not been appropriately reflected in HAL's Updated RBP.

4.37 BA noted that the H7 price control must ensure HAL is appropriately incentivised to become more efficient over the course of the control period, ensuring consumers benefit from increasing efficiency and productivity in line with that expected in a competitive market environment.

Treatment of overlays (one-off adjustments) and other issues

4.38 AOC/LACC suggested that the CAA should conduct a full bottom-up analysis of HAL's latest forecasts, including all proposed overlays. BA made similar points and highlighted that the CAA must only include efficient opex in the H7 price control and take account of the benefits of the restructuring that has occurred during the covid-19 pandemic.

Our views

The CAA's approach

4.39 We disagree with the criticisms HAL and airlines raised over the CAA's approach to projecting opex in the Initial Proposals. Specifically, we do not consider that our use and calibration of a range was poor regulatory practice. Rather, our Initial Proposals were fit for purpose given the stage of the price review and that we were dealing with new and emerging information on the likely level of operating costs over the H7 period. In these circumstances, we consider that it was reasonable to acknowledge the high degree of uncertainty around the level of future costs and to consider a wide range of evidence in developing our Initial Proposals.

4.40 In formulating these Final Proposals, we have used the period since issuing our Initial Proposals to assess the factors that may impact on HAL's H7 costs and have benefited from the input that HAL and airlines provided in their responses to our Initial Proposals and in follow-up discussions. Although there remains a greater degree of uncertainty than we have encountered in previous reviews, we are now in a position to make a forecast of the expected level of efficient opex for each year of the H7 period, instead of the range of numbers we used for Initial Proposals.

4.41 Our approach to these Final Proposals has involved detailed expert scrutiny of each opex category based on the range of evidence available. In addition, the results of our work have been sense checked against historical trends in overall opex in absolute terms and on a "per passenger" basis in collaboration with our advisers. For the avoidance of doubt, we consider that the Final Proposals set out below reflect an appropriate level of costs that should be reasonably sufficient for an efficient operator such that our approach to these matters furthers the interests of consumers. While our proposals are informed by detailed analysis of each opex category, we are ultimately making an overall estimate of opex, and it would be for HAL to operate the airport within that overall allowance.

4.42 HAL has also claimed that both we and CTA have made several errors of fact. In general, we consider that the errors that HAL claims we have made appear, in most cases, to be differences in judgement or approach in making opex projections which produce different outcomes from those preferred by HAL. As such, they are not errors of fact. Nonetheless, we have carefully reviewed each of HAL's observations together with CTA and, in some cases, have made further adjustments for these Final Proposals as we explain below.

4.43 We have retained the use of the "base-step-trend" method developed by CTA for the Initial Proposals. For some specific categories of opex, we have adjusted our approach to producing estimates for Final Proposals in cases where HAL provided reliable additional information that enabled more detailed analysis. These adjustments for specific categories, such as security costs, are explained below.

Baseline and efficiency

4.44 We agree with BA that HAL should be appropriately challenged to become more efficient over the H7 price control and agree that consumers should benefit from increasing efficiency and productivity.

4.45 We recognise that HAL's forecasts contained an element of management stretch,[12] but consider that the level of stretch is insufficient given historical data and our analysis of HAL's actual operating costs during Q6. We have carried out further detailed analysis of the information relating to management stretch (including new information provided by HAL) for our Final Proposals. Our findings are explained in more detail later in this chapter and also in the CTA Report.[13]

4.46 Our approach to adjusting the baseline for Initial Proposals (as set out in the CTA report) was based on the evidence available at that time. We have updated it for new information for these Final Proposals. In terms of the other specific issues raised by stakeholders:

[12] HAL assumes it can achieve 0.1% efficiency per annum

[13] Published alongside this document

- HAL appears to have misunderstood our approach to setting a baseline. We applied top-down baseline efficiency adjustments only where we had insufficient evidence to conduct bottom up analysis or to make specific adjustments to reflect the effect of individual operational changes;
- we do not agree that baseline adjustments double count the efficiencies introduced in 2020 as suggested by HAL. However, we accept that some of the efficiencies introduced in 2020 may be reversed as passenger numbers recover and have adjusted our forecasts to account for this;
- we note HAL's views on the London Living Wage adjustment and have updated this for the Final Proposals;
- we have reviewed the treatment of the "Cost of Change" programme and have updated this further for our Final Proposals;
- we remain of the view that the baseline adjustments for the Cost of Change programme and the efficiency adjustments to 2019 expenditure are additional to one another and should both be included in our estimates;
- HAL appears to have misunderstood our approach to covid-19 restructuring costs, which we have applied separately from implementation of the Costs of Change programme;
- we have updated our approach towards cross-cutting measures, implementing a "glide path" for the reversal of these in line with the recovery of passenger volumes;
- we have removed the on-going efficiency challenge we had applied to security expenditure and, instead, have applied a bottom-up efficiency challenge to these costs of a 1% efficiency improvement each year from 2022 onwards;
- we have updated our assumptions for input price inflation using the relevant price series as appropriate.[14] We assessed the case for using a specific forecast of annual input price inflation (rather than economy-wide CPI inflation) for each category of opex, based on structured criteria.[15] As a result, we applied specific inflation forecasts for three categories of opex: people, facilities and maintenance, and utilities. For example, for utilities costs, we used forecasts of inflation for energy costs produced by HAL.[16] As part of this analysis, we have also taken account of recent updated inflation forecasts for economy-wide CPI inflation; and

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[14] Further details of the inflation indices used are set out in Sections 9.3 and 9.4 of the CTA Report

[15] The approach to Input Price Inflation is explained in more detail in Section 9 of the CTA Report

[16] Further details of this approach are given in Section 9.3 of the CTA Report

- our analysis to determine elasticities at a cost category level made use of the information available at the time. We have reviewed these initial assumptions and updated our estimates for these Final Proposals.

4.47 We have also considered HAL's capex plan proposals in more detail for Final Proposals, including projects which HAL argues will enable it to deliver opex efficiencies in H7 (see chapter 6 (Assessment of capital expenditure) for more details). This assessment has been possible as a result of additional information provided by HAL. We consider that the resulting estimates for the efficient capex baseline in H7 will enable HAL to deliver opex efficiencies in H7. For example, capex for the regulated security programme included in our estimates should enable opex efficiencies for security-related people costs later in H7.

Approach to estimating specific categories of opex

4.48 This sub-section addresses key issues raised by stakeholders that relate to specific categories of opex, using the categorisation presented in Table 4.1 below. For example, the first category we address relates to people costs: this category is then broken down further to consider issues related to the costs of security staff.

People Costs

Security costs

4.49 HAL provided additional information on the expected impacts of its investment in security transformation on its "people costs". We asked CTA to perform bottom-up modelling of a bespoke queuing model which used this additional information and also reflected inefficiencies inherent in the rostering process. This revealed a higher requirement for staff during the security transformation programme as lanes are fitted with new screening technology. The modelling allowed for some expected roster inefficiency during the earlier years of the programme, when we expect passenger volumes to be more prone to spikes in passenger volumes. However, the modelling also assumes that the transformation programme will begin to enable HAL to achieve efficiencies earlier than HAL had forecast and before the end of H7.

4.50 We have maintained a security staff elasticity[17] of 0.7 and have added an overlay to reflect the shift to new lanes as part of the security transformation programme. No substantive changes have been made to operational staff costs. We note that non-operational staff numbers reduced in 2020 and 2021 and have implicitly assumed that some of the efficiency measures introduced in 2020 will be reversed as passenger volumes increase.

[17] That is, the elasticity of security staff numbers relative to passenger volumes

Other people costs

4.51 HAL provided further analysis supporting its position on the London Living Wage and we have aligned our forecasts more closely to HAL's position while continuing to apply an efficiency adjustment based on relevant benchmarks.

Operational costs

4.52 We note that, while insurance premiums have increased markedly since mid-2019, the current trend appears to be downwards. We have dealt with this in the modelling with current forecasts for growth rates in insurance premiums and also adjusted the estimated premium based on HAL's updated assumptions on when it will re-open Terminal 4.

4.53 We have also allowed additional opex as HAL's operations at Terminal 4 ramp up and fixed post security lanes are opened to enable access to airside areas while that terminal is prepared for summer 2022.

Input price inflation

4.54 Information provided by Frontier and HAL has been considered to allow some real price effects. However, we do not allow RPI indexation for any contracts recently negotiated because we expect that these should have been negotiated on the basis of CPI indexation. We have updated the utility price forecast to account for the recent increase (and expected further increases) in energy prices, by assessing the assumptions and approach provided by HAL. Following our review, we accepted HAL's approach to forecasting inflation in energy costs.

Treatment of overlays (one-off adjustments)

4.55 We have carefully considered each of HAL's points regarding the treatment of overlays as follows:

- we have updated our forecasts for the "covid-19 overlay" based on new evidence which has led to this decreasing from £26m to £6m. The costs associated with this overlay relate to additional cleaning and enforcement measures and are included within the "other overlays" opex category in Table 4.1 and Figure 4.3 below;
- for insurance costs (presented as a specific opex category in Table 4.1 and Figure 4.3 below), we have reviewed the current evidence and adjusted for the impacts of the pandemic which has led to this increasing from £80m to £83m;

- we have aligned our analysis with HAL's updated assumptions on terminal opening for the ramp up of its operations at Terminal 4 which has led to this being included in our final estimates at a value of £6m[18] . These costs are included within the people costs category; and
- we have considered new evidence and updated our approach to the "enhanced service" overlay which includes PRS and resilience which has led to this increasing from £34m to £39m. These costs are included within the other overlays category.

4.56 The net impact of these adjustments to overlays is to increase our estimates compared to those in our Initial Proposals by £6m over H7.[19]

Final Proposals

Overall approach

4.57 In addition to reviewing the responses to Initial Proposals and ongoing engagement with stakeholders on key issues, we have continued to work very closely with CTA to establish updated opex forecasts for these Final Proposals. The latest CTA report contains further discussion and analysis of the issues set out in this chapter.[20]

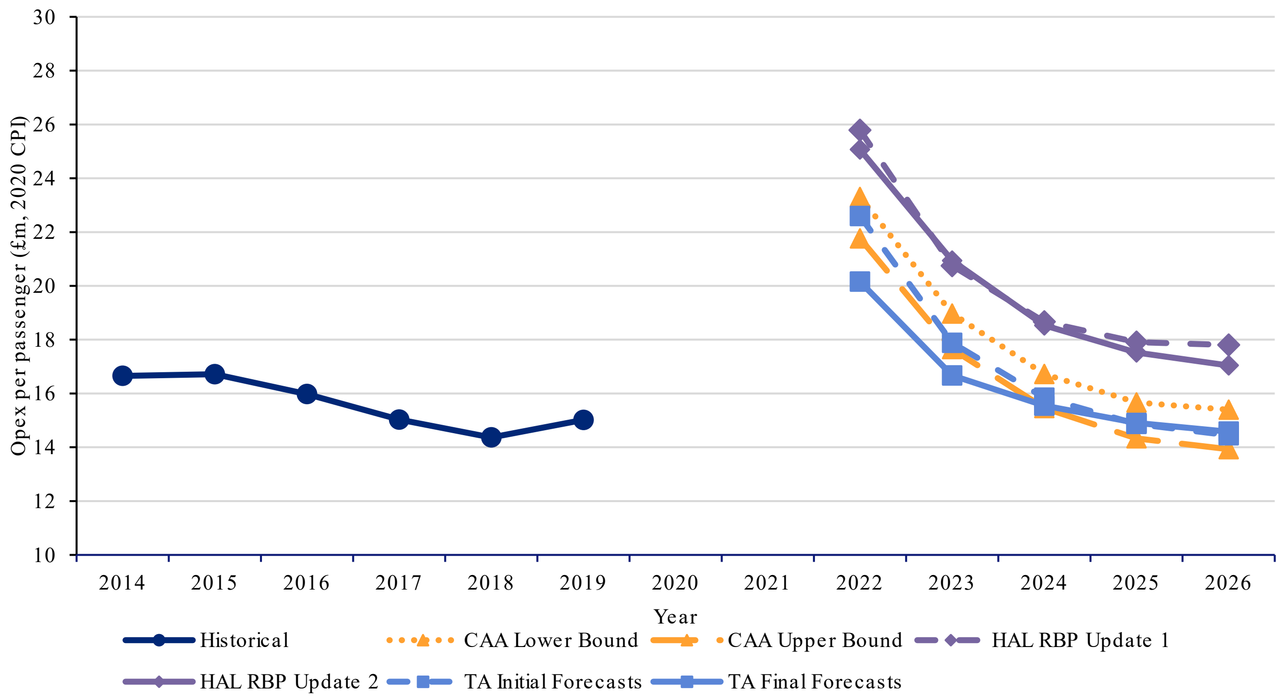
4.58 Figure 4.2 below presents CTA's H7 opex per passenger, HAL's RBP Update 2 projections and actual opex per passenger 2014 to 2021.

Figure 4.2: Opex per passenger: CTA estimates and historical costs*

[18] We did not make any allowance for this overlay in our Initial Proposals

[19] See Section 8 of the CTA Report for further details

[20] Published alongside this document



Source: CTA/CAA

* 2020 = £43/passenger, 2021 = £43/passenger

4.59 We note that CTA's estimate of opex per passenger in 2025 is broadly in line with out-turn opex in 2019 (in real terms). This is an important point of comparison because 2025 is the first year in our forecasts when passenger volumes are expected to return to pre-pandemic levels.

4.60 For the period from 2022 until 2025, we consider that the opportunities that HAL has had or will have to make cost savings compared to 2019 are broadly offset by the impact of the economic challenges (or "headwinds") that the airport will likely have to deal with over the H7 period. For that period, we have also reviewed and are broadly content with the average annual rate of change of opex per passenger implied by HAL's opex estimates, which reduce in line with expected changes in passenger volumes[21]. We regard this as providing reassurance that the trajectory of HAL's projected opex estimated by CTA is reasonable.

4.61 CTA updated its analysis across all categories of opex since our Initial Proposals, primarily based on new information from HAL. The key areas in which CTA's analysis has changed since our Initial Proposals (other than using updated passenger forecasts) are:

[21] As passenger volumes increase, overall opex also increases but at a relatively slower rate due to the relatively inelastic nature of many categories of opex. Therefore average opex per passenger tends to decrease during periods of growth in passenger volumes

- people costs, for which CTA has substantially updated its estimates of security staff costs to reflect additional information provided by HAL both on the current and future security operations and the security transformation programme. CTA's revised forecasts reasonably take account of information provided by HAL on the sequencing of its security transformation programme and the likely timing of costs and benefits of the programme. In contrast CTA's initial forecasts contained a more optimistic view of the sequence for implementation of new technologies and processes that was associated with the earlier delivery of benefits, in terms of throughput and staff productivity. Given that security staff costs represent around 50% of all people costs over H7 and that people costs is itself the largest opex category by value, these changes have a significant impact, increasing estimated opex by £331m. We are confident that these revised assumptions represent a more realistic and appropriate basis for setting the H7 price control;
- Utility costs, for which CTA has increased its estimate to allow for updated higher forecasts by HAL of energy cost inflation.[22] This change increases estimated opex by £90m; and
- Operational costs (including insurance), for which CTA has increased its estimate primarily as a result of further analysis of insurance costs, which have been updated using forecasts derived from Swiss Re. This change increases estimated opex by £43m.[23]

4.62 CTA has considered the expected impacts of relevant headwinds in its analysis and made specific provision for these impacts where the available information supported it. For example, CTA estimated the ongoing impacts of the pandemic on both cleaning and covid-19 enforcement costs using a specific adjustment to represent the increased opex which is expected to be required in the early years of H7. CTA has also taken account of current and upcoming constraints in the labour market when estimating expected average wage inflation as part of people costs. These constraints are expected to lead to higher average salaries for HAL and hence generate additional costs, particularly so during the period when staff numbers ramp up to accommodate increased passenger volumes.

4.63 Having considered CTA's analysis in detail, we are conscious that CTA has made a relatively large number of assumptions on the detail of HAL's cost base to complete its analysis. While we regard the assumptions and approach that CTA has adopted as reasonable, there are plausible ranges for most of the assumptions that CTA has made and in these circumstances it is appropriate to also consider top-down cross checks on the reasonableness of the CTA's

[22] HAL has used the EIC energy cost inflation forecasts to produce its estimate, which we consider is an appropriate source and therefore we have accepted HAL's approach to inflation of energy costs

[23] Further information on CTA's analysis for this category is provided in section 5 of CTA's Report

analysis. Overall, having considered CTA's analysis, both for individual areas of opex, and the total opex allowance that its estimates lead to we are of the view that the trajectory of costs that CTA has put forward is realistic. Therefore, even if there are detailed assumptions that CTA has made which might be subject to challenge, we are of the view that the overall projections of opex are likely to remain robust.

4.64 Taking these points together, we therefore consider that CTA's overall opex projections provide us with an appropriate set of evidence on which to base our Final Proposals. These estimates, in the round, appear to represent an appropriate level of efficient opex for HAL for H7, which will promote economy and efficiency on the part of HAL and further the interests of consumers.

4.65 We have developed an overall estimate of efficient opex for H7, however it is for HAL to operate its regulated business and manage its opex as it sees fit within this overall estimate. While we have produced detailed estimates for each cost category using expert analysis, under our approach (consistent with our overall regulatory framework) we are not requiring HAL to adhere to estimates for each opex category.

4.66 Nonetheless, we have also made targeted adjustments to account for our policy on specific issues or where CTA has identified a range of estimates for costs. These are discussed below.

Policy Issues and other cost items

Business Rates

4.67 At the time of our Initial Proposals, HAL was in initial discussions with the VOA over the business rates that it would pay during the H7 period. These discussions have progressed since our Initial Proposals and, on the basis of information provided by HAL, we expect that the negotiations between HAL and the VOA for the next business rates cycle will have concluded before we come to make the final decisions on the H7 process. Following this, we do not expect the next revaluation to happen until H8.

4.68 Given the timing of the VOA's decision making process, we do not consider that it is appropriate for us to apply an ongoing incentive mechanism for the H7 price control period because the uncertainty (and behaviour by HAL in response) that such a mechanism would address will not be an ongoing issue during the remainder of the H7 period. As such, an ongoing incentive will not promote the interests of consumers in any meaningful way. To address this, we are, therefore, not implementing the 80%:20% risk sharing mechanism that we proposed in our Initial Proposals.

4.69 However, we are keen to ensure that HAL is subject to a short term incentive to conclude its negotiations with the VOA in a way that leads to it paying an appropriate level of business rates. To this end, our Final Proposal reflect the current level of business rates, which is £119m per year in 2020 prices. Once the level of HAL's business rates has been determined (including any challenge to the VOA's decision by HAL), we will conduct a review of HAL's approach to dealing with the VOA as follows:

- we will conduct an initial, high-level review of the outcome of the VOA's decision on business rates, in order to determine if the resulting business rates appear reasonable given the evidence available at that time;[24] and
- if our initial review identifies any material concerns with the outcome, we would then conduct a fuller review to determine whether HAL has acted reasonably in seeking to minimise the level of business rates payable. Depending on the outcome of that fuller review, we would then determine what, if any, adjustments to our approach to the treatment of business rates (and the timing of any such changes) are required in the interests of consumers.

Pension Deficit Repair Costs

4.70 In relation to PDRCs, we note that HAL's statutory accounts for 2021, published in February 2022,[25] show that HAL's defined benefit pension fund is now in surplus. HAL has been in discussions with the pension fund trustee on the triennial valuation as at 31 December 2021 and the contributions that HAL will make to the scheme in future years.

4.71 We recognise that there are challenges in forecasting PDRCs prior to the conclusion of the triennial valuation exercise. Nonetheless, it is also appropriate to take account of a full range of information on these matters, including the statements in HAL's latest accounts, which came to our attention only relatively late in the process for making these Final Proposals.

4.72 In total, the allowance in these Final proposals for PDRCs is £99m. If HAL provides compelling evidence that this allowance is appropriate and necessary in response to these Final Proposals then we will retain the allowance in our Final Decision. Otherwise, we will remove the allowance and make a compensating downward adjustment to the level of airport charges to reflect this change.

Other costs

4.73 CTA produced a range of estimates for Passengers Requiring Support (PRS) costs, which vary according to CTA's assessment of whether the additional opex proposed by HAL is required to meet the needs of consumers, particularly those

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24 For example, we would expect to analyse the outcome against relevant benchmarks such as Business Rates payable by other relevant airports

25 Heathrow Airport Limited Statutory Accounts 2021

consumers who may require support. We agree that the airport Special Assistance service for disabled and less mobile passengers[26] is crucial, and is funded through a separate charge per passenger using the service.

4.74 But we remain concerned that HAL's proposed costs for PRS, which HAL considers to be 39% of passengers, appear to be conflated with the narrower category of disabled and less mobile passengers who use the Special Assistance service.[27] Having considered the requirements of consumers in the round (for example, with reference to relevant OBR metrics), we have accepted CTA's "base case" estimates for PRS costs,[28] as we consider that HAL has not justified the need for additional opex for this wider group of passengers.

4.75 We have included an additional allowance for the level of CAA licence fees to be paid by HAL, noting our commitment to consult on a rebalancing of CAA licence fees across regulated airports and our expectation that this is likely to increase the fees paid by HAL. This additional allowance is £0.75m (in nominal terms) for the years 2023 onwards.

Final projections

4.76 Following the further analysis described above and in the CTA report, our projections for the efficient level of opex that support these Final Proposals are summarised in Table 4.1 below.

Table 4.1: Final opex forecasts

2020 CPI deflated prices, £m	2022	2023	2024	2025	2026	H7
People	334	321	358	381	364	1,758
Operational excl. insurance	247	267	276	282	282	1,354

26 The relevant regulation uses the term Passengers with Reduced Mobility (PRMs).

27 www.caa.co.uk/passengers/prm/passengers-with-disabilities-and-reduced-mobility/

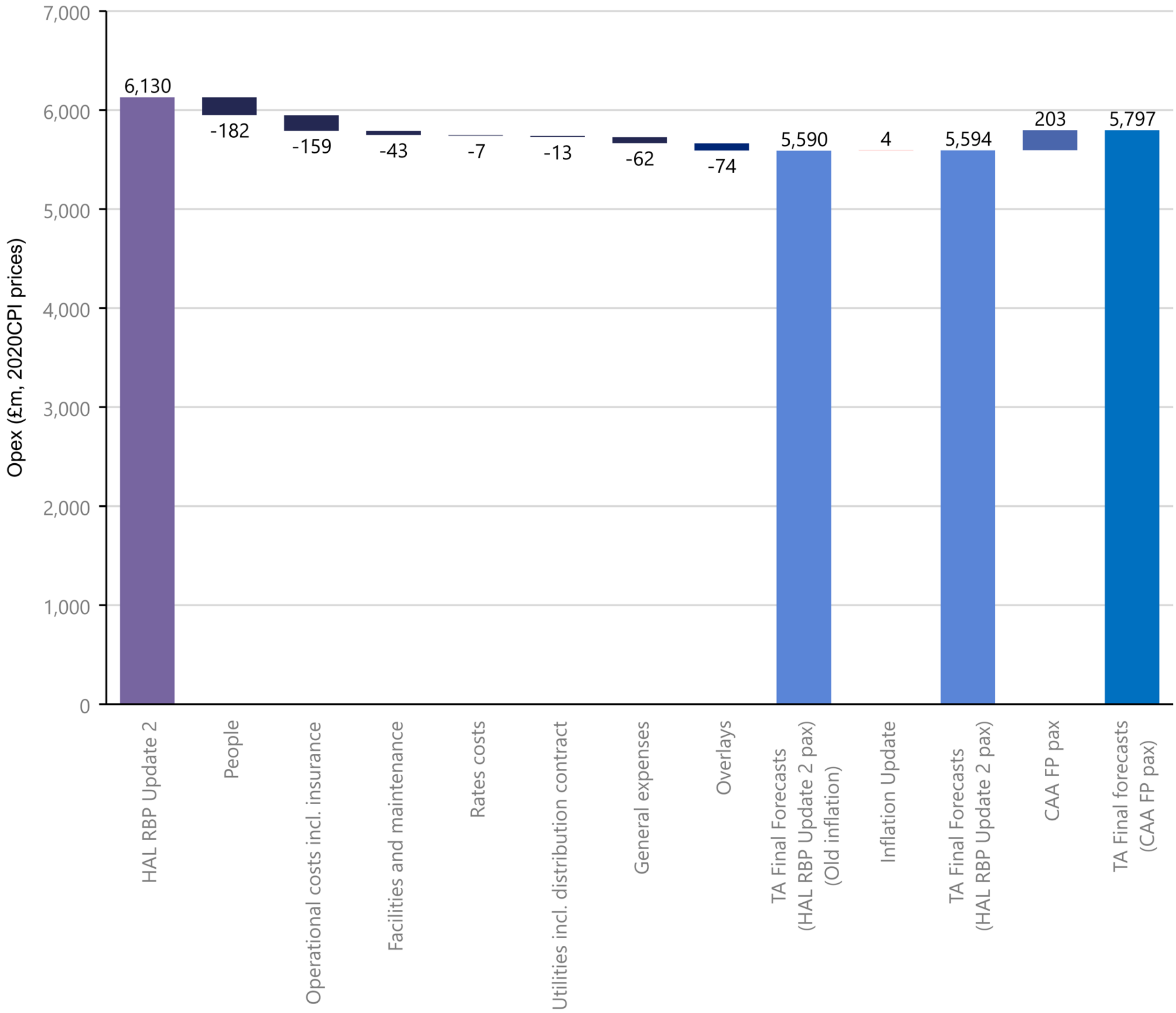
28 The "base case" estimates assume that no additional opex is required for PRS costs, see Section 3 of the CTA Report for further details

2020 CPI deflated prices, £m	**2022**	**2023**	**2024**	**2025**	**2026**	**H7**
Insurance	16	16	17	17	17	83
Facilities and maintenance	161	167	166	164	163	822
Rates	119	119	119	119	119	593
Utilities exc. distribution	80	81	81	81	80	402
Distribution contract	30	30	28	27	27	142
General expenses	107	113	117	119	118	573
Surface access initiatives	6	5	6	6	5	28
Other overlays	7	3	7	12	16	44
Total	**1,106**	**1,123**	**1,172**	**1,208**	**1,191**	**5,800**
Total per passenger, £	20.1	16.7	15.5	14.9	14.6	-
Difference with HAL, £m	-34	-92	-81	-51	-73	-331

Source: CAA

4.77 Figure 4.3 shows how our final proposals compare to HAL's RBP Update 2.

Figure 4.3: Comparison of our Final Proposals with HAL's RBP Update 2



Source: CTA/CAA[29]

4.78 Care has to be taken in comparing our Final Proposals projections to HAL's RBP Update 2 forecasts:

- our estimates are based on our Final Proposals forecast for passenger numbers during the H7 period. This forecast is higher than HAL's forecast of December 2021. All other things being equal, higher passenger numbers lead to higher opex. Our final forecasts of passenger numbers increase our estimates of opex for H7 by £203m (or £40m per annum), as shown in Figure 4.3; and

[29] The estimates presented in this Figure may differ slightly from those in the previous Table due to rounding and treatment of the additional allowance for future CAA Licence fees

- our estimates incorporate an up-to-date outlook for inflation for all categories of opex, whereas HAL's forecasts were based on the outlook for inflation as at the end of 2021. The impact of our use of updated inflation forecasts is clear when the estimates are compared with HAL in nominal terms, while in real terms, the net impact of applying inflation indices that differ from CPI (such as the index for energy costs) to specific categories of opex is relatively marginal. Across all categories of opex, the use of updated inflation forecasts increases our estimates by around £280m over H7 in nominal terms. In real terms, the impact is £4m over H7 as shown in Figure 4.3. [30]

4.79 Controlling for these two factors, our estimates are around £540m[31] lower over the five years (on average £135m lower per year) than HAL's most recent business plan projections. Summarised below are the main reasons why our forecasts are lower than HAL's RBP Update 2 forecasts:

- the efficient baseline. We consider that the "efficient baseline" should be set lower than simply using HAL's out-turn opex costs for 2019. This is because CTA's work in comparing these costs with previous years and HAL's own benchmarking show that HAL's out-turn opex for 2019 was above the efficient level. CTA has adjusted HAL's 2019 opex to create an estimate of what the efficient baseline costs would have been. This predominantly affects three categories of the opex estimates presented in Table 4.1 and Figure 4.3: people costs, operational costs, and general expenses;
- in estimating changes to the people costs category delivered by HAL in 2020 and 2021 through its Cost of Change programme, we have allowed for further savings where we consider that the efficiencies delivered are additional to the efficient baseline. In addition, for people costs, our wage growth assumptions account for the freeze in pay levels in 2020 and 2021, which do not appear to be accounted for in HAL's forecasts;
- we have made allowance for higher savings in the category of operational costs in the early part of the H7 period, due mainly to our use of a higher elasticity of costs (in relation to changes in passenger numbers) than HAL; and

[30] This relatively marginal impact is due to the net impacts of inflation forecasts that are higher than average CPI for some categories (such as energy costs) but lower than average CPI for other categories (such as people costs)

[31] Referring to Figure 4.3, this difference can be derived by comparing the entry for "HAL RBP Update 2" with the entry for "TA Final Forecasts (HAL RBP Update 2 Pax, Old Inflation)

- we have imposed reductions in several of HAL's overlays.[32] These include the covid-19 overlay where CTA has reduced the activities undertaken as covid-19 precautions and terminated additional costs at the end of 2022. In contrast, HAL included a range of covid-19 precautions throughout the H7 period (albeit its forecasts were generated earlier in the process when more covid-19 restrictions were in place). CTA has also adjusted the resilience overlay to account for issues such as the potential to extend equipment life due to low activity levels in 2020 and 2021. The net impact of these reductions in HAL's overlays is to reduce our estimates by £74m over the five years (or £15m per year) relative to HAL's RBP Update 2, as shown in Figure 4.3.

4.80 At Initial Proposals the airlines strongly supported the work of CTA, which at that stage of the process set out particularly challenging targets for HAL in terms of reducing opex per passenger. While there are advantages in such challenging targets in terms of putting downward pressure on airport charges, it is also important that targets are consistent with a level of costs that supports good and improving levels of service and so that the price control supports HAL's financeability and the continuing investment to keep the airport safe, secure and resilient.

4.81 In the period since we published Initial Proposals we have worked closely with CTA to ensure that we retain challenging targets, but that these targets also evolve to reflect new information on costs and service levels. These targets now reflect the latest available information on the likely challenges that HAL will face during H7 and the advantages to consumers and airlines of maintaining and improving the quality of services provided by HAL, while also reflecting current headwinds.

4.82 We understand that airlines may feel the revised targets could be more stringent, but having considered the range of evidence that is available, including airline views, we consider that our Final Proposals for opex are consistent with furthering the interests of consumers, ensuring reasonable demands for AOS are satisfied and promoting economy and efficiency on the part of HAL.

Implementation

4.83 The estimates for opex identified above have been used in the calculation of the price controls in chapter 13 (Calculating the price cap and financeability).

4.84 We consider that our overall approach to developing estimates of opex is appropriate as it entails combining detailed bottom-up expert scrutiny of each opex category based on the range of evidence available with top-down review of the estimates derived from our bottom-up analysis. In particular, we have

[32] See Section 8 of the CTA Report for more details

provided in our estimates for HAL's current circumstances, including its current recruitment challenges and the expected impact on estimated people costs of current and expected future constraints in labour supply.

4.85 As part of our allowance for opex, we have included an allowance of £99m over H7 in relation to Pension Deficit Repair Costs. If HAL provides compelling evidence that this allowance is appropriate and necessary in response to these Final Proposals, then we will retain the allowance in our Final Decision. Otherwise, we will remove the allowance and make a compensating downward adjustment to the level of airport charges at that time to reflect this change.

4.86 As described above, in relation to business rates, once the level of HAL's business rates has been determined (including any challenge to the VOA's decision by HAL), we will conduct a review of HAL's approach to dealing with the VOA to determine whether it has acted reasonably in seeking to minimise the level of business rates payable. Depending on the outcome of that review, we will then determine what, if any, adjustments to our approach to the treatment of business rates (and the timing of any such changes) are required in the interests of consumers.

4.87 We will also make changes to HAL's licence to implement our proposals for the pass through of costs relating to security. This will codify the arrangements for security related costs.

Chapter 5

Commercial revenues

Introduction

5.1 Commercial revenues comprise the income from a wide range of HAL's activities at Heathrow airport that are not funded through the airport charge. These activities include retail shops in terminals, cargo,[33] property rents, access to the airport (rail, car parks and the terminal drop-off charge) and other services. As explained in the Summary, the "commercial" [34] revenues that HAL earns from these activities are included in the "single till" with HAL's costs, and, hence, are deducted from HAL's revenue requirement when we calculate the price control that applies to HAL's airport charges.

5.2 We incentivise HAL to optimise the level of commercial revenues which, in turn, reduces the overall level of airport charges. We do this by setting a fixed allowance for commercial revenues for the five-year control period. If HAL is able to generate higher revenues than the allowance, then (other things being equal) it is able to retain the difference. Conversely, if HAL makes less commercial revenue than our projection then (other things being equal) it must fund the shortfall that this would generate against its revenue requirement until the price control is reset at the next review.

5.3 This approach provides a strong incentive on HAL to increase commercial revenues and furthers the interests of consumers by ensuring that, in the longer-term airport charges are no higher than necessary. It also helps to promote efficiency and economy on the part of HAL's commercial activities. The use of the single till ensures that these revenues are properly taken into consideration when we assess whether we are setting a price control that secures that HAL is able to finance its activities at Heathrow.

5.4 This chapter sets out:

- the background to our assessment of commercial revenues, including a summary of our Initial Proposals;
- a summary of stakeholders' responses to those Initial Proposals;
- our assessment of the responses; and

[33] Cargo revenues are treated differently, as these are a category of aeronautical charge; however for the purposes of this chapter and our Final Proposals when we refer to "Commercial Revenues", this includes Cargo revenues.

[34] As opposed to "regulated".

- our updated analysis and Final Proposals.

Our Initial Proposals

5.5 Over the course of Q6, HAL was able to increase its commercial revenues in real terms from £910 million in 2015 to £981 million in 2019 (2018 prices[35]). HAL has told us that this was driven by the opening of the refurbished Terminal 2, which transformed the quantity and quality of retail space and increased passengers' average propensity to spend at the airport.

5.6 The covid-19 pandemic resulted in significant reductions in commercial revenues in 2020 and 2021. This impact was felt particularly in:

- retail;
- car parking; and
- catering.

5.7 HAL's total commercial revenues fell to £397 million in 2021,[36] reflecting the relatively elastic nature of many categories of revenues in response to passenger volumes. HAL forecast in its RBP Update 1 that its commercial revenues will recover during the H7 period, but not to the point where HAL would achieve the level of commercial revenues it was generating before the pandemic.

5.8 We set out our projections for HAL's commercial revenues during H7 in our Initial Proposals. To inform these estimates, we asked our consultants CEPA/Taylor Airey ("CTA") to carry out a detailed review of HAL's forecasts, which involved:

- carrying out bottom-up analysis, trend analysis and benchmarking (where appropriate); and
- where necessary, producing independent forecasts of these revenues.

We published CTA's report[37] and invited input on the issues it raised.

5.9 CTA's overall approach to estimating commercial revenues has followed a base-step-trend method[38] that can be summarised as follows:

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[35] Using RPI as the deflator to convert the revenues to 2018 prices

[36] As noted in HAL's 2021 Statutory Accounts at: Heathrow Airport Limited _31_12_2021_Full_ARA.pdf

[37] Published alongside our Initial Proposals at: H7 Review of Opex and Commercial Revenues: Initial Proposals (caa.co.uk)

[38] A broadly similar approach was adopted by CTA in relation to its assessment of opex, as described in chapter 4 (Operating expenditure).

- setting a **base** level of revenues: CTA chose 2019 as the base year for its analysis. This was considered to be a pragmatic option as 2019 was the last full year before revenues were affected by the pandemic. CTA then made a number of adjustments to the starting baseline where it considered that HAL's out-turn revenues in 2019 were not representative of the underlying revenue base that an efficient operator would likely experience into future years;
- adding **overlays or step changes** to represent one-off or discrete changes in revenues. These overlays include both upward adjustments where CTA identified that HAL has been able to, or ought to be able to grow revenues, and downward adjustments where CTA identified that HAL had lost or will be likely to lose the potential to generate income. CTA also made step adjustments to capture specific changes in revenues resulting from the pandemic; and
- **setting out the longer-term trend** in revenues. CTA applied two main ongoing, year-by-year adjustments when rolling forward revenues covering: i) changes in revenues caused by reductions or increases in passenger numbers compared to the 2019 base year; and ii) a "management stretch" target, representing the annual growth in overall revenue influenced by HAL's management of commercial revenues, which cannot be fully explained by variations in passenger volumes or other bottom-up factors. It is usually expressed as an annual top-down percentage change in revenues per passenger.

5.10 In developing its forecasts, CTA made a number of adjustments to the projections that HAL had put forward in its RBP Update 1. In particular:

- CTA assessed that HAL will be able to increase average commercial revenues per passenger through H7, based on HAL's historical track record of increasing average revenues above passenger growth rates and above inflation. It therefore applied a 2% "management stretch" challenge to its estimates of relevant revenues for H7, compared to HAL's assumption of "no stretch" beyond that provided by RPI indexation;
- there were large differences between CTA's and HAL's assessments of the impacts of (i) changes to taxation rules for Heathrow in relation to airside VAT-free and duty-free retail, and (ii) HAL's forecast passenger mix and its impact on retail income. CTA's approach applied a consistent elasticity framework to estimate the impact of the tax changes, and explicitly forecasted the impact of the geographical passenger mix on retail revenues, taking account of varying estimated spending per passenger between market segments;

- CTA used a lower elasticity of cargo revenues with respect to passenger numbers compared to HAL's approach, and considered that this better reflected the actual trends observed for cargo revenues in 2020 and 2021. CTA assessed that these trends are likely to persist for several years during H7, in the context of spare capacity at the airport;
- CTA used an alternative set of mode share[39] estimates for travelling to and from the airport, using the evidence provided by HAL better to reflect surface access trends anticipated by CTA; and
- CTA disagreed with HAL's approach of assuming reduced ticket prices on the Heathrow Express premium rail service.

5.11 Noting the degree of forecasting uncertainty that prevailed at the time of our Initial Proposals and the fact that further analysis was still to be carried out, we developed ranges for commercial revenues based on two scenarios. We constructed these two scenarios by reference to:

- a "floor", which was equal to the revenue estimates from HAL's Updated RBP, scaled to the CAA "Mid case" passenger forecasts; and
- a "ceiling", which was equal to CTA recommended "mid case" scenario.

5.12 We positioned the upper end of our range (or upper quartile) at 25% from the floor to the ceiling. The lower end (or lower quartile) of our range was 75% of the way from the floor to the ceiling.

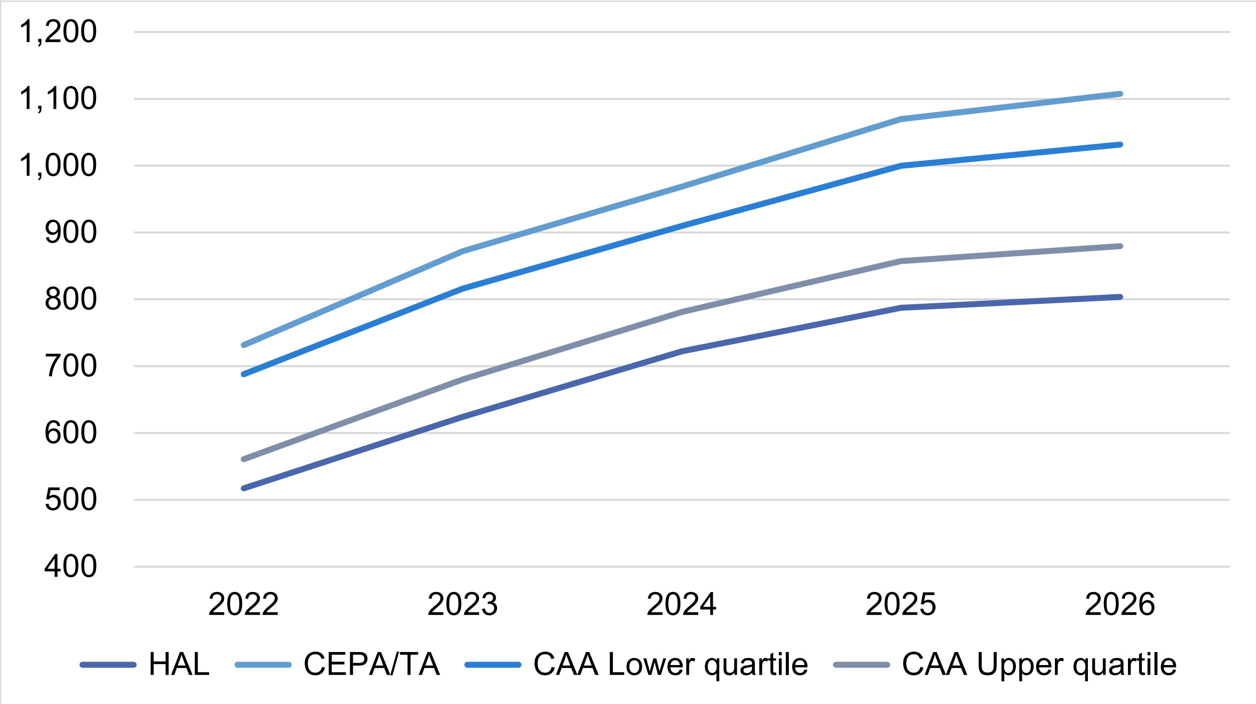
5.13 Our lower quartile scenario assumed that commercial revenues would increase from £688 million in 2022 to £1,032 million in 2026. Our upper quartile scenario assumed that commercial revenues would increase from £561 million in 2022 to £880 million in 2026.

5.14 The lower quartile of our range (including the impact of using our passenger forecasts for the H7 period) was around 29% higher than HAL's proposed commercial revenue projection while the upper quartile was around 9% higher than HAL's projection of its commercial revenues over H7 as a whole.

5.15 Our ranges for the Initial Proposals for commercial revenues are shown in Figure 5.1 below alongside the forecasts made by HAL and CTA.

Figure 5.1: Summary of HAL, CTA and CAA Upper and lower commercial and cargo revenue projections (2020 CPI deflated prices)

[39] "Mode share" describes the distribution of passengers between various surface access modes



Source: CAA

Terminal drop-off charge

5.16 In addition to developing these commercial revenue forecasts, we also consulted in our Initial Proposals on the proposed regulatory treatment of a new revenue stream in the form of a "terminal drop-off charge" that was introduced in Q4 2021. In our Initial Proposals, we considered how best to address this new charge in the regulatory regime in order to protect consumers' interests given the material level of uncertainty around passenger volumes and the new pricing arrangements. To deal with these issues in a way consistent with the interests of consumers we proposed:

- a risk sharing mechanism under which HAL would bear 35% of any differences between the actual and our forecast for drop-off charge revenues during H7, so that, if the revenue from this charge were to be greater than forecast, airport charges would reduce by approximately two thirds of the difference;
- a requirement for HAL to notify airlines and the CAA of any increases of the charge beyond 10% of the baseline levels noted above, but not to require HAL to formally agree any charge increase in advance with the CAA or airlines;
- inclusion of a provision to adjust HAL's price control in the event that a change in the law (that might include a change made to introduce a short period of mandatory free parking) were to prevent HAL from levying a terminal drop-off charge. Such an event would reset the assumption on drop-off charge revenue to zero and allow HAL to recover the projected revenue for the remainder of the price control through airport charges; and

- to implement these adjustments through a new term in HAL's licence with an in-period true up through the "K" charge adjustment factor.

Stakeholders' views

HAL

5.17 HAL was critical of the approach we had used to set our projections of commercial revenues, suggesting that the method set out above did not follow good practice and had resulted in an erroneous forecast. The criticisms that HAL made in this regard were similar to the criticisms that it made of our approach to making opex forecasts (see chapter 4 (Operating expenditure).

5.18 HAL went on to suggest that CTA had made specific errors in its method and calculations and highlighted CTA's "stretch" assumption of 2% per annum additional commercial revenue growth per passenger as a particular issue.

5.19 HAL provided a number of reports it had commissioned from Frontier Economics, Pragma, Red Route and OC&C relating to commercial revenues which provided additional information in support of HAL's projections.

5.20 HAL noted that, for many years, it had ranked as the highest airport globally for the level of commercial revenue per passenger it generates, as well as being rated by passengers as the best for airport shopping in the world. HAL also said that it was continually improving the retail offer, but had only previously observed material real terms growth in its revenue per passenger when it had opened new terminals such as T5 and T2 and it had been able to increase the amount of retail space at the airport. HAL said that no new space was planned in H7, making the "unsophisticated" extrapolation of historical revenue growth into a 2% management stretch target unrealistic.

5.21 HAL also argued that it faced some significant headwinds on commercial revenues, for example, from the removal of "VAT free" shopping which HAL said is reducing the attractiveness of luxury shops at the airport. In addition, HAL argued that the opening of the Elizabeth Line will be a significant benefit for passengers and airport staff but will reduce income from the Heathrow Express.

5.22 HAL identified a number of specific changes to the approach set out in the Initial Proposals that it suggested would deliver a more accurate forecast:

- <u>VAT and duty free</u>: HAL argued that a downward VAT and duty-free tax "overlay" to 2019 revenues of -25% is appropriate, compared to the -13.5% proposed by CTA;

- Other Retail Overlays: HAL suggested there should be other downward "overlays" to retail revenues, such as in relation to passenger mix inputs based on a combination of projected spend profiles and actual spend profiles from 2019;
- Capital investment: HAL said that there was a major disconnect between our allowance for capex (which excluded projects aimed at increasing commercial revenues) and our commercial revenue forecast;
- Cargo: HAL said the CTA's forecast of cargo revenues included errors, including, but not limited to, the assumed elasticity to passenger numbers, meaning that the projection was inconsistent with the CAA's passenger forecasts. HAL suggested that the forecast of cargo revenues should be lowered from £173m to £115m;
- Surface access: HAL considered that CTA's assumptions on mode share were based on errors of fact and suggested that a more accurate approach would be to consider the impact of the Elizabeth Line on mode share from the date it opens. HAL said we should apply an overlay to reflect the change in passenger behaviour in car parking and link mode share assumptions to HAL's latest data;
- Terminal Drop-Off Charge ("TDOC"): HAL noted that there was an error in its modelling of TDOC, where vehicles with both departing and arriving passengers were incorrectly included as being subject to the charge. This had been corrected in HAL's later modelling. Nonetheless, HAL suggested that the CTA forecast for the TDOC was based on several errors of fact including not being net of VAT that would be payable on those revenues and assuming that pick-up passenger vehicles are also charged. HAL suggested that a more accurate approach would lower forecast revenues from £344m to £136m; and
- Property: HAL said that CTA had misunderstood the key drivers of its commercial rents, and that these rents are relatively inelastic.

5.23 HAL referred to its RBP Update 2 which was included with HAL's response to the Initial Proposals. In the RBP Update 2, HAL retained the same high-level modelling approach it used in its earlier projections although it updated a number of assumptions. Overall, HAL's latest forecast of commercial revenues was for a total of £3.2bn (2018 prices) over H7, an increase of 11% on its previous forecast. HAL's latest projection[40] is 19% lower than CTA's initial forecasts as set out in Table 5.1 below.

Table 5.1: RBP Update 2 commercial revenues forecasts, HAL Mid-Case (£m, 2018 RPI deflated prices)

[40] Using HAL's inflation methodology

Assumptions	Pax Forecast	2022	2023	2024	2025	2026	H7	Var
RBP Update 1	Update 1	442	545	617	653	656	2,914	-1,065
CTA	Update 1	603	749	824	891	912	3,980	
RBP Update 2	Update 2	520	592	679	715	724	3,231	-749

Source: CAA

Airlines

5.24 Detailed responses on commercial revenues were provided by AOC/LACC, BA and VAA. Airlines generally supported CTA's findings and recommendations which they considered to be evidence-based, sensible and logically presented. They suggested that CTA's work corroborated earlier analysis that airlines had submitted, suggesting that HAL had understated its projections, and had overstated the negative impact of a number of factors, particularly in relation to assumptions on legislative changes such as VAT.

5.25 Airlines also provided a study by PA Consulting which reviewed the CTA work. They considered that this study supported the approach and outcomes produced by CTA. However, airlines were critical of the CAA's approach to developing a range for commercial revenues, noting in particular that they considered HAL's projections to be unduly pessimistic. They said that we should place no weight on HAL's forecasts and considered that we should rely fully on the CTA results.

5.26 Airlines also noted that evidence from PA and HAL demonstrated that commercial revenue per passenger at Heathrow continues to perform very strongly and suggested that the CAA should conduct a full bottom-up analysis of HAL's latest forecasts.

5.27 VAA said that the range in our Initial Proposals for commercial revenues was set at an inappropriate level and that we should place more weight on CTA's analysis, otherwise the forecasts would not be fit for purpose.

5.28 BA noted that the approach to setting commercial revenue forecasts must ensure that HAL is appropriately incentivised to become more efficient over the course of the H7 control period and ensure that consumers benefit from these efficiencies. BA also welcomed the CAA's design of the partial pass-through of the TDOC revenues and requested more information on how the sharing arrangement had been calibrated, noting it should be tied to an analysis of commercial revenue generation in car parks and reflect the near zero marginal cost to Heathrow of charging through the TDOC.

Our views

5.29 Our response to the criticisms made by HAL and airlines of the approach that we adopted in our Initial Proposals, particularly as regards the use and construction of a range, is set out in chapter 4 (Operating expenditure). As with opex, we consider that the approach that we used in our Initial Proposals was appropriate at that stage of the price review process. Having carried out additional work since Initial Proposals, the Final Proposals set out in the remainder of this chapter provide “mid case” estimates for each year of HAL’s future H7 commercial revenues.

5.30 Following our review of responses to the Initial Proposals, we engaged extensively with HAL and airlines through a series of detailed bilateral workshops on the key issues raised through the consultation. A helpful outcome of this engagement was the provision of additional information on commercial revenue projections by both HAL and airlines.

5.31 We have asked CTA to update its earlier analysis to take account of additional information and the issues raised through the consultation process. Further details of this update and our views on these matters are set out in the section below.

Management Stretch

5.32 We do not agree with HAL’s arguments relating to the application of a management stretch target. HAL operates a regulated airport based on the single till model of which commercial revenues form a substantial building block. In this context, it is appropriate in the interests of consumers to set challenging but achievable targets for HAL, including a component relating to annual, year-on-year improvement in performance. This is exactly analogous, for example, to the way in which we set targets for cost efficiency by including a component that captures “frontier shift”.

5.33 We note that HAL’s business plan forecasts assume that, after accounting for its various overlays, it will be able to deliver growth in revenues per passenger in line with RPI during H7. CTA in its work has indexed commercial revenues by CPI inflation, meaning that a minimum of around 1% per annum [41] “management stretch” is required in order to capture HAL’s own assessment of the potential for revenues per passenger to grow faster than general inflation.[42]

5.34 We also note the evidence that HAL has historically grown its annual overall revenue per passenger in line with RPI. We consider that historical experience provides important insights into the underlying rate of increase in commercial

[41] RPI inflation tends to escalate around 1 percentage point faster than CPI inflation.

[42] As noted in chapter 12 (Financial framework), RPI is not a statistically accurate measure of inflation.

revenues and, hence, we asked CTA to carry out a more detailed econometric analysis of historical data. CTA's work, which is set out in detail in Annex 1 to the CTA report[43] shows that HAL's ability to drive increased revenue in real terms exceeds growth from passenger volumes, other bottom-up revenue drivers, capital expenditure or one-off factors. CTA concludes that its econometric analysis implies that a management stretch target for H7 could reasonably lie in the range 1%-2%.

5.35 On balance, we consider a 1% management stretch per passenger per year in real terms to be an appropriate and prudent target for controllable categories of HAL's revenues during the H7 period. The evidence collated by CTA indicates that a 1% figure is towards the low end of what HAL has achieved in the past. However, we also consider that the current and future economic conditions in H7 could make it more difficult for HAL to grow revenue per passenger in real terms in comparison to the relatively more benign economic conditions that HAL experienced during Q6.

5.36 We recognise that some categories of commercial revenues are not fully within HAL's control and, therefore, cannot be directly influenced by management action. We therefore are only applying our management stretch target to the controllable categories of commercial revenue which HAL can influence. In this context, non-controllable categories are: rail track access charges, TDOC[44], Terminal 5 Piccadilly line revenue and property revenue.[45]

5.37 In relation to property revenue, while we consider that it would typically be controllable, in practice, property revenues during H7 will largely be determined by the decision on property "Guide Prices", being the prices levied on HAL's tenants for rental or lease payments that are published annually and subject to consultation with those tenants. The use of these Guide Prices, which depend to a large extent on the wider commercial property market, limits HAL's ability to drive further revenue growth.

5.38 We agree there is a need to include an appropriate allowance for commercial capital investment as part of our assessment of capex. This is addressed in chapter 6 (Assessment of capital expenditure).

[43] Published alongside this document

[44] While HAL has some control over TDOC revenues, these revenues are subject to very high levels of uncertainty (as explained later in this chapter). Given that this is a new revenue stream, and given the dangers of creating perverse incentives, we consider that it would not be appropriate to apply a management stretch to TDOC revenues at this time.

[45] More detail on this issue is provided in Section 5 of the CTA report.

Retail, bureaux de change and the treatment of overlays

5.39 In the light of comments from HAL on our approach to dealing with changes to VAT and duty free, we have considered further, in conjunction with CTA, the approach to our proposed overlay. As discussed in section 3 of CTA's report, we remain of the view that using a top-down overlay remains the most appropriate method for transparently reflecting the range of tax changes. In particular, we consider that HAL's bottom-up modelling of the effects of the tax changes is less practicable given the lack of available detail and some inconsistencies that CTA has identified with this approach.

5.40 We have also considered HAL's suggestion that other overlays should be applied to estimating retail revenues.

5.41 Following clarification from HAL, we support the need for an overlay to deal with adjustments to the 2019 retail sales per passenger for the new distribution of passengers across the eight geographic markets: this distribution is used in the estimation of retail revenue per passenger for each market. However, we do not agree with the need for an additional overlay to reflect the bridge that is, the combined variances in revenue from Q6 to H7 as HAL has not demonstrated there is a clear need for this. We have also not included the overlay proposed by HAL in relation to the impact of closing T4 because HAL has not provided sufficient evidence to support these adjustments.[46]

5.42 Following its review of stakeholder responses and further information from HAL, CTA reconsidered the appropriate level for the retail price elasticity, which it used to estimate the impact of recent changes in tax and duty on retail sales revenue at Heathrow. Building on the further information from HAL received through the engagement process, CTA produced an updated range of estimates for this elasticity of -1.4 to -1.72. Following consideration of CTA's analysis, we accepted CTA's preferred (or "mid case") estimate of retail price elasticity of -1.6.

5.43 Our resulting forecasts of retail revenues, the largest category of revenues by value, are broken down by category in Table 5.2 below. These forecasts build on CTA's analysis and recommendations, which we reviewed and accepted. The table shows that retail concession income is estimated to account for 70% of HAL's total retail revenues in H7.

Table 5.2: Breakdown of CAA forecast retail revenues (£m, 2020 CPI deflated prices)

	2022	2023	2024	2025	2026	H7
Catering	46	56	63	69	70	304

[46] More detail on these issues is provided in Section 3.3 of the CTA report.

	2022	2023	2024	2025	2026	H7
Retail concessions	192	237	270	295	303	1,298
Other retail revenue	37	46	51	56	57	246

Source: CAA

Surface access

5.44 We have considered stakeholders' views on the mode share that we assumed in our Initial Proposals, including HAL's suggestion that we should apply an overlay to reflect changes in passenger behaviour with regard to surface access to the airport. We have also assessed updated information provided by HAL on mode shares. Our analysis of this shows that there is broad agreement that the pandemic has led to passengers moving away from public transport towards private transport modes i.e. modes that use private vehicles such as taxis and car rentals.

5.45 We therefore asked CTA to revise the mode share forecasts in the following ways:

- to incorporate HAL's latest survey data on mode shares: this results in an additional £21 million[47] in revenue;
- to adopt HAL's approach for mode share analysis and realign recovery in mode share to pre-pandemic levels to recovery of passenger demand: this results in a reduction of £25 million in revenue;
- to include an assumption that HAL's Heathrow Express revenue will be reduced by 50% (of the impact) from the Autumn of 2022 (as a result of direct services commencing then on the Elizabeth Line) and that the revenue will be reduced by 100% (of the impact) from May 2023 when Elizabeth Line services are fully operational. This results in an estimated net reduction of £10 million in revenue; and
- to adopt HAL's approach to the "positive manual parking overlay" to represent the estimated growth of Average Transaction Values (that is, average parking yields per customer) and the strong performance of car parking revenues. This results in an increase of £19 million in revenue.

5.46 We have updated our forecasts for the TDOC in response to further information provided by HAL and set out our views on stakeholder responses later in this

[47] The impacts of these changes to mode share modelling are based on indicative analysis, assuming that each of these impacts is independent

chapter, where we explain the basis for our Final Proposals on TDOC policy and revenues.

Cargo

5.47 We disagree with HAL's view that our approach to forecasting cargo revenues is based on errors of fact. While we agree with HAL that a bottom-up approach can produce a more accurate forecast, we consider that a bottom-up approach is only appropriate when there is sufficient and robust information to support this, which was not the case at the time of our Initial Proposals.

5.48 We also note that most of the increase in cargo-only air traffic movements has been from passenger aircraft converted into freighter flights (known as "preighters") rather than freighter-only movements. As the slots available for preighter flights have been increasingly used for regular passenger flights during the period when passenger volumes have begun to recover, we expect preighter flights to gradually decline further through H7.

5.49 However, the pattern of increased demand for freight carried by air throughout the covid-19 pandemic suggests there is strong underlying demand for air freight transport at all times of the day, so this demand is not limited to night-time as HAL has suggested. We also note that HAL has not presented evidence to suggest this demand would immediately reduce or that the reduction in cargo-only flights will be immediate or happen any faster than the pace of passenger recovery.

5.50 We also observe that the calculations of these revenues presented by HAL included two significant errors which, when corrected, substantially increase the forecast of cargo revenues. In the light of this additional information, we asked CTA to develop an alternative bottom-up approach to forecast cargo revenues, linking the number of freighter and preighter movements to the recovery in passenger volumes which we have included in our Final Proposals.

Property

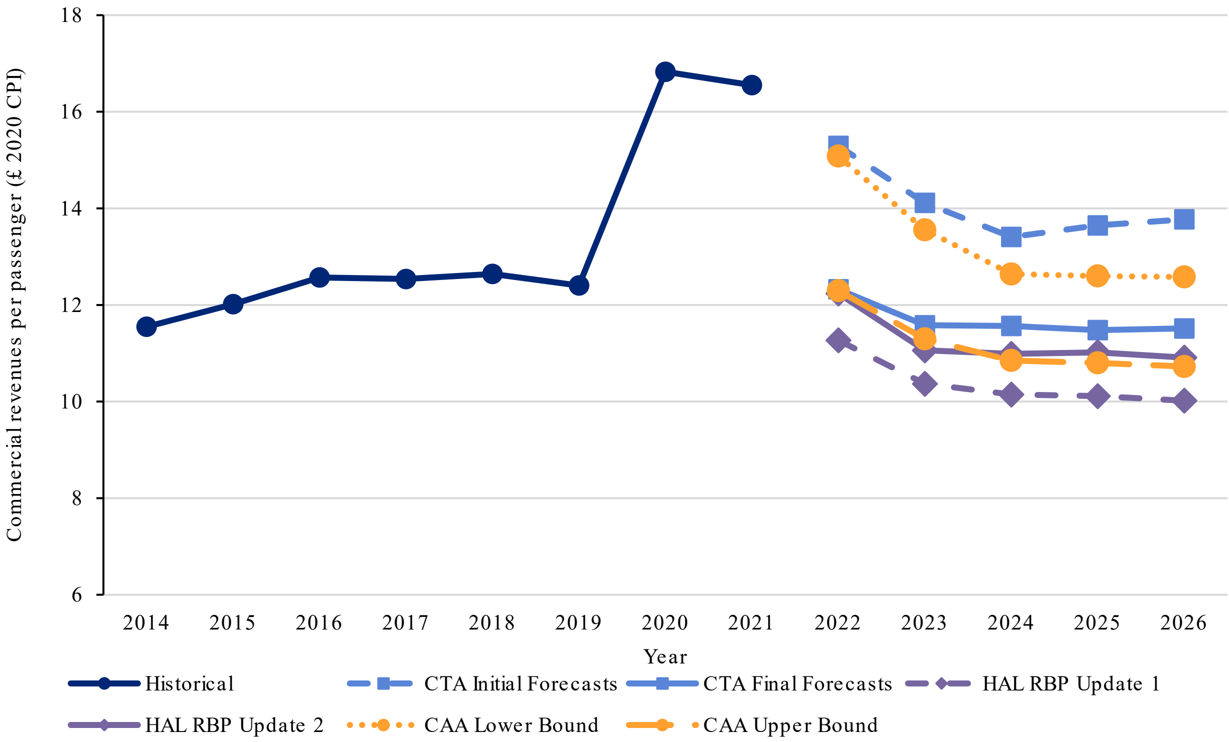
5.51 We agree with HAL's revised approach to modelling property revenues, which focuses on that proportion of income (around 76% of property revenue) that is driven by the treatment of Guide Prices (see paragraph 5.37 above).

Our Final Proposals

5.52 We have continued to work very closely with CTA to establish updated forecasts for Final Proposals. The latest report by CTA has been published alongside this document and contains further analysis and discussion of the issues set out in this chapter.

5.53 Figure 5.2 presents the H7 commercial revenues per passenger estimated by CTA compared to out-turn revenues per passenger during the Q6 and iH7 periods.

Figure 5.2: Commercial revenues per passenger excluding cargo: CTA, CAA and HAL (£, 2020 CPI prices)



Source: CAA/CTA

5.54 CTA's estimate of commercial revenues per passenger in 2025 is 5% lower than out-turn commercial revenues in 2019 (in real terms), which is an important point of comparison because 2025 is the first year in our forecasts when passenger volumes are expected to return to pre-pandemic levels. In broad terms, our work with CTA suggests that the opportunities that HAL will have to add to its revenue base (compared to 2019) are more than matched by economic challenges (or "headwinds") that the airport has had to deal with or will have to deal with in the H7 period.

5.55 CTA has updated its analysis across all categories of revenues since our Initial Proposals, primarily based on new information from HAL. The key areas in which CTA's analysis has changed since our Initial Proposals (other than using updated passenger forecasts) are:

- Management stretch, where CTA has reduced its original assumption of a 2% management stretch per annum in real terms to an assumption of 1% [48], having reviewed new historic data from HAL and other relevant evidence. This change reduces estimated revenues by £241m;
- TDOC, where CTA has agreed with HAL's correction to its forecast and applied the TDOC only to vehicles which drop off passengers at the terminals, rather than also applying it to vehicles that pick up passengers. CTA also made some other minor changes to its estimates for TDOC revenues based on new information from HAL. These changes to assumptions reduce estimated TDOC revenues by £187m;
- retail revenues, where HAL submitted further information on the impact of tax and duty changes in particular. As well as updating its estimates of direct impacts using the new information, CTA also accepted HAL's view that the introduction of VAT on some products will require HAL to accept lower margins from affected retailers. These changes to CTA's assumptions reduce estimated revenues by £103m.

5.56 CTA has considered the expected impacts of relevant headwinds in its analysis and made specific provision for these impacts where the available information supported it. In particular, changes in tax and duty mostly increase prices and hence are expected to reduce levels of spending and corresponding retail revenues throughout H7. Rail revenues are also expected to be significantly depressed in H7 by the impact of new Elizabeth Line services operating with a lower average fare than Heathrow Express: the impact of this competing rail service on Heathrow Express is forecast to be significant and enduring. Another key headwind is the ongoing impact of the pandemic, which has for example affected HAL's ability to maximise commercial revenue in the first half of 2022, due to the impact of factors, including the continued closure of Terminal 4.

5.57 We consider the discussion above to be a helpful lens to adopt when evaluating CTA's conclusions and HAL's contrasting business plan projections. Having considered CTA's analysis in detail, we consider that there may be some areas where CTA's analysis appears to lead to an estimate of forecast revenues that is higher than may be justified. Conversely, we consider that there are other areas where the forecast made by CTA may be lower than justified. However, we recognise that these are forecasts (rather than facts) and that they are subject to some margin of appreciation. Overall, having considered CTA's analysis, both for individual areas of commercial revenues, and the total commercial revenues allowance that its estimates lead to, together with HAL's RBP Update 2 and the views put to us by the airline community, it is reasonable that CTA should have

[48] In the CTA mid case

arrived at a trajectory in which 2025 revenues are a small amount below 2019 out-turn revenues in real terms.

5.58 This provides extra reassurance that the detailed work we have undertaken with CTA provides a reasonable basis for these Final Proposals. For the avoidance of doubt, this does not mean to say that we exclude the possibility that there could be grounds to depart from CTA's recommendations on individual revenue items, but in the round we consider the approach to be reasonable and robust.

5.59 We therefore consider that CTA's overall commercial revenues projections provide us with an appropriate set of evidence on which to base our Final Proposals. These estimates, in the round, appear to represent an appropriate level of efficient revenues for HAL for H7. As such, we consider that these provide an appropriate basis for setting an allowance for commercial revenues for HAL at a level that is in the interests of consumers and which will promote economy and efficiency on the part of HAL.

5.60 We have also made three targeted adjustments to account for three specific items that CTA was not able to reach conclusions on in its work:

- we have adopted CTA's proposed "base" elasticity of -1.6 for retail revenues as we consider that on balance, the evidence supporting use of this elasticity is reasonable. We also noted that CTA's analysis suggested a higher elasticity could also be justified from the relevant information available;
- for the reasons discussed earlier in this chapter, we consider that, on balance, a 1% management stretch is reasonable for HAL for H7, while noting that CTA's analysis showed that a higher level of management stretch could also be justified; and
- as noted in chapter 8 (Other regulated charges), we have allowed for expected revenues from bus and coach services which were removed from ORCs in line with our policy to move these revenues onto a commercial basis. As HAL did not include these revenues in its estimates of surface access revenue, we could not review HAL's analysis of them in detail. During engagement, HAL confirmed that its estimate of £1.5m per annum for these revenues (in nominal terms) does not include any margin. While we consider that this allowance for bus and coach revenues should enable recovery of efficient costs, we also note that HAL has incentives in H7 to generate additional revenues for this category under the single till framework.

5.61 Following the further analysis described above and in the CTA report, our final proposals on the efficient level of H7 commercial revenues are summarised in Table 5.3 below.

Table 5.3: CAA Final Proposals for commercial and cargo revenue forecasts (£m, 2020 CPI deflated prices)

2020 CPI deflated prices, £m	**2022**	**2023**	**2024**	**2025**	**2026**	**H7**
Retail and bureaux	288	353	399	434	442	1,916
Car parking and rentals, bus and coach	118	136	149	159	162	723
Service[49]	42	49	54	58	59	262
Rail	74	83	105	116	117	495
Property	119	121	120	118	116	593
Other	1	1	1	1	1	7
Terminal drop-off charge	36	37	45	46	44	207
Total commercial revenues	678	781	873	931	941	4,204
Total per passenger (£)	12.32	11.59	11.56	11.48	11.52	
Difference from HAL RBP Update 2	121	139	129	140	132	662

Source: CAA

	2022	2023	2024	2025	2026	H7
Cargo	45	28	18	11	11	114
Difference from HAL RBP Update 2	5	-2	-2	-6	-6	-11

5.62 The effect of our analysis, when combined with an 11% increase in HAL's estimated commercial revenues in its RBP Update 2 over the estimates in its RBP Update 1, is that CAA's and HAL's forecasts have converged to a degree, moving closer to the CAA's Upper Bound we used in developing our Initial Proposals.

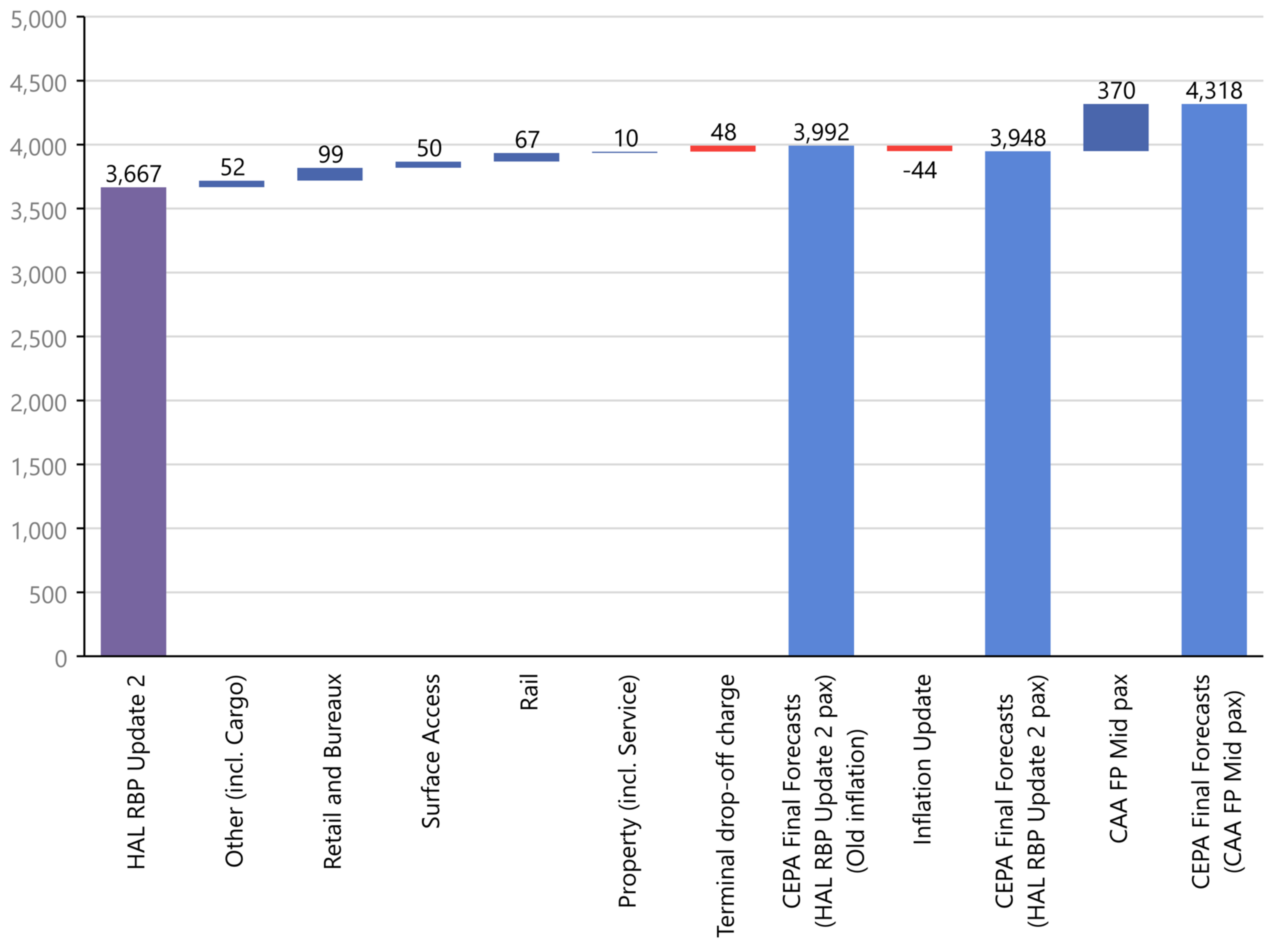
5.63 The table above also shows that our estimates of commercial revenue per passenger fall between 2022 and 2023: this is primarily because passenger volumes are forecast to increase materially from 2022 to 2023, while commercial revenues for some key categories (such as property) are expected to increase at

[49] The Service line includes revenue lines such as VIP services and FastTrack security

a slower rate, as these categories are relatively inelastic to changes in passenger volumes.

5.64 Figure 5.3 below shows the variances by category between HAL's RBP Update 2 and our final forecasts in graphical form.

Figure 5.3: Variances between RBP Update 2 and our Final Proposals including Cargo revenues (£m 2020 CPI)



Source: CAA

The item labelled as "Other (incl. Cargo)" comprises variances not included in other items, including Cargo revenues

5.65 Figure 5.3 shows that the main factors that have led us to estimate a higher level of revenues than in our Initial Proposals are:

- retail and bureaux de change: our approach to estimating HAL's retail revenue leads to a forecast that is £99 million higher than HAL's forecast. The key driver of this difference is revised view on the impact of the removal of VAT tax-free on HAL's retail concession income, for which we have used a top-down elasticity-based approach, while HAL has used a bottom-up modelling approach;
- rail: our approach to forecasting rail revenue translates into a £67 million increase in revenues compared to HAL's business plan forecasts. This is due to our revised assumptions around the timing of the impact of Crossrail on Heathrow Express revenues; and
- surface access (other than rail): our approach to forecasting surface access revenues (other than rail) translates into a £50 million increase in forecast revenues compared to HAL's business plan forecasts. This is due to our selection of a different calculation approach.

5.66 Care has to be taken when comparing our final numbers to HAL's RBP Update 2 forecasts for two reasons:

- our projections are based on our Final Proposals forecast for passenger numbers during the H7 period. This forecast is higher than HAL's December 2021 forecast. All other things being equal, higher passenger numbers translate into higher commercial revenues under both our and HAL's forecasting methodologies; and
- our projections incorporate an up-to-date outlook for inflation, whereas HAL's forecasts were based on the outlook for inflation as at the end of 2021.

5.67 Controlling for these two factors, our estimates are around £325m higher than HAL's most recent business plan projections. HAL's estimates were around £300m (or 11%) higher than the revenues it presented in its RBP Update 1. Nonetheless, our Final Proposals for commercial revenues lie within the upper and lower quartile ranges used for our Initial Proposals

5.68 We note that in response to the Initial Proposals, airlines strongly supported the work of CTA, which at that stage of the process set out stretching targets for HAL in terms of increasing commercial revenues per passenger. As we noted in chapter 4 (Operating expenditure), while there are advantages in such challenging targets in terms of putting downward pressure on airport charges, it is also important that targets reflect the latest available information on the opportunities and challenges facing HAL, in this case in relation to the potential for growth in commercial revenues.

5.69 In the period since we published Initial Proposals we have worked closely with CTA to ensure that we retain challenging targets, but that these targets also evolve to reflect new information. The targets now reflect the latest available information on the likely challenges that HAL will face during H7 in growing commercial revenues.

5.70 We understand that airlines may feel the revised targets could be more stringent, but having considered the range of evidence that is available, including airline views, we consider that our Final Proposals for commercial revenues are consistent with furthering the interests of consumers.

Additional Policy Decisions

TDOC

5.71 In the light of stakeholders' responses and further information provided by HAL, we have further considered our policy on the TDOC. In particular, we have considered:

- the risk-sharing arrangements; and
- the potential impacts of new legislation on parking and drop-off charges.[50]

5.72 We have reviewed stakeholders' responses on the proposed level of risk sharing including the request for more information on the reasons for our proposed level. Our proposed sharing percentages took account of the following factors:

- in the longer term, we consider that TDOC revenues will have similar characteristics to car park revenues, which we do not regulate. We also consider that the incentives on TDOC revenues are rather different from those for costs or revenues which are (or were) largely outside HAL's control, such as business rates on which we previously applied a 80:20 risk sharing arrangement. We note that HAL can influence TDOC revenues in various ways, for example through marketing campaigns; and
- we recognise that the TDOC could play an important role in the future in encouraging passengers to switch to more sustainable forms of transport to access Heathrow.

5.73 However, we remain concerned about both the general uncertainty associated with this entirely new revenue stream and also the more specific risk that HAL could significantly increase the charge and retain the extra profits for the duration of H7.

5.74 Considering these factors, we decided that a 65%:35% risk share represents a reasonable compromise between controlling for these risks and uncertainties

[50] In particular, see the Private Parking Code of Practice

while still appropriately incentivising HAL to adopt a commercial approach to establishing the TDOC and maximising future TDOC revenues.

5.75 The Parking Code of Practice Act 2019 was enacted on 7 February 2022 and will be implemented from 1 January 2024. This Act requires private car parks to implement a free five-minute consideration period for users to view Terms and Conditions of the car park. HAL has told us that this legislation is likely to prevent it from levying the TDOC and, therefore, creates a material risk around the generation of revenue from TDOC. In this context, we note that the Code of Practice published by the Government under this Act [51] specifically refers to the applicability of the legislation to airport drop-off charges. However, we also note that many airports use drop-off charges as a way of encouraging airport users to switch to more sustainable transport modes.

5.76 HAL is currently reviewing the potential impact of this legislation on TDOC and short stay parking revenues. Having assessed recent data on length of stay for vehicles liable to pay TDOC, it expects that the majority of drop-offs will occur within five minutes of arrival, resulting in a materially lower level of revenue once the legislation is implemented. Our initial assessment of the expected applicability of the legislation to TDOC suggests that there is a reasonable likelihood that the legislation could prevent HAL from levying the TDOC during H7, although significant uncertainty remains in relation to these matters.

5.77 Given the uncertainties around the applicability of this legislation and the likely impact on TDOC revenues, we are putting in place the following arrangements to review TDOC revenues during H7:

- given the scale of potential impacts, the regulatory incentive mechanisms that we proposed in our Initial Proposals need to be reinforced to deal with the underlying level of uncertainty during the H7 period;
- we therefore intend to review the actual level of TDOC revenues around the second half of 2024 (following implementation of the legislation) to assess the actual impact of the legislation;
- if the effect of the legislation in practice is to remove the legal basis for the charge or to otherwise significantly reduce TDOC levels, then we would expect to remove or significantly reduce the allowances for TDOC revenues for 2025 and 2026 and to allow an upward adjustment to airport charges to compensate for the removed or reduced TDOC revenue allowances for 2025 and 2026; and

[51] See: https://www.gov.uk/government/publications/private-parking-code-of-practice/private-parking-code-of-practice

- on the other hand, if at that stage it is clear that the TDOC (or a successor charge with the same effect, such as a forecourt access charge) is expected to remain in place and generate revenues at a similar level to our current estimates of TDOC revenues, then we would expect to maintain our TDOC allowances within airport charges for the rest of H7.

5.78 In this light, our Final Proposals on TDOC are as follows:

- we will retain the 65:35 risk sharing as set out in Initial Proposals for 2022 to 2024;
- to introduce a requirement for HAL to notify airlines and the CAA of any increases of the charge beyond 10% of the baseline levels noted above, but not to require HAL to formally agree any charge increase in advance with the CAA or airlines, consistent with our approach to car park charges; and
- we will carry out a review of actual TDOC revenues around the second half of 2024, in the manner described above.

Implementation

5.79 The estimates for commercial revenues identified above have been used in the calculation of the price controls in chapter 13 (Calculating the price cap and financiability). We will also make changes to HAL's licence to implement our proposals for commercial revenues in relation to the TDOC. This will codify the risk sharing arrangements for TDOC revenues.

Chapter 6

Assessment of capital expenditure

Introduction

6.1 Efficient and timely investment by HAL is key to the delivery of an appropriate level of service for consumers and to allow for the safe and secure operation of the airport. Capex is added to HAL's RAB and the costs of it are recovered from consumers through the allowances we set for regulatory depreciation and returns. So, the level of capex has a significant impact on the financing requirements of the business and the overall level of airport charges in the longer term.

6.2 In setting the price control, we estimate an efficient baseline capex based on currently available information, that is consistent with HAL being able to provide a safe, secure and reasonably resilient airport, with an appropriate level of service for consumers and airlines. Given the importance of these matters and that capex feeds through to airport charges in the longer-term, setting an appropriate level of efficient baseline expenditure is key to discharging our duty to further consumers' interests in relation to the range, availability, continuity, cost and quality of the AOS provided by HAL at Heathrow airport.

6.3 We have sought to calibrate the baseline for capex in a way to promote economy and efficiency on the part of HAL, to secure that the reasonable demands of consumers are met and, where appropriate, mitigate the environmental impact of the airport.

6.4 The starting point for our work has been to set a "baseline" level of capex that we expect HAL to spend during the H7 price control. To seek to ensure this is appropriate to further the interests of consumers, we have:

- scrutinised HAL's forecasts of its proposed capex and the supporting information it has provided, including major programmes such as upgrades to security systems at Heathrow required to comply with regulation;
- where appropriate, produced an independent assessment of the efficient level of capex required to deliver what consumers reasonably expect; and
- considered stakeholders' representations on our approach and to our Initial Proposals.

6.5 Setting an appropriate baseline level of capex is also central to our Final Proposals for capex incentives set out in chapter 7 (Capex incentives) (which also provide flexibility for capex allowances to change where appropriate in response to changing circumstances). It also links with other aspects of the price control, including operating expenditure (see chapter 4 (Operating expenditure)), commercial revenues (see chapter 5 (Commercial revenues)) and OBR (chapter 3 (Outcome Based Regulation)).

6.6 This chapter describes our approach to assessing the baseline level of efficient capex for HAL over the H7 period. It sets out:

- relevant background information and summarises our Initial Proposals;
- a summary of stakeholders' feedback on our Initial Proposals, including key features of HAL's updated capital plan, submitted in December 2021 as part of its RBP Update 2;
- our assessment of these responses;
- the approach we have used to assess efficient capex, including the advice we received from our expert technical advisors, Arcadis; and
- our Final Proposals for the allowance we propose to make for efficient capex.

6.7 While the baseline capex is important, as set out in chapter 7 (Capex incentives), we recognise that it is challenging to definitively know the most appropriate and efficient level and scope of capex for five years into the future. Therefore, our capex incentives framework allows for HAL to propose changes to its level and programme of capex after undertaking an appropriate governance process. This also recognises that projects that HAL may consider appropriate for later in the five year period (such as projects to enhance the efficiency of the airport later in H7, for example through use of the latest technology at that time) may not yet be sufficiently well scoped to inform the setting of the baseline.

Context: Q6 and the path to H7

6.8 During the Q6 price control period, covering the years 2014 to 2019, HAL's out-turn capex was £3.2 billion.[52] This investment:

- delivered several significant enhancements to HAL's assets, such as major upgrades to the baggage handling systems;
- included some early development costs relating to expansion;[53] and
- provided for asset maintenance and renewal.

[52] In nominal prices. We assessed the efficiency of this expenditure during our ex post capex review, described in Appendix D (Q6 Capex Review) of this document

[53] The treatment of early expansion costs is discussed in Appendix E (Early Expansion Costs) of these Final Proposals.

6.9 The current capex governance framework (that is, the framework that has been used during Q6 and iH7) was developed during Q6 by HAL and the airlines to incorporate learning from their experience of capex project delivery. A key feature of the framework is the “development to core” approach,[54] where “core” projects which have been agreed between HAL and airlines are effectively treated as having an agreed price and scope during the control period. The price and scope of “development” projects are subject to review, discussion and approval by airlines: the transition from Development to Core is approved after Gateway 3 (or “G3”[55]), the relevant stage in HAL’s process for capex projects. Once projects are approved by airlines at G3, HAL can proceed and deliver these projects.

6.10 HAL scaled back its capex significantly and quickly in 2020 once the impact of the covid-19 pandemic became evident. HAL’s capex during 2020 approximately halved from £296m[56] in the first six months[57] of 2020 to around £150m in the second six months,[58] reducing further during 2021 to a total of £252m.[59] As a result, HAL has identified that there is now a significant backlog in its capex activity, in particular Asset Management (“AM”), when compared to HAL’s original expectations for 2020 and 2021. In developing its capex plan for H7, HAL has consulted airlines through its capex governance forums as well as the various H7 engagement processes. In its December 2020 RBP, HAL proposed a capex plan for H7 with a “central case” which set out its plans for total spending of £3.5 billion (in 2018 prices).

6.11 In the April 2021 Way Forward document, we assessed the capex plan set out in HAL’s RBP. We acknowledged that circumstances had generated a range of challenges for HAL in producing a robust capex plan, such as the impact of the covid-19 pandemic. However, we explained that HAL’s proposed capex plan did not meet any of the main criteria in the June 2020 Business Plan Guidance. As a result, we could not undertake a meaningful assessment of it because it lacked detail on how project budgets had been set, and on the work that HAL planned to undertake within each of the plan’s strategic headings. We also set out our expectations for future iterations of HAL’s capex plan.

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[54] More details of this framework are provided in chapter 7 (Capex incentives) of this document

[55] See Appendix B (Glossary) of this document

[56] See Heathrow (SP) Limited, Results for the six months ended 30 June 2021 www.heathrow.com/company/investor-centre/reports/financial-results

[57] i.e. the period 1 January – 30 June 2020, similarly the second half of the year was 1 July – 31 December 2020

[58] Figures for 2020 are expressed in 2020 prices

[59] Heathrow (SP) Limited, Results for the year ended 31 December 2021 www.heathrow.com/company/investor-centre/reports/financial-results. Figures for 2021 are expressed in 2021 prices

Our Initial Proposals

6.12 For our Initial Proposals, we took account of information that HAL provided with its RBP Update 1 including:

- its revised capital plan and a narrative plan with accompanying tables and graphs;
- a spreadsheet for its "Capital Optimal Plan"; and
- an H7 Asset Management Plan and individual "Programme Mandates" (one page summaries of particular projects or programmes) provided by HAL.

6.13 We also considered feedback from airlines, advice from our expert advisors Arcadis[60] and the implications of our work on opex, commercial revenues, capex incentives and OBR.

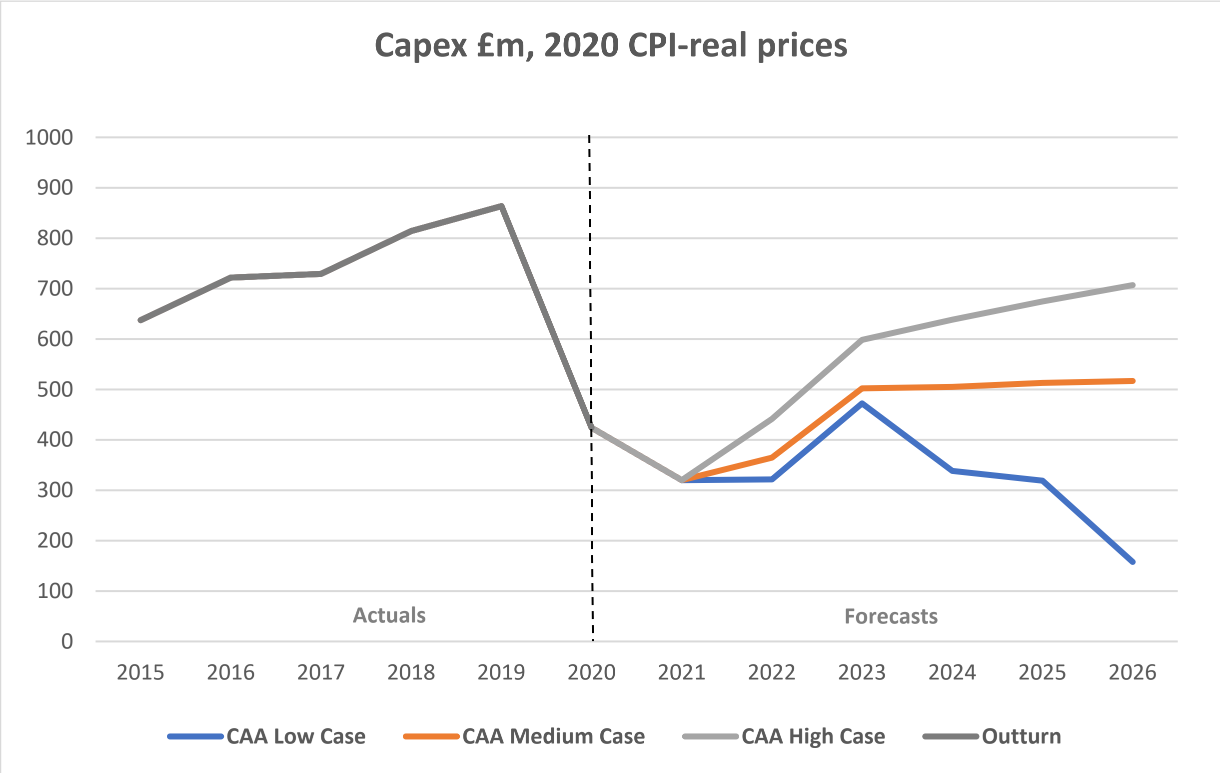
6.14 Our advisors, Arcadis, reviewed HAL's materials. The outcome of these reviews was that Arcadis considered that HAL's capex plan set out in RBP Update 1 and associated documents did not provide a sufficient level of detail for a meaningful review to be conducted. Accordingly, Arcadis's review was a high-level assessment only, that also drew on historical analysis of HAL's capex, industry good practice and relevant benchmarks.

6.15 We had raised our concerns with HAL on the quality of its capex plans on several occasions throughout the H7 process. We remained disappointed with the level of detail provided, and said that overall HAL's capex plans generally fell well short of our requirements and expectations for this stage in the H7 process. One area which was particularly weak was the Asset Management Plan which comprised a cost breakdown for asset management projects, contained estimates which were inconsistent, and was not integrated with the rest of the capex plan.

6.16 The capex allowance in our Initial Proposals for H7 was based on a "Mid case" scenario in which we accepted the large majority of HAL's "Safety Only" plan but removed planned expenditures that we felt were not properly supported by evidence. We also presented "low" and "high" case scenarios. Our figures are presented in Figure 6.1, together with information on HAL's historical capex spending.

Figure 6.1: CAA Initial Proposals capex estimates for all scenarios, H7

[60] HAL RBP Update: Capex plan Review, Arcadis, October 2021 www.caa.co.uk/CAP2266B



Source: CAA analysis including using HAL data.

6.17 Table 6.1 below shows the estimates in our Initial Proposals by year, compared to HAL's two scenarios from its RBP Update 1: the "Safety Only Plan" and "Optimal Plan" scenario.

Table 6.1: CAA Initial Proposals capex estimates, compared to HAL's scenarios

£m (2020p)	2022	2023	2024	2025	2026	Total H7
CAA High	442	598	638	675	707	3,060
CAA Mid	365	502	505	513	517	2,401
CAA Low	322	472	338	318	158	1,608
HAL "Optimal Plan"	478	725	916	1122	1229	4,470
HAL "Safety Only Plan"	431	567	558	556	560	2,672

Source: CAA analysis

Stakeholders' views

6.18 We received responses on capex from HAL, Star Alliance, Airlines UK, American Airlines, BA, VAA, Global Infrastructure Investor Association, ACI Europe, No 3rd Runway Coalition and AOC/LACC.

HAL

6.19 HAL said that our Initial Proposals contained manifest errors which needed to be resolved in the Final Proposals. Specifically, HAL argued that:

- the Initial Proposals would not allow delivery of the upgrade to cabin baggage security;[61]
- the CAA had acknowledged the importance of carbon and sustainability to consumers, but without providing for investment in carbon and sustainability in its H7 capital estimates;
- the CAA had not allowed for investment in commercial revenue projects, yet had assumed material, incremental commercial revenue generation due to capital investment in its revenue forecasts;
- the CAA did not allow for investments in initiatives to drive opex efficiencies which are in the interests of airlines and support growth;
- Arcadis's report highlighted the importance of investment in pre-conditioned air ("PCA") in order to maintain HAL's asset availability targets, but the Initial Proposals did not allow the proposed capital investment in PCA; and
- Arcadis's report also highlighted the importance of investment in services for Passengers Requiring Support ("PRS"), but the Initial Proposals omitted any investment in improvements for PRS.

6.20 HAL considered that unless we corrected the above errors, any Final Proposals would not be in line with the CAA's primary duty to consumers, nor in line with our duties relating to financeability and the environment. HAL also said that if the CAA took a piecemeal approach to approving the portfolio then it would not be able to set up its client team or drive efficiencies in its supply chain.

6.21 HAL also expressed concerns that the estimates in the Initial Proposals would not allow for the delivery of key compliance activities or HAL's consumer outcomes and said they were not integrated with the service quality targets set out in the CAA's November 2021 Working Paper on Outcome Based Regulation.

6.22 HAL considered that the CAA's proposed process for changing the allowed capex envelope required further discussions with airlines and the CAA to agree a swift and efficient process for significant changes to the overall envelope.

[61] The Department for Transport (DfT) directed that UK airports must comply with the new passenger and baggage security screening requirements by June 1st 2024.

HAL's RBP Update 2

6.23 In its RBP Update 2 in December 2021, HAL presented a £4.1bn[62] H7 capex plan which it said would be the most efficient capital plan possible. HAL provided information on the cost estimation process at portfolio, programme, and project level. Following information requests in Q1 2022, HAL provided additional material that enabled the CAA and Arcadis to undertake a more comprehensive cost assessment, as described below.

6.24 Table 6.2 gives a breakdown of the main elements of HAL's plan.

Table 6.2: HAL's RBP Update 2 capital plan

RBP Update 2								
2018 Prices								
£ms	2022	2023	2024	2025	2026	**H7**		vs RBP Update 1
Asset Management and Compliance	290	341	356	366	351	**1,704**		204
IH7 Roll over	90	31	3	-	-	**124**		41
T2 Baggage	7	43	111	143	127	**432**		217
Regulated Security	51	159	216	204	117	**747**		-33
Carbon and Sustainability	10	10	34	55	78	**188**		0
Crossrail	34	34	-	-	-	**67**		-11
Commercial Revenues	59	119	120	112	85	**494**		-206
Efficient Airport	34	50	36	92	102	**315**		-159
Future Ready Airport	-	-	-	-	-	**-**		-115
Capacity								-35
Expansion	6	6	6	6	6	**30**		30
Prioritisation[63]	-168	-147	-121	117	320	**0**		
H7 Total	412	647	761	1,095	1,187	**4,102**		-65
RBP Update 1	454	685	858	1,041	1,130	**4,167**		
Vs RBP Update 1	-42	-38	-97	54	57	**-65**		

Source: Heathrow

6.25 HAL said it had sought to mitigate uncertainty through stakeholder engagement on the iterations of its capital plans for H7 over the previous 18 months. Despite those mitigations, HAL said that H7 will remain an uncertain period as the capex plan may need to adapt to new circumstances, including passenger numbers that are different from those forecast, new regulations or restrictions, new

[62] In 2018 prices, equivalent to £4.5 billion in 2020 prices

[63] HAL have applied annual adjustments to estimated asset management capex to allow for constraints on supply/deliverability which it refers to as "Prioritisation"

technologies or consumer expectations. Therefore, HAL considered that the best way to manage uncertainty within the capex programme is to build on the "development to core" approach described above.

Airlines

6.26 Airline responses generally supported the £2.4bn Mid case capex allowance set out in our Initial Proposals.

6.27 Airlines also expressed some support for:

- the need to update the T2 baggage system;
- capex projects that are absolutely necessary in H7, such as those projects that maintain current assets and deliver safety, security and compliance; and
- the CAA undertaking a "bottom up" assessment of costs where possible, and a "top down" assessment where sufficient information is lacking.[64]

6.28 However, airlines raised significant concerns with HAL's capex plans, saying that they:

- represented the maximum possible expenditure to ensure the forecast RAB is elevated;
- provided inadequate detail to allow capex efficiency incentives to be determined;
- seemed inappropriately inflated in the absence of large scale infrastructure projects;
- lacked detail; and
- assumed that HAL's "Leadership and Logistics" ("L&L") costs would be a fixed percentage addition to all projects, yet those costs are unscrutinised despite airline requests.

6.29 Airlines also said the CAA:

- had placed too much weight on its consideration of HAL's financeability over its primary duty to consumers and promoting efficiency;
- should ensure that expert independent advice should be used as the basis for its capex assessment;
- should continue to engage with stakeholders as it works towards its Final Proposals; and

[12] https://www.caa.co.uk/Commercial-industry/Airports/Economic-regulation/H7/Consultations-and-policy-documents/ (under the drop down for the Initial Proposals)

- should ensure transparency requirements for HAL's capex proposals are consistent with other regulated sectors.

6.30 Airlines expressed some support for:

- a new oversight group for procurement consisting of airlines, CAA and HAL;
- the continuation of the 'development to core' process as part of the capital governance framework; and
- a mechanism for increasing capex spend if the post-pandemic recovery is different from the forecasts.[65]

Airline views on HALs RBP Update 2

6.31 After receiving HAL's business plan update in December 2021, we engaged with airline stakeholders to obtain their views on the programmes and associated estimates proposed by HAL. Airline feedback focused on the "needs case" for each programme or project and airlines told us that they were reliant on our analysis to assess the efficiency of associated estimates. Where airlines have said that a particular project or programme element should be included in the efficient baseline, we ensured that their views were incorporated into our analysis (which is summarised below).

6.32 On the "Regulated Security" programme,[66] airlines told us that they were not aware of several elements of HAL's programme, such as proposals to change the use of certain control posts.

Other stakeholders

6.33 No 3rd Runway Coalition expressed surprise that HAL's "Optimal" capex plan represented an increase in capex spend compared to historical spend given HAL's loss of revenue due to the impact of the covid-19 pandemic.

Our views

Our response to comments on the Initial Proposals

6.34 The baseline estimate for capex in the Initial Proposals was developed on the basis of the information available to us at that stage of the process. Given the poor quality of the information that HAL provided at the time of our assessment, we considered that we had inadequate information to enable us to include estimates for several elements of HAL's capital plan at that time. We provided

[65] See chapter 7 (Capex incentives)

[66] DfT regulation mandates HAL to upgrade its security screening equipment (people and bags) across the whole of Heathrow by 1st June 2024. This programme is intended to deliver investment to comply with the regulations.

extensive feedback to HAL setting out how the information it provided was poor and insufficiently detailed.

6.35 HAL has characterised this approach as leading to errors in our Initial Proposals. We note that we also made proposals for capex flexibility mechanisms to allow for extra spending that could in due course be properly justified and, taken in the round, our approach at Initial Proposals represented a reasonable and considered approach to determining a baseline capex estimate. In relation to the main points raised by HAL we have the following observations:

- our allowance for the Regulated Security Programme in the Initial Proposals included all the estimated capex (£420 million in 2018 prices) that HAL itself had proposed at that time as necessary to comply with its security obligations. We did not include capex for other capex related to security in our Initial Proposals as HAL had presented very limited information at that time in support of other elements of security capex;
- similarly, HAL provided weak information in relation to investment in carbon and sustainability projects (such as PCA). Arcadis was unable to carry out a meaningful assessment of the costs proposed for the carbon and sustainability programme (including the PCA project) at that time; and
- in relation to HAL's proposed capex for commercial revenue projects and projects to enhance operational efficiency, our ability to reasonably include capex for commercial revenue or operational efficiency projects in our Initial Proposals was severely compromised by the generally very weak information that HAL provided in support of its proposed capex in these areas at the time. We also note that initiatives relating to operating efficiencies and increases in commercial revenue are not necessarily dependent on capital expenditure.

6.36 We agree that the airport Special Assistance service for disabled and less mobile passengers[67] is crucial, and is funded through a separate charge per passenger using the service. But we remain concerned that HAL's proposed broader investments for Passengers Requiring Support (PRS), which HAL considers to be 39% of passengers, appear to be conflated with the narrower category of disabled and less mobile passengers who use the Special Assistance service.[68]

6.37 We disagree that HAL cannot set up its client team or mobilise its supply chain if it does not receive the capex allowance requested in its business plan. Our baseline capex estimate would still be a very large capex programme, including in comparison to historical levels of capex undertaken by Heathrow during Q6.

[67] The relevant regulation uses the term Passengers with Reduced Mobility (PRMs).
[68] www.caa.co.uk/passengers/prm/passengers-with-disabilities-and-reduced-mobility/

6.38 We note the general support of the airline community for the £2.4bn "mid case" capex estimate set out in our Initial Proposals and the continuation of the "development to core" process as part of the capital governance framework.

6.39 We agree with the airline community that the level of detail and evidence provided in HAL's capex plans up to and including the RBP Update 2 has not been sufficient to undertake a proper assessment. In particular, the material provided in RBP Update 2 did not provide sufficient information to enable an adequate assessment of the efficient costs of HAL's capex proposals. For example, limited breakdowns of costs were provided for programmes and key projects. HAL has provided additional material to the CAA since RBP Update 2 which has partially addressed some of the gaps and enabled the CAA and Arcadis to undertake a more detailed cost assessment for some programmes, for example, in relation to the Security and T2 Baggage programmes.

6.40 We agree with the airline community that HAL's capex proposals appear to be unachievable in their entirety when taking account of the expected availability of resources (both personnel and material) and also when comparing HAL's estimated capex for H7 with historical levels of spend achieved during Q6. We have considered the deliverability of HAL's updated capex plan as part of our assessment[69], as set out later in this chapter.

6.41 In relation to changes to control posts as a result of the Regulated Security programme, we note HAL's subsequent engagement with airlines. During this engagement, HAL has referred to a more significant consolidation of control posts across the airport, which it says has been discussed with airline representatives. We expect HAL to engage comprehensively with airlines in the appropriate governance fora on its proposals for consolidation of control posts, particularly in relation to changes that form part of the Regulated Security programme. We expect HAL to clearly set out the impacts of any changes to control posts on opex, capex and OBR targets.

6.42 We have noted the airline community's views on capex expenditure being maximised to ensure the forecast RAB is elevated. We consider that the level of capex we have allowed for in our Final Proposals (in our Mid case) is efficient, and appropriate to allow HAL to invest in its services and facilities, furthering the interests of consumers in the manner outlined above.

[69] We recognise that the relative intensity of operations at Heathrow (compared to other major European hubs) has an impact on HAL's ability to deliver asset management activities on the Heathrow campus, particularly those activities (such as maintenance) which usually involve working in or close to operational areas at the airport

6.43 Where that information was provided for our Final Proposals, we and Arcadis have analysed HAL's fixed percentage costs including "L&L" and "risk" and we set out further details on this in the Arcadis report.[70]

6.44 We note stakeholders' comments on capex incentives and the capex governance framework, including airline community requests for more oversight of HAL's procurement and a mechanism for increased capex spending if the post-pandemic recovery is different from forecasts. These are further addressed in chapter 7 (Capex incentives).

6.45 We note the views of the No 3rd Runway Coalition in relation to HAL's "Optimal" capex plan. HAL scaled back its capex significantly in 2020 and 2021 and therefore it is reasonable to expect a level of backlog capex during H7 to compensate for investment deferred from those years.

Final Proposals

Our approach to capex assessment

6.46 Overall, we recognise the efforts of HAL's team to expand on its response to Initial Proposals through additional written submissions and a series of "deep dive" sessions. However, the information that HAL has provided frequently still falls short of our expectations. HAL's information demonstrates that HAL's capex programme varies in project maturity so the granularity of the material provided to us and to airlines varies from fairly comprehensive to relatively sparse depending on the maturity of the project and the availability of supporting cost information produced by HAL and its advisors. There are also some particular information gaps for elements of the capital plan where significant parts of individual programmes are at an early stage of maturity (for example, the "Efficient Airport" programme). In the areas where there are evidence gaps, we have needed to take a top-down approach to our assessment, as described below.

6.47 The lack of detail and maturity of these programmes is not necessarily unexpected, particularly where the programmes focus on expenditure required later in H7. Therefore, the CAA has consciously focused on creating a regulatory framework with the flexibility for such programmes to be taken forward, through appropriate governance, when they have reached greater maturity and can be better justified.

6.48 In assembling these Final Proposals we have assessed the efficient capex baseline for H7 in two stages comprising:

[70] See for example page 15 of the Arcadis report published alongside this document

1. a structured “needs assessment”; followed by
2. an assessment of what the efficient costs of the required investment would be, building on analysis by our technical advisors, Arcadis.

6.49 Our assessment relied on the information provided by HAL and airlines, as well as drawing on industry good practice and expertise.

Stage 1: Structured needs assessment

6.50 We have developed a structured approach to assessing the need for the projects and programmes proposed in HAL’s capex plan, on the basis of:

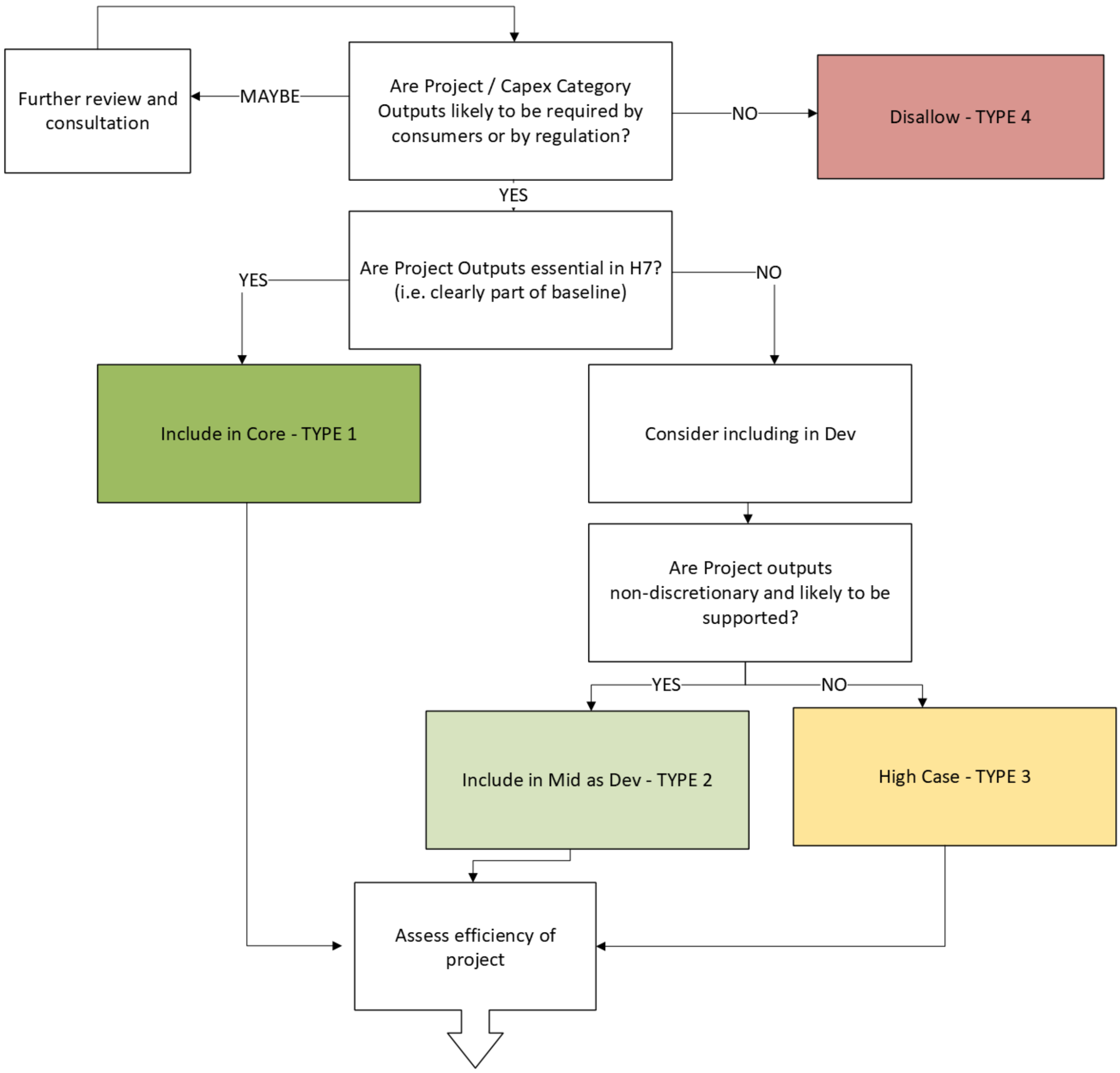
- the information provided;
- the level of maturity of the project (with reference to HAL’s Gateway process); and
- our assessment of the strategic case for the project (that is, the overall business case for the project).

6.51 This approach builds on good practice for cost assessment while also recognising the specific role of airlines in capex governance for Heathrow. Our assessment focused on development of our “Mid case” estimates, with additional analysis to show a “High case” scenario which is broadly consistent with higher passenger growth. Our approach is illustrated in Figure 6.2 below. The assessment allocates each project to one of four categories:

- Type 1 - core capex: these are the projects included in the efficient baseline used for our “Mid case” estimates of capex for H7 for Final Proposals and are projects that are clearly required by consumers and/or airlines;
- Type 2 - development capex included in the baseline: these are projects that are likely to be required by airlines and/or consumers but are currently at an early stage of maturity and/or the information provided in support is not yet sufficiently developed to allow an appropriate assessment at this stage. These projects are included in the efficient baseline, but will require approval through the capex governance “development to core” framework;
- Type 3 - discretionary: these are projects that may be required by airlines/consumers in future. It is for HAL to bring forward appropriate supporting evidence during H7 if it becomes clear that these projects are needed to meet the needs of consumers and/or airlines. These projects are included only in our “High case”; and

- Type 4 - not required by airlines or consumers: these are projects that in our assessment are unlikely to be required during H7 and so are not included in our allowances. However, HAL can bring forward these projects during H7 for approval through the capex governance framework, if it can establish an appropriate evidence base to support the investment.

Figure 6.2: CAA Final Proposals capex assessment approach, H7



6.52 The outcome of our needs assessment for each programme/category[71] is summarised in Table 6.3 below, along with a brief explanation of our reasons for allocating the programme or project to specific project types.

[71] We expect that during the remainder of H7, the classification of capex projects will in practice be based on the capex categories developed by Arcadis. For more details, see chapter 7 (Capex incentives).

Table 6.3: Needs assessment by capex programme

Programme	Needs assessment output by programme
Asset Management	The outputs from these projects are non-discretionary and likely to be required by consumers to maintain and reasonably improve the airport's condition and performance[72]. The estimated split of projects between development and core categories is based directly on HAL's own analysis. Mostly **Type 1** for current "in-flight" projects as these have already passed through G3 approval and are now in progress, and so have been approved by airlines. **Type 2** for projects that are not yet fully scoped, as these projects require further development before they can be approved.
iH7 Rollover	The Kilo Apron Development (KAD) and Track Transit System (TTS) projects are currently in progress and have been approved by airlines, and so are **Type 1**. The T3 and T4 Ramp-Up projects have not been justified as requiring additional capex, and have not been approved by airlines. While the outputs from these projects are likely to be required by consumers, those outputs may be deliverable without additional capex. **Type 3**
T2 Baggage	While the outputs from this programme are non-discretionary, they may be required by consumers/airlines in H8 or H7, depending on the agreed solution. The outputs from this programme are likely to be required by consumers as the current T2 baggage provision is obsolescent and requires a new solution to be implemented (or at least commenced) in H7. While airlines have indicated they support the new solution in principle and we consider that HAL's proposed solution is reasonable, the programme costs and business case information is at an early stage of maturity, and so will require further development and review before G3 (or the equivalent programme gateway[73]). **Type 2**
Regulated Security	The outputs from this programme are required by consumers as HAL is required to deliver a new cabin baggage security solution during H7 to comply with relevant DfT regulations. Although much of the programme is at a relatively early stage of maturity, we recognise that the current solution to achieve compliance has been developed in conjunction with all relevant stakeholders (including

[72] For example, by supporting efficient operation of the airport in H7

[73] HAL has been developing a programme management framework under which programmes are required to pass through a series of gateways, analogous to the current process for projects: for example, P1 is the first gateway stage in this new process.

Programme	Needs assessment output by programme
	airlines and CAA's own Aviation Security division), and has been approved in principle. However, the "transformation" element of this programme[74] is at an even earlier stage of development, with a business case that is yet to be fully reviewed or assessed by stakeholders. Compliance programme: **Type 1**, Transformation: **Type 2**.
Carbon and Sustainability	These projects, which include Airspace modernisation and Upgrading Pre-Conditioned Air (PCA) provision, are discretionary. The outputs delivered by these projects are likely to be required by consumers (irrespective of views from airlines on individual projects). We regard sustainability as an important priority, but also note that individual sustainability projects must be well scoped and justified. **Type 2**
Cross Rail Contribution	This contribution was agreed and contractualised. Crossrail (the Elizabeth Line) is now open, so consumers are now benefitting from the outputs provided by this contribution. **Type 1**
Commercial Revenue Generation	These projects, which include Refurbishment of commercial space in terminals and Upgrading external commercial property (such as office space that HAL owns elsewhere on the Heathrow campus), are discretionary. When assessing the business case analysis supplied by HAL for these projects, we sought to identify those projects which are expected to make a net contribution to single till revenues in H7, either through protecting existing sources of revenue or through generating incremental revenues within a single control period i.e. five years. Those projects which make a net contribution to single till revenues: **Type 2**; all others **Type 3**.
Efficient Airport	These projects, which include Passenger processing improvements (such as Self check-in facilities in Terminal 4) and Airfield optimisation (such as installing new sensors and cameras to enhance operations), are discretionary. The Compass Centre fit-out project is in progress, and has been approved in principle by airlines, subject to a detailed review of costs at G3: so this project is **Type 2**. Airlines also support in principle outputs delivered by the Western Campus Connectivity and Service Initiatives

[74] The security transformation project aims to deliver enhanced operational efficiencies for the security process, primarily through further deployment of technology solutions, such as enhanced image processing

Programme	Needs assessment output by programme
	projects, although those outputs may be deliverable by other means, so these are **Type 3**. All other projects are **Type 4**.
Early Expansion Costs	We have approved the basis and outputs from this capex (which related to the IPHS). **Type 1**

6.53 The output from our Stage 1 assessment of needs is used directly in determining our estimates for Final Proposals in allocating programmes or projects to development or core within our Mid and High Case scenarios. This output is combined with our Stage 2 efficiency assessment to produce our Final Proposal capex allowances.

Stage 2: Efficiency assessment

6.54 Our approach to the assessment of efficiency has relied on information provided by HAL and airlines as well as drawing on industry good practice and expertise, in particular, relevant cost assessment techniques and benchmarking. We have built on the technical advice from Arcadis,[75] and also taken account of feedback that airlines provided.

6.55 Although the position has improved since Initial Proposals, HAL's evidence base remains relatively weak for this stage in a price control compared to other similar infrastructure providers in the transport and utility sectors. This weakness is particularly evident for asset management projects due to be delivered in 2022 and 2023, for which HAL should have detailed information on costs/business cases at this stage, given the level of maturity of these projects.

6.56 Given the issues described above on the information we received from HAL, our assessment has by necessity relied in large part on top-down assessment for most programmes, combined with some detailed bottom-up assessment where sufficient information was available. For many projects and programmes, the relatively aggregated level of information provided by HAL reflects their maturity, expressed using the stages in HAL's Gateway process. For example, taking HAL's estimates for 2024, just 9% of the capex plan by value was at Gateway 3 (G3) or later in December 2021.

6.57 Table 6.4 below summarises the maturity, granularity and quality of information and our assessment technique for each of the programmes.

Table 6.4: Summary of efficiency assessment approach by programme

[75] Arcadis Guidance to the CAA - HAL RBP Update 2 - Capex Plan Review June 2022

Programme	Overall maturity of programme[76]	Granularity and quality of information	Efficiency assessment technique(s)
Asset Management, including iH7 Roll-over and Asset Management "Prioritisation" Adjustment	Various: current "in-flight" projects are mostly at G3 or later, while "Hopper" projects are below G3 level	Full list of projects provided, split between 'development to core', albeit without cost breakdowns or business case analysis (or other justification)	Primarily "top-down" review drawing on historical delivery and spend profiles for asset management projects
T2 Baggage	G0	Reasonably disaggregated information provided – for example: cost plan, rough order of magnitude pricing, information for "deep dive" Q&A session	Mixed assessment: limited information on scope required a "top-down" assessment of overall costs, supplemented by a detailed "bottom-up" Arcadis review of HAL's information
Regulated Security	G0/G1(varies across elements of programme)	Reasonably disaggregated information provided – for example cost plan, information for "deep dive" Q&A session	Mixed assessment: limited information on scope required a "top-down" assessment of overall costs, supplemented by a detailed "bottom-up" Arcadis review of HAL's information
Carbon and Sustainability	G0	Rather limited information on cost build-up. Some disaggregate information provided for example on project benefits	Primarily "top-down" assessment, supplemented by a more detailed Arcadis review of HAL's information
Cross Rail Contribution	Agreed payments	N/A	No further review required
iH7 Rollover	*Included in assessment of Asset Management*		

[76] The estimated maturity uses the notation of HAL's Gateway process; for some programmes, HAL has defined maturity using its new programme management framework

Programme	Overall maturity of programme[76]	Granularity and quality of information	Efficiency assessment technique(s)
Commercial Revenue Generation	Varies across programme	Reasonably disaggregated information provided – list of projects, including payback analysis	Mixed assessment: primarily "top-down" review of total costs, complemented by "bottom-up" project payback analysis
Efficient Airport	G0-G1	Very limited evidence on individual projects	"Top-down" assessment
Early Expansion Costs	*Reviewed separately as part of Early Costs work – see Appendix E (Early Expansion Costs).*		

6.58 The results of our efficiency assessment are set out in the next section.

Implementing our approach

6.59 HAL submitted additional quantified information during the engagement process which enabled us, supported by Arcadis, to undertake a "bottom-up" efficiency assessment of certain elements of HAL's capex plan, particularly the T2 baggage and Regulated Security programmes.

6.60 Where insufficient information was provided for a detailed "bottom-up" assessment we undertook (supported by Arcadis) a "top-down" review. For the asset management programme (which entails significant work in constrained operational areas of the airport) we also assessed the deliverability of projects/programmes with reference to historical levels of asset management capex[77].

6.61 In summary, our approach to our efficiency assessment was implemented by:

- undertaking a first pass review of the information provided by HAL;
- raising information requests and queries with HAL as a result of this review;
- engaging with HAL to seek clarification on the basis for the Capital Plan with an initial focus on the three main programmes:

[77] We analysed HAL's historical regulatory accounts data to estimate a deliverability constraint based on the peak asset management spend achieved in Q6 or iH7, converted to real terms. This constraint was then applied to HAL's estimated asset management spend for each year during H7.

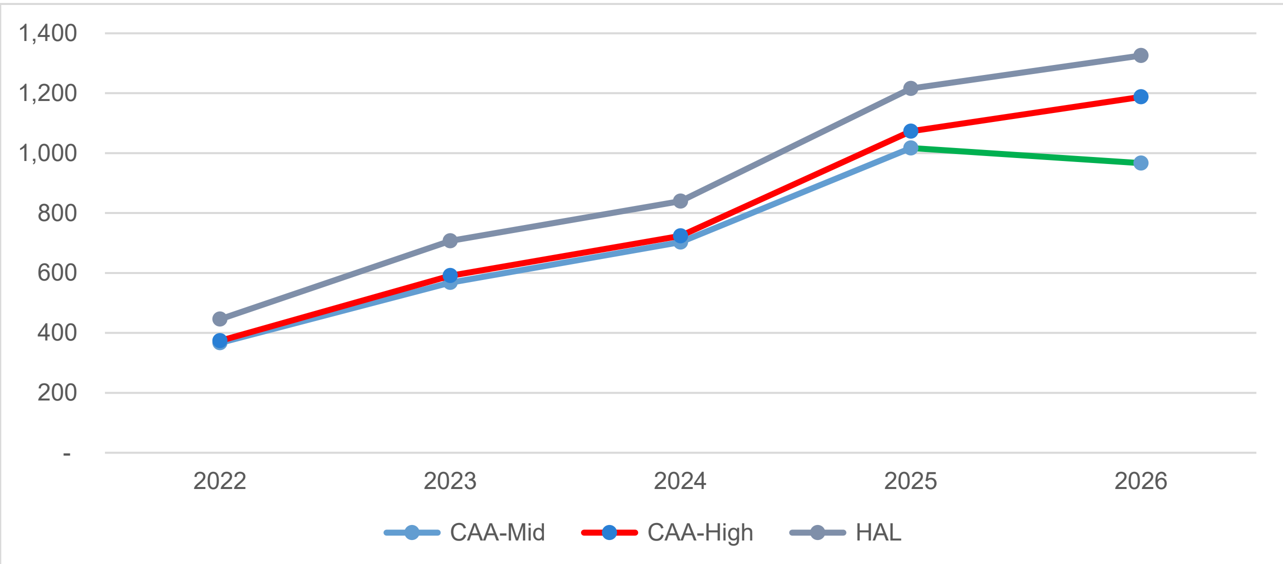
    - Regulated Security
    - T2 Baggage, and
    - Asset Management.
- review of cost build-ups, including computation checks, quantification and scope review. There was very limited information on scope available given the level of maturity of the programmes; and
- benchmarking for key rates and assumptions where possible, including assessment of HAL's assumptions.

6.62 More information on Arcadis' specific technical method is provided in its report, which is published alongside this document.

H7 capex estimates

6.63 We have taken account of all the above in developing our FPs to further the interests of consumers in the matters discussed above. In all cases, our estimates for the "Mid" case are within the ranges that Arcadis recommended in their report published alongside this document. The resulting capex estimates for H7 are presented in Figure 6.3, for both our "Mid case" and the "High case".

Figure 6.3: CAA capex estimates for all scenarios, H7 (£m 2020 CPI)



Source: CAA analysis including using HAL data.

6.64 Table 6.5 below presents our Final Proposals by category/programme for the Mid Case compared to our Initial Proposals and HAL's estimates, and a summary of our reasons building on the two-stage assessment approach described above. When comparing the estimates for Initial Proposals and Final Proposals, we note that the scope of some programmes is not directly comparable. For example, the cost estimates for the T2 Baggage programme that we assessed for Initial Proposals related only to the "prolongation" option for delivery of programme outputs, rather than the broader option which HAL presented in its RBP Update 2.

6.65 Following that, Table 6.5 then shows our total estimates by year, for both the "Mid" and "High cases", compared to HAL's proposed capex plan. Our "Mid case" forecasts are then further split into estimates for development and core capex, reflecting primarily the level of maturity of the estimates. Projects classified as development are subject to airline approval through the capex governance framework. The allocation of projects to development or core capex is based on the approach set out above for our needs assessment, where Type 1 projects are included in core and Type 2 projects in development.

Table 6.5: Summary of our Final Proposal estimates by category, compared to HAL's estimates (£m, 2020 CPI prices)

Programme/ Category	CAA Initial Proposals	Final Proposals Mid Case	HAL - RBP Update 2	Summary of CAA reasons
Asset Management (AM) (including Prioritisation Adjustment)	1,652	1,715	1,890	Substantive new information provided for Final Proposals relative to Initial Proposals. Overall proposed level of investment is justified given the outputs and need, except for one specific project not approved or supported by airlines (Pier Service project). Deliverability constraint when applied reduces estimate in 2026 only.

Programme/ Category	CAA Initial Proposals	Final Proposals Mid Case	HAL - RBP Update 2	Summary of CAA reasons
iH7 Rollover	30	83	134	Assessment of each relevant project, taking account of maturity and relevant airline views.
T2 Baggage	198 [78]	478	478	Substantive new information provided for Final Proposals relative to Initial Proposals. Arcadis bottom-up review found that sampled cost estimates appeared broadly reasonable given the current programme maturity.
Regulated Security	462 [79]	825	825	Substantive new information provided for Final Proposals relative to Initial Proposals. Arcadis bottom-up review found that sampled cost estimates appeared broadly reasonable given the current programme maturity, although lack of information on “transformation” project reduced confidence for this element.
Carbon and Sustainability	42	207	207	Substantive new information provided for Final Proposals relative to Initial Proposals. Arcadis’ initial efficiency assessment found that sampled cost estimates appeared rather high compared to benchmarks, although further HAL information provided some enhanced confidence in estimates. Individual projects will need to be approved through the capex governance process.
Cross Rail Contribution	74	74	74	Agreed contribution
Commercial Revenue Generation	0	157	546	Substantive new information provided for Final Proposals relative to Initial Proposals.

[78] The allowance in Initial Proposals covered capex for prolongation only

[79] The allowance in Initial Proposals covered capex for “compliance” elements of programme only

Programme/ Category	CAA Initial Proposals	Final Proposals Mid Case	HAL - RBP Update 2	Summary of CAA reasons
				Project-level analysis identified and assessed projects which should benefit consumers. Individual projects will need to be approved through the capex governance process.
Efficient Airport	0	48	347	Allowance included in development capex for the "Compass Centre Exit" project, final costs will need to be approved by airlines.
Early Expansion Costs	0	33	33	We have separately assessed these costs relating to the IPHS, these have also been approved in principle by stakeholders.
Total (H7)	2,459	3,620	4,534	

Source: CAA analysis

6.66 Compared to our Initial Proposals, our assessment of the efficient level of baseline capex for H7 has increased materially (over £1.1bn higher), though it remains nearly £1bn less than HAL considered was appropriate. Though overall, HAL did not provide sufficiently detailed information across its capex programme, in some areas it was able to provide more information (including relatively detailed information on cost build-ups for several programmes) which has meant that the justification for several projects was stronger compared with the evidence that HAL had put forward in advance of our Initial Proposals. In particular, HAL has provided information to justify the need for several projects or programmes, supported by cost plans or other quantified analysis, which enabled some degree of bottom-up efficiency assessment. These include:

- Regulated Security;
- T2 Baggage;
- commercial revenues; and
- the carbon and sustainability portfolio.

Table 6.6: CAA capex estimates, compared to HAL's capex plan

£m (2020p)	2022	2023	2024	2025	2026	Total H7
High	374	590	724	1,073	1,188	**3,948**
Mid: ***of which***	367	567	703	1,017	967	**3,620**

£m (2020p)	2022	2023	2024	2025	2026	Total H7
- Core	*242*	*302*	*277*	*294*	*181*	***1,296***
- Development	*125*	*266*	*426*	*723*	*785*	***2,325***
HAL RBP Update 2	446	707	840	1,216	1,326	**4,534**

Source: CAA analysis

6.67 Our "Mid case" estimates are similar to actual total capex during Q6 of £3.5bn (2020 prices), and 20% below the capex estimate set out in HAL's RBP Update 2.

6.68 We expect that HAL will bring forward the projects relating to the development element of our allowance during H7 through the enhanced capex governance process discussed in chapter 7 (Capex incentives), subject to airline approval. We also note that, as discussed in the Arcadis report, construction price inflation for H7 is currently difficult to forecast, with the risk that it varies materially from general (CPI) inflation. We expect HAL to manage these risks as part of a greater focus on capital efficiency.

6.69 As explained in chapter 7 (Capex incentives), we have also developed a new flexibility mechanism to allow for additional spending if a compelling case for extra spending were to emerge.

Implementation

6.70 Our "Mid case" capex estimates are used in the calculation of the price control and our assessment of financeability in chapter 13 (Calculating the price cap and financeability). As explained above, and in chapter 7 (Capex incentives), the capex governance framework is also sufficiently flexible to allow changes in the efficient level of capex in response to changes in circumstances that may emerge during the course of the H7 price control period. We set out in chapter 7 (Capex incentives) and Appendix C (Notice of the CAA's proposal to modify HAL's licence) how we intend to modify the licence to implement these changes to our capex incentives framework.

6.71 While we recognise the very challenging circumstances during the last two years, we also believe that HAL can, and should, produce higher quality and better quantified information in support of many of its projects and programmes. We expect HAL to produce better quality information on capex projects during the H7 period that fully reflects both the maturity of individual projects and programmes.

Chapter 7
Capex incentives

Introduction

7.1 In considering how best to further consumers' interests in relation to capital expenditure undertaken at Heathrow Airport, we are required to have regard to the need to promote economy and efficiency on the part of HAL. Ensuring that we have appropriate incentives for HAL to make capital investments efficiently is a core means by which we seek to achieve this.

7.2 Promoting capex efficiency remains a priority in the context of a two-runway airport. The impact of the covid-19 pandemic emphasises the importance of capex being made efficiently and delivering value for money for consumers. We remain of the view that forward-looking ("*ex ante*") incentives, where HAL shares a proportion of the benefits of delivering capex projects below a set budget and shares a proportion of the costs of any over-spend against that budget is the best way to create such incentives.

7.3 Having appropriate incentives to promote capex efficiency, in conjunction with our Final Proposals for capex assessment set out in chapter 13 (Calculating the price cap and financeability), not only promotes economy and efficiency on the part of HAL, but is also central to helping secure that HAL is able to meet the reasonable demands of consumers for AOS, by enabling HAL to invest in the capex that supports consumers' needs, including by supporting investment in a safe, secure and reasonably resilient airport.

7.4 As such, setting the right framework for capex incentives is core to our approach to furthering consumers' interests in relation to the range, availability, continuity, cost and quality of the AOS provided by HAL at Heathrow Airport.

7.5 This chapter is structured as follows:

- overview of our Initial Proposals;
- summary of stakeholders' views;
- our views on stakeholders' comments;
- our Final Proposals for H7; and
- implementation.

7.6 Further information can be found in:

- chapter 6 (Assessment of capital expenditure), which sets out our assessment of HAL's capex proposals and our decision on what programmes and level of expenditure should be included within the building blocks for the H7 price control;
- Appendix F (Capex incentives), which provides further detail on our approach to capex incentives;
- Appendix G (Assessment of the H7 capex incentives framework against the CAA's duties), which provides an updated assessment of our approach to developing capital expenditure incentives against our statutory duties; and
- the Arcadis report on HAL's proposed capex categories and delivery objectives which is being published alongside these Final Proposals.

Summary of our Initial Proposals

7.7 We have been consulting on our proposals for capex incentives for over four years. Over this period, the proposed framework has evolved in the light of stakeholder feedback, wider developments and our own analysis and policy development. An overview of the framework we consulted on in the IPs is included in Table 7.1 on the next page.

Table 7.1: Summary of our proposed overall approach for H7 capital efficiency incentives in IPs

<table>
<tr><td rowspan="2">High-level proposal</td><td colspan="2">Move from the Q6 framework where CAA assesses the efficiency of HAL's capex through ex post reviews, to an ex ante framework where HAL's performance is measured against cost baselines agreed in advance of delivery. The baselines for individual capex categories would be set based on G3[80] values.</td></tr>
<tr><td>Capex categories and baselines</td><td>Delivery objectives / obligations</td></tr>
<tr><td rowspan="3">Start of H7
The price setting process</td><td rowspan="3">The overall H7 capital envelope would be set by the CAA, based on the level of capex HAL has demonstrated is needed through its H7 capex plan.
The envelope would be split into capex categories, based on HAL's proposed programmes and our own analysis.[81] Capex categories should include projects that have common outputs / objectives and similar levels of risk and controllability.
Each capex category would have an indicative baseline. This would be the sum of forecast development and core expenditure.
The purpose of the indicative baseline is to (i) have a clear initial forecast associated with a high-level objective for each capex category, (ii) track changes within period, and (iii) have a clear line of sight from the indicative baselines to the final baselines (see below). This would enable airlines and CAA to have a good oversight of any changes that occur compared to the initial plan.</td><td>Each capex category should have a SMART[82] high-level statement of what HAL is seeking to deliver, and the reasons it has prioritised this spending. This would be the delivery objective, defined at the capex category level.</td></tr>
<tr><td>Timing incentives</td></tr>
<tr><td>Triggers[83] would only apply to exceptional capex projects as the new framework would incentivise timely delivery (through cost incentives, Delivery objectives / obligations and penalties for significant delays to capex categories).

Criteria for triggers and design of the trigger mechanism will be set as part of H7 capex framework but triggered projects would be agreed by HAL and airlines during the H7 period.</td></tr>
</table>

[80] The governance process around capital expenditure requires a project to proceed through a number of gateways as it is developed and delivered. Gateway 3 (G3) is the point in the process where the requirement, scope and budget is agreed jointly with airlines and HAL. This is the Gateway through which a project progresses from 'Development' to 'Core'.

[81] This can include analysis by our consultants, such as the work undertaken by Arcadis in their report published alongside these Final Proposals.

[82] Specific, Measurable, Achievable, Realistic, and Timely.

[83] This is a mechanism which removes the return which HAL would expect to incur on late projects

During H7 **Enhanced governance arrangements**	As projects in HAL's portfolio move through the governance process, the indicative baselines would be updated to reflect G3 values for individual projects (when agreed). When all projects within a capex category have reached G3, the baseline becomes the G3 baseline. There would be one baseline for each capex category which is the sum of G3 values for individual projects within that category. This G3 baseline could change subsequently to reflect a limited set of circumstances, for example, if the scope of projects changes or projects are dropped post-G3. Adjustments to the G3 baselines would only happen where changes are agreed with airlines through a change control process as part of the enhanced governance process. The CAA would also have a role as part of the change control process. As a minimum this would be an "arbiter" role as in Q6, but we would consider as part of the implementation of our policy whether this should be an explicit approval role for changes to baselines.	As projects reach G3, the high-level delivery objective would be updated to reflect more specific metrics / requirements, at the capex category level. It would become a delivery obligation, which should reflect: • outputs; • quality requirements; and • timing requirements. When any post-G3 adjustments to baselines take place during the period, the delivery obligation may also need to be updated to reflect changes in project scope. The CAA would have a role as arbiter in circumstances where HAL and airlines do not agree on either new delivery obligations (where projects pass G3) or changes to existing delivery obligations. We would also consider during the implementation stage of our policy whether we need to have a role in approving delivery obligations to ensure that outcomes are in consumers' interests.
At the end of H7 **Review of deliverables and reconciliation**	Reconciliation would be at the capex category level. The CAA would assess (and consult on) whether the delivery obligation has been met in relation to each capex category. If it has been met, the G3 baseline becomes the final baseline. If the delivery obligation has not been met, an adjustment for under-delivery would be applied to the baseline and this becomes the final baseline. Reconciliation would involve comparing HAL's actual spending for each capex category to the final baseline. HAL would bear a proportion of any overspending compared with the final baseline or would get to keep a proportion of any underspending (these adjustments would be applied to the RAB). Our proposal is for a symmetrical sharing rate on over- and underspending. We are considering the detailed approach to reconciliation and will continue to work with HAL and airlines to agree a framework for how adjustments to baselines would be made as a consequence of any under delivery.	

7.8 In addition, in Initial Proposals we consulted on the following detailed points in relation to the framework:

- Capex categories: based on the capex envelope included in the Initial Proposals, we proposed to split HAL's H7 capex into nine capex categories, and proposed that ex ante incentives should apply to all capex included in the H7 plan, with the exception of the Crossrail contribution (to be passed through as it was already committed) and capex relating to projects already well underway before the start of H7 (that is, projects that have already passed G3);
- Delivery obligations: we set out a high-level approach for assessing delivery obligations.
- Sharing factors: we set out a proposed range of 20% to 30% for the symmetrical sharing rate that would apply to any over and under spend relative to an *ex ante* baseline.
- Timing incentives: we explained that we considered it could be appropriate to include further mechanisms in the capex framework so that HAL faces additional incentives to deliver capex on time, including updated triggers.
- Capex envelope uncertainty mechanism: we proposed introducing a new mechanism for H7, to deal with what might turn out to be potentially large fluctuations in the appropriate level of capital expenditure during H7.

Summary of stakeholders' views and our response

7.9 Six respondents provided views on our Initial Proposals for capex incentives. We have summarised the key issues raised in responses by topic in this section and provided our views on the points raised.[84]

General remarks

Stakeholders' views

7.10 HAL raised a number of criticisms of our intention to apply *ex ante* incentives to capital expenditure and argued that we did not provide sufficient evidence to justify a full movement toward this approach. In HAL's view, we are applying approaches used in other sectors which are not appropriate comparators and have failed to undertake a comprehensive assessment of this suite of reforms.

7.11 HAL also considered that our approach did not align with regulatory precedent and highlighted differences in the application of expenditure incentives in price controls set by Ofgem and Ofwat.

[84] Where we refer to "airlines" or "airline community" in summarising responses, we mean all airline and airline community respondents (including AOC/LACC) made the point (or a similar one).

7.12 Another recurring theme throughout HAL's response was its concern at the lack of what it considered to be essential detail required to implement capex incentives. This included detail on the level of the incentive rate, the criteria and process for reconciliation, and the role of CAA within the period. Without this information, HAL said that it could not estimate how much additional risk it was being exposed to, or ensure that its capex evaluation processes and procedures (including the Capital Efficiency Handbook) accurately reflect the H7 arrangements. HAL's view was that recognising this lack of detail, we should delay, or greatly moderate, our proposals.

7.13 Airlines raised some points of disagreement with elements of our proposals, but generally supported a move towards *ex ante* incentives. In BA's view, the ability to assess performance against *ex ante* baselines and delivery obligations allows for a more transparent assessment of HAL's capital efficiency.

Our views

7.14 Consistent with the progression of our analysis, and taking account of stakeholder views, we have significantly increased the level of detail on the design of elements of the capex incentive framework in this Final Proposals document. In our view, HAL, and all other stakeholders, should now have sufficient information to understand how the framework will operate.

7.15 HAL has continued to express its view that we should not be seeking to move away from the approach for assessing capital efficiency that we have adopted in previous price controls, including Q6. That is, determining the efficiency of capital expenditure through a review undertaken by CAA at the end of the period, after the expenditure had been incurred (this is termed an "*ex post*" assessment).

7.16 An *ex post* assessment of capital efficiency presents a number of challenges. While we will seek to use our expert judgement to consider whether to disallow inefficient expenditure, we must also be wary of unduly increasing regulatory risk by penalising companies for factors that led to an increase in costs, when these may not have been foreseeable at the time of making an investment decision. The passing of time since the projects under review were completed compounds the general asymmetry of information facing the CAA. This makes it challenging to establish in retrospect what should reasonably have been considered at the time of an investment decision. This results in a high bar being set for costs to be excluded on the basis of inefficiency, even where out-turn costs are much higher than the expected budget. Also, while the threat of potential disallowance may have some effect in discouraging inefficient overspend, it does not offer any incentive to find efficiencies in the delivery of a project to outperform budget expectations.

7.17 On this basis, we consider that the application of appropriate *ex ante* incentives will be more effective than the use of an *ex post* assessment as a way of driving efficient capex delivery.

7.18 In the design of capex incentives, we have considered the approaches taken by other regulators, including Ofgem and Ofwat, where these are relevant for the H7 price control. Where appropriate, we consider our approach to be consistent with those applied elsewhere. However, we have also ensured that our arrangements are tailored to meet the specific characteristics of HAL's regulatory framework, making investment at Heathrow Airport and the information available to us at this time.

Capex categories: definition and split of asset management programme

Stakeholders' views

7.19 HAL agreed that the asset management programme should be split into several capex categories and proposed a different sub-division from that proposed in IPs. The categories HAL proposed are:

- baggage;
- rail;
- mechanical;
- electrical;
- controls;
- civils;
- airfield;
- technology;
- compliance; and
- commercial asset management and compliance.

7.20 Airlines supported our proposal to split the asset management programme, but noted that HAL was planning to propose its own split and said they would comment on that split when it becomes available. BA emphasized that the split of capex categories should not result in misalignment of delivery objectives such that HAL is "unable to efficiently exploit synergies (or is disincentivised from doing so where appropriate)".

Our views

7.21 Since our Initial Proposals, HAL has revised the capital investment plan in its RBP Update 2 submission. This revised plan (when reviewed alongside the additional information provided in "deep dives" with the CAA and Arcadis and following requests for information) provided a more granular breakdown of the programme on a consistent basis.

7.22 We asked our consultants (Arcadis) to review HAL's proposals. We carefully considered the results of this review are we are satisfied that the capex categories contained within the HAL RBP Update 2 comply with our definition for a capex category. We consider that HAL has the appropriate level of controllability and that its capex categories have low levels of risk variability across all programmes.

7.23 We have used this revised plan for our assessment of capex, as detailed in chapter 6 (Assessment of capital expenditure), and to inform the list of H7 capex categories set out later in this chapter.

Coverage of capex incentives

Stakeholders' views

7.24 HAL reiterated its view that *ex ante* incentives should only apply to the proportion of its portfolio where risk was relatively low or where projects were generally 'repeatable' and benchmarkable. HAL considered that it was not appropriate to expose performance against baseline allowances to financial incentives for categories of expenditure that were innately less predictable.

7.25 In its response, HAL included feedback on the analysis undertaken by Arcadis for the Initial Proposals around the level of risk and controllability associated with the programmes that HAL had included in its RBP Update 1.

7.26 By contrast, airlines supported the application of *ex ante* incentives to all capex categories.

Our views

7.27 We recognise HAL's concern that, at an early development stage, programmes of investment may carry different profiles of risk and uncertainty. However, we do not consider this is a relevant factor in the context of our intended approach.

7.28 We intend to use the existing governance arrangements and the G3 investment decision-making gateway for setting the capex baselines that performance will be incentivised against. By the time each project arrives at the G3 gateway, regardless of programme, HAL should have sufficient information to set a capex estimate where there is equal likelihood of either the budget being over- or underspent.

7.29 We asked Arcadis to review HAL's analysis of risk and controllability and respond to it in their report which we have published alongside these Final Proposals. Based on the analysis undertaken by Arcadis, we note that the capex programme HAL has proposed for H7 is, overall, one that does not carry significant risks that HAL cannot be reasonably expected to manage and has a relatively high degree of controllability. In the context of a programme that HAL is expecting to deliver over the next four years, and in the absence of programmes like capacity expansion, we are of the view that there are no significant parts of HAL's capex plan that are not suitable for *ex ante* incentives.

7.30 In its response, HAL again referred to the advice it had commissioned from Jacobs in 2021 to inform its response to the April 2021 Way Forward Document.[85] This advice focused on setting out criteria that can be used to assess the suitability of *ex ante* incentives.

7.31 We set out our views on the Jacobs analysis in the Initial Proposals at a high level (see paragraph 12.26 of our Initial Proposals). While generally a helpful submission, we considered that the Jacobs report did not offer a balanced view and we did not agree with its main conclusions. We maintain the same views as in our IPs and have set out more detail on the Jacobs report in Appendix F (Capex incentives) to this document.

7.32 Overall, and for the reasons set out above, we retain the view that *ex ante* incentives should apply in H7 to HAL's entire capex portfolio, with the exception of certain pass-through costs and Core projects that have progressed through G3 prior to Q4 2022.

The level and symmetry of the incentive rate

Stakeholder views

7.33 HAL welcomed CAA publishing a view on an indicative range for the incentive rate but disagreed with the strength of the incentive range. It said the proposed range would expose it to excessive financial risk. HAL cited what would have been the financial consequence of applying these incentive rates to previous overspends. It also said that CAA had found no evidence that these overspends reflected inefficiency.

7.34 HAL considered that our proposed approach did not distinguish between the different type of capex projects it undertakes. In its view, many of these projects are so inherently complex that strong financial incentives against baseline expenditure exposes it to unlimited downside risk. It also considered that an incentive of this magnitude could stifle innovation and focus management on delivering capex rather than achieving optimal outcomes for passengers. In this light, HAL considered that an incentive rate of between 13% and 15% would be more appropriate. This would be equivalent to what it considers is the existing financing incentive on capex.

[85] 4 Jacobs report on H7 Capital efficiency, June 2021. Submitted by HAL in response to the April 2021 Way Forward Document.

7.35 Airlines did not agree with a symmetrical incentive rate. The AOC/LACC and VAA both considered that HAL should retain no benefit from underspending. In their view, HAL would be automatically ‘rewarded’ through the return it would earn on the RAB. VAA recommended we apply only a 30% incentive rate on overspent capex.

7.36 BA agreed with arrangements that offered HAL incentives for underspending but felt these rewards should be lower than any corresponding penalty for overspending. In BA’s view, the range we had presented in Initial Proposals for HAL’s share of overspends was too low and advocated that a higher incentive rate would better align with other sectors where rates were commonly closer to 40%-50%. BA also highlighted that the H7 capex programme was smaller, less complex and less risky than previous price control periods, thereby making it more appropriate to apply a stronger incentive. BA’s preference is for an incentive rate of 30% on underspends, and 40% on overspends, which it said would be in line with those applied to the Thames Tideway project. BA agreed that the incentive rate should be uniform across all capex categories to avoid boundary issues and undue complexity.

7.37 BA considered that pre-G3 capex should be exposed to the incentive rate. In its view, excluding this capex from the incentive would risk expenditure being allocated to “development” activities to avoid being subject to an efficiency incentive. BA said that the only case where disapplication of pre-G3 expenditure would be logical would be if a project is not taken forward, so its inclusion in the baseline would result in a perverse outcome through inflation of the out-turn final baseline for a particular capex category.

Our views

7.38 We do not consider that HAL has presented persuasive new evidence to suggest that the range of incentive rates we consulted on in Initial Proposals was inappropriate. As noted above we have analysed the financial impact that a significant overspend could have for HAL, based on an incentive rate within this range. In summary we do not regard our proposals for incentives as having a disproportionate or unmanageable impact on HAL’s financeability.

7.39 We do not agree with HAL’s view that it is being exposed to unlimited downside risk. HAL has control on the level of capex it undertakes and under our proposed arrangements it will be aware of what baseline it is performing against.

7.40 HAL has expressed concern that these incentives will stifle innovation and would take away focus on outcomes that would ultimately benefit consumers. We have not seen any evidence that this is likely to be the case. HAL is best placed to balance the delivery of its capex programme against the needs of its business. Our framework for capex incentives, including delivery obligations, coupled with other regulatory mechanisms such as OBRs should motivate HAL to make appropriate trade-offs.

7.41 We recognise the view of airlines that higher incentive rates are typically applied in other sectors. While a stronger incentive rate is more likely to influence HAL's behaviour, we also consider it prudent to exercise a degree of caution in applying these arrangements for the first time.

7.42 We do not agree with airlines who want incentives to be "penalty only". We consider the application of an "upside" incentive rate that allows HAL to retain a share of the benefit of underspending in the near-term (with the full benefit of revealed cost efficiencies expected to be realised in subsequent price controls), provides HAL with a balanced set of incentives and so is more likely to encourage overall efficiency. We do not consider that a "downside" only penalty or the return that HAL is able to earn on the RAB provide a balanced set of incentives.

7.43 More generally, we do not believe that the asymmetric rates applied in other sectors are appropriate comparators for HAL. Asymmetric rates are typically applied in sectors where the incentive rate has a dual function and generally reflects submitted costs that the regulator considers are higher or lower than its own assessment of efficient costs. This is not a function of the incentive rate in H7 as capex baselines for each project will be set at G3 when HAL will be required to provide high quality information in support of its proposals.

7.44 We have reflected and have a degree of sympathy with BA's views that development capex should be subject to the incentive. However, for the incentive to work on an *ex ante* basis, HAL should have clarity over the baseline that it is performing against prior to committing any expenditure. Clearly, this cannot be the case with development expenditure incurred pre-G3. Therefore, it may not be appropriate to apply the incentive on this expenditure. Nevertheless, HAL has a requirement in Condition B3 of its licence to act in an economic and efficient manner. This provides us with a tool to enable us to investigate and take action if we find that certain costs, including those involved in the development of a project, appear to have been unduly inflated.

Delivery objectives and obligations

Stakeholders' views

7.45 HAL recognised the merits of delivery objectives but expressed significant concern at the proposal to use performance against delivery obligations as part of the reconciliation process. HAL's understanding was that a delivery obligation would be required for each capex programme and that these would be set during the period and before all projects within that programme had reached the maturity of an investment. HAL also said that the method of assessing whether delivery obligations had been met would only be confirmed after the programme had been delivered. In its view, this approach created a significant risk which it had limited ability to manage.

7.46 Its preference was to avoid having a reconciliation process using delivery obligations and use OBR metrics as a means of ensuring capex was employed effectively instead. If delivery obligations are to be used, then HAL recommended that they are applied at a project level (potentially aggregated for tranches of projects). To avoid what HAL considered would be a disproportionate burden, their use should be limited to larger projects, and the assessment of performance should be conducted on a continuous basis throughout the period.

7.47 Airlines supported the use of delivery objectives and obligations. In BA's view, OBR metrics were not an appropriate measure for the quality of capital expenditure. BA said that category-level objectives should have clear assumptions, tangible outcomes and metrics and as projects progress these should translate into obligations that could be agreed with airlines at G3. BA also said performance should be assessed throughout the period, with the onus on HAL to ensure that the quality of its record keeping enabled it to demonstrate that delivery obligations had been achieved.

7.48 In discussions following receipt of individual airline responses, the airline community highlighted that they expected delivery obligations to apply to all capex projects regardless of size. They did, however, recognise there may be opportunities to group certain projects into tranches against which delivery obligations could apply. The areas where this is appropriate could be determined by the value, complexity or overall benefit associated with a project.

Our views

7.49 We have reflected on HAL's concerns at the application of delivery obligations to capex categories and then using performance against these to adjust capex baselines during the end of period reconciliation. We recognise that to be compatible with incentives on capex delivery, HAL should know what these delivery obligations are (and in broad terms what the consequence of non-delivery would be) in advance of expenditure being incurred.

7.50 HAL's capex plan as it currently stands does not have sufficient detail for us to be able to set these delivery obligations for each capex category as part of Final Proposals. While this information will eventually become available during the period once all projects within a category have advanced to G3, this is likely to mean that some projects within a category will reach G3 before the category-level delivery obligations can be established. This potential disconnect between a project's capex baseline and the outputs it is expected to contribute toward could diminish the impact of incentives.

7.51 Because we consider that to form part of an effective capex incentive framework, delivery obligations should be known at the time a baseline is established, we will instead require them to be set at a project-level. More detail on this is provided later in this chapter.

7.52 We do not agree with HAL that the performance against the OBR framework should be the primary means of assessing effective capex delivery. The OBR framework may have a role to play and for certain projects, the delivery obligations could include improvements to specific OBR targets, likely alongside other delivery obligations. However, there are likely to be many projects for which the OBR framework is less relevant, for example because there is not a measure that would capture the specific impact that a proposed project is intended to deliver (such as improved quality of security scanning).

7.53 We also note that many metrics are likely be affected by a range of different factors (including in some cases the performance of airlines and ground handlers), so they are unlikely to provide a reliable guide to how well HAL has delivered a particular project.

7.54 We agree with BA's view, that category-level delivery objectives should still be in place.

Timing incentives and triggers

Stakeholders' views

7.55 In HAL's view, there was no justification for the CAA to retain trigger penalties for late delivery of certain projects alongside delivery obligations that incorporate a capex baseline adjustment for delays to project delivery. HAL considered the overlap between the two would result in them being (at least) doubly penalised for late running projects. HAL also considered that incentives on capex efficiency inherently incorporated penalties on timing (on a presumption that late-running projects are also over-spending projects), and there were other factors, such as operational efficiency, that also provided a stimulus for prompt delivery.

7.56 Airlines supported incentives on the timing of project delivery, as well as on capex efficiency. BA acknowledged that with delivery obligations incorporating a timing element, the current trigger arrangements needed to be limited to exceptional projects where timing of delivery is of paramount importance. BA did not consider that this constituted double jeopardy for HAL. In its view, the trigger rebate was a means of compensating airlines for the delay in benefits associated with the capex being delivered.

7.57 BA also said there should be timing penalties that apply for late delivery of capex categories, to avoid circumstances where the delivery obligations of underlying projects fail to protect against the late delivery of the overall category. Airlines did not support the prospect of HAL being able to earn rewards for early delivery of projects.

Our views

7.58 We see merit in HAL's view that, by incorporating a timing element within delivery obligations, there is less reason to expose HAL to separate penalty payments triggered by the late delivery of projects. Each approach has the same primary function of incentivising HAL to deliver against established deadlines. We agree that retaining both therefore seems duplicative.

7.59 We recognise that airlines have welcomed the compensatory benefits that trigger penalties offer them in place of the benefits from capex projects being delivered on time. In the absence of *ex ante* incentives, these may also have helped ensure projects were delivered more promptly than would otherwise have been the case. However, we consider that the package of capex incentive arrangements we are introducing for H7 will motivate HAL to deliver against agreed timescales for all projects, including those deemed most critical by stakeholders. This approach thereby removes the need for, and potential double jeopardy to HAL of, also retaining triggers.

7.60 Airlines generally opposed the prospect of HAL being able to earn rewards for early delivery of projects. In our view, there may be instances where HAL and airlines are able to agree to an upward adjustment to the budget for an individual project to reflect an enhanced scope or delivery programme. If HAL can achieve these enhancements for less than the revised baseline, then they will share in the outperformance.

Implementation

Stakeholders' views

7.61 Airlines acknowledged that the proposed arrangements would only apply to projects that have not yet advanced beyond G3. As a result, there would still be a requirement for the CAA to assess the efficiency of projects that are already in delivery.

Our views

7.62 We agree with stakeholders who highlighted that the CAA will need to separately assess the efficiency of projects that are included in H7 but are not subject to ex ante incentives. By its nature, this assessment will need to be conducted on an *ex post* basis at the end of the H7 period.

Governance

Stakeholders' views

7.63 All stakeholders agreed that the effectiveness of the capex arrangements hinge upon having effective governance arrangements in place, including a clearly defined role for airlines in the gateway process.

7.64 HAL expressed its concern that the proposed approach will result in an increased burden of governance, leading to a time-consuming process and with more escalations to the CAA.

7.65 Airlines highlighted how existing arrangements needed to be enhanced and supported by licence conditions that put a strong obligation on HAL to provide them with information. This would enable them to evaluate both the efficiency of the capex baseline at G3 and the appropriateness of the associated delivery obligations. Airlines also wanted enhanced reporting on project performance throughout the period.

7.66 In general, airlines considered that the current arrangements gave them insufficient opportunity to challenge in a meaningful way HAL's decisions on capex. They were also concerned at the extent to which guidelines prescribed in the Capital Efficiency Handbook were adhered to in practice.

7.67 BA set out a range of recommendations for improving the existing governance process:

- a clear problem statement defined at G0, setting out clear objectives, expected cost, benefits and scope, in order to allow the initial decision whether to proceed to be made;
- a clear acknowledgement that airlines have the right to refuse to proceed with a project having considered all the information presented and shared;
- commitment to improve the granularity and detail of a business case with each gateway, leading to the delivery obligations being set at G3;
- a clear account of options that have been considered both in terms of the actual project deliverables, the approach to be taken and associated costs and impact, including a do-nothing option;
- clarity over which elements of the project will be awarded to a preferred supplier under a framework agreement, and outside such agreement a clear strategy for competitive tendering of the project at G1;
- clarity over the design standards that a project is being delivered to, whether these are legislative or Heathrow's own standards, including visibility over what they are, and the cost of delivering to anything over and above the appropriate minimum requirement;
- a joint CAA, airline and Heathrow review of the outcomes of the project to determine whether the benefits have been realised;

- an improved change control process, requiring airline approval, for changes to project scope, approach, timescale, benefits or costs, and which links transparently to the delivery objective and baseline established at G3 such that the capital efficiency incentives are not undermined;
- more regular joint reviews of the project pipeline; working with HAL to prioritise the next phase of projects; this is particularly important where tranches of projects need to be undertaken together, and greater oversight of progress towards delivery of a capex category is therefore required;
- recognition that airline priorities may differ from Heathrow, and projects that deliver capabilities required by airlines need equivalent attention to those which may be of greater priority to Heathrow;
- the management of the risk budget within a project needs greater transparency, along with how the allowance is allocated and spent based upon risks that materialise, as this is only visible under Independent Fund Surveyor (IFS[86]) assured projects;
- a clear ability for airlines to decline to proceed with a particular project on the basis that it is either not required or does not meet airline needs;
- a clear understanding of what scope is required and specified, including where Heathrow require a standard greater than minimum compliance requirement.

7.68 Airlines and HAL both expressed a strong view that the CAA needs to be involved in working with HAL and airlines to update the governance documentation. This is to set clear expectations on the information to be provided by HAL and the role that the CAA will play in any disputes that may arise.

Our views

7.69 We do not agree with HAL that our approach will put an undue burden on the governance supporting capital expenditure. We see no reason why the information we are requiring to be made available at G3 would not already form an essential part of a such a critical investment gateway. We continue to consider that significant involvement of airlines in the capex governance process helps to deliver better outcomes for consumers.

7.70 We do, however, recognise that these arrangements put an increased emphasis on the nature of the agreement reached by HAL and airlines at G3 on both a project's cost and its delivery obligations. Given the criticality of these elements

[86] The IFS provides stakeholders with an assessment of the reasonableness of all major decisions made on specified capex programmes and projects

to both HAL and airlines, there may be an increased prospect of disputes between HAL and airlines being escalated to us.

7.71 In our view, to minimise the time consumed in dispute resolution and increase the effectiveness of the overall process there must be a shared understanding on what information should be available at G3 and, where appropriate, at earlier gateways. In the main, the existing arrangements appear to work well, however BA's recommendations (summarised above) provide a useful basis for further discussion between HAL and airlines to clarify and where necessary enhance existing information requirements.

Capex envelope uncertainty mechanism

Stakeholders' views

7.72 HAL appeared to be largely satisfied that the existing arrangements for progressing projects from "Development" to "Core" could accommodate a change in the capex envelope without necessitating an additional mechanism. It was concerned that a separate process might impede its ability to respond when an urgent need arose.

7.73 Airlines considered that, subject to the overall capital envelope set for H7, there could be a need for a new mechanism to accommodate material changes in capex requirements, including new initiatives that respond to changing external circumstances which were not accounted for within the original envelope. In their view, HAL should be required to demonstrate to the CAA that it can explain the requirement for the additional expenditure and that it has sought the agreement of the airline community with its proposals. VAA wanted more detail on how the CAA might intervene in instances where HAL and airlines were unable to reach agreement on an increase to the capex envelope.

Our views

7.74 We agree with HAL that, for most part, the arrangements for progressing projects from Development to Core should be sufficient to deal with changes in the profile and composition of expenditure within the overall envelope of capex expenditure that we have allowed for in these Final Proposals. However, we do not consider these arrangements would be appropriate for material changes to the overall capex envelope where these will have a consequential impact on airport charges.

7.75 We agree with airlines that any decision of this nature should take into the consideration the views of airlines and other stakeholders on the need for the additional capex. Therefore, we set out below further detail on the mechanism that we will introduce to enable an adjustment in the overall capex envelope. The presence of this mechanism is not a signal that increasing capex above the envelope could not happen or should be unduly lengthy to decide, but recognises the longer term significance for airport charges of such an increase.

Our Final Proposals

7.76 In this section we set out our final proposals on the *ex ante* capex incentives framework that will apply in H7.

General remarks

7.77 The overall purpose of the H7 capex incentives framework is to focus HAL on delivering its capital expenditure efficiently and to further the interests of consumers in the manner summarised at the beginning of this chapter.

7.78 While the contents of these Final Proposals detail our decisions on individual elements of this framework, it is worth being clear upfront that the existing Q6 approach does not, in our view, provide sufficiently strong commercial incentives on HAL to ensure projects are delivered on or below their budget. More detail on the rationale for intervention in relation to capex incentives is included in Appendix G (Assessment of the H7 capex incentives framework against the CAA's duties).

7.79 The combination of this package of incentives together with delivery obligations should ensure that HAL is focussed on achieving cost efficiency while still delivering the infrastructure to the time and quality expected.

7.80 Since our Initial Proposals, we have made several changes or refinements to our approach. These are set out in detail below, but among the key changes is our decision to use delivery obligations that are set at a project level as the basis for an adjustment to capex baselines during the reconciliation process. We have also developed in more detail a mechanism to adjust the overall capex envelope during the period.

7.81 In a series of meetings held throughout March-May, we have shared our emerging thinking on these topics with both HAL and airlines. In formulating our Final Proposals, we have considered views that they have expressed either during or in responses following these engagement sessions. We have summarised and responded to comments where these were not reflected in a stakeholder's formal response to Initial Proposals in our justification below.

7.82 We consider that the framework for capex incentives we propose for H7 will further the interests of consumers more effectively than either the Q6 arrangements, or the alternative proposals put forward by stakeholders. Specifically, we consider that it will do so because our approach will more effectively promote economy and efficiency in HAL's capital expenditure (keeping costs down), while ensuring that HAL can make the investments needed both to secure that the reasonable demands of consumers for AOS are met and to mitigate the environmental effects of the airport. In doing so, we have taken into account the need to ensure that HAL remain financeable, and that the package of the incentives is applied in a proportionate manner.

Capex categories and delivery objectives

7.83 The full set of capex categories we propose, based on HAL's proposed plan, are shown in Table 7.2 below. As well as using these categories to determine the coverage of ex ante capex incentives, we have also used this categorisation for our assessment of capex, as detailed in chapter 6 (Assessment of capital expenditure).

Table 7.2: Capex categories: Final Proposal

1. Asset Management and Compliance				
1.1 Baggage	1.2 Rail	1.3 Mechanical	1.4 Electrical	1.5 Controls
1.6 Civils	1.7 Airfield	1.8 Technology	1.9 Compliance	1.10 Commercial
2. T2 Baggage	**3. Regulated Security**	**4. Commercial Revenues**	**5. Efficient Airport**	**6. Carbon and Sustainability**

Source: CAA

7.84 In its RBP Update 2, HAL also proposed delivery objectives for these categories. Informed by the findings from Arcadis, we consider that in almost all cases HAL's proposed delivery objectives are not sufficiently well developed and SMART to be applied to each capex category.

7.85 The current lack of well-developed and SMART delivery objectives at category level is not unduly problematic for the operation of our capex incentives framework. Our framework instead will use performance against project-level delivery obligations (set at G3) as the basis for any adjustments to capex baselines due to under delivery.

7.86 Nonetheless, there remain advantages in having SMART delivery objectives for each capex category. These objectives are important to articulate the strategic outcomes that HAL will seek to achieve and the indicators it will use to determine how successful it is being. Identifying the need for individual projects, and the selection of preferred options, should be informed by these objectives. Project-level delivery obligations should naturally flow from these overarching objectives.

7.87 Therefore, we asked Arcadis to review the delivery objectives produced by HAL for the programmes included in the RBP Update 2 and develop them into SMART objectives. We reviewed Arcadis's findings and shared the objectives they developed with HAL and airlines for feedback. The draft delivery objectives produced by Arcadis are shown in Appendix F (Capex incentives) and in the Arcadis report. We consider that while these can be developed further they provide a useful illustration of the way in which delivery objectives should be articulated

Coverage of capex incentives

7.88 We have decided to apply *ex ante* incentives to all H7 capex, except pass through costs (Crossrail contributions) and core projects that have progressed through G3 prior to Q4 2022.

7.89 We do not consider pass through costs and Core projects that have progressed through G3 prior to Q4 2022 to be appropriate for *ex ante* incentives, as costs are either outside of the direct control of HAL or have already been largely incurred or committed.

7.90 We accept HAL's arguments that at an early stage the level of risk varies by each project. However, as the baselines which HAL will be held to account against are based on the G3 project estimates, HAL has the opportunity to develop relatively mature cost estimates for each project.

7.91 While risks will remain that could have an impact on a project's out-turn cost, HAL is best placed to manage these risks. It is our view that HAL has a significant degree of control over the construction and operational environment and can make decisions that trade-off capex delivery against operational priorities.

7.92 As we described in our Initial Proposals, a partial application of incentives across the capex programme would likely lead to significant additional complexity and a potential risk of gaming through the allocation of expenditure to different categories. In summary, we have seen no compelling evidence to suggest that a more limited application of incentives is required or would be appropriate.

Level and symmetry of the incentive rate

7.93 The Initial proposals consulted on an incentive rate of between 20% and 30% and we have now decided to apply an incentive rate in the middle of this range and at 25% for the H7 period. Our judgement is that 25% is an appropriate incentive rate as we expect this to be sufficiently powerful to influence HAL's behaviour in driving efficiency without unduly exposing it to significant financial risk.

7.94 We will be applying the rate on a symmetrical basis to both over and underspends because the capex baseline that is set at G3 is based on a cost estimate where there is the same likelihood that actual costs will turn out higher or lower.

7.95 Our analysis shows that even in the scenario of an extreme level of overspending (30% above the capex baseline), the application of a 25% incentive rate would result in a reduction in HAL's average pre-tax Return on

Regulatory Equity ("RORE[87]") during the H7 period of around 0.6%. In our view, this is a relatively modest exposure to downside risk in the context of the other uncertainties that HAL faces during the H7 period and HAL would therefore continue to be able to finance its activities even in the event of a significant overspend.

7.96 We also consider that our analysis represents an extreme and highly unlikely outcome, for the following reasons:

- the underlying capex plan is smaller and less complex than in previous price control periods;
- by using the G3 investment decision stage to set capex baselines, we expect HAL to have reasonably accounted for major project risks. HAL's performance against G3 capex estimates in Q6 is generally good: as HAL has itself highlighted, HAL's capex was delivered within 0.5% of G3 baselines, excluding the Tunnels programme, which has experienced a high overspend. However, even when the Tunnels programme is included, the total overspend for the period is estimated to be around 13%, which is significantly lower than the 30% we have modelled; and
- while HAL's own track record suggests it is generally capable of delivering within G3 cost estimates, the introduction of financial incentives should put increased management focus on minimising the probability and scale of overspends.

7.97 We also note that a mechanism to adjust the capex envelope will be available to accommodate the requirement for a significant and unanticipated increase in capital expenditure. This is set out in more detail below.

7.98 As noted above, we have consulted on a range of 20-30% for the incentive rate. Our view is that any value within and potentially higher than this range could be applied to Heathrow's capital expenditure within H7. We have elected not to apply a higher value for H7 as it will be the first time that HAL have been subject to ex ante incentives. In our view, it is prudent to adopt a relatively cautious approach in the first instance so that we can mitigate the effect of any unanticipated impacts that might arise. It may be appropriate in increase the incentive rate at the next 'H8' price control review.

[87] In our financeability assessment we have not relied on RORE as it doesn't add significant value to the assessment of equity financeability. Calculating the base line RORE would essentially produce the allowed cost of equity which doesn't provide additional information over the appropriateness of the amount and timing of cash flows to equity. We consider that RORE is a meaningful tool in assessing incentive mechanisms as it allows us to assess the potential variability in returns and to express them in proportion to the amount of equity in the notional company.

7.99 Appendix F (Capex incentives) provides a worked example of how the *ex ante* capital efficiency incentive will be applied through the process of reconciling actual capex incurred with capex baselines.

Delivery obligations

7.100 Delivery obligations are essential to ensure that the underlying capex baseline reflects the scope, quality and timing of the infrastructure that is to be delivered. Without delivery obligations, there is a risk that HAL may underspend against capex budgets by delaying delivery, or scaling back on the scope and quality expected; this would not be in the interests of consumers. Where this occurs, HAL should not benefit from either retaining a share of any underspend, or by minimising the level of overspend relative to capex incentive baselines. For this reason, we believe the benefit to HAL of not achieving delivery obligations should be compensated for by a proportionate reduction to the capex baseline of a broadly equivalent value to the obligation not delivered.

7.101 Therefore, in the event of HAL not achieving its delivery obligations we propose to adjust the capex baseline to reflect what HAL has actually delivered. In the event of total non-delivery of all delivery obligations, then the entirety of G3 baseline capex associated with that project should be deducted from the capex baseline.

7.102 Due to the limited information supporting HAL's H7 capex categories, we are amending our approach for Final Proposals to use performance against delivery obligations on a project-level basis as a means of adjusting the capex baseline. These project-level delivery obligations are to be established at G3, as part of the process of agreeing the capex baseline for each project.

7.103 We consider that this approach effectively builds upon the existing governance process without adding an undue burden in terms of information provision. For instance, we think it is reasonable that any G3 decision supported by airlines to proceed with a project and its associated budget, should transparently reflect reasonable expectations on the project's output, quality and timing.

7.104 On this basis, all parties would have visibility on what is to be delivered prior to the project proceeding from "development" to "core" capex. We also consider that all parties should have a shared understanding at this point of what the consequence will be if delivery obligations are not achieved.

7.105 Therefore, at G3 we will require HAL and airlines to agree the following for projects that proceed to core:

- delivery obligations: we expect these to incorporate a project's expected output, quality and timing, but these may be adapted to reflect the characteristics of a particular project;

- weightings to determine what proportion of baseline capex is to be associated with performance against each delivery obligation. To support this, HAL and airlines will need to agree at G3 what adjustment to the capex baseline should be associated with a partial or non-delivery of each individual obligation. For example, individual delivery obligations may carry an equal weighting and so for a project with 3 obligations the non-delivery of a single obligation may result in a third of the project's G3 capex being removed from the baseline. However, there may be instances where airlines or HAL, agree to put more weight on certain obligations; for instance, delivering the project by an agreed date;
- SMART indicators that will determine whether or not each delivery obligation has been met, and the level of adjustment to baseline capex associated with non-delivery. There may be instances where HAL and airlines agree to indicators for "partial delivery" and the adjustment to the capex baseline that might accompany this. This may be where a delivery obligation has not been fully met, but where it would not be proportionate to consider it entirely not delivered; for instance, in the case of a relatively minor delay in the project's delivery.

7.106 While the use of delivery obligations at a project level should build upon information already available through the capex governance process, we recognise that tracking performance against the requirements set out above may represent an additional administrative burden.

7.107 Our approach has been driven by the nature of HAL's current capex plan, specifically the lack of necessary detail on the strategic deliverables that are expected to be achieved through different categories of capex, or projects operating in combination.

7.108 While we describe these delivery obligations applying to individual projects, the opportunity still exists for HAL, in agreement with airlines to identify whether certain projects can be sensibly grouped together into tranches so that their performance is assessed against higher-level and more strategic delivery obligations. As part of the implementation of these proposals, we will seek to facilitate an agreement between airlines and HAL on how this might operate in practice. That said, we expect all capex projects that have a budget agreed at G3, regardless of value, to also have corresponding information on the expected outputs, quality and timing.

7.109 In Appendix F (Capex incentives), we provide more detail on this approach and illustrate how we expect it to work.

Stakeholder views received since Initial Proposals

7.110 After sharing these proposals with HAL in sessions held between March-May, it provided several comments expressing concerns. Many of these points reiterated their more general arguments why we should not apply *ex ante* incentives to drive capex efficiency. These points, and our views on them, have been summarised above (and in previous documents) and are not repeated here.

7.111 In relation to our revised use of delivery obligations, HAL raised the following points:

- The application of delivery obligations does not provide a fair bet to HAL: while the capex allowance will reduce downwards in the event of under-delivery, it will not be increased if there is over-delivery.
- In moving to this approach, the CAA is moving towards an additional *ex post* review of output / quality / time and cost to assess capital efficiency.
- Including a time component alongside *ex ante* capex incentives may result in “double jeopardy”. HAL’s opinion is that there is a direct relationship between late-running projects and budget overspending.
- Including a “quality” dimension is not appropriate as ongoing performance should be reflected in relevant OBR metrics and quality is captured in scope.
- Projects at Heathrow are diverse and complex in nature. They deliver a single solution or serve as an enabler to a wider solution, making it difficult to identify SMART indicators to align with delivery obligations.

7.112 HAL suggested an alternative proposal, whereby a more general Scope Obligation would replace the delivery obligations. The Scope Obligation would incorporate the output quality and standard being delivered but would not include a timing element. Instead, HAL suggested triggers continue to apply to specified projects.

7.113 Taking each of these points in turn, our view is that:

- The purpose of delivery obligations is to ensure that the treatment of any apparent under or overspend on a project takes into account what was expected to be delivered when the baseline was set. This way only genuine cost efficiencies/inefficiencies are rewarded or penalised, rather than higher or lower capex arising from the delivery of a different scope or timing. This helps to ensure that incentives to reduce capital expenditure are equalised with incentives that might otherwise exist to deliver less that was budgeted for. These arrangements do not preclude the prospect of an upward adjustment to budget to account for changes in scope and schedule which are agreed with airlines in advance of delivery of a project (but potentially post G3). A change management process for project baselines (covering scope and schedule) already exists under the Q6 arrangements and we consider that this is fit for purpose under the proposed ex ante framework.[88]
- The *ex post* element of our review arises because it is only on completion of the project that we can determine both the cost incurred and whether the delivery obligations have been met. This is unavoidable and is still preferable to undertaking an *ex post* review to assess capital efficiency. We do not consider that this undermines the *ex ante* incentive properties of our proposals as performance measures and the consequence of underperformance are known in advance of decisions being taken.
- We do not consider the use of *ex ante* capex incentives and a timing element within delivery obligations exposes HAL to an undue threat of double jeopardy – timely and cost effective delivery are two essential elements of efficiency and both should be incentivised.
- We consider that HAL has misunderstood how we expect the “quality” dimension to be determined. To clarify, this is not typically the expected impact upon service quality associated with a capex project. In the context of delivery obligations, the quality dimension relates to any agreed quality or design standard that has informed the capex budget for a project.
- We do not consider that HAL has provided a compelling argument why projects at Heathrow are so diverse and complex that SMART indicators aligned with delivery obligations cannot be defined. It seems reasonable to assume that for any project seeking to agree a budget at G3, there must (or should) be a corresponding definition of what is intended to be delivered.
- Considering the above, we do not agree that HAL’s suggested use of a more limited ‘Scope Obligations’ would be a more effective way of incentivising capex to be delivered efficiently and in line with stakeholder expectations.

[88] HAL refers to this process as the “Client change control” (CCRS).

7.114 In engagement sessions held since we published our Initial Proposals, airlines broadly supported our approach, while also highlighting some potential limitations. One concern raised was that while an individual project might meet its delivery obligations, airlines may still not receive the service enhancements the capex was expected to deliver. An example could be where HAL has delivered the agreed number of new security lanes required to improve passenger processing times. However, due to resourcing, training and other factors the provision of the security lanes does not result in reduced security waiting times.

7.115 We recognise that this is a valid concern. Having category-level delivery obligations would provide more scope for adjustments to be based on the delivery of strategic outcomes. However, for the reasons set out above we do not consider this is viable for the H7 price control. We also note that capex incentives are designed to work in tandem with the OBR framework (discussed in Chapter 3), that delivers broad incentives for quality of service, including queue times at security. In combination, these arrangements should incentivise HAL to achieve beneficial outcomes. We consider that H7 is a progressive step towards this and one that we expect to build upon in future price controls.

7.116 Another concern raised by airlines is that HAL may elect to under-deliver on a project's scope. While our arrangements would avoid HAL benefitting from any associated underspending, airlines may still suffer due to the absent provision of essential infrastructure; our proposals would not apply any additional penalty to HAL other than a reduction to their capex baseline. As we have explained above our proposals will sharpen incentives on HAL compared to the existing arrangements and could be further strengthened at the H8 price control review if the need arises.

Timing incentives and triggers

7.117 We have decided not to apply separate timing incentives associated with the delivery of projects against agreed deadlines. Therefore, even for exceptional, material, complex and strategically important projects, there will be no new triggers in H7. The Q6 triggers and penalties that have been agreed for existing projects will continue, but otherwise this approach will not be replicated.

7.118 The scope and design of delivery obligations will include a timing element, and the capex baseline for projects that are not delivered against agreed deadlines will be adjusted downwards. The level of adjustment will reflect stakeholder views on the importance of meeting agreed deadlines, relative to other delivery obligations.

7.119 In this context, we note HAL's concern that a separate trigger penalty for late-running projects would overlap considerably with the purpose of the delivery obligation. This could distort HAL's decision-making, leading to undue emphasis placed on project timing at the expense of a project's output and quality.

7.120 We recognise that there may well emerge a critical need to achieve certain programme-level outcomes by a prescribed date. In this context, airlines have expressed a concern that the use of project-level delivery obligations set at G3 may not fully reflect these programme-level ambitions. Also, HAL may not have developed a project with enough urgency to bring it to G3 in sufficient time to meet the required dates.

7.121 These are legitimate concerns. However, for reasons given above, we do not consider we it is practicable at present to set milestones at a category-level and on an *ex ante* basis.

7.122 There may also be a risk that HAL delays developing essential projects to a state when they can be brought to G3. We describe below how our enforcement powers could be used where we find evidence that HAL has not been acting in an economic and efficient manner. This could include instances where HAL has unduly delayed essential projects or programme level outcomes, and that this delay has led to a significant detriment for airport users.

Capex envelope uncertainty mechanism

7.123 In setting capex allowances for H7, we are aware that in recent years capex has been constrained and that the investment requirements for the period are affected by the uncertainty around traffic levels and other factors such as changes to legislation to support decarbonisation. As a result, we recognise the possibility that there may need to be more capex undertaken in H7 than we have allowed for in these Final Proposals. Therefore, we will incorporate a new mechanism in the H7 framework to enable the capex envelope to be increased in the period.

7.124 Increases in capex will eventually feed through to airport charges across the longer term, and this will have an impact on consumers. Therefore, it is important that there are governance arrangements in place to deal with such circumstances and that the CAA is involved where this is appropriate.

7.125 The approach that we propose to these matters will work through the application of a cap on the total amount of expenditure on Core and Development projects that HAL will be permitted to recover through airport charges in H7. The value of this cap will be specified in the licence. This cap will be accompanied by a mechanism through which we can direct an adjustment to its value.

7.126 In the first instance, the cap will be set at a value equal to the total sum of Core and Development capex projects that we have allowed for H7 plus a margin of 5%. Therefore, the total cap will be £3,801m in 2020, CPI-real prices.

7.127 We have chosen to apply a margin of 5% to allow some flexibility for HAL and airlines to agree minor increases in the size of overall envelope, without first requiring us to make a direction. We think this should help to avoid undue delay in the progression of essential projects where there is broad consensus on their need.

7.128 This mechanism will apply for capex associated with new scope/projects/ programmes that were not anticipated in the H7 capex plan, and which cannot be accommodated within the associated capex envelope. These new requirements may arise for a number of reasons, including but not limited to changing airline requirements, capacity enhancement, new legislation, or to support accelerated measures to achieve decarbonisation and the challenges of "net zero".

7.129 It is not to be a mechanism through which HAL should seek additional capex allowances for overspending against budgets. Neither should it be used for the transfer of funding between categories where this is not expected to exceed the overall cap.

7.130 Where HAL and/or airlines anticipate a legitimate need for capex within H7 beyond the value of the cap, HAL will be able to apply to CAA for an adjustment to the cap.

7.131 The onus will be on HAL to justify this requirement by presenting to us the type of information that we would normally expect to receive in the course of setting a price control, and which might reasonably be expected to be provided in Investment Committee/G3 papers. This will include:

- structured and comprehensive evidence of need;
- any wider impact associated with the capex, including on OBR performance;
- justification of scope and cost; and
- evidence that airlines have been consulted and their views taken into account.

7.132 We intend to work with airlines and HAL to develop and publish specific guidance on the detailed requirements for a submission. It is our intent that this work will be progressed over summer 2022, so that the application of this framework can go live for Q4 2022.

7.133 If we are satisfied that HAL's application has met our requirements, then we will consult with airlines before deciding on whether to adjust the cap, and if so by how much.

7.134 If the cap is adjusted, HAL revenues will be allowed to increase so that they can develop the required projects. The existing governance arrangements would still be required to oversee transition from Development to Core and airport charges would only flex to reflect actual capex incurred on Core projects.

7.135 We will provide HAL with two windows in which they can make an application to us for an adjustment to the cap. These will be:

(a) 1 February 2024 to 31 March 2024; and

(b) 1 February 2025 to 31 March 2025.

We will also use these windows to consider airline proposals for new capex.

7.136 We consider that limiting applications to these windows provide an appropriate opportunity to bring forward well-developed proposals to adjust the overall capex envelope for significant changes that may have arisen. We consider that more windows would increase both regulatory uncertainty and the regulatory burden on all parties, and in the context of the remaining four years of the price control are likely to be unnecessary. For instance, the requirement for additional expenditure across the entirety of the period that may be identified in 2023 can be rolled into any application made in 2024. Similarly, it may be more suitable to consider a requirement arising after 2025 as part of the H8 price control.

7.137 In exceptional cases, HAL may seek our consent to make an application outside of these windows. This approach retains some limited flexibility in the arrangements, and we would expect to grant consent only where the need for a decision was urgent and where it would not be in the interests of consumers for an application to wait.

7.138 To the extent that the additional investment facilitated by a change in the cap will affect service quality metrics within the OBR framework, we would expect such impacts to be clearly articulated in HAL’s submission. If the CAA approves the increase in capex, HAL should work with airlines to appropriately reflect any impact on the OBR metrics (for example by agreeing an enhanced set of targets) when it seeks approval through the governance framework for the specific investments that will allow such performance improvements.

7.139 We consider that our decision on a mechanism to adjust the capex envelope will further the interests of consumers having regard to:

- the need to secure that the reasonable demands of consumers for AOS are met; and
- the need to secure that HAL can make environmental mitigations

as these demands may change over time. In addition, we note that this mechanism can support additional expenditure that is deemed necessary in H7, for example to mitigate environmental effects to the extent not already covered by the expenditure allowed as part of the H7 capex envelope as part of these Final Proposals.

7.140 The proposed mechanism is set out in the drafting of Conditions Appendix C (Notice of the CAA's proposal to modify HAL's licence).

Promoting economy and efficiency

7.141 The application of *ex ante* capex incentives should further the interests of consumers by being a more effective way of driving HAL to seek out efficiencies in its delivery of expenditure, so promoting, for example, better quality investments at a lower cost than would otherwise be the case. Any savings are partially shared with airlines and we expect to use revealed information on what can be delivered for less than the baseline allowance to set tighter allowances in future.

7.142 However, we are aware that an *ex ante* regime can alter some incentives on HAL. For example, in theory there may be an incentive for HAL to:

- Develop higher cost estimates at G3 than it would have previously;
- Not develop potentially viable and lower cost options to deliver projects; and
- Not progress essential but potentially complex projects through the development process in a timely manner.

7.143 The governance processes can help to mitigate these risks, including the role of airlines. However, if we were to find evidence of the above behaviour either during or at the end of H7 then we will consider using our investigatory powers to determine whether such behaviours might raise issues for HAL's compliance with the requirement to act in an economical and efficient manner set out in its licence at Condition B3. To support this, we will review the reporting that we receive from HAL to ensure we have visibility on its approach to establishing cost estimates for G3. We will be particularly mindful of any systematic increase in the proportion of costs being assigned to common cost categories, such as Risk, Leadership and Logistics, Design, compared to historical G3 allocations. Enhanced reporting should also allow us to track outputs delivered against agreed scope for lower value projects.

7.144 Among other information that may become available to us, we will also consider reports from IFS and airline feedback. If this indicates that development options have not been adequately considered, or if project development has been unduly delayed leading to a detriment for airport users, then this may be relevant for our oversight of HAL's behaviour.

Table 7.3: Summary of our overall approach for H7 capital efficiency incentives

High-level proposal	We will move to an *ex ante* framework where HAL's performance is measured against cost baselines agreed in advance of delivery. In the first instance, the baselines for individual capex projects will be set based on G3 values.	
	Capex categories and baselines	**Delivery objectives / obligations**
Start of H7 **The price setting process**	The overall H7 capital envelope is set by the CAA, based on the level of capex HAL has demonstrated is needed through its H7 capex plan. The envelope is split into capex categories, based on HAL's proposed programmes and our own analysis.[89] Capex categories should include projects that have common outputs / objectives and similar levels of risk and controllability. Each capex category will have an indicative baseline. This would be the sum of forecast development and core expenditure. The purpose of the indicative baseline is to have (i) a clear initial forecast associated with a high-level objective for each capex category, (ii) track changes within period, and (iii) a clear line of sight from these to the final baseline (see below). This would enable airlines and CAA to have a good oversight of changes that occur compared to the initial plan. The sum total of Core and Development baselines associated with all categories represent the Capex Envelope in which HAL will be expected to operate within	Each capex category should have a SMART[90] high-level statement of what HAL is seeking to deliver, and the reasons it has prioritised this spending. This would be the delivery objective, defined at the capex category level. **Delivery obligations** Each project within a programme must have its own delivery obligations specified at G3 and agreed with airlines. These delivery obligations should specify each project's expected: • Outputs; • Quality; and • Timing Airlines and HAL will also agree at G3, the level of adjustment to capex baselines that will apply during reconciliation if a project's delivery obligations are not met, and the indicators that will used to determine delivery. **Timing incentives**

[89] This can include analysis by our consultants, such as the work undertaken by Arcadis which is further detailed in this chapter.

[90] Specific, Measurable, Achievable, Realistic, and Timely.

		Other than Q6 projects that are subject to triggers and that continue into H7, there will be no additional triggers or penalties applied for late delivery of projects.
During H7 **Enhanced governance arrangements**	As projects in HAL's portfolio move through the governance process, the indicative baselines would be updated to reflect G3 values for individual projects (when agreed). Adjustments to the G3 baselines would only happen where changes are agreed with airlines through a change control process as part of the enhanced governance process. The CAA would also have a role as part of the G3 or change control process: as a minimum this would be an "arbiter" role as in Q6.	When any post-G3 adjustments to baselines take place during the period, the delivery obligation may also need to be updated to reflect changes in project scope. The CAA would have a role as arbiter in circumstances where HAL and airlines do not agree on either new delivery obligations (where projects pass G3) or changes to existing delivery obligations. We will also consider during the implementation stage of our policy whether we need to have a role in approving delivery obligations to ensure that outcomes are in consumers' interests.
Capex baseline reconciliation	Reconciliation will be at the capex project level. The CAA will use performance against delivery obligations to adjust the capex baseline to reflect performance and in line with the values agreed between HAL/Airlines at G3 for under delivery. Following this adjustment, the revised baseline becomes the final baseline. Reconciliation would involve comparing HAL's actual spending for each capex project to the final baseline. HAL will bear 25% of any overspending compared with the final baseline or would get to keep 25% of any underspending (these adjustments would be applied to the RAB).	
Capex envelope uncertainty mechanism	Capex across all programmes will be capped at the value of the Capex Envelope specified in these Final Proposals. Expenditure beyond this value will not be reflected in airport charges, unless HAL have requested CAA to adjust the value of this cap during one of the two application windows provided in H7.	

Implementation

7.145 In this chapter, we have set out the essential details of the capex incentive framework that will apply in H7. We recognise that further work still needs to be completed to support the implementation of this framework.

7.146 Throughout the summer of 2022, we will work with airlines and HAL on developing this additional material. This will incorporate:

- agreeing the basis on which delivery obligations will be assigned to projects, or tranches of projects, and used as part of the reconciliation in the event of under-delivery;
- confirming the timescales within which the reconciliation of performance against adjusted capex baselines will take place;
- establishing reporting requirements to track the delivery of capital expenditure, allocation of cost against common cost components and performance against delivery obligations;
- providing direction on changes necessary to governance arrangements and information protocols to ensure airlines have sufficient information to be able to meaningfully agree capex baselines and delivery obligations at G3. This will also incorporate the role that the CAA will play in any disputes that may arise between HAL and airlines. We expect this direction to enable the Capital Efficiency Handbook to be subsequently revised; and
- specifying information requirements to accompany an application for an adjustment to the capex envelope.

7.147 We intend to complete this work in Autumn 2022, so that the application of these Final Proposals for capex incentives will ‘go live’ for Q4 2022. This will mean that *ex ante* incentives will apply to projects that progress through G3 to Core during or after Q4 2022. Core projects that are already in progress will not be subject to these incentive arrangements. Instead, we will consider the efficiency with which these projects have been delivered at the end of H7.

Chapter 8

Other Regulated Charges

Introduction

8.1 Other Regulated Charges ("ORCs") are charges for specified services and facilities that are collected separately from the regulated airport charges (which are subject to the price control). In general, ORCs are levied on a "user pays" basis.

8.2 These services and facilities currently include the provision of baggage systems, check-in desks, heating, water and electricity utility services, and common IT services. These are all necessary services for airlines and non-airlines (such as ground handlers) to be able to operate at Heathrow airport.

8.3 The costs of providing these services and facilities form part of HAL's cost base and the revenue associated with these charges is included in the single till calculations used to set the price control. Therefore, consideration of ORCs is an important part of the overall price control review.

8.4 Until recently the ORC framework had worked relatively well. However the impact of the pandemic on demand for services and the recovery of costs has revealed a number of weaknesses with the existing arrangements. Given the importance of ORCs, it is in users' interests that the way their costs and revenues are regulated ensures that consumers are not exposed to higher costs than necessary to provide the services, and the costs of those services are appropriately levied on those parties that make use of those services. Our work on this price control review has indicated that some refinement of the current arrangements would benefit consumers.

8.5 This chapter sets out:

- a summary of our Initial Proposals for ORCs;
- stakeholders responses to those Initial Proposals; and
- our final proposals.

8.6 Consistent with the approach set out in Initial Proposals, the main issues covered in this chapter include HAL's proposals for:

- a move to a **marginal cost approach** under which the fixed infrastructure costs (known as “annuities”) and allocated costs of particular services would, in future, be recovered through the regulated airport charges rather than ORCs;
- **changing the scope of the ORCs** by moving all costs for check-in facilities, IT, heating and gas so that they are recovered through regulated airport charge, because these benefit all passengers;
- **consolidating business rates from the regulated airport charges and individual ORCs into a single, separate ORC**, which would allow for greater transparency and governance of the charges;
- **moving charges for bus and coach services out of ORCs** and into individual commercial arrangements to facilitate more differentiated services to bus and coach operators;
- **introducing flexibility into the licence to allow additional ORCs to be added** to the list of specified services within the H7 price control period; and
- **improving the governance arrangements,** especially around dispute resolution and CAA's role in that process.

8.7 In the Initial Proposals we welcomed the broad agreement between HAL and airlines on most of these matters, but noted that two issues remained unresolved. These were:

- the consolidation of all business rates as a separate ORC; and
- moving charges for bus and coach services onto a more commercial basis.

8.8 All these issues are addressed further below, including the additional representations we have received on matters such as governance. We also set out the projections of the ORC revenues for the H7 period that we have included in the single till calculations that support the setting of the price control.

Marginal cost approach

Summary of our Initial Proposals

8.9 The Initial Proposals noted the advantages of setting ORCs on the basis of the marginal cost of the services provided. We said that this would:

- allow ORCs to focus on the costs that airlines could influence;
- simplify the calculation of unit costs on a user pays basis; and
- make dealing with significant downturns in volumes more manageable in the future.

8.10 We also said this approach would:

- help improve the effectiveness of the governance arrangements;
- make the price control arrangements more effective and transparent in the interests of consumers; and
- provide for greater stability and efficiency of the pricing arrangements by removing fixed and allocated cost elements from the ORCs where practical and reasonable and including these elements in the airport charges (which will have the additional protections offered by the TRS arrangements described in chapter 2 (Regulatory framework)).

Stakeholders' views

8.11 In general, respondents expressed their support for adopting a marginal cost approach to ORCs in H7 and agreed that this should provide greater stability and efficiency for pricing arrangements. Some respondents commented on the need to ensure transparency in the way HAL allocates ORCs costs. We address those issues in the section below on improved governance arrangements.

Our views and Final Proposals

8.12 The advantages of marginal cost pricing arrangements set out in the Initial Proposals remain valid. An efficient and effective approach to calibrating ORCs will support effective price control arrangements and be consistent with the interests of consumers by ensuring that they do not pay more for these services than is necessary.

Changes to the scope of ORCs

Summary of Initial Proposals

8.13 In the Initial Proposals, we agreed with HAL that there appear to be benefits to some of the proposed changes to the scope of the ORCs to reflect how:

- the services and facilities are used; and
- airlines can influence the associated costs.

We also agreed that there should be greater flexibility to introduce new services into the ORCs framework during H7 to ensure transparency and collaborative governance of the costs and revenues.

8.14 We considered that check-in desks and automated check-in facilities, gas, heating, and common IT services (including WLAN) could be removed from ORCs and recovered through the airport charge instead because they are provided for the benefit of the generality of consumers.

8.15 However, we were not convinced that treating business rates as an ORC would be consistent with the move to a marginal cost approach. We suggested that business rates should continue to be recovered through the airport charge but with improved governance to allow airlines to understand these charges better. We also proposed that the airlines' share of the business rates that are currently recovered through the individual ORCs should be moved into the airport charge for clarity and consistency.

8.16 We also said that we would reserve our decision on the treatment of bus and coach operators to allow for further representations on that proposal. Although there was the potential to include new winter resilience services (such as consolidated de-icing) and cargo services into ORCs, this should be subject to agreement between HAL and airlines in the future.

Stakeholders' views

8.17 BA said that AOC/LACC had already rejected the inclusion of winter resilience services in ORCs and queried whether the potential for their inclusion was in error. It agreed that the benefits of IT services, heating and gas are generally spread across all passengers and so there was no compelling reason to keep these separate from the airport charge. It also felt that similar considerations should apply for check-in desks and automated check-in facilities.

Our views and Final Proposals

8.18 As we explained in our Initial Proposals, a flexible and agile ORCs framework and one which encourages transparency and collaboration is in the interest of consumers. There was broad support from stakeholders to remove check-in and automated check-in, gas, heating, and WLAN and common IT services from ORCs into the airport charge on the basis that these services are used by all airline passengers.

8.19 We confirm that:

- we are proposing to include provisions that will give HAL and airlines the opportunity to agree to add new Specified Facilities to (or remove them from) the list of ORCs in Condition C2 if (i) they collectively consider this to be in the interests of consumers in the future and (ii) we agree (see paragraph 8.40 below). This approach retains flexibility in the scope of the Specified Facilities, which we consider to be in the interests of consumers;
- we support HAL's proposal to remove bus and coach services from the ORC framework so that they can move onto more dynamic commercial arrangements; and

- business rates should largely remain in the airport charge. The exception to this is that elements of business rates solely relating to non-airline use, in line with the ORC 'user pays' principle, should not be accounted for in the airport charge as discussed further below.

8.20 We consider that these proposals further the interests of consumers by ensuring that those costs which appropriately fall within the scope of the user pays principle fall within the scope of ORCs.

Business Rates

Summary of Initial Proposals

8.21 We did not agree with HAL's proposal to move business rates out of the airport charge and into ORCs as these do not represent a marginal cost and are not appropriate for dealing with through ORCs under the user pays principle. Bringing such a large sum of fixed costs into ORCs could exacerbate the problem of under recovery of ORC costs experienced over the last two years. We also considered that moving business rates into ORCs was not the only way to ensure transparency and good governance. Indeed, we considered that using the existing ORC governance structure to discuss business rates would be difficult as it would require different expertise from that which is typically required in relation to the discussion of ORCs and would distract from the collaborative approach to managing more operational ORCs.

8.22 We proposed to retain the existing 80/20 risk sharing arrangement to incentivise HAL to negotiate efficient valuations with the Valuation Office because encouraging HAL to actively manage the valuation process is firmly in the interests of consumers. Our Initial Proposals involved consolidating all business rates accruing to airlines as an operating cost and retaining the existing risk sharing arrangements. We explained that residual costs allocated to third parties should be treated as an ORC. This would ensure that business rates could be managed effectively under the price control and governance arrangements which should serve the interests of consumers in the long term.

Stakeholders' views

8.23 HAL confirmed that it had removed business rates from its updated ORC forecasts in the RBP update 2. However, HAL disagreed with our proposal to retain the 80/20 incentive mechanism pointing to a business rates revaluation that it is expecting to take effect in 2023. HAL said that it should have notice of the outcome of the valuation process by mid-2022 and that a pragmatic solution would be to include the final valuation from the start of 2023.

8.24 As for our proposal that residual business rate costs allocated to third parties (estimated by the CAA at £6 million) should be treated as an ORC, HAL explained that the only relevant business rates that were charged through the non-airline ORC were for the “taxi feeder park” and amounted to about £60k. HAL considered that it would be more proportionate and transparent to move all business rates costs into the airport charge.

8.25 Other respondents generally agreed with our proposal to keep business rates in the airport charge. Respondents cited that business rates did not meet the definition of ORCs, nor were they consistent with the marginal cost approach. BA also questioned whether the 80/20 incentive mechanism was needed. VAA, on the other hand, said that the 80/20 risk sharing arrangements were needed to incentivise the negotiation of efficient business rate valuations.

8.26 BA supported the non-airline business rates costs being charged through as ORCs as, under the user pays principle, third parties should pay for the services they were using.

Our views and Final Proposals

8.27 As explained in our Initial Proposals, moving a large fixed cost such as business rates into ORCs does not fit with the marginal cost approach that all parties have agreed to, and could lead to the same issues of over and under recovery of ORCs that have been experienced in the last few years. Furthermore, we do not consider that treating these costs as ORCs is the only way to improve the transparency of charges or ensure better governance and, therefore, is not required to ensure efficiency or to further the interests of consumers.

8.28 Nonetheless, an important principle for ORCs is that they are set on the basis of ‘user pays’. For business rates this means that those elements of business rates that are solely related to non-airline parties should not remain in the airport charge.

8.29 We have reviewed with HAL how the business rates are shared between users of the different ORCs and agree that the estimate we made in Initial Proposals was incorrect. However, we note that, as well as the £60k identified by HAL for the taxi feeder park, there is an element of business rates charges associated with solely non-airline users amounting to £1.3m . We will, therefore, require HAL to retain this relatively small proportion of business rates in the ORC charge and allocate them to the appropriate non-airline users. This is reflected in our revised ORC H7 forecasts (see below).

8.30 We have reconsidered the need for an 80/20 incentive mechanism as negotiations between HAL and the Valuation Office for the next business rates cycle will conclude before we come to make the final decisions on the H7 process and the next revaluation will not happen until H8. Given this practical timing issue, we have decided that it is not appropriate to apply an incentive mechanism for the H7 price control period as this will not promote the interests of consumers in any meaningful way.

8.31 However, we consider that HAL should continue to be incentivised to negotiate on business rates that will come into effect for the H8 period and will consider how best to achieve this objective as part of the work that will support the H8 price control review.

Bus and coach services

Summary of Initial Proposals

8.32 In our Initial Proposals we acknowledged that there may be some advantages to moving bus and coach services out of ORCs and into their own separate commercial arrangements. However, we were also aware that airlines and other stakeholders had not had an opportunity to provide a formal view on this proposal from HAL.

Stakeholders' views

8.33 HAL put forward two reasons for moving bus and coach services out of ORCs. The first, as part of its surface access strategy, was that HAL said it needed flexibility to set charges to attract the correct provision of services to the airport and offer differentiated pricing to incentivise the best use of airport assets. Second, it explained that the nature of the bus and coach market was such that bilateral engagement with bus and coach companies was required and that the multilateral cost recovery ORC framework was not best designed to facilitate such an approach.

8.34 BA stated that although it was unclear why these services were included in the ORCs in the first place, changing their treatment would now require them to be forecast within commercial revenues. BA sought assurance that these effects would be modelled consistently across all other building blocks.

8.35 AOC/LACC and VAA said that they were open to understanding the merits of this proposal from HAL and would welcome the opportunity to comment further.

Our views and Final Proposals

8.36 As we set out in the Initial Proposals, we consider that there is merit in moving bus and coach services out of ORCs and onto a more commercial footing to allow HAL to incentivise the best use of airport assets which will ultimately be in the interest of consumers both now and in the future.

8.37 Similar reasoning could also apply to the taxi feeder park. As a result, these might be an appropriate candidate for removal from the definition of specified facilities if HAL and airlines agree to move these services out of the ORC framework after consultation with relevant stakeholders in accordance with the ORC governance process.

8.38 Nonetheless, we expect HAL to adopt a reasonable degree of transparency in respect of its charges for bus and coach services as these are of importance to passengers looking to travel into and out of Heathrow airport. We expect HAL to continue to include bus and coach revenues in its commercial revenue streams for the purposes of the single till and would expect the same treatment in relation to any other continuing activity that is removed from the definition of specified facilities in the future.

8.39 We have amended our H7 ORC forecast to reflect bus and coach services moving out of ORCs and have made a corresponding adjustment to our projections of HAL's commercial revenues.

Governance arrangements

Summary of Initial Proposals

8.40 In the Initial Proposals, we said that we were minded to include a new provision in HAL's licence to allow changes to the list of specified services in Condition C2 (Charges for other services) by notice where there was consensus between HAL, the Airlines and the CAA that it was appropriate to do so.

8.41 We also set out our proposal to make some changes to HAL's licence explicitly to require HAL to update and agree the existing ORC governance protocol with airlines and to comply with it. We also suggested that we should have a clear and proportionate role in determining disputes relating to the protocol.

8.42 We explained that these changes were needed because the under recovery of ORCs in 2020-2021 highlighted weaknesses in the existing governance and dispute resolution mechanisms. The measures we proposed were intended to ensure that the ORC arrangements continue to deliver of benefits to consumers and avoid disputes between HAL and airlines ending in deadlock.

8.43 We proposed amendments to Condition F1 (Consultation and Governance conditions) in HAL's licence in the Draft Licence Consultation [91] which would require HAL to develop, consult on, and agree governance and consultation arrangements with relevant parties (through handbooks, protocols or other arrangements) for, amongst other things, ORCs. These arrangements would establish clear rules, processes, and information requirements to allow relevant parties to scrutinise, agree and /or, where relevant, challenge and propose amendments to ORCs. We also proposed including a new provision to ensure relevant parties are consulted for no less than 28 days on proposed changes to

[91] CAP2275: Economic regulation of Heathrow Airport Limited: H7 Initial Proposals – Draft Licence Modifications (caa.co.uk)

ORCs, with some additional details of information to be provided during that consultation.

8.44 We also proposed new provisions which would allow the CAA to make any directions that it sees necessary to ensure HAL's compliance with the requirements above and to allow HAL to request a determination from the CAA in the event of a dispute between HAL and relevant parties on the development of the arrangements.

Stakeholders' views

8.45 HAL acknowledged that work was needed to refine the ORC protocol and particular changes were required to address under and over recovery against actual costs. However, HAL did not agree that further licence conditions or controls were required.

8.46 HAL advised us that its preference was to commence engagement on the drafting of the H7 protocol in 2022 and in parallel with the CAA's H7 process to ensure consistency. HAL highlighted three key areas that require review and clarification:

- escalation processes;
- governance groups; and
- under/over recovery timelines and repricing.

HAL also proposed to add greater clarity on the level of information provision in the H7 ORCs protocol document (based on its Q6 experience and user feedback).

8.47 HAL raised concerns with our proposed licence modifications, claiming that:

- there was an increased risk of a technical breach of HAL's licence if it failed to 'agree' on a number of areas (within the protocols) with a wide range of stakeholders;
- the CAA's definition of relevant parties was too wide and should be limited in scope to airlines and ground handling service users only;
- the proposed modifications could give the CAA unfettered regulatory powers which could circumvent the checks and balances in the CAA12 that are designed to protect HAL (as the licensee);
- there was a risk that the proposed modifications, which extend the scope to 'governance' as well as consultation, creates a new role for the CAA in second guessing HAL's business decisions. HAL questioned if CAA had the statutory power to do this; and

- the information requirements proposed to be placed on HAL by the CAA through the proposed licence modifications (in both Conditions C2 (Charges for other services) and Condition F1 (Consultation and Governance conditions) should be proportionate and should not seek to intercede between airlines, and other users into HAL's commercial dealings.

8.48 HAL supported the inclusion of a self-modification provision in Condition C2 (Charges for other services) but suggested that the CAA should not give itself the right to make a determination to change the licence if there was no agreement between it and airlines. It said any changes to the licence where there was no agreement should only be made through the modification provisions set out in section 22 of the CAA12 with the associated appeal rights.

8.49 HAL also agreed that disputes needed to be resolved in a transparent and timely manner but suggested that any dispute resolution role for the CAA should be limited to determining procedural matters only.

8.50 BA, VAA and AOC/LACC all supported our proposed changes to strengthen the governance protocol by means of a licence condition. AOC/LACC suggested that we should have the ability to intervene, and make determinations, as we see fit on any matter raised in the consumer interest including material decisions taken by HAL post finalisation of the H7 settlement. They also suggested further enhancements within the licence would be required to secure HAL's compliance with such protocols or provision of appropriate information to relevant parties.

8.51 AOC/LACC questioned our proposal to remove references to charges that are subject to Condition C2 (Charges for other services) in HAL's licence suggesting that they would not support that proposal.

8.52 BA said that we should give guidance and be involved in the development of the new governance protocol given the disputes over the last two years, including HAL's interpretation of the protocol. AOC/LACC said that the CAA should have a visible presence and play a part in agreeing a new protocol to ensure:

- clarity on transparency of cost;
- effective and balanced governance; and
- clear criteria escalation processes.

8.53 The Arora Group ("Arora") said that non-airline operators should be put on a level footing with airline operators in the proposed licence conditions in their ability to raise objections and receive information. Arora also stated that the licence modifications should include a dispute resolution mechanism and a right of appeal for non-airline operators. It also called for more transparency in the way that HAL recovers its charges, especially around its annuities, allocated and fixed costs and suggested a number of amendments to the HAL licence, such as:

- requiring HAL to competitively benchmark utility services at the airport;
- allowing for independent audits of all ORC charges;
- building in more CAA oversight to ensure HAL's compliance with ORC methodology statements; and
- providing a stronger set of controls on HAL's ability to make unilateral changes to costs and charges.

Our views and Final Proposals

8.54 As set out in our Initial Proposals and Draft Licence Consultation, we continue to be of the view that our proposed amendments to HAL's licence to strengthen governance measures are needed to ensure that the ORC arrangements retain flexibility and enable them to continue to deliver benefits to consumers. We also consider that this is a proportionate means of dealing with the weaknesses that the under-recovery of ORCs in 2020 and 2021 highlighted.

8.55 Anchoring ORCs arrangements in the licence will ensure a level of certainty is provided to parties as they work together to develop new improved governance protocols and can provide for an effective dispute resolution process. This is important given the feedback from airline and non-airline users around the misinterpretation of the status of the ORC's protocol document and the failure of the current dispute mechanisms to resolve issues over the last two years.

8.56 A key principle of the ORCs is that HAL and airlines can work collaboratively to ensure that the services are provided to the right standard and at an efficient price, with all the relevant governance for this collaboration developed and agreed between the parties. Condition C2 (Charges for other services) sets out the regulatory requirements for transparency of costs of the specified facilities and reporting requirements. Condition F1 (Consultation and Governance conditions) sets out the requirements to develop and agree the relevant arrangements for governance and consultation but leaves the content and structure of those arrangements largely up to HAL and airlines to work out, other than needing to follow any guidance from the CAA.

8.57 These provisions anticipate that there may be times where agreement on these arrangements is not possible and there is provision for the CAA to step in to resolve this if necessary. Indeed, this provision has already been used to resolve disagreements on the "Service Quality Protocol" during Q6. If the parties do not agree with the CAA's determination, they are still able to continue to seek to agree a different solution.

8.58 However, in light of the comments from respondents to both the Initial Proposals and Draft Licence Consultation, we have amended our proposed modifications to both conditions to better reflect our policy intentions around governance. In particular, we have amended the obligation on HAL so that it is required to use reasonable endeavours to agree the required materials. We consider that this approach ensures that the proposed changes are proportionate.

Self-modification provision in the licence

8.59 We confirm our proposal, as set out in the Draft Licence Consultation, to allow a self-modification process within the licence to add or remove items (such as electricity and water or sewerage services) from the list of "Specified Facilities" by notice. Allowing HAL and airlines to agree changes to the services covered by the ORC regime will inject a degree of agility and flexibility into the ORCs framework and so make it more efficient. The CAA will have a role in making the final decision on any changes to ensure that it is in the interest of consumers. Any new services added must fit the agreed criteria for ORCs and HAL will be required to demonstrate that it is appropriate to recover these costs through ORCs.

8.60 We have reconsidered the self-modification procedure in the light of HAL's comments that the CAA should not give itself the right to determine a licence modification under this procedure if either it or airlines do not agree with that modification. Having reflected further, if a modification were to be necessary in the interests of consumers, but HAL and airlines are not agreed on it, we should follow the modification process in section 22 CAA12. We have therefore amended the proposed drafting of Condition C2.3 accordingly (as set out in Appendix C (Notice of the CAA's proposal to modify HAL's licence)[92].

Governance and developing the Protocol

8.61 As set out in our Initial Proposals, we continue to be of the view that the ORC governance process requires strengthening through stronger links to the licence. There has been confusion between parties over the status of the ORC protocol document and HAL's obligations under it. Our view is, considering the dispute that has arisen over the last two years on HAL and airline engagement on ORCs, that there is a pressing need for greater clarity, consultation, and transparency across the ORC governance process. We note that underpinning the protocols in HAL's licence creates a strong incentive on HAL but it is in the interest of all parties and, therefore, consumers to make the ORC governance process work to ensure that the right costs are allocated to the right parties. To that end, we

[92] A similar approach was also included in the self-modification provisions in Condition D1 (Service Quality) and, for the same reasons, we are also proposing to remove it from that Condition – see chapter 3 (Outcome Based Regulation).

would expect all ORC users to agree to a ‘binding’ set of ORC conditions in the new ORC protocol.

8.62 We note HAL’s comments that our proposals should not give us unfettered regulatory powers and that neither we, nor the airlines, should be interceding in HAL’s commercial decision-making process. However, given the nature of ORCs as a pass-through cost, it is important that airlines and other ORC users are able to seek assurance from HAL that any services that it procures on their behalf are scoped and delivered with ORC users in mind.

8.63 ORC users should have the ability to seek assurance and provide effective challenge from a value for money perspective. Given the key ORC principle that HAL and airlines should collaborate to ensure that these services are supplied at an appropriate cost level of service. ORC users’ views should be sought, their requirements understood and be taken into account before HAL develops the scope of its contracts and puts them out to tender.

8.64 We note that HAL provides a significant amount of information to ORC users but that it may be limited by its contractual arrangements from providing the full information that users may wish to see. We consider that the real challenge is for HAL to provide better quality information, at the right time, and to increase the transparency of the information provided and the procurement activity it undertakes through a programme of focussed and value-add engagement. With that in mind, we are not proposing to make significant changes to the provisions Condition C2 (Charges for other services) related to the types and level of information HAL must provide to the CAA and/or publish, but we will expect HAL and airlines to agree, through the governance arrangements required under Condition F1 (Consultation and Governance conditions), the detail of the information provision that is needed for each ORC.

8.65 In the context of ORCs and the challenges that have been raised over the last two years, it has become increasingly apparent that there has been significant disagreement over a number of aspects of ORCs, largely around costs and pricing. Our Final Proposals address these issues in a way that we consider is proportionate as they are designed to allow the CAA the opportunity to intervene where meaningful commercial negotiations between parties have broken down and where genuine disputes exist. This also includes any disputes in establishing the ORC governance protocols themselves.

8.66 HAL has also suggested that by enshrining ORC protocols in the licence that it may be at risk of technical breach as it tries to seek agreement from a wider base of ORC users. As noted above, we have clarified the obligation on HAL to require it to use “reasonable endeavours” to agree the protocols.

8.67 Our Final Proposals (as reflected in the drafting of Condition F (Consultation conditions) in Appendix C (Notice of the CAA’s proposal to modify HAL’s licence) puts these arrangements on a more formal setting and, as set out above, they would allow CAA the opportunity to intervene where there are genuine and material disputes.

8.68 Furthermore, we do not see the need to limit who may raise an issue with us for resolution provided that they are currently a specified user of an ORC service. To do otherwise, could result in the build-up of disputes and more deadlock situations which would run counter to the consumer interest and is the very thing our proposals are designed to avoid.

8.69 We note that airlines have requested CAA oversight and guidance on the development of ORC protocols. We intend to publish high level guidance in Autumn 2022 in time for next year on ORC protocols that should assist both HAL and ORC users in developing a new and robust set of ORC protocols. As set out above, where parties fail to reach agree on any aspect of the protocols then CAA may be requested to step in and resolve a specific dispute. That said, we will expect parties to demonstrate that they have entered into meaningful negotiations before referring disputes to us. We also expect parties to demonstrate senior management involvement in seeking resolution during negotiations on an issue and in the process of referring a dispute to CAA to resolve.

Marginal cost approach for non-airline users

8.70 On ORC pricing and transparency, we consider that there is a need for added safeguards to ensure that the ORC charges are allocated in a fair and reasonable manner.

8.71 We note that HAL has moved some non-airline fixed costs and annuities into the airport charge (around £18 million per annum over the H7 period) which runs counter to the ORC ‘user pays’ principle. We consider that these non-airline charges should remain in the ORC framework. We also propose to require HAL to appoint an independent reviewer, in consultation with ORC users and the CAA, to carry out a one-off review of HAL’s allocation of the costs of the Specified Facilities between airlines and non-airline users to validate that they have been allocated on a fair and reasonable basis. This validation should be in the form of a report provided to the CAA, which should also be shared with the ORC governance group and other ORC users. This new requirement will be reflected in a modification to Licence Condition C2.4. Further details of this mechanism are set out in Appendix C (Notice of the CAA’s proposal to modify HAL’s licence).

8.72 In the event that the one-off review identifies significant issues, these may need to be addressed by means of a change to the Licence, for example through the introduction of a new adjustment term in Condition C1 (Price Control) to ensure that the results of the review would not create windfall gains or losses for HAL.

Dispute resolution for ORC operational matters

8.73 For dispute resolution on operational or commercial matters, rather than on ORC's protocols, our preference is for HAL and ORC users to agree how a dispute resolution function should work and to build that into the governance arrangements. To that end, we have set out below the high-level principles around which a dispute resolution function should be based. In particular, the dispute resolution function should:

- be independent of either party raising a dispute;[93]
- lead to decisions that are evidence-based and binding on both parties;
- use a process that is accessible, transparent and reasonable;
- allow CAA to refuse to hear certain disputes (for example on materiality and subject to certain deminimus levels):
- bring outcomes that are transparent so that lessons can be learned and repeated disputes on the same issue avoided where possible; and
- enable the timely, efficient, and effective resolution on disputes.

8.74 We would also expect parties to have entered into meaningful negotiations prior to raising a dispute and respond to information requests in a true and complete manner. As set out above, we expect parties to have taken all reasonable steps to resolve the disuptes themselves including ensuring the involvement of senior management in the negotiation process and in referring the dispute to the CAA. There will also be a need for the dispute resolution scheme to have rules on dismissing frivolous requests for disputes, and timelines within which to submit a dispute.

8.75 As set out above, we intend to publish guidance on governance protocols and dispute resolution function in Autumn 2022 which will provide further details on the high-level principles and dispute resolution scheme rules.

Summary

8.76 We consider that these changes, taken as a whole, will further the interests of consumers by ensuring that the governance arrangements are fit for purpose to ensure that the ORC arrangements are sufficiently flexible to deal with changes in a timely way and subject to appropriate governance and scrutiny. In summary our FPs on governance and dispute resolution will require HAL to:

[93] The party resolving the dispute does not necessarily need to be the CAA other than on matters directly related to the Licence.

- develop, consult and agree governance and consultation arrangements for amongst other things charges for other services (ORCs) with relevant parties;
- establish clear rules, processes and information requirements to allow relevant parties to scrutinise, agree and/or where relevant challenge and propose amendments to charges that are subject to Condition C2;
- ensure relevant parties to be consulted for no less than 28 days;
- provide relevant parties a report setting out:
  - the revisions proposed;
  - representations made and not withdrawn; and
  - details of how the representations have been taken into account, including any revisions to the proposed changes as a result of such representations;
- provide a suite of governance documentation (guides, handbooks, protocols) to cover the proposed requirements;
- appoint an independent person to review HAL's ORC prices including the appropriate allocation of fixed costs and annuities in the implementations of HAL's marginal cost pricing for ORC services; and
- allow CAA to resolve any disputes on the ORC protocols (including the construct of the protocols themselves) and allow CAA (or another appointed independent person) to make a determination in the event of a dispute between HAL and specified users of ORC services.

Other issues raised by respondents

8.77 Hilton Garden Inn (HGI) said that we should consider amending Licence Condition C2 to ensure that HAL's prices for utilities such as electricity are set efficiently and in the interest of consumers, whether by a market comparison or by putting in place specific price caps. HGI also suggested that consideration should be given to using the CAA's OBR framework to drive efficiencies in the provision of ORC services. A similar point was also made by BA, who considered that OBR obligations should apply to ORC services and facilities.

8.78 HGI has also suggested that relevant consumers should be reimbursed for overpayments made to HAL in respect of ORCs that have been levied in previous years that have inappropriately included fixed costs.

8.79 Arora said that ORCs impact the consumer interest in a similar way to airport charges and that HAL should be sufficiently regulated by the CAA and its licence so that it cannot unfairly exploit its position as dominant airport operator towards non-airline operators.

Our views and Final Proposals

8.80 As set above, we have decided to implement a one-off independent review of ORCs. This is a proportionate and transparent solution to ensure that HAL sets ORC shared charges on a fair and reasonable basis.

8.81 Our OBR proposals are not designed with ORCs in mind and ORC users should work with HAL to ensure efficiency and an appropriate quality of service. As set out above we have developed a proportionate approach to the regulation of ORCs. Wider complaints relating to alleged exploitation of dominant position are a matter for the relevant competition authorities: jurisdiction to determine those matters depends on the particular statutory regime relating to the service in question. As such, these are not matters that the CAA can address through HAL's price control.

ORCs forecasts for H7

Summary of Initial Proposals

8.82 In our Initial Proposals we set out the ORC revenues forecast that HAL had provided in its RBP update. We took a conservative approach and adopted HAL's forecast of ORCs (excluding business rates) and rebased HAL's forecasts to 2020 prices for use in the single till calculations for the H7 period.

8.83 In its response, HAL provided a revised ORC forecast in its RBP update 2. HAL confirmed that it had removed all business rates from the new forecast. HAL stated that it had calculated the value of ORCs compared to its overall opex base (which in 2022 represented 15.5% of HAL's opex base) and then applied the 15.5% figure to opex each year in H7. HAL's forecasts were based on its passenger forecast of 43.2 million passengers for 2022.

8.84 HAL said that this approach would ensure that its ORCs forecasts are grounded in actual costs for 2022 and that efficiencies across its cost base as a whole can be reflected in its ORC forecasts. Table 8.1 below sets out the ORC categories and the direct (marginal) costs attributed to them by HAL.

Table 8.1 ORC categories and direct (marginal) costs attributed to them by HAL[94]

ORC Category (nominal)	Direct (marginal) costs £000's
Airside Licences	1,088
AOC	480

[94] As advised by HAL on 8 June – to reflect ORC forecasts in Nov 2021

ORC Category (nominal)	Direct (marginal) costs £000's
Baggage[95]	87,630
Bus and Coach	1,470
Fixed Electrical Ground Power	3,288
Hold Baggage Services	6,686
Passengers Requiring Support	27,118
Staff IDs	2,289
Staff car park	8,167
Taxi Feeder Park	1,021
Electricity	17,583
Waste Refuse Area	1,938
Water	1,053
PCA	540
TOTAL	**160,351**

8.85 The total direct cost of around £160m (nominal prices) is equivalent to £141m in 2018 prices and reconciles with HAL's starting point for its forecasts of revenues as per the table below.

Table 8.2: HAL's ORC summary – RBP Update 2

ORCs (£m, 2018p)	2022	2023	2024	2025	2026	H7 total
RBP Update 2	**141**	**150**	**151**	**151**	**151**	**745**

Our Final Proposals on the H7 ORC forecast

8.86 HAL's approach, to base its forecast on the proportion of ORCs charges relative to HAL's opex base[96], appears to be a reasonable starting point for H7 forecasting purposes.

[95] Baggage in the context of ORCs covers the services around managing departing, arriving, transferring and gate bags and includes costs such as operations (including staff costs) and maintenance of the baggage infrastructure and systems.

[96] A breakdown of opex categories HAL used to develop its ORC H7 forecast can be found at Appendix A10 (Additonal Analysis to support operating cost assumptions) HAL's RBP update 2.

8.87 Nonetheless, there are also certain adjustments that need to be made to ensure that the ORCs forecast is in line with ORC charging principles and arrangements described in this chapter and our views on opex and passenger numbers. Bringing these considerations together we have:

- used our updated passenger numbers (see chapter 1 (Passenger forecasts)) and opex estimates (see chapter 4 (Operating expenditure)) and applied the same proportion of opex (that is, 15.5% of opex) over the H7 period;
- add back non-airline fixed costs and annuities to ORCs relating to non-airline staff car parking costs amounting to £4.3m and costs of £13.8m relating to the provision of electricity and water for non-airline use. These amount to around £18m[97] a year for each year of H7;
- add back a proportion of business rates relating solely to non-airline users which amounts to another £1.3m per annum (nominal) for each year of H7; and
- remove £1.5m (nominal) per annum for Bus and Coach revenues to reflect these services moving onto a more commercial footing.

8.88 The resulting effect of the above adjustments is reflected in the Table 8.3 below. This shows the CAA's opex costs based on our opex allowance and revised passenger numbers, the resulting 15.5% of opex which forms the baseline ORC forecast. We then apply the abovementioned adjustments to reflect the correct treatment of ORC fixed costs and annuities, business rates and bus and coach revenues and arrive at our Final Proposal H7 ORC forecast.

Table 8.3 application of CAA's revised opex and passenger numbers

ORC H7 forecasts, £m 2020p	2022	2023	2024	2025	2026	total
Total opex excl rates[98]	975	996	1,041	1,072	1,051	5,134
15.5% of total opex	**151**	**154**	**161**	**166**	**163**	**796**
Business rates adjusted	1.2	1.1	1.1	1.1	1.1	5.6

97 £18m has been converted to nominal prices to allow for consistency

98 The CAA has used the same opex cateogories as HAL in developing the ORC H7 forecast – as per Appendix A10 in HAL's RBP

ORC H7 forecasts, £m 2020p	2022	2023	2024	2025	2026	total
Bus and coach	-1.4	-1.3	-1.3	-1.3	-1.2	-6.5
£18m transfer of non-airline costs from airport charge	18	18	18	18	18	90
CAA ORC forecasts	**169**	**172**	**179**	**184**	**181**	**885**

Source: CAA analysis

8.89 Table 8.4 below includes the CAA's final H7 forecast. It shows the estimates of ORC revenues reduce in 2026 relative to 2025, this is a function of our estimates of opex which fall between 2025 to 2026 (driven by our assumptions on efficiency) despite the forecasts of passenger numbers continuing to rise.

Table 8.4: CAA ORC H7 forecast

ORC H7 forecast, £m 2020p	2022	2023	2024	2025	2026	Total
CAA H7 Final Proposals Forecast	169	172	179	184	181	885

Source: CAA analysis

Next steps and implementation

8.90 Appendix C (Notice of the CAA's proposal to modify HAL's licence) to this document contains our proposed licence modifications as described in the above sections of this chapter.

8.91 As also explained above, to support the implementation of our proposals we intend to develop and issue further guidance on ORC protocols and dispute resolution process starting in Autumn 2022. This will take the form of high-level principles that HAL, airlines and other ORC users can use as a framework to help them develop the new ORC protocols and the binding dispute resolution process.