Economic regulation of Heathrow Airport Limited: H7 Final Proposals (CAP2365)

Heathrow's response

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1. Executive Summary

1.1.1. The CAA's Final Proposals are not in the interests of consumers. Material errors have been made across all areas of the price control. As a result, the Final Proposals are not deliverable.

1.1.2. The CAA applies untested and poorly evidenced methodologies that have significant impacts on the price control's building blocks and Heathrow's financeability.

1.1.3. Several of these errors arise for the very first time in the Final Proposals. The CAA's rushed process puts consumer welfare at risk by assuming that Heathrow is operating under 'business as usual' conditions – which is far from the commercial reality.

1.1.4. The CAA must correct the errors we set out in this response at Final Decision to effectively discharge its statutory duties to consumers and its duty to ensure that Heathrow's provision of airport operations is financeable.

1.2. Introduction

1.2.1. Pre-Covid, Heathrow was one of the ten busiest airports in the world, delivering world-class and efficient service for passengers. With an overall satisfaction ASQ of 4.19, Heathrow was assessed by passengers to be one of the best airports in Europe. We had met the operating cost efficiency challenge set down by the CAA in Q6 and work carried out by KPMG evidenced that we were among the more efficient companies.[1] Heathrow also generated significant high value for airlines: 6 out of the 10 most profitable global routes flew from Heathrow in 2019.

1.2.2. Heathrow is essential in ensuring the UK's international connectivity and delivers crucial strategic and economic benefits for the UK as a whole. We remained open throughout the Covid-19 pandemic, providing essential cargo facilities to support trade and the delivery of medical supplies. To do this, we rapidly scaled down our operation, reducing operating costs by 35% compared to 2019 and reducing capital expenditure by 77%.[2] We did this while rapidly scaling up our levels of cleaning and the provision of testing facilities and PPE to ensure we could keep the airport safe and operational for passengers and colleagues. We welcomed new airlines and supported many incumbents by suspending parking charges and providing support with rents.

1.2.3. Keeping Heathrow open and adapting our operation to this very new environment has inevitably come at a significant cost. Despite the actions we took to minimise costs and maximise revenues, we have now accumulated losses of over £4bn since the start of the pandemic in 2020.[3]

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[1] KPMG, Airport Operating Cost Efficiency Benchmarking, December 2021. Appendix A9, Heathrow's Response to Initial Proposals

[2] Heathrow 2022 charges consultation: https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/doing-business-with-heathrow/flights-condition-of-use/consultation-documents/Heathrow-Airport-Charges-Consultation-Document-2022.pdf

[3] Heathrow Q1 2022 results: https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/investor/reports

1.2.4. We now need to return Heathrow to the efficient service we achieved pre-pandemic, and which passengers and airlines expect from us. It is essential that the H7 Final Decision provides the right level of operating expenditure to restore the airport to normal operating conditions which means recognising the challenges and costs of serving peaks in demand and the impact of capacity constraints across the airport. We also need to invest in Security, T2 Baggage, our commercial offering, making the airport more efficient and transforming our sustainability. This will allow us to maintain a safe, resilient and compliant operation, whilst ensuring we can meet our target of net zero by 2050.

1.2.5. These factors mean that H7 is not 'business as usual'. However, the Final Proposals fail to recognise this, for example setting an operating expenditure allowance for 2022 that is £65m (2022p) below our current plan. Delivering these savings would require cuts of hundreds of colleagues at a time when more are needed to deliver the service consumers want.

1.2.6. Passengers want an airport they can trust, an airport experience that is easy, predictable and reliable, a selection of shops, restaurants and facilities that they can enjoy and a service that makes them feel cared for.[4] Consumers value high quality services which meet their needs, and they are willing to pay to travel through an airport which delivers that. Our robust consumer research shows that both current and future consumers value our plan and are willing to pay more to travel through Heathrow if we deliver on our H7 proposals.[5, 6] The CAA itself has accepted that these are appropriate outcomes to target by, rightly, including these in the new outcomes-based regulation framework.

1.2.7. Importantly, the CAA itself has made clear that it wants Heathrow to deliver more to restore service quickly to previous standards. Indeed, the CAA has publicly called on all airports and airlines to do better for all passengers, with a particular focus on passengers who require additional support to fulfil their journeys. We are fully aligned with these objectives. We see a changing demographic with more vulnerable passengers travelling and we want to address their needs better. The Final Proposals are completely at odds with these passenger imperatives.

1.2.8. The CAA's approach ignores the evidence of what consumers value. The Final Proposals therefore breach its primary statutory duty to further the interests of current and future passengers: the CAA has failed to have regard to the broad spectrum of obligations that CAA12 places on it to consider the "*range, availability, continuity, cost and quality*" of airport services and instead places undue weight on cost alone.

1.2.9. Failing to secure the airport's financeability will lead to a deterioration of the consumer outcomes discussed above. The CAA's methodology uses a series of untested and poorly evidenced assumptions to justify its treatment of the RAB and the cost of capital parameters. In particular, the material shift since the Initial Proposals in the cost of capital – which ignores available and reliable market data – poses material risks to the airport's financeability.

-and-presentations/financial-results/2022/Heathrow_(SP)_Limited_Q1_2022_results_release_Final.pdf

[4] Blue Marble Research, Synthesis of Consumer Insights – Need Areas, November 2020. Heathrow's Revised Business Plan, Annex 5

[5] Yonder, Passenger Service Charge acceptability testing research, April 2021. Heathrow's RBP Update 1, Appendix 4

[6] Blue Marble Research, Synthesis of Consumer Insights – Need Areas, November 2020. *Ibid.*

1.3. The errors in the CAA's building blocks must be corrected to ensure that the H7 price control is deliverable

1.3.1. The average H7 charge of £24.14 set out in the Final Proposals is wrong. This is due to multiple errors in the building blocks of the price control. If these errors are not corrected, to the detriment of consumers, we will not have the required cash flow and liquidity to deliver on our plans, or those set out in the Final Proposals, to the detriment of consumers.

1.3.2. The approach to the key building blocks of passenger forecasting, operating costs, commercial revenues, WACC, the RAB adjustment and financeability contains a number of material errors. The CAA's forecasts are not grounded in evidence and ignore actual performance in 2022.

Errors in the Final Proposals result in an undeliverable passenger forecast for the last three years of H7

1.3.3. The approach to forecasting passenger volumes in the Final Proposals is opaque and amounts to little more than guesswork. It is not soundly based and takes no account of real world, legal capacity limits at the airport. Consequently, it is too high in the last three years of H7. Moreover, capacity constraints at the airport mean there is no practical possibility of exceeding the traffic forecasts in 2025 and 2026. Correcting for the errors within the CAA's forecast reduces it by over 15m passengers across the period to 344.7m. The over-estimate of the forecast leads to net non-aero income being overestimated by £182m and aero revenue being overestimated by £376m.

1.3.4. The primary errors made by the CAA are:

- The Final Proposals fail to factor into the analysis a wide range of downside risks including, current macroeconomic conditions, recession in the UK and US, war in Ukraine and the legacy impacts of Covid-19 on travel. The CAA has not taken a risk-based approach and therefore does not reflect the risk balance of traffic performance through the period.
- The Final Proposals incorrectly assume that Heathrow can achieve 2019 passenger levels in 2025 despite the loss of seats due to retirement of 747s and a significant reduction in business travel.
- The Final Proposals do not take account of the actual constraints at Heathrow, including consideration of Heathrow's movement cap, likely fleet changes in terms of seats flown or the constraints at individual terminals. This leads to a forecast that is practically impossible to deliver.

Efficient operating costs have been materially underestimated

1.3.5. As a result of multiple material errors, the CAA operating cost forecast for 2022 is £59m (£65m 2022p) lower than our current forecast, which our H1 results show we are on track to deliver. Such a reduction can only be met by stopping recruitment now and cutting hundreds of those just hired, which would be disastrous for passengers. Over H7 these errors lead to a CAA view of operating costs that is £368m lower than that required to efficiently operate the airport with the CAA forecast number of passengers.

1.3.6. The primary errors made by the CAA are:

- The Final Proposals overestimate the adjustment required to ensure an efficient baseline for the H7 forecast, underestimating H7 operating costs by £156m.

- The Final Proposals underestimate the impact of increasing input price inflation over H7, in particular in forecasting energy prices. In addition, the CAA ignores the significant wage inflation being seen as a result of the UK cost of living crisis. The impact of these errors is to underestimate H7 operating costs by £137m.

- The Final Proposals overestimate the level of people cost savings as a result of reduced passenger demand; the elasticity used by the CAA is an error which reduces the forecast by £35m.

- The Final Proposals remove targeted cost overlays to fund activities such as increased cleaning and providing further assistance to passengers requiring support while at the same time setting more stringent targets for this in our service targets. This error demonstrates the lack of basic integration and alignment across the CAA's proposals, making it impossible to achieve both operational expenditure and service quality at the same time. The CAA underestimates the cost overlays required in H7 by £39m.

Table 1: Errors in CAA's Final Proposals for operating costs over H7

Operating Costs (£m, 2020 CPI)	2022	2023	2024	2025	2026	H7
CAA FP - mid forecast	1,106	1,123	1,172	1,208	1,191	5,800
Corrections required	67	86	74	71	70	368
Corrected CAA FP	1,173	1,209	1,245	1,279	1,261	6,168
Traffic impact	-2	-7	-10	-17	-13	-48
Final Corrected CAA FP	1,172	1,202	1,235	1,262	1,248	6,120"

The CAA's proposals for commercial revenues are inconsistent with current evidence

1.3.7. As a result of multiple material errors, the forecast for commercial revenue is too high and not consistent with actual performance this year. In total, these errors lead to the commercial revenue forecast being £402m too high over H7.

1.3.8. The primary errors made by the CAA are:

- The Final Proposals continue to include revenues from the Terminal Drop Off Charge (TDOC) from 2024 when legislative changes mean that we will no longer be able to collect them. This results in revenue being overestimated by £135m. In addition, this legislative change will reduce short stay car parking revenues by £28m.

- The Final Proposals' forecasts of commercial revenues include income from Pod parking, despite CAA's own decision at Q6 to disallow any historical and future capital expenditure associated with this income stream. These revenues need to be removed from the H7 forecast reflecting the off-RAB treatment of Pod parking, reducing revenues by £20m over H7.

- The Final Proposals do not account for the fact that the change in VAT rules from the start of 2021 has significantly reduced our retail revenue. The results from the first half of the year are in line with the estimate of the impact we provided in our business plan. The CAA approach in contrast significantly underestimates the impact that has been observed. Using the observed impact of the VAT changes reduces the CAA estimate of retail income by £110m.

- The Final Proposals provide no reasonable basis for the inclusion of management stretch. The analysis on management stretch commissioned by the CAA has several methodological issues, which are acknowledged in the report. The report notes that the evidence is inconclusive and recommends that the CAA carry out further analysis to explore whether a stretch is appropriate. However, the Final Proposals do not act on these recommendations and misrepresent their consultant's findings. This results in a high-level approach with no supporting evidence and based on flawed logic which results in double counting. By applying management stretch to our forecast, the CAA is overstating revenues by £12m. The CAA must remove management stretch from its forecast.

Table 2: Errors in CAA's Final Proposals for commercial revenues over H7

Commercial revenues (£m, 2020 CPI)	2022	2023	2024	2025	2026	H7
CAA FP - mid forecast	678	781	873	931	941	4,204
Corrections required	-26	-47	-106	-108	-115	-402
Corrected CAA FP	652	734	767	823	826	3,802
Traffic impact	-4	-17	-25	-43	-35	-125
Final Corrected CAA FP	648	717	742	780	791	3,677

The CAA's approach to WACC contains material errors resulting in an incorrect estimate

1.3.9. The CAA has made material errors in its estimation of both the cost of equity and the cost of debt. The CAA estimate of 3.26% (Vanilla) is wrong and needs to be increased to 6.9% to be consistent with current market evidence.

1.3.10. Specific errors in the CAA approach include:

- The Final Proposals make significant errors in the assessment of our cost of equity due to a flawed approach to estimating the asset beta, primarily as a result of assumptions that have no theoretical or empirical basis and thereby effectively ignore actual market data. The CAA must use market evidence for airport asset beta without making arbitrary adjustments.

- The Final Proposals make materially flawed adjustments to the asset beta to account for the impact of Traffic Risk Sharing (TRS) are flawed. They not only ignore the mitigation available to comparator airports and the CMA precedent of treatment of TRS for aviation, but they are based on assumptions that have no supporting evidence. The impact of the CAA's reduction in WACC is far greater than the expected mitigation the TRS would provide. This is not credible.

- The Final Proposals' overall estimate of the asset beta for Heathrow of 0.53 is not credible. It is at the bottom of the range which the CMA identified for airports in February of 2020 of 0.52 to 0.62 pre-covid, and well below the current market evidence for AENA, the closest comparator to Heathrow, of 0.79 to 0.87.

- The Final Proposals' approach to adjusting the cost of debt for inflation is not consistent with the approaches it has used over successive price controls nor with CMA precedent. The CAA did not use a short-term approach previously when low inflation was forecast. Changing its approach now that high inflation is forecast is inconsistent and undermines regulatory credibility and confidence in the stability of regulation.

- The Final Proposals also underestimate the cost of embedded debt by shortening the averaging period for calculating it to 13.5 years. This is neither consistent with the notional approach it has used elsewhere, nor with the actual tenor at issue of Heathrow debt prior to Covid-19 of 20 years. In addition, the CAA has made errors in its assessment of Heathrow's cost of debt and ignored clear market evidence on the spread between Heathrow's debt and the iBoxx index. As a result, it significantly underestimates the cost at which Heathrow can obtain debt for both embedded and new debt. The CAA has also underestimated Heathrow's issuance and liquidity costs.

The CAA's approach to the RAB adjustment is inconsistent with the Q6 Settlement

1.3.11. The CAA's approach to the RAB adjustment of £300m is erroneous and inconsistent between its own publications. The Q6 licence is clear that Heathrow faced "*limited effect of downside risks*" and therefore the Q6 settlement did not include exceptional risks. However, the global pandemic has been considered an exceptional event that has needed adjustments to the framework for H7. By calling for a TRS mechanism and by intervening to grant a RAB adjustment, the CAA correctly accepts that the global pandemic does not fall within the 'limited' downside risk underlying the Q6 licence and that these measures are required to protect consumer interests.

1.3.12. The CAA has set out that consumer interests are protected by including a TRS mechanism for addressing exceptional demand risks in H7. Had a formal mechanism been included for exceptional demand risks at Q6 the H7 mechanism would also have been in consumers' interests then. Consequently, it is in consumers interest to apply the H7 TRS to the impact of Covid in 2020 and 2021. Instead of an adjustment of £300m currently proposed by the CAA, this would result in the adjustment of £2.6bn, albeit still leaving Heathrow exposed to over £1bn of losses. The CAA must include a RAB adjustment related to Covid-19 based on the H7 TRS mechanism.

1.3.13. Despite the appropriate adjustment requested by Heathrow being consistent with the application of the TRS mechanism over that period, the CAA does not adjust the RAB for the exceptional impact in 2020 and 2021.

1.3.14. This regulatory conduct is inconsistent with the Q6 licence and with the legitimate expectation of investors. Uncorrected, it would undermine both investor confidence in the regulatory regime and equity financeability.

The Final Proposals are not Financeable

1.3.15. In its assessment of financeability, the CAA makes both errors in its approach and errors in its modelling. In its approach it mixes elements of the real and notional company instead of assessing financeability on a notional basis and using the actual company only as a cross-check. In its modelling it has the wrong opening gearing as a result of ignoring expansion expenditure when including it in RAB, it has incorrect figures for 2020 and 2021, and does not take into account its proposed K factor adjustments.

1.3.16. When these errors are corrected, the financial ratios arising for the notional company are not consistent with achieving a BBB+ rating and therefore the CAA is incorrect to conclude the proposals are financeable.

1.3.17. Moreover, when the errors in the forecast, operating expenditure and commercial revenue are also considered, the financial ratios of the notional company are not consistent with achieving an investment grade credit rating. This means that in practice, the Final Proposals could not be delivered.

Outside of forecast building blocks, the CAA makes errors in its policy decisions and approach to modelling

1.3.18. The Final Proposals introduce changes to the Price Control Model which have not been consulted on and are out of line with precedent, reducing returns by c.£170m. Instead of using the average of the opening and closing RAB as used in previous versions of the PCM, and as used by all other regulators, it discounts the closing RAB by (1+WACC) i.e. discounting the closing RAB to the start of the year. This change was not consulted on and was not discussed in the Final Proposals. Cashflows are received throughout the year - discounting to the start of the year is therefore a clear error.

1.3.19. In the Final Proposals the CAA has introduced K factor adjustments relating to supposed over recovery of revenues in 2020 and 2021 amounting to £258m. These adjustments were not proposed in the Initial Proposals and the CAA has not justified their inclusion. These adjustments amount to Heathrow having to return money that it never received as a result of the loss of revenue during the pandemic. They should therefore be removed from the Final Decision.

1.3.20. The capital expenditure allowance in the Final Proposals excludes significant expenditure that is in the interests of consumers and airlines:

- Commercial Revenue investments: The CAA has excluded all investments that do not pay back within the price control, choosing to focus on the short term charge rather than longer term affordability. In doing so, the CAA has also disregarded the wider non-financial benefits for consumers of these investments and disregarded the impact of these exclusions on commercial revenue.

- Efficient Airport investments: The CAA has excluded 85% of these investments, meaning we will be unable to deliver additional efficiencies for Team Heathrow in H7. Excluded investments include those necessary to meet the CAA's own expectations around Passengers Requiring Support, as well as the OBR targets it has set for H7, meaning a worse outcome for consumers.

- iH7 Rollover investments: The CAA has made an error by excluding crucial ramp-up investments for Terminals 3 and 4 on the basis that they have not been approved by airlines, which is not the case.

1.3.21. Proposals on capital incentives do not further the interests of consumers, are not justified and are unworkable.

- The CAA has not justified the need to implement a change in its approach to capital efficiency. The Q6 framework has delivered efficiently in the interests of consumers and therefore must continue into H7.

- The approach in the Final Proposals would require an additional 90 FTEs to implement Delivery Objectives for no additional benefit.

- The increased governance would lead to delays in the delivery of projects which would delay the delivery of benefits to consumers.

1.3.22. The CAA makes errors in calibrating the traffic risk sharing mechanism. The proposed 105% risk sharing rate does not provide 95% protection for Heathrow. Instead, it provides protection of only 81% for every passenger Heathrow loses below the 10% threshold. Alongside this, the cash recovery mechanism does not mitigate liquidity issues in foreseeable downturns.

1.3.23. The proposed approach to Other Regulated Charges will distort the user pays principle. The Final Proposals' approach of implementing dual pricing for airline and non-airline customers will force us to make an estimate of the split of airline and non-airline costs for the period. This will mean that prices no longer reflect costs. It will also force us to make arbitrary distinctions between users to assign these differentiated prices. Ultimately this will harm our sustainability goals and risks the provision of services for passengers.

1.3.24. The licence contains a number of errors in its implementation of the CAA's policies which must be corrected. Furthermore, we have not been provided with a consolidated copy of the licence meaning we are unable to verify whether there are further errors in the CAA's amendments.

1.4. The consequence of the CAA's errors for financeability risks further service deterioration

1.4.1. The overall effect of the CAA's errors is that the Final Proposals cannot deliver the required cash flows in the first three years of the price control period. This creates risk around our ability to maintain our investment grade credit rating. Without this we cannot raise the liquidity required to invest in capital or operating expenditure – making it impossible to sustain the services customers want and we want to provide and to fund the £4.5bn capital programme.

1.4.2. In the water appeal, the CMA recognised that actual credit ratings would be influenced heavily by the ability of companies to achieve the assumptions set, and the importance of considering downside scenarios.

1.4.3. Analysis of the impact of the Final Proposals on the notional company shows that, when the errors in the CAA's building blocks are corrected, the price control results in financial ratios that are not consistent with retaining an investment grade credit rating even before downside scenarios are considered. To implement the price control as set out in the Final Proposals would therefore be wrong.

1.4.4. Credit rating agencies are unlikely to maintain Heathrow debt at investment grade if these undeliverable forecasts are maintained. Credit agencies themselves recognise significant risk in the Final Proposals. S&P stated in its latest ratings direct on 7 July 2022: "*(t)he proposed tariff decline for Heathrow…may weigh further on already-tight credit metrics if it is not properly compensated by mitigating actions or traffic recovery.*"[7]

1.4.5. Unless these errors are corrected, we will have to conserve cash by cutting capital and operating expenditure. This will worsen operational resilience and passenger experience at a time when we need and want to improve it.

1.4.6. The cost of equity is too low to attract future equity investment from current or potential future shareholders during H7; the cost of debt allowance is also insufficient to access credit. Expert evidence from Lazard shows that the CAA's Final Proposals are disconnected from the market due to substantial inconsistencies between debt assumptions relating to the notional company and the relevant cost allowance. This is especially the case in respect of the credit quality determining Heathrow's debt financeability. The Final Proposals acknowledge the risk of the notional company facing a credit rating downgrade over H7 due to insufficient cashflows driven by too low charges, however, market data provides no examples of corporate issuers rated BBB or below which have issued the scale of debt that the notional company requires.

1.4.7. The Lazard report also shows that Heathrow's expected equity returns are underperforming market benchmarks, primarily driven by an insufficient RAB adjustment and a proposed WACC that leads to passenger charges that do not result in equity returns commensurate with the amount of risk typically borne by equity holders relative to market benchmarks. This results in a cumulative equity IRR by FY 2026 of 0.7% per the Final Proposals. This underperforms market data and would not attract best-in-class infrastructure capital from an equity finance perspective. This market disconnection across debt and equity would make the Final Proposals not financeable. This will have serious implications for capital allocation and long-term investment decisions.

1.5. Airline and consumer interests are not aligned

1.5.1. Airline interests are not necessarily the same as those of consumers and this fact has been widely acknowledged by the CAA in previous policy documents.

1.5.2. This is observable now. Whilst airlines are returning to profit, the CAA's decision on the 2022 charge means that Heathrow remains loss making. At the same time, consumers are not seeing benefits from the lower then required charge at Heathrow, but instead experiencing higher fares and significant hassle as a result of airlines failure to invest in ground handling. As requested by CAA and DfT, Heathrow has taken a lead to cap demand to protect consumers from airlines selling more seats than they have the capacity to deliver, but this has come at considerable reputational and financial cost.

1.5.3. There is no evidence before the CAA that a lower charge will be passed on to passengers by airlines and the CAA has no power to ensure that this happens. Further, it cannot credibly be assumed that airlines will make the choice to pass savings on in the current economic climate where airlines themselves are under pressure to recover from the pandemic and restore profitability. Airlines will however

[7] See Appendix 32

suffer from the lower operational resilience embedded in the Final Proposals with attendant negative consequences for passengers.

1.5.4. The CAA needs to consider this in balancing the risk to consumers. A determination that is too tight reduces service but provides no guarantee of cost savings to consumers.

1.6. Remedial action required ahead of the H7 Final Decision

1.6.1. If the CAA proceeds to issue a final decision and licence modification on the same terms as the Final Proposals, it will be inherently undeliverable. Doing so would be detrimental to the interests of current and future consumers and would breach the CAA's statutory duty to protect the interests of consumers and its financeability duty to Heathrow.

1.6.2. The Final Proposals require fundamental change in order to align with the full spectrum of the CAA's statutory duties, all of which must be given due regard. A failure to correct the many errors in the Final Proposals will be bad for passengers facing five years of weakened operational resilience and underinvestment, which will also impact future price control periods, and with no guarantee that the reduction in the passenger charge will be passed on to them.

1.6.3. Therefore, the CAA must:

- Correct the material errors in operating expenditure and commercial revenue;
- Adopt a realistic passenger forecast;
- Correct the errors in the WACC resulting in a return consistent with current market evidence;
- Include a Covid-related RAB adjustment based on its H7 traffic risk sharing approach;
- Correct the other errors in its policy proposals.

1.6.4. Once all the errors above are corrected, an affordable plan can be achieved by deferring depreciation into later periods. This will provide a better outcome for consumers, delivering their priorities for a safe, secure and resilient Heathrow in the coming years.

2. Passenger Forecasts

2.1 Summary

2.1.1 Errors in the Final Proposals create a material gap (15.6m passengers equivalent to over £500m in revenue) between a deliverable H7 forecast and the undeliverable CAA proposal. There is simply no practical possibility of delivering the CAA's passenger forecasts.

2.1.2 Passenger forecasts are a key building block in the calculation of airport charges with knock-on impacts for other critical building blocks including opex and commercial revenues, as well as cashflows more generally. It is therefore crucial that the CAA's forecast is based upon a robust methodology founded on well evidenced assumptions. In this chapter we explain the material errors made by the CAA relating to its passenger forecasts and the material impact this has on the H7 price control.

2.1.3 The CAA has chosen to change its approach to passenger forecasting throughout the consultation period. As well as leading to a number of clear errors, this late change in approach has also significantly reduced the transparency of the methodology, assumptions and output. The result is that the CAA's passenger forecasts materially overstate passenger numbers.

2.1.4 Aside from the overall lack of transparency, we have also identified a number of other errors. Many of our concerns relate to the CAA's changes to our models and assumptions, which we set out in our response to the Initial Proposals and that the CAA has not addressed. These concerns are explained in Section 2.4 of this response, under the following headings:

- **Ramp-up capacity**: The Final Proposals fail to consider and account for the material capacity issues resulting from insufficient ground handler resource and the effect they have on demand.

- **Asymmetric distribution:** The nature of our legally binding ATM cap means that the distributions on the number of ATMs, seats and passengers at the airport will be a left/negative skewed distribution truncated at, or very close to, 480k. The CAA has erred in not taking account of this evidence and making an unnecessary correction for asymmetric distribution in its Final Proposals.

- **London market share:** In the UK, low-cost carriers have been driving the post-Covid passenger recovery, with Heathrow's recovery lagging behind that of our competitors in the London market.

- **Business travel impact on fares**: The CAA needs to reconsider the wider set of drivers that may increase fares and impact on demand, rather than only the impact of reduction in business passengers. Specifically on business travel, the CAA's assumption lacks any supporting evidence.

- **Carbon prices:** The cost of carbon is an increasingly important consideration in the overall cost of aviation. The CAA needs to take a full and comprehensive account of carbon prices in H7, including taking an appropriate account of the latest BEIS emissions valuation. The CAA must also transparently share its assumptions.

- **Forecast synthesis:** For the years 2023-2026, the CAA has failed to provide clarity on the methodology and assumptions that drives its forecast, depriving Heathrow and other stakeholders of the ability to fully understand the approach and rationale used. This is a failure by the CAA to consult properly on its proposals.

- **Risk weighted forecast:** This absence of a risk-based methodology and the resulting over-optimism both contribute to the forecast being too high, as commented upon by the CAA's own advisor, Skylark.

2.1.5 The incorrect methodology and errors in assumptions lead to an overall position significantly lacking credibility and an overly optimistic passenger forecast, particularly for the later years of the H7 period.

2.1.6 Heathrow's updated H7 passenger forecast is 344.7m. The CAA's forecast is 360.2m, and should be updated to amend the errors highlighted in its approach by the below:

Error	Amendment (passenger numbers)	Impact (£)
Errors in CAA's model: Adjustment for asymmetric distribution and risk weighting.	-7.1m	-£255m
Errors in CAA's assumptions: Adjustments to ramp-up capacity, London market share, business travel and carbon prices.	-5.7m	-£203m
Errors in CAA's external additions: Adjustment for forecast synthesis	-2.8m	-£100m
Total	**-15.6m**	**-£558m**

2.1.7 A failure to use a credible passenger forecast will have a significant impact on the H7 price control, creating asymmetric risk overall as there is a much higher probability of passenger volumes under-performing the CAA's passenger forecast with almost no opportunity to outperform. The financial impact of the CAA's over-optimism of 15.6m passengers over the H7 period is £558m.[1]

[1] The overestimate of the forecast leads to net non-aero income being overestimated by £182m and aero revenue being overestimated by £376m

2.2 Introduction

2.2.1 Passenger forecasts are a key building block in the calculation of airport charges and a determination that provides a fair bet to Heathrow. It is therefore crucial that the CAA's forecast is based upon a robust methodology founded on well-evidenced assumptions.

2.2.2 In this chapter we set out our concerns with the CAA's proposed forecast for H7 and the clear errors it contains. We explain the material impact that these errors would have on the H7 price control and demonstrate why, and how, these should be resolved.

2.2.3 This chapter is structured as follows:

- Context for the response: where we outline key contextual changes since we submitted our RBP Update 2;
- Response to the Finals Proposals: where we outline our concerns with the CAA's forecast and the errors it contains. We provide appropriate evidence to substantiate our concerns and call on the CAA to rectify these shortcomings. We then present our proposals that address these concerns;
- Our Public Law section notes the CAA's intention to update the passenger forecast again before Final Decision without any further consultation. This would clearly be in breach of the CAA's duty to consult adequately and make an intelligent response as required under longstanding public law; and
- Finally, we have a 'Transparency' section describing the engagement that we have had with the CAA.

2.3 Context

Developments since the Initial Proposals

2.3.1 In the ten months since the CAA published its Initial Proposals, we've seen a further series of the peaks and troughs that have characterised the evolution of passenger volumes during this pandemic.

2.3.2 Demand for travel in the final months of 2021 and the start of 2022 was significantly impacted by the emergence of the Omicron variant of concern, bringing the first month-on-month decline in passenger numbers for over half a year. As a result, we were underperforming against our mid-case forecast[2] by 15% by the end of February and were most closely aligned with Scenario #3 from RBP Update 2.

2.3.3 Only a few weeks later, at the end of March, the UK Government removed all restrictions on travel, allowing passengers who were not fully vaccinated to fly without testing and removing the need for the passenger locator form. Over the following weeks there was a release of pent-up demand and monthly volumes almost doubled from January to April. As a result, we began outperforming against our mid-case forecast[2] and April was most closely aligned with Scenario #1 from RBP Update 2.

2.3.4 As we moved through the second quarter of the year, issues with resourcing and capacity across the airport system became more apparent. By the end of May, ground

[2] Mid-case forecast published in December 2021 Investor Report

handler resourcing was at only c.56% of 2019 levels and across all handlers had either decreased or remained static since the beginning of the year. Airline resources were at c.48% of 2019 levels and had actually dropped by 8% since the start of the year[3].

2.3.5 There have also been significant issues with effective physical capacity. This has been most notable in check-in, with Covid document checks, changes in passenger demographics and behaviours and reduced use of automation and common-use facilities all contributing towards lower effective capacity.

2.3.6 As a result, operational resilience and service performance has suffered. For the first six months of 2022 departure punctuality was 63.6%, compared to 86.3% in 2021, and Airport Service Quality was 4.05, compared to 4.27 in 2021.

2.3.7 In June, the DfT and CAA asked the aviation sector to review summer schedules and implemented a slot amnesty to encourage airlines to remove flights without penalty, to minimise further disruption for passengers over the summer getaway. This drove a c.16% reduction in Heathrow's passenger flights for the remainder of the Summer 2022 season.

2.3.8 In the second half of June, as departing passenger numbers regularly exceeded 100,000 a day, we started to see a worrying increase in unacceptable service levels for some passengers; an increase in delays to get planes onto stand, bags not travelling with passengers or being delivered very late to the baggage hall, low departure punctuality and some flights being cancelled after passengers had boarded.

2.3.9 This clearly demonstrated that demand had started to exceed the capacity of the airport ecosystem. We took swift action to protect consumers by applying a cap on departing passenger numbers, to better align with airline and ground handlers' resources. Performance has been more stable since the cap came into effect and we have seen a marked improvement in punctuality and baggage performance. The cap will remain in place until there is an overall increase in resources and consistent improvement in operational performance, with a particular focus on increasing airlines' ground handler resource.

2.3.10 To reflect these changes, we made an interim update to our forecast as part of our Q1 results and then published the full update in our June Investor Report. Our mid-case forecast for 2022 is now 54.4m passengers, our low case is 45.8m passengers and our high case is 61.9m passengers.

Heathrow's updated forecast

Table 1: GDP scenario weightings

<table>
<tr><th></th><th>GDP scenarios</th><th>Forecast scenarios</th></tr>
<tr><td rowspan="5">Most optimistic
↓
Most conservative</td><td>20%</td><td>10%</td></tr>
<tr><td>35%</td><td>50%</td></tr>
<tr><td>15%</td><td>30%</td></tr>
<tr><td>20%</td><td rowspan="2">10%</td></tr>
<tr><td>10%</td></tr>
</table>

[3] Data on ground handler and airline resourcing based on Heathrow ID centre data from 28th May 2022

Source: Heathrow

Table 2: GDP scenarios

Scenario	Weighting	Oxford Economic assumptions	Seat assumptions
Scenario 1	10%	Post-war rebound	Short-Haul densification
Scenario 2	50%	Baseline forecast	Minor reduction on 2019 levels
Scenario 3	30%	Advanced economy recession/war disruption	Slight reduction on 2019 levels
Scenario 4	10%	Pandemic resurgence	Significant reduction on 2019 levels

Source: Heathrow

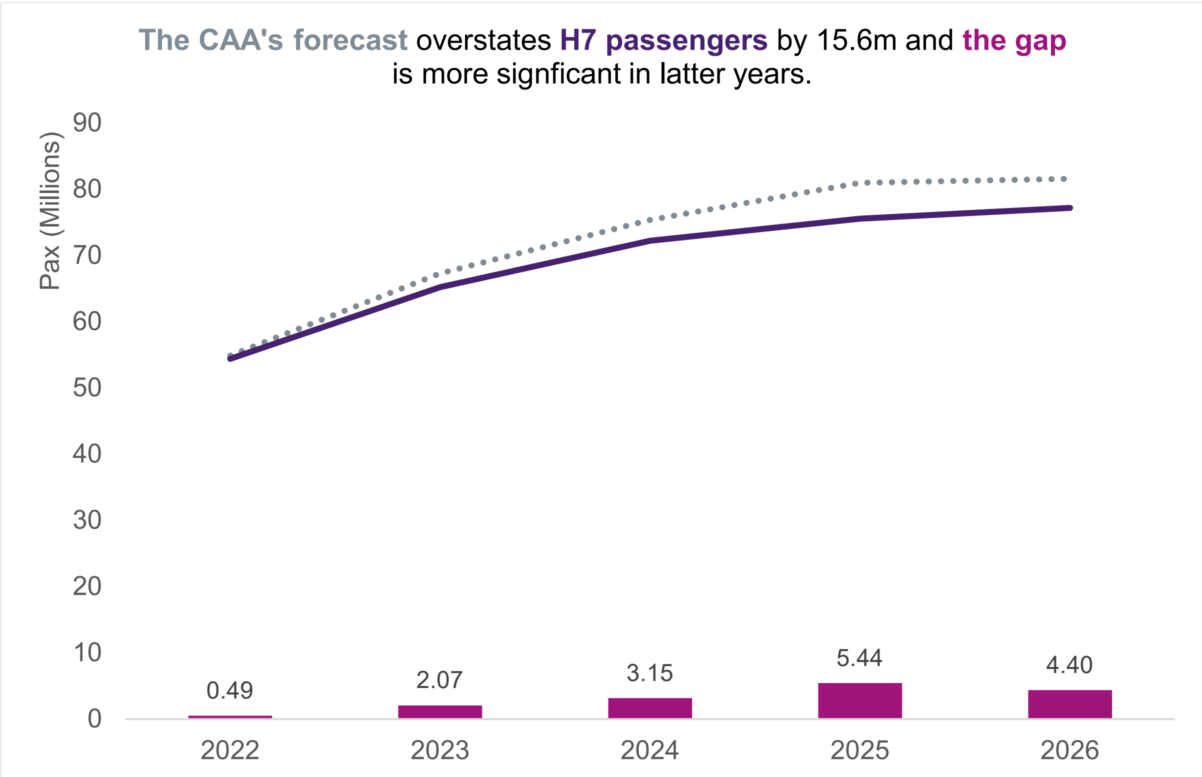
Table 3: Heathrow's updated forecast

	2022	2023	2024	2025	2026	TOTAL
Low (P90)	45.8m	49.3m	58.1m	64.8m	69.0m	286.9m
Mid (P50)	54.4m	65.2m	72.2m	75.6m	77.2m	344.7m
High (P10)	61.9m	74.5m	79.8m	81.9m	82.7m	380.9m

Source: Heathrow

Gaps to the CAA's forecasts

Figure 1: Gap between Heathrow and CAA's passenger forecast



Source: Heathrow

2.3.11 It is important to note that our forecasts are for the number of passengers that will actually travel through the airport and so need to reflect available capacity, rather than only being a measure of demand. The airline forecast of 72m passengers in 2022 fails to address this point and as a result is over-optimistic.

2.3.12 In its Final Proposals, the CAA acknowledges that the airline forecast is only useful as a high case[4]. In fact, with 32.7m passengers served in the first seven months of 2022, we would need passenger numbers for the last five months to be 15% above those in 2019 (when Heathrow was operating at close to full capacity) to achieve 72m passengers for the full year. With the schedule cancellations that have already been made, the DfT slot amnesty and the continuing ground handler capacity constraints through August and September, that is not achievable. The airline forecast is therefore not only a high case but an impossibility. For this reason, the CAA should not use the airline forecast in its process of reviewing an appropriate H7 passenger forecast, even as a high case cross check.

2.4 Heathrow’s response to the CAA’s Final Proposals

Ramp-up capacity

2.4.1 Since the beginning of the Covid pandemic, across the iterations of our Revised Business Plan, we have warned of the risk to demand that is posed by the constrained ability of airports and airlines to ramp-up their capacity.

2.4.2 In the December 2020 RBP we shared a report from Eurocontrol, which looked at the impact of Covid-19 measures on terminal throughput and processing capacity, coming to the conclusion that: “*Airports already congested before the COVID crisis can expect to reach their maximum saturation capacity at just 60-75% of their peak 2019 traffic”*[5].

2.4.3 We also noted the significant imbalance between the ramp-up in demand and capacity for last summer. By July 2021 our passenger numbers had reached 19% of those in July 2019 and Terminal 3 was needed to meet that demand. The combined capacity of Terminals 2 and 5 represents c.65% of our pre-Covid total terminal capacity, yet they weren’t sufficient to serve 19% of our demand.

2.4.4 We also set out a significant amount of evidence for our assumptions on why the ramp-up in airline capacity would be impacted. That evidence included IATA’s statements on airlines’ precarious financial positions[6,7,8], public statements by airlines on their resource cuts[9,10,11,12], the airline feedback that they *“do not have the cash reserves to invest in fleet and so will need to continue operating their existing fleet for an extended period until cash reserves are built up, likely to be significantly post H7”*[13], airlines’ financial results showing retirement of aircraft and deferral of deliveries of new aircraft[14], explicit public statements from airlines talking of how the ramp-up

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4 Final Proposals, Section 1, paragraph 1.31
5 Helping airports plan their recovery, Eurocontrol, September 2020
6 IATA - Deep Losses Continue Into 2021, 24th November 2020
7 Outlook for Air Transport and the Airline Industry, IATA, 24th November
8 Airline Community presentation to CAA and HAL, March 2021
9 American Airlines Says Oct. 1 Job Losses Will Total 40,000, forbes.com, 25th August 2020
10 IAG Q3 2020 Financial Results, 30th October 2020
11 Coronavirus: Virgin Atlantic to cut 1,150 more jobs - BBC News, 4th September 2020
12 Economic Performance of the Airline Industry, IATA, 24th November 2020
13 Section 2, Annex 3.2 – Airline H7 RBP Feedback – Airline Fares Shocks Business Travel_Final
14 IAG Q3 2020 Financial Results, October 2020

in supply will be impacted[15,16], and analysis by industry commentators on likely timeline for return of airline resource[17].

2.4.5 We highlighted the many issues with airline resourcing that were being reported in the media: severe shortages of ground handling skills and challenges in retaining and recruiting staff[18], Christmas flights to be hit by airline staff shortages[19], KLM pilots loading bags onto flights at Schiphol due to baggage staff shortages[20], job vacancies in the travel industry hitting the second highest level since February 2019[21] and airlines cancelling thousands of flights across just a few days because of lack of resource[22].

2.4.6 In each iteration of our passenger forecasts, we considered how these capacity issues would impact on demand. In the latest version of our forecast, that included consideration of the peak daily capacity that the airport and airline system could sustain throughout 2022. The recent actions on slot amnesty and local rule passenger capping show how critical this is as a driver of the forecast. Otherwise, the projected numbers are a measure only of demand, rather than reflecting available capacity.

2.4.7 The CAA have failed to recognise capacity as a critical driver. In the Initial Proposals it removed consideration of capacity constraints from our models, stating that:

"HAL has assumed that airlines will not be able to respond rapidly to returning passengers numbers with as much capacity as in 2019 because of the financial pressures facing them. We do not agree with this assessment […]. While airlines have suffered significant financial impacts since the start of the pandemic and have had to adapt to the evolving situation, they will want to make the most of returning demand will likely look to meet as much of it as possible. […] Therefore, we have removed the supply capping for all reference scenarios apart from the low AR reference scenario."[23]

2.4.8 Airlines were also similarly robust to Heathrow on this subject when it was discussed at constructive engagement meetings in 2020 insisting that they would have no issue in scaling up their fleets, pilots and crew to meet the unlocking of any pent-up demand. Detail and assurance of ground handler resource and other elements of the supply chain were less forthcoming and we referred to this in our RBP update in June 2021[24]. It is now clear that airlines did not have sufficient resources or contractual commitments with ground handlers and other suppliers to enable them to serve over 70m passengers in 2022.

2.4.9 This issue continues into the Final Proposals, where the CAA demonstrates a concerning lack of awareness of the significant resource and capacity challenges still facing the industry. To say only that "*airlines have not fulfilled all the flights which they had scheduled at the start of the year*"[25] is a significant understating of the level of

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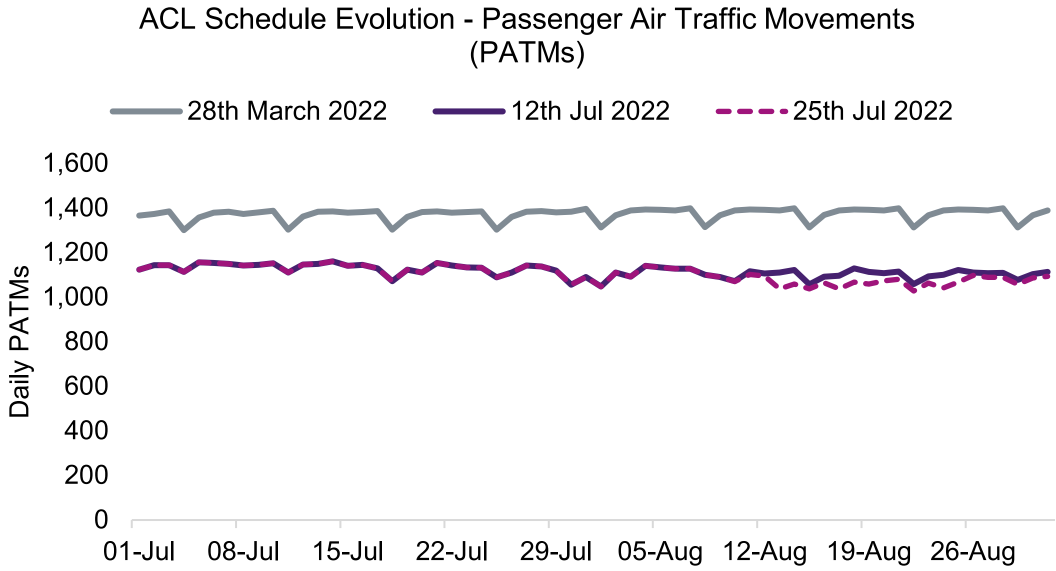
[15] Lufthansa fleet reductions, aerospace-technology.com, March 2021
[16] Reduced Losses but Continued Pain in 2021, IATA, April 2021
[17] British Airways pilot deal, what does it tell us? Gridpoint Consulting, July 2020
[18] IATA - Ground Handling Priorities Post Pandemic: Tackling Labor Shortages, Safety, Modernization
[19] Christmas flights could be hit by staff shortages (msn.com)
[20] KLM asks pilots to help with baggage chaos: Telegraaf - DutchNews.nl
[21] Travel job placements 'hit highest level in 19 months' | Travel Weekly
[22] Ouch: American Airlines Cancels 2,200+ Flights - One Mile at a Time
[23] Initial Proposals, CAP 2265B, Section 1, paragraphs 2.30, 2.32 and 2.32
[24] Heathrow Airport H7 Revised Business Plan – Update 15.2.8. Key drivers – supply model pgs 105-109
[25] Final Proposals, Section 1, paragraph 1.30

capacity that has needed to be cut from airline schedules throughout the year, and especially the peak summer months of July and August.

Figure 2: Airline schedules for July and August from 28th March compared to those from 12th July



Source: Heathrow

2.4.10 As can be seen in Figure 2, as a result of the DfT slot amnesty, airlines cancelled almost 17,000 flights at Heathrow, nearly 20% of their schedules, for July and August. So, while assuring the CAA that they were expecting a summer as busy as 2019 based on bookings, many airlines have jumped at the opportunity to take flights out of the system.

2.4.11 With the action taken by Heathrow to limit departing passenger numbers to 100,000 per day in light of unsustainably poor operational performance, the airlines have made further cancellations, bringing their August schedules down to just 79% of what was planned at the end of March by the end of July.

2.4.12 The CAA's Final Proposals fail to consider, or in any way take into account, these material capacity issues and the effect they have on traffic volumes, which is an obvious error in its forecast. In particular, the passenger forecast for 2022 is based on only airline bookings and the 2023 forecasted passenger numbers.

2.4.13 We do not have sufficient visibility of the CAA's forecast to understand how much of a correction is needed to account for this but ask that the CAA give proper consideration to capacity as a key driver of the forecast.

Asymmetric distribution

2.4.14 In the Initial Proposals the CAA described the asymmetric distribution in Heathrow's passenger forecast model as a bias that needed correcting. It made this 'correction' by adding 6.4m passengers to the mid-case forecast, an increase of 2%. As a result, the CAA created a mid-case forecast of 82.0m passengers and a high case forecast of 88.3m passengers for 2026.

2.4.15 In our response to the CAA's Initial Proposals, we explained why the use of an asymmetric distribution was wholly appropriate and reflective of the physical constraints that Heathrow operates within. Those physical limits relate to both the number of flights we are legally permitted to operate and the amount of physical capacity in our terminals and on our runways.

2.4.16 Heathrow is limited to 480k Air Traffic Movements (ATMs) per annum. This is a legal constraint which was set under the Terminal 5 Planning Condition[26]. In 2019 we operated 473k passenger ATMs and 3k cargo ATMs, giving a total of 476k ATMs or 99% of the limit. At that level of ATMs we were able to serve 80.9m passengers.

2.4.17 With very real consequences of the cap's permanent reduction if Heathrow were to breach the 480k limit, and the ongoing need for c.2,500 cargo ATMs per annum, 476.5k is effectively and practically the limit for the number of passenger ATMs. If our load factors and average seats per ATM from 2019 could be maintained, then we could achieve a maximum of 81.4m passengers at that practical ATM limit. With the assumption that airlines will cancel a number of flights over the course of a year for various reasons, we already have a situation where ACL hold schedules that are 2-3% above the cap. To plan any higher than 476.5k is too risky as a combination of a lower level of cancelations and the extra 1,200 flights from a leap year runs the chance of breaching the cap or forced cancellations at the end of December.

2.4.18 Fleet changes that have occurred in the last few years mean that maintaining the average seats per ATM from 2019 would only be possible in a high case scenario and this needs to be factored into the analysis by the CAA (as we have done with our forecasts). Notable changes include the retirement of 747s and less frequent use of A380s[27]. There is more detail on this in the section titled 'Risk weighted forecast' below.

2.4.19 In addition to the capacity on the flights, there is also the capacity on the ground to consider. Heathrow cannot physically serve more than 82m passengers[28] with our current runway and terminal capacity. The CAA's forecast not only fails to represent a fair bet for the price control period but is also not practically achievable.

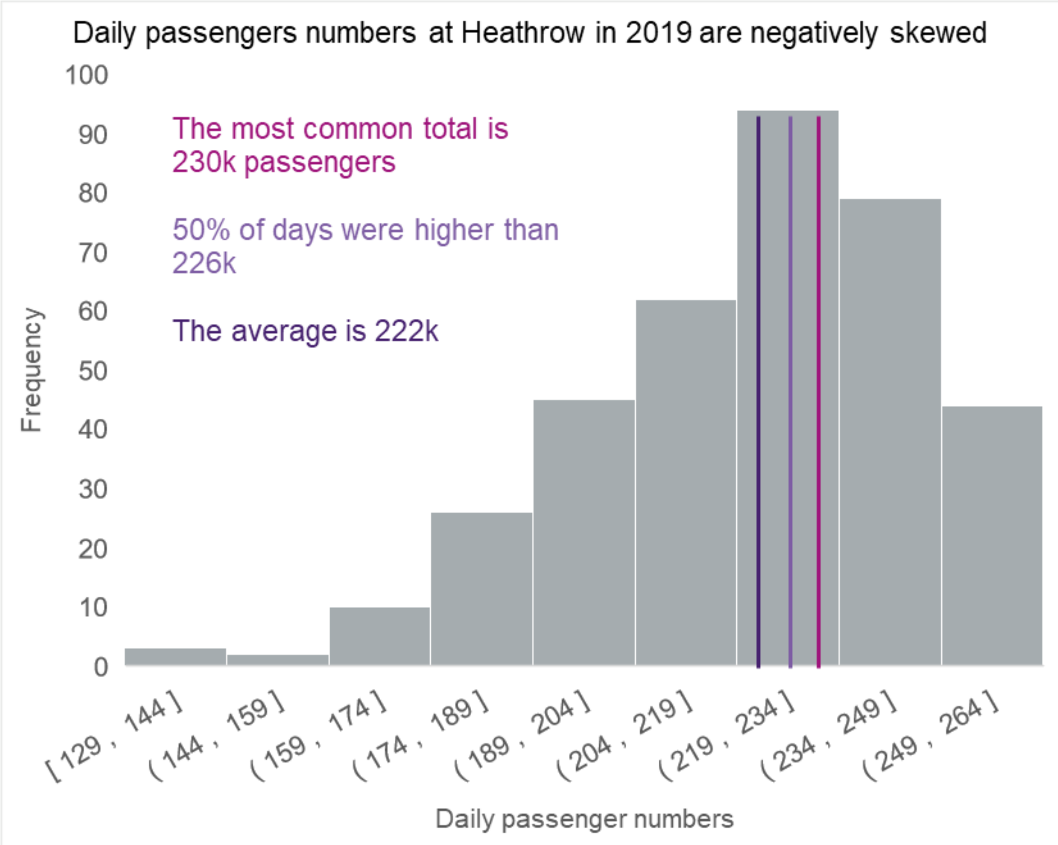
2.4.20 The realities of operating under a capacity constraint, and the resulting negative skew, can be seen in the actual data on passenger numbers:

[26] See the Decision by the Secretary of State for the Department of Transport, 28 February 2002. https://rbwm.moderngov.co.uk/Data/Cabinet/20020228/Agenda/$020228_terminal5.doc.pdf

[27] In Jan-Jul 2019 1 in 30 of Heathrow departures was an A380/ In Jan-Jul 2022, 1 in 35.

[28] Capacity analysis carried out whilst preparing for the Development Consent Order for the third runway found that our current runway capacity is a maximum of 82 million passengers per annum and our terminal capacity is a maximum of 85 million passengers per annum

Figure 3: The negative skew in daily passenger numbers at Heathrow in 2019



Source: Heathrow

2.4.21 As Figure 3 shows, based on the data from 2019, the most common number of passengers on any particular day is 230k, yet the negative skew means that the average day had fewer passengers, at 222k.

2.4.22 As we explained in our response to the Initial Proposals, the nature of the cap to our ATMs means that the distributions on the number of ATMs, seats and passengers at Heathrow will be a left/negative skewed distribution truncated at, or very close to, 480k. As the outputs of ATMs per annum in the model run are continuous, unimodal and do not have a heavy tail it should be expected that the three measures of central tendency will have the textbook properties of left skewed, unimodal, distributions of continuous data without heavy tails. This will mean that the mode (peak) is larger than the median (p50) which is again larger than the mean.

2.4.23 The CAA has erred in not taking account this evidence and continue to make an unnecessary correction for asymmetric distribution in the Final Proposals, stating:

"The bias which arises from the asymmetric distributions in HAL's Monte Carlo analysis is driven solely by the chosen mode, high and low values and is not properly related to a real-world distribution of risk for passenger volumes at the airport, which we believe are already catered for elsewhere in the modelling process."[29]

2.4.24 But contrary to this statement, the evidence we have provided above (as set out in Figure 3) is real-world. The CAA, on the other hand, has not provided any information on the size of its asymmetric distribution 'correction'. If one assumes that it has

[29] Final Proposals, Section 1, paragraph 1.21

followed the same approach taken in the Initial Proposals this could account for an adjustment of up to +7.1m passengers[30] to the mid-case forecast.

2.4.25 The resulting high case forecast from the CAA's amended version of Heathrow's model is 85.6m passengers in 2025 and 86.6m passengers in 2026. Those passenger numbers are still significantly above what is possible under our physical capacity constraints and legal cap on annual ATMs.

2.4.26 The CAA has not provided any detail on the supply metrics (load factors, seats, seats per movement and number of movements) that could produce these passenger numbers. The CAA's inability to publish the constituent parts of its forecast undermines the credibility of its H7 forecasts and mean that we cannot validate that our models have been used correctly in forming the forecasts.

2.4.27 Without transparency on these key elements of the CAA's approach we cannot validate that the forecasts are consistent with our capacity or realistic assumptions on seats per movements. Therefore, the CAA's approach is not fit for purpose.

2.4.28 Table 4 below shows the additional movements that would be needed in order to achieve the CAA's passenger forecast in the Final Proposals.

Table 4: Additional ATMs needed to achieve CAA high case with 2019 supply metrics

Forecast & year	Passengers (m)	Seats per movement	Load factor	Required ATMs (k)	In excess of limit (k)
High case 2025	85.6	213.66	80.0%	501	21
High case 2026	86.6	213.66	80.0%	507	27

Source: Heathrow

2.4.29 Even considering the most optimistic, high case assumptions on fleet replacements and load factor increases the number of movements needed would still exceed the 480k limit, as shown in Table 5:

Table 5: Additional ATMs needed to achieve CAA high case with optimistic supply metrics[31]

Forecast & year	Passengers (m)	Seats per movement	Load factor	Required ATMs (k)	In excess of limit (k)
High case 2025	85.6	215.45	80.5%	494	14
High case 2026	86.6	216.78	80.8%	494	14

Source: Heathrow

[30] This is our estimate based on the information in the Initial Proposals which showed a 2% adjustment was made to the mid-case forecast. If the same 2% adjustment were made to reach a mid-case of 357.4m passengers, then the adjustment would be 7.1m passengers.
[31] Optimistic supply metrics taken from Heathrow high case forecast

2.4.30 We have sought independent, external review of the use of the 480k movement cap and the resulting asymmetric distribution from Steer. They came to the following conclusion:

"The model caps annual ATMs at 480,000, thus not allowing any Monte Carlo run to produce ATM results higher than 480,000. In turn this produces a downward skew to the outputs, with the modal (most common) output remaining high at around 470,000 ATMs, but with the median and the mean outputs being lower than this as a result of the downward skew.

We assess that this is in part a function of the annual ATM cap, which reflects the reality of the capacity constraints at the airport, and which leads to a naturally downward skewing of demand, and also in part a reflection of the triangular distribution around the modal point that has been adopted in the model."[32]

2.4.31 The CAA's error in incorporating an adjustment of up to +7.1m passengers to the mid-case is one of the contributing factors to the CAA's over-optimism in the later years of its forecast. It is also another example of the lack of a robust methodology and cause for concern about the credibility of the entire forecast. The triangular distribution is the most appropriate distribution for ATMs so that the potential for upside in ATMs is in context of the cap and allows for the much greater downside risk. If Heathrow's scenario had 476k ATMs as an input, 471k and 466k ATMs and indeed 426k ATMs are all reasonable modelled outcomes in the way that 481k, 486k and 526k simply are not.

2.4.32 In order to comply with its statutory obligations, the CAA needs to amend its Final Proposals to correct the errors we have identified in this section, and to reduce their mid-case forecast by 7.1m passengers.

London market share

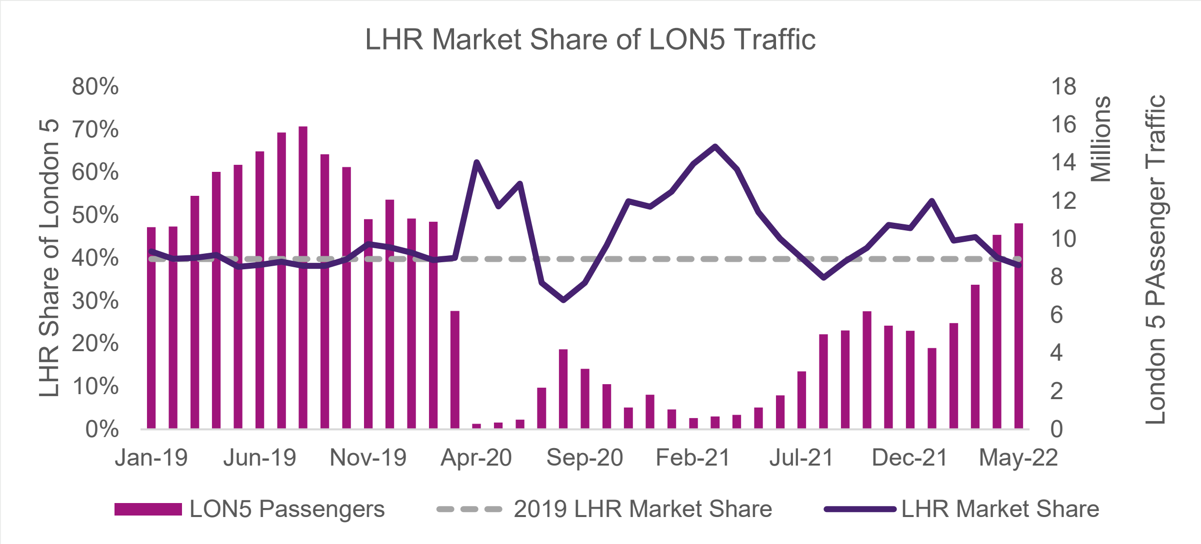
2.4.33 In the Initial Proposals, the CAA set out a new methodology for estimating Heathrow's share of the direct London market based on historical trends relating to the size of that market. This worked on the basis that when the London market recovers to the size it was in 2005, the Heathrow share should be at 2005 levels, when it grows to 2010 levels it should be at the 2010 share and so on.

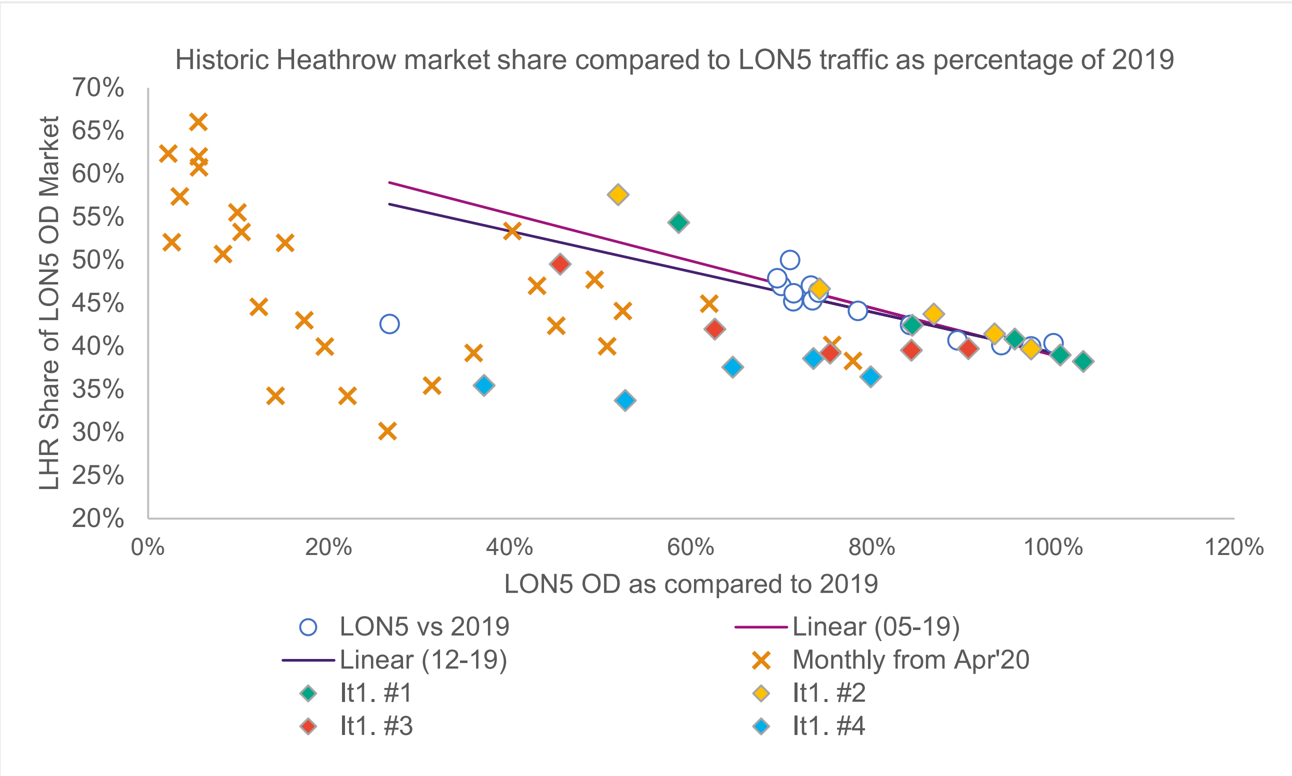
2.4.34 In our response to the Initial Proposals we explained why this simplistic and arbitrary approach is incorrect. The CAA has ignored the most recent evidence in the form of recovery data from during the pandemic and has held data points from twenty years ago as more relevant than those from two months ago.

2.4.35 Figures 4i and 4ii show the historical market share relationship used by the CAA, the actual data points on market share for 2020, 2021 and 2022, and the assumptions on market share that we have made in our own forecast.

[32] Independent, expert review of the Heathrow models, carried out by Steer in January 2022

Figures 4i and 4ii: Historic trend, actual data and assumptions on market share





Source: Heathrow/AirportIS

2.4.36 As we set out in our response to the CAA's Initial Proposals, the CAA has failed to look at the available data showing the course of the recovery and, we can see from Figure 4i, above that every time the London market experiences a downturn due to the two national lockdowns and then the Omicron variant, Heathrow's market share peaks. When restrictions are lifted, it declines. Not only that, it has declined below the trend.

2.4.37 This can be further observed in the second Figure, 4ii, where it is clear that the monthly data from the past two years is showing Heathrow's share of the London market has been lower than the relative times in 2005-2019 with similar volumes and therefore lower than the market share implied by the CAA's work. For example, the most recent point available for May-22 shows that rather than 80% recovery for the London market that month providing Heathrow with a 44% market share as it did in 2014 it actually recorded 38%, a lower number than 2019 even.

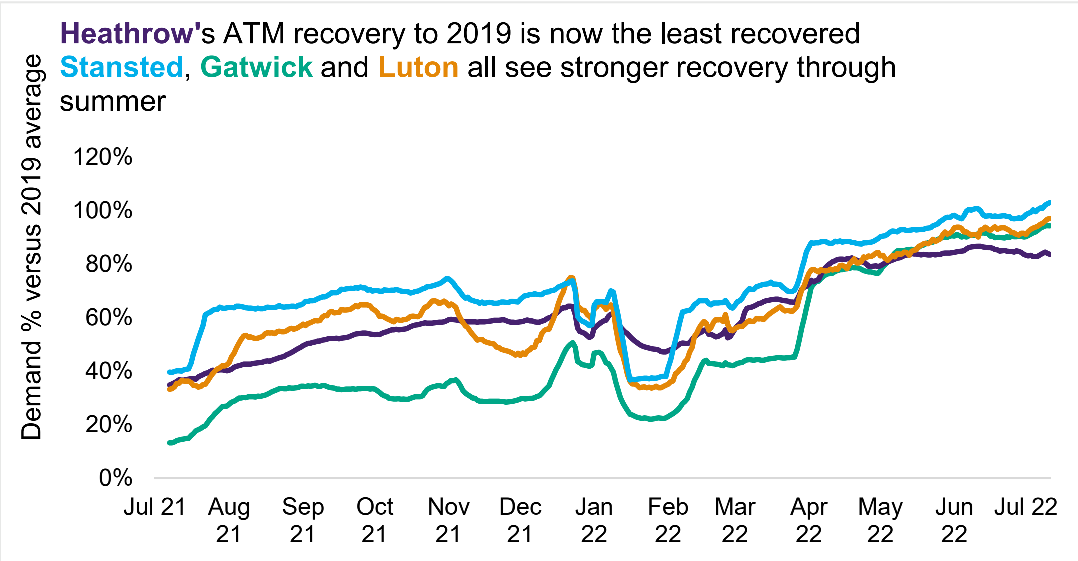
2.4.38 The CAA has failed to take this evidence into account and in its Final Proposals have made similar adjustments on market share to those made in its Initial Proposals. Aside from not being supported by the actual data on passenger numbers, the CAA's methodology also ignores the fact that the London market isn't the same now as it was in 2005.

2.4.39 As we explained in our response to the Initial Proposals, aviation growth in the last decade has been predominantly driven by low-cost carriers. From 2011 to 2019, low-cost carriers grew 71% compared to just 5% for full-service carriers[33]. While low-cost carriers have set up large bases at other London airports, most notably, Luton, Stansted, and Gatwick, lack of available capacity has blocked their entry to Heathrow.

2.4.40 In the UK, low-cost carriers have been driving the post-Covid passenger recovery. Initially this was in part due to travel restrictions on short-haul destinations being eased more quickly, but the trend has continued into this summer.

2.4.41 Figure 5 below shows how Heathrow's recovery has compared to that at other London airports. As we noted in our response to the CAA's Initial Proposals, it is only during periods of severe travel restrictions that Heathrow's recovery is more resilient than others. During the majority of the pandemic our recovery has actually lagged behind that of our competitors in the London market, and for the last few months has fallen into the position of being least recovered.

Figure 5: Heathrow recovery compared to other London airports

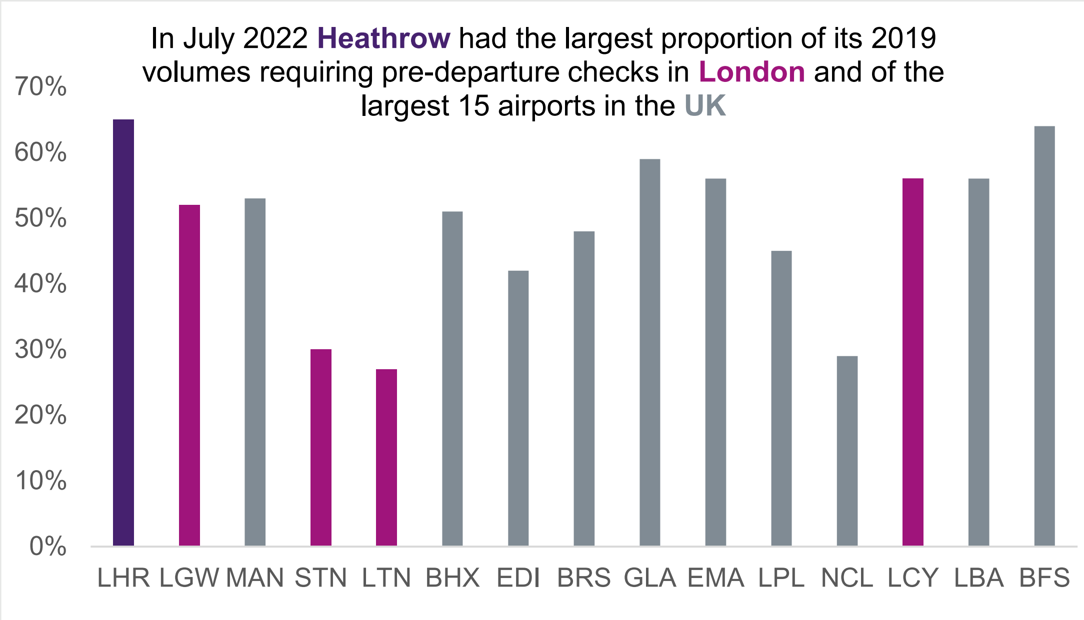


Source: Heathrow/FlightRadar 24

2.4.42 In Figure 6 we can also see that Heathrow was still the most constrained of the UK airports in July 2022, in that we have the highest proportion of our 2019 traffic still requiring pandemic-related paperwork.

[33] OAG Analyser LCC versus FSC seat growth from 2011 to 2019

Figure 6: Proportion of international travel that has requirements for Covid-related paperwork



Source: Heathrow/CAA, sherpa

2.4.43 The CAA has not provided any information on the size of the adjustment made on market share, depriving Heathrow of the opportunity to meaningfully comment on the adjustment. Assuming that the CAA has followed the same approach taken in the Initial Proposals, this accounts for an adjustment of up to 5.7m passengers to its mid-case forecast[34]. This is discussed further in the Legal Annex.

Changes to passenger mix including reduction in business travel and impact on fares

2.4.44 In its Initial Proposals the CAA agreed with our forecast that there would be a long-term reduction in the number of business travellers, but indicated that it was considering reducing the size of the impact.

2.4.45 To support its Final Proposals the CAA commissioned Skylark to carry out a study of trends in business travel. In that study Skylark conclude that:

"*Although the majority of business travel will recover following the Covid-19 pandemic, there will be a long-term, permanent reduction in the volume and demand. The adoption of new technologies and changing trends in willingness to travel will lead to reducing business travel activities that are deemed to be less essential and more replaceable by technology.*"[35]

2.4.46 Based on Skylark's finding the CAA then makes the following assumption on business travel in its Final Proposals:

"Taking the conclusions of Skylark's study into account we decided to retain some long-term reduction of business travel in all but the most optimistic scenario, but to reduce that long-term impact from 20% to 10% in the most likely scenario for these Final Proposals."[36]

[34] It is assumed that this adjustment incorporates the CAA's amendment to our fares assumptions, as was the case in their Initial Proposals
[35] CAP2366A – Business Travel Trends, Skylark Consulting Group, March 2022
[36] Final Proposals, Section 1, paragraph 1.46

2.4.47 Although this is aligned with the high level, directional conclusion that Skylark come to, at no point does the Skylark report make any comment on the likely scale of the reduction, nor does it make any suggestion that there is a scenario in which there wouldn't be any reduction in business travel.

2.4.48 The CAA's assumption lacks any supporting evidence to underpin the decision to make a 10% reduction over a 20% reduction, or to implement no reduction in a most optimistic scenario.

2.4.49 The CAA needs to provide the rationale and evidence for these assumptions.

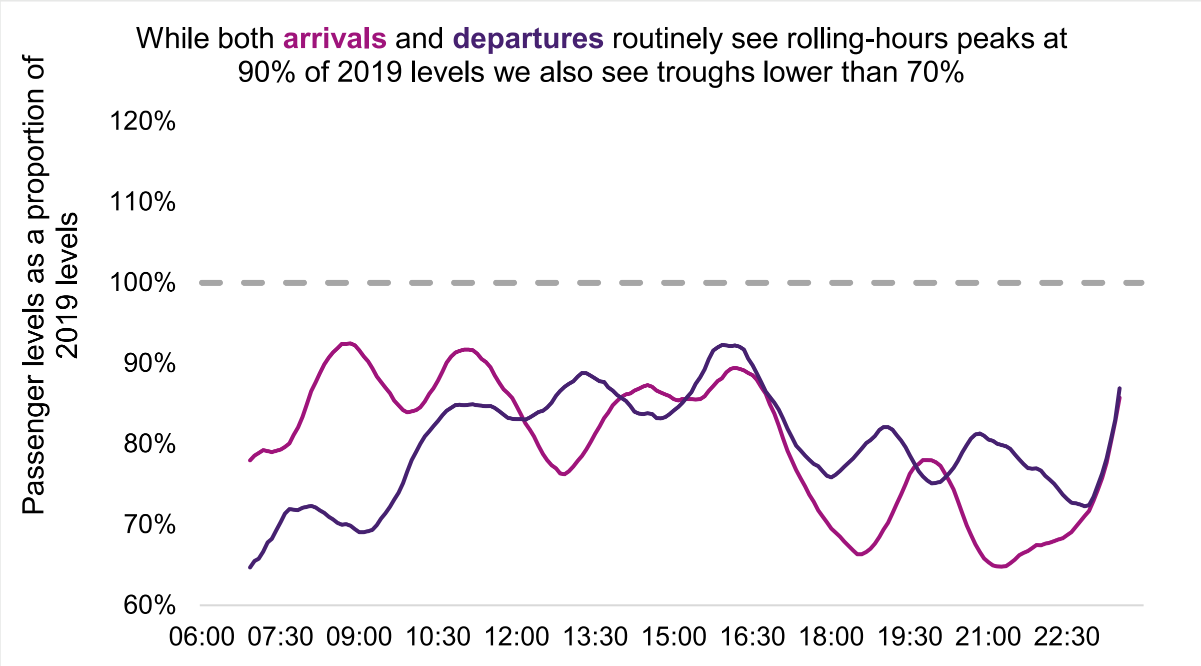
2.4.50 In our forecast, alongside our assumptions on reduction in business passengers, we also make an assumption of increases to fares because of two separate drivers. The first driver is the rising cost of carbon and the ambition for the aviation sector to reach net-zero – our assumptions on that topic are discussed in the next section, titled 'Carbon prices'.

2.4.51 The second driver focuses on pandemic related pressures, including airline and airport capacity constraints which may limit supply, a loss in business passengers impacting on airline profitability resulting in an increase to economy fares, testing costs directly impacting the cost of travel and the need for airlines to recover costs and lost profit over the pandemic.

2.4.52 In its Initial Proposals and again in its Final Proposals, the CAA has ignored the wider nature of that second driver and considered only the potential for the loss of business passengers to impact on fares. The CAA needs to reconsider the wider set of drivers that may increase fares and impact on demand, rather than only the impact of a reduction in business passengers.

2.4.53 A further consequence of the reduction in business passengers is that Heathrow's schedule has become more focussed on leisure destinations, and hence more peaky without the previously reliable procession of business travellers who filled the leisure troughs. As we can see below in Figure 7, we have routinely seen passenger levels for arriving passengers of 90% of 2019 in the early and mid-morning in July 2022, we have also seen busy mid-afternoons for departures. However, both arrivals and departures have seen periods of much lower passenger levels which eliminate some of the efficiencies Heathrow was able to operate to in summer 2019.

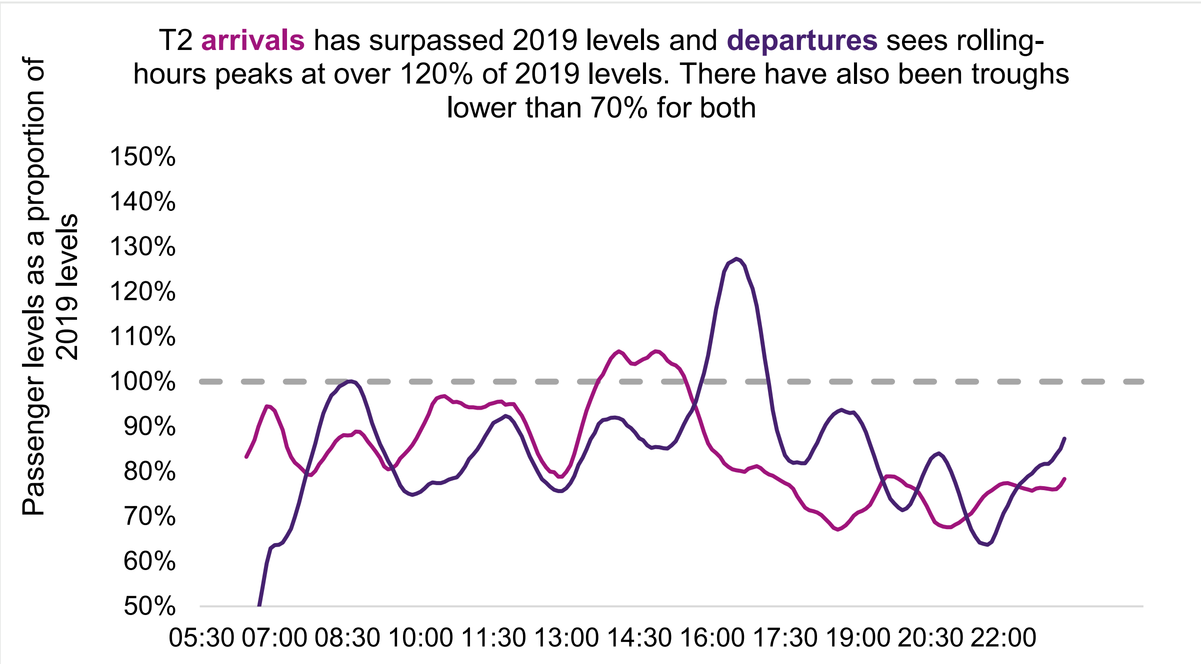
Figure 7: Arrivals and departures peak hours



Source: Heathrow

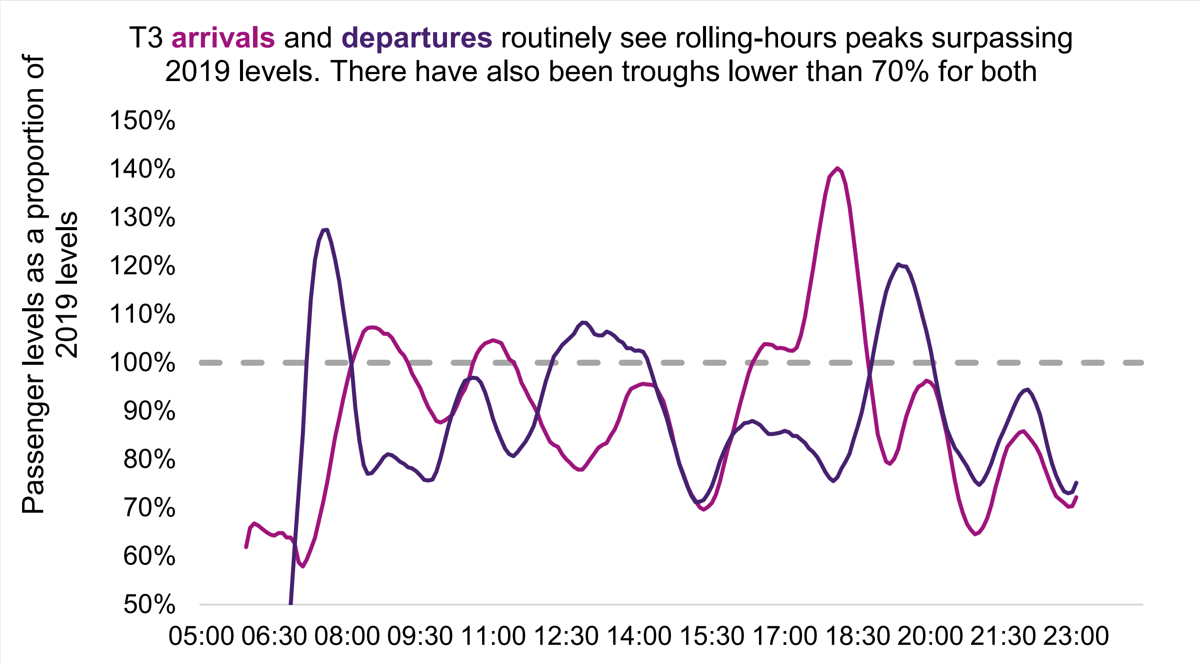
2.4.54 Variation within a terminal is even more significant, as shown in Figures 8 and 9 below.

Figure 8: Arrivals and departures peak hours Terminal 2



Source: Heathrow

Figure 9: Arrivals and departures peak hours Terminal 3

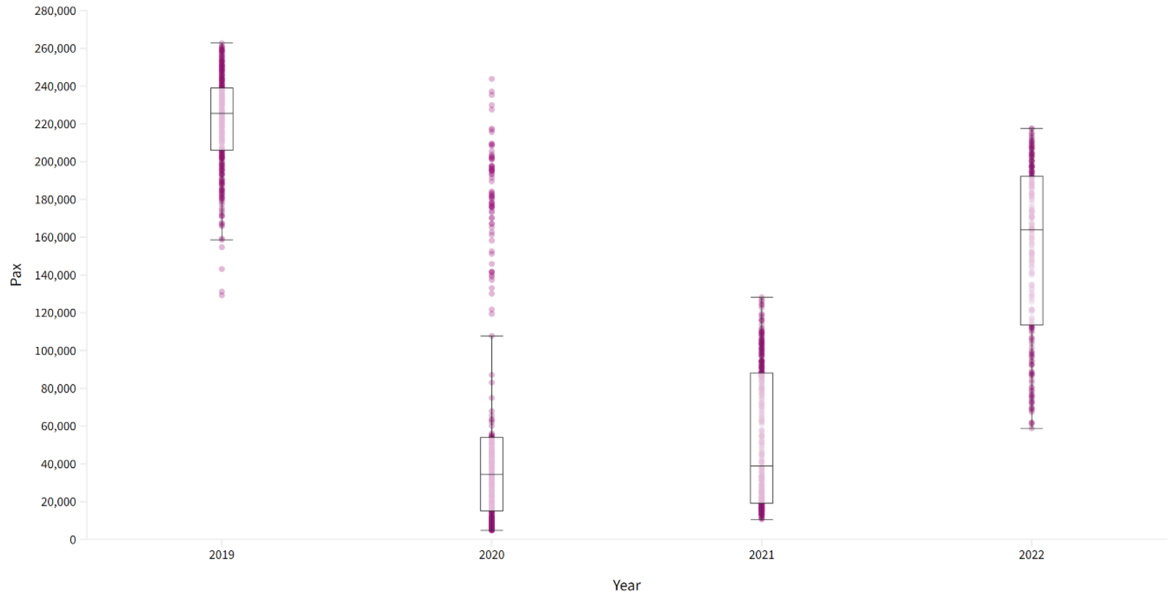


Source: Heathrow

2.4.55 This level of variation in passenger demand within the schedule creates significant challenges to the ability to align resource with demand. We have to commit more resources to serve the peaks, introducing inefficiency in our rosters. Resource may only be needed for a peak hour but not necessarily a full shift, however, we are not able to roster individual hours.

2.4.56 The recovery in daily demand is also extremely peaky. Figure 10 below shows daily passenger volumes (represented by the dots) and the range of daily demand across the year (represented by the boxplots). It highlights how significantly the variation in day-to-day demand has changed since 2019. In 2022, both the difference between the upper and lower extremes and the interquartile range are significantly larger than in 2019.

Figure 10: Comparison of the daily passenger demand between 2019 to 2022



Source: Heathrow

2.4.57 Uncertainty remains over the strength of the recovery following the summer peak. However, it has been necessary to bring back resource now to serve current demand. We now have as much resource in security as pre-pandemic. Simply considering only annual passenger volumes fails to reflect the cost implications of serving the demand peaks and underestimates the operating costs of the recovery.

Carbon prices

2.4.58 As we set out in our response to the CAA's Initial Proposals, the CAA failed to set out how it has considered the impact of carbon prices in developing its forecast.

2.4.59 In its Final Proposals, the CAA did not address this issue and has again failed to disclose its assumptions on carbon price, referring only to the previous, undisclosed increases to fares that were used for the Initial Proposals:

"'We maintained the same increases to fares as a result of increased costs to airlines that we previously used for Initial Proposals"[37]

2.4.60 Given the significance of this issue to our industry it is important that the CAA not only take carbon into account in its forecast, but also give visibility of the assumptions it has made.

2.4.61 In our updated forecasts we continue to consider the rising cost of carbon and the ambition for the aviation sector to reach net-zero carbon emissions.

2.4.62 We remain confident that it is possible for aviation to grow and to reach net-zero emissions. In early 2020 the UK aviation sector set a target of net-zero emissions by 2050. It published its roadmap to get there, which enables the industry to grow by 70% and achieve net-zero by that date. Europe followed suit and there is a growing

[37] Final Proposals, Section 1, paragraph 1.49

global shift to net-zero, including specific commitments from airlines and airline alliances, including IATA.

2.4.63 The cost of carbon is an increasingly important consideration in the overall cost of aviation. Historically an under-valued externality, carbon pricing is increasingly incentivising investments in lower carbon technology.

2.4.64 These costs can arise directly through policy instruments (for example the inclusion of emissions from flights in Europe's Emissions Trading System) or through voluntary means (such as a brand building the cost of planting a tree for every customer into its product price). In the voluntary and compliance markets the cost of carbon is increasing significantly.

2.4.65 Carbon costs can also arise indirectly, such as the Government considering the value of emissions in its appraisal of critical infrastructure development proposals.

2.4.66 There are three areas of carbon cost that are relevant to Heathrow:

- CORSIA - over 90% of airlines participate in CORSIA, which is signed up to at state level. The UK and all EEA and North American nations participate. CORSIA is designed to deliver carbon neutral growth from 2020, and airlines pay for CORSIA eligible carbon units to cover emissions on all air movements above their baseline. These carbon units can be acquired for under £10/tonne;

- In January 2021, following the UK's departure from the EU, the UK Government introduced the UK Emissions Trading Scheme (ETS), which is very closely modelled on the EU ETS. Tradable emissions allowances are issued to participating companies in line within a reducing cap. Trading at around EUR50/ tonne, this will be quite an impactful policy shift, however it only applies to intra-EEA flights. Prices are expected to climb to c. EUR90/tonne by 2030[38]; and

- In September 2021 BEIS updated their greenhouse gas emissions valuation to take into account the UK's net-zero target.

2.4.67 The central case scenario for our latest forecast remains based on the September 2021 BEIS carbon valuation. The current market price is, however, significantly lower than the BEIS projections for 2020 and 2021. We therefore use a trajectory from traded carbon values, based on ETS prices, of 55 EUR or 46 GBP per tonne in 2020 to BEIS's latest central projection of 378 GBP per tonne in 2050.

2.4.68 We also consider a high carbon cost assumption, which utilises BEIS's latest central projection of carbon value out to 2050 but recognises that aviation market levers will not start to expose airlines to this cost until the mid-2020s. The high case therefore tracks our central scenario in the short term until 2024, and then transfers over to the BEIS central case in 2035, again using a linear trajectory.

2.4.69 The future carbon price trajectory is influenced by a number of factors in the medium and long term which we plan to assess in more detail. Therefore to date our focus for the application of carbon prices to demand forecasts is the H7 period only.

2.4.70 For our latest forecast update, we have updated the fares model to reflect actual fares up to and including 2021, however, fare projections are calculated using 2019 base

[38] https://www.euractiv.com/section/emissions-trading-scheme/interview/analyst-eu-carbon-price-on-track-to-reach-e90-by-2030/

data due to 2020 and 2021 being distorted due to Covid. The annual future fare projections are now calculated as growths versus 2019 actual fares from Airport IS.

2.4.71 This leads to the following estimated increases in airfares as compared to 2019 actuals:

Table 6: Estimated increase in airfares compared to 2019 actuals

	2022	2024	2026
Central	8.8%	11.2%	13.5%
High	8.8%	11.2%	16.3%

Source: Heathrow

2.4.72 There is also a broader question around passenger propensity to fly in a net-zero world. Consumers may choose to fly less unless the aviation sector is acting and being seen to act to cut emissions. Around a third of UK consumers claim to avoid flying where possible and 40% say they expect to avoid it in the next few years. With the increased awareness and understanding of climate change and its impacts, consumers in a net-zero world could have a lower propensity to fly. We have already started to see this culture develop in Scandinavia with the ‘flight shaming’ movement.

2.4.73 There is no evidence to suggest a shift in consumer behaviour today and consumers also acknowledge there is currently a lack of alternatives to flying for many journeys. As a result, we do not consider the possibility of further reductions to propensity to fly, and the increases in carbon prices are deemed a sufficient guide.

2.4.74 In the November 2021 presentation of their aviation forecast update, IATA and Tourism Economics stated a belief that the impact of rising carbon costs could have a significant impact on the industry. Currently, IATA only considers higher carbon costs in its downside risk scenario and not the central scenario in its forecast. The downside risk includes consumers not being able to afford travel due to higher fares and carbon taxes, but in its central scenario IATA still assumes a reduction in airfares due to technology advancements.

2.4.75 The CAA needs to take a full and comprehensive account of carbon prices in H7, including taking an appropriate account of the latest BEIS emissions valuation, it must also transparently share the assumptions it is using so that stakeholders can understand the impact. A failure to do so is a failure to transparently consult.

2.4.76 Taking into account the adjustments made for London market share, changes to passenger mix and carbon prices, the CAA needs to reverse these and reduce its mid-case forecast by 5.7m passengers to correct these errors.

Incorrect amendments under forecast synthesis

2.4.77 As outlined in the Introduction, the CAA’s approach to creating the passenger forecast for its Final Proposals includes a series of quantitative adjustments based on what it claims to be qualitative regulatory judgements. Different approaches are taken for the adjustment to 2022 compared to 2023-26. In doing so the CAA makes a number of errors in its approach which undermines the exercise. This is dealt with further in the Legal Annex section E1.

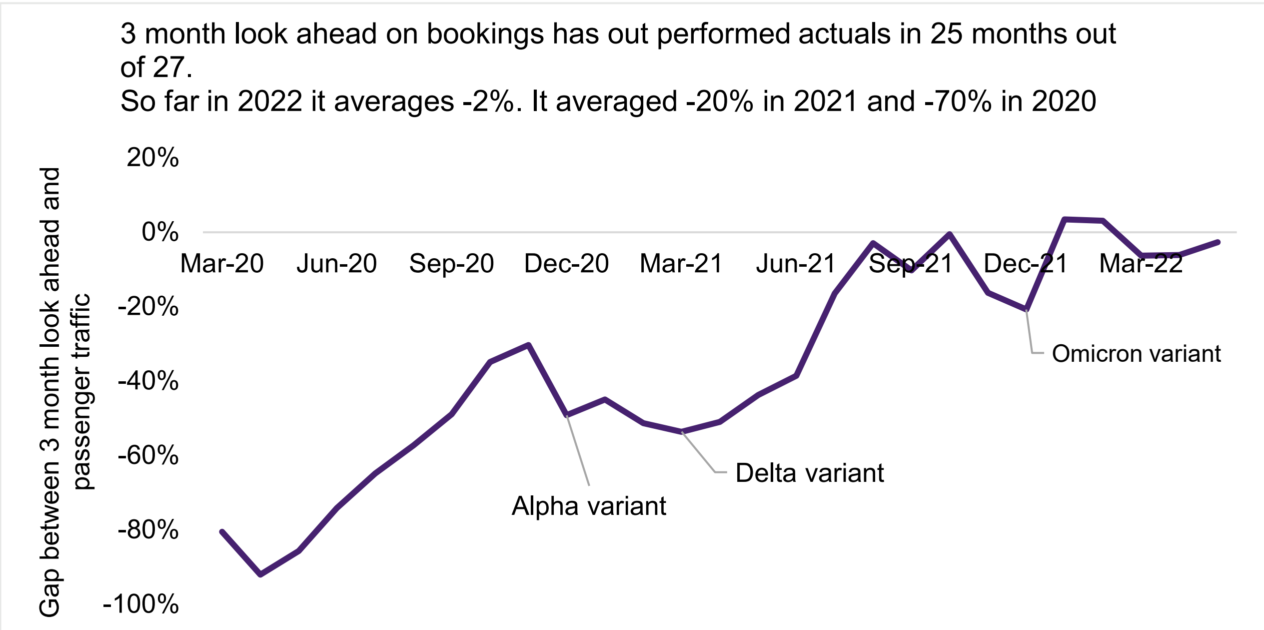
2.4.78 To create the forecast for 2022 the CAA has taken the average of two data points. The first data point, or lower bound, is the number of passenger bookings for 2022 at the point of forecasting, relative to the number of bookings held at the same point in 2019. The second data point, or upper bound, comes from the CAA's amended version of Heathrow's forecast for 2023. The CAA has not explained why this is the most appropriate approach to adopt, but it appears that it is trying to adopt a simple logic that 'passenger numbers in 2022 will be lower than in 2023'. The forecast for 2022 is then taken as the average of these two bounds.

2.4.79 A separate approach has been taken for 2023-2026. For those years the CAA has taken its amended version of Heathrow's forecast and made further adjustments to either increase or decrease the number of passengers in each year of the H7 period. Those adjustments are based on qualitative assessments of various recent developments that the CAA believes were not taken into account in the forecast itself but which need to be incorporated in order to produce a credible forecast. Examples of those recent developments include increased cost of living pressures and increased oil prices. The CAA has failed to provide any rationale for how these assessments are translated into the quantitative adjustments that are applied to each year.

2.4.80 The CAA's failure to provide clarity on the methodology and assumptions that drive its forecast has deprived Heathrow and other stakeholders of the ability to fully understand the approach and rationale used and is a failure by the CAA to consult properly on its proposals.

2.4.81 We also note that the use of bookings taken at one point in time represents a significant error. Implicit in the use of that data point as a lower bound is the assumption that bookings can only go upwards rather than downwards. However, this clearly isn't the case, as demonstrated in Figure 11 below.

Figure 11: Variability in booking data compared to actuals



Source: Heathrow

2.4.82 Even in the absence of the above analysis, the simple fact that passengers and airlines can cancel bookings is enough to highlight the CAA's error in using this data point as a lower bound. For example, if a forecast for 2020 had been based on bookings taken at a point in 2019, it would have overestimated passenger numbers by 60 million.

2.4.83 Heathrow's forecasting model has been subjected to an independent review of methodology by Steer which included reviewing the structural robustness of the models and the robustness of the methodology. It highlighted the use of effective air traffic methodology including inclusion of historical data and trends, appropriate market granularity, a top-down and bottom-up assessment of demand and capacity respectively and ability to model multiple scenarios and concluded: "*In summary we assess that HAL has developed a sophisticated air traffic forecast modelling suite which is appropriate for use for the H7 period where it is impacted by the COVID-19 pandemic.*"[39]

2.4.84 The CAA needs to share the evidence of the calculations to substantiate the 2.8m passenger adjustment or remove it.

Risk weighted forecast

2.4.85 Heathrow's passenger forecasts for H7 are based on a probabilistic methodology. Our mid-case is a P50, which is set at the point at which there is a 50% chance of outperformance and a 50% chance of underperformance. This risk-balanced forecast means therefore that it is the most appropriate forecast, not necessarily the likely forecast, nor a central case.

2.4.86 We achieve this by considering four probable scenarios and then combining them through Monte Carlo Simulation, based on weightings that relate to their likelihood of occurring, to create a risk-weighted forecast.

2.4.87 This risk-weighted forecast is different to a most likely scenario. A particular outcome might be the most likely one, but if the balance of risk is on the downside, then the risk-weighted forecast will be below the most likely scenario.

2.4.88 For H7 passenger volumes, the balance of risk is to the downside of a most likely scenario, and so the mid-case forecast must be below the most likely scenario. This is particularly the case in the later years of the H7 period, when there is limited upside because of our capacity cap, but significant downside risk in both demand and supply factors. Heathrow could be 10% down on 2019 levels of passengers, but it can't be 10% up; the upside is much smaller than the downside

2.4.89 Downside risk exists because with each advancing month of 2022, GDP scenarios are revised down, fleet changes have seen seats taken out of the system, inflation continues to surpass forecasts and oil prices remain high.

2.4.90 In September 2019 Heathrow recorded 20 days of equivalent growth over September 2018 totalling an additional 80k passengers. If that had been the pattern for 30 days, Sept 2019 would have seen 7.1m passengers and a 135k more passengers than the previous September. In reality, there were two periods of industrial action which cost the airport over 270,000 passengers. There were limited opportunities to offset those loses. Some passengers chose alternative dates, some used different airlines and still flew. The reality was that many didn't travel or chose journeys that did not involve Heathrow.

2.4.91 In situations where downside risk is actualised through industrial action, volcanic clouds, inclement weather or recession, Heathrow is not able to induce demand to

[39] Steer Report Heathrow Airport - Review of Air Traffic Forecast Methodology, H7 | Final Report Feb 2022 – pg v

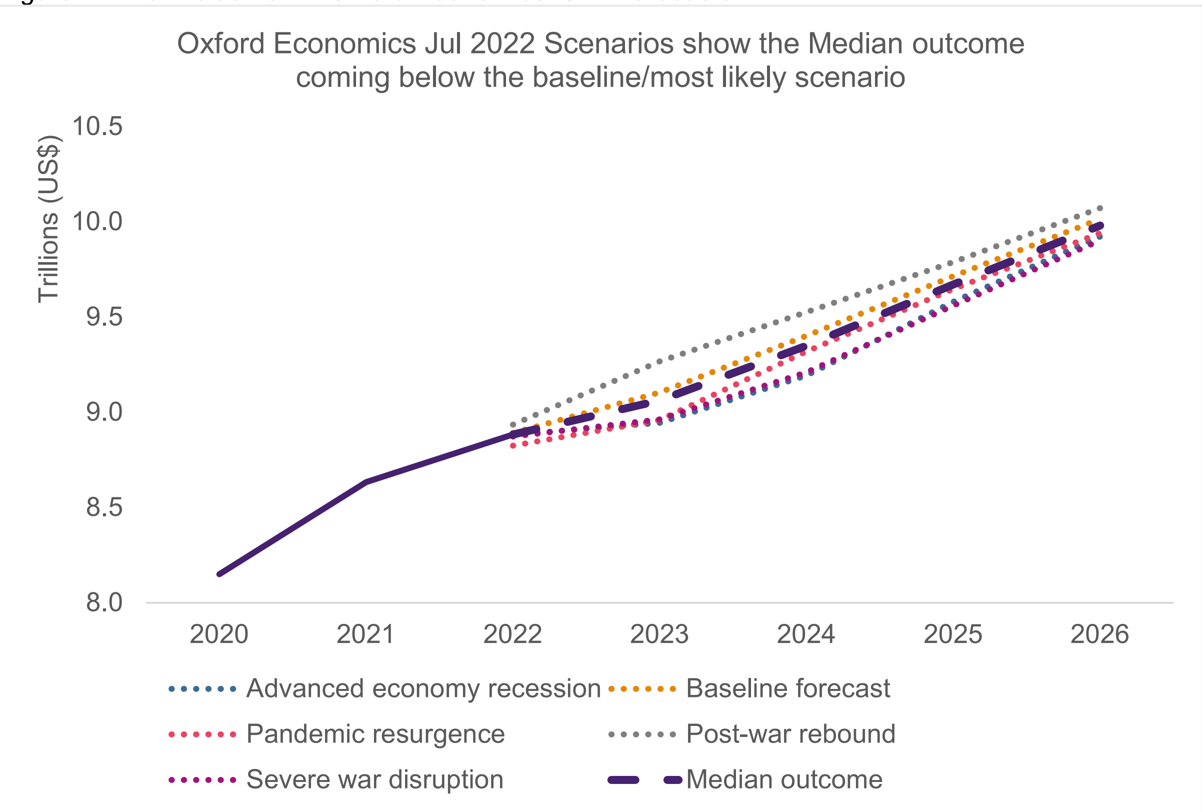
offset it before or after as these are unpredictable in many cases. This is what the shock factor is designed to absorb.

2.4.92 What it doesn't accommodate or reflect is the fact that because of the 480k ATM cap, even in a scenario where there are no shocks and all of the assumptions tend towards the positive, the risk is still on the downside. Even if the aviation industry and wider world looks like the narrative of our Scenario #1 input from our most recent H7 forecast update, the potential to underperform it by 5 or 10% exists but the potential to outperform it does not.

2.4.93 The CAA appears to ignore this reality. Our forecasts appropriately consider the risks of both positive and negative scenarios, and the risk of a more negative outcome of each scenario. It is inappropriate to ignore the potential for less positive outcomes and focus on the 'most likely outcome' from our forecast. Highlighting the numbers from Scenario #2 as 'most likely' ignores both the existence of downside risk within that scenario and the potential of being in a more negative scenario. Indeed, many external forecasters have commented on there being significant downside risk compared to their most likely scenario.

2.4.94 This can be seen in Oxford Economics' GDP forecasts. There is a modal scenario, referred to as Baseline, with the highest weighting of 40%. There are four other scenarios, three of which are more negative than the baseline and sum to 45% and a single more positive scenario with 15% weighting. This puts the median outcome below the scenario with the most weighting.

Figure 12: Downside risk in Oxford Economics' GDP forecasts



Source: Oxford Economics

2.4.95 Note, although the US is currently experiencing economic challenges our methodology already absorbs this uncertainty with recession scenarios already built in. However, these worsening economic changes could infer that our median outcome forecast is now on the optimistic side, with the possibility that a heavier weighting towards the 'Advanced economy recession' scenario could be required.

2.4.96 Evidence of downside risk can also be seen in the external forecasts that the CAA purports to have considered but it is not clearly evidenced how this downside risk has been reflected in the forecast, as shown in Table 7.

Table 7: Evidence of downside risk in external forecasts

Forecast	Downside Risk Commentary
Eurocontrol (Jun-22)[40]	Page 4 - Macro-economic impact The GDP baseline forecast for 2022 has been revised downward since the previous forecast due to the Russian invasion of Ukraine. Page 6 - Scenario Update (June 2022) COVID-19 recovery and impact of Russia's invasion of Ukraine. All scenarios include the closure of Russian and Ukrainian airspace. The low scenario outlines high impact of staff shortage. Page 12 - Additional Risks: The volatility in oil and fuel prices, Higher inflation and greater uncertainty triggered by Russia's invasion of Ukraine, future airspace and network changes alongside terrorist attacks. The current forecast includes different economic forecasts, but a further deterioration of the economic situation is a downside risk.
ACI (May-22)[41]	Page 3 – Low scenario presented for 2022 as -27% on 2019 levels, displaying more downside risk against the mid-scenario (-22%) than the high scenario (-18%) Page 5 – Low scenario presented monthly with no month in the second half of year to have more upside potential than downside risk against the mid-scenario
Airbus (Jul-22)[42]	Page 4 – Lower boundary of World Air Traffic forecast (RPKs v 2019) presented as lower than Dec-20 estimates until the end of 2024
ICAO (Jun-22)[43]	Page 9 – Illustrates the recovery of seats (-15 to -18% on 2019) is expected to out-pace the passenger recovery (-21 to -24% on 2019) Page 28 – Only uses airline schedules as a reference

[40] https://www.eurocontrol.int/sites/default/files/2022-06/eurocontrol-three-year-forecast-2022-2024-june-2022.pdf
[41] https://www.aci-europe.org/downloads/resources/Airport%20Traffic%20Forecast%202022%20Scenarios%20%202022-2026%20Outlook%20-%20May%202022.pdf
[42] https://www.airbus.com/sites/g/files/jlcbta136/files/2022-07/GMF-Presentation-2022-2041.pdf
[43] https://www.icao.int/sustainability/Documents/COVID-19/ICAO%20COVID-19%20Economic%20Impact_2022%2006%2010.pdf

	point and refers to it as “not necessarily realistic.” Pages 38, 41 – All scenarios more negative across S22 than airline schedules
Bain and Company (May-22)[44]	Apr-22 update is more negative than Mar-22 for 2022 and the medium term. Among the challenges: continued Covid-19 lockdowns in China, slashed global GDP forecasts, and the consequences of the war in Ukraine.
IATA (Jul-22)[45]	Mentions The Russo-Ukrainian war, fuel prices (especially at unhedged prices) and slashed GDP forecasts as having downward pressure on forecasts.
Tourism Economics (Jun-22)[46]	EUROPEAN TRAVEL TRENDS & PROSPECTS Q2 2022 (June 2022) Page 17 - Mar-22 forecast lower than Nov-21 for 2023 Page 22 - Faster recovery to 2019 levels possible but risk skewed to downside

2.4.97 Recovery to 2019 levels in 2025 is certainly possible at Heathrow, it is less likely than at many other airports because like *Arrow’s Paradox* moving to 100% recovery from 99% will be harder than 98% to 99% because of the constrained nature of Heathrow and the airlines’ capacity as it approaches 81m. A risk-weighted forecast acknowledging that Heathrow may be 99%, 94% or 89% recovered in 2019 but also taking in to account it won’t see 104% or 109% of 2019 levels is required.

2.4.98 Our mid-case for 2025 is a scenario where Heathrow’s airlines have a fleet that would fly approximately 100m seats, down by over a million on 2019. We last had that size of combined fleet operating in 2017, when we had 78m passengers and not the 81m that some forecasts are inferring.

2.4.99 By calibrating to external most likely forecasts the CAA is not taking account of the downside risk that we face, and thus the forecast is not a ‘P50’ with an equal chance of over or underperforming. If the CAA wishes to move away from a P50 mid-case forecast to a more optimistic scenario it has to recalibrate other building blocks to accommodate for the downside risk and allow for a ‘symmetrical risk’ determination. This would need to be reflected in: an asymmetric approach to traffic risk sharing, an increased WACC to reflect the higher risk, an additional asymmetric risk allowance to account for the difference between expected and modelled outcome and a financeability buffer to provide adequate cashflow in the event of traffic being below forecast.

2.4.100 This absence of a balanced risk-based methodology and the resulting over-optimism is one of the contributing factors to the CAA forecast being too high, as commented upon by the CAA’s own advisor Skylark.

[44] https://www.bain.com/insights/air-travel-forecast-when-will-airlines-recover-from-covid-19-interactive/

[45] https://www.iata.org/en/iata-repository/publications/economic-reports/air-passenger-monthly-analysis---may-2022/

[46] https://etc-corporate.org/reports/european-tourism-2022-trends-prospects-q2-2022/

2.5 Transparency

Engagement with the CAA since its Initial Proposals

2.5.1 Following the release of its Initial Proposals, the CAA came under pressure from the airlines to publish Heathrow's passenger forecasting models. In mid-December the CAA communicated its intent to comply with that request, citing the need to provide transparency of its proposals and the limited opportunity for airlines to understand the methodology that sits within our models.

2.5.2 We have already explained that we are happy for the model to be shared in a confidentiality ring. That would be consistent with regulatory best practice and would allow the CAA to reconcile its duty to consult conscientiously with the need to protect the intellectual property and the commercially and competitively sensitive nature of the data. The CAA has not chosen to take up that offer.

2.5.3 We also note that we have worked closely with airlines to give them opportunities to understand the model even outside a confidentiality ring. We engaged in weeks of Constructive Engagement at the beginning of the H7 planning process and we hosted follow-up additional engagement sessions, with agendas tailored to the airlines' requests. In July 2021 we had also offered to hold detailed sessions with the airlines in which we would talk through the model files and answer any questions. That would have allowed full visibility of the mechanics of the model, without contravening any legal restrictions. The airlines refused this offer. We have also shared a redacted version of the model with the CAA for consultation with airlines.

2.5.4 It should also be noted that we have provided the CAA with access to our models in full and have spent a significant amount of time with the CAA's forecasting team to explain the models in detail and support them in their use. The CAA therefore has the absolute transparency it needs to allow interrogation of our models and come to its own conclusions as to the credibility and robustness of our methodology and forecast.

2.5.5 In fact, the CAA has previously praised our models, firstly in its 'Consultation on the Way Forward':

"Based on our initial assessment, HAL appears to have taken a reasonably well-considered and structured approach to passenger forecasting, consistent with good practice. In particular, HAL's use of specific modelling to take account of the impact of travel restrictions is based on evidence where available and appears to be reasonable."[47]

2.5.6 Then again in its Initial Proposals:

"We consider that HAL's forecasting approach allows the impact of the covid-19 pandemic on passenger numbers to be reflected in a consistent and transparent way. […] In general, we consider that HAL's suite of models represents a reasonable approach to modelling in the difficult and uncertain circumstances of covid-19."[48]

2.5.7 Given this, it is unclear why the CAA has chosen to step away from using Heathrow's well-grounded and understood model at such a late stage in the process. In our view it is the proper use of those models that will allow the CAA to base its passenger forecast on a robust methodology and so develop appropriate passenger forecasts

[47] Consultation on the Way Forward, CAP 2139, Chapter 2, paragraph 2.6
[48] Initial Proposals, CAP 2265B, Section 1, paragraphs 2.14 and 2.23

for the H7 price control, which will ultimately be of benefit to consumers, airlines and Heathrow. The CAA now finds itself in a position where key stakeholders are unable to integrate and understand the assumptions behind its process as the methodology it is using is either opaque, subjective or both.

2.5.8 It is the responsibility of the CAA under public law to acknowledge, assess and grapple with the evidence provided. It should not be seeking to delegate that responsibility by obliging Heathrow to share its model with third parties. In addition, under public law the CAA must take the "*product of consultation … conscientiously … into account*". It is wholly unnecessary for Heathrow's model to be more widely available for the CAA to assess its functionality, the application of its assumptions and its output. Heathrow's willingness or not to share a commercially sensitive model that it has developed at considerable expense should not be a factor in assessing the appropriate weight it is to be given as evidence. The relevant legal framework is discussed in the Legal Annex section G2.

2.5.9 Heathrow has provided the CAA with a set of models which have been diligently developed based on factual evidence and previously found by the CAA to be robust. The CAA has erred in failing to rely on Heathrow's models and choosing to incorporate arbitrary input. The result is an inappropriate Final Proposals methodology and assumptions leading to an incorrect forecast. This is discussed further in the Legal Annex section E1.

Transparency of the CAA's forecasts

2.5.10 At the outset, we note that while there are a number of factors used by the CAA in its forecast with which we agree (given the evidentiary support for these factors), there are a number of other elements to the CAA's forecast which are not supported by the evidence before the CAA.

2.5.11 The CAA has chosen to change its approach to passenger forecasting through the consultation period. For its Initial Proposals, its methodology involved creating a forecast based on amended versions of Heathrow's forecasting models, with a number of changes to assumptions as well as off-model adjustments.

2.5.12 The CAA has continued to use this approach, but it now forms just one aspect of its overall methodology. Its new methodology for its Final Proposals takes the following form:

- Creation of a forecast based on amended versions of Heathrow's forecasting models, as was the case in the Initial Proposals;
- A series of adjustments to that forecast, referred to as a synthesised forecast; and
- Comparison to external forecasts to 'sense-check' the amendments made as part of the synthesised forecast process.

2.5.13 The CAA has not provided sufficient visibility of this methodology. This lack of clarity has deprived Heathrow of the ability to properly understand the approach and rationale used by the CAA, and fundamentally impairs our ability to make meaningful representations on these matters. This undermines Heathrow's right to procedural fairness. The CAA's reliance on such a methodology without enabling the parties to make representations risks arbitrary outcomes.

2.5.14 Consistent with the failings in its Initial Proposals, there remains a lack of transparency in how the Heathrow models have been amended. The CAA notes that it has made adjustments on asymmetric distribution, market share, business travel, carbon pricing and reverting to outdated versions of our econometric overlays. A number of these adjustments are not simply a case of changing an input assumption from one number to another but instead would require fundamental changes to the mechanics of the models. However, we have no information on how those adjustments have been made or the impact they have had on passenger numbers.

2.5.15 The CAA has declined our requests for more information on this, citing our refusal to publish our models as a blocker to its ability to give more information. This is not a valid reason to deprive stakeholders of the information needed to allow for a fair consultation. Much of the additional information needed could be shared without needing to share the confidential data or intellectual property within the models. Further to that, as outlined in the context section above, we remain open to our models being shared with airlines via a confidentiality ring – a practice which is common in other price control regimes.

2.5.16 On the second stage of the methodology, there is significant lack of transparency in terms of how the CAA has made quantitative adjustments to forecasted numbers whilst giving only high level, qualitative statements on its rationale. Across the course of just four paragraphs of text[49] the CAA note the potential impact of staff shortages, consumer spending, the cost of living crisis, increase in the energy price cap, fuel prices, operating costs, fares, Heathrow market share and capacity constraints, amongst others. The limited mention of each of these drivers, only a handful of words on each, is the only supporting evidence given for the subsequent adjustments of up to c.1m passengers in each of the years 2023-2026.

2.5.17 With no further detail on how any of the above drivers are considered or translated into a quantitative impact on passenger numbers, we can only conclude that the methodology is not robust.

2.5.18 On the third stage of the methodology, there is a lack of transparency in terms of how the external forecasts have been used. Relative to the lack of detail in other areas, the CAA's Final Proposals include a significant amount of discussion on why external forecasts aren't appropriate for use for Heathrow. However, there is then a lack of information on how the external forecasts have been amended in order to be deemed relevant. The CAA notes that those amendments take the form of a correction using a linear relationship that tapers to zero and a check that the likely capacity of Heathrow is not exceeded, but to date it has been unwilling to supply any further information on this.

2.5.19 Due to this lack of detail and lack of clear methodology for properly adjusting these external inputs, we cannot substantiate that these external forecasts give a robust picture of external forecasts of Heathrow passenger volumes for H7. Therefore, we conclude that the CAA cannot rely on these forecasts to evidence that its conclusions for H7 are correct.

2.5.20 It is also unclear how the three aspects of the methodology are brought together. Many of the aspects considered under the adjustments stage of the CAA's methodology are included as key drivers within our own models. There are complex interactions between many of those drivers which would need to be considered.

[49] Final Proposals, Section 1, paragraphs 1.72 – 1.75

Without any visibility of how those factors have been taken into account we cannot assess whether the CAA has followed a robust methodology.

2.5.21 As well as a lack of transparency in methodology, we also have concerns about a lack of transparency in the CAA's assumptions and in the resulting forecast.

2.5.22 On the forecast itself, the only level of detail available is the annual number of passengers for each year of the regulatory period. The CAA cannot provide any information on the number of flights, seats or load factors associated with those passenger numbers. Nor can it provide any information on how those forecasts breakdown across different markets, or how peaky the traffic will be, which can have a significant impact on operating costs and commercial revenues. These are critical aspects of a traffic forecast.

2.5.23 This lack of transparency and clarity has deprived Heathrow of the ability to fully understand the passenger forecast and the impacts on other building blocks. This represents a failure by the CAA to consult properly on its proposals.

3. Regulatory Framework

3.1 Summary

3.1.1 The regulatory framework as currently proposed by the CAA undermines the interests of both current and future consumers. It sets an unfinanceable proposition which does not allow for investment in programmes and projects that will lead to longer-term efficiencies which will improve service and affordability for future consumers.

3.1.2 The Final Proposals err in suggesting that continuing to set a RAB-based single till framework in itself provides confidence to investors or '*should help to minimise the cost of capital*'[1].

3.1.3 The impact of Covid-19 and the CAA's actions, in particular in regard to the RAB adjustment have led to a lack of confidence in the RAB-based single till framework. This is compounded by new erroneous policy decisions such the failure to include the commercial capital which pays back outside of the period. Together these undermine the stability and credibility of the RAB-bases single-till framework.

3.1.4 The Traffic Risk Sharing (TRS) mechanism is much improved since its Initial Proposals. However, the Final Proposals continue to include errors in the calibration and implementation of the mechanism:

- The mechanism does not materially derisk Heathrow. Cash recovery over a 10-year period will not help liquidity in a material downturn. We propose that variations within the 10% band are recovered in one year at year t+2 but accept that accelerated recovery of large deviations would not be possible.

- Our analysis shows that the CAA's proposed sharing rate does not provide the levels of protection set out by the CAA. This is an error. We propose a sharing rate of 115% in the outer band to ensure the 95% protection sought by the CAA is provided. This error is discussed at [section G] of the Legal Annex.

3.1.5 We disagree with the CAA's continued proposal to implement policy guidance in lieu of a reopener condition in Heathrow's licence. This will allow transparency for all parties on when and how Heathrow's price control can be reopened, and avoid the issues caused by having no guidance in the Q6 settlement.

3.1.6 The Final Proposals remove all ability to recover expansion costs and do not include our proposed mechanism to include expansion within the price control as and when required. This is an error and if not resolved would lead to delays in the delivery of Expansion and delays to the delivery of the consumer benefit it delivers.

3.1.7 The Final Proposals introduce for the first-time new policies and calculation methodologies without sufficient transparency and detail. If this is not addressed the Final Decision cannot stand.

[1] CAA Final Proposals, Section 1: Regulatory Framework, Page 31, Para 2.2

3.2 Introduction

3.2.1 The Final Proposals set out the intention to retain the RAB-based, single till framework for a five-year period as it is "*well understood by investors, and continued use of this approach should help to minimise the cost of capital*."[2] We agree that regulatory stability is key to ensuring that investors have confidence in Heathrow's regulatory regime.

3.2.2 However, the impact of Covid-19 and the CAA's actions subsequently have caused investors to question whether the RAB-based framework and the CAA's proposals for H7 in particular are stable and credible.

3.2.3 This has been reflected in the views of credit rating agencies. S&P in particular noted concerns with the proposed traffic risk sharing mechanism and in its most recent research update noted the H7 framework as a reason for a potential multi-notch downgrade of Heathrow's credit: *"we could lower the ratings by more than one notch if we assessed that the company's regulatory parameters would increase Heathrow's volatility of profitability and would not incentivize its investment plan"*.[3] A multi-notch downgrade or a lack of confidence for equity investors would leave Heathrow without the ability to invest in the plan we have set out, or even that set out by the CAA in the Final Proposals, including on a notional company basis. This is self-evidently inconsistent with the CAA's primary statutory duty to ensure long-term benefits to consumers.

3.2.4 The strength and credibility of the framework will be particularly important for H7 and especially in the early years where investment is needed to rapidly build back after Covid-19 and continue to ensure that Heathrow remains safe, compliant and able to deliver an experience passengers are willing to pay for.[4]

3.2.5 The Final Proposals are the first time we are seeing a fully formed framework for H7 with an accompanying draft licence. The CAA's approach in this regard risks being procedurally unfair and arbitrary, an issue we address at an overall level in this chapter, at a specific level within detailed response chapters and in our legal annex.

3.2.6 We consider there are a number of manifest errors with the proposals which are covered in detail in this chapter, however we accept the Final Proposals on the following specific points:

- **Setting a five-year price control:** We agree that setting the price control for a five-year period should provide greater clarity for stakeholders and allow Heathrow to better plan for the mid-term. This has benefits for consumers in particular through the ramp up of aviation post-Covid.

- **The implementation of traffic risk sharing which is consistent with the single till framework:** A traffic risk sharing mechanism is required make Heathrow more financially resilient in the event of a pandemic event and to provide clarity on the risk to which Heathrow is exposed through the regulatory period. While we continue to disagree with the CAA on the most effective

[2] CAA, H7 Final Proposals Section 1: Regulatory Framework, June 2022, Page 31, Paragraph 2.2
[3] S&P Global Ratings, Heathrow Funding Ltd. Class A And Class B Ratings Remain On CreditWatch Negative After Regulator's Final Proposals, July 2022
[4] Yonder Passenger Service Charge acceptability testing research and Systra Willingness to Pay work show that passengers are willing to Pay more for improvements in key services such as baggage and punctuality and that the service improvements put forward in our plan are valued and acceptable

implementation of the mechanism, we accept the principle of its inclusion for H7. We support recognition of the need to reflect commercial as well as aeronautical revenues in the mechanism which ensures that it is in line with Heathrow's single till framework.

- **The need for clarity about how the price control can be reopened:** Heathrow's request for action from the CAA following the onset of Covid-19 highlighted the need for clarity on the process for assessing and implementing any such request. While we continue to disagree with how this clarity is best provided, we agree that the CAA should formally confirm the available mechanism and set out how it will be implemented.

- **The expansion of the S-Factor to cover health and safety costs:** Expanding the S-Factor to cover new government requirements regarding health and safety through the period is required for H7 and as such we accept the CAA's position.

- **The removal of the 80:20 approach to business rates:** We accept the removal of the 80:20 mechanism for business rates given the maturity of the current consultation process and the assumption that the actual costs will be confirmed before the CAA's Final Decision.

3.3 Specific errors

3.3.1 Although in some areas we accept the approach set out in the Final Proposals, there continue to be a number of errors. This section sets out the specific errors made by the Final Proposals in respect of the regulatory framework. Each of these points is covered in detail in later sections of the chapter.

3.3.2 The framework and policy decisions taken in the Final Proposals are not in accordance with the CAA's statutory duties:

- The Final Proposals do not further the interests of future consumers in regard to the range, availability, continuity and quality of airport operation services. Instead they prioritise a lower charge through unachievable forecasts and curtail long term investment.

- The Final Proposals do not have regard to Heathrow's ability to finance its operations and instead set out a price control which is not financeable for debt or investable for equity in relation to the notional company.

- The Final Proposals do not represent a consistent price control package:

    - The interlinkage proposed by the CAA between the H7 cost of equity and the TRS mechanism is not supported by evidence and leads to a significant miscalibration in the framework.

    - The commercial revenue forecast set by the CAA is inconsistent with the new policy on commercial capital spend.

    - The service targets set in the Final Proposals are inconsistent with the relevant cost allowances, particularly in relation to satisfaction of Passengers Requiring Support, wayfinding and cleanliness.

3.3.3 Traffic risk sharing mechanism:

- The Final Proposals do not take into account that the TRS mechanism will not derisk Heathrow due to:
    - The design deficiencies discussed below;
    - The fact large parts of the recovery will not be set out in the licence and therefore not legally enforceable; and
    - The CAA’s actions in regard to the RAB adjustment have led to a lack of investor confidence that the CAA will act even when it has set a legitimate expectation that it will do so.
- To make a symmetrical TRS mechanism workable the CAA must set a 'P50' mid-case passenger forecast. To do this the CAA must correct the errors set out in Chapter 2 of our response.
- The proposed sharing rate for the outer band does not provide the levels of protection identified as necessary by the CAA. To ensure 95% risk protection a sharing rate of 115% is required.
- The proposed payback period is not in line with the period required to ensure that Heathrow remains compliant with 3-year views of performance against cash flow metrics undertaken by Credit Rating agencies. We propose full payback of deviations within the 10% band at year t+2 to help address this requirement.
- Proposed clarification of the ability to reopen the price control through policy guidance only does not provide certainty or the ability to appeal any changes. The CAA must include this clarification in a licence provision.

This is discussed further at [section G] of the Legal Annex.

3.3.4 The Final Proposals fail to include a Licence provision for the event that expansion costs are again incurred. This will significantly delay the delivery of future expansion plans for consumers and will result in material inefficiencies.

3.3.5 The CAA has failed to properly consult publicly on a number of elements in the Final Proposals.

- There has not been adequate consultation on the proposed change to indexing the charge, both in terms of the move from RPI to CPI and in the application of forecast inflation rather than historic inflation.
- The CAA has not consulted on the changes made to the PCM to alter the methodology for calculating the required return. The PCM no longer uses the average RAB to calculate the return, as has been accepted practice in previous price controls. This change was never consulted on and is not set out transparently in its document.
- There has been no prior consultation on the full implementation of the capital incentives framework, much of which is new in the Final Proposals. These changes prohibitively increase the cost of capital governance and cannot be delivered as efficiently or quickly as existing processes, delaying the delivery of benefits to consumers.

- The CAA has introduced a K-factor correction mechanism for 2020 and 2021 without prior consultation, after having removed the K-factor from 2023 charges. This must be removed.

3.4 The framework and policy decisions taken in the Final Proposals are not in accordance with the CAA's statutory duties

3.4.1 The CAA's primary statutory duty is to *"further the interests of users of air transport services regarding the range, availability, continuity, cost and quality of airport operation services."* [5] We emphasise that s.69(1) defines users to mean passengers and those holding an interest in cargo, and that the CAA should not therefore aim to further the interests of airlines. Moreover, s.69(2) CAA12 makes clear that for the purposes of Part 1 CAA 12, which governs the CAA's powers of economic regulation of airports, users of air transport specifically includes future users. Users of air transport services are specifically defined so as to exclude airlines. In this response, for convenience, we refer to users of air transport services as "consumers".

3.4.2 Consumer interest is being sacrificed to achieve a lower charge. The framework, policy decisions and forecasts set out in the Final Proposals do not further the interests of consumers. Instead, the Final Proposals prioritise achieving a lower airport charge in H7. In taking this action the CAA is not fulfilling its primary duty. This error is discussed further at [section A and B] of the Legal Annex.

3.4.3 Evidence from Frontier Economics suggests that the costs of airport charges will not be passed on to consumers due to the high barriers to entry at Heathrow.[6] In fact, even through Covid-19, Frontier has found evidence that the congestion premium on fares to and from Heathrow continues to exist:

"For long haul, we have found evidence of a premium of around 15%-23% for 2020 and 2021. This equates to around £90-£160 for a passenger making a return trip. This finding controls for various factors that impact on price – such as fuel costs, share of LCCs, share of business class – as well as the higher airport charges at Heathrow"

3.4.4 This means that, while higher airport charges may impact airline profits, we would not expect these costs to increase fares paid by consumers. An increase in fares is only likely if airlines choose to restrict capacity. However, any risk of capacity restriction, which could negatively impact the choice of flights for consumers, is mitigated through slot rules in place at Heathrow. This has been evidenced by airlines continuing to fly routes even with lower load factors to avoid losing valuable Heathrow slots.

3.4.5 While the CAA should ensure that Heathrow is economical and efficient, it must also have regard to the need to ensure that we meet all reasonable demands for services at Heathrow. Setting a low charge may on the surface appear to meet requirements for efficiency but it does not meet the requirements of users. Achieving the right balance between cost and service is particularly important in the situation evidenced above: Heathrow's charges are unlikely to impact the prices paid by consumers, but poor service is likely to lead to significant detriment.

[5] Civil Aviation Act 2012
[6] Frontier Economics, Slot scarcity and ticket prices at Heathrow, June 2022

3.4.6 Therefore, for no demonstrable benefit, the Final Proposals curtail required investment and could instead create higher charges for future consumers alongside a service that does not meet their needs.

3.4.7 As a consequence of over optimistic forecasts and inadequate policy decisions the Final Proposals are not deliverable. This leads to pressures on the financeability of the notional company when these undeliverable forecasts are corrected for the evidence available.

3.4.8 To resolve this error ahead of the Final Decision the CAA needs to:

- Set deliverable P50 forecasts across all building blocks by resolving the material errors identified in the Chapters 2,5 and 6 of our response.

- Remove its proposed policy for commercial revenue capital spend which makes provision solely for investment which pays back within H7 as set out in Chapter 7 of our response.

- Allow for investment (capex and opex) in the provision of service improvements for passengers requiring support as set out in Chapters 4, 5 and 7 of our response.

- Review the risk and reward balance within the framework to ensure that it is properly calibrated, in particular the relationship between the protection provided by the TRS and the downward adjustment made to the asset beta to reflect this. More detail is set out in Chapter 10 of our response.

3.5 The Traffic Risk Sharing mechanism is not properly calibrated and does not support Heathrow's cashflow

3.5.1 The Final Proposals continue to implement a TRS mechanism for H7 but set out changes to the proposed mechanism which include:

- Implementation of the mechanism through a licence condition for the H7 period

- Collection or payment of under and over recoveries spread over 10 years with payments in cash through H7 and the RAB in H8

- Recognition of commercial revenues in the sharing rate for the outer band with a rate of 105%

3.5.2 While the mechanism we set out in our response to Initial Proposals continues to have a number of differences to the mechanism proposed by the CAA, we broadly accept the CAA's Final Proposals in this area. In particular we note the introduction of a cash settlement mechanism following concerns raised by S&P over the ability of the mechanism to impact cash flows in period.

3.5.3 However, there remain two material errors which mean that the mechanism does not fully achieve its stated purpose:

- The calibration of the outer band does not provide Heathrow with the 90%-100% protection targeted by the CAA in the Initial Proposals.

- The cash settlement mechanism is not in line with time periods monitored by rating agencies to review Heathrow's credit rating or regulatory precedent.

3.5.4 As set out above, and as evidenced in more detail in the WACC chapter, a key error is the miscalibration of the asset betas due to the introduction of TRS. The Final Proposals' approach:

- Does not take account of risk mitigation at comparator airports when making adjustments to the asset beta;
- Is not based on and financial theory of empirical evidence;
- Is based on unevidenced assumptions; and
- Is miscalibrated in assuming that the ~£80m per year of protection provided by the TRS, as calculated in the CAA's approach to symmetric risk, should lead to a downward adjustment to the asset beta representing a revenue reduction of £160m per year.

3.5.5 To resolve these errors the CAA must:

- o Increase the sharing rate in the outer band to 115% to ensure that the impact of incremental commercial revenues and opex is accurately reflected in the framework while giving Heathrow the 95% protection we supported in our response to the Initial Proposals and targeted by the CAA.
- o Settle adjustments required due to variances of between 0%-10% through cash in one year at year t+2, rather than spreading this over 10 years. Variances in the outer band should continue to be recovered over 10 years.

Proposed TRS sharing rate is not calibrated to provide the required levels of protection

3.5.6 The Final Proposals set a sharing rate of 105% in the outer band of the TRS mechanism. This takes into account the fact that on an incremental basis Heathrow earns or loses more commercial revenue per incremental passenger in commercial revenue than it does in opex. If this dynamic is not taken into account when setting the sharing rate in relation to aeronautical revenues, Heathrow would be exposed to more risk than is intended by the TRS mechanism as we would still face an additional loss of commercial revenue.

3.5.7 The Final Proposals state that this 105% sharing rate should therefore "*protect HAL from between 91 and 94 per cent of the of the expected impact on its EBTDA of traffic changes in the outer band.*"[7]

3.5.8 Analysis shows that the 105% sharing rate does not provide 91%-94% protection in the outer band. Instead, it provides only around 86% protection based on Heathrow's corrected forecasts of opex and commercial revenues or 81% protection based on the CAA's forecasts. This is an error and is discussed further at [section G] of the Legal Annex.

[7] CAA, H7 Final Proposals Section 1: Regulatory Framework, June 2022, Page 42, Paragraph 2.44

Table 1: Incremental opex/ commercial revenue impact per passenger using Final Proposals forecasts

CAA	2022	2023	2024	2025	2026	Total	Total H7 change	Per passenger difference
Forecast passengers (m)	54.9	67.3	75.4	81	81.6	360.2	26.7	
Forecast opex (£m)	1127	1143	1192	1227	1210	5899	83	
Forecast commercial revenue (£m)	852	955	1052	1115	1122	5096	270	
Per passenger difference (£)								7.00

Table 2: Sharing rate protection

CAA Sharing rate assessment	
Average Charge	£24.14
Incremental impact	£7.00
50% sharing adjustment	£12.07
Effective protection *(Aeronautical revenue shared/ incremental impact)*	39%
105% sharing adjustment	£25.35
Effective protection *(Aeronautical revenue shared/ incremental impact)*	81%

3.5.9 Heathrow's corrected CAA forecasts, as set out in the detailed response chapters on opex and commercial revenues, indicate that a sharing rate of around 115% is required in the outer band. This 115% sharing rate provides protection of 95% in the outer band. This is in line with the 95% protection which Heathrow supported as being appropriate in our response to the Initial Proposals and in line with the risk protection the CAA was seeking to achieve in its Final Proposals.

Table 3: Heathrow proposed sharing rate

Heathrow Sharing rate assessment	
Average Charge	£24.14
Incremental impact	£5.41
50% sharing adjustment	£12.07
Effective protection *(Aeronautical revenue shared/ incremental impact)*	41%
105% sharing adjustment	£25.35
Effective protection *(Aeronautical revenue shared/ incremental impact)*	86%
Amount required to reach 95% effective protection	£28.07
Percentage sharing rate required	115%

Cash settlement mechanism is inadequate and does not reflect assessment period used by credit rating agencies to assess cash flow impacts

3.5.10 The TRS mechanism in the Final Proposals includes a cash settlement provision within H7. Instead of using the RAB as set out in the Initial Proposals, the Final Proposals mechanism recovers or rebates under or over recoveries over a 10 year period with recovery in cash during H7 and through the RAB in H8. Cash recovery begins in regulatory year t+2, meaning that variations from forecast in 2022 will start to be recovered through the charge in 2024.

3.5.11 We agree with the proposal for cash settlement - which responds to concerns from credit rating agencies about the ability of the TRS mechanism to positively impact cash flows - in principle. We also agree that spreading the recovery of large deviations from forecast over a number of years is the correct approach. However, there are some serious problems with the mechanism: Spreading all deviations over this longer timeframe and starting recovery two years after the under recovery has occurred will not adequately deal with liquidity issues in the event of a material shortfall in passenger numbers. This will be particularly severe because the rest of the H7 settlement will create deeply unfavourable financeability and liquidity conditions. The effect of the design of the TRS mechanism will be to continue to reduce credit rating agencies' confidence in the regime to support cash flows.

3.5.12 Assessments by credit rating agencies look at a three-year average performance against metrics to assess Heathrow's credit worthiness. Therefore a 10-year recovery period would not have sufficient impact on Heathrow's performance in this assessment. This was identified by S&P in their July 2022 update where they noted, *"The mechanism aims to recover lost revenue resulting from lower-then-expected passenger volumes (measured against the CAA's benchmark curve), and its presence is a positive for Heathrow's regulatory framework. That said, in our view, the cash conversion period is not sufficient to sustain credit metrics".*[8]

[8] S&P Global Ratings, Heathrow Funding Ltd. Class A And Class B Ratings Remain On CreditWatch Negative After Regulator's Final Proposals, July 2022

3.5.13 While we agree that full recovery of large deviations from forecast in one year is unlikely to be palatable, we propose that deviations from forecast within the central band are recovered or paid back in full in year t+2 through the cash adjustment mechanism. This is in line with other regulated airports, such as Aeroporti di Roma and AdP. It will also ensure that the impact of the TRS mechanism on cashflows can be taken into account in assessment by credit rating agencies helping to ensure that Heathrow remains financeable for consumers. This is discussed further at [section G] of the Legal Annex.

Legal implementation of TRS

3.5.14 There is a further, important point on the legal implementation of the TRS policy. The CAA has said that the TRS is to be implemented by means of a licence condition.[9] However, this is a partial assessment of the mechanism. Only a small proportion of the adjustments envisaged in the mechanism are covered by the licence condition; in fact, in the last two years of the control, precisely none of the recovery will be guaranteed by the licence. Anything not guaranteed by the condition is a policy that the output from the mechanism will be added to the RAB.

3.5.15 Historically, key aspects of the RAB have worked well and have been valuable as a stable element in the regulatory pact. The TRS mechanism, though, is a new policy; there is no history by which to judge it. For it to be reliable, it needs to come with legal certainty. If the licence condition only covers a small proportion of any recovery, there is no certainty. For the mechanism to bear the weight on the rest of the settlement, the CAA needs to find a way to make it legally cast iron. This is discussed further at [section G] of the Legal Annex.

3.6 Price control reopener condition

3.6.1 In line with the Initial Proposals, the Final Proposals continue to argue that it is not necessary to have a licence condition to provide clarity on the ability to reopen the price control in exceptional circumstances. Instead, the Final Proposals set out draft policy guidance to provide additional clarity on when the licence can be reopened.

3.6.2 In our response to the Initial Proposals we continued to disagree with the CAA's provision and set out that clarifying the process for reopening the price control would clearly be in the interests of consumers and all stakeholders as it would ensure that the right framework was available for Heathrow to continue to be financeable, affordable and efficient in the case of extreme and prolonged shocks outside of management control. Ensuring this process is set out in Heathrow's Licence will allow all stakeholders the right of appeal should any modifications be made to this provision. It also appropriately pursues the regulatory principles of transparency and accountability.

3.6.3 Recent developments show the importance of having a transparent and accountable mechanism to review the price control due to exceptional external impacts. In June 2022 the Dutch Government set out plans to cap Schiphol's capacity to reduce noise pollution from the airport. This cap has been imposed unilaterally and will mean that Schiphol is structurally unable to serve the same number of passengers, resetting Schiphol's baseline passenger capacity.

[9] CAA, H7 Final Proposals Section 3: Financial issues and implementation, June 2022, Page 148, Paragraph 13.59

3.6.4 In the UK, the Government is planning a Stage 2 consultation on changes to night flight restrictions in autumn 2023. Changes to restrictions will come in from October 2024. The outputs of this consultation could materially alter Heathrow's capacity after the start of the regulatory period and therefore have an impact on our ability to deliver the H7 forecasts.

3.6.5 Through Covid-19 we saw the impact of government policy on demand for air travel and airport operations. This continuing government intervention shows that these unforeseen external impacts are likely to continue.

3.6.6 The TRS mechanism would not be the appropriate mechanism to deal with issues such as these, given that they structurally reset airport capacity and therefore the baseline of the price control. These are specific not systematic risks which should be dealt with appropriately.

3.6.7 Setting out the process for reopening the price control in a licence condition is the only appropriate course of action for H7. This is because dealing with the price control reopener by way of policy guidance deprives Heathrow of the statutory right to appeal against the details of the provision under section 25 CAA12 that would apply to a Licence condition revision.

3.6.8 This means that, should the CAA make changes to how or when a reopening could be requested in its guidance, Heathrow would not be able to appeal these changes. This imports regulatory risk into the H7 price control as the framework for managing exceptional circumstances could change during the period and alter the price control accepted by Heathrow at the start of the period without the right to appeal.

3.6.9 We set out our proposed licence drafting for this condition in our licence submission to the CAA in our licence submission of August 2021.

3.6.10 In relation to the policy guidance drafting provided by the CAA our main comments are:

- The draft guidance does not include detail on the occasions which could reasonably trigger a request for reopening the price control. While we do not think an exhaustive list would be appropriate or even possible, guidance on the types of event which could trigger a request would provide clarity and allow all stakeholders to identify when a reopening would be appropriate. Our draft condition provided to the CAA in August 2021 gave the following examples which we consider appropriate:

  (a) Any material change in the Licensee's circumstances; or

  (b) where a fundamental assumption adopted by the CAA (expressly or otherwise) in its final proposals for decisions on the H7 price control was, or becomes, incorrect.

  For the avoidance of doubt, a material change in the Licensee's circumstances is deemed to include:

  (a) a material change in the Licensee's revenues, amounting to a variation of 20% above or below the Regulatory Allowance for Total Revenue excluding Other Regulated Charges for regulatory Year t (RARt) for more than one year in succession.

(b) other significant changes to relevant financial markets that materially change the cost of raising new capital by Heathrow Airport Holdings Group and associated companies or limit the market's capacity to provide adequate new capital either directly or indirectly and whether the capital is or is not for refinancing purposes.

(c) other circumstances defined in a policy which must be published by the CAA by [30 March 2022] and thereafter kept updated.

- The proposed guidance does not include any meaningful detail on how any application to reopen the price control should be structured and the information it should include. This is unclear and could allow the CAA introducing retrospective evidence requirements for applications to reopen the price control, creating regulatory risk.
- The policy guidance does not provide any detail on the process the CAA would take to review any request and, in particular, is silent on the timescales for this. This creates uncertainty and a lack of transparency on the approach.

3.7 Other uncertainty mechanisms

3.7.1 Throughout the H7 process there have been discussions about the required uncertainty mechanisms to strengthen the regulatory framework and make it more resilience to shocks. In addition to the TRS mechanism and clarity of the price control reopener, the CAA has reviewed four additional mechanisms:

- **Full pass through of business rates:** Heathrow and the airlines agreed that a pass through of the business rates bill would be acceptable for H7, moving from the current 80:20 sharing arrangement. The Final Proposals make provisions for the updated business rates valuation expected in Summer 2022 to be included in the H7 price control subject to a CAA review of Heathrow's engagement with the Valuation Office. We support the position set out in the Final Proposals. Appendix 43 sets out a summary of our engagement with the VOA to allow the CAA to being its review process. To ensure that actual costs can be included as reviewed, we suggest this is added as a term in the licence.
- **Widening of the S-Factor to cover health and safety policy:** Through Constructive Engagement in 2020, Heathrow and the airlines discussed widening the S-Factor provision, which allows costs related to changes in security policy during the period to be reflected in airport charges, to cover changes in health and safety policy. This was broadly agreed by the CAA in both Initial and Final Proposals. We support the position set out in the Final Proposals. However, we disagree with the CAA's proposals to increase the dead band from £21m to £22.1m. This change is not required and the current dead band has been proven to be fit for purpose.
- **Uncertainty mechanism around Terminal Drop Off Charge (TDOC) revenues:** After consultation with airlines, Heathrow proposed an uncertainty mechanism around the new TDOC revenues to ensure that any legislative changes meaning that the revenues could no longer be collected. This mechanism is included in the Initial and Final Proposals and we support this approach.

  Chapter 6 on Commercial Revenues sets out that proposed legislation would stop Heathrow from recovering the TDOC from 2024. We have therefore removed these revenues from our forecasts from 2024 onwards as this is the most likely position. However, if changes are made to the legislation before implementation, we can restore these revenues into the airport charge through the mechanism set out in the draft licence.

However, we do not understand the need for the proposed revenue sharing mechanism and have yet to see evidence from the CAA on how this has been calibrated. The CAA has failed to justify its proposed 65% sharing rate for over and under recovery against the forecast revenues in Heathrow's H7 plan. Without the rationale or justifications for its 65% it has not been possible for Heathrow to respond to this aspect of the consultation.

- **Trigger mechanism for inclusion of expansion costs:** Since 2020, while we have agreed with the CAA that H7 should be based on a two-runway scenario, we have argued for the inclusion of a licence condition which sets out the process for ensuring that there is a policy in place for the recovery of expansion costs. This will ensure that expansion can be delivered as quickly as possible and deliver the benefits to consumers of lower airfares and a greater choice of flights as quickly as possible. However, the Initial and Final Proposals continue to state that this mechanism is not required. We disagree with this position.

3.7.2 Not including the proposed expansion cost mechanism alongside removing the current pass-through term for the recovery of a proportion of planning costs is not in the interests of consumers as it could lead to passengers paying more for longer with a more limited choice of flights. To resolve this error, the CAA must:

- Reinstate the Category B cost recovery term in the H7 price control condition.

- Include our proposed trigger mechanism in the licence which sets out a clear timebound process for engagement and implementation of policies on cost recovery and the framework for delivering expansion.

4. Outcomes-based Regulation

4.1 Summary

4.1.1 The CAA's approach to applying outcomes-based regulation (OBR) is not in line with its own policies and does not reflect consumer views.

The Final Proposals contain errors in the approach to a number of measures within the OBR framework

4.1.2 The CAA is wrong to assume that there is no definition of the measure of Heathrow's Carbon Footprint. This measure already exists, is reported through Heathrow 2.0 and is externally audited before being published.

4.1.3 The CAA is wrong to split the combined Stand Facilities measure into its four component measures maintaining an output rather than outcome-based measure. The existing proposal more transparently reports on performance for consumers and was proposed and agreed by airlines through Constructive Engagement.

4.1.4 We disagree that the availability of check-in infrastructure should be measured within the OBR framework. The outcome consumers prioritise is overall check-in experience which is primarily driven by queue times and ease of process.

4.1.5 Recovery from Covid-19 has continued to move forward in the last six months, therefore, in the same way that the CAA is removing the measure on social distancing, the measure of 'Ease of understanding Heathrow's Covid-19 safety information' should now also be removed. It would now be erroneous to include it as part of the OBR framework as the majority of the signage has already been removed.

4.1.6 Control Post 16 should not form part of the measurement framework. Including it will lead to inefficiency as we would have to operate a control post that is not required to serve cargo volumes.

The CAA's approach to setting targets is not integrated with the price control

4.1.7 Material inconsistencies remain across the price control package. In areas such as cleanliness, required spend has been removed from operating expenditure baselines but an increased service target proposed. Inconsistencies also exist between cost allowances and service targets for Wayfinding, Passengers Requiring Support Satisfaction, Departures Punctuality, Overall Satisfaction, Customer Effort (Ease) and Immigration Queue times.

The approach to incentives is not in line with regulatory best practice.

4.1.8 The upside and downside set in the Final Proposals is asymmetric and skewed to the downside, and not in line with consumer valuations of performance.

4.1.9 The proposed mid-period review must be removed from the framework. Given the scope of the review set out in the Final Proposals, this could materially alter the risk to which we are exposed through the period with no corresponding changes to cost allowances. This imports material risk into the framework and does not create a stable regulatory framework.

4.2 Introduction

4.2.1 We continue to support the CAA's ambition to move to outcomes-based regulation (OBR). In particular we accept:

- The proposal to include our proposed H7 outcomes in the H7 settlement.
- The CAA's confirmation that wider measures should be included within the framework for H7.
- The Baggage Timely Delivery Measure being treated as a reputational rather than financial measure.
- The introduction of a reputational measure of Baggage Misconnect Rate.
- The retention of monthly measures rather than daily.
- The clarification on the scope of continuous improvement and confirmation that it should not alter the risk to which Heathrow is exposed through the period.

4.2.2 However, the approach to implementing OBR in the Final Proposals must be described as half-hearted at best. As set out in our response to the CAA's Initial Proposals, the OBR framework as proposed for H7 does not meet the policy set out by the CAA in CAP1540.

4.2.3 The intention of OBR, as implemented in other industries, was to create a monitoring framework covering *'all aspects of airport operations that are either directly or indirectly important to consumers'* [1] and that this framework should *'be integrated with the business plan and HAL's proposals for efficiency incentives'*[2]. However, the framework set out in the Final Proposals:

- **Has not been tested using primary consumer research:** The framework in the Final Proposals remains inconsistent with consumer priorities in a number of areas and has not been reviewed to ensure alignment with the consumer evidence available.
- **Relies on the views of the airlines and agreement between Heathrow and the airlines.** Instead of carrying out any consumer engagement of its own or using the evidence we have provided to review the suitability of the framework implemented, in a number of cases within the Final Proposals, the CAA relies on whether or not there has been sufficient engagement between Heathrow and the airlines.
- **Is not integrated with the rest of the plan.** Instead of setting an H7 settlement designed to deliver on these outcomes and with integrated cost forecasts and service targets, the Final Proposals continue to be siloed and contain inconsistencies between the cost allowances and the CAA's proposed service targets.

4.2.4 The CAA has made a number of errors in its proposals on OBR. These errors are:

[1] CAA, CAP1540, Page 22, Paragraph 2.11
[2] CAA, CAP1540, Page 23, Paragraph 2.15

- Removal of the measure of Heathrow's carbon footprint, which is fully defined and able to be implemented. Research shows that sustainability is important to consumers and ensuring that this is measured and our progress is tracked is of clear benefit to consumers. Given the investment being made during H7 in carbon initiatives, not tracking the benefits through a carbon measure as part of the OBR framework is out of line with the CAA's OBR policy as set out in CAP1540.

- Inclusion of control post 16 in the proposed control post groupings. This post is not required (and therefore is currently not in use) and therefore it would be inefficient to mandate its opening through the service quality framework. This error is discussed further in the Legal Annex section E.

- Proposed increases in cleanliness targets without appropriate operating expenditure being made available to deliver the targets.

- Proposed increases in wayfinding targets without the appropriate capital expenditure through the Efficient Airport Programme to be able to meet consumer demands to navigate the airport using their personal devices.

- Proposed increases in Passengers Requiring Support targets without the appropriate capital expenditure through the Efficient Airport Programme to increase the size and quality of the infrastructure available to meet the increased demand from this passenger segment.

- Proposed improvements in the Departures Punctuality targets without the appropriate capital expenditure through the Efficient Airport Programme.

- Proposed improvements in Immigration Waiting Times without the appropriate capital expenditure through the Efficient Airport Programme that would help deliver this improvement alongside the UK Home Office future immigration strategy[3].

- Proposed increases to Overall Satisfaction and Customer Effort (Ease) without the appropriate capital and operating expenditure to better meet consumer needs, particularly the needs of Passenger Requiring Support.

- Retention of the knife edge incentive structure.

- Introduction of rebate and bonus weightings which are not aligned with consumers views, including the equal weighting of the five- and 10-minute security queue times.

- The use of a mid-period review to fundamentally review the framework for service quality in isolation from other aspects of the price control.

4.2.5 The below sections of our response give more detail on how the CAA can resolve these errors ahead of the Final Decision.

[3] New Plan for Immigration: legal migration and border control strategy - GOV.UK (www.gov.uk)

4.3 We continue to support the use of our proposed consumer outcomes for H7

4.3.1 The outcomes we have proposed for H7 are fully supported by our primary consumer research and engagement and were reviewed and tested by the Consumer Challenge Board. Our proposed outcomes are also fully aligned with the policy set out by the CAA in CAP1540.

4.3.2 Our outcomes form the basis of our H7 business plans. All of our proposed investments are assessed against their impact on delivery of these outcomes and associated measures. The CAA has not taken this approach in building the H7 price control.

4.3.3 Our response to the Initial Proposals set out our concerns with the CAA's siloed approach to service quality. This was a clear error of process by the CAA and a failure to take appropriate account of available evidence.

4.3.4 The Final Proposals do not use the H7 outcomes to inform the required capital and operating expenditure. Instead, the outcomes and associated measures are narrowly considered as the service quality framework. This is a clear error of process as it is not in line with best practice in other sectors nor with the CAA's own policy on OBR. Further detail on specific examples of this are set out in Section 4.5 of this chapter.

4.3.5 This error has also been identified by Frontier Economics in their independent assessment of the CAA's OBR framework. In this assessment, Frontier assess that the CAA's approach to outcomes is a missed opportunity to use outcomes to guide the development of other building blocks and the wider service quality framework.[4]

4.3.6 Frontier use evidence from Ofwat's PR14 to highlight how the introduction of an outcomes-based framework in other regulated industries places outcomes at the centre of the framework as an integrated part of the price control. Instead, it notes that "*the CAA appears to treat the outcomes as a stand-alone layer of OBR that is not effectively integrated with the price control*".[5]

4.3.7 The H7 Final Proposals are not informed by consumer insight or developed to ensure we are able to deliver on consumer outcomes. As such, the Final Proposals fail to deliver for both current and future consumers.

4.4 The CAA has made errors in its approach to measures

4.4.1 The Initial Proposals set out the intention to include wider reputational measures covering the services important to passengers. We welcome this intention, which is aligned with our approach. However, there are some developments on specific measures in the Final Proposals which we disagree with. These errors are discussed further in the Legal Annex section E.

Measure of Heathrow's Carbon Footprint

4.4.2 The Final Proposals state that the measure of Heathrow's carbon footprint has been removed as no definition was provided for the measure. This is incorrect.

[4] Frontier Economics, H7 Final Proposals on Outcome-Based Regulation, July 2022. Appendix 51
[5] Frontier Economics, H7 Final Proposals on Outcome-Based Regulation, July 2022, Page 9, Appendix 51

4.4.3 This measure has been part of our proposed framework since our RBP in December 2020 and has been discussed extensively with both the CAA and the airlines. Throughout discussions with the CAA, including discussions around the initial licence drafting provided in CAP2274, we have stated how the measure would be defined and measured. We provided this information most recently in response to queries from Stuart Holder at the CAA on 30 May 2022.[6] Prior to that, we provided a definition to Freya Whiteman for publication in the CAA's CAP2274 document and provided clarifications on the measure at a call on 11 November 2021.

4.4.4 Performance against this measure is published online as part of our Heathrow 2.0 reporting. Reports dating back to 2018 are available on the Heathrow website showing how our carbon footprint has evolved.[7] The measure is independently audited to ensure accuracy. To calculate the measure we use the leading global standard the Greenhouse Gas Protocol to categorise our carbon footprint. This is set out in our most recent report.[8]

4.4.5 The CAA's statement that it does *"not yet have a sufficiently detailed proposal for how Heathrow's carbon footprint should be defined and measured"* is therefore incorrect.

4.4.6 From a consumer lens, we know from our insight that consumers care about sustainability and want to see us become more sustainable. For this reason, we remain convinced that a measure of carbon footprint is essential for a consumer-based H7 framework. Not only will it ensure that consumers are informed about our progress to becoming more sustainable, but it will also allow us to report on the impact of our sustainability investments on our carbon footprint through our regulatory framework.

4.4.7 Ensuring we reduce our carbon footprint is also vital in achieving government targets and the JetZero Council's proposals for airports to achieve net zero by 2040. This forms an important part of the CAA's secondary duty to ensure that we can mitigate our adverse impact on the environment.

4.4.8 For these reasons the CAA should reintroduce our Carbon Footprint measure for H7 with the accompanying definition of:

Annual amount of carbon dioxide emitted per passenger on the ground and in the air related to the airport.

On the ground – Carbon emissions linked to passengers getting to and from the airport on the ground, our supply chain, airport vehicles and airport buildings

In the air – Carbon emissions from aircraft

Check-in availability

4.4.9 The Final Proposals continue to include a measure of check-in availability. We continue to disagree that an asset availability measure for check-in is required in an outcomes-based service quality framework.

4.4.10 As set out in our response to the Initial Proposals, we agree that check-in is an important part of the passenger journey. Key driver analysis shows that the key driver

[6] CAA-H7-756 draft definition 200522 HAL Response 20220530
[7] Reports and further reading | Heathrow
[8] Heathrow Net Zero Plan FINAL.pdf

of satisfaction with the check-in process is ease of the experience.[9] This is driven by three elements: time taken to check-in, wayfinding and helpfulness of staff.

4.4.11 Therefore, a measure of ease of check-in experience would better measure the most important aspect to passengers check-in journey, in contrast to a narrow measure of check-in availability which ignores this wider context.

4.4.12 The measure proposed by the CAA, while too narrow and not reflective of consumer needs, has been revised to cover only CUSS and Self-Service Bag Drop terminals. This scope correctly reflects the elements of check-in which are mostly within Heathrow's control.

4.4.13 In setting this measure, the CAA has not had regard to its capital envelope for H7. Continued availability and measurement of these assets depends on investment proposed through our capital plan. As set out in Chapter 7 on Capital Expenditure, investment in T4 CUSS Kiosks / Automated Check-in is required to enable the implementation of the CAA's proposed check-in infrastructure availability measure.

4.4.14 This investment is provisioned for within the Efficient Airport Programme but was not allowed for by the CAA in its capital envelope. Without this investment, kiosks in Terminal 4 will no longer be supported by our suppliers and as such we will not be able to maintain or measure availability. This is an example of the inconsistency in the Final Proposals which must be addressed ahead of the Final Decision.

Ease of understanding Heathrow's Covid-19 safety information

4.4.15 In the same way that the requirement for an OBR measure around enabling passengers to social distance while at the airport became unnecessary as the guidance around Covid-19 evolved, we have now entered the phase of 'living with Covid-19' and the need for specific safety information related to Covid-19 has also declined.

4.4.16 Over the last few months, we and the airlines have significantly reduced or removed communications specifically related to Covid-19. Instead, these are now incorporated as part of general safety advice and would be captured under the other OBR measure of 'Feel safe and secure'. As the OBR scheme is designed to last for the whole H7 period, we believe that it would be incorrect to include a measure on Ease of Understanding Heathrow's Covid-19 safety information in the H7 OBR framework. This error is discussed further in the Legal Annex section E.

Control post groupings

4.4.17 We accept the CAA's proposal to retain control post groupings for H7 and to implement the revised groupings we proposed during our engagement with the airlines. These groupings will allow us to ensure that control posts used for the same purpose are accurately measured together as one group. Our revised groupings are:

[9] Heathrow QSM Pilot Jun 2021 to Aug 2021 – Sample size: 1,178

Table 1: Heathrow proposed control post groupings

	Current	Initial Proposal 2021	Secondary Proposal 2022
CP 05	CTA	CTA	CTA
CP 08	CTA	CTA	CTA
CP 12	Outside of Regulation	East	East
CP 16	East	Removed from Regulation	Removed from Regulation
CP 18	T5	T5	T5
CP 19	T5	T5	T5
CP 20	T5	Cargo	Cargo
CP 10	Cargo	Cargo	Cargo
CP 10a	Cargo	Cargo	Cargo
CP 25	Outside of Regulation	Cargo	Cargo
CP 25a	Cargo	Removed from Regulation	Removed from Regulation
CP24	South	Cargo	South

Source: Heathrow

4.4.18 The Final Proposals make two changes to this grouping:

- Adding CP24a to the list of regulated posts
- Continued inclusion of CP16

4.4.19 We accept the inclusion of CP24a in principle as measurement of this post has always formed part of the framework. CP24a is measured alongside CP24 and therefore the queue is already measured through the current regime. Making sure this is clear in the groupings therefore makes sense.

4.4.20 We disagree with the proposal to include CP16 within the framework. In discussions with airlines and in the Final Proposals, this is positioned as a Covid-related issue, however this is not the case. The volumes in the east side of the airport indicate that only one control post is needed.

4.4.21 The purpose of building CP12 was to replace CP16 throughout the Q6 period. It was not the intention that both of these posts would be required. If the CAA were to mandate the opening of CP16 in addition to CP12 through inclusion in the licence, this would mean that we would have to open both control posts as per the opening hours and would lead to inefficiencies in our operations.

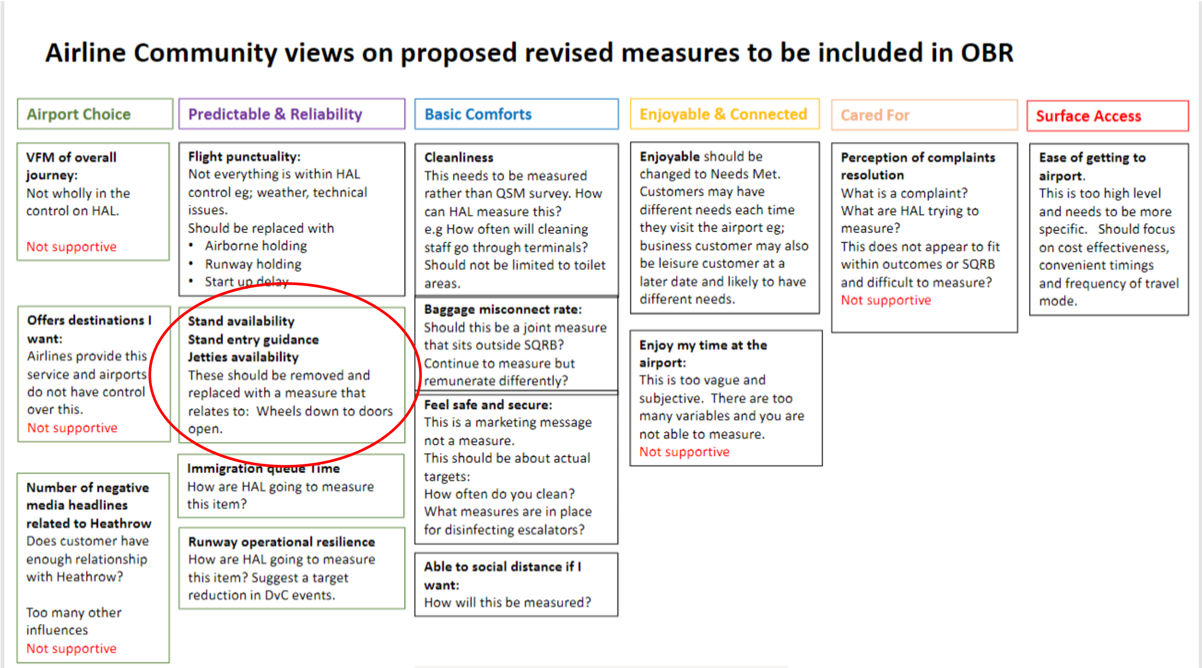
4.4.22 The CAA must have regard to promoting economy and efficiency in our operations. Including CP16 within the OBR framework would not be in line with this duty.

Stand facilities measure

4.4.23 The Initial Proposals included a combined measure of Stand Facilities which replaced the four Q6 measures for jetty availability, fixed electrical ground power, stand entry guidance and pre-conditioned air. However, in the Final Proposals the CAA proposes to revert to the four separate measures. The Final Proposals set out the following reasoning: "*We had included this as a combined measure in our Initial Proposals as we had understood that it had been agreed by both HAL and airlines. As this does* *not seem to have been the case, we have now reverted to four measures covering each type of asset separately.”*[10]

4.4.24 The CAA is wrong to assert that the combined measure had not been agreed. It was first proposed by the airlines in line with the CAA’s OBR policy and agreed through Constructive Engagement in 2020. The final airline response to Constructive Engagement supports this. It evidences support for a move towards a more overarching measure of stand facilities such as stand entry guidance and jetty availability:

Figure 1: Airline views on OBR measures September 2020



Source: Airline submission

4.4.25 This was further developed through engagement with airlines in 2021 and reiterated in joint submissions to the CAA in July 2021, where the measure of provision of Stand Facilities (e.g. stand entry guidance, pre-conditioned air, fixed electrical ground power, jetty availability) was included in section 2.2.1 of our submission titled ‘Agreed Measures’.[11] Therefore, the CAA cannot assert that this measure was not agreed.

4.4.26 In addition, the CAA’s action in removing a measure due to a perceived lack of airline agreement is wrong. OBR is a consumer-focused regime and as such the CAA should take the decision on measures to use within the framework on the basis of consumer benefits. OBR should not be a compromise position between Heathrow and airlines.

4.5 The CAA’s proposed targets are not consistent with allowances across the price control

4.5.1 The Final Proposals largely maintain the targets set out in the Initial Proposals. We welcome the CAA’s conclusion that the unprecedented nature of the H7 operating

[10] CAA, Final Proposals Section 1: Regulatory Framework, Page 56, Paragraph 3.52
[11] Email from Matt Webster to the CAA on 16/07/2021

environment means that past performance cannot be taken to be an accurate predictor of future performance against targets.

4.5.2 We also welcome the proposal to retain monthly measurement against targets. As we set out in our response to the Initial Proposals, a move to daily targets would effectively increase target levels and expose us to the risks of external events impacting performance. Key issues with the introduction of daily measures are:

- As set out by the CAA in its Initial Proposals, a move to daily measures *would "be equivalent to increasing the level of the target by an unknown and potentially significant amount*"[12].
- This would lead to an increase in the costs required to meet current service quality targets. Given high levels of consumer satisfaction with current service levels, this increase is not justified or in the interests of consumers. This would not be proportionate.
- We would be exposed to increased risk of failure due to events outside of our own control and influence. This would not be appropriate as we would be bearing a risk we are unable to manage. While we maintain detailed forecasts to ensure we have adequate resource and resilience to deliver on our queue time targets, an occurrence causing a large and unforeseeable passenger turn-up profile at security would inevitably mean that we are temporarily unable to meet our targets. The current framework allows us to recover service without being penalised, however a daily target would expose us to this uncontrollable risk.

4.5.3 We note the CAA's intention to review this as part of the 'mid-period review' and we will continue to engage with the CAA on this issue to ensure the right outcome for consumers.

Inconsistency with cost allowances

4.5.4 As we highlighted in our response to the Initial Proposals, the service targets set by the CAA must be consistent with the service levels it is targeting through investment in capital and operating expenditure elsewhere in the price control. A failure to do so would indicate that there is no cost/service relationship which is a clear error.

4.5.5 In our Initial Proposals response, we identified a number of errors where there was no link between cost and service elements. Indeed, the financial elements of the Initial Proposals were completed in advance of the CAA setting targets for service levels which were published in a separate document.

4.5.6 Our response highlighted areas where the CAA, in pursuing the lowest possible charge, had ignored investment in service and the views of its consultants about the requirement for additional capital or operating expenditure to deliver required service levels.

4.5.7 While the CAA has made some changes in the Final Proposals, in particular in regard to the capital envelope, there are still key areas where cost allowance and service targets are inconsistent. Further detail is provided on these issues in Chapter 5 on

[12] CAA, CAP2265D, Page 34, Paragraph 14.28

Operating Expenditure and Chapter 7 on Capital Expenditure as well as in the Legal Annex section E.

4.5.8 This is also highlighted by Frontier Economics in its report on the CAA's OBR framework:

> *"Overall, the CAA has set outcomes targets in isolation from other aspects of the price control. This risks Heathrow being unable to deliver on the service targets. It also means there are missed opportunities within other aspects of the price control to link up to consumer outcomes, which may mean that consumers do not ultimately get the best deal. Further, Heathrow has a long list of various measures and incentive mechanisms that it needs to manage within H7, which is not effective regulation."*[13]

Cleanliness

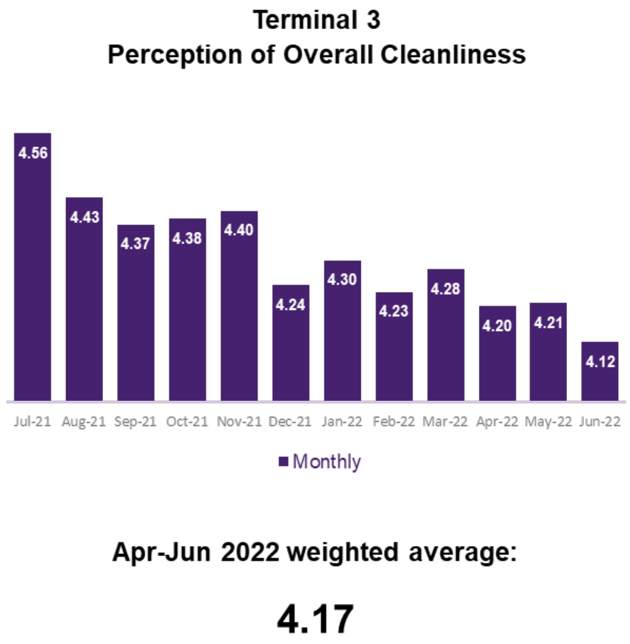
4.5.9 The Final Proposals continue to propose an increase in the target for cleanliness from 4.00 to 4.15. This increase in target sits alongside the introduction of a hygiene safety testing measure which ensures that surfaces are cleaned to a specific hygiene standard. However, the CAA has removed the operating expenditure overlay we require to deliver this step up in cleanliness versus Q6 from our operating expenditure forecast.

4.5.10 Since the start of Covid-19, cleanliness has increasingly been at the forefront of consumers' minds, meaning that expectations have increased and that what they used to consider as good is now average at best. This means that more investment is needed just to meet expectations. It is not possible to attain previous levels or even see service levels increase without additional investment.

4.5.11 Since traffic levels began to increase in March 2022, we have started to see downward pressure on cleanliness perceptions across all terminals, at a time where we are continuing to deliver an enhanced level of cleaning through the Covid-19 operating expenditure overlay. Terminal 3's Overall Cleanliness average performance in the last 3 months sits just above the CAA's proposed H7 target; with the CAA's proposed removal of the Covid-19 operating expenditure overlay from 2023 we would be performing below the H7 target.

[13] Frontier Economics, H7 Final Proposals on Outcome-Based Regulation, July 2022, Page 16, Appendix 51

Figure 2: Perception of cleanliness



Source: Departures and Arrivals QSM

4.5.12 Even with the additional Covid-19 operating expenditure overlay, the target being proposed for Cleanliness is unrealistic based on heightened expectations of what is and isn't clean following Covid-19. To achieve any target above 4.0 a substantial proportion of passengers must provide a rating of 'Excellent'. With the importance of cleanliness continuing to be heightened "*68% of consumers stating I pay more attention to how clean things are since the start of the Covid-19 pandemic*" and "*90% saying that when at an airport they now pay attention to how clean or dirty an item or area is*"[14], it is more difficult to achieve 'Excellent' ratings. Correcting this error would increase the CAA's operating expenditure forecast by £21m.

4.5.13 In addition, the CAA's OBR policy to ensure consumers get a 'good' level of service is not reflected in the target being proposed for cleanliness in H7. To reflect a 'good' service, the target should be 4.05 to account for changes in consumers expectations.

Per-passenger security queue measurement

4.5.14 The Final Proposals continue to assume the introduction of per-passenger security queue measurement through H7, however the proposed H7 capital envelope does not make an allowance for the capital project needed to implement the measurement tools. Correcting this error would increase the capital envelope by £29.8m.

Check-in

4.5.15 The Final Proposals introduce a measure of check-in asset availability with a target of 98%, however the capital envelope for the Efficient Airport Programme does not allow the capital needed to replace the life expired CUSS and Self-Service Bag Drop

[14] Insites Consulting, Consumers Perceptions towards Cleanliness post Covid-19, July 2022

machines. Without this investment we will not be able to measure availability as the suppliers will soon no longer support the current machines.

Wayfinding

4.5.16 The Final Proposals include improvements in Wayfinding targets from 4.00 to 4.20. However, the CAA has disallowed the proposed capital that would allow Heathrow to make the investments that consumers want, which would allow them to navigate their way through the airport with their personal electronic devices.

Passengers Requiring Support

4.5.17 The Final Proposals include a measure of satisfaction of Passengers Requiring Support, increasing the target from historic performance of 3.95 to 4.00. However, the CAA has disallowed all our proposed capital spend on improvements to the service. Correcting this error would increase the capital envelope by around £55m and the operating cost forecast by £26m.

Overall Satisfaction / Customer Effort (Ease)

4.5.18 The Final Proposals include improvements in Overall Satisfaction from 4.24 to 4.26 and Customer Effort from 90.5% to 91%. However, the CAA has disallowed the majority of our proposed capital and operating spend to be able to realise these improvements.

Departures Punctuality

4.5.19 The Final Proposals includes improvements in Departures Punctuality from 78.4% to 80.5%. However, the CAA has disallowed some of proposed capital spend to be able to realise such a big improvement in this measure.

4.5.20 To resolve the errors identified in Section 4.5, the CAA must:

- Lower its target for Cleanliness to 4.05 and allow the cleanliness element of our Covid-19 operating expenditure overlay in full,
- Allow the required spend to implement per-passenger queue measurement within the Efficient Airport Programme,
- Allow the capital project to replace CUSS and Self-Service Bag Drop machines within the Efficient Airport Programme,
- Allow the capital projects that enable us to deliver the Digital wayfinding that consumers expect within the Efficient Airport Programme,
- Allow our proposed capital expenditure to improve the experience for Passengers Requiring Support within the Efficient Airport Programme, and
- Allow our proposed capital and operating expenditure to make the targeted improvements to Overall Satisfaction and Customer Effort (Ease).

4.6 The incentives are not based on consumer valuations and inconsistent with regulatory best practice

4.6.1 The CAA has largely retained its proposals on OBR incentives from its Initial to Final Proposals. As per our response to the CAA's CAP2274 consultation, we continue to disagree with the CAA's proposed approach.

4.6.2 The CAA's approach is not consumer focused and continues to use Q6 as a basis for its incentive mechanisms. Other consumer-focused incentive regimes across other regulated sectors including have been clear that an incentive structure focused on consumer preferences and willingness to pay implemented through a sliding scale mechanism is best practice. The CAA has continued to ignore this in favour of continuing with the airlines' favoured knife edge approach to incentives.[15]

4.6.3 As identified by Frontier Economics in their report on the CAA's implementation of OBR, the CAA has largely just accepted airline views on the appropriate incentive structure, rather than follow best practice and consider consumer valuations. Frontier Economics identify best practice regulatory precedent from other sectors which advocate the implementation of more consumer-based sliding scale incentives:

- In its PR19 guidance Ofwat discouraged the use of knife edge incentives stating they may "*drive inefficient behaviour by companies to the detriment of customers*"[16]
- In RIIO-2 Ofgem was clear that incentives should reflect consumer valuations stating that payments should "*reflect the value to the consumer of the service improvement (or the detriment caused by service degradation)*"[17]
- In RP3, the CAA itself chose to use sliding scale incentives for NERL's service quality measures.

4.6.4 Given the superior incentive properties and our growing body of consumer evidence which can be used to calibrate the incentives, we request that the CAA adopts this best practice.

Counterintuitive incentive weightings

4.6.5 A key issue remaining in the Final Proposals is the emergence of a number of counterintuitive rebate weightings due to the CAA's continued use of Q6 rebate weightings with new or amended measures.

4.6.6 A continuing example is the potential rebate of 0.7% of airport charges for failure to meet the availability target for lifts, escalators and travelators. At 0.7% this becomes the second highest weighted measure after central search security queue times.

4.6.7 While the Final Proposals attempt to explain away this anomaly as necessary due to the combination of two Q6 measures with weightings of 0.35% each, this is an error. The CAA should review weightings from Q6, challenge whether they remain valid and representative of consumer views and adapt the framework accordingly.

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[15] See Legal Annex section E

[16] Ofwat, Delivering Water 2020: Our methodology for the 2019 price review Appendix 2: Delivering outcomes for customers, December 2017

[17] Ofgem, RIIO-2 Sector Specific Methodology – Core document, May 2019

4.6.8 In fact, consumer research shows that the availability of lifts, escalators and travelators, while important to consumers, should not attract the weighting set out by the CAA. As set out in our additional submission to the CAA in April 2022, our service degradation research shows that availability of lifts was the least important service aspect for passengers behind all of the satisfaction elements and equal to baggage reclaim.[18] Our passenger priorities work also highlights that, while easy movement through the airport is important, it sits behind wayfinding.[19]

4.6.9 For this reason, the CAA must:

- Correct the weighting for lifts, escalators and travelators in its Final Decision, reducing the weighting to 0.3%, in line with consumer priorities.
- Review its other weightings in light of this and the evidence we submitted in April to ensure they are consistent with consumer valuations. In particular, we suggest that the CAA increase the weighting of:
  - Helpfulness/ Attitude of Security Staff to 0.3%
  - Wi-Fi performance to 0.3%
  - Hygiene safety testing to 0.4%

Security queue time weighting

4.6.10. In our response to CAP2274 we highlighted that consumer research was highlighting a difference in value attributed by consumers to five- and 10-minute security queue times. In its Final Proposals the CAA has erroneously ignored our evidence on this issue stating only that it saw no evidence that airlines had also been consulted on the findings. This is clearly an error in the CAA's approach.

4.6.11. Analysis of consumer satisfaction levels against security waiting times shows that waits of over 10 minutes result in more than a 4 times increase in the level of ratings below 'Good', and an average satisfaction rating of 3.70. This is in contrast to a queue time of 5-10 minutes which still attracted a satisfaction rating of 4.23 on average with a high proportion of good and excellent ratings.

4.6.12. Based on this evidence, we proposed a reweighting of the rebates payable for security queue times, with a greater focus on meeting the 10-minute queue time target. This would ensure that the regulatory framework incentivises us to target the service level that consumers really value.

4.6.13. Ahead of its Final Decision, the CAA must review this evidence properly and come to a consumer-focused assessment of its proposed weighting for security queue times.

4.7. Mid-period review

4.7.1. In our response to the Initial Proposals, we raised concerns about the CAA's proposals for continuous improvement in OBR. We were concerned that the scope of this mechanism was too broad and exposed Heathrow to increased risk through

[18] Incite, Service Degradation Research,2021
[19] Systra, Passenger Priorities Post Covid-19 Research, 2020

the settlement that was not factored into assessments of the deliverability of the overall price control at the start of H7.

4.7.2. While we welcome the CAA's confirmation that this is not the intention of the mechanism, the Final Proposals have increased our concern that this risk is still present through the CAA's proposed mid-period review. This is discussed further in the Legal Annex, section E.

4.7.3. The CAA's proposals for a mid-period review appear broad ranging and cover all aspects of the OBR scheme, from the introduction of new measures, to increasing targets and changing measurement methodologies. While we agree that flexibility can be helpful in adapting to changing circumstances, an isolated review of this magnitude of just one element of the price control exposes us to material risk during the regulatory period.

4.7.4. As set out above, for the price control to be deliverable and a 'fair bet' there needs to be a clear link between the service levels targeted and the cost allowances to deliver these. Absent a parallel review of the price control forecasts in general, which is not within the proposed scope of this review, the mid-period review could lead to material inconsistency between the costs forecast and the service levels required.

4.7.5. Given the above, the CAA should remove its proposed mid-period review and rely solely on continuous improvement mechanisms to ensure that the service quality regime continues to meet the needs of consumers by measuring the right service elements.

5. Operating Expenditure

Summary

5.1.1 The CAA's proposals for operating costs are undermined by clear errors; the effect of these errors is that, in practical terms, the proposed operating cost target will not be possible to achieve. This is particularly the case in 2022; our actual spend for the first half of 2022 is in line with the forecasts in our RBP, while the CAA erroneously estimates that operating costs will be £59m lower than expected outturn cost.

5.1.2 The CAA appears to be judging the efficiency of an 80mppa airport operating in a pre-covid environment rather than an airport ramping-up from an unprecedented demand shock. The CAA has overestimated savings arising during Covid and has failed to recognise the essential cost increases Heathrow is implementing to enable it to serve the sharp recovery in demand and address the operational challenges the airport is experiencing. If we were to try and operate at the CAA's proposed level we would have to stop recruiting and lay off recent recruits, when it has become obvious to everyone that passenger interests are best served by ramping up operations as fast as possible.

5.1.3 To ensure the H7 cost allowance will serve the interests of consumers, the CAA needs to correct the following errors in its FPs, which would increase the CAA's operating cost estimate by £368m:

- **The CAA overestimates the adjustment required to ensure an efficient baseline for the H7 forecast.** The CAA needs to remove the 1.4% reduction to the 2019 outturn costs, remove the 1% ongoing efficiency assumption applied to all cost categories except People in 2020 and 2021 and remove the arbitrary 10% efficiency applied to the London Living Wage adjustment. The impact of this error is to underestimate H7 operating costs by £157m. This error is explained in detail in Section 5.6.

- **The CAA underestimates the impact of increasing input prices over H7**. Although the CAA acknowledges the current resource challenges in the aviation labour market, they need to use a wage inflation index that reflects the wage pressures facing Heathrow and the aviation sector, and take account of evidence of the pay increases being awarded by other major employers, including airlines. The CAA has accepted our approach to forecasting energy prices, however, the forecast used needs to be updated to the latest available. The CAA underestimates insurance cost pressures over H7. The impact of these errors is to underestimate H7 operating costs by £137m.This error is explained in detail in Section 5.7.

- **The CAA overestimates the level of savings Heathrow is able to make in its People costs as a result of reductions in passenger demand.** The CAA needs to reduce the assumed elasticity with respect to passenger volumes applied to People costs excluding security. The impact of this error is to underestimate H7 operating costs by £35m. This error is explained in detail in Section 5.8.

- **The CAA underestimates the additional costs required to deliver our service obligations for H7.** The CAA has incorrectly assumed that our obligations for hygiene and cleanliness will not exist beyond 2022, excluding the Covid cost allowance for the remainder of H7. The CAA has incorrectly reduced the cost overlay for resilience on the basis that inactivity during 2020/2021 will have extended asset life despite Heathrow being required to ensure all assets were available during this period. The CAA has failed to include the additional costs required to deliver our service obligations for Passengers Requiring Support. Finally, the CAA incorrectly includes the costs associated with the Terminal Drop Off Charge from 2024. The impact of this error is to underestimate H7 operating costs by £39m. This error is explained in detail in Section 5.9 and in Section 5.10.

5.1.4 Applying our H7 passenger forecast as set out in Chapter 2 leads to a downward correction of £48m to the operating cost allowance.

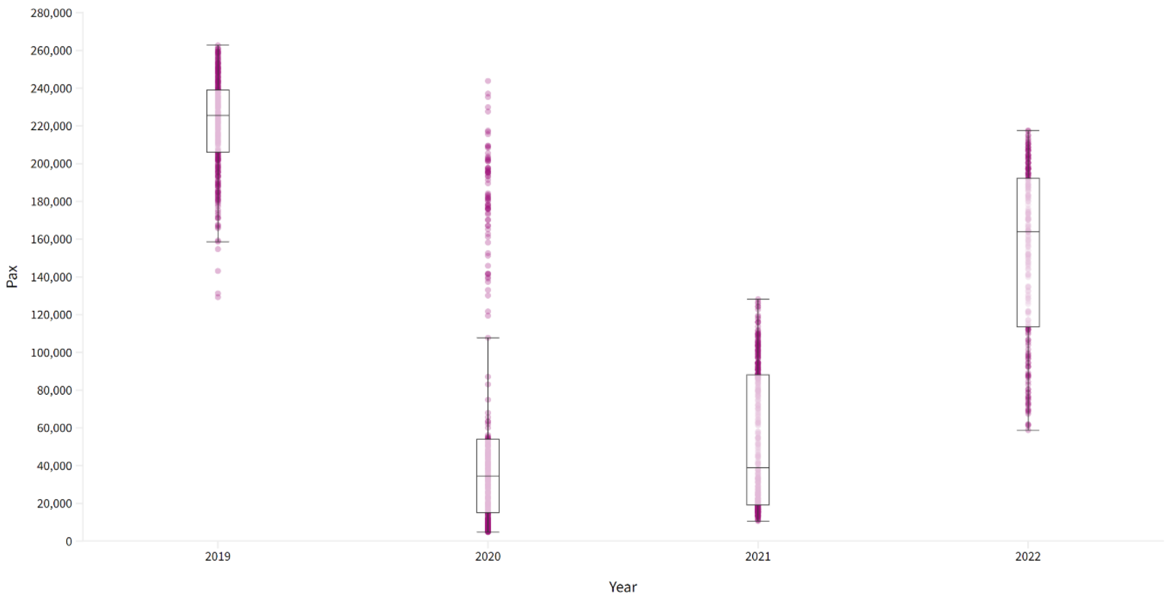
5.2 Introduction

5.2.1 Setting the right level of operating expenditure is key to the successful return of the airport to normal operations post-Covid and to the successful delivery of our plan over the next 5 years.

5.2.2 Airport operations were scaled back drastically in response to the Covid pandemic to minimise costs in light of the c.80% drop in passenger numbers. Passenger demand is now returning at an unprecedented rate due to the pent-up leisure demand from travel restrictions during the pandemic. The expected annual growth in passenger volumes in 2022 is 35m, greater than Stansted's entire pre-covid traffic (roughly 28m). This year-on-year growth is significantly higher than any growth Heathrow has ever experienced. Passenger volumes increased from around 66 million in 2009 to around 81 million in 2019 – an increase of 15 million passengers, or around 1.5 million per annum on average.

5.2.3 The recovery fluctuates with extreme peaks in demand. Figure 1 below shows daily passenger volumes (represented by the dots) and the range of daily demand across the year (represented by the boxplots). It highlights how significantly the variation in day-to-day demand has changed since 2019. In 2022, both the difference between the upper and lower extremes and the interquartile range are significantly larger than in 2019.

Figure 1: Comparison of the daily passenger demand between 2019 to 2022



Source: Heathrow

5.2.4 Uncertainty remains over the strength of the recovery following the summer peak. However, it has been necessary to bring back resource now to serve current peak traffic volumes and maintain service levels. We now have as much resource in security as pre-pandemic. Simply considering only annual passenger volumes fails to reflect that resources and costs are largely driven by the need to maintain service levels at peak volumes and hence underestimates the costs of operating the airport during this recovery phase.

5.2.5 It is essential that the H7 price control provides the right level of operating expenditure to restore the airport to normal operating conditions whilst recognising the challenges of serving peaks in traffic and the impact of capacity constraints across the airport. The airport is not yet in a stable situation and its pattern of use has changed. Experiencing the fastest growth in its history from a low base, the operation of the airport is more costly than the application of 'business as usual' unit cost efficiencies will estimate. There are ongoing risks in terms of the impact of the pandemic on demand, operational processes and capacity constraints. The appropriate H7 operating cost allowance must recognise the circumstances of the airport and be sufficient to enable us to run the operation safely, securely, and efficiently and in so doing allow it to meet the expectations of passengers and the airline community.

5.2.6 Setting an efficient H7 operating cost allowance to support recovery post-Covid requires clear alignment and consistency across the CAA's decision on allowed levels of capital investment and service targets. Both are intrinsic drivers of the level of operating costs required at the airport. The CAA's Final Proposals are contradictory by setting a service level that cannot be delivered by the allowed operating costs and precludes capex that would reduce operating costs.

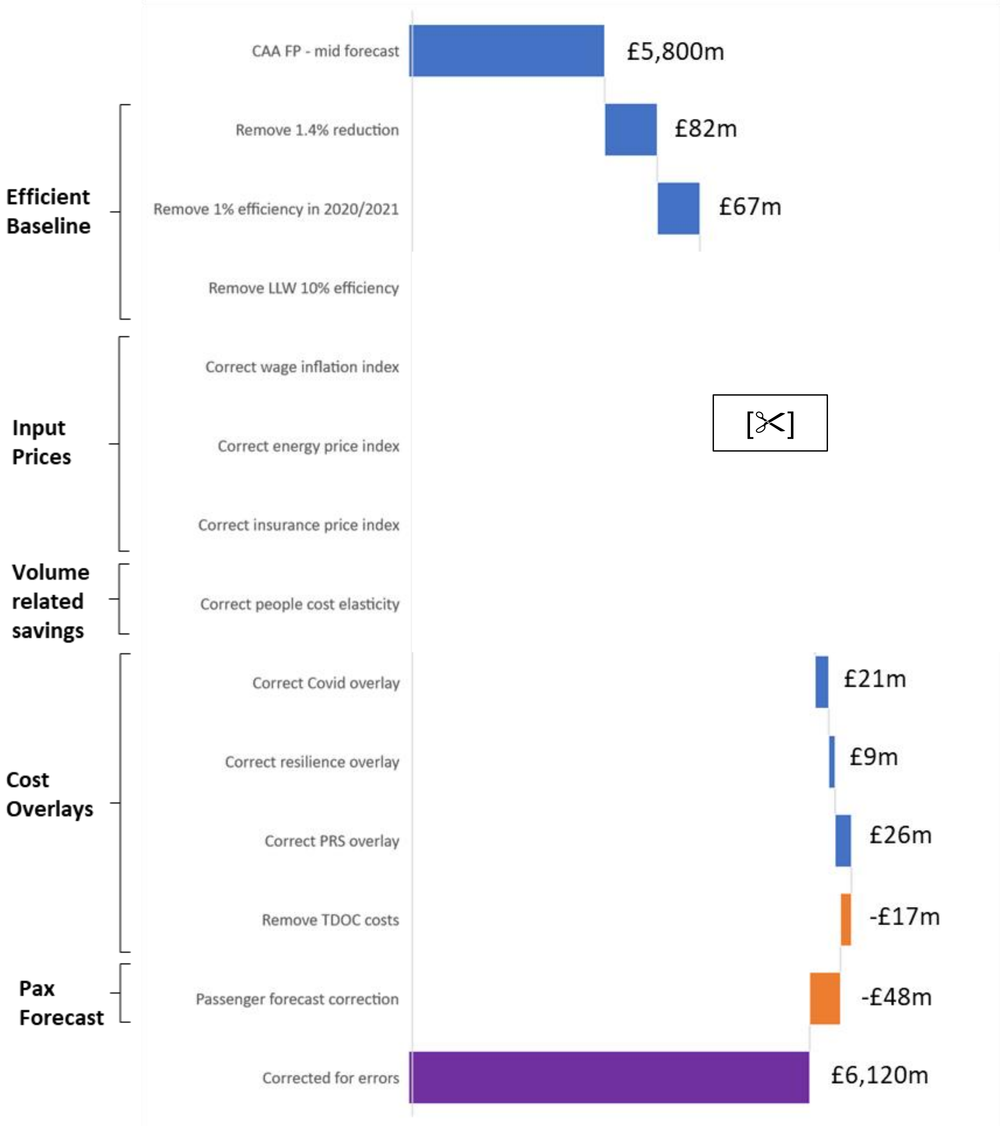
5.2.7 This chapter is structured as follows:

- Context for the response: where we outline key contextual changes and engagement with the CAA since we submitted our response to the CAA's Initial Proposals.
- Response to the FPs: where we discuss the merits of the CAA's proposals. Where appropriate, we outline our concerns with the CAA's proposals and then provide evidence to substantiate our concerns. We then present our proposals to address these concerns. We identify concerns with the CAA's proposals in the following areas:
    - Deliverability of H7 operating costs
    - Efficient baseline for H7 operating costs
    - Input Price Inflation
    - People costs
    - Covid overlay
    - Enhanced Service overlay
    - Pension deficit repair costs
- Consolidated view of Heathrow's proposals: where we provide a consolidated view of our proposed operational cost requirements for H7.

  This error is discussed at [section F4] of the Legal Annex.

5.2.8 The consolidated view of Heathrow's proposals is presented below, showing the errors the CAA needs to address, which result in the proposed H7 operating cost allowance of £6,120m.

Figure 2: Errors in CAA / CTA's approach to forecasting operating costs



Source: Heathrow

5.2.9 It should be noted that all figures in this chapter are presented in 2020 CPI prices.

5.3 Context for the response: macroeconomic factors and changes in passenger expectations

5.3.1 As a result of the impacts of Covid on passenger demand, we took decisive action to reduce our operating costs as much as possible through temporary and permanent savings. During this period, we have taken a zero-based budgeting approach to strip out costs and ensure we are entering H7 with an efficient baseline[1]. However, as

[1] At the onset of Covid each Business Unit constructed detailed bottom-up budgets to identify business functions, contracts and programmes that could be halted or reduced. With the return of passengers we have utilised a top down driver based approach for forecasting scenarios and longer term trends but corroborate this process with continued use of extensive bottom up budgeting within each Business

airport operations ramp back up to more normal levels, it is critical that the H7 operating cost allowance recognises the efficient incremental costs of:

- building back operational capacity rapidly;
- additional cost drivers from enhanced service levels to meet customer expectations post-Covid; and
- input price pressures in the current inflationary environment.

5.3.2 **Challenges in building back operational capacity rapidly:** Across the airport, all companies are currently struggling to recruit and train people fast enough to build back operational capacity and provide an acceptable level of service. We are attempting to recruit [✂] the number of security officers compared with the busiest pre-pandemic year. In addition, [✂]. For each candidate, referencing and security checks alone take approximately [✂]. Since the start of the pandemic, completing 5-year referencing checks for each security officer candidate has become increasingly difficult as referencing companies are capacity constrained, and many previous employers have gone out of business during the pandemic. With the record low levels of unemployment, we are finding that many candidates appear to be unwilling to wait for such a thorough process. This is especially the case in the context of hiring security officers. Security officer applicants must go through a thorough application process, including online tests, telephone interviews, assessment centres, referencing and counter-terrorism checks, physical and medical tests, among others. This issue is not unique to Heathrow and is being felt across the industry.

5.3.3 During the early stages of the recovery, we have seen how peaky demand is, which requires us to commit resources to meet that peak demand. However, passenger behaviour has also changed during Covid. Security flow rates are significantly below pre-Covid levels due to a combination of:

- inexperienced workforce - 23% of security officers have been in role less than a year, compared with 16% in 2019;
- less experienced passengers – in H1 2022 36% of passenger were travelling to visit friends/relatives compared with 25% in 2019. These passengers tend to be less experienced travellers than business passengers and often take more time per passenger to pass through the airport. 56% of passengers in H1 2022 were travelling for the first time in (at least) 12 months compared with only 39% in 2019; and
- higher bag rejection rates - the proportion of bags / trays that do not pass first time through security checks and require additional screening has increased to 9.3% in 2022 compared with 8.4% in 2019. This puts additional pressure on resource and process times. This is likely to be linked to the point above, with passengers out of the habit or unfamiliar with the requirements through security.

5.3.4 We are working closely with the airlines and other partners across Team Heathrow to coordinate and plan supply across the airport to match demand. The H7 operating

Unit to ensure that as passenger volumes return; these are serviced through the most efficient cost base possible.

cost allowance must enable us to run a resilient operation under the extreme uncertainty of the pace of industry recovery and greater volatility in traffic.

5.3.5 **Possibly permanent shift in passenger expectations add new cost drivers:** Covid has changed the expectations of passengers, who now expect greater levels of hygiene and cleanliness and need greater support throughout their end to end journey. This is supported by the consumer evidence presented in the Covid and Enhanced Service cost overlay sections below. However, it is not just passenger expectations that have changed, adapting to Covid means that to ensure continued safe operations for all colleagues across the airport and to minimise Covid-related absences, an enhanced cleaning regime must be maintained. The H7 operating cost allowance must recognise the cost implications of meeting these increased consumer expectations and ongoing safety requirements and enable the delivery of the service quality targets for H7.

5.3.6 **Inflation puts pressure on input prices:** Since RBP Update 2, inflationary pressures have continued to increase[2], particularly in the energy market. The H7 operating cost allowance must reflect the latest forecasts for the cost pressures we are facing.

5.3.7 We welcome that the quality of the CAA's operating cost forecast has significantly improved since the Initial Proposals, which now enables us to fully engage with the CAA assumptions. However, we remain very concerned with the CAA's operating cost forecast for H7, particularly the cost allowance for 2022.

5.3.8 Our latest forecast for 2022 is £1,165m[3] and the H1 results[4] show performance is in line with forecast. The CAA's cost allowance for 2022 is £59m lower than our expected outturn[5]. This level of reduction in expenditure compared to our current plan would have an enormous negative impact on consumers. The CAA's allowance is an error as it assumes permanent savings have been made during Covid that do not exist. The CAA has no evidence that our operation in 2022 is inefficient, given the circumstances the airport is operating in. The CAA appears to be judging the efficiency of an 80mppa airport operating in a pre-covid environment rather than an airport ramping-up at a record pace from an unprecedented demand shock.

5.3.9 There is regulatory precedent for considering how operating costs change in response to sharp changes in demand, as this was explicitly considered at the 2019 price control at Dublin Airport where the outturn passenger volumes over the period 2014-2019 were significantly higher than the level forecast by the CAR. While this was not in the context of Covid (the increase in demand at Dublin over the period 2014-2019 was a lot lower than the increase Heathrow is facing), it highlights that due regard should be paid to sharp changes in demand. The CAR itself noted that "*the increase in scale occurred unexpectedly quickly which could have prevented an efficient response*."[6]

[2] CPI rose by 9.4% in the 12 months to June 2022, up from 9.1% in May. [Consumer price inflation, UK - Office for National Statistics]
[3] Published in the June Investor Report, adjusted to be pre-IFRS adjustment and 2020 CPI prices - [Heathrow June Investor Report]
[4] 2022 H1 results - [Heathrow 2022 H1 Results]
[5] CAA, CAP2365, H7 Final Proposals Section 2, Table 4.1, pg 26. CAA forecast for 2022 is £1,106m compared with the expected outturn of £1,165m.
[6] CAR, Issues Paper 2019 Determination of the Maximum level of Airport Charges at Dublin Airport, pg 26, 2018. [Issues Paper (aviationreg.ie)]

5.3.10 The CAA's cost allowance for 2022 does not reflect the reality of the cost pressures (including the three pressures highlighted above) that we are exposed to in the current operational environment. In assuming that costs in 2022 could be 6% lower than the actual costs, the CAA is making a major error of fact.

5.3.11 We believe that an excessive focus on cost-cutting goes against delivering a resilient operation in this environment and is not aligned to consumer expectations. Consumer engagement on resilience highlights that consumers need to trust they will be able to complete their journey without disruption. This trust is built over time through personal experience and word of mouth.[7] Without the necessary cost allowances to ensure we remain resilient we will not be delivering on our consumer outcome to make Heathrow an airport consumers want to travel from.

5.3.12 If things do go wrong, consumers have heightened needs for proactive customer service delivered by colleagues on the ground to give full disclosure of information and provide emotional support.[8] Without the necessary cost allowances to provide the support consumers want when things do go wrong, we will not be delivering on our consumer outcome to ensure that passengers feel cared for.

5.3.13 In the following section, we provide detailed feedback on the CAA's assumptions in order to show that where the H7 operating cost allowance is grounded in current economic and aviation reality, it enables a resilient operation, which in turn allows for meaningful efficiency incentives which is fully integrated with other key building blocks.

5.4 Context for our response: Heathrow's engagement with the CAA since the CAA's Initial Proposals

5.4.1 We, the CAA and CTA (the two consultants, CEPA and Taylor Airey, working on behalf of the CAA) have had a series of meetings and deep-dive sessions, where – among other things - (i) the key operating cost assumptions; and (ii) the security transformation programme have been discussed. The CAA and Taylor Airey also visited Terminal 5 to observe the operation of a security lane with the new CT screening technology.

5.4.2 The CAA also submitted a series of questions to us in relation to our response to the Initial Proposals and our submission of RBP Update 2, which have since been responded to. A list summarising the extensive additional evidence provided to the CAA as part of this process is included in Appendix 42.

5.5 Response to the FPs: the CAA must correct the undeliverable stretch in the 2022 operating cost allowance

The CAA's proposals

5.5.1 The CAA has allowed £1,106m for total operating costs in 2022, increasing to £1,191m by 2026 and £5,800m for total operating costs across H7[9].

[7] Blue Marble Research, Synthesis of Consumer Insights – Need areas, December 2020, Page 77. Heathrow RBP, Annex 5
[8] Ibid
[9] CAA, CAP2365, H7 Final Proposals Section 2, Table 4.1, pg 26.

5.5.2 The CAA relies on the following evidence when calculating the deliverability of the overall operating cost allowance:

- The CAA states that for the period from 2022 to 2025 they: *"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. We regard this as providing reassurance that the trajectory of HAL's projected opex estimated by CTA is reasonable."*[10] The CAA has provided no evidence to support the assertion that the opportunities to make cost savings are "broadly offset by" the headwinds facing Heathrow during H7. The CAA has also not provided any details of their review process or the evidence relied on to support that the 2022 - 2024 operating cost forecast is deliverable for consumers.

- By 2025, the CAA notes that: *"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"*[11]

- Whilst the CAA states that it is appropriate to consider the top-down cross-check to the CTA analysis, no further evidence is presented on the cross-checks carried out.

- The CAA states that the baseline H7 capex allowance will enable us to deliver operating cost efficiencies in H7, providing the example that the capex for the security programme is included and should enable efficiencies in security related people costs later in H7.

- The CAA highlights the importance of setting targets that are consistent with a level of costs that supports good and improving levels of service. The CAA provides no details of any validation exercise carried out to confirm this is the case in their proposals.

Concerns with the CAA's proposals

5.5.3 Given the high number of assumptions that CTA has made to produce their operating cost forecast for H7, the CAA highlights the importance of top-down cross checks. However, the only evidence the CAA provides of the cross-checks carried out is the comparison of the 2019 outturn and 2025 forecast operating cost per passenger.

5.5.4 This is a dubious cross-check. We set out in Chapter 2 - Passenger Forecasts and in Section F1 of the Legal Annex the CAA's serious errors in its passenger forecasts, which mean those forecasts could not withstand appeal. But even by the CAA's own admission, "*It is possible that evidence will emerge during the period of consultation on these Final Proposals and during our work to make our Final Decisions on the price control that would mean the passenger forecast used in these Final Proposals should be reviewed*"[12].

[10] CAA, CAP2365, H7 Final Proposals Section 2, para 4.60, pg 21.
[11] CAA, CAP2365, H7 Final Proposals Section 2, para 4.59, pg 21.
[12] CAA, CAP2365, H7 Final Proposals – Summary, para 25, pg9.

5.5.5 If the CAA lacks sufficient confidence in the robustness of forecasts, it should not – as it has done – rely exclusively on these incorrect forecasts as the sole driver of its operating cost cross-check.

5.5.6 The CAA also appears to fail to fully consider the deliverability of the H7 operating cost forecast or the links between it and the capex allowance and service targets. This is particularly evident when considering the cost allowance for 2022.

5.5.7 Our latest forecast for 2022 is £1,165m[13] and the H1 results[14] show performance is in line with forecast. The CAA's cost allowance for 2022 is £59m lower than our expected outturn[15]. Trying to reduce costs below our current forecast would have a very significant impact on consumers.

5.5.8 As set out in the Introduction, the recent rate of increase in passenger traffic is unprecedented. This unprecedented growth has put a strain on resources across Team Heathrow and across the industry resource is lagging behind demand. It is one of the most challenging labour markets the aviation sector has ever faced, with UK unemployment at a 50-year record low. The sector as a whole is struggling to recruit workers, as are other sectors. We have had to recruit [✂] the number of security officers compared with the busiest pre-pandemic year. In addition, the [✂]. 23% of security officers have been in role less than year, compared with 16% in 2019. A less experienced workforce impacts efficiency in security and this will be experienced throughout the aviation sector. Service levels have suffered, yet the CAA proposes we should be making a further, unsubstantiated, £59m of cost savings.

5.5.9 The CAA states that "*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*.[16]" The CAA then gives two examples:

- Ongoing impacts of Covid on cleaning – the CAA states that an increased cost allowance is included in the "*early years of H7*".[17] This is incorrect; there is only an allowance included in 2022.

- Labour market constraints – the CAA states that CTA has taken account of labour market constraints and highlight "*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*"[18] (emphasis added). Despite articulating this expectation, CTA has made a clear error in **allowing for lower than market rate salaries** in 2023. It should also be noted that higher salaries are not the only impact of labour market constraints; recruitment and training costs also increase, particularly as applicant conversion rates are currently significantly lower than 2019 (2.4% to 3.8%) and this does not take into account further dropping out during the training process. See the People costs section below for a full discussion on this error.

[13] Published in the June Investor Report, adjusted to be pre-IFRS adjustment
[14] 2022 H1 results - Heathrow 2022 H1 Results
[15] CAA, CAP2365, H7 Final Proposals Section 2, Table 4.1, pg 26. CAA forecast for 2022 is £1,106m compared with the expected outturn of £1,165m.
[16] CAA, CAP2365, H7 Final Proposals Section 2, para 4.62, pg 22.
[17] CAA, CAP2365, H7 Final Proposals Section 2, para 4.62, pg 22.
[18] CAA, CAP2365, H7 Final Proposals Section 2, para 4.62, pg 22.

5.5.10 There are several key errors of fact in the assumptions that the CAA makes when forecasting 2022 operating costs that are leading to a forecast that will not meet the needs of consumers:

- **The CAA overestimates the adjustment required to ensure an efficient baseline for the H7 forecast** by including both specific permanent savings achieved during 2020/21 and a 1.4% reduction to the baseline combined with a 1% year-on-year saving for 2020/21. See the Section 5.6 below for a full discussion of this error.

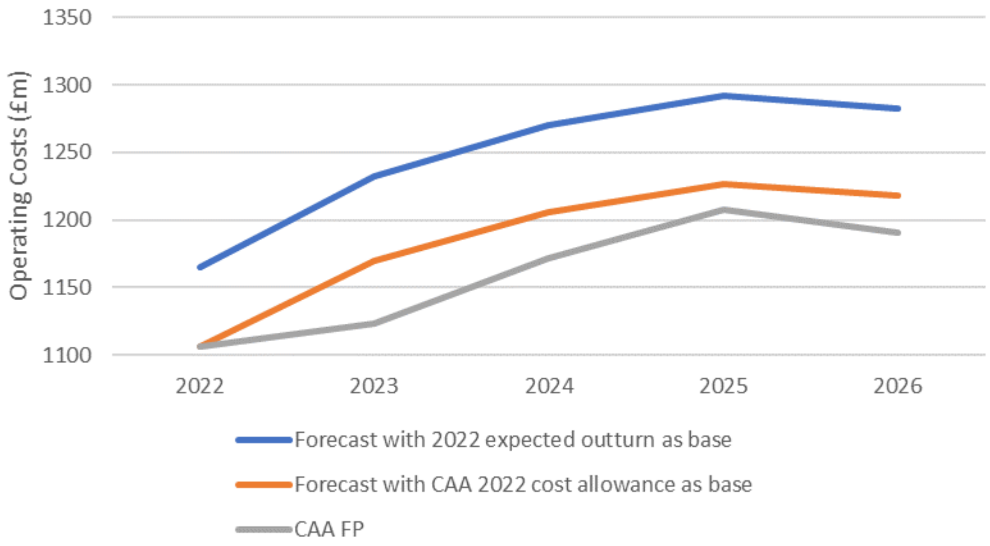
- **The CAA underestimates the impact of the inflationary pressures we are exposed to in 2022.** The CAA has accepted our approach to forecasting energy prices. However, the forecast the CAA uses needs to be updated in line with the latest available data. See the Section 5.7 below for a full discussion of this error.

- **The CAA overestimates the level of savings we are able to make in our People costs as a result of reductions in passenger demand.** The CAA needs to reduce the assumed elasticity with respect to passenger volumes applied to People costs excluding security. This error is discussed in more detail in Section 5.8 below.

5.5.11 The CAA's underestimation of the efficient costs in 2022 has a significant impact on the overall deliverability of the H7 forecast. By failing to recognise the costs required to deliver for our passengers in 2022, the CAA comes to an unrealistic starting point for the H7 forecast, which would result in undeliverable cost savings in the following years to achieve the overall H7 operating cost target. To illustrate this point, Figure 3 shows (i) the CAA Final Proposals; (ii) a forecast using the CAA 2022 cost allowance as a base with an elasticity of 0.3 applied to passenger volumes and 1% year-on-year efficiency; and (iii) a forecast using the expected 2022 outturn as a base with an elasticity of 0.3 applied to passenger volumes and 1% year-on-year efficiency. An illustrative elasticity of 0.3 is used, as this is the elasticity that the CAA itself used when adjusting our RBP Update 1 forecast for the purpose of developing operating cost ranges in the Initial Proposals.[19]

[19] CAA, Initial Proposals deep dive: opex, slide 34, 15 November 2021.

Figure 3: CAA's Final Proposals compared with H7 forecasts using the CAA's 2022 cost allowance as a base and the 2022 expected outturn as a base



Source: Heathrow, CAA's Final Proposals

5.5.12 Figure 3 shows that by setting an unrealistic level of stretch in 2022, this has a knock-on effect for the level of stretch in all subsequent years. It also shows that the trajectory of the CAA's Final Proposals is highly challenging. The illustrative forecast using the CAA's 2022 cost allowance as a base is actually extremely aggressive as, whilst it includes the ongoing efficiency challenge, it does not include any allowance for the headwinds expected in H7. The CAA's Final Proposals are set out against a much more challenging baseline. The CAA's forecast has an implied overall top-down elasticity passenger to operating costs elasticity of 0.16 when considering the growth in operating costs and passenger volumes from 2022 to 2026, significantly more challenging than the typical range found by Frontier Economics of 0.3-0.7 from academic and regulatory precedent.[20]

5.5.13 CTA assumes an ongoing efficiency target of 1%. We commissioned Frontier Economics to review this assumption, full details of the review are included in Appendix 39 – Frontier Note on Frontier Shift and Labour Wage Growth and summarised below:

- **CTA's approach ignores the most recent evidence**: It is not correct to simply apply figures used at the previous price control as a default assumption. The correct approach is to analyse the most recent evidence and come to a well-considered view;

- **CTA's analysis does not support its 1% assumption**: CTA presents total factor productivity analysis using both EU KLEMS and ONS data. However, it is not clear how this actually supports an assumption of 1%. EU KLEMS data only extends to 2016, whereas ONS data is available up to 2021 and therefore more relevant. However, for most of the sectors presented the ONS sample averages are well below 1%. CTA has removed "Electricity, gas, steam and air conditioning supply" from their unweighted average with no explanation. It appears the reason may be because it is an outlier as a large negative value -

[20] Frontier Economics, H7 IP Opex Review, December 2021. Heathrow Response to the IPs, A8.

if this was the case the other outlier in the dataset should also have been removed – "Information and communication", which is a large positive value. This adjustment would result in a negative unweighted average using the ONS data. This approach would be improved by taking a weighted average as some of the sectors are more relevant to our business than others - notably "Transportation and storage", which specifically includes subcategories related to aviation. All of the results presented for "Transportation and Storage" are significantly lower than 1% and the result based on 2009-2021 ONS data is -0.4%. It would be reasonable to weight the sector results according to our cost base and considering an unweighted average places too little weight on "Transportation and Storage". CTA also notes that ONS multi-factor productivity estimates have returned to the pre-pandemic rate of 0.6%. CTA does not comment on this further and it is not clear why a higher than average figure of 1% should be assumed for Heathrow. On the contrary, as the "Transportation and Storage" sector has experienced below average outturn productivity gains, it would be expected that a lower than average figure should be applied to Heathrow; and

- **CTA's analysis ignores real world issues**: CTA does not take into account the impact on productivity of the recruitment challenges of resourcing to serve the sharp ramp-up in passenger demand we and the wider industry are experiencing. The average worker at the airport will now have significantly less experience than pre-pandemic, it is reasonable to expect this to negatively impact productivity and is an unavoidable inefficiency introduced into the aviation sector as a whole. This again contradicts the assumption of applying a frontier shift that is significantly more challenging than estimates for productivity in the UK or Transportation and Storage sectors referenced above.

5.5.14 Based on this evidence by Frontier Economics, it is not clear how the CAA's proposal to apply a 1% ongoing efficiency target represents a well-considered balanced view. In addition, the latest report from the OBR highlights the potential for weaker productivity growth[21] and the long-term term trend of "*declining productivity growth, which has averaged less than 1 per cent a year so far this century*"[22].

5.5.15 In RBP Update 2, we updated our estimate of the impact of capex on the potential to make ongoing operational cost savings to reflect the changes in the capital plan. If we were to update this analysis to reflect the CAA mid-case capital plan proposal the ongoing efficiency target would be reduced to 0.5% compared with 0.9% assumed in RBP Update 2[23].

5.5.16 The CAA provides no details of any validation exercise carried out to confirm that the H7 operating cost allowance is consistent with the proposed service quality targets. A failure to validate this would indicate that there is no cost/quality relationship which is a clear error. This error is discussed at [section F4] of the Legal Annex.

5.5.17 Based on consumer engagement and prioritisation, Heathrow had proposed targeted service quality improvements related to Cleanliness, Wayfinding and Overall Satisfaction to enhance the service proposition to consumers. This is funded through additional operating cost overlays Covid-19 and Enhanced Service. These overlays

[21] OBR, Fiscal risks and sustainability, July 2022, pg 3, https://obr.uk//docs/dlm_uploads/Fiscal_risks_and_sustainability_2022-1.pdf
[22] OBR, Fiscal risks and sustainability, July 2022, pg 21. https://obr.uk//docs/dlm_uploads/Fiscal_risks_and_sustainability_2022-1.pdf
[23] The methodology for this calculation is set out in RBP Update 2, Table 21, page 77.

were discounted or reduced in the CAA's Final Proposals, but the higher targets for these measures were adopted or further inflated in the CAA's proposals on OBR. Further detail on these inconsistencies can be found in Chapter 4 on OBR.

Corrections required to the CAA's proposals

5.5.18 As a result of the evidence provided above, we conclude that the CAA must correct the undeliverable level of stretch included in the 2022 cost allowance. The remainder of this section sets out the specific modelling assumptions that should be corrected to bring the 2022 cost allowance to a realistic level that will meet the needs of consumers.

5.6 Response to the FPs: the CAA overestimates the adjustments required to ensure an efficient baseline for H7

The CAA's proposals

5.6.1 The CAA has made a number of adjustments to the 2019 outturn operating costs and relies on the following evidence for the adjustments:

- Inefficiency in 2019 costs: CTA applied an adjustment to the 2019 outturn costs based on the difference in average operating costs per passenger in 2017-2019 and the operating costs per passenger in 2019. CTA is of the view that increases in costs from 2018 to 2019 are as a result of inefficiency. Although they recognised that Heathrow met the Q6 price control targets, they rejected this as evidence that efficient levels have been achieved. They stated that our benchmarking evidence against other airports was not compelling. Despite this, they state the KPMG report[24] supports their conclusion that the 2019 expenditure does not represent an efficient baseline.

- Cost savings during 2020 and 2021: The Cost of Change programme and the baggage contract renegotiation were permanent savings we identified from 2020 and CTA has used information we provided in RBP Update 2 to make adjustments for these savings. CTA concludes that we should be expected to have made further permanent savings in other areas of our cost base and have included a 1% ongoing efficiency target from 2020 in all areas other than People costs.

- London Living Wage: CTA accepted the evidence presented in RBP Update 2 on the cost impact of the commitment for all suppliers to pay London Living Wage. However, CTA applied a 10% efficiency to the estimate citing evidence from two sources, a study from Queen Mary, University of London[25] and an article by McKinsey[26].

- Removal of expansion costs: CTA removed operating costs related to Expansion from the 2019 outturn costs using evidence we submitted in RBP Update 2.

[24] KPMG, Airport Operating Cost Efficiency Benchmarking, December 2021. Heathrow Response to the Initial Proposals, Appendix A9

[25] Linneker and Wills (2012) The costs and benefits of the London living wage. Available at qmul.ac.uk.

[26] McKinsey (2021) Buying into a more sustainable value chain. Available at mckinsey.com.

Concerns with the CAA's proposals

5.6.2 CTA incorrectly assumes that any increase in operating costs per passenger is as a result of inefficiency. This is not aligned to regulatory precedent and does not take into account three key considerations:

- key drivers of cost other than passenger volumes;
- costs outside the airport's control; and
- performance of comparator airports to identify relative efficiency.

5.6.3 CTA then incorrectly assumes that the Cost of Change programme is additional to the baseline adjustment they apply as a result of the identified increases in cost per passenger because they are addressing different inefficiencies. CTA states that "*the Cost of Change programme was designed to tackle long-standing structural inefficiencies, by modernising terms and conditions of HAL staff. Our efficiency adjustment to 2019 expenditure of £17.1 million, on the other hand, is designed to remove what appear to be inefficient spending increases over the period 2017 to 2019 illustrated by a simple comparison of the evolution of opex per passenger over those years.*"[27]

5.6.4 This is a key misconception and not aligned to regulatory best practice. When assessing company efficiency, it is regulatory best practice to consider companies with operating costs at the 75th cost percentile as representing an efficient business. Most recently, in the Competition and Markets Authority's (CMA) final price control determinations for four water companies that rejected the Ofwat price determinations, the CMA decided that the 75th percentile is the appropriate level of efficiency benchmark[28]. An efficient airport does not have to be 'best in class' in every cost category. Indeed, UK economic regulators consistently reject this approach because there may be trade-offs - achieving lower costs in one category may require higher costs in another category. Ofgem, for example, in setting the retail energy price control recognises that " risks setting an unrealistically low set of benchmarks, as we may pick low costs that no single supplier could achieve at the same time". It is the total level of costs that should be assessed, it is then management decision to prioritise spend accordingly. This means that it is not necessary to apply efficiencies to every cost category, it is the total operating costs that form the efficient baseline. This error is discussed at [section F4] of the Legal Annex.

5.6.5 CTA also states that KPMG consciously excluded structural cost differences between airports from its efficiency analysis, concluding that this supports that a baseline adjustment and the Cost of Change does not result in double counting. This is not true. The inclusion of airport-specific terms could theoretically capture time-invariant inefficiency and place-specific effects (such as geographical location). However, given that the data KPMG used for their analysis spans 20 years, it is much more plausible to assume that place-specific effects dominate rather than to assume that the relative efficiency has not changed over 20 years.

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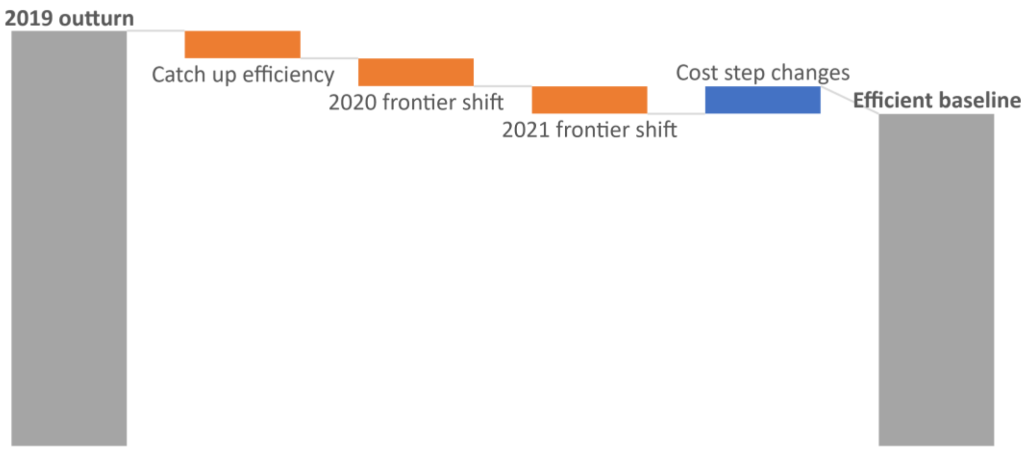
[27] CTA, Review of H7 Opex and Commercial Revenues: Final Assessment and Forecasts (Opex), pg 22.

[28] CMA, Anglian Water Service Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Services Limited price determinations Final Report, March 2021, Paragraph 4.494, pg 232. https://assets.publishing.service.gov.uk/media/60702370e90e076f5589bb8f/Final_Report_---_web_version_-_CMA.pdf

5.6.6 To illustrate the issue of double counting, we show below a conceptual framework for establishing the efficient H7 baseline for the H7 operating cost forecast.

Figure 4: Framework for establishing the efficient H7 baseline for H7 operating costs



Source: Heathrow

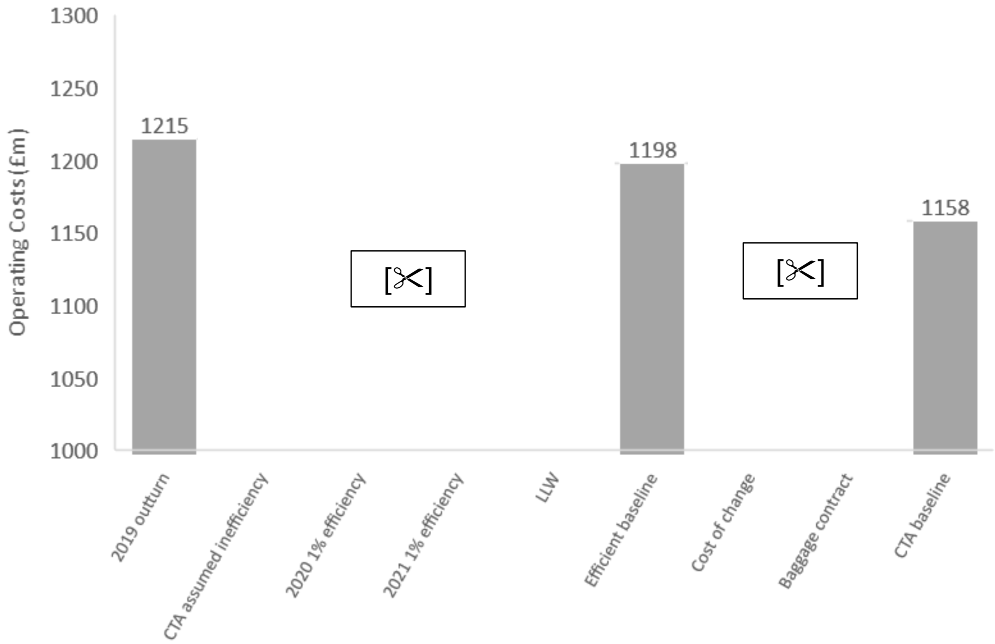
5.6.7 Figure 5 below shows the steps taken by Heathrow to establish the efficient baseline for the H7 operating cost forecast. The Cost of Change programme and the baggage contract renegotiation are the practical reality of how Heathrow delivered the catch-up efficiency and frontier shift set out in Figure 4.

Figure 5: Heathrow approach to establishing the efficient baseline

Source: Heathrow

5.6.8 Figure 6 below shows the steps CTA has taken to establish the efficient baseline.

Figure 6: CTA approach to establishing the efficient baseline



Note: CTA do not apply 2020/21 1% efficiency to all cost categories

Source: Heathrow

5.6.9 CTA includes both the theoretical catch-up efficiency and frontier shift, and the practical reality of how those efficiencies were delivered (i.e. the Cost of Change programme and the baggage contract renegotiation). This is a clear double count and results in CTA overestimating the adjustment required to establish the efficient baseline.

5.6.10 CTA itself acknowledges the risk of double counting:

> *"In our initial forecasts, we had chosen not to apply ongoing productivity target in 2020 and 2021, as our base year adjustment included both catch-up efficiencies and cost savings introduced as a result of the pandemic. These efficiencies could have included some frontier shift efficiency improvements."*[29]

5.6.11 However, CTA then incorrectly assumes that there are permanent savings, additional to the those we have already identified, in cost categories other than people costs:

> *"In our revised forecasts, we have updated our analysis such that any cuts to non-pay expenditure introduced in 2020 will be fully reversed once passenger numbers recover. However, this revised approach fails to capture the potential, in our view, for permanent savings to these cost categories following the pandemic."*[30]

5.6.12 As demonstrated above, the CAA does not appear to have carried out a high-level cross-check on the overall impact of the baseline adjustments CTA makes in its modelling approach. However, neither does it appear to have carried out any validation on a cost category basis. If it had, the CAA would have realised the practical

[29] CTA, Review of H7 Opex and Commercial Revenues: Final Assessment and Forecasts (Opex), pg 75.
[30] CTA, Review of H7 Opex and Commercial Revenues: Final Assessment and Forecasts (Opex), pg 75.

implications of the implied cost savings, which are not in the best interests of consumers, and would have corrected this error. An overview of the impact of each of these 'permanent savings' targets on a cost category basis is set out below:

- People Costs – CTA's inclusion of the Cost of Change savings and a further £4m reduction (as a result of the 1.4% total baseline adjustment assumption) to the people cost baseline is clear double counting. The Cost of Change programme addressed the issue of legacy contracts and resulted in the alignment of all colleagues across all grades to market rate and has therefore fully addressed any inefficiency in the 2019 people costs. To achieve the further savings CTA has applied, Heathrow would need to pay below market rate or make further organisational savings, neither of which are in the best interest of consumers as we are attempting to grow resource to meet the sharp rise in passenger demand.

- Operational Costs – CTA has failed to take into account the fixed nature of our contracts for ongoing management of the airport. The savings achieved during 2020 and 2021 were due to temporary measures such as pass through of furlough and reduced scope. In 2019, around [✂] of our Operational costs were fixed and a further [✂] were non-discretionary[31]. That is, they are essential for the safe and secure operation of the airport. This leaves a limited area where permanent savings could be achieved and cutting costs in these areas would prevent us from achieving our outcomes and would not be in the best interest of consumers. The cuts would have to fall on the following areas:

  - Commercial Expenditure: Reduction in spend on passenger car parking service. However, the CAA have not included a corresponding reduction in the parking revenue target;

  - Passengers with restricted Mobility (PRM): Societal change means that demand for an assistance service at Heathrow will only continue to grow over the course of H7. By 2030 over a quarter of the population in all of Heathrow's key markets will be over 60[32]. These passengers wish to continue to travel later into life but as they get older a higher proportion struggle to cope with long walks and multiple level changes, so increasingly require assistance to be able to successfully make their journey. Between 2010 and 2019 the number of requests for assistance at UK airports increased by over 80%.[33] In June 2022, Heathrow saw the percentage of passengers needing assistance increase to a record 2.5% of all passenger journeys compared to 1.5% pre-covid, which means that the cost of operating the service is only going to increase overtime. This is reflected in contract cost pressures from our supplier, who are proposing a [✂] increase in costs in 2023;

  - Sustainable Development (Noise and Blight): Reduction in the provision of mitigation measures to Heathrow residents. All spending in this area stopped during the pandemic, however, this is not an option going forward. The DfT

[31] Fixed costs are classified as IT, Police, Rent, Track Access, Inter terminal ops and Other. Non-discretionary also include NATS, Consolidation Centre and CAA License Fees.
[32] Cranfield University, Study on the travel needs of the ageing passenger population at Heathrow, 2015. Appendix 58.
[33] CAA, Press Release, https://www.caa.co.uk/News/UK-Civil-Aviation-Authority-reports-on-disabled-access-at-UK-airports/

are currently reassessing the requirements for noise insulation schemes. We are in the process of formally closing our previous scheme and launching a new scheme this year. The new scheme will ensure a comparable provision to other European hubs and is essential to the delivery of our Heathrow 2.0 commitments; and

- Passenger Ambassadors: A reduction in passenger service and support within the terminals. Passenger Ambassadors (since 2020 called Service Agents) have become an ever more critical operational resource; making a significant difference to not just passenger experience but also a safe, secure and efficient airport operation. In the early stages of Covid we halted the Passenger Ambassador programme. However, this had the adverse impact of requiring unsustainable levels of Here to Help activations (a programme where Support Office Colleagues step away from their day jobs to fulfil service roles in the terminal) with severe disruption to Support Office Functions. With the growth of passenger traffic, a changing passenger profile, and resource constraints across the operation; it has been essential to invest further in our Service Agents as our most flexible and scalable resource to minimise disruption and maintain passenger confidence, assurance and satisfaction. We have expanded their role to have ownership of six key areas of the passenger journey where resources are particularly constrained: Check-in, Security, Connections, Immigration, PRS and Logistics.

- Facilities and Maintenance – This category consists of baggage, cleaning and maintenance costs. CTA's inclusion of the 1% ongoing savings from 2020 and the specific savings from the baggage contract renegotiation is a clear instance of double counting. To deliver the savings target set by the CAA would involve making permanent savings in either cleaning or maintenance. However, these are two areas that are facing significant headwinds as a result of the pandemic, as evidenced by the requirement for the Covid and resilience cost overlays. They are not areas where there has been opportunity to make permanent savings. Passenger expectations for cleanliness have fundamentally shifted since the pandemic and the CAA has set stretching service targets for H7 - it would not be possible to deliver these targets whilst reducing spend on cleaning. As recognised by the CAA, the resilience element of the Enhanced Service cost overlay reflects the impact on maintenance operating costs of reduced capital spend on asset maintenance during the last two years. It is clearly an error to allow for increased maintenance costs through the Enhanced Service overlay whilst targeting savings in maintenance costs in the Facilities and Maintenance cost category.

- Utilities – All savings in utilities were as a result of reduced consumption due to terminal consolidation and lower passenger volumes. During 2020 and 2021, there has been no capital spend available to invest in energy or water demand management projects and therefore no opportunity to make permanent savings. When passenger volumes return to pre-Covid levels, so too will consumption. Prices are market driven and outside our control.

- General Expenses – all savings were related to the deferment of activity such as marketing and training, as passenger volumes return these activities will be resumed. During 2020 and 2021, we have significantly reduced both business-to-customer and business-to-business marketing activity. In order to maintain and grow Commercial Revenues in line with our H7 plan our marketing activities will need to return to the levels that previously achieved this level of revenue generation. Similarly, we have reduced our expenditure on experiential retail activities such as brand campaigns and pop-up outlets. This activity is essential for building and reinforcing brand relationships with Heathrow, generating future brand opportunities and enhancing our passenger experience. This is even more crucial given the CAA's current position on the Commercial Revenue capital programme, with the far lower allowance than that included in our plan significantly reducing our ability to protect and generate incremental revenue in H7. Throughout Covid, learning & development activity has been reduced to only providing the statutory minimum training necessary for airport operations. This is not a sustainable position, as it neglects the requirement to develop and grow our colleagues, essential in both succession planning and retention, but also retaining currency of knowledge and skills.

5.6.13 We welcome that CTA has accepted the evidence on the impact of the London Living Wage commitment we provided as part of the RBP Update 2. However, CTA has also chosen to apply an arbitrary efficiency target of 10% to the cost impact based on their view that there are efficiencies to be gained by paying the London Living Wage.

5.6.14 CTA states it would be expected that there would be lower levels of absenteeism and staff turnover as a result of paying the London Living Wage. However, the London Living Wage cost increase is related to pay rates in our supply chain and not to direct Heathrow employees. As such, reduced absenteeism and turnover would be impacts our suppliers would benefit from. CTA also cites an article by McKinsey[34] as evidence to support the 10% efficiency assumption, who suggest that companies with strong environmental, social and governance credentials can reduce costs by 5 to 10%. The article does not directly refer to London Living Wage - rather it is discussing the benefits of a commitment to the full range of sustainability issues. The implementation of London Living Wage could only be considered as one small aspect of the wide-ranging sustainability issues considered by McKinsey and the article cannot be considered as an appropriate source to evidence a London Living Wage efficiency assumption.

Corrections required to the CAA's proposals

5.6.15 As a result of the evidence provided above, we conclude that the CAA should increase the CAA H7 operating cost allowance by £156m. This is a result of correcting the following assumptions:

- remove the baseline efficiency adjustment of 1.4%;
- remove the 1% efficiency target in 2020 and 2021; and
- remove the 10% efficiency target on the London Living Wage adjustment.

5.7 Response to the FPs: the CAA underestimates the impact of increasing input prices for H7

The CAA's proposals

5.7.1 The CAA has applied a bespoke price series for all cost categories except General Expenses, where they apply CPI.

[34] McKinsey (2021) Buying into a more sustainable value chain. Available at mckinsey.com.

5.7.2 The CAA relies on the following evidence to support their approach:

- Decision framework – CTA has applied an input price inflation decision framework adapted from that used by Ofwat during PR19[35] to determine if a bespoke price series is required for each cost category. CTA has noted Frontier Economics' argument that the materiality criterion should not be applied as it was omitted by the CMA and has opted not to strictly apply the materiality criterion.

- Contract evidence – CTA has taken into consideration the contract evidence we have provided to support the use of a bespoke price indexation for Operational Costs and Facilities and Maintenance. For General Expenses, CTA has judged it not to be relevant.

- EIC energy price report – CTA has incorporated the November EIC energy price forecast[36] for electricity and gas prices we provided as part of RBP Update 2.

- Wage forecast – CTA uses the OBR Average Earning index for wage inflation, based on the judgement that the Wages and Salaries index (which CTA used for the Initial Proposals) will be partially driven by increases in the number of jobs, not wages alone. CTA assumes zero wage growth in 2020 and 2021 on the basis of pay freezes in place at Heathrow. CTA then assumes that wages at Heathrow do not align with levels implied by the OBR forecast until 2024 based on the judgement that pay freezes in the aviation sector will take time to unwind and will not be fully reversed in 2022.

- Insurance costs - CTA derives a forecast for insurance premiums using growth rates reported/forecast by Swiss Re for 2019 to 2023. CTA then uses the compound annual growth rate derived from Swiss Re data from 2019 to 2023 to forecast from 2024 onwards.

Concerns with the CAA's proposals

5.7.3 We welcome the changes CTA has made in their approach to input price inflation. However, there remain a number of errors in their assumptions, which need to be addressed:

The assumptions CTA makes on wage inflation underestimate the wage pressures in the aviation industry;

The energy price forecast needs to be updated to the latest available; and

The assumptions CTA makes on insurance prices underestimate the cost of ensuring the airport has the appropriate level of insurance cover.

These errors are also discussed at [Section F4] of the Legal Annex.

Wage Inflation

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[35] Ofwat criteria adapted from - Supplementary-technical-appendix-Europe-Economics-Frontier-Shift-and-Real-Price-Effects.pdf (ofwat.gov.uk)

[36] EIC, Delivered Electricity Price Forecast, November 2021. Appendix 40.

5.7.4 CTA has used a bespoke price index for People costs input price inflation. We have commissioned Frontier Economics to review this assumption, full details of the review are included in Appendix 39 – Frontier Note on Frontier Shift and Labour Wage Growth and summarised below:

- **The OBR Average Earnings index is the most appropriate**: when comparing the OBR Average Earnings and Wages and Salaries price forecasts, the Average Earnings series is likely to be a more representative view of the average trend in the UK.
- **CTA's bespoke price index does not reflect real-world events:** CTA assumes zero-wage growth in 2020 and 2021, with a phased catch-up to the OBR Average Earnings index by 2024. The phasing of the catch up is ultimately a judgment with no commentary provided, and a construct that appears to ignore the significant resourcing challenges faced by the aviation sector.
- **Aviation wage pressure is greater than that of the general labour market:** Recent evidence from web-scraping suggests an aviation price trend higher than the OBR forecast.
- **Regulatory precedent supports applying a bespoke approach:** For RIIO-ED2, CEPA has recommended applying a weighted average approach for labour costs. A more bespoke approach would also seem reasonable for Heathrow.

5.7.5 CTA assumes an [✂] increase in 2022 wages compared with 2019. We agree this broadly reflects the reality of the impact of the agreed pay deals for negotiated grades, the annual salary review processes for non-negotiated grades and the processes of aligning all roles at all levels to market rates.

5.7.6 [✂].

5.7.7 [✂].

5.7.8 This year, we plan to recruit [✂] the number of security officers compared with our busiest pre-pandemic year. We are also growing back in other operational roles and across specialist functions, delivering this non-security officer hiring at around [✂] volume seen in 2019. This delivery is within the context of record low levels of national unemployment, combined with more limited access to international talent (other than through the expensive Skilled Worker sponsorship route for some specialist roles).

5.7.9 As the labour market has grown increasingly competitive, we have experienced a number of challenges across retention and hiring. [✂]. In response, we are investing heavily in the referencing and onboarding experience we can offer, as well as better communicating the Heathrow deal (including financial and non-financial benefits). [✂]

5.7.10 [✂]

Figure 7: Wage inflation price indices

[✂]

Source: Heathrow, OBR, CTA, Frontier Economics

5.7.11 In order for the CAA to reflect the reality of the wage pressures in the aviation sector, CTA should update the wage forecast used in the modelling to the Heathrow wage price index presented in Figure 7. Failure to do so will underestimate headwinds we are facing and underestimate the People cost allowance for H7.

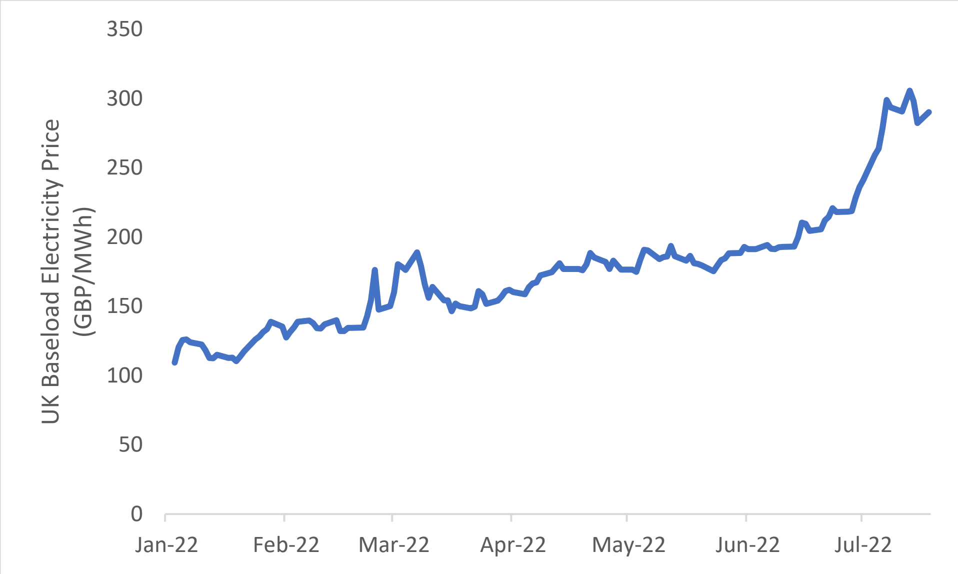
Energy Prices

5.7.12 We welcome that CTA has accepted the evidence we presented in our response to the Initial Proposals for the use of a bespoke utilities price forecast. This bespoke forecast presented in the Initial Proposals was a weighted average of the November EIC forecast for electricity and gas and CPI for the remaining elements of the utilities cost category (water, waste, telecoms).

5.7.13 However, since November, prices have significantly increased in the energy market and we have commissioned an updated EIC forecast. The updated report is included in Appendix 40 – EIC Delivered Electricity Price Forecast and full details of the corresponding utilities price forecast is included in Appendix 41 – Input Price Inflation Evidence. We consider that it would be an error for the CAA not to update the indexation for utilities to reflect the latest forecast.

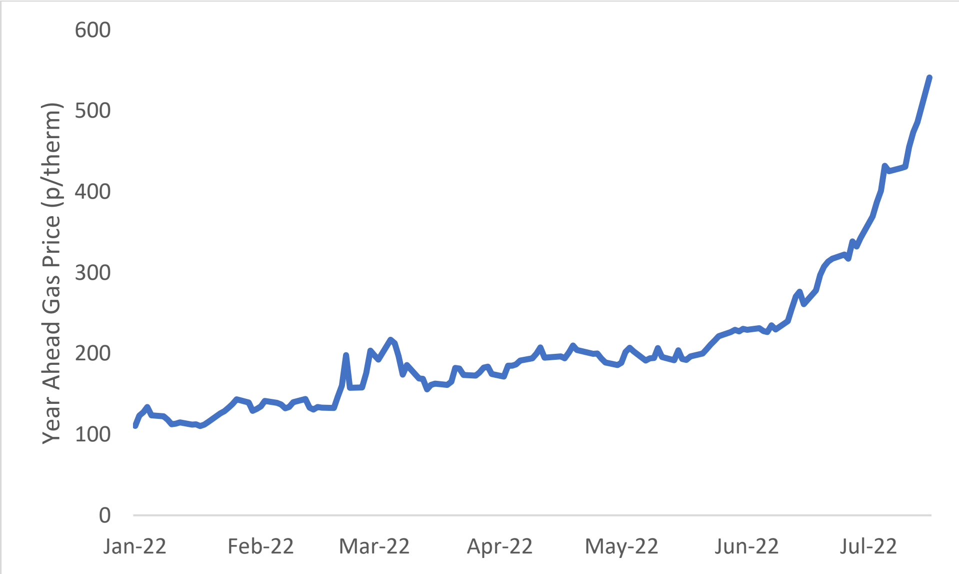
5.7.14 It should be noted that the pace of change in the energy market means that even the April EIC report is an underestimation of the energy cost pressures we are facing. Figures 8 and 9 below show the increases in electricity and gas prices over the last few months.

Figure 8: UK baseload electricity price



Source: Engie EnergyScan

Figure 9: Year ahead gas price



Source: Engie EnergyScan

Insurance

5.7.15 The CAA underestimates the costs pressures from increased insurance premiums during H7. The use of growth rates from Swiss Re[37] to derive a forecast for 2022 results in a 4% lower forecast than the expected outturn. The Swiss Re forecast does not take into consideration real life issues, such as the increases in property values and building materials/ fuel, which have seen a marked increase in our insured

[37] Swiss Re Institute (2021) Sigma No. 5/2021 - Turbulence after lift-off: global economic and insurance market outlook 2022/23. https://www.swissre.com/dam/jcr:f0561771-6248-4cab-a21e-57adf78ce378/swiss-re-institute-sigma-5-2021-en.pdf

values. The only way we could remotely meet the Swiss Re forecast is to be drastically underinsured.

5.7.16 CTA agrees that insurance premiums have increased significantly since 2019. However, CTA states that the insurance market is cyclical over a period of two to four years and the current trend is downwards. CTA is correct that the insurance market is cyclical – the markets harden when insurers review their financial exposures (claims paid) from prior year events and recover those losses by increasing premiums. It normally takes 2-3 years for insurers to quantify their total financial exposures as complex claims can take time to play out and be settled. At this time insurers also limit the classes of business they underwrite and, therefore, the situation of demand and supply comes into force: Less insurers offering products increase premium rates as demand for insurance outstrips supply of insurance products. In a normal cycle, the markets soften when insurers start writing cover again and the supply of insurance outstrips the demand for the products from clients. We are beginning to see the current market stabilising. However, that means we are still seeing rate increases - just not at the significant quarter on quarter jumps experienced over the last two years. Guidance from our broker is that there will be a delayed softening of the market because there have been significant cyber claims and Covid-related claims notified to the market that have yet to be fully quantified. The current market stability will soon be hit with a wave of insurers recovering their costs from these which would delay market improvement. This is a view supported by Allianz who highlight that "*economic fallout from the pandemic and the war in Ukraine have combined to create an inflationary environment that threatens to drive up the cost of commercial insurance claims*"[38].

5.7.17 CTA is incorrect to use the example of airline insurance premiums as a justification for a lower cost allowance for Heathrow. Our (and all other airports) risk profile differs drastically to an airline – for an airport the primary risk is a static property one, whereas for an airline their biggest risk is aviation liability (death/ injury to third parties and damage to third party property). Different insurance policies use different metrics as a basis for premium figures – for property risks, it is based on property values. However, for liability policies, premiums are predominantly based on passenger numbers and turnover. Accordingly, during the pandemic, the liability classes of insurance attracted a lower premium because of the reduction in passenger numbers and turnover. For the property market, the pandemic situation had a significantly less direct impact, as property values were less impacted by the pandemic. Property insurance also includes business interruption cover (additional costs spent following a physical incident). This has impacted the Property insurance costs as the construction sector has seen large increases in the cost of raw materials and transportation costs (due to the energy prices), which therefore means insured values (property values, rebuild costs etc) have all increased.

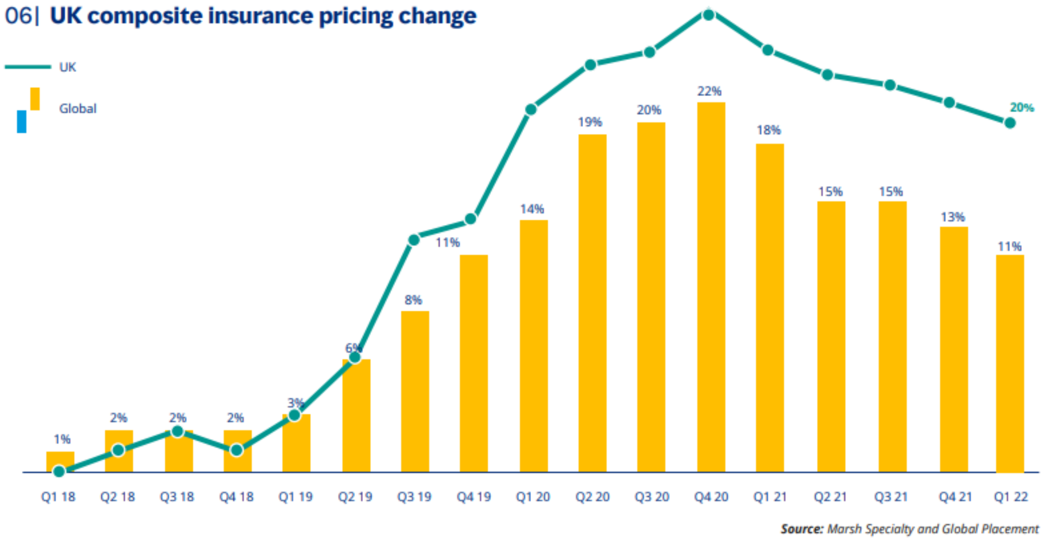
5.7.18 In 2021, we also purchased cyber insurance for the first time and will continue to purchase this going forward. In contrast, airlines insurance costs often do not include the cost of cyber risk cover. In 2018, BA experienced a GDPR data breach where the initial fine was £183m. Although, this was eventually reduced to £20m, this is still considered to be the Information Commissioner's Office biggest fine to date. Due to this, and similar incidents, a lot of insurers are unwilling to write cyber insurance for airlines.

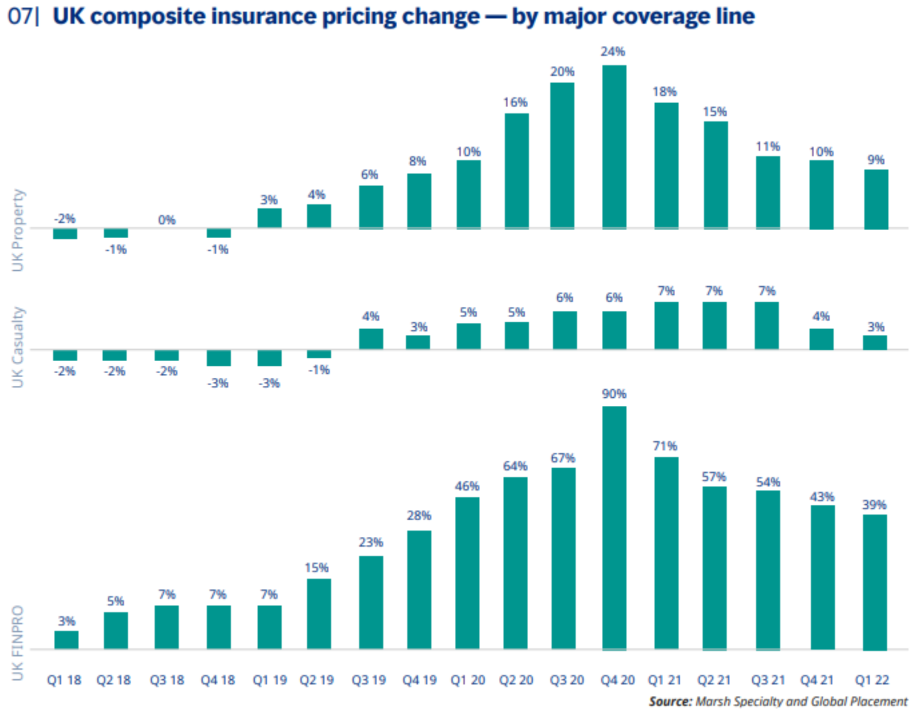
[38] Allianz Global Corporate & Specialty, Global claims review 2022, pg 26. Appendix 55

5.7.19 Figure 10 below shows the latest market data from Marsh, which contradicts the forecast from Swiss Re:

- In Q1 2022, Property insurance pricing increased 9%, compared to 10% in the fourth quarter of 2021.
- In Q1 2022, Casualty (aka Liability) insurance pricing increased 3%, compared to a 4% increase in the prior quarter.
- In Q1 2022, Financial and professional lines pricing, driven by cyber, increased 39%, continuing the decline from the 43% rise in the fourth quarter of 2021.

Figure 10: Insurance market data





Source: Marsh Speciality and Global Placement

5.7.20 The latest market data continues to confirm that a [✂] per annum forecast increase in costs for H7 remains a conservative estimate and the CAA should adopt this assumption for the H7 insurance cost allowance.

Corrections required to the CAA's proposals

5.7.21 As a result of the evidence provided above, we conclude that the CAA needs to increase the H7 operating cost allowance by £137m. This is as a result of correcting the following errors in their assumptions:

- Adopting the Heathrow bespoke wage price index;
- Update energy price forecast to align to the latest EIC report; and
- Use a bespoke price index for Insurance costs of [✂] growth per annum.

5.8 Response to the FPs: the CAA overestimates the impact of reductions in passenger demand on people costs

The CAA's proposals

5.8.1 The CAA has made a number of assumptions related to the impact of passenger volumes on people costs and specific assumptions on factors impacting security resourcing.

5.8.2 The CAA relies on the following evidence to support these assumptions:

- Impact of passenger volumes – CTA has applied different elasticities with respect to passenger volumes for the different categories of people costs CTA has used for forecasting. For variable security colleagues, CTA has derived an elasticity using its bottom-up queuing model. For fixed security colleagues and non-operational colleagues, CTA assumes they are inelastic to passenger volumes. However, CTA acknowledges that non-operational colleague costs have reduced significantly in response to the pandemic. Rather than using an elasticity CTA makes an assumption on how the reduction will be reversed as passenger volumes return. No evidence is presented to support this approach or the assumed rate of reversal. For operational colleagues, CTA used an elasticity of 0.4 based on the elasticity for total operational costs with respect to passenger volume, with no further justification for its applicability. For pension costs they assume they grow in line with the total people costs excluding pensions.
- Security colleague assumptions – there are two key factors that are impacting the security resourcing requirement during H7: (i) the DfT mandatory requirement to transition to new screening technology by 2024; and (ii) changes to the passenger demand profile during the pandemic. CTA has reflected these issues with assumptions on the phasing of the introduction of the new screening lanes, the staffing requirements for the new lanes, lane flow rates and roster efficiency (a measure of the ability to align resource with demand). These assumptions are in line with the information provided in RBP Update 2 and our subsequent engagement with CTA.

Concerns with the CAA's proposals

5.8.3 We welcome the improvements that CTA has made in the approach to modelling security people costs. However, CTA has failed to cross-check the implied elasticity for total people costs, resulting in an overestimation of the impact of reduced passenger volumes on people costs.

5.8.4 In our response to the Initial Proposals, we set out how we had calibrated the elasticity for total people costs with respect to passenger volumes to the expected outturn performance in 2021.[39] This reflects the reality of our ability to reduce costs when faced with a significant fall in demand. It is wrong to suggest our cost response in 2021 was inefficient. Our outturn costs in 2021 were as low as they could possibly be whilst providing a safe and resilient service to passengers. The impact of Covid has resulted in large cash outflows and the need to preserve cash and maintain financial resilience means that every cost has been challenged and avoided if possible. The financial impact of Covid was reflected in our 2021 results, showing a cumulative £3.8 billion loss since March 2020[40]. This financial pressure resulted in extremely strong incentives to maximise efficiency, subject to maintaining the safety and well-being of our passengers.

5.8.5 However, CTA has used a bottom-up approach to derive an elasticity of 0.54 for security costs, applied an elasticity of 0.4 to operational costs and an implied elasticity of 0.4[41] to non-operational costs. This approach results in a total people cost implied elasticity of 0.47[42], which is significantly higher than the estimate calibrated to performance by Heathrow. CTA's error derives from an apparent failure by CTA to cross-check the impact of the assumptions on the overall elasticity for people costs. This is a correctable error - CTA could do this by applying an elasticity of 0.1 to both operational and non-operational costs to align the overall elasticity for people costs to our observed elasticity of 0.3.

Corrections required to the CAA's proposals

5.8.6 As a result of the evidence provided above, we conclude that the CAA needs to increase the allowance for People costs by £35m. This figure is derived from a correction of the error in their elasticity assumptions and implementing an elasticity of 0.1 with respect to passenger volumes to operational and non-operational[43] people costs.

5.9 Response to the FPs: the CAA incorrectly excludes Covid overlay costs beyond 2022

The CAA's proposals

5.9.1 The CAA has allowed £6m for the Covid overlay in H7.

5.9.2 The relies on the following evidence to arrive to the overall allowance:

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[39] Heathrow response to Initial Proposals, Chapter 4 Operating Expenditure, para 4.9.17, pg 52.
[40] Heathrow (SP) Limited FY 2021 results
[41] Rather than applying an elasticity, CTA apply a rate of reversal of cost savings, which has the impact of an implied elasticity of 0.4 with respect to passenger volumes.
[42] Elasticities for security (0.54), operational (0.4) and non-operational (0.4) staff weighted according to their relative costs in 2019.
[43] Replacing the assumed rate of reversal approach currently used

- 2022 costs – CTA estimates costs based on judgement applied to the cost breakdown provided in the RBP Update 2.
- 2023 onwards – CTA included no costs beyond 2022 as a result of Covid restriction being lifted in the UK and the assertion that the cleanliness service quality target can be delivered through BAU cleaning.

Concerns with the CAA's proposals

5.9.3 Since Covid restrictions have been reduced in the UK, we agree that the face mask marshalling and additional bussing component of the Covid cost overlay are no longer required. However, over 80% of the costs are related to specialist cleaning and provisions of consumables, such as hand sanitiser[44]. These will continue to be required to meet the needs of consumers throughout the remainder of H7. The UK Covid response of "Living with Covid" involves removing legal restrictions while continuing to protect the most vulnerable and maintaining resilience – and an enhanced cleaning regime is essential to safeguarding against Covid in the future.

5.9.4 By excluding the Covid overlay from 2023 onwards, the CAA effectively assumes that the additional cleaning that was brought in during 2021 will cease from the beginning of 2023 onwards. The CAA has provided no evidence that such a change is consistent with consumer preferences.

5.9.5 Since the start of Covid, consumers have become more vigilant about what they consider to be clean and unclean meaning that they expect businesses to go further in maintaining their hygiene levels in order to keep them safe while visiting.

5.9.6 Our latest consumer research[45] continues to reconfirm these consumers expectations remain heightened and Covid has resulted in a behaviour change that isn't going to change in the medium term:

- In their day-to-day life 68% of consumers agree with the statement that they pay more attention to how clean things are since the start of the pandemic.
- When travelling through an airport:
    - 90% of consumers state that they now pay attention to how clean or dirty an item or area is
    - 86% pay attention to what they touch
    - 86% use hand sanitizer compared to 75% in day-to-day life

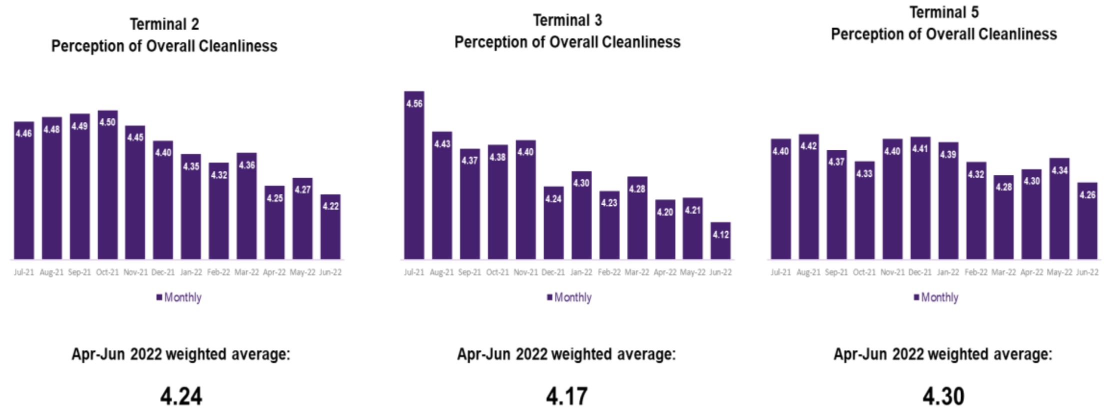
5.9.7 In addition to assuming that the additional cleaning that was brought in during 2021 will cease from the beginning of 2023 onwards, the CAA has assumed that the more stringent cleaning targets (which the CAA proposes for H7 as part of OBR) do not require this additional cleaning activity. Again, the CAA has not provided any evidence to support this assumption and it is inconsistent with actual consumer evidence. As a consequence, the CAA has underestimated the costs required to meet

[44] A cost breakdown of the covid overlay was provided as an appendix to our response to the Initial Proposals – "A10 Additional analysis to support operating cost assumptions"
[45] Insites Consulting, Consumers Perceptions towards Cleanliness Post Covid, July 2022. Appendix 56

passenger expectations and deliver the more stringent OBR cleanliness target proposed for H7. This error is discussed at [section F4] of the Legal Annex.

5.9.8 With the current additional Covid cleaning measures in place 82% of recent our travellers believe we are doing a good job at keeping the inside of the airport clean. But even with the current enhanced level of cleaning in our terminals, since passenger traffic started to ramp-up in April 2022 we have seen a marked decrease in the perception of cleanliness amongst passengers with a high proportion of 'Average' and 'Good' ratings over 'Excellent', as demonstrated in Figure 11. This shows that in Terminal 3, even with an enhanced level of cleaning, we now only perform fractionally above the proposed H7 target for cleanliness. Removing this enhanced cleaning spend would only result in bringing perception down further, resulting in us not meeting consumers' expectations and unfairly penalising Heathrow through the payment of a rebate.

Figure 11: SQRB Monthly Cleanliness Performance July 2021-June 2022



Source: Departures and Arrivals QSM – July 2021 – June 2022

Corrections required to the CAA's proposals

5.9.9 As a result of the consumer evidence provided above and in previous submissions of the importance of cleanliness, we conclude that the CAA should increase the Covid overlay by £21m to include a cost allowance for 2023 onwards.

5.10 Response to the FPs: the CAA underestimates the Enhanced Service costs required to deliver our service obligations for H7

The CAA's proposals

5.10.1 The CAA has allowed £39m for the Enhanced Service overlay in H7, comprising of £0m for PRS and £39m for resilience.

5.10.2 The CAA relies on the following evidence to arrive to the overall allowance:

- PRS - the CAA asserts that Heathrow has not justified the need for additional costs for PRS.

- Resilience – CTA has assumed a cost allowance using the information provided in RBP Update 2, applying a reduction of £9m based on their assertion that reduced activity during 2020 and 2021 would extend asset life by six months.

Concerns with the CAA's proposals

5.10.3 The CAA has underestimated the costs required to deliver our service obligations in H7.

5.10.4 Firstly, CTA incorrectly assumes that underutilisation of assets during 2020 and 2021 will increase asset life by six months. This approach includes three errors:

- It incorrectly assumes that assets were out of service. The SQRB service targets include an expectation that all of our passenger-sensitive assets, such as lifts, escalators and moving walkways, are available 99% of the time. These targets were not waived during the pandemic and the assets were retained in service. The requirement to meet this target means that we cannot increase asset downtime or reduce maintenance in the case of reduced demand and it is an error to assume that the assets were underutilised. It is also important to note that pre-Covid many assets have been subject to years of above average utilisation, due to the operational complexities of operating at capacity, which has a significant impact on decreasing asset life;

- Static assets or equipment which is exposed to the weather, such as utility services, bridges, roofs, electrical distribution, surface drainage, fencing, lagoons, etc. continue to degrade regardless of utilisation and it is an error to reduce their asset life; and

- The CTA has presented no analysis to justify their assumption that lives would be extended by six months. This assumption is simply a guess with no supporting analysis.

  This error is discussed at [section F4] of the Legal Annex.

5.10.5 Given the requirement to maintain asset availability during 2020 and 2021, the CAA is wrong to assume that reduced activity would extend asset life. Therefore, this adjustment to the costs required for resilience should be removed increasing the CAA's operating cost allowance by £9m.

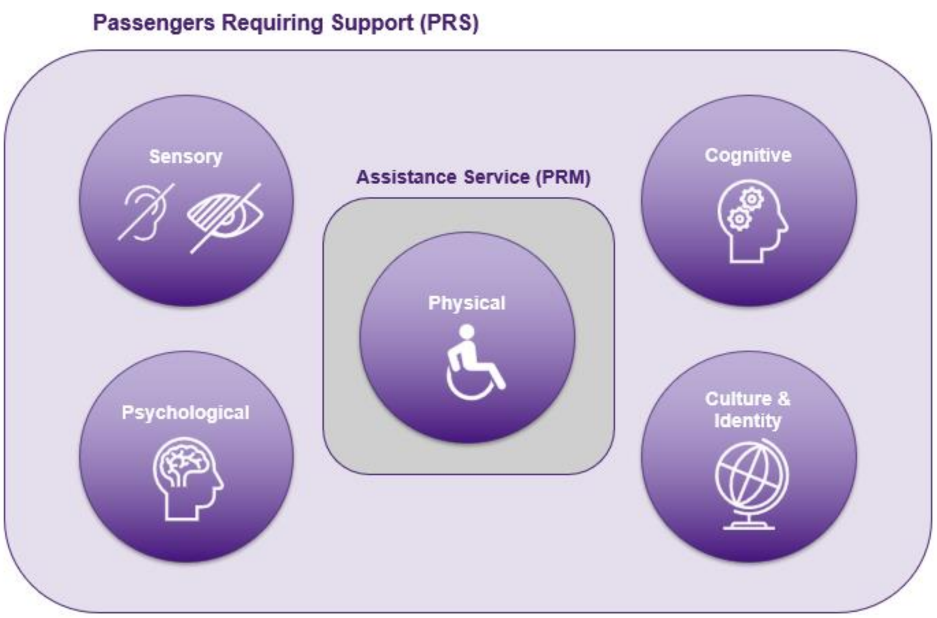
5.10.6 Second, the CAA incorrectly asserts that we have not justified the need for additional costs for PRS and that we are conflating the costs required for passengers who require the specialist assistance service with the additional costs for enhancements to the wider Passengers Requiring Support (PRS) service provision.

5.10.7 There is a larger number of Passengers Requiring Support travelling through Heathrow than those choosing to use the assistance service (PRM), with PRM representing 2.5% of passengers. This wider group of passengers requiring support can have a wide diversity of personal circumstances, which fall into five broad categories – physical, sensory, cognitive, psychological, and culture & identity. The aviation industry has traditionally focused on people requiring support as a result of physical personal circumstances, which is funded through the ORC. However, the industry leading research[46] that we have commissioned shows that those experiencing psychological or cognitive challenges make up 75% of flyers with

[46] Revealing Reality, 'Open to All' 2021. Appendix 27

temporary or permanent personal circumstances. If we are to create an inclusive service for all consumers and prevent wider passengers requiring support from defaulting into the PRM assistance service that isn't designed to meet their specific needs, then it is vital for us to invest additional operating costs to ensure we can offer the service this group requires both from a physical and digital perspective when travelling.

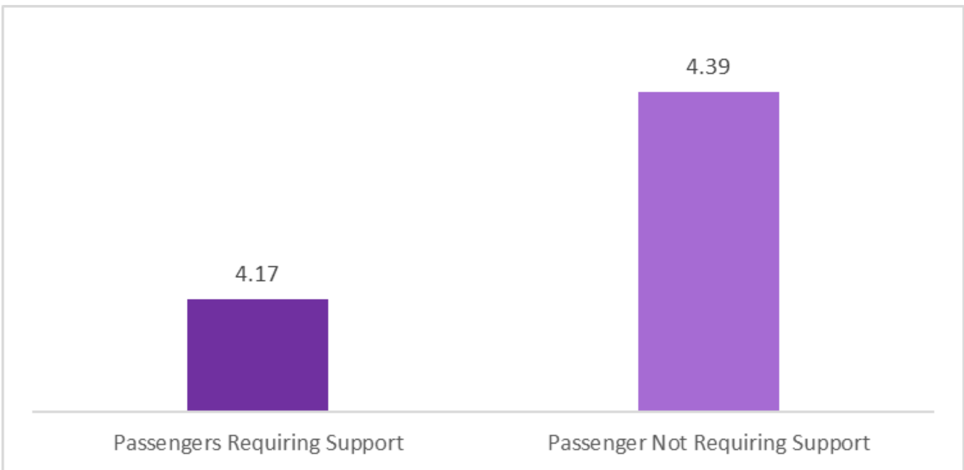
Figure 12: Definition of Passenger Requiring Support versus PRM



Source: Heathrow, Revealing Reality

5.10.8 This wider group of 'Passengers Requiring Support' remains the segment with the lowest satisfaction levels with their current Heathrow experience, which is why we believe it is vital to make targeted improvements in H7 in order to matter meet their needs and ensure that they remain future consumers.

Figure 13: Mean Score Overall Satisfaction Levels with Departures Journey by segment



Source: Heathrow, New Departure QSM Pilot Survey – July/August 2021

5.10.9 During H7, societal change means that the number of passengers who are likely to need assistance - either through the dedicated assistance service or because their personal circumstances mean they can't cope without some additional support – will increase. By 2030, across all of Heathrow's main markets over a quarter of the population will be over 60[47] and by 2050 it is predicted that the over 50s will be spending more on travel than all other age groups combined[48].

5.10.10 In line with the social model of disability, most of the consumers with challenging personal circumstances want to maintain their independence as much as possible. Independence is achieved in different ways for different people, and often they themselves know best what would help them to do this, but what everyone wants to reassurance with is that if they encounter a problem that someone will quickly come and help to get them back on their way.

5.10.11 We plan to meet this need in H7 by setting up a dedicated service team to help recover situations where passengers reach the point that they can no longer continue with their journey without requiring some additional support. For some, this would be delivered remotely through their own electronic devices, for others it will be using one of the airport help points to deploy a colleague to help them continue their journey. When there are operational problems (such as extended queues), this team will work to proactively identify those passengers with specific personal circumstances and make their wait more comfortable, helping to avoid them reaching a crisis point.

5.10.12 As part of the latest guidance on the assistance service at UK airports (CAP 2374), the CAA recognises the need for this additional level of assistance to help vulnerable passengers who have not requested the full assistance service but encounter difficulties as part of their journey:

- *"Some passengers may only wish to be brought to the front of queues to avoid excessive queuing. This could be achieved by better queue combing"*[49]
- *"Airports should provide facilities and infrastructure which might not require passengers with invisible disabilities to be accompanied by a staff member*"[50]

5.10.13 The operating costs for these services to the wider group of vulnerable consumers would not be covered as part of ORC allowance for PRM, which is why we must make an additional investment as part of the separate Enhanced Service Overlay in order to improve satisfaction levels amongst our least satisfied passenger segment.

Corrections required to the CAA's proposals

5.10.14 As a result of the evidence provided above, we conclude that the CAA should increase the Enhanced Service overlay by £35m, to include a cost allowance for PRS (£26m) and remove the adjustment applied to resilience costs (£9m).

[47] Cranfield University, Study on the travel needs of the ageing passenger population at Heathrow, 2015. Appendix 58
[48] Pragma Consulting, The Pragmatist: Senior service, July 2022. Appendix 59
[49] CAA, CAP2374 – Additional guidance on the assistance service at UK airports, pg 2, July 2022.
[50] CAA, CAP2374 – Additional guidance on the assistance service at UK airports, pg 2, July 2022.

5.11 Response to the FPs: current pension deficit repair contributions should be retained throughout H7

5.11.1 In the Final Proposals, the CAA sets out its view that pension deficit repair payments should be included to the extent that they were actually incurred in H7, "*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*"[51]. It also set out a view that we should provide additional evidence from the latest valuation to support the forecast deficit repair payments:

"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."[52]

5.11.2 The timetable for the current Triennial Valuation is such that a final decision of the deficit repair payments required will not be available until late in 2022. Therefore, it is not possible to give a definitive view in this response to the Final Proposals.

5.11.3 The overall pension scheme includes sections for Heathrow (referred to as the "regulatory fraction" in Q6)[53] and for pensioners at Stanstead, Gatwick and Edinburgh at the time these airports were separated from BAA. At Q6, the CAA made it clear that the relevant pension scheme for regulation of Heathrow was the Heathrow section only, and that the performance of the other section was a shareholder risk.[54] Therefore, based on CAA's clear direction and principle, we have considered the scheme position of the Heathrow section only.

5.11.4 As part of the process of finalising the Triennial Valuation, we have received an initial assessment of the pension scheme value as at March 2022. This valuation shows that on a technical provision basis, the Heathrow section of the scheme had a deficit of [✂] at 30 September 2021 which was recently re-estimated at [✂] as of 30 June 2022. This means that deficit repair payments for the Heathrow section of the scheme are appropriate and need to be increased throughout H7.

5.11.5 Given the extent of these contributions is not yet known, we consider it appropriate to retain the current deficit repair amounts of £20mpa throughout H7. This may be an underestimate of the actual deficit requirements given the current scale of the deficit.

5.11.6 Note that the accounting valuation is materially different from the actuarial valuation as the accounting methodology uses a prescribed assumption list to allow for comparability between companies but does not reflect the circumstances of the scheme and how it is managed, to include the cautious investment strategy. Crucially, the accounting valuation is purely for balance sheet purposes and is in no way related to the actual cash contributions of deficit repair and future service, which emanate

[51] CAA, CAP2365, H7 Final Proposals Section 2, para 4.71, pg 24.
[52] CAA, CAP2365, H7 Final Proposals Section 2, para 4.72, pg 24.
[53] CAA, Economic Regulation at Heathrow from April 2014: Notice granting the licence, para E40, pg 245.
[54] The CAA Q6 decision for pension deficit contributions only discusses contributions related to the Heathrow regulatory fraction - CAA, Economic Regulation at Heathrow from April 2014: Notice granting the licence, pg 245-248.

from the actuarial valuation. The accounting valuation therefore is not appropriate to be considered in determination of contributions or deficit payments.

5.12 Response to the FPs: policy elements

5.12.1 There are two policy areas within the CAA's Final Proposals that should be noted in the context of Operating Costs, business rates and the Terminal Drop-off charge.

5.12.2 We agree with the CAA's proposal to remove the 80:20 mechanism for business rates given the maturity of the current consultation process. The Final Proposals make provisions for the updated business rates valuation expected in Summer 2022 to be included in the H7 price control subject to a CAA review of Heathrow's engagement with the Valuation Office. We support the position set out in the Final Proposals and will continue to engage with the CAA on the valuation process.

5.12.3 In regard to the Terminal Drop-off Charge (TDOC), as set out in detail in Chapter 6 on Commercial Revenues, the Private Parking Code of Practice[55] was published by the Department for Levelling Up, Housing & Communities in February 2022 and mandates the requirement of a minimum consideration period for users of car parks. This means that users will have five minutes to decide whether they accept the terms and conditions of the parking and leave without charge.

5.12.4 This is due to come into force in 2024 and will effectively mean that we cannot charge the TDOC after this time as over 80% of TDOC uses are less than five minutes. Therefore, the costs and revenues of TDOC should be removed from 2024 onwards. This means the CAA should reduce the H7 cost allowance by £17m, in combination with reducing the revenues allowed.

5.13 Heathrow's proposals for H7

5.13.1 The evidence set out above highlights the errors made by the CAA in its H7 operating costs forecast. Correcting the errors identified above would increase the CAA's H7 operating cost allowance by £368m. Applying our corrected H7 passenger forecast as set out in Chapter 2 would lead to a downward impact of £48m on the operating cost allowance.

[55] Department for Levelling Up, Housing & Communities, Guidance – Private Parking Code of Practice, https://www.gov.uk/government/publications/private-parking-code-of-practice/private-parking-code-of-practice

5.13.2 We have summarised these errors and their impacts over H7 in the table below:

Table 1: Errors in CAA's Final Proposals for operating costs over H7

Operating Costs (£m, 2020 CPI)		2022	2023	2024	2025	2026	H7
CAA FP - mid forecast		1,106	1,123	1,172	1,208	1,191	5,800
Efficient Baseline	Remove 1.4% reduction	15	16	17	17	17	82
	Remove 1% efficiency in 2020/2021	13	13	14	14	14	67
	Remove LLW 10% efficiency	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Input Price Inflation	Correct wage inflation index	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
	Correct energy price index	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
	Correct insurance price index	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Volume related savings	Correct people cost elasticity	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Cost overlays	Correct Covid overlay	0	5	5	5	5	21
	Correct resilience overlay	1	1	2	3	2	9
	Correct PRS overlay	3	4	6	7	7	26
	Remove TDOC costs	0	0	-6	-6	-5	-17
Traffic impact	Passenger forecast correction	-2	-7	-10	-17	-13	-48
Corrected for errors		1,172	1,202	1,235	1,262	1,248	6,120

Source: Heathrow

5.13.3 Correcting for the errors above would align the CAA's operating cost allowance for 2022 with the expected level of expenditure for this year. This demonstrates that these corrections are appropriate, and that if they are not made, costs for 2022 will be underestimated.

6. Commercial Revenues

6.1 Summary

6.1.1 The CAA's proposals for commercial revenues include calculation errors, factual errors, and are based on unrealistic assumptions which are clearly at odds with the available evidence for 2022 H1. While some of these individual errors may appear small, collectively they result in the commercial revenue forecast being overstated by around £400m. Applying our H7 passenger forecast as set out in Chapter 2 leads to a further downward correction of £125m to the commercial revenue forecast.

6.1.2 The key issues with the CAA's commercial revenues forecast are as follows:

- **Terminal Drop Off Charge (TDOC) revenue must be removed from the forecast from 2024 as legislative changes mean that it cannot be enforced:** The CAA's forecast of TDOC revenues is inconsistent with upcoming changes to legislation. Over the period 2024-2026, the CAA forecasts TDOC revenues of around £135m. However, the Private Parking Code of Practice (PPCP) Act 2019 will be implemented in 2024 meaning we will not be able to generate any revenues from TDOC. The forecast must therefore be set to zero from 2024 onwards.

- **Short stay car parking will also be impacted by PPCP:** Similar to TDOC, the PPCP will impact short stay car parking revenues, by mandating a 5-minute grace period for parking. Currently, 18% of all multi-story car parking stays are for less than 5 minutes, and almost half of all stays are for less than 15 minutes. We expect (i) a decrease in revenue associated with stays less than 5 minutes; and (ii) significant behaviour change with customers seeking to reduce their stay to below 5 minutes or switching to terminal drop-offs. The CAA has not taken these changes into account, overstating revenue by around £28m.

- **Pod parking must be removed from the single till – in line with the CAA's historical decision:** As discussed with the CAA, it has become clear that our forecast parking revenues for H7 include incremental revenues from our Pod parking product. These incremental revenues need to be removed from the H7 forecast reflecting the off-RAB treatment of the Pod and resulting revenues. This is due to the CAA's decision at the Q6 price control review to disallow any historical and future capital expenditure associated with the Pod connection to the Terminal 5 car park. We have reduced our parking revenues forecast by £20m over H7 to reflect this change.

- **CAA's rail forecasts for HEx, Piccadilly Line and track access revenue include a number of factual errors:** For instance, it assumes that a proportion of transfer passengers will use the Piccadilly Line – which is an error as these passengers will not leave the airport and cannot be assumed to contribute to Piccadilly Line revenues. The CAA also erroneously adjust the 2019 baseline for track access charges for historical inflation, whereas these were presented in nominal terms and required no adjustment. These errors result in the CAA overstating revenues by around £55m.

- **The CAA's retail assumptions are clearly at odds with evidence from 2022 H1 and must be updated:** The CAA's forecast does not appropriately reflect the significant changes to our operating environment, such as the withdrawal of airside tax-free retail and the VAT Retail Export Scheme, as well as changes to customer behaviour since the start of the pandemic. The CAA's VAT overlay is inconsistent with outturn data for 2022 H1, which clearly highlights that the actual impact has been much larger than the CAA's estimates. This results in the CAA overstating revenues by £126m.

- **The CAA's forecast excludes property headwinds which will clearly reduce revenues over H7:** The CAA's forecast of property revenues overstates revenues by around £29m as it does not take into account property headwinds which we will be unable to mitigate over H7. The first of these is the former BMI hangar which is now vacant and is not expected to be re-let due to capacity constraints preventing a new home carrier at Heathrow. The second headwind is the BA crew car park lease which is not expected to roll over and will instead be served under ORCs.

- **Our commercial capex must be allowed in full to deliver our commercial revenues over H7:** As discussed in Chapter 7 on capex, the CAA's decision to disallow large parts of our commercial capex programme is clearly at odds with regulatory principles, as this capex would result in net benefits and improved service for our passengers. Without this spending, airport charges will be higher in future, which is not in line with the CAA's duties. The CAA should allow this spending to enable us to deliver our commercial revenues forecast - we expect commercial revenues to decrease (and therefore increase airport charges) by £73.6m (2020 CPI) under the CAA's commercial capex allowance included in its Final Proposals. This amount is already included in the CAA's revenue forecast. In other words, if the CAA does not allow the commercial capex, this amount must be subtracted from its revenue forecast.

- **Management stretch must be removed:** We continue to strongly oppose the introduction of a management stretch into the regulatory framework. We welcome the fact that the CAA has commissioned analysis to explore the issue in more detail. However, the CTA analysis has several methodological issues, which CTA acknowledge themselves. They also note that the evidence is inconclusive and recommended that the CAA carry out further analysis to explore whether a stretch is appropriate. However, the CAA has not acted on these recommendations, and significantly misrepresents CTA's findings. The CAA's approach remains a decision with no supporting evidence, is based on flawed logic and results in double counting. We also see no evidence of management stretch at other airports, which further highlights that it is a poorly defined concept. By applying management stretch to our forecast, the CAA is overstating revenues by around £12m.

6.2 Introduction

6.2.1 The CAA's forecast of commercial revenue forms an important input into its final decision on airport charges. Through the single till mechanism, revenues from the non-aeronautical business are effectively used to lower charges for airport users.

6.2.2 The CAA's forecast should take into account the details of the environment in which we operate and future trends over time. However, having reviewed the CAA's forecast we have identified a number of errors that collectively amount to the CAA overstating the revenue forecast by around £400m over H7. These issues are made up of:

- **Calculation errors:** The CAA's forecast of Piccadilly Line revenues – produced by CTA – appears to be erroneously linked to the total volume of passengers at the airport. This total includes transfer passengers who do not leave the airport and so cannot use the Piccadilly Line.

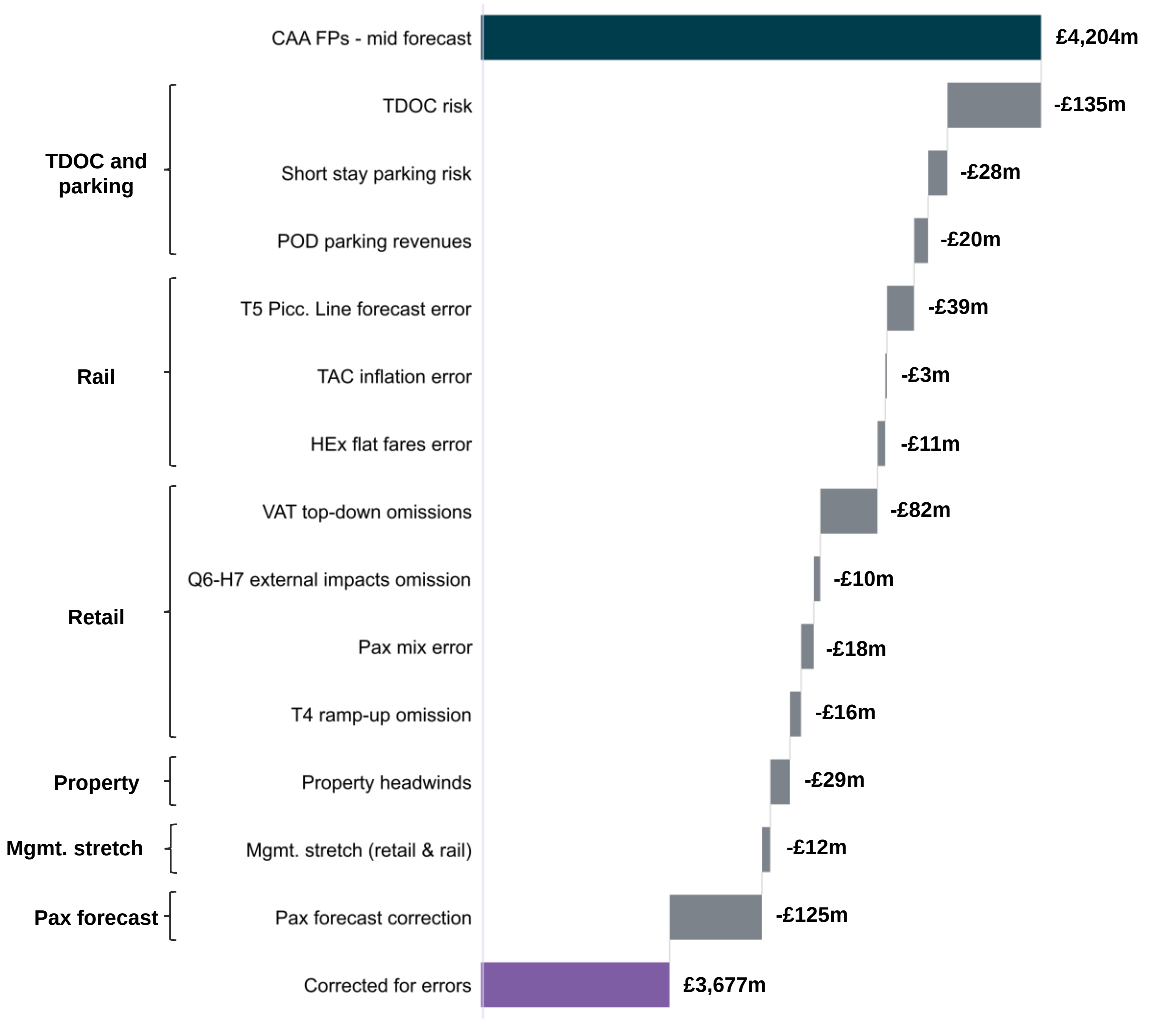
- **Factual errors:** In a few areas, the CAA / CTA has erroneously applied inflation adjustments to revenue streams where they are not required – e.g. CTA inflated baseline 2019 track access charge revenues, where the data was already provided in nominal terms as with other 2019 revenues. Also, the CAA's approach to forecasting TDOC and short stay car parking appears to ignore the impact of upcoming changes in legislation, effective in 2024, where we will be unable to implement a drop-off charge or charge for parking for less than five minutes.

- **Errors and exclusions that are at odds with recent evidence**: There are areas in the commercial revenue forecast with a higher degree of risk going forward, meaning that ultimately judgement is required. For instance, it is difficult to forecast the impact of recent changes to retail taxes on retail revenues, especially when this is also compounded by Covid-related impacts and the cost of living crisis at the same time. However, the CAA's approach is at odds with the most recent outturn data that we are already seeing in 2022 and should be updated accordingly.

- **Regulatory framework issues:** As noted in the section on capex, the CAA's approach of not allowing commercial capex if the 'payback' period is greater than five years is clearly at odds with its duties, as it will result in higher airport charges in future. Similarly, the CAA's approach of applying a 'management stretch' – which continues to be a vague and poorly defined concept – is based on flawed logic, which comes from a lack of understanding of the drivers of commercial revenues, and double counts the degree of stretch which was already included in our forecast.

6.2.3 The chart below summarises the magnitude of these issues. While some of these issues may appear relatively small, collectively they amount to overstating the revenue forecast by around £400m over H7. In addition to these specific issues on commercial revenues, applying our corrected H7 passenger forecast as set out in Chapter 2 leads to a further downward impact of £125m on the revenues forecast. We expand on these points in turn. These issues need to be corrected in the CAA's Final Decision.

Figure 1: Errors in CAA / CTA's approach to forecasting commercial revenues (£2020 CPI)



Source: Heathrow

6.3 Terminal Drop Off Charge, short stay parking and Pod parking

CAA's Final Proposals include revenues from the Terminal Drop Off Charge, despite clear risks from legislation

6.3.1 The Final Proposals continue to include revenues from the Terminal Drop Off Charge (TDOC) throughout the H7 period. As set out in the Final Proposals, planned legislative changes mean that Heathrow is unlikely be able to collect TDOC revenues from 2024 onwards. For that reason, it is an error to include these revenues in the H7 baseline.

6.3.2 The legislation will also have an impact on our Short Stay Parking revenues. We provided the CAA will evidence of this impact by email on 6 May 2022, however this impact has not been included within the H7 baseline. This is an error and should be resolved ahead of the Final Decision.

CAA proposals for mitigating TDOC legislation risk are inadequate

6.3.3 Forecasts of TDOC and car parking revenues are based on a unit elasticity with respect to drop-off and parking passengers respectively.

6.3.4 For the Final Proposals, CTA updated its analysis of TDOC revenues to correct for estimation errors at the Initial Proposals stage. These included the omission of VAT chargeable on TDOC revenues and our approach of incorrectly including arrival passengers in the calculation of relevant drop-off volumes, when it should only have included departing passengers. Correcting for both of these errors reduced the revenue associated with TDOC considerably.

6.3.5 The terminal drop-off charge is a new revenue stream introduced in November 2021. However, recent changes to parking legislation have put future TDOC revenues at risk. The Private Parking Code of Practice[1] (PPCP) was published by the Department for Levelling Up, Housing & Communities in February 2022 and mandates the requirement of a minimum consideration period wherein parking customers can:

"read and understand the terms and conditions applying on controlled land, identify and access appropriate space in which to park their vehicle, ending when the vehicle is parked, or departs"

6.3.6 Following publication this year, the PPCP has been withdrawn for review following judicial review. We are continuing to engage with Government during this time on the application of this legislation. In particular we are of the view that the PPCP should not apply to airports as the forecourts and car parks are not "private parking facilities" as defined by the PPCP. However, we have yet to receive any confirmation from the Government that these considerations will be taken into account in any further drafting of the PPCP. For that reason we consider that the correct assumption at this stage is that the PPCP will come into force at Heathrow in 2024.

6.3.7 The minimum consideration period of five minutes will come into force from the start of 2024 and will therefore threaten the existence of TDOC[2], as well as impacting short-stay parking revenues. Following extensive engagement with the CAA and airlines, the CAA has included a risk mechanism in its Final Proposals which will allow it to review outturn revenues in mid-2024 and adjust TDOC allowances for 2025 and 2026. While this risk mechanism is a step in the right direction, we have two main issues with the CAA's proposals.

6.3.8 The first is that TDOC revenues should be assumed to be zero for 2024 and beyond as a default, rather than the CAA's current proposals of assuming positive revenues in 2024 and beyond. As the latest parking regulation specifically mentions the applicability of airport drop-off charges for the five minute consideration period, we believe the most likely outcome is our inability to collect TDOC revenues from 2024. The CAA's position of assuming positive revenues will most likely result in an in-period revenue adjustment, which will result in unnecessary volatility of charges.

6.3.9 The second issue is around the CAA's proposals to only adjust revenue allowances for 2025 and 2026, but not for 2024 even though the legislation is intended to come

1 https://www.gov.uk/government/publications/private-parking-code-of-practice/private-parking-code-of-practice

2 Data on dwell times for October and November 2021 show that c. 80% of drop-offs complete within 5 minutes and c. 95% within 10 minutes. With passengers likely to change their behaviour in response to the introduction of a free consideration period, it is assumed that all TDOC revenues are at risk following the implementation of the PPCP.

into effect in 2024. This exposes Heathrow to significant and unnecessary risk in 2024. We see no reason, and the CAA has not given any reason, to not include 2024 within the adjustment.

6.3.10 By correcting for the most likely default assumption of zero TDOC revenues from 2024 onwards, our commercial revenue forecast would be reduced by around £135m. A better-designed risk mechanism will also allow Heathrow to ramp-up TDOC revenues from the start of 2024 if subsequent changes to parking legislation allow for the charge, which in turn would lead to lower airport charges for all passengers.

The Private Parking Code of Practice also entails significant risk for short stay parking revenues

6.3.11 In our engagement with the CAA following the publication of the PPCP in February 2022, we also highlighted the significant risk to short stay parking revenues arising from the legislation. This is due to the interaction between the mandated 5-minute grace period and our £5.30 roll up charge for stays of up to 30 minutes in our multi-story car parks (MSCPs).

6.3.12 Data from the start of 2018 shows that currently 18% of all MSCP stays are for less than five minutes, and almost half of all stays are for less than 15 minutes.

Table 1: Parking transactions and sales by length of stay (2018 - 2021)

Parking length of stay	% of transactions	% of revenue
<5 mins	18%	11%
5-10 mins	18%	11%
10-15 mins	9%	6%

Source: Heathrow

6.3.13 When the five-minute grace period is introduced in 2024, we can expect a complete reduction in revenue associated with stays less than five minutes. We can also expect significant change in customer behaviour with customers seeking to reduce their stay to below five minutes in our MSCPs or to switch to terminal drop-offs, which will also be impacted by the legislation change.

6.3.14 We have conservatively modelled the impact of the PPCP on short stay parking revenues by assuming that:

- 100% of <5 minutes revenue will be removed, as customers can bypass the roll-up parking charge for these stays;
- 50% of 5 – 10-minute revenue will be removed, as some of these customers will reduce their dwell times or switch to terminal drop-off; and
- 20% of 10 – 15-minute revenue will be removed, as a smaller proportion of these customers may also reduce their dwell times or switch to terminal drop-off.

6.3.15 The total revenue impact of this estimation is £28m over 2024 to 2026. As the PCPP will undoubtedly cause customers to change their behaviours relating to short stay parking, this revenue impact should be accounted for in the Final Decision.

The Final Proposals include incremental revenues from Pod parking

6.3.16 As discussed with the CAA on 28 April 2022, it has become clear that our forecast parking revenues for H7 include incremental revenues from our Pod parking product. These incremental revenues need to be removed from the H7 forecast reflecting the off-RAB treatment of the Pod and resulting revenues.

6.3.17 Through the Q6 price control review, the CAA took the decision to disallow any historical and future capital expenditure associated with the Pod connection to the Terminal 5 car park. In doing so it also stated that costs and revenues related to the Pod would also be excluded from the single till: *"The CAA's decision remains as stated in its proposed licence and summarised above, namely that the T5 PRT should not be included in the Q6 RAB. HAL may levy charges for the use of the PRT outside its regulated charges."*[3]

6.3.18 However, the incremental revenues for the Pod were included within the surface access revenue baseline in the H7 forecasts. This means that the incremental revenues are included within the CAA's Final Proposals for H7.

6.3.19 To estimate the adjustment, we have reviewed 2019 car park revenues to identify the incremental revenue generated from the Pod versus comparable bus-served car parks. In 2019, compared to our bus-served business car parks, the Terminal 5 Pod car park earned a 50% premium per space. This equates to £4.3m in additional revenue versus the bus-served car park in 2019.

6.3.20 To ensure that this revenue is not included in the H7 price control we have reduced the baseline position by £4.3m and then continued to apply all other aspects of our H7 forecasting methodology.

6.3.21 This reduces the revenue forecast by £20m over the H7 period.

6.4 Rail – Heathrow Express, Piccadilly Line and track access charges

Final Proposals

6.4.1 The CAA and its advisers (CTA) decompose overall rail revenues into three revenue streams:

- Heathrow Express (HEx) revenues: Revenues for HEx are based on forecasts of the number of HEx passengers, alongside expectations for ticket prices.
- Track access charge (TAC) revenues: Revenues are forecast based on the average number of trains per hour operated by TfL on our track.
- Terminal 5 Piccadilly Line revenues: Revenues are based on a revenue formula detailed in our agreement with TfL which takes into account the total number of passengers using the Piccadilly Line.

[3] CAA, CAP1151, February 2014, Page 213, Paragraph C45

6.4.2 Mode share assumptions are used to forecast volumes and revenues for HEx and T5 Piccadilly Line. CTA use our mode shares from RBPU2 as a starting point and adjust values in a few areas based on different assumptions for surface access demand.

6.4.3 CTA's forecasts include the impact of Crossrail opening in the middle of 2022. The introduction of Crossrail connectivity will give passengers a new way to access our airport. Crossrail traffic is expected to displace HEx volumes, which on the one hand will reduce our HEx revenues, but this will be partly offset by higher TAC income from TfL – with the net impact being negative overall.

Our view

6.4.4 CTA's analysis and the CAA's corresponding proposals for rail revenues contain several errors of fact which result in revenues being overstated by around £53m over H7:

- CTA's approach erroneously assumes that transfer passengers (who do not leave the airport) will use the T5 Piccadilly Line;
- CTA adjust baseline 2019 TAC revenues for inflation, although they are already presented in 2019 nominal terms; and
- CTA's overlay for baseline HEx revenues to deal with the decision to fix fares over the period 2019-2022 is too low as it uses CPI rather than RPI indexation, which is standard practice in the rail sector.

6.4.5 We discuss these points in turn below.

CTA's forecast for Piccadilly Line revenues includes transfer passengers

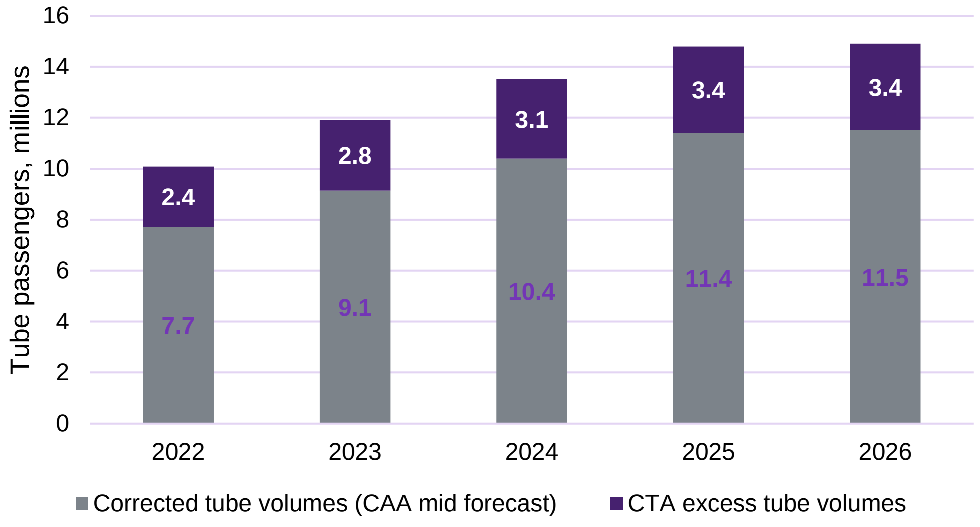
6.4.6 As described above, our revenues from Piccadilly Line services to Terminal 5 are based on a revenue formula as detailed in our agreement with TfL. [✂]

6.4.7 CTA's approach to modelling tube volumes includes a factual error as they assume that all Heathrow passengers (both origin/destination passengers as well as transfer passengers) are relevant when estimating tube passenger volumes. This is an error as only origin/destination passengers are relevant for surface access revenues, given transfer passengers do not leave the airport. Our RBP modelling estimates the tube passenger volumes using origin/destination passenger volumes multiplied by tube mode shares, leading to volumes in line with the actual TfL revenue formula[4].

6.4.8 This error results in a significant overestimate of tube passengers used in CTA's T5 Piccadilly Line revenue calculations. CTA's error in forecasting tube passengers equates to around £39m over H7.

[4] During our engagement with the CAA following their Initial Proposals, we shared our surface access model with them which contains this approach to calculating tube passenger volumes. Please see CAA-H7-642.

Figure 2: Excess tube volumes in CTA's T5 Piccadilly Line modelling (CAA mid forecast)



Source: Heathrow

CTA wrongly adjusts the 2019 baseline for TAC revenues for inflation

6.4.9 CTA use our forecast of trains per hour to estimate TAC revenues. We forecast an increase in the number of trains from 2 trains per hour on average in 2022 to 6 trains per hour in 2026. This growth is driven by track access of future Crossrail services.

Table 2: Track access volumes and revenues

	2019	2022	2023	2024	2025	2026
Trains per hour	2	2	4	6	6	6
TAC revenues (£m)	7.01	7.01	14.01	21.02	21.02	21.02

Source: Heathrow

6.4.10 While CTA use our forecasts of train volumes and TAC revenues, they erroneously adjust baseline 2019 revenues for inflation. As shared with the CAA in our engagement with them following Initial Proposals, the 2019 TAC revenues of £7.01m are provided in nominal terms[5]. However, CTA inflate 2019 baseline revenues resulting in a higher baseline and therefore an erroneous forecast over H7.

6.4.11 This inflation indexation error overstates TAC revenue by around £3.0m over H7.

CTA erroneously uses CPI rather than RPI to estimate the real effect of flat Heathrow Express fares

6.4.12 Over 2019 to 2022, we made a decision to keep HEx fares flat in nominal terms to support our passengers in accessing Heathrow during the pandemic and lockdown periods. The decision to hold fares flat over 2019 - 2022 results in a lower real HEx baseline used in our modelling over the subsequent H7 period, compared to a counterfactual where fares had continued to rise with inflation. To account for this effect, we applied an negative overlay to forecast HEx revenues.

[5] CAA-H7-550 (page 6)

6.4.13 In the final proposals, CTA agreed to our approach for estimating the flat fares overlay but applied CPI indexation rather than RPI indexation to estimate the real effect of flat fares on the revenue baseline. CTA's only justification for this decision was that CPI is their "preferred measure of inflation".

6.4.14 However, CTA should use the inflation index most relevant for indexing rail fares – simply using their personal preference would represent an error of fact if this differs from the most relevant inflation index.

6.4.15 The rail industry, including Heathrow, has historically used RPI inflation to index fares, and TfL's recent business plan[6] as well as the DFT's approach to indexing rail fares[7] show that RPI continues to be the most relevant index for rail fares.

6.4.16 Given the wedge between CPI and RPI inflation, CTA's approach of using CPI to estimate the real effect of flat fares erroneously results in a smaller negative overlay and therefore an overestimate of the HEx baseline for H7. This indexation error overstates rail revenues by around £16m over H7, which can be corrected for by using RPI to index the impact of the 2019 – 2022 fare freeze.

6.5 Retail and VAT impacts

CAA proposals

6.5.1 For its Final Proposals, the CAA and CTA use a top-down approach to estimate the impact of the withdrawal of airside tax-free retail and the VAT Retail Export Scheme on retail revenues. This follows a similar overall approach as in the Initial Proposals:

- Elasticities: CTA use an elasticity which links a change in retail prices to a change in retail revenue. For the Final Proposals, they use an elasticity of -1.60 (i.e. a 1% change in retail prices leads to a -1.6% change in retail revenue), compared to an elasticity of -1.25 elasticity used in the Initial Proposals. The updated elasticity is estimated based on actual data on passenger spend at Heathrow between 2019 and 2021.

- Geographies: CTA applies the elasticities to passenger forecasts split out across six different geographies. All passengers outside the UK and EEA face a 20% price increase following the withdrawal of VAT relief, while EEA passengers were modelled to receive an uplift to demand as they became eligible for duty free alcohol and tobacco sales.

6.5.2 Based on our response to the Initial Proposals, CTA have agreed to include a second-order impact on the margins that we are able to collect from retailers. There is clear evidence that retailers have already seen a reduction in luxury and WDF sales, and retailers have been able to renegotiate their concession terms in light of the reduced retail demand. This impact further reduces our retail revenue in addition to the direct customer demand impact of tax increases.

6.5.3 Combined, CTA's approach results in a VAT and tax impact overlay of between 17.3% and 18.4% per annum over the H7 period.

[6] https://content.tfl.gov.uk/tfl-business-plan-2019.pdf - page 36
[7] https://www.gov.uk/government/news/rail-fares-capped-to-prevent-high-increases-for-passengers

The CAA's approach to VAT changes omits key impacts and is not in line with evidence

6.5.4 The VAT Retail Export Scheme and the airside tax-free shopping concession were withdrawn by the UK government at the start of 2021. The withdrawal of these schemes comes at the significant detriment of passengers and retailers, and leaves the UK as the only country in Europe not to offer tax-free shopping to international visitors. The impacts of these tax changes are already apparent at Heathrow, as consumers change spend behaviours and become more aware of price advantages in other European and international destinations. The risks to Heathrow extend from consumer behaviours to retailer behaviours, with retailers reacting to pressure on their volumes and margins by renegotiating concession terms at Heathrow or altogether vacating their premises. Higher-priced luxury items are especially at risk from the reduction in demand, leading to a lower level of luxury fashion floorspace being sustainable and a movement towards increasing the allocation of lower-margin mid-market fashion which is less sensitive to price changes.

6.5.5 Data from Global Blue evidences this change in spending behaviour. UK residents are increasingly spending more in Europe on higher value transactions and claiming back the tax on these purchases, rather than purchasing in the UK. Between April and June, UK residents have incurred credit card transactions of ~£500m in Europe through tax free purchases. This is a new market created due to the VAT changes and will have an impact on Heathrow's revenues.

6.5.6 Recent sales data and evidence from the retail environment show that tax changes and the Covid-19 effects have impacted retail spending at Heathrow considerably - and will continue to do so for the foreseeable future. This evidence strongly supports our approach used in RBP Update 2, but CTA's approach at Final Proposals continues to ignore key facts which results in their forecast revenues being overstated by around £126m over the H7 period. These include:

- CTA omit a number of key retail impacts described in our bottom-up approach;
- CTA exclude an inter-period bridge overlay which accounts for external changes in the retail environment which we cannot control;
- CTA's judgements on passenger mix are inconsistent with recent outturn data and result in higher than likely retail yields; and
- CTA omit a ramp-up overlay for T4's reopening, which accounts for impacts in income per passenger until the retail offer returns to normal operation.

6.5.7 We describe these points in turn below.

Issues with CAA's top-down approach for VAT impacts

6.5.8 While the CAA and CTA have aligned their analysis closer to our approach at Final Proposals compared to the Initial Proposals, their top-down approach continues to omit a number of key impacts which we account for in our bottom-up analysis.

6.5.9 Our bottom-up approach allows for us to model discrete impacts to retail revenues more accurately compared to a blanket top-down approach. In our RPB Update 2 submissions, we provided detailed evidence and arguments to support our bottom-up inputs, which CTA have ignored:

- The overall impact of tax changes on revenues is more complex than the approach modelled by CTA, as first-order customer demand impacts interact with second-order changes to retailer behaviour. CTA's latest approach attempts to model both impacts on our retail revenues, however it assumes a static impact over time. Evidence from our consumer survey shows that the impacts of VAT and duty free changes will evolve as consumer awareness of tax changes starts from a lower level and then gradually builds over time. Currently only 21%[8] of flyers are aware of the removal of VAT free shopping and 25% state they are aware of Duty Free regime being expanded to EU countries. But once made aware of both, consumers say that it will impact their future airport shopping behaviour and reduce their spend. Therefore, CTA's usage of outturn data solely from the initial post-tax period of 2019-2021 results in an underestimation of the elasticity used for modelling, as outturn data currently only represents preliminary spending changes by customers.

- Similarly, while current data already points to retailers renegotiating concession terms due to falling customer demand – as well as some retailers vacating floorspace – we are still in a state of flux and expect further changes, meaning the current mix of retailers is not reflective of the mix that we expect to see going forward. The emerging evidence suggests that these tax changes are impacting luxury spend in particular. We therefore included a non-luxury shop mix overlay to account for expected exits from luxury stores, with their replacements being lower margin retailers. CTA have excluded this overlay as they believe it represents "double counting" with our overall retailer margin impact. This is a clear error by CTA as both impacts can and will occur independently – over time, the relative decrease in the value of retail floor space at Heathrow due to these tax changes will result in all stores renegotiating terms, and some luxury stores will exit and be replaced by lower margin retailers.

- Independent analysis by Pragma, OC&C and Way Forward (Appendices A12, A13, A14 and A15 of our response to the CAA's Initial Proposals) also highlighted headwinds to luxury retail spending at Heathrow, which we captured in several retail overlays. These headwinds were described in detail in our RBP Update 2 submission and relate to increasing competition for duty free spending externally (namely Hainan and European markets) as well as unwinding the temporary post-Covid spending behaviour observed for EEA passengers (i.e. 'revenge spending' where passengers treat themselves during their first few journeys after Covid-19 lockdowns, resulting in higher ATVs temporarily). The impact of these external pressures will evolve over time as customer awareness and behaviours change, but CTA's simple top-down approach is not able to account for these external factors. These headwinds will also be compounded by the cost of living crisis. Latest consumer research[9] across Heathrow's largest residency markets (UK, US, Germany, Spain, France) shows that [✂] of consumers are worried about potential increases in the cost of living, with [✂] already starting to cut back on non-essential purchases. The Bank of England has also warned that the UK will fall into recession this year.[10]

6.5.10 As seen from the evidence we have gathered below, CTA's top-down approach ignores the impacts of ongoing pressures faced by passengers and retailers. As

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[8] Wayahead Research, Changing Passenger Spend Debrief, August 2022. Appendix 57
[9] YouGov, Heathrow Travel Behaviours Omnibus Study, July 2022. Appendix 60
[10] https://www.bbc.co.uk/news/business-62405037

CTA's top-down approach does not account for the additional information captured by our bottom-up approach, the CAA's proposals for the VAT and airside tax change impacts are erroneous and overstate revenues over H7 by around £82m.

Outturn sales and emerging evidence strongly support our VAT impact assumptions

6.5.11 Outturn sales in 2022 are an important indicator of future VAT impacts, as passenger volumes continue to recover and Covid-19 effects begin to abate. Recent sales data shows that VAT and tax changes are particularly impacting luxury spending. For the first 6 months of 2022, our Income Per Passenger (IPP) from Luxury Retail was [✂]. This is a [✂] over the same period in 2019; and is [✂] than our RBP Update 2 expectation [✂] in 2022. The outturn luxury IPP is in fact nearer to our 2026 expectation of [✂] income compared to 2019 levels.

6.5.12 In addition, World Duty Free IPP over the first half of 2022 is [✂] than over the same period in 2019. This is [✂] than our RBP Update 2 expectation of [✂] and also [✂] than our 2026 expectation of [✂]. This is due to a [✂] in Beauty sales, [✂]. This is not being offset by improvements in Duty Free Liquor and Tobacco sales.

Table 3: Outturn 2022H1 income per passenger vs 2019H1 and RBU2 forecasts

Income per passenger	H1 19 IPP	H1 22 IPP	Variance 22 vs 19	RBP Update 2 forecast VAT Impact vs 2019	
				2022	2026
	£	£	%	%	%
Bookshops	[✂]	[✂]	[✂]	[✂]	[✂]
Entertainment and services	[✂]	[✂]	[✂]	[✂]	[✂]
Fashion - affordable luxury	[✂]	[✂]	[✂]	[✂]	[✂]
Fashion - high street	[✂]	[✂]	[✂]	[✂]	[✂]
Fashion - luxury	[✂]	[✂]	[✂]	[✂]	[✂]
Food & beverage	[✂]	[✂]	[✂]	[✂]	[✂]
Left luggage	[✂]	[✂]	[✂]	[✂]	[✂]
Pharmacy and healthcare*	[✂]	[✂]	[✂]	[✂]	[✂]
Retail gift	[✂]	[✂]	[✂]	[✂]	[✂]
Technology and music	[✂]	[✂]	[✂]	[✂]	[✂]
Vending	[✂]	[✂]	[✂]	[✂]	[✂]
WDF	[✂]	[✂]	[✂]	[✂]	[✂]
Total	[✂]	[✂]	[✂]	[✂]	[✂]

**Pharmacy income is adjusted for [✂] of Covid-19 testing revenue received in H1 2022, which is not expected to continue as countries drop testing requirements.*

Source: Heathrow

6.5.13 The data above strongly supports our bottom-up overlays for luxury and World Duty Free spending, which CTA has disregarded. As Covid-19 spend effects begin to decline, these H1 2022 datapoints are indicative of future impacts on retail spend from the withdrawal of VAT relief and airside duty free. Awareness of these tax changes amongst flyers is also beginning to rise, with awareness now at 21%

compared to 16% in November 2021[11]. But this is still a low level of awareness and once surveyed consumers are made aware of changes to VAT, 54% stated that they are less likely to shop next time they use an airport. Clearly, as awareness of the changes to VAT and airside tax relief rise, the negative impact on retail revenues will increase. We have also started to relay these ongoing impacts of VAT changes to investors, as seen in our H1 2022 investor report[12].

6.5.14 The cost of living crisis is also a significant headwind on retail sales which will interact with these tax changes. Consumers across Heathrow's key markets are becoming increasingly concerned about the increased cost of living, with of over [✂] of consumers in all of Heathrow's key markets (UK, US, Spain, Germany and France) stating that they are worried about potential increases in the cost of living and over [✂] stating that they are starting to cut back on non-essentials purchases[13].

Recent experience with retailers supports our shop mix overlay

6.5.15 Our non-luxury shop mix overlay discussed above is also clearly supported by the emerging evidence from our retail environment. CTA incorrectly determine that there is double counting between the overall retailer margin impact and our shop mix overlay. We expect that both of these effects can and will occur independently – over time, the relative decrease in the value of retail floorspace at Heathrow due to tax changes will result in stores renegotiating terms, and some luxury stores will also exit or vacate space which will be replaced by lower margin retailers.

6.5.16 In 2022 we are now experiencing these independent impacts of the renegotiation of contractual terms and the handing back of floorspace, and the floorspace vacated by luxury stores is not expected to be replaced by equivalent high margin retailers. We provide two examples of these impacts:

- Luxury Brand A has decided to consolidate their operation at Heathrow and has subsequently returned 20% of their front of house (FoH) square meterage across the terminal estate. Additionally, for the spaces remaining within Luxury Brand A's portfolio, the brand is proposing significantly reduced concession fees for the new contractual terms compared to the existing contract, equating to more than 8ppts difference.

- Luxury Brand B has chosen to hand back their only unit in one terminal and additionally has renegotiated new contractual terms [✂] than the previous contract for their remaining spaces at Heathrow.

6.5.17 Similarly to the evolving passenger awareness of VAT changes discussed earlier, our retail partners are also adapting over time to the true impacts of the tax changes alongside the recovery of passenger numbers. In the first half of 2022, there has been five confirmed hand-backs of luxury spaces within our space portfolio and we fully anticipate further exits of luxury business partners over the coming months and years, with lower yielding stores replacing them. These case studies are clear indications of how both impacts - general margin reductions as well as replacement of luxury floor space with lower margin alternatives - will play out over the H7 period. Based on the strength of the emerging evidence, we maintain the same quantum of store mix

[11] Wayahead Research, Changing Passenger Spend Debrief, August 2021, Heathrow response to the Initial Proposals, Appendix 14
[12] Heathrow (SP) Limited, Results for the 6 months ended 30th June 2022
[13] YouGov, Heathrow Travel Behaviours Omnibus, July 2022, Appendix 60

impacts of [✂] per annum as presented in RBP Update 2 and shared with the CAA during engagement[14].

Omission of the Q6 to H7 bridge overlay

6.5.18 In our RBP update 2, we also applied a 'Q6 to H7 bridge' overlay to account for **known** changes in our retail environment which have already occurred over the 2019 to 2021. These changes reflected external impacts over the period, such as the Covid-19 pandemic and retail tax impacts, which need to be reflected in the baseline for modelling.

6.5.19 CTA argue that these impacts were in our control over the pandemic period, and that including this bridge overlay would also result in double counting with our forward-looking VAT overlay.

6.5.20 We disagree on both points:

- Controllability: The changes to our retail environment over the period 2019 to 2021 were quite clearly driven by external shocks outside of our control – a global pandemic and changes in taxes. It is unreasonable and inconsistent to argue that the outturn data reflects any inefficiency by Heathrow, but at the same time allow future revenues to be adjusted for external impacts such as VAT tax changes.

- Double counting: We use the Q6 to H7 bridge overlay as a backwards-looking adjustment required to ensure that an appropriate baseline is used from which we forecast revenue. This captures changes which have already happened, such as contract margin negotiations and closure of retail units in response to changes in the retail environment. We detailed the sources of these changes in our engagement with the CAA[15]. We then apply the forward-looking adjustments described above to this adjusted baseline, which are designed to capture the impacts that have not yet fully materialised but will do over time. Therefore, there is no double counting.

6.5.21 By not accounting for the external changes in our commercial retail environment over 2019 to 2021, the CTA forecast overstates revenue by around [✂] over H7.

Issues arising from the passenger mix effect of CTA's forecast

6.5.22 As discussed in Chapter 2, the CAA's passenger forecast is undeliverable and presents an overly positive view of the world.

6.5.23 The CAA's passenger forecast also interacts with CTA's projections for the future passenger mix, relative to the passenger mix at the 2019 baseline. As different passenger groups are expected to yield different retail revenues, an inaccurate passenger mix and yield profile results in errors in estimating retail revenues:

[14] CAA-H7-619
[15] CAA-H7-546

Table 4: Difference relative to 2019 passenger mix for our view and CAA / CTA FP forecasts

Passenger mix		Difference – Our view					Difference - CAA / CTA FPs				
	2019	2022	2023	2024	2025	2026	2022	2023	2024	2025	2026
UK & CI	6.0%	1.1%	-0.2%	-0.4%	-0.5%	-0.6%	1.7%	-0.1%	-0.8%	-1.2%	-1.3%
EEA	38.3%	1.6%	2.0%	1.3%	0.3%	0.2%	4.1%	2.1%	1.9%	1.2%	0.7%
Other Europe & CIS	2.8%	-0.6%	-0.2%	-0.1%	0.0%	0.1%	-0.2%	0.0%	0.0%	0.0%	0.0%
Middle East	9.6%	1.3%	-0.3%	-0.2%	-0.1%	-0.1%	0.2%	-0.2%	-0.2%	0.1%	0.4%
Africa	4.3%	0.4%	0.4%	0.0%	0.1%	0.1%	-0.4%	-0.1%	-0.1%	0.0%	-0.1%
North America	23.3%	1.1%	1.1%	0.5%	0.4%	0.3%	-0.5%	1.4%	0.9%	0.4%	-0.1%
Latin America	1.7%	0.8%	0.4%	0.2%	0.2%	0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%
Asia/Pacific	14.0%	-5.5%	-3.1%	-1.4%	-0.5%	-0.3%	-4.8%	-3.1%	-1.7%	-0.5%	0.4%

Source: Heathrow

6.5.24 As seen in Table 4 above, CTA's projections of the passenger mix in H7 are markedly different from our projections. Over H7, CTA expect a greater proportion of higher yielding Asian / Pacific passengers as well as lower proportions of lower yielding UK & CI and North American passengers. Based on IPP for the different passenger markets in 2019, CTA's mix assumptions and CAA's optimistic passenger forecast result in an average retail IPP of £6.29 over H7 compared to our forecast of £6.22. Outturn passenger data for the first half of 2022 more closely matches our projections for these passenger markets than CTA's judgements (Table 5)[16]. In addition to the effects of the CAA's excessively optimistic passenger forecast, CTA's projections of passenger mix result in revenues being overstated by around £20m over H7.

Table 5: Difference against 2022H1 outturn passenger mix for our view and CAA / CTA FP 2022 forecasts

Passenger mix	Outturn	Delta – Our view	Delta - CAA / CTA FPs
	2022 H1	2022	2022
UK & CI	5.3%	1.7%	2.4%
EEA	37.6%	2.2%	4.7%
Other Europe & CIS	6.7%	-4.5%	-4.1%
Middle East	9.0%	1.8%	0.7%
Africa	3.5%	1.2%	0.5%
North America	27.9%	-3.5%	-5.1%
Latin America	2.3%	0.2%	-0.7%
Asia/Pacific	7.7%	0.8%	1.6%
Average squared delta		**5.8%**	**9.3%**

Source: Heathrow

[16] Heathrow - Monthly traffic statistics up to June 2022, excluding Gatwick, Stansted, Edinburgh, Naples, Aberdeen, Glasgow and Southampton (link)

CTA omits the T4 overlay which is evidenced by 2022 data

6.5.25 In our RBP Update 2 submission, we accounted for a reduction in retail revenue in the ramp-up stage following Terminal 4's reopening. This effect represented the partial offering retailers were likely to provide as passenger demand recovered in the terminal.

6.5.26 We expected shops would ramp up their offerings gradually until passenger volumes returned to normal levels in 2024 while also facing significant operational challenges in recruitment and supply chains. Consequently, we expected that passengers would experience a limited retail offer and spend less compared to a counterfactual scenario where they travelled through our other terminals.

6.5.27 Recent outturn IPP data from June 2022 reflects our hypotheses relating to the Terminal 4 reopening ramp-up. While all terminals exhibit lower normalised income compared to 2019 due to VAT and post-Covid impacts, the impact on Terminal 4 is [✂] reduction compared to [✂] for other terminals. This is especially concerning given the higher historical IPP at Terminal 4 compared to other terminals.

Figure 3: Changes in retail income per passenger (June 2019 vs June 2022)

[✂]

Source: Heathrow

6.5.28 This impact on Terminal 4 IPP can be explained by some retail partners not reopening immediately and others offering a limited range during ramp-up. It is also unrealistic to expect "hockey-stick" growth in Terminal 4 income for the remainder of 2022 and early 2023, as passengers and retailers continue to adapt to reopening. However, CTA have wholly disregarded our overlay for Terminal 4 reopening, resulting in revenues being overstated by around £16m over the first two years of their forecast for H7.

6.6 Property

CAA's proposals

6.6.1 For their Initial Proposals, CTA used a passenger elasticity approach to estimate property revenues for H7 – i.e. linking a change in passengers to a change in property revenue. Following our RBP Update 2 submissions, CTA have agreed that an elasticity-based approach does not accurately reflect the real-world dynamic where rents are actually set using Guide Prices for properties.

6.6.2 Historically we have published property Guide Prices using a rental formula that takes into account passenger volumes, RPI and the Investment Property Databank (IPD) Annual Property Index. This formula has worked well historically and has been standard practice at Heathrow for many years, resulting in relatively smooth changes in property rents over time.

6.6.3 However, it was not designed to deal with the unprecedented change in demand that we have seen since the start of the pandemic. As described in our Property Rents 2020/21 Decision Document[17], if we simply retained this formulaic approach the impact of the steep drop-off in passengers followed by a rapid rebound in demand would actually have resulted in Guide Prices being even higher than pre-pandemic levels even with much lower passenger demand. Clearly, this would have been a perverse outcome, not dissimilar to the issues we have seen when applying elasticities to large percentage changes in demand in other parts of the price control – e.g. when using elasticities for opex and retail revenues.

6.6.4 With agreement from airlines and tenants, we took the decision to freeze guide prices at 2019/20 rates to ensure stability in the price path. We agreed not to change guide prices until the guide price formula results in a net increase, based on the cumulative level of guide prices (from a 2001 base) above these 2019/20 rates.

6.6.5 For the Final Proposals, CTA have agreed with our approach to freeze guide prices at 2019/20 nominal levels.

Issues with CTA's forecast of property revenues

6.6.6 CTA have largely adopted the same methodology for property revenues as us, based on the guide price freeze. However, CTA apply an adjusted CPI index to inflate property revenues relative to 2019 levels. CTA label this index as a "CPI / Guide Price blend", and the index forecasts total property yields to grow by c. 5% over H7.

6.6.7 Our forecasts estimate that property revenues will remain flat in 2019 nominal terms (i.e. c. [✂]) over the period 2023 – 2026. This is primarily linked to the guide price freeze, which directly impacts c. 76% of property revenues. However, there are a number of clear headwinds which will also impact non-guide price property revenues and limit our ability to increase property revenues above 2019 nominal levels.

6.6.8 The first headwind is linked to the former BMI hangar, which has been vacant since March 2022. This hangar yields [✂] pa in property revenues or [✂] of non-fixed property income, but we will not be able to re-let the hangar for the foreseeable future. This is because our existing home carriers BA and Virgin Atlantic do not require

[17] https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/doing-business-with-heathrow/property-team/Heathrow-Airport-Property-Rents-2020-21-Decision-document.pdf

additional space and, due to slot limits and capacity constraints, Heathrow will not be able to support a further home carrier in H7. Moreover, the CAA has not allowed for capital that could transform this space to be used for a different purpose. Over H7, this results in a headwind of [✂] in property revenues.

6.6.9 The second headwind is related to the BA crew car park, which represents revenues of [✂] pa or [✂] of non-fixed property income. The BA car park has historically operated under a lease agreement with BA which will come to an end in January 2023. However, from 2023 onwards we expect that the associated property revenues will be permanently lost to Heathrow as a result of the car park being transferred from a leased asset to an operational car park. Going forward, BA car parking will be an ORC based on operational cost recovery only and in line with all other operational car parks. For the avoidance of doubt:

- Heathrow does not currently incur any costs for operating the site as a car park, as it is fully leased to BA to operate.
- Once it transfers to an ORC, Heathrow will operate the site as a car park and incur costs. Those costs will be recovered as an ORC through the cost pass through methodology, meaning that the car park will become net neutral to Heathrow rather than forming a revenue stream.
- The car park will remain occupied but will no longer be classified as a commercial revenue and we have therefore assumed £0 revenue for this asset in H7 for 2023 and beyond. The loss of this income results in a headwind of £[✂] over H7.

Table 6: Property headwinds in H7

£m	2022	2023	2024	2025	2026	H7 total
Nominal						
BMI hangar	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
BA car park	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
£CPI 2020						
BMI hangar	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
BA car park	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: Heathrow

6.6.10 The exclusion of these property headwinds results in CTA's revenues being overstated by around £29m over H7. We are not able to recover these revenues over the period and therefore they should be subtracted from the CAA's forecast.

6.7 Disallowed capital investment

CAA proposals

6.7.1 In RBP Update 2, we presented a £546 million commercial capex plan linked to our 'Commercial Revenue Generation' programme – i.e. capex projects that will enable us to protect existing commercial revenues and generate incremental revenues going forward.

6.7.2 However, in its Final Proposal the CAA has only allowed £157 million – i.e. 29% of the total in our plan. The CAA notes that: "*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*."

6.7.3 In other words, the CAA has disallowed any commercial capex projects which are not paid back in full within the first 5 years. The associated commercial revenues have also been disallowed.

The CAA's approach to commercial revenues capex is at odds with single till principles

6.7.4 As noted in more detail in Chapter 7 on Capital Expenditure, we strongly disagree with the CAA's decision. The CAA has based its decision on a flawed 'payback' analysis which – as noted by Frontier – will actually result in higher airport charges in future periods, which is short-sighted and not in line with the CAA's duties.

6.7.5 Analysis of the impact of our proposed commercial revenue projects, set out in detail in Chapter 7, shows that the programme as a whole has a net positive contribution to the single till across H7 even if not all projects pay back within the period. This is because the costs of the projects reflected through the airport charge are more than offset by the revenue being generated. This evidences the error in the CAA's approach which undermines the rationale of the single till.

6.7.6 In taking this approach, the CAA is not furthering the interests of future consumers. Investing in growing revenues now will help to bring the charge down in future periods through protecting or incrementally growing revenues. Without investment, this cannot happen and airport charges in future could be less efficient due to this action.

6.7.7 Investment in commercial projects is also more than a financial business case. Investments in commercial also allow us to deliver on outcomes for consumers, in particular to ensure they have an enjoyable and connected experience, feel cared for in the airport and can access the airport through good surface access options. In focusing solely on payback, the CAA is restricting the delivery of wider benefits to consumers which is not in line with its statutory duties.

6.7.8 Our commercial capex plan should be allowed in full to protect existing revenues and deliver our commercial revenues forecast, as well as contributing towards delivery against our consumer outcomes. The CAA's current commercial capex allowance would mean that [✂] of our commercial revenues forecast will be undeliverable over H7, with a further [✂] undeliverable in H8.

6.8 Management stretch

CAA proposals

6.8.1 In its Final Proposals, the CAA has applied a 1% management stretch per annum to certain components of our commercial revenue forecast.

6.8.2 In its Initial Proposals, the key piece of evidence used by the CAA in arguing for a management stretch was the observation that historically we had been able to grow commercial revenue per passenger faster than CPI. However, rather than exploring what was actually driving this performance, and assessing whether those drivers could be expected to continue into H7, the CAA and CTA appeared to attribute all of this faster growth to a vague and poorly defined concept called 'management stretch'. The CAA and CTA ultimately made a judgement – with no supporting evidence at all – that this stretch should continue into H7, which had the effect of increasing their commercial revenue forecast at the Initial Proposals by 2% per annum (around £400 million) over H7, or close to around 10% in total.

6.8.3 In our response to the Initial Proposals, we highlighted that this faster growth was not due to a vague concept called 'management stretch' but was the result of various actions and external factors – such as investing in commercial capex, increasing retail floorspace, increasing car parking spaces, creating new revenue streams, as well as favourable exchange rates, and a shift in passenger mix, amongst other things. We also highlighted that the outlook for many of these factors is not positive for H7 – for instance we have no plans to increase retail floorspace or car parking spaces – and that as such it is not appropriate to apply a stretch of 2% per annum with no supporting evidence. We also highlighted that CTA and the CAA had applied management stretch to revenue streams where future prices are regulated, giving us no scope to increase revenues. This showed a further lack of understanding of our commercial revenues and our ability to increase them.

6.8.4 We are pleased to see that since the Initial Proposals, the CAA and CTA have explored in more detail what was actually driving this faster growth historically. We welcome the fact that CTA have carried out econometrics analysis to try to explain the historical growth as a function of various real-world factors rather than simply attributing all of it to management stretch. It is telling that after exploring the issue in more detail CTA now conclude that:

"*Overall, **we find that the analysis does not provide conclusive evidence** in favour of a 2% management stretch target or a 1% management stretch target. Indeed, the limitations with the analysis and the results of the modelling mean that we would be cautious of placing any weight on a specific estimate of HAL's long term potential for retail revenue growth, while controlling for other factors*."

6.8.5 We believe this finding validates the concerns that we raised in response to the Initial Proposals, and that ultimately the CAA's decision to apply a stretch of 2% per annum with no supporting evidence was an unreasonable judgement, as the only relevant analysis carried out by the CAA's own advisers has since failed to find any evidence to support this decision. Also, as set out below, the CAA's approach of now applying a lower management stretch rather than removing it entirely continues to be an unreasonable judgment not supported by any evidence.

Concerns with CAA proposals

Applying a residual approach is exposed to omitted variable bias (which CTA note themselves)

6.8.6 In their econometrics analysis, CTA note that:

"*after seeking to control for drivers of revenues such as passenger growth and retail floor space,… HAL has historically been able to achieve revenue growth for reasons other than **these key known revenue drivers**. As a result, we consider the analysis is at least supportive of the CAA considering a management stretch target for HAL in H7… To the extent any inference can be drawn from the modelling of an appropriate level of management stretch challenge for setting the H7 price controls, we would be minded to give reference to the results of Model 6… **which would imply a target of at most 1%**... However, we consider that the choice of management stretch target is ultimately a judgement that the CAA must make in the context of the overall price control*."

6.8.7 CTA are effectively describing management stretch as a residual: in other words, if only part of the outturn performance can be explained by the revenue drivers included in their analysis, then the remainder must therefore be attributable in full to management stretch. This approach is therefore exposed to omitted variable bias. While CTA have included some key drivers of performance, e.g. passengers and floor space (which was a variable we encouraged them to explore), they have not included other factors which quite clearly impact on revenue per passenger.

Figure 4: CTA management stretch model specifications

Table 3.1: Model specifications

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Dependent Variable	**Log of Retail Revenue per passenger (2018 CPI)**								
Year	✓	✓	✓	✓	✓	✓	✓	✓	
Log of Effective Exchange Rate	✓	✓	✓	✓	✓	✓	✓		✓
Log of retail floorspace (m²)	✓		✓		✓	✓	✓		✓
1-year lag of log of retail floorspace (m²)					✓	✓	✓		✓
2-year lag of log of retail floorspace (m²)						✓	✓		✓
Log of Capex (£m 2018 CPI)		✓		✓					
Log of weighted average Income per Passenger			✓	✓			✓		✓
Log of Passengers (millions)									

Source: CEPA analysis

Source: CEPA/ Taylor Airey

6.8.8 These models focus on airport-specific drivers and omit known external factors that also drive performance. For instance CTA have not included any measure(s) related to consumer confidence or income – such as GDP per capita or real disposable income. (For the avoidance of doubt, CTA include '*income* per passenger' but income in this context refers to spend per passenger rather than wealth.) It seems reasonable to expect that if consumers have more confidence and more money they will spend more, and conversely that if there is a reduction in confidence or real income – which is likely to be the case going forward given the current cost of living crisis – that passengers will spend less. (As noted earlier, the Bank of England has warned that the UK will fall into recession this year, and our latest consumer research across Heathrow's largest residency markets (UK, US, Germany, Spain, France) shows that over [✂] of consumers are worried about potential increases in the cost of living with over [✂] already starting to cut back on non-essential purchases.)

6.8.9 CTA themselves also appear to recognise this point. They note that "*We believe the CAA should consider the following factors when determining its choice of management stretch target (if any)*" before listing a number of factors such as "*The extent to which HAL is exposed to known headwinds not explicitly accounted for in our forecasts*."

6.8.10 It is striking that the CAA has not recognised the potential impact of headwinds from the increased cost of living. In its passenger forecast, the CAA notes that it explicitly considered this as a headwind to the passenger forecast *"we expect the buoyant consumer expenditure seen in 2022 to gradually unwind as negative real wage growth and a squeeze on disposable incomes will likely weigh on consumption decisions."*[18] Not reflecting key inputs such as these in its forecasts of commercial revenues is inconsistent and evidences that the CAA's approach misses key variables which will impact consumer spending behaviour.

[18] CAA, Final Proposals Section 1: Regulatory Framework, June 2022, Page 26, Paragraph 1.72

The CAA ignores CTA's recommendations and misrepresents the results

6.8.11 The CAA has not acted on any of the recommendations set out by CTA. It also appears to significantly misrepresent CTA's analysis and conclusions. The CAA notes that "*CTA concludes that its econometric analysis implies that a management stretch target for H7 could reasonably lie in the range 1%-2%."* However, this is completely at odds with CTA's own comments that *"Overall, we find that **the analysis does not provide conclusive evidence** in favour of a 2% management stretch target or a 1% management stretch target*" and "*we would be minded to give reference to the results of Model 6… which would imply **a target of at most 1%***". CTA presented their 1% figure as an upper bound – which needed further exploring to eliminate omitted variable bias – whereas the CAA appears to have presented this as a lower bound and have not explored any of CTA's recommendations.

6.8.12 We therefore repeat the concerns made in our response to the Initial Proposals and believe that further exploration would demystify the management stretch and fully explain this residual.

6.8.13 Also, in general, we believe that the CAA basing its estimation approach purely on a residual, with no supporting evidence to cross-check or triangulate the results is not sound practice as it is quite clearly exposed to the omitted variable bias.

The approach is inconsistent with the CAA's approach to commercial capex

6.8.14 As set out above, and in the section on capex, the CAA is proposing to disallow large parts of our commercial capex plan where the payback period is greater than five years, even though this would result in higher charges in future. This commercial capex (which includes significant investment aimed at protecting and increasing our property revenues which we have demonstrated are lagging behind our European rivals) is ultimately intended to increase our revenues going forward. In other words, these plans are effectively management stretch in action.

6.8.15 However, the CAA is proposing to disallow large parts of our plan, whilst at the same time it is imposing a vague top-down management stretch designed to challenge us to grow our revenues. This approach is inconsistent and we detailed the importance of commercial capex in growing and protecting revenues in our engagement with the CAA and its advisers[19]. If the CAA really wants us to stretch our commercial revenues, it should move away from this rigid five-year payback rule and give us greater freedom to invest. Improving our property portfolio is a key opportunity for us to grow our revenues going forward.

Comparisons with frontier shift for opex are misleading

6.8.16 The CAA notes that "*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"*".

6.8.17 We disagree with this assessment. While there are similarities between commercial revenue and opex there is an important difference with respect to controllability. For commercial revenue, and retail revenue in particular – which represents the largest component of our commercial revenue – the ability to grow revenues depends to a

[19] CAA-H7-705

very large degree on external factors, such as the performance of specific retailers, exchange rates, customer preferences, and changes in real incomes. Our retail partners at Heathrow are already global experts competing in competitive markets and are well placed to improve performance. Applying a management stretch on top of these revenues misses this point.

6.8.18 Therefore, the parallels to frontier shift for opex, while superficially similar, start to fall down. (As set out below, benchmarking analysis also casts doubt on whether management stretch actually exists.)

Benchmarking evidence suggests that other airports have not achieved a management stretch – which further highlights that it is not based on real world evidence

6.8.19 Elsewhere in the Initial and Final Proposals, the CAA and CTA accept that we have been at the efficiency frontier for commercial revenue performance since at least 2015.[20] Therefore, if management stretch were a real concept, then we might expect to have seen similar improvements at other airports over time – or arguably even greater improvements at other airports as those not at the frontier would have greater scope to achieve catch up efficiencies in addition to management stretch. However, KPMG's benchmarking report shows that, relative to a sample of other airports, our performance relative to the expected value has actually improved over time.[21]

Figure 5: Commercial revenue efficiency benchmarking

Source: KPMG

6.8.20 KPMG notes *"Figure 1 [above] shows that for an airport of Heathrow's size and customer-base, its relative performance in generating commercial revenue has*

[20] CTA noted in their analysis for the CAA for the Initial Proposals: "We accept the starting assumption that HAL's performance in 2015 was at the efficiency frontier, based on SDG's previous analysis for the CAA. Beyond 2015, we see that HAL's ability to grow revenue has stagnated but probably not enough for it to now be materially inefficient."

[21] KPMG Airport Commercial Revenue Efficiency Benchmarking December 2019, Heathrow Initial Business Plan, Annex 14

generally improved since the 2007-08 financial crisis to a position where it is ahead of where we would expect it to be based on our models, and similar to the frontier airport in 2018."

6.8.21 Given that we have been at the frontier for a number of years, and have improved our position relative to other airports, this suggests that other airports have not achieved management stretch. While there are some superficial parallels with frontier shift for opex, management stretch does not appear to happen at other airports either.

The CAA's approach to management stretch bears resemblance to the 'outperformance wedge' proposed by Ofgem at RIIO-GD2 – which was ultimately rejected by the CMA

6.8.22 The CAA's approach to management stretch bears resemblance to Ofgem's decision to introduce an 'outperformance wedge' at the recent RIIO-GD2 review (for gas distribution network operators). The background to the outperformance wedge was that Ofgem was concerned that energy companies had consistently outperformed their regulatory settlements, beyond the level which could be predicted by the models and tools in its regulatory toolbox (e.g. cost benchmarking, calibration of incentives etc.) and it expected this to continue going forward. As a result, rather than engaging in the details of what was driving this outperformance, Ofgem determined to reduce the allowed cost of equity at RIIO-GD2 by 25 basis points.[22]

6.8.23 However, upon appeal, the CMA ultimately rejected the introduction of the outperformance wedge, arguing that it amounted to Ofgem shirking its responsibilities as a regulator:

"The design and calibration of the ODI arrangements gives GEMA a broad range of potential options through which it can manage the risks to consumers associated with unmerited ODI outperformance in a more targeted way, and GEMA erroneously concluded that these options should be viewed as insufficient in this respect… It is a poorly targeted way of addressing risks to consumers associated with totex outperformance, and results in differences in the scale of the effective totex challenges faced by different licensees that ***appear to be arbitrary and discriminatory and that have not been sufficiently justified by GEMA"*** *(Paragraphs 6.181b. (i) and (ii))*

6.8.24 There are strong parallels between Ofgem's outperformance wedge and the CAA's proposed management stretch. Management stretch is a poorly defined concept based on flawed analysis which seeks to unduly stretch our commercial revenues without any supporting evidence. The CAA has rejected CTA's recommendations to continue exploring what was driving our historical outperformance, and much like Ofgem's decision to arbitrarily reduce companies' allowed cost of equity in anticipation of future outperformance, the CAA has simply decided to stretch our commercial revenues without any evidence to support this decision. Management stretch should therefore also be removed from the CAA's forecast.

[22] Cadent Gas Limited, National Grid Electricity Transmission plc, National Grid Gas plc, Northern Gas Networks Limited, Scottish Hydro Electric Transmission plc, Southern Gas Networks plc and Scotland Gas Networks plc, SP Transmission plc, Wales & West Utilities Limited vs the Gas and Electricity Markets Authority, Final determination (October 2021). Accessed here: https://www.gov.uk/cma-cases/energy-licence-modification-appeals-2021

6.9 Heathrow proposals for H7

6.9.1 The evidence set out above highlights the errors made by the CAA in its H7 commercial revenue forecasts. These include simple mathematical errors, factual errors and errors due to an absence of evidence underpinning the CAA's approach. Correcting the errors identified above would decrease the CAA's H7 commercial revenue forecasts by £400m. Applying our corrected H7 passenger forecast as set out in Chapter 2 would lead to a further downward impact of £125m on the commercial revenue forecast.

6.9.2 We have summarised these errors and their impacts over H7 in the table below:

Table 7: Errors in CAA's Final Proposals for commercial revenues over H7

Commercial revenues (£m, CPI 2020p)		2022	2023	2024	2025	2026	H7
CAA FPs forecast		678	781	873	931	941	4,204
TDOC and parking	TDOC risk	-	-	-45	-46	-44	-135
	Short-stay parking risk	0	0	-9	-9	-9	-28
	POD impact	-4	-4	-4	-4	-4	-20
Rail	T5 Picc. Line pax error	-3	-10	-10	-8	-8	-39
	TAC baseline inflation error	0	0	-1	-1	-1	-3
	HEx flat fares indexation	-3	-3	-2	-1	-1	-11
Retail	Retail overlays	-9	-20	-26	-25	-30	-110
	T4 impact	-11	-5	0	0	0	-16
Property	Property headwinds	-2	-7	-7	-7	-7	-29
Management stretch	Mgmt. stretch - retail and rail	6	1	-3	-6	-11	-12
Traffic impact	Passenger forecast impact	-4	-17	-25	-43	-35	-125
Corrected forecast		648	717	742	780	791	3,677

Source: Heathrow

7. Capital Expenditure

7.1 Summary

7.1.1 The CAA's Final Proposals £3.6bn allowance remains significantly below our £4.5 plan, which we have developed to deliver the right outcomes for consumers in H7.

7.1.2 We are concerned that the CAA's Final Proposals as a whole are not resilient to any changes in input assumptions, where even a small deviation will create a high risk of us having insufficient liquidity to deliver our plan in the interest of consumers.

7.1.3 The additional and unnecessary burden imposed by the CAA's capital incentives proposals would delay delivery of our capital plan to the detriment of consumers.

7.1.4 The CAA's proposed cap mechanism on the H7 capital envelope is neither necessary or appropriate – it will only serve to increase complexity and reduce the flexibility we have to deliver the right outcomes for consumers through H7.

7.1.5 The full allowances included by the CAA for the Security, T2 Baggage and Carbon & Sustainability programmes will help us to maintain a safe, resilient and compliant operation, whilst ensuring we remain on track to meet our target of net zero by 2050.

7.1.6 The CAA must correct the following errors with regards to its capital allowance for our other H7 capital programmes in its Final Proposals:

7.1.7 **The CAA should include the full allowances for the Asset Management and Compliance and iH7 Rollover investments, which are key to ensuring a resilient, safe and reliable operation for consumers.**

- The CAA has not included the full allowance for the Asset Management and Compliance Programme based on an erroneous assessment of deliverability.
- The CAA has excluded iH7 Rollover projects associated with terminal ramp-up from its allowance, on the basis of not being approved by airlines, which is a factual error.

7.1.8 **The CAA should also include the full allowances for the Commercial Revenue and Efficient Airport Programmes, which are critical for delivering a wide range of positive consumer outcomes, as well as additional revenues and operating efficiencies to reduce pressure on the airport charge through H7 and beyond.**

- The CAA has included a £157m allowance for our Commercial Revenue Programme, which is £389m lower than our plan – including only investments that pay back within the price control. This is a clear error in the CAA's approach that focuses on the short term charge over longer term affordability, and disregards the clear wider consumer and other stakeholder benefits delivered by the programme.
- The CAA has included a £48m allowance for the Efficient Airport Programme, which is £299m lower than our plan. This will limit our ability to drive operating efficiencies in H7, as well as to deliver improvements that we know will be valued by both consumers and airlines. Furthermore, the CAA's failure to include PRS investments is contradictory to its ongoing requests for more personalised assistance services across the airport. Finally, the CAA has made an error by not including Efficient Airport investments needed to deliver its proposed H7 OBR targets, as well as spend to deliver per passenger security queue measurement in H7.

7.2 Introduction

7.2.1 This chapter covers our response to the CAA's Final Proposals on capital investment. It includes our views on the CAA's latest proposed level of capital investment for H7, and also provides additional information and evidence to further support our proposed £4.5bn H7 Capital Plan.

7.2.2 Capital investment is a key element of our plan to deliver for consumers and ensure a safe, secure and resilient operation over the next five years and beyond. It also includes projects that enable both us and our Team Heathrow partners to achieve operational efficiencies, as well as projects that protect and generate commercial revenues, helping to reduce pressure on the airport charge via the single till.

7.2.3 Capital investment, with the appropriate level of investment across our six H7 Capital Programmes, is therefore an integral part of the H7 determination.

7.2.4 As we stated in our response to the CAA's Initial Proposals, it is important for us to invest ahead of demand in H7 to ensure we can continue to deliver for consumers and other stakeholders through H7 and beyond.

7.2.5 The CAA's decision to increase its capped H7 capital allowance to £3.6bn, which represents an increase of £1.1bn from the proposed level of investment included in its Initial Proposals, is a positive step towards enabling the delivery of consumer and wider stakeholder outcomes in H7.

7.2.6 However, the CAA's latest allowance remains significantly lower than the £4.5bn H7 Capital Plan we have developed over the last two years to deliver for consumers and is not aligned to the consumer OBR targets the CAA is proposing. The smaller allowance will deliver significantly less for consumers - contrary to their interest - and for this reason, we consider the CAA's proposed H7 capital investment allowance is insufficient.

7.2.7 Particular areas of concern are the level of allowances for the Commercial Revenue and Efficient Airport Programmes, which are significantly lower than those included in our plan.

7.2.8 The lower, incorrect allowances for these two programmes will result in us being unable to deliver the revenue protection and incremental revenue generation built into our plan, or to deliver additional operating efficiencies for us and our Team Heathrow partners over H7.

7.2.9 Crucially, the lower allowances for these programmes will also see the wider benefits they deliver for consumers and other airport stakeholders being largely or entirely unrealised.

7.2.10 This will ultimately result in consumers paying more, as a result of lower revenues and higher costs putting pressure on the airport charge, whilst having a worse airport experience that doesn't benefit from investments in key areas such as digital, automation and PRS. Such an outcome would represent a failure of the CAA in its duty to current and future consumers.

7.2.11 We are concerned with the overall financeability of the CAA's proposals, which will significantly limit our ability to finance capital investment in H7.

7.2.12 In addition to the errors noted above, we also have significant concerns around the impact of the following on our ability to deliver our H7 Capital Plan:

- The CAA's proposals for capital incentives; and
- the CAA's proposed H7 capital envelope cap.

7.2.13 The rest of this chapter is therefore structured as follows:

- The context of our response: where we outline key contextual changes and CAA / airline engagement that has taken place since we submitted our response to the CAA's Initial Proposals.
- Response to the Final Proposals: where we discuss the merits of the CAA's Final Proposals, outline our concern with regards to the errors made by the CAA, and set out using supporting evidence where and how the CAA should review its proposals.
- Consolidated view of Heathrow's proposals: in this section we provide a consolidated view of our proposed capital investment plan for H7.

(Note that all financial figures in this chapter are presented in 2020 CPI)

7.3 Context for our response

The right approach to capital investment has transformed Heathrow and helped us to navigate the Covid-19 pandemic

7.3.1 £11bn of private investment over the last 15 years has delivered improved outcomes for stakeholders across Heathrow – including consumers and airlines – shifting us away from the 'Heathrow hassle' of the early to mid-2000s to being a globally renowned and award winning airport.

7.3.2 While drastically cutting capital investment was necessary to protect the business through Covid-19, we continued to make targeted capital investments where there was a clear need to do so, working in collaboration with our airline partners to deliver these investments.

7.3.3 Examples of such targeted investments include those in Terminal 3 and 4 re-opening (ramp-up), which have provided a return of capacity at the right time to accommodate growing demand and to ensure a good level of service and resilience of our operation. The importance of these investments has been amplified in recent months, with the significant capacity challenges faced by airports across the UK and internationally as the recovery of international air travel continues.

7.3.4 In the context of reduced investment in 2020/2021, and as demand continues to recover through H7, it is therefore critical that we deliver the right level of capital investment in order to maintain resilience and service - and ultimately to deliver positive outcomes for current and future consumers.

7.3.5 We have proposed a capital plan for H7 that is built on our extensive experience, has been developed in line with industry best practice, and is grounded in comprehensive consumer insight. We remain confident that it is the right plan to deliver for consumers and wider airport stakeholders in H7 and beyond.

Current macroeconomic and industry changes are important to consider in the context of H7 capital investment

7.3.6 It is important to note that capital investment at Heathrow is not insulated from the wider macroeconomic and industry context.

7.3.7 There are currently significant challenges facing the construction sector supply chain, both in the UK and internationally. Various factors - including a shortage of skilled labour, availability of materials, and transport and logistics issues - have combined to create an unfavourable environment for the delivery of infrastructure projects across the UK.

7.3.8 Heathrow is not immune from these external challenges, and it is therefore now more important than ever that we have an approach to capital investment that allows us to successfully navigate wider macroeconomic and industry challenges in order to invest and deliver for consumers in H7 and beyond.

7.3.9 We are concerned that the CAA's proposed capex cap mechanism for H7, as well as its capex incentives proposals, contain significant errors that will severely limit our ability to navigate these wider challenges. We explore these concerns in more detail later in this chapter, as well as in Chapter 8 – Capex Incentives.

7.4 Heathrow's engagement with the CAA and airlines since the CAA's Initial Proposals

7.4.1 We have continued to develop our H7 Capital Plan with airlines through our established governance process and have been working collaboratively with them to identify the most appropriate capital investments to prioritise in H7.

7.4.2 As a result, the maturity of our H7 Capital Plan has continued to progress since we submitted our response to the CAA's Initial Proposals.

7.4.3 Our engagement has shown that there is strong airline support for investments across our H7 Capital Plan, and in particular a large number of projects falling within our Efficient Airport Programme, which we have reflected in our project prioritisation across the portfolio.

7.4.4 We also ran a number of capex engagement sessions with the CAA in Q1 2022 after submitting our response to its Initial Proposals. These sessions allowed us to provide further detail and clarification around our H7 Capital Plan to the CAA and its consultants.

7.4.5 The CAA sent numerous requests for us to provide further evidence around our H7 Capital Plan following these engagement sessions, which we have since responded to. A list summarising the extensive additional evidence provided to the CAA as part of this process is included in Appendix 2 for reference.

7.4.6 We will continue our airline engagement to further develop the maturity of our programmes, ensuring we maintain progress across our plan to deliver for consumers as we await further certainty from the CAA on the H7 price control.

7.5 Response to the CAA's Final Proposals – financeability, the CAA's capital incentives proposals and the proposed the cap on the H7 capital envelope

Financeability

7.5.1 Capital investment does not exist in isolation of the other regulatory building blocks, all of which must be underpinned by valid assumptions and calibrated correctly in order to ensure that we are able to finance the right level of capital investment for consumers in H7. These errors are also discussed further in [Section F2] of the Legal Annex.

7.5.2 The combined impact of the errors that the CAA has made across other building blocks in its Final Proposals is a price control that is not resilient to any changes in input assumptions, where even a small deviation will create a high risk of us having insufficient liquidity to deliver our plan in the interest of consumers.

7.5.3 This would see us having to significantly reduce capital expenditure to a level far below the £3.6bn proposed by the CAA, and even further below the £4.5bn of investment that is required to deliver the right outcomes for consumers and other stakeholders in H7.

7.5.4 [✂]

7.5.5 It is therefore crucial that the CAA corrects its errors across the other building blocks, which we have articulated across the other chapters of this response, and ensures that the plan it sets out in its final decision is deliverable as a whole – including the ability to finance the appropriate level of capital expenditure.

The proposed approach to capex incentives

7.5.6 The CAA's proposed approach to capital incentives in its Final Proposals also risks us not being able to deliver sufficient capital investment in H7.

7.5.7 The timing and phasing of our H7 Capital Plan has been based on the capital incentive and governance processes that are in place today. However, the CAA's revised proposals for capital incentives and governance would require us to adjust all our proposed costs and schedules to account for the large increase in activities and consultation that the CAA's proposed process will require.

7.5.8 If the CAA were to proceed with its current proposals on capex incentives and governance, the outcome would be delayed delivery across our H7 capital programmes. This would translate to a delay in the delivery of consumer benefits, as well as a knock on impact to other building blocks (in particular operating costs, commercial revenues and OBR).

7.5.9 Further detail regarding our concerns with the errors in the CAA's proposals on capital incentives and governance can be found in Chapter 8 – Capex Incentives.

The proposed implementation of a H7 capex envelope cap

7.5.10 The proposed cap on the capital envelope in H7 is neither necessary nor appropriate, and demonstrates the CAA's lack of understanding of existing processes.

7.5.11 The current approach to capital governance allows for us to work collaboratively with airlines to manage capital expenditure without the need for a cap – with the level of capital being invested in period ultimately the outcome of a mutual agreement between us and airlines, as would be seen in a competitive market.

7.5.12 The current approach has the benefit of providing us and the airlines with the flexibility to change the size of the capital envelope in response to a constantly evolving context for our respective businesses - this is particularly important to consider in the current highly changeable wider macro environment.

7.5.13 It is also important to note that we have no incentive to increase the capex envelope without airline agreement, and there is already a process in place to escalate to the CAA where agreement with airlines cannot be reached.

7.5.14 The CAA's proposal – with two limited windows in 2024 and 2025 to make a formal application to change the capex envelope – will only serve to introduce complexity and reduce flexibility, making us less able to respond to an ever changing environment to deliver for consumers.

7.5.15 We note the CAA's inclusion of a 5% margin to increase the size of the capital envelope without having to go through a formal application process, which it states as being applicable to new scope, projects and programmes. This in itself adds further complexity, when a more efficient process to increase the size of the envelope already exists.

7.5.16 No rationale has been provided by the CAA for how it has arrived at this 5% figure – including from the perspective of driving consumer benefit – nor are we clear whether the margin includes changes driven by market conditions, such as supply chain risks or construction inflation. Our concerns about this arbitrary approach are magnified by the current wider uncertainty faced in both the aviation and construction sectors.

7.5.17 Further detail regarding our concerns with the CAA's error in proposing a cap on the H7 capex envelope can be found in Chapter 8 – Capex Incentives.

7.6 Response to the CAA's Final Proposals – Our H7 Capital Programmes

7.6.1 This section provides our response to the CAA's Final Proposals, covering the six programmes included in our H7 Capital Plan.

7.6.2 For each programme we provide a summary of the CAA's proposals, set out any concerns we have with the CAA's errors and then provide our updated proposals, which the CAA must consider in advance of its final decision.

Asset Management and Compliance Programme

The CAA's proposals

7.6.3 The CAA has allowed £1715m for the Asset Management and Compliance Programme in its H7 capex baseline, compared to the £1890m included in our RBP Update 2 submission.

7.6.4 We support the CAA's decision to include the majority of the allowance set out in our RBP Update 2 in its baseline, and note its reference to airline support for investments that maintain current assets and deliver safety, security and compliance.

7.6.5 The CAA has arrived at an allowance £175m lower than we included in our RBP Update 2 on the basis of disallowance of:

- one project *"not supported or approved by airlines"* – identified as the *"Pier Service project"*; and
- a deliverability constraint applied in 2026.

7.6.6 The CAA remains concerned about the level of evidence and detail we have provided for the Asset Management and Compliance Programme – particularly for 2022 and 2023.

Concerns with the CAA's proposals

The "Pier Service project" - disallowed by the CAA on the basis of no airline agreement or support - has been agreed by airlines

7.6.7 We sought further clarification from the CAA regarding the 'Pier Service project' on 21st July 2022, with the CAA confirming at a meeting on 27th July that it referred to B7201 in our Asset Management H7 Plan, which represented a total investment value of £4m in H7.

7.6.8 We can confirm that this investment went through airline approval for G3 Development to Core at March 2022 CPB. The meeting slides and minutes to confirm this are included in Appendices 6 and 7.

7.6.9 We note that the G1 estimated actual cost for the project at the time of our Initial Proposals response was c. £4m – but further investigations of the pier 5 and 7 structures since then has shown the extent of works required is less than we had previously made provision for. We have therefore adjusted the G3 estimated actual cost down accordingly for airline approval - this is a good example of the efficiency and flexibility of our current capital governance process.

7.6.10 We also note that excluding this investment from the programme allowance represents an inconsistency between the CAA's OBR target of 95% pier service and its capital investment proposal, as this investment is required to maintain safe operation of the piers.

The CAA's approach to assessing and determining deliverability is not appropriate

7.6.11 The CAA has adopted an incorrect approach to assessing programme deliverability, and the downward adjustment it has made to the programme allowance on the basis of deliverability in 2026 is therefore also incorrect.

7.6.12 We believe the approach taken is clearly incorrect for the following reasons:

- Arcadis have used historic asset management annual investment figures to arrive at a level of H7 annual investment that they consider may be more deliverable. However, this approach makes the error of looking entirely through the lens of historic asset management investment spend as reported in our regulatory accounts – rather than taking into account wider asset management spend, or indeed our total capability as a business to deliver capital investment at any specific point in time.

The below table shows that in Q6, once asset management projects delivered across the entirety of our Q6 capital portfolio are taken into account, the annual asset management run rate is significantly higher than the figures taken from our regulatory accounts that were used by Arcadis in its assessment.

Table 1: Q6 asset management investment

All (£m)	Asset Management (as reported in accounts)	Adjusted Asset Management*	Asset Management projects delivered by other programmes	Total spend on Asset Management
2014 (9 months)	76	71	139	**210**
2014 (pro-rata to 12 months)	101	95	185	**280**
2015	165	165	192	**357**
2016	275	267	195	**462**
2017	242	228	149	**377**
2018	221	213	150	**365**
2019	160	160	131	**291**

**Removing projects which would not feature in the H7 Asset Management & Compliance category*

Source: Heathrow

- Our prioritisation overlay has been developed to fully account for deliverability constraints in H7, recognising and reflecting the more significant constraints to deliverability in the early years of H7 as we ramp-up from the impacts of Covid-19.

- We note Arcadis' view on the Asset Management and Compliance Programme that *"ample time has been allowed for HAL to scale up"* and can confirm that our prioritisation overlay also recognises and reflects an increasing ability to deliver more in the later years of H7 as ramp-up completes and the programme gains momentum.

- The current capital governance framework provides flexibility such that, even in a scenario where we weren't able to invest the full amount in our plan, there would be no costs passed onto consumers for investment that didn't take place.

- Our plan and prioritisation overlay assume starting H7 with the full requested programme allowance, which is key to enabling us to set up our supply chains to scale up and deliver the full programme through H7. This is especially important in the current environment, with the construction sector facing well-documented supply chain challenges – in particular around the availability of labour and materials.

The CAA's concerns around programme detail in 2022 and 2023 are unwarranted

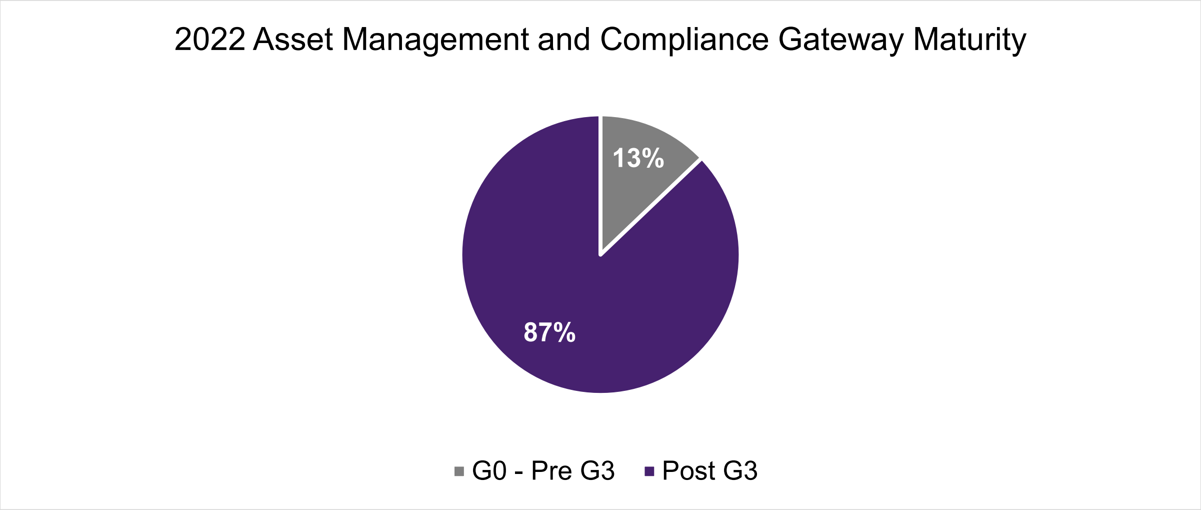
7.6.13 We disagree with the CAA's ongoing concern around the level of detail provided for the Asset Management and Compliance Programme.

7.6.14 We provide below summary charts of Asset Management and Compliance Programme maturity in 2022/2023, showing the high degree of programme maturity in 2022 and 2023.

7.6.15 All forecast investment for 2022 and 2023 is past the G0 gateway, meaning that the current level of detail has been subject to airline review and approval, with the majority of planned investment in both years being post-G3.

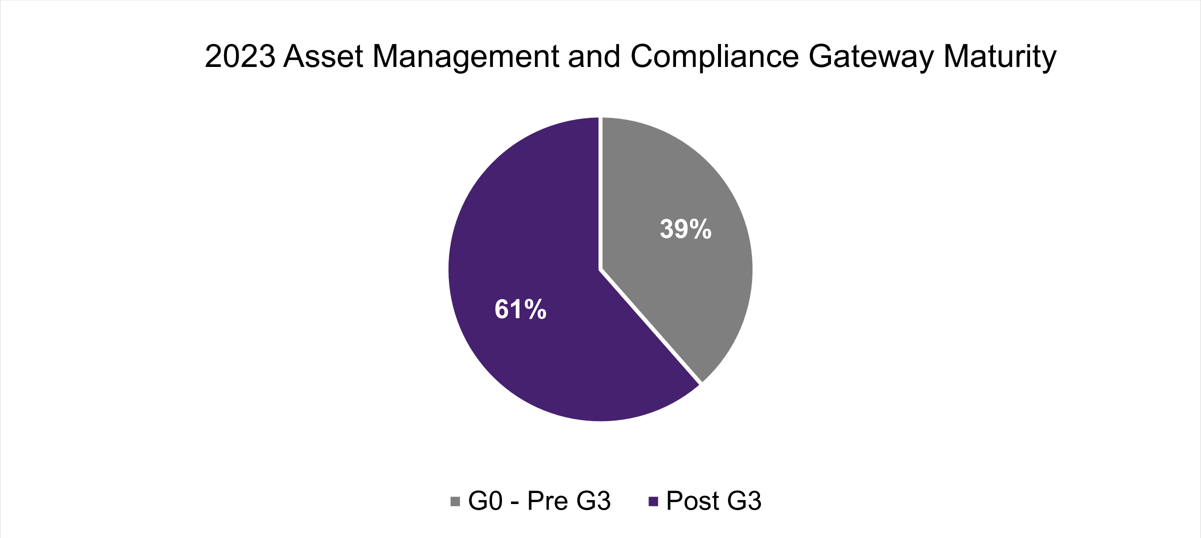
7.6.16 Greater maturity is currently shown for 2022 than 2023, as would be expected, and the plan for 2023 will continue to mature through the remainder of this year.

Figure 1: Asset management and compliance programme maturity - 2022



Source: Heathrow

Figure 2: Asset management and compliance programme maturity - 2023



Source: Heathrow

Heathrow's updated proposals

7.6.17 We continue to include the full £1890m investment for the Asset Management and Compliance in our plan on the basis of:

- Our confidence in the deliverability of the programme;
- the role of the full requested H7 allowance in enabling deliverability;
- the flexibility of our current capital governance process;
- evidenced airline support for B7201, excluded by the CAA in its Final Proposals; and
- the importance of the programme in delivering a safe, secure and reliable airport for consumers and other stakeholders.

7.6.18 In order to ensure that the H7 decision can deliver in the interest of consumers, the CAA needs to correct the errors in its Final Proposals that we have identified in this section, and to include the full allowance as set out in our plan.

Security Programme

The CAA's proposals

7.6.19 The CAA has allowed £825m in its H7 capex baseline, which is equal to the amount we included in our RBP Update 2 submission.

7.6.20 We support the CAA's decision to include the full allowance set out in our RBP Update 2 in its baseline.

7.6.21 This full allocation by the CAA recognises: the significant level of additional programme information and detail provided by Heathrow since December 2021; [✂] ; and the service benefits to consumers and opex efficiencies delivered by the additional investment in the Security Transformation element of the Programme.

7.6.22 We have noted the CAA's reference to concerns amongst airlines relating to control post changes as part of the Security Programme. We continue to engage with the airlines on this matter, as detailed below, and will continue to do as part of our standard project processes.

Heathrow's updated proposals

7.6.23 We are continuing to advance the Security Programme, as per the plan we set out in RBP Update 2.

7.6.24 Since we submitted our response to the CAA's Initial Proposals, we have continued to work with the airlines to progress the Security Programme through the Heathrow Gateway Lifecycle.

7.6.25 The IFS's Programme Management Assessment Criteria (PMAC) assurance report, which is used to assess the readiness of the programme for the P1, gave the below recommendation:

"Given the current and ongoing level of engagement by the Programme Team with the airline community, with the aim of concluding discussions and obtaining agreement in relation to key aspects of the Programme Mandate and Programme Brief (for example, the Objectives, Outcomes, Outputs), and on the basis that the further discussion as identified above is held in advance of the P1 gateway, the IFS considers that (subject to airline agreement and provision of a timebound plan to close out the recommendations included within this PMAC) there is no reason why the Programme should not proceed through the P1 gateway"

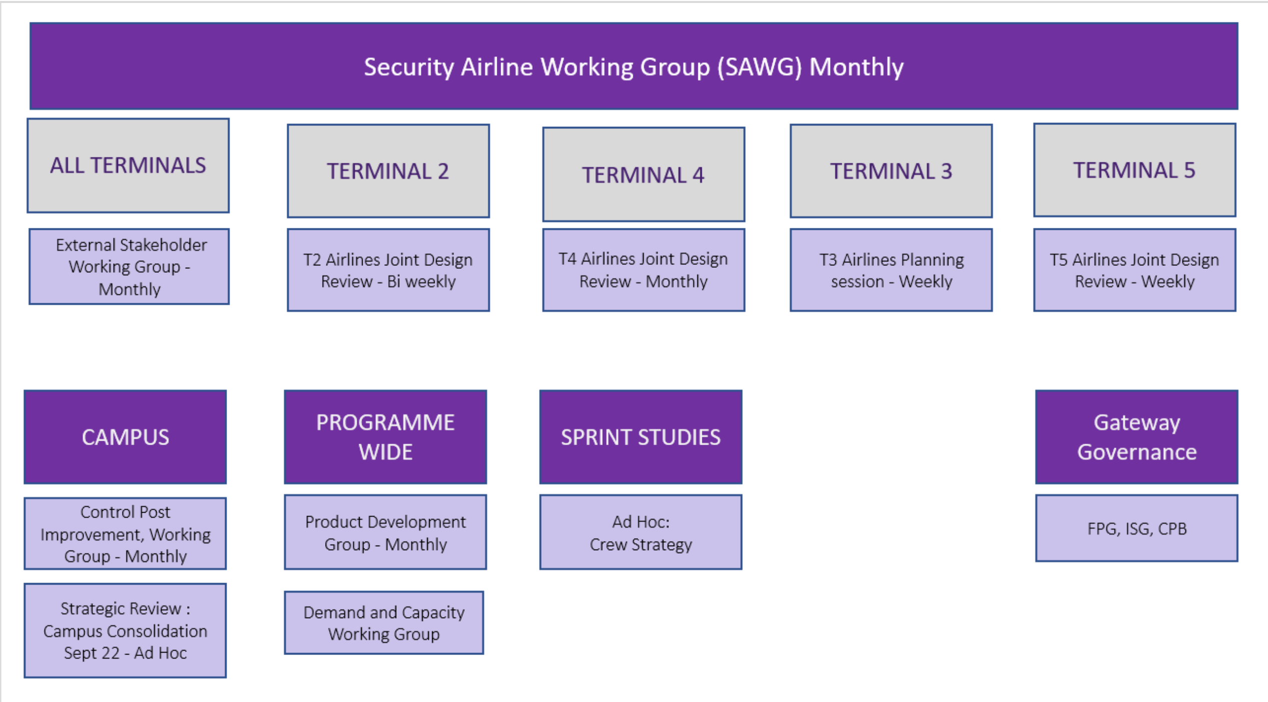
7.6.26 The P1 has been presented to airlines, discussed and acknowledged. The CAA's decision to include the full programme allowance in its Final Proposals has helped to alleviate uncertainty that was concerning the airlines and funds have now been approved to progress to the next stage.

7.6.27 We have a number of airline engagement forums run by the Security Programme Team. The main forum is the Security Airline Working Group, which covers a range of topics, including monthly performance updates.

7.6.28 Additional groups are also scheduled to run on a weekly, fortnightly and monthly basis to discuss detailed location, geographical design issues and programme wide technical scope.

7.6.29 With regards to airline engagement around Campus and control posts, Campus design development is being shared at the Control Post Improvement Working Group.

Figure 3: Security Programme governance forums



Source: Heathrow

7.6.30 Our strategy for control posts is still developing and we will continue to engage closely with airlines on this. The Security Programme Team are planning a number of workshops to take place in September 2022, which will see us conducting deep dive strategic reviews for the campus strategy. We also note recent engagement with airlines on this matter at the Joint Steering Board (JSB).

7.6.31 As set out in Chapter 4 - OBR, we propose retaining the current control post groupings for performance measurement in H7, but agree that this should be reviewed as a result of any changes to control posts through the Security Programme.

T2 Baggage Programme

The CAA's proposals

7.6.32 The CAA has allowed £478m in its H7 capex baseline, which is equal to the amount we included in our RBP Update 2 submission.

7.6.33 We support the CAA's decision to include the full allowance set out in our RBP Update 2 in its baseline.

7.6.34 This full allocation by the CAA recognises: the significant level of additional programme information and detail provided by Heathrow since December 2021; and the importance of addressing the challenges associated with Terminal 2 baggage and the deteriorating condition of Terminal 1 during H7, in order to:

- Protect against an increased frequency of significant failures of the current baggage system – with negative outcomes for consumers and other stakeholders;
- ensure performance and resilience does not degrade below 2019 levels;
- avoid a very large amount of asset replacement in the existing baggage system through into H8, which would ultimately be undeliverable; and
- protect the maintaining of passenger volume processing capacity of Terminal 2 at pre-Covid levels through H7.

Heathrow's updated proposals

7.6.35 We are continuing to advance the T2 Baggage Programme, as per the plan we set out in RBP Update 2.

7.6.36 Since we submitted our response to the CAA's Initial Proposals, we have continued to work with the airlines to progress the T2 Baggage Programme through the Heathrow Gateway Lifecycle.

7.6.37 The IFS's PMAC assurance report, which is used to assess the readiness of the programme for the P1, gave the below recommendation:

"Given the current and ongoing level of engagement by the Programme Team with the airline community with the aim of concluding discussions and obtaining agreement in relation to key aspects of the Programme Mandate and Programme Brief (for example, the SMART targets for the outcomes), and on the basis that the further review of the Programme documentation, as identified above, the IFS considers that (subject to airline agreement and provision of a timebound plan to close out the recommendations included within this PMAC) there is no reason why the Programme should not proceed through the P1 gateway."

7.6.38 The P1 has been presented to airlines, discussed and acknowledged. The CAA's decision to include the full programme allowance in its Final Proposals has helped to alleviate uncertainty that was concerning the airlines and funds have now been approved to progress to the next stage.

7.6.39 We will continue to engage closely with airlines as further clarity emerges on the settlement and as the programme develops. Engagement is currently taking place through the monthly Baggage Portfolio Working Group, which provides a forum to share, discuss and review the T2 Baggage Programme's alignment to the baggage strategy, H7 business plan and the operation.

7.6.40 A dedicated T2 Baggage engagement forum is likely to be set up in future as the programme advances and more extensive engagement that goes beyond the scope of the Baggage Portfolio Working Group is required.

Carbon and Sustainability Programme

The CAA's proposals

7.6.41 The CAA has allowed £207m in its H7 capex baseline, which is equal to the amount we included in our RBP Update 2 submission.

7.6.42 We support the CAA's decision to include the full allowance set out in our RBP Update 2 in its baseline.

7.6.43 This full allocation by the CAA recognises: the significant level of additional programme information and detail provided by Heathrow since December 2021; the criticality of investment in H7 to remain on track to deliver our headline goal of net zero carbon by 2050; and the CAA's need to have regard to the environment in performing its duties.

Heathrow's updated proposals

7.6.44 Since we submitted our response to the CAA's Initial Proposals, we have continued to work with the airlines to progress the programme towards the P1 gateway.

7.6.45 The IFS's PMAC assurance report, which is used to assess the readiness of the programme for the P1, gave the below recommendation:

"Given the current and ongoing level of engagement by the Programme Team with the airline community with the aim of concluding discussions and obtaining agreement in relation to key aspects of the Programme Mandate and Programme Brief (for example, the SMART targets for the outcomes), and on the basis of a further review of the Programme documentation, as identified above, the IFS considers that (subject to airline agreement and provision of a timebound plan to close out the recommendations included within this PMAC) there is no reason why the Programme should not proceed through the P1 gateway."

7.6.46 The P1 has been presented to airlines, discussed and acknowledged. The CAA's decision to include the full programme allowance in its Final Proposals has helped to alleviate uncertainty that was concerning the airlines and funds have now been approved to progress to the next stage.

iH7 Rollover

The CAA's proposals

7.6.47 The CAA has allowed £83m in its H7 capex baseline, compared to the £134m included in our RBP Update 2 submission.

7.6.48 The CAA has arrived at an allowance £51m lower than what was included in our RBP Update 2 on the grounds that *"The T3 and T4 Ramp-Up projects have not been justified as requiring additional capex, and have not been approved by airlines".*

7.6.49 The CAA states that these projects *"are likely to be required by consumers"* but that *"outputs may be deliverable without additional capex".*

Concerns with the CAA's proposals

7.6.50 The CAA has made a factual error in stating that the T3 and T4 Ramp-Up projects have not been approved by airlines - these projects have been approved by airlines through our governance process, and we have included the relevant approvals and minutes from FPG and CPB meetings in Appendices 4 to 13, inclusive.

7.6.51 It should be noted that these files, some of which date back to 2019, have been provided to demonstrate airline agreement and approval of these projects. Due to iH7/H7 phasing changes in advance of us determining the allocation for these projects for RBP Update 2, the investment figures contained within them should be disregarded.

7.6.52 The T3 and T4 Ramp-Up investments have been critical in ensuring additional capacity has been brought back online in time to serve growing demand as Covid-19 travel restrictions have been lifted.

7.6.53 This has been particularly important in 2022, with the faster than anticipated resurgence of demand following the removal of all travel restrictions by the UK Government. Had we waited until this rapid increase in demand had materialised to invest in these projects, we would have been left with severe capacity constraints and would have only been able to cope with a fraction of total demand being served today – with passengers suffering as a result. This also serves to emphasise the wider point around the importance of an approach to capital investment that allows us to plan ahead of time, whilst maintaining flexibility.

7.6.54 The CAA has also suggested that the outputs of the T3/T4 Ramp-Up investments may be deliverable without additional capex. As can be seen from the list of projects included in T3/T4 Ramp-Up below, the investment is entirely focussed on critical infrastructure and systems maintenance and upgrades, which we could not reasonably be expected to deliver through any means other than capital investment.

7.6.55 All the projects listed below have been supported by the airlines and are post-G3.

Table 2: Detail of T3/T4 ramp-up investments in iH7 Rollover

List of T3/T4 Ramp-Up Projects	Detail and associated supporting appendices
B6203.03 Stands 309 311 and Pier 7 Airbridge Replacement	Replacement of airbridges. Required to maintain appropriate levels of pier service. *2309 CPB Minutes v2.0; 2309 CPB Slide Pack v4.0*
B6203.12 T3 UKBF - Phase 1	Unable to maintain UK Border Force area due to failing asbestos cement within the ceiling void. Essential works to clean and make area safe and replace assets, ensuring that UKBF was able to remain open. *1712 CPB Minutes v1; 1712 CPB Slide Pack v3*
B6205.01 T3 BMS (Building Management System)	Scope progressed was to ensure the HVAC fire interface was installed. This ensures that the air handling units switch off during a fire activation. Essential for Life Safety. *2406 FPG Slide Pack v2.0; 2406 FPG Minutes v2.1*
B6205.05 T3 LV Switchboards	Replace end of life LV switchboards, majority of which were 40 years old. Ensures LV assets meet current BS7671 regulations. *1905 CPB Minutes v1; 1905 CPB Slide Pack v2*
B6641.01 Care T3 Arrivals Level Transfer	PRM passengers are having to be transitioned between several modes of transport when arriving on Pier 7. (Several changes between buggy and wheelchair). This project vastly improves the arrivals journey for PRM passenger and reduces the transitions significantly. *2406 FPG Slide Pack v2.0; 2406 FPG Minutes v2.1*
B101 T3 Landside Arrivals Balcony Refurbishment	Essential safety works on the T3 Landside Arrivals Balcony including fire detection, fire compartmentation, asbestos removal and structural bulkhead replacement. *2406 FPG Slide Pack v2.0; 2406 FPG Minutes v2.1*
B6201 T4 Fire Safety Systems	Remediation works to smoke ventilation, providing access to dampers and installation of a fire microphone. Life Safety works to ensure the terminal functions in line with the fire strategy and help prevent risk to passengers and colleagues during a fire. *2204 FPG Minutes v1.0; 2204 FPG Slide Pack v3.0*
B6203.07 T4 Toilets Renewal	Toilets had been stripped out prior to Covid-19 stop. Works to bring toilets back into operation prior to the terminal reopening to passengers. *2204 FPG Minutes v1.0; 2204 FPG Slide Pack v3.0*

Source: Heathrow

7.6.56 On the basis of the above points, it is clear that the CAA has erred in not including the T3 and T4 Ramp-Up projects that form part of our iH7 Rollover allowance in its baseline on the basis that these have not been approved by airlines, which is not the case. This is discussed in more at [section F2] of the Legal Annex.

Heathrow's updated proposals

7.6.57 We continue to include the full £134m investment for iH7 Rollover in our plan on the basis of:

- Airline agreement to and approval of all the included projects;
- the importance of investments in Terminals 3 and 4 ahead of time to achieve safe and compliant re-opening in line with increasing passenger demand;
- the clear need for capital investment to deliver the required outputs for Terminal 3 and 4 re-opening.

7.6.58 In order to ensure that the H7 decision can deliver in the interest of consumers, the CAA needs to correct the errors in its Final Proposals that we have identified in this section, and include the full allowance as set out in our plan.

Commercial Revenue Programme

The CAA's proposals

7.6.59 The CAA has allowed £157m for the Commercial Revenue Programme in its H7 capex baseline, compared to the £546m included in our RBP Update 2 submission. This leaves a delta of £388m between our H7 Capital Plan and the CAA's Final Proposals.

7.6.60 We provided a significant level of additional programme detail as part of our response to the CAA's Initial Proposals and through CAA engagement in H1 2022. This included more granular project level information across all elements of the programme – providing detail around project scope, consumer benefits, approach to cost estimation, and payback periods. We are pleased that the CAA has noted the substantive new information we have provided in advance of its Final Proposals.

Concerns with the CAA's proposals

7.6.61 Whilst we support the CAA's inclusion of the £157m investment allowance in its Final Proposals, having provided no allowance for the programme in its Initial Proposals, this still falls significantly short of the £546m of investment we submit is appropriate for the Commercial Revenue Programme in H7.

7.6.62 We note, as we have in previous submissions to the CAA, that our commercial revenue forecasts for H7 are fully integrated with our H7 Capital Plan. Our commercial revenue forecasts therefore assume full £546m investment in our Commercial Revenue Programme, with the corresponding levels of revenue protection and incremental revenue generation. Any reduction to programme investment would require commercial revenue forecasts to be adjusted downwards.

7.6.63 Our key concerns with the CAA's approach to assessing the programme are:

- Its short term view with regards to payback of commercial investments, prioritising the short-term charge in H7 and disregarding longer term affordability;

- its failure to adequately consider the wider consumer and stakeholder benefits delivered by the programme; and

- its undermining of the basic principle of economic regulation.

7.6.64 We provide more detailed commentary around our concerns below, and also refer the CAA to an independent report from Frontier Economics, which provides their commentary on the CAA's approach to commercial capex assessment (see Appendix 29). This is also discussed at section F2 of the Legal Annex.

The CAA's erroneous approach to payback periods prioritises the short term charge over longer term affordability

7.6.65 The main driver for the CAA in determining its allowance has been to only allow for commercial investments that pay back within the H7 period in its £3.6bn baseline.

7.6.66 In its Final Proposals, the CAA states that *"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, either through protecting existing sources of revenue or through generating incremental revenues within a single control period."*

7.6.67 We sought further clarification from the CAA on 8th July 2022 regarding its approach to assessing commercial investment for H7, to which it provided the following response: *'Our assessment was based on HAL's own analysis of those projects expected to payback within 5 years (and hence have a strong commercial business case), or are required to protect commercial revenues."*

7.6.68 Our subsequent analysis of the CAA's Final Proposals suggests the CAA has filtered the list of commercial projects we provided through H1 2022 engagement to include only projects paying back within five years to arrive at its baseline allowance.

7.6.69 In taking this approach, the CAA has made a material error in focussing on reducing the airport charge in the short-term – preventing any long term commercial investment enabling a longer term reduction in pressure on the airport charge, as well as significantly reducing our ability to make crucial longer term investments in areas such as property.

7.6.70 Below we include our latest view of the Commercial Revenue Programme financials, which show the significant incremental and protected revenue associated with our full investment - reducing pressure on the airport charge in both H7 and H8. A more detailed project breakdown is provided in Appendix 28.

Table 3: H7 Commercial Revenue Programme investment, with H7/H8 revenues and payback based on H7 only

Commercial Capex (2020 CPI £m)	H7 Capex	Incremental Revenue		Protection Revenue		Payback
	H7	H7	H8	H7	H8	H7 Only
Agile Fund/Contingency	5.2					
Retail & Media - Development	228.9					
Surface Access	35.8					
Digital & Data Transformation	67.8			[✂]		
Cargo	29.7					
Property - Development	178.2					
Total	**545.5**					

Source: Heathrow

7.6.71 Excluding all H7 commercial investments that do not pay back within the five year price control – as per the CAA's approach in its Final Proposals – results in the significant loss of protected and incremental revenue across H7 and H8, and a resulting upwards pressure on the airport charge:

Table 4: H7 / H8 revenue loss resulting from the CAA's in-period payback approach

(2020 CPI £m)	Protection Revenue Lost	Incremental Revenue Lost	Total Revenue Lost
H7			
H8		[✂]	
Total H7 and H8			

Source: Heathrow

7.6.72 The CAA's approach also makes the error of disregarding the fact that investments may still make a net contribution to the single till in-period, even if they do not fully pay back the total investment outlay. Incremental revenues associated with a particular project may be greater than the annualised costs (i.e. depreciation plus return on assets), thereby making a positive contribution to the single till and enabling a lower airport charge in-period.-

7.6.73 We demonstrate this below, showing the positive net impact on the single till of the Commercial Revenue Programme as a whole in H7, as well as the specific example of Eastern Business Park, which sits within our proposed property investments.

Table 5: Net impact of the Commercial Revenue Programme on the H7 single till

Commercial Programme £'m 2020 CPI	2022	2023	2024	2025	2026	H7
Capital	64.1	130.1	132.1	124.4	94.9	545.5

Commercial Programme £'m 2020 CPI	2022	2023	2024	2025	2026	H7
Revenue Incremental	[✂]					
Revenue Protection						
Depreciation						
WACC - 8.5%						

Net Impact to H7 Single Till	[✂]

Source: Heathrow

Table 6: Net impact of the Eastern Business Park investment on the H7 single till

Eastern Business Park £'m 2020 CPI	2022	2023	2024	2025	2026	H7
Capital Expenditure	0.3	5.1	5.9			11.3

Eastern Business Park £'m 2020 CPI	2022	2023	2024	2025	2026	H7
Revenue Incremental	[✂]					
Revenue Protection						
Depreciation						
WACC - 8.5%						

Net Impact to H7 Single Till	[✂]

Source: Heathrow

The CAA's approach fails to consider wider outcomes for consumers and other stakeholders

7.6.74 Whilst a key objective of the Commercial Revenue Programme is to protect and drive incremental revenues, clearly reflected in the programme's nomenclature, it equally seeks to deliver wider positive consumer outcomes – as is the case with the rest of our H7 capital programmes.

7.6.75 The CAA's states in its Final Proposals that *"project-level analysis identified and assessed projects which should benefit consumers".*

7.6.76 However, the CAA's current approach to assessment of the Commercial Revenue Programme suggests that it sees the programme's sole purpose as protecting and generating revenue, and equates consumer benefit delivered by the programme entirely with a narrow view on the timing of financial returns.

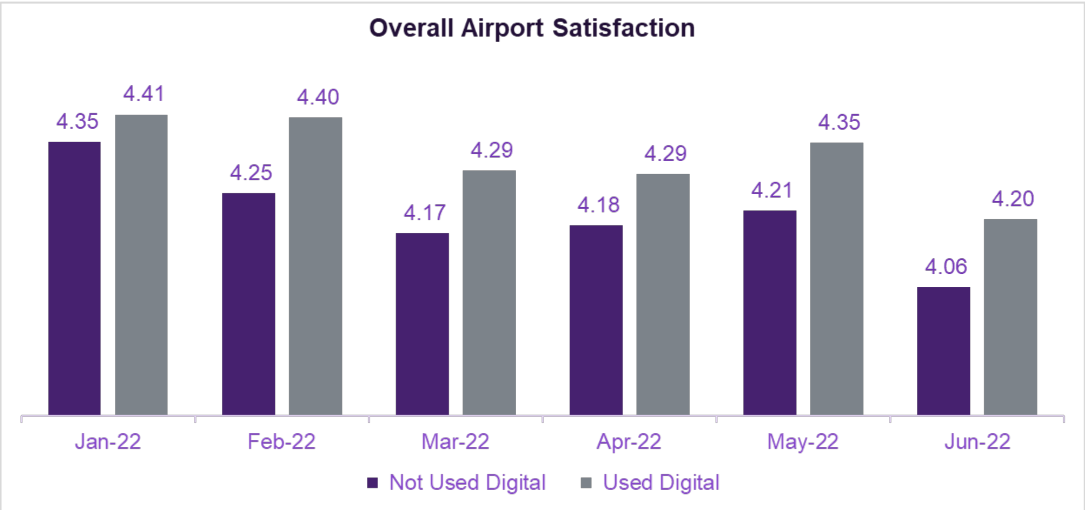
7.6.77 In taking this approach, and by failing to consider wider outcomes of the programme, the CAA is failing against its duty to both current and future consumers.

7.6.78 We know from our extensive consumer insights that the wider benefits of our proposed investments (i.e. those other than revenue protection and generation) would be valued by consumers and enhance their experience travelling through Heathrow.

7.6.79 63% of consumers state that ease of getting to and from the airport impacts their airport choice[1]. We have identified that finding and navigating Heathrow's current range of car parks represents barrier to usage, impacting the OBR measure for ease of access to the airport. In order to meet this OBR target we therefore need make targeted capital investments in our current car park proposition.

7.6.80 The 12% of departing passengers who currently engage with Heathrow through our commercial digital channels on their day of travel have significantly higher levels of overall satisfaction than those that don't currently engage. By improving the quantity and quality of the commercial digital proposition, we will drive a higher percentage of future users and thereby drive improvement in overall satisfaction.

Figure 4: Overall satisfaction scores - digital users vs not using Digital



Source: Heathrow Departures QSM

7.6.81 87% of consumers would like to be able to purchase from a wider range of brands than are currently available at Heathrow[2]. Without the proposed investments in both physical and digital retail we will not be able to meet this demand, failing to maximise

[1] Savanta, Heathrow Travel Behaviours Survey, July 2022
[2] Join the Dots, Insights Heathrow Future of Online Retail Report, November 2018

our future revenues, whilst also not meeting consumer needs and expectations around airport retail.

7.6.82 For 35% of passengers, improving the range of rest, relaxation and entertainment experiences is the most important commercial category to improve to better meet their needs and improve their levels of satisfaction[3] To meet this demand we need to invest in our existing terminal infrastructure, as well as developing our wider property estate.

7.6.83 Frontier Economics note in their independent review of the CAA's Final Proposals for OBR that many of our commercial capex investments are aimed at enhancing the retail experience – but that *"the CAA appears to have ignored these consideration and therefore missed an opportunity to encourage commercial capex that delivers better service for consumers"[4].*

7.6.84 Amongst cargo users, the lowest levels of satisfaction[5] currently exist around:

- Queuing time at sheds (3.1 out of 10)
- Ease of access to landside cargo estates for HGV drivers (3.1 out of 10)
- Availability of parking spaces for all vehicles landside (2.7 out of 10)
- Ability of operation to cope with volumes at peak (2.7 out of 10)
- Facilities provided for drivers rest areas, toilets, catering (2.3 out of 10)

Our proposed capital investments in H7 will help to solve these priority service issues, improving cargo community satisfaction.

7.6.85 Engagement with other stakeholders, including local community groups, has also demonstrated support for investments within the Commercial Revenue Programme. For example, our engagement through the Heathrow Strategic Planning Group (HSPG) has shown our proposed investment in cargo redevelopment to be a priority for the local community. This is on the basis of the wider benefits the investment delivers, including reducing traffic congestion on roads around the airport, as well as enhanced safety.

7.6.86 We also note that, in overlooking the wider consumer and stakeholder benefits delivered by Commercial Revenue Programme investments, the CAA's approach to assessing the programme is inconsistent with its approach to assessing other capital expenditure programmes.

7.6.87 It is also inconsistent with the CAA's approach to determining commercial investment for previous price controls, thereby creating a disparity between H7 and earlier price controls.

7.6.88 This will be particularly to the detriment of future consumers, who will not benefit from longer term commercial investments that would be made in H7 in the same way that consumers in H7 will benefit from longer term commercial investments funded by

[3] Truth Consulting, Space Desirability Analysis Report, February 2019
[4] Frontier Economics, H7 Final Proposals on Outcome-Based Regulation, July 2022
[5] Firebrand, Cargo Community Satisfaction Research, 2018

consumers in Q6 and earlier price controls. There is no rational basis for the prioritisation of current consumer over future consumers.

Property Case Study: the CAA's current approach to assessing commercial expenditure based on in-period payback excludes the majority of property investment – with resulting long term negative consequences for Heathrow, our consumers and other stakeholders.

Heathrow's property estate has been in decline – resulting in missed opportunities presented by a thriving local market, lost ground on our international competitors, and worsening financial resilience and stakeholder outcomes.

No new revenue generating assets have been developed by Heathrow for the last sixteen years, as a result of a regulatory framework that hasn't supported investment, and against a backdrop of a strong local property market that presents significant opportunity for property development.

Table 7: Heathrow's annual property revenues, 2014 – 2021

2014	2015	2016	2017	2018	2019	2020	2021
127	132	137	137	135	135	128	112

Source: Heathrow

Heathrow has the second highest prime logistic rents in the London market, which have increased from £15 per sq. ft in 2017, to £25 per sq. ft. in 2022 – the figure has grown 22% in the last year alone and is now expected to tail off and remain steady for the remainder of 2022 and beyond[6].

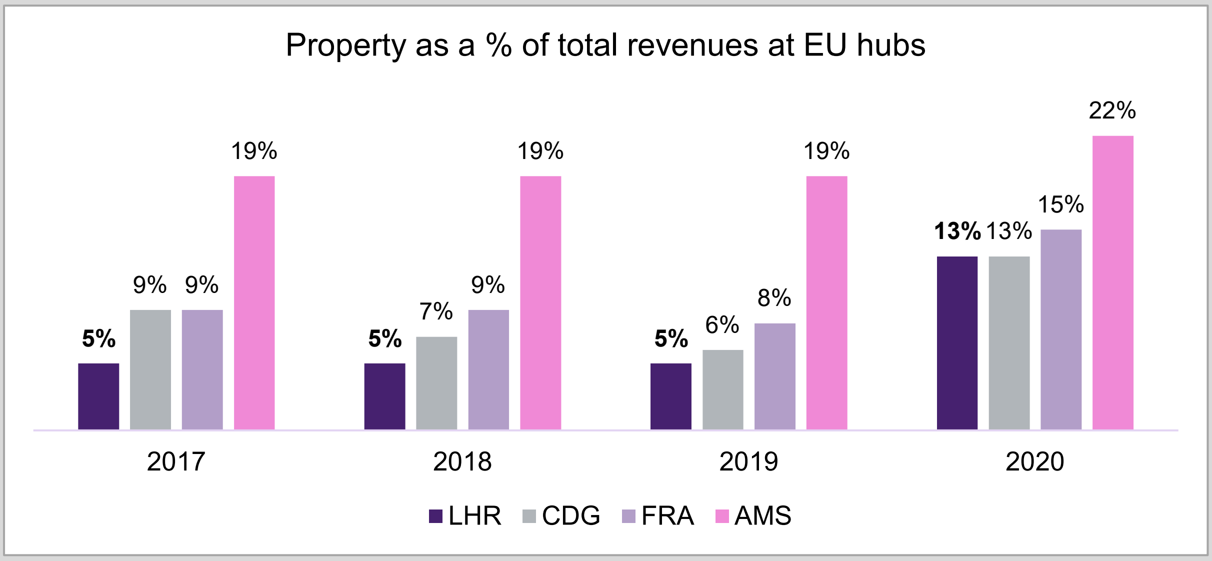
A recent internal review of nineteen buildings that are either part or totally mothballed has highlighted the impact of our lack of ability to invest, and the resulting decline in revenue generation. We examined total available space across these assets against current actual use, which showed that [✂]. Assuming a blended rate of [✂] across these assets leads to a conservative estimate of [✂] annual revenues.

Meanwhile, and in contrast, other leading hub airports have been able to take advantage of investing in enhanced property offerings, which has seen them:

- increasing and diversifying their revenues – strengthening their financial position and making them more resilient to downturns in air travel, with their property estates less elastic to changing passenger demand;
- developing estates that are far more in keeping with their status as leading international travel hubs;
- offering an airport proposition that is better able to deliver against the needs of their consumers (including cargo), partners, and local communities through the provision of accessible, attractive, diverse and engaging property developments.

[6] Gerald Eve – Prime Logistics, The definitive guide to the UK's distribution property market, July 2022

Figure 5: Comparison of property revenues as a percentage of total revenues at EU hubs



Sources: Airport annual reports

Commercial benchmarking carried out by Pragma Consulting in 2019[7] highlighted the weakness of Heathrow's property proposition compared to other hub airports, and noted the role of regulation in enabling airports to invest in and yield the significant benefits of a competitive property estate - *"Other key competitors such as Amsterdam Schiphol take a direct interest in property and develop assets, which benefits their revenue position compared to Heathrow's where the current regulatory model does not incentivise development"*
Without a supportive regulatory framework we cannot deliver this investment, which would further the interests of current and future users of airport operation services through better facilities and a more efficient Heathrow.

Failure to invest in our property estate in H7 will result in non-compliance, higher charges for consumers as a result of loss of existing revenues and higher operating costs, and reputational damage for our business.

In 2015, the UK Government introduced minimum energy efficiency standards (MEES) to improve the worst performing buildings, both domestic and non-domestic. In 2019, the Government further consulted on proposals that would tighten the non-domestic MEES to set a long term target of an Energy Performance Certificate (EPC) rating of 'C' by 2030, or the highest EPC band a cost-effective package of measures could reach.

The Government is taking a staged approach to MEES, starting in 2023. From then, buildings that don't achieve a minimum EPC rating of F/G will not be lettable to third party tenants without penalty payments being imposed on the landlord. By 2027 all buildings must achieve a minimum rating of D/E in order to remain lettable, and all buildings must be at least band C by 2030.

We currently have multiple revenue generating property assets at Heathrow sitting in bands D and E, which generate [✂] in revenues annually. Without future investment, these will become uncompliant with the Government's MEES – and therefore unlettable.

There would be a significant financial impact to Heathrow if these assets became unlettable – with all revenue associated with the lease of these assets being lost, which will be further compounded by us incurring additional opex liabilities in the form of property rates (which must

[7] Pragma, Heathrow Airport Limited Commercial Benchmarking 2019, November 2019 (submitted as Appendix 35 of Heathrow's December 2020 RBP)

be paid by the landlord wherever units are left unoccupied). This is not economical or efficient – nor is it what would be expected from a commercial organisation operating in a competitive market, which would clearly be incentivised to invest in redevelopment. The resulting lower revenues and higher operating costs will ultimately be passed through to the consumer in the form of a higher airport charge.

In addition to the financial impact, our Team Heathrow partners currently occupying these spaces will be forced to vacate them. This is of particular concern given the constraints we already face today with regards to property space available for operational use, and the potential knock on impact to the wider airport operation if suitable alternative accommodation cannot be found for these partners.

D'Albiac House, dating back to the 1960s, provides a good example of a key property asset that is occupied by a range of critical Team Heathrow partners, and which risks becoming unlettable without significant investment in H7 – both on the basis of its energy performance, and also wider building standards compliance issues. It generates [✂] revenue per annum and its EPC expires in June 2027, further reaffirming the need for investment in H7.

Figure 6: D'Albiac House, Heathrow Central Terminal Area

Source: Heathrow

We also risk negative reputational impacts as a result of this potential non-compliance. Having a significant proportion of our future estate that is unusable of the basis of unacceptable energy inefficiency is: 1) clearly not compatible with our position as a leading global hub airport and 2) in complete contradiction to the position we have taken as a leader for sustainability in the aviation sector, spearheading the industry's transition to net zero carbon by 2050. It is also at odds with the CAA's need to have regard to the environment in performing its duties under the Civil Aviation Act.

New development is the only option to increase property revenues in the future

Heathrow is capacity constrained, and there is virtually no headroom to increase our property revenues from the existing estate. Therefore, any future increase in property revenues will need to be driven by new developments.

Car parking is a prime example of where future investment in redeveloping the existing estate would allow us to generate far higher revenues from the existing footprint. We currently have in excess of 130 acres of single surface parking around the airport perimeter, which represents a highly inefficient use of land that, with the right investment, could be generating a far higher return.

There is the potential to optimise and intensify our parking facilities, either through improving and optimising the current offering, or through replacing with multi-storey parking developments. The latter would serve to free up a significant amount of land, which could then be redeveloped and used for higher value activity, such industrial / logistics. To give an indication of the potential value of such redevelopment – we believe that optimising and intensifying our parking estate could release sufficient land to build at least 500,000 sq. ft. of industrial space in the first phase. Based on current market rates, this new development would generate additional revenues of circa. £12.5m per annum (less build costs).

Sanctuary Road is an example of an opportunity to optimise an existing car parking offering from both a capacity and quality perspective in H7. Significant areas of the site are currently covered in thick vegetation – clearing and repaving would provide additional capacity for valet parking with additional ancillary development, thereby generating additional revenues. Alternatively, the entire site could be comprehensively redeveloped for commercial roadside EV charging use, with adjoining light industrial use.

Figure 7: Sanctuary Road

Source: Heathrow

The CAA's current approach to determining commercial capital investment ultimately undermines the principle of economic regulation

7.6.89 Whilst economic regulation is intended to mimic the outcomes that would be expected in a competitive market, the CAA's erroneous approach of focussing narrowly on in-period payback effectively results in Heathrow not being able to replicate competitive market behaviour[8].

7.6.90 An airport operating in a competitive market would seek to invest to:

[8] Also discussed at Section F2 of the Legal Annex.

- maximise profits from their non-aeronautical commercial operations, with a view to lowering airport charges in the long term in order to increase its market share; and
- deliver a commercial product that consumers valued, enhancing their experience and making them more likely choose to fly from that particular airport over its competitors.

7.6.91 In this competitive market scenario, it would not be rational for an airport to apply an in-period payback rule when determining its commercial capex investment, as the CAA has done in its Final Proposals.

Heathrow's updated proposals

7.6.92 We continue to include the full £546m investment for the Commercial Revenue Programme in our plan on the basis of:

- The financial return of the investments, protecting and generating revenue in H7 and subsequent periods, reducing pressure on the airport charge in the long-term;
- the wider consumer and other stakeholder benefits that will be delivered by our investments; and
- the strategic importance to our business of our investments.

7.6.93 Accordingly, the CAA needs to review its position and take more balanced, longer-term view of commercial investment that will better enable it to fulfil its duty to current and future consumers.

7.6.94 Crucially, this means looking beyond in-period payback when setting the Commercial Revenue Programme allowance in its Final Determination – with a view to including all commercial investments as the 'Type 2' project categorisation.

Efficient Airport Programme

The CAA's proposals

7.6.95 The CAA has allowed £48m in its H7 capex baseline, compared to the £347m included in our RBP Update 2 submission. This leaves a delta of £299m between our H7 Capital Plan and the CAA's Final Proposals.

7.6.96 The CAA states in its Final Proposals that we had provided *"very limited evidence on individual projects*" within the Efficient Airport Programme, but also notes that the lack of detail and maturity is not necessarily unexpected, *"particularly where programmes focus on expenditure required later in H7".*

7.6.97 Only the Compass Centre Exit project was deemed by the CAA to be appropriate to include in its £3.6bn capex baseline.

7.6.98 The CAA has included a significant number of the Efficient Airport Programme investments in its 'Type 4' capital categorisation, meaning the CAA have deemed these investments as not required by airlines or consumers in H7.

7.6.99 The remaining programme investments have been categorised as 'Type 3', meaning the CAA have deemed they *may* be required by airlines or consumers in H7 but aren't included in the CAA's £3.6bn baseline.

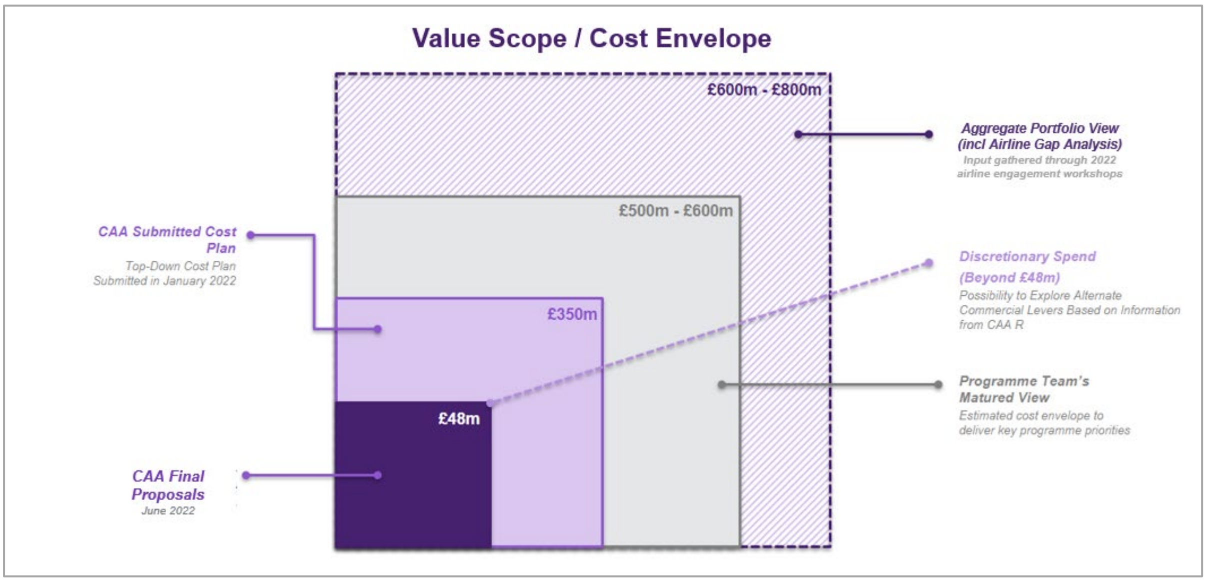
Concerns with the CAA's proposals

7.6.100 Whilst we support the CAA's inclusion of the £48m investment allowance in its Final Proposals, having previously included no allowance for the programme in its Initial Proposals, this still falls significantly short of the £347m of investment that is appropriate for the Efficient Airport Programme in H7. This omission is a material error in the CAA's Final Proposals.

7.6.101 The programme will deliver a range of projects that will help to drive efficiencies across Team Heathrow, and we know from engagement with airlines that there are a significant number of projects within the programme that are on their H7 requirement lists.

7.6.102 Indeed, the total demand identified for the programme, including our airline gap analysis, currently stands at c. £804m – with the £347m investment included in our plan representing a prioritise Ad list of what is deliverable in H7.

Figure 8: Efficient Airport Programme value scope / cost envelope summary view



Source: Heathrow

7.6.103 The programme will also deliver significant benefits for consumers, including Passengers Requiring Support. Investments, including passenger process automation and service initiatives, have been prioritised based on our extensive consumer insights.

7.6.104 Finally, there is a clear contradiction between the CAA's proposed Efficient Airport allowance and its proposals on OBR.

7.6.105 We provide more detail around each of our concerns below. This error is also discussed at section F2 of the Legal Annex.

The CAA's failure to recognise the need and support of consumers and airlines for Efficient Airport investments in H7 (excluding PRS improvements – see next section)

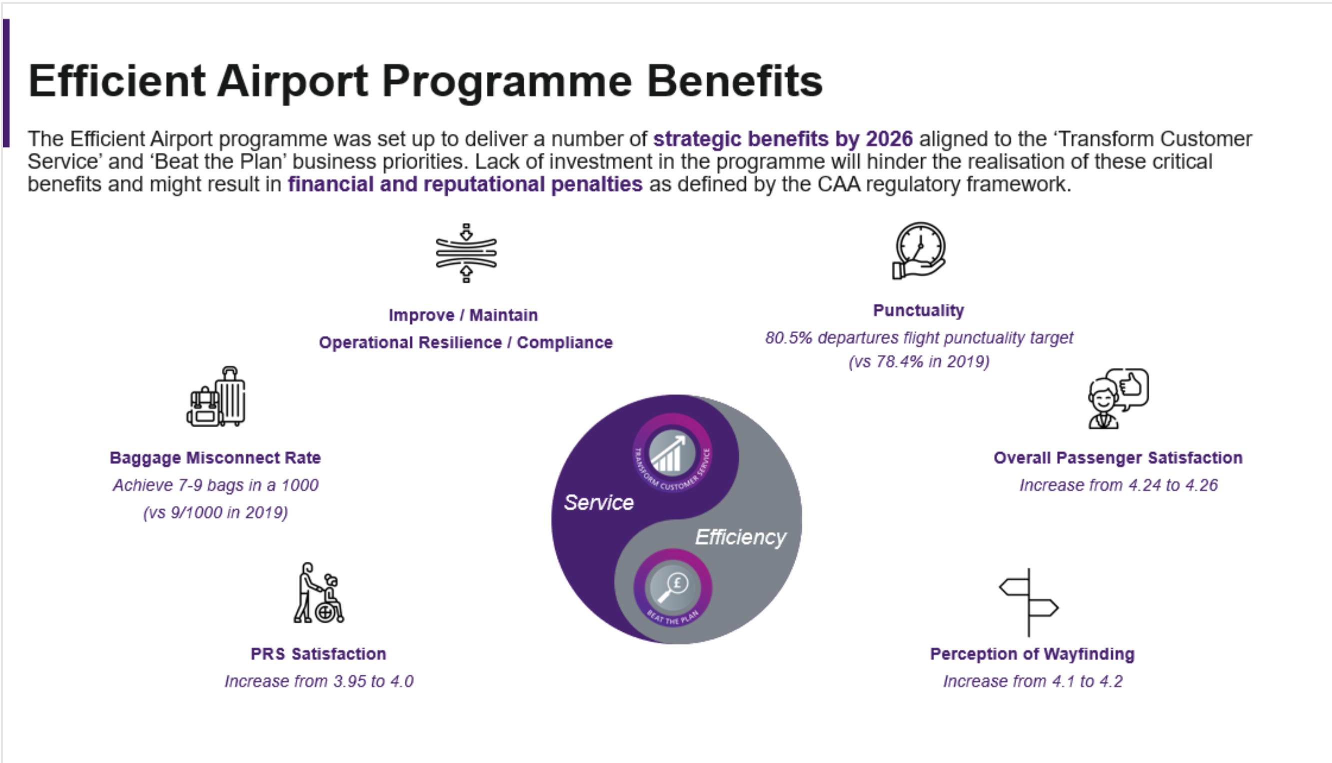
7.6.106 In our response to the CAA's Initial Proposals, we set out the background and rationale for investment in the Efficient Airport Programme, which was focussed on delivering positive outcomes – including efficiencies – for both consumers and our Team Heathrow partners.

7.6.107 We also noted that a failure to invest in the Efficient Airport Programme would risk:

- Not being able to take advantage of opportunities for us to operate more efficiently, including driving down operating costs for our Team Heathrow partners (in particular airlines).

- Passengers not benefitting from the increased levels of service that the initiatives in the programme would offer – and which we know from our consumer insights that they would value. The impacts to our OBR measures of a failure to invest in our Efficient Airport initiatives are set out in the diagram below:

Figure 9: Efficient Airport Programme service impacts



Source: Heathrow

7.6.108 The CAA has split the vast majority of our proposed Efficient Airport Programme investment between its 'Type 3' and 'Type 4' categorisation, based on its structured needs assessment. Projects in these categories are not included in the CAA's H7 capex baseline.

7.6.109 We provide a summary of projects by these categorisations below, along with the CAA definitions of the 'Type 3' and 'Type 4' categories:

Table 8: CAA categorisation of Efficient Airport projects

'Type 3' Structured Needs Assessment Categorisation	**'Type 4' Structured Needs Assessment Categorisation**
CAA definition: ***Discretionary – "may be required by airlines or consumers in H7"***	**CAA definition:** ***"not required by airlines or consumers in H7"***

Projects included:
- Terminal Capacity Optimisation (Western Campus Connectivity)
- Service Initiatives
    - *Border improvements*
    - *Seating & charging*
    - *Digital wayfinding*
    - *PRS improvements*
	Projects included:
	- Airfield Optimisation
	- Baggage Optimisation
	- Passenger Process Automation

Source: CAA Final Proposals

7.6.110 The categorisation of any projects in the programme as Type 4 by the CAA in its Final Proposals is incorrect, as are a significant number of the CAA's Type 3 categorisations. There is clear airline and consumer evidence for a large number of Efficient Airport projects to be re-categorised, on the basis of the CAA's own category definitions.

7.6.111 We have carried out a detailed review of all projects within the Efficient Airport Programme portfolio, adopting the below rationale for re-categorisation:

Table 9: Heathrow re-categorisation of Efficient Airport projects

CAA Capex Type Category	Efficient Airport projects included
Type 1	• No Efficient Airport projects are eligible for this category.
Type 2	• Compass Centre (as per the CAA's Final Proposals) • Efficient Airport projects that have already started to progress through the Heathrow Gateway Lifecycle with airline support. • Projects that have been included on airline H7 requirement lists and are phased to start delivery in the earlier years of H7. • Projects required to deliver on CAA OBR proposals for H7 • *The vast majority of projects related to PRS – see next section.*
Type 3	• Efficient Airport Projects, including those on airline requirements lists, that are at an earlier stage of maturity and are phased to begin delivery later in H7.
Type 4	• No Efficient Airport projects should be in this category.

Source: Heathrow

7.6.112 Further detail behind our rationale for re-categorisation is provided below:

<u>Type 1</u>

7.6.113 Although they deliver significant consumer and operating efficiency benefits, Efficient Airport projects are not 'essential' to the ongoing operation of the airport in H7 and will be progressed through the Development and Core process. On this basis they should not be included in the Type 1 category.

<u>Type 2</u>

7.6.114 Investments included in the programme have been informed by extensive consumer insights, which indicate that they are likely, or at the very least *may* be required by consumers in H7. We therefore consider that all Efficient Airport investments should qualify for Type 2 (and in some cases Type 3) categorisation purely based on consumer need.

7.6.115 From the airline perspective, a number of Efficient Airport projects have progressed through the Heathrow Gateway Lifecycle, both pre and post-Covid, and therefore have been subject to airline approval.

Table 10: [✂]

[✂]

Source: Heathrow

7.6.116 Further details of these projects and their approval through the Gateway Lifecycle are included in Appendices 16 to 23, inclusive. A summary of this evidence is also provided in Appendix 26.

7.6.117 This demonstrates clear airline support for these investments taking place in H7, which therefore means that they are 'likely to be required by airlines in H7' and should sit in Type 2.

7.6.118 Furthermore, in our response to the CAA's Initial Proposals, we stated that automation in particular remains an airline priority for H7 – evidenced through our ongoing engagement with the airlines and airline responses to previous CAA consultations – and that we had continued to take this into consideration in developing the Efficient Airport Programme.

7.6.119 Since submitting our response to the CAA's Initial Proposals, our ongoing airline engagement has re-confirmed that there is a high degree of alignment between many of the projects in the Efficient Airport Programme and airline investment requirements for H7. Further detail around our airline engagement and airline gap analysis is provided in Appendix 25.

7.6.120 We have categorised these projects with clear airline support as Type 2, where they are at an appropriate stage of maturity and are phased for delivery earlier in H7.

<u>Type 3</u>

7.6.121 We have included a number of investments in the Type 3 category on the basis of lesser maturity and delivery being phased later in H7 – although we maintain our view that these investments are equally as in consumer and airline interests as those projects we have categorised as Type 2.

Type 4

7.6.122 As with all of our H7 Capital Programmes, our proposed investment in the Efficient Airport Programme is grounded in extensive consumer insight and evaluation of consumer need and consumer benefits delivered by the included investments.

7.6.123 We have prioritised investments in projects that deliver outcomes our consumer insights have indicated are likely to be required by consumers in H7.

7.6.124 We have also engaged with airlines to understand their needs from the programme for H7, and have reflected these in our programme prioritisation.

7.6.125 The CAA's inclusion of any Efficient Airport Programme investments in the Type 4 categorisation on the basis that they are '*not required by airlines or consumers in H7*' is therefore incorrect.

7.6.126 The output of our assessment leads to the following revised categorisations of Efficient Airport projects (including PRS improvements, which are covered in further detail in the next section):

Table 11: Summary of Efficient Airport projects (with Heathrow type re-categorisation)

Capital Type (Heathrow categorisation)	Area of focus	H7 2020 CPI	Consumer Impact
Type 2	Airfield	57.8	> Helps meet H7 punctuality target and improve airport arrivals management by automating the process, enabling consumers to disembark aircraft in a more timely manner. > Supports reducing carbon footprint by enabling the latest fleet developments to land at Heathrow.
Type 2	Automation	54.4	> Improve the ease of passengers' journey through Heathrow by delivering a better understanding of flow and being able to manage expectations so that passengers are aware of how long they will wait in advance. > Helps meet immigration queue times and perception of wayfinding. Immigration is one area Heathrow tracks well behind our European competitors and this spend helps us to deliver against the Home Office's Future Border Strategy, as published 20th July 2022. > Allows Heathrow to meet passengers' needs anywhere along their journey, even if a colleague isn't present, by providing help and support through digital devices. > Supports in making sure passengers are more informed about what to expect from their journey, making it more predictable and reliable. > Support meeting the OBR target around availability of check-in infrastructure. > Supports meeting the higher OBR target for wayfinding, by improving physical wayfinding points through the airport.
Type 2	Baggage	71.6	> Helps improve baggage misconnect rates.
Type 2	Compass	48.8	
Type 2	Ops Planning	27.2	> Improve the ease of passengers' journey through Heathrow by delivering a better understanding of flow and being able to manage expectations, so that passengers are aware of how long they will wait in advance.
Type 2	PRS	53.9	> Ensures that Assistance service users (PRM) in T4 can have an uninterpreted journey from their plane to baggage reclaim. > Helps meet the extra demand for Assistance Services (PRM) at Heathrow by being able to provide a more predictable and reliable experience and reducing waiting times for equipment to become available. > Supports meeting the higher OBR target for Wayfinding, by improving physical wayfinding through the airport. > Required to keep up with increased demand for Assistance Services (PRM) and help Heathrow meet the CAA guidance on PRMs published in July 2022 > Improves the security experience and time to process for Assistance Service Users (PRM) so they can stay in their wheelchair while passing through Security > Heathrow's current seating provision doesn't meet the needs of all passenger especially those requiring support. Need to introduce new seating options at key points in their journey to help Passenger Requiring support as set out in the CAA guidance in July 2022.
Type 2	Immigration	4.5	> Helps meet immigration queue times and perception of wayfinding. Immigration is one area Heathrow tracks well behind our European competitors and this spend helps us to deliver against the Home Office's Future Border Strategy, as published 20th July 2022.
Type 2	Services - Other	0.5	> Animal relief areas (CAA compliance)

All figures shown in £m

Capital Type (Heathrow categorisation)	Area of focus	H7 2020 CPI	Consumer Impact
Type 3	Airfield	154.8	> Helps meet H7 punctuality target and improve airport arrivals management by automating the process enabling consumers to disembark in a more timely manner. > Supports reducing carbon footprint by enabling the latest fleet development to land at Heathrow.
Type 3	Automation	56.4	> Allows Heathrow to meet passengers' needs anywhere along their journey, even if a colleague isn't present, by providing help and support through digital devices. > Supports in making sure passengers are more informed about what to expect from their journey, making it more predictable and reliable.
Type 3	Baggage	256.4	> Helps improve baggage misconnect rates.
Type 3	Ops Planning	9.1	> Improve the ease of passengers' journey through Heathrow by delivering a better understanding of flow and being able to manage expectations, so that passengers are aware of how long they will wait in advance.
Type 3	PRS	1.2	> Helps meet the needs of Passenger Requiring Support by providing a quieter and more relaxing area to wait for their flight. > Supports meeting the higher OBR target for wayfinding, by ensuring we can meet consumers' desire to use their personal electronic devices to navigate through Heathrow. > Helps with giving assistance to passengers who can not communicate in English, making their journey through Heathrow easier. > Improve the predictability and reliability of a passenger's journey so that passengers get the same information from Heathrow and any party working at the airport (e.g. airlines). > Allows for service recovery, so that Heathrow is able to continue to improve in the future.
Type 3	Digital	3.6	> Supports meeting the higher OBR target for wayfinding, by ensuring we can meet consumers' desire to use their personal electronic devices to navigate through Heathrow. > Helps with giving assistance to passengers who can not communicate in English, making their journey through Heathrow easier. > Improve the predictability and reliability of a passenger's journey so that passengers get the same information from Heathrow and any party working at the airport (e.g. airlines). > Allows for service recovery, so that Heathrow is able to continue to improve in the future.
Type 3	Immigration	4.5	> Helps meet immigration queue times and perception of wayfinding. Immigration is one area Heathrow tracks well behind our European competitors and this spend helps us to deliver against the Home Office's Future Border Strategy, as published 20th July 2022.

Priotisation	-457
Total (CPI 2020)	348

All figures shown in £m

Source: Heathrow

7.6.127 A full detailed list of Efficient Airport projects can be found in Appendix 24.

The CAA's failure to recognise the importance of investing in PRS (Passengers Requiring Support) improvements in H7

7.6.128 Our proposed capital investments to improve PRS/PRM proposition in H7 sit within the 'Service Initiatives' in the Efficient Airport Programme. These investments are set out below:

Table 12: [✂]

[✂]

Source: Heathrow

7.6.129 The CAA has categorised these investments as 'Type 3' discretionary expenditure that *may* be required by consumers and/or airlines in H7, which isn't included in the £3.6bn baseline.

7.6.130 This categorisation as investments that *may* be required by consumers in H7 is contradictory to the CAA's own view, shared in its Final Proposals, that the Special Assistance service for disabled and less mobile passengers is 'crucial'.

7.6.131 The CAA also indicated concern in its Final Proposals that our *"proposed broader investments for Passengers Requiring Support (PRS)…appear to be conflated with the narrower category of disabled and less mobile passengers who use the Special Assistance service".*

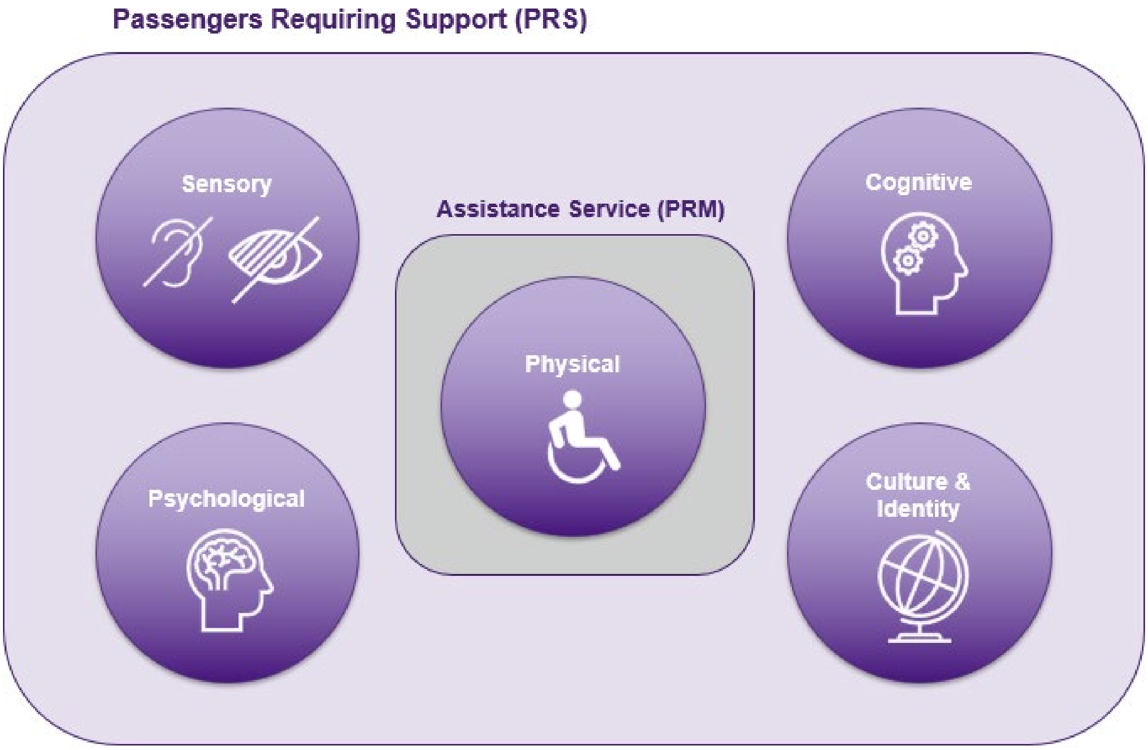
7.6.132 The CAA's view on this matter is not in line with contemporary progressive thinking around accessibility and inclusivity. There is a larger number of Passengers Requiring Support (PRS) travelling through Heathrow than those choosing to use the assistance service (PRM), with PRM currently representing c.2.5% of passengers.

7.6.133 This wider group of passengers requiring support can have a wide diversity of personal circumstances, which fall into five broad categories – physical, sensory, cognitive, psychological, and culture & identity. The aviation industry has traditionally focused on people requiring support as a result of physical personal circumstances. However, industry leading research[9] that we have commissioned shows that those

[9] Revealing Reality, 'Open to All', 2021

experiencing psychological or cognitive challenges make up 75% of flyers with temporary or permanent personal circumstances.

Figure 10: Personal circumstances of Passengers Requiring Support



Source: Heathrow, Revealing Reality

7.6.134 First and foremost, we want to be an accessible and inclusive airport for all – and we believe that hidden disabilities, or any other circumstances that lead to passengers feeling in need of additional support, should not be given any less consideration than physical disabilities when scoping our capital investment.

7.6.135 If we are to create an inclusive service for all consumers and prevent wider Passengers Requiring Support from defaulting into the PRM assistance service that isn't designed to meet their specific needs, then it is vital for us to invest to make the wider airport journey more inclusive and able to deliver against their needs.

7.6.136 We therefore view the lens of PRS to be helpful in considering the diverse range of support, both physical and non-physical, that our passengers may require along their airport journeys, and in turn in guiding us as we plan our capital investment in this area.

7.6.137 We also note that the CAA's own Consumer Panel *"has asked the CAA to take a more holistic approach towards consumer vulnerability for many years"*[10].

7.6.138 There is a clear link between committing to the appropriate level of wider investment in PRS, and the resulting beneficial impact on PRM Special Assistance Service – as enabling more passengers to feel confident navigating the airport independently or with the assistance of family and friends will serve to reduce pressure on the Special Assistance service. This reduced pressure on the Special Assistance service will also

[10] CAA Consumer Panel Annual Report for the year ended 31 March 2022

serve to reduce opex associated with running the service, thereby reducing costs passed onto airlines.

7.6.139 The CAA itself notes the benefits of this as an outcome in its recently published CAP2374 document, where it states: *"The CAA's view is that it is in the interest of airports and airlines to be flexible in the way assistance is provided to disabled and less mobile passengers so that it is effective, whilst encouraging independence for passengers".*

7.6.140 Thus, there is a clear disconnect between what that CAA is stating in its own guidance, and the comments made in its Final Proposals expressing concern around conflation of PRM and PRS on the part of Heathrow.

7.6.141 The CAA also notes in its Final Proposals that the Special Assistance is service funded through a separate per passenger charge – and it is true that the Other Regulated Charges mechanism allows us to recover the direct operating costs of providing the Special Assistance service from airlines.

7.6.142 However, capital investment, which is crucial to ensuring the Special Assistance service is fit for purpose, is not recovered through ORCs. Instead, under the CAA's own mechanism, any capital expenditure goes through the capital governance process and flows through to the airport charge.

7.6.143 The CAA's statement in its Final Proposals relating to funding of the Special Assistance service is therefore misleading, as the ORC only accounts for part of providing the overall Special Assistance service.

7.6.144 An example of where capital investment is currently required is the Special Assistance service infrastructure, in particular waiting areas across landside and airside locations in our terminals. The current infrastructure is in urgent need of enlarging and improving in order to continue providing an acceptable level of service for those using it.

7.6.145 We have seen both the number of passengers saying they require support and the number of passengers requesting use of the Special Assistance service continue to increase through the Covid-19 pandemic.

7.6.146 By 2030, over a quarter of the population across our main market will be over 60[11] and by 2050 it's predicted that over 50s will be spending more on travel than all other age groups combined[12], which means the number of passengers requiring assistance when travelling is only going to continue to increase.

7.6.147 This further reiterates the need to invest in the Special Assistance service to ensure it can continue to deliver with increasing demand and to recognise the increasing wider need of passengers for support along their journey, and the importance of investing in the wider PRS proposition to deliver the right outcomes for a large proportion of our consumers.

[11] Cranfield University, Study on the travel needs of the ageing passenger population at Heathrow, 2015
[12] Pragma Consulting, The Pragmatist: Senior service, July 2022

Table 13: PRM as a percentage of total annual passengers, 2012-2022

Year	PRM as % of total passengers
2012	1.3%
2013	1.3%
2014	1.3%
2015	1.4%
2016	1.5%
2017	1.6%
2018	1.8%
2019	1.9%
2020	2.0%
2021	2.4%
2022	2.4% (YTD)

Source: Heathrow

7.6.148 For the reasons set out above, all investments within the Efficient Airport Programme related to PRS improvements ([✂], which we would look to deliver to towards the end of H7) should be included within the 'Type 2' category

The CAA has not included Efficient Airport investments required to deliver its OBR targets.

7.6.149 We also note the error the CAA has made in the contradiction between its proposals on OBR and the disallowance of the following specific Efficient Airport Investments:

- No allowance to improve the infrastructure to meet the growing demand from Passengers Requiring Support (PRS) or the CAA's guidance for Assistance Service users (PRM) - but an increased OBR target for satisfaction amongst Passengers with Reduced Mobility (PRM/PRS).

- No allowance to introduce digital wayfinding that meets consumers' desire to be able to access wayfinding information through their personal electronic devices - but an increased OBR target for wayfinding.

- No allowance for baggage improvement initiatives that would help to achieve the proposed OBR target for timely delivery from the departures baggage system.

- No allowance for airfield projects that help to contribute to delivering a more efficient and reliable operation - but an increased OBR target for punctuality.

- No allowance to introduce the targeted passenger experience improvements most valued by consumers, but increased OBR targets for overall satisfaction and customer effort (ease).

- No allowance for T4 CUSS Kiosks / Automated Check-in – required to meet the CAA's new proposed check-in infrastructure availability measure.

- No allowance to continue B7677 Flow and Monitoring (incl. Security, Check-in, Immigration) which is required to deliver against the CAA's requirement for us to adopt per passenger security queue measurement or deliver a per passenger immigration queue measurement.

7.6.150 Frontier Economics also noted this error in their independent review of the CAA's Final Proposals for OBR (see Appendix 51) – "*Overall, the CAA has set outcomes targets in isolation from other aspects of the price control. This risks Heathrow being unable to deliver on the service targets. It also means there are missed opportunities within other aspects of the price control to link up to consumer outcomes, which may mean that consumers do not ultimately get the best deal*"[13].

Heathrow's updated proposals

7.6.151 The CAA needs to review its position on the classification of Efficient Airport projects into its capex type categories, based on the clear consumer and airline evidence that Efficient Airport projects are required in H7.

7.6.152 We have continued to include the £349m allowance for the programme on the basis of the significant £800m+ demand on the programme. We note that the majority of the proposed allowance (£319m) is accounted for by the projects we have classified as Type 2 investment based on airline and consumer need.

7.6.153 If the CAA does not amend its position then it would be:

- Failing against its duty to consumers, including Passengers Requiring Support;
- erring in its disregard of the clear support from airlines for investments in the Efficient Airport Programme, which have emerged through constructive ongoing engagement between Heathrow and the airline community;
- failing to resolve the contradiction between its OBR proposals and Efficient Airport projects not included in its baseline.

[13] Frontier Economics, H7 Final Proposals on Outcome-Based Regulation, July 2022

7.7 Consolidated view of Heathrow's H7 Capital Plan

Table 14: Heathrow's H7 Capital Plan

2020 CPI Prices £ms	2022	2023	2024	2025	2026	H7 FP
Asset Management & Compliance	313	374	393	406	392	1,878
TTS	28	7	0	0	0	35
KAD	23	23	3	0	0	49
T3 Ramp Up	36	4	0	0	0	40
T4 Ramp Up	9	0	0	0	0	9
iH7 Roll over	97	34	3	0	0	134
T2 Baggage	8	47	122	159	143	479
Regulated Security	55	175	238	226	131	825
Carbon & Sustainability	11	11	38	61	88	208
Crossrail	36	37	0	0	0	73
Commercial Revenues	64	130	132	124	95	545
Efficient Airport	36	55	40	102	115	348
Expansion	6	7	7	7	7	33
Prioritisation	-182	-161	-134	130	358	11
H7 Total	**445**	**708**	**839**	**1,216**	**1,327**	**4,534**

Source: Heathrow

8. Capex Incentives

8.1. Summary / key messages

The CAA's Final Proposals are not in line with its duties and are not justified

8.1.1. The CAA's Final Proposals fail in its primary and secondary duties against the requirements of CAA12. The Final Proposals are not targeted where regulatory action is needed. Nor are they proportionate, consistent, accountable, or transparent. The lack of evidence and justification on the proposed arrangements on capex incentives continue to reinforce that the CAA's proposals are not necessary.

8.1.2. The CAA's incentive package is not in line with the CAA's primary duty to further the interests of consumers. It sets out a process which will increase the cost of delivery and delay the delivery of benefits – this is contrary to the statutory objective – and will lead to detriment to consumers in relation to the range, availability, continuity, cost and quality of airport operation services.

8.1.3. The capex incentives proposals are inconsistent with regulatory principles. They focus on areas where no regulatory action is needed, are over-reaching and are impractical. The changes will drive an unprecedented level of cost and resource requirement for all stakeholders, will increase the time taken to make decisions and more regulatory intervention will be required to get agreement on investment. Taken together, this will stifle commercial relationships with our airline customers and delay the delivery of benefits for consumers.

8.1.4. We have quantified the potential additional staff and timing impacts of the CAA's proposal. The assessment highlights an unprecedented increase in resource. This is clearly entirely unfeasible. We also identify additional steps in the process which will add extra time across all H7 projects, to the detriment of consumers.

8.1.5. The CAA has not carried out any cost benefit analysis of its proposals to demonstrate that they are in the interest of consumers.

The CAA must retain Q6 Capital Incentives measures

8.1.6. The Q6 framework delivered the requisite outcomes. The new measures were established in advance. The Q6 framework succeeded in that it enabled capital investment across the airport through engagement and agreement with airlines. The flexible arrangements allowed us to work together to deliver for consumers, leading to consumers rating us as the best airport in Western Europe before the pandemic[1].

8.1.7. Following the Initial Proposals, we continued to engage with the CAA on how revisions to the framework could be implemented in a targeted and focused way which would be workable and would ensure the timely delivery of benefits to consumers. The CAA has failed to engage with our proposals, which has manifested into errors in the CAA's capex incentive proposal.

8.1.8. In addition the CAA has unacceptably delayed in providing us with its final and complete proposal. In the absence of timely and fair consultation on the full proposal package, when [✂] are imminent, this is likely to result in unacceptable levels of risk, disruption and cost.

[1] https://www.heathrow.com/company/about-heathrow/performance/awards

8.1.9. There are still a number of areas where the CAA acknowledge further work is required, and we are already well into the H7 period. Therefore, we have no alternative but to propose a continuation of the existing Q6 capex arrangements for the H7 period, which have proven to be a success and have delivered for consumers and our airline partners.

8.2. Introduction

8.2.1. Our H7 capex programme remains one of the largest when compared to other European airports, delivering in one of the most complex brownfield environments with constantly changing operating circumstances. The environment in which Heathrow operates is markedly more complex and challenging than those faced by most regulated companies in the UK.

8.2.2. Taking the learning from Q5, the Q6 capital framework was designed to deal with these issues in a timely and flexible way that has allowed us to work together with airlines to deliver capital programmes efficiently and for the benefit of consumers. The framework is predicated on us reaching mutual agreement with airlines, and ultimately serves to deliver investments that are in the best interests of consumers without undue regulatory burden. The flexibility and responsiveness allowed us and the airlines to respond appropriately to the crisis in the aviation industry caused by Covid-19. It has been successful as outlined later in this chapter.

8.2.3. In this chapter we demonstrate that the CAA's Final Proposals on capex incentives for H7 are not in line with the CAA's statutory duties:

- The CAA's proposals will increase costs and delay the delivery of investment and its benefits, which does not serve to further the interests of consumers.
- They do not enable Heathrow to be economical and efficient in providing airport operation services.
- The proposed approach as set out by the CAA is neither targeted, nor proportionate to where regulatory action is needed.

8.2.4. Heathrow has identified the following impacts of the CAA's Capex Incentives Proposals:

Table 1: Impact of CAA's incentives proposals

Area	Impact*
Resourcing	A hugely significant increase in workload for Delivery Obligations estimated at 90 times more than that experienced from the current capital trigger process. This quantification represents the increase in workload for Heathrow colleagues only. The airlines and the CAA would also need to increase its resource to meet the increased workload.
Time to Investment Decision	An increase of c.25% (3 months on average) on the time required to reach Investment Decision.
Impact of construction inflation	As construction inflation is likely to be higher than CPI/RPI, Heathrow would have to stop or defer critical projects to remain within the Portfolio cap, while expending additional time and resource conducting the additional steps in the CAA's proposed process.
Delivery of Portfolio Benefits	The predicted benefits of the Capital Investment Portfolio will be later than estimated in our current Portfolio, which is based on Q6 processes, to the detriment of consumers.

Source: Heathrow

**Given the magnitude and interaction of these impacts we have not felt it necessary to attempt to quantify these impacts in terms of monetary value. They are clearly unacceptable.*

8.2.5. The CAA has failed to demonstrate the potential efficacy of its proposals in driving capital efficiency, for example through illustrating comparator airports where similar proposals have been successfully implemented.

8.2.6. Instead, the CAA's capex incentives have been based on counterfactual logic and theory. It is counterfactual because there is no evidence that ex ante will drive the expected outcomes. They will do the opposite of what the CAA sets out to achieve. They will increase costs, delay delivery of new critical infrastructure, increase the CAA's involvement in contentious issues, and lead to a deterioration of the established commercial relationship between Heathrow and the airlines in the sphere of capital investment.

8.2.7. The Final Proposals are the first time the CAA has attempted to present its proposals on capex incentives as an integrated package. New elements have been introduced such as the capex envelope cap. At this crucial stage of the H7 process this is wholly inappropriate. In order to afford procedural fairness to all parties involved, the CAA should have undertaken a thorough consultation of its proposed capex incentive framework as a whole at an early stage in the process, and not only at this late juncture when the H7 period has already commenced.

8.2.8. It is not acceptable for the CAA to seek to implement such a fundamental change to this key element of the price control on the basis of a proposal that is not developed enough to fully understand and assess. Even the CAA "recognise that further work still needs to be completed to support the implementation of this framework" [2].

8.2.9. As set out in our legal annex, at this very late stage in the H7 price control process this lack of consultation is in breach of the CAA's Public Law duties.

8.2.10. In addition to the procedural and substantive errors which arise from the CAA's proposed capex efficiency framework, the CAA has made errors in its approach to inflation and the implementation of a capex envelope cap in H7:

- The cap on the capex envelope is not required. The current arrangements allow us and the airlines to adjust the overall envelope up or down as required during the price control, thus enabling and ensuring behaviours and relationships which are present in a competitive market.
- The application of CPI as an inflator is misaligned with the realities of construction projects, where costs are sensitive to the overall construction market.

8.2.11. In order to rectify the above errors (which we deal with in detail below), the CAA must continue with the Q6 capex arrangements for H7 - both in respect of managing the capex envelope and the overall capital efficiency incentives. We propose to continue working with the airlines through the IFS working group to consider and implement incremental changes to processes as we have successfully done through Q6.

8.2.12. We set out the detail of our reasoning in the remainder of this chapter, which is structured as follows:

- The context for our response.
- The reasons why the Final Proposals are not in line with the CAA's primary duty to consumers.
- The reasons why the CAA's proposals are not in line with its secondary duties.

8.3. Context

8.3.1. The CAA began consulting on capital efficiency almost five years ago, with discussions from the outset centred around the implementation of ex-ante incentives on Heathrow's capital investment programme.

8.3.2. However, this was in the context of expansion and in response to concerns raised about the mechanisms in place to stop Heathrow overspending as part of the Expansion Programme.

8.3.3. The landscape has changed significantly since then, and the considerations related to expansion, which were the driving force behind the potential implementation of ex-ante incentives, are no longer relevant. As set out in our response to CAP2139, the CAA began consulting on ex-ante incentives due to the potential affordability impacts of cost overruns on the expansion programme, outside of business-as-usual capital spend. The Final Proposals confirm that H7 will be set on a two-runway basis which removes this context for change.

[2] CAP2365 7.145

8.3.4. Notwithstanding this, throughout the process of CAA consulting on its proposals, we have engaged with the CAA on the key issues with their proposals.

8.3.5. There is no evidence that the CAA's proposals will comply with its statutory duties, i.e., that the CAA's proposed mechanism will improve efficiency or provide better incentives compared to the best practice regime currently in place.

8.3.6. Any deficiencies that the CAA identifies with the current regime can and should be resolved in H7 through modifications of those particular elements in the current regime. This does not mean that a full and radical overhaul of the regime is required.

8.3.7. We also note that CAA's Final Proposals represent a significant departure from the characteristics of capex incentives applied to comparable airports. The CAA has provided no evidence of benchmarking capex incentives against peer airports. The proposals create burdensome new processes which do not reflect best practise either at Heathrow or elsewhere.

8.3.8. In summary the CAA's proposals are unevidenced, experimental and unworkable. However we have continued to engage with the CAA on its proposed approach to capital efficiency in H7 in order to deliver a more coherent proposal. Following several workshops with the CAA, we provided a set of proportionate and workable proposal to the CAA in May 2022 to implement an ex-ante framework in H7, which would have seen ex-ante incentives applied to a range of appropriate projects. The CAA did not meaningfully engage with these proposals or the evidence we provided to support them. Appendix 45 sets out the relevant engagement sessions with the CAA.

8.4. Q6 Performance Overview

8.4.1. The changes introduced in Q6 (such as more flexibility and updating the airport charge every year) were to resolve issues identified in Q5. Q6 performance does not give any major cause for regulatory change. Nevertheless, based on our continuous improvements efforts we will always look to improve our performance and processes and are currently evolving our programmatic approach, within the current framework through ongoing engagement and review with the airlines and the IFS.

8.4.2. By the end of Q6 in 2018, 660 projects had been though an Investment Decision process, with a total value of £2.9 billion (2018 prices).

8.4.3. Through Q6, and underpinned by the current capital efficiency framework, we successfully and efficiently:

- brought the new Terminal 2 into operation.
- introduced a new baggage system in Terminal 3.
- delivered innovative airfield resilience measures, such as Enhanced Time Based Separation.
- delivered new transfers security infrastructure in Terminals 3 and 5.
- developed and rolled out automation across the passenger journey.

8.4.4. This all helped to deliver record levels of passengers, at the same time helping to improve performance ratings as demonstrated in customer satisfaction surveys.

8.4.5. This performance was also recognised by the wider construction industry with Heathrow receiving a number of awards - from the Association of Project Managers on T3IB, to the Terminal 3 Flight Connections Centre being selected as the Institution of Civil Engineers Project of the Year, and the Passenger Automation programme being recognised at the Future Travel Experience Awards.

8.4.6. In addition, the current framework, which included the introduction of Development and Core, and the role of the Independent Fund Surveyor (IFS), has proved successful in:

- allowing Heathrow and the airlines to adjust the portfolio to response to any changes occurring during the regulatory period.
- ensuring that in the overwhelming majority of projects in Heathrow's portfolio were completed close to the agreed budget, with overspends in some projects balanced out with savings elsewhere. The outturn performance overall was within 0.5% of the estimated G3 value, apart from three 'outlier' projects. '*The majority of the projects that were reviewed by the IFS were delivered within budget (or revised budgets encompassing scope increase) and within schedule."*[3]

8.4.7. These new processes for Q6 were the product of a great deal of development and planning and were largely agreed during the period of Constructive Engagement, which concluded in Dec 2012, well before the publication of the CAA's Initial and Final Proposals for Q6. Even then, they still took a period of time to bed in. The timelines proposed by the CAA for implementation of its new framework for H7 are not credible, particularly considering how far we are already into the H7 period.

8.4.8. The performance of the portfolio has been evidenced with regular reporting from the IFS on key projects. The IFS delivered real time reporting over the period, with over 650 reports produced in total. By the end of Q6 they had been deployed on 26 projects, of which 12 were in construction, and on 3 programmes, covering 44%[4] of the portfolio by value.

8.4.9. This comprehensive and consistent involvement led to a number of key learning points being identified, which the IFS acknowledged we had effectively responded to "A number of areas of concern, potential improvements and positive approaches / outcomes were identified by the IFS as "Key Learning Points". '*The majority of the Key Learning Points have been addressed by HAL during project delivery, leading to some overall improvement in IFS KPI ratings towards the end of Q6 Regulatory Period."*[5]

8.4.10. The CAA reviewed ten of our capex projects that were completed or in progress during the Q6 price control - these included some of the most challenging projects delivered in the period. The outcome was a potential inefficiency finding of £12.7m, representing 0.44% of the overall portfolio.

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[3] Gardiner & Theobald, End of Regulatory Period Q6 Report for Civil Aviation Authority, 15th July 2020 Section 2.2 IFS Key Q6 Observations

[4] Gardiner & Theobald, End of Regulatory Period Q6 Report for Civil Aviation authority, 15th July 2020 Section 2.1 IFS Q6 report Introduction

[5] Gardiner & Theobald, End of Regulatory Period Q6 Report for Civil Aviation Authority, 15th Jull 2020 Section 2.2 Key Q6 Observations

8.4.11. The constant record of project delivery, and findings from real time and end of regulatory period reviews has continued with the CAA's review of our capital submissions for H7. Arcadis noted *"In general we found that where evidence was available, HAL have followed their processes which are in accordance with good industry practice, the quantities had been measured correctly, and whilst some costs were higher than our benchmarks they are robust when the project specific challenges were taken into consideration."*[6]

8.4.12. This comparison to industry best practise was recently highlighted in another way when Heathrow was successful in being selected as finalists in three different categories at the upcoming 2022 Association for Project Management Awards.

Table 2: 2022 Association for Project Management Awards

Category	Nomination
Project Management Office (PMO) of the Year	Heathrow Infrastructure PMO
Engineering, Construction and Infrastructure Project of the Year award	Fire Main Replacement Project
Technology Project of the Year Award	Heathrow Terminal Drop Off Charge

Source: Heathrow

8.5. The CAA's proposals are not in line with its primary duty to consumers

8.5.1. CAA12 sets out the CAA's primary duty: *The CAA must carry out its functions under this Chapter in a manner which it considers will further the interests of users of air transport services regarding the range, availability, continuity, cost and quality of airport operation services.*

8.5.2. The capex incentives framework set out in the Final Proposals is not in line with this duty for the following reasons:

- It increases the cost of delivery, increasing costs for consumers.
- It will increase the time taken to deliver projects, delaying the delivery of benefits for consumers.

8.5.3. Additional governance will increase costs, which will ultimately be passed onto consumers, for no clear benefit. The CAA's proposals include significant changes to our governance arrangements. These increased and unnecessary requirements are not supported by any evidence from the CAA.

8.5.4. Throughout the process, we have consistently requested that the CAA carry out an impact assessment of its proposals. This assessment of the costs and impact should have been undertaken by the CAA far in advance of any proposal which includes such a radical new set of measures. This impact assessment is necessary in order to fully understand whether the increased regulatory burden of its proposals is commensurate with any benefits the CAA believes they could deliver for consumers.

8.5.5. Notwithstanding our submissions, the CAA has failed to carry out this analysis of the costs of its proposed process. In addition, the CAA has not provided any evidence that its proposed changes will have benefits to consumers over and above those

[6] CAP2366F: H7 capital plan assessment, Exec Summary

delivered by the Q6 framework, which has a proven track record of delivering in the best interests of consumers.

8.5.6. To implement the CAA's proposals Heathrow will need to make significant changes to the arrangements and project processes that govern delivery of capital investment projects. Many of these represent a material increase in the governance steps, requiring production of increased amounts of information over and above what is required for our own internal governance and project management processes.

8.5.7. The key change to the process which will lead to increased costs is the introduction of Delivery Obligations. These will be complex to agree, administer and represent a significant increase in work and time from the current Q6 arrangements that will require additional resources from all parties – Heathrow, the airlines, and the CAA.

8.5.8. In the exercise of its discretion, the CAA found that the information required to set a Delivery Obligation should already be contained in project information. This demonstrates a complete lack of awareness of the workload required to implement the current processes, the impact of its proposed regulatory measures, and any comprehension of the practicalities of implementing Delivery Obligations across the whole portfolio. Therefore, it is a clear and manifest error.

8.5.9. To fill the gap left by the CAA in failing to carry out a meaningful impact assessment, we have carried out an evidence-based assessment to demonstrate the impact of these proposals on our operation and that of the airlines. We have done this by assessing the increased work required in the current process using the proxy of Triggers set out below:

Current Trigger arrangements and baseline

8.5.10. The arrangement currently in place in Q6 and which is the most comparable to the CAA's proposed Delivery Obligation is a Trigger. As set out in the Q6 Capital Investment Triggers Handbook the "*purpose of Triggers is to encourage the timely and efficient delivery of appropriate Key Projects, incentivising on time delivery of agreed scope and/or benefits as defined within the Project or the Trigger Definition. If the Trigger date is missed, Heathrow pays an agreed rebate*"

8.5.11. The Trigger Definition Sheet sets out a summary of the overall Business Case, descriptions of the scope to be triggered and how the achievement of the Trigger milestone will be demonstrated, as well as the parameters/assumptions agreed with the airlines. They are a mechanism for rebates in cases of late project delivery.

8.5.12. Across Q6, Triggers were only applied where specified circumstances were met. As noted in the Handbook "*If projects are incentivised elsewhere, this should be considered when setting Triggers. Conflicting or duplicated incentivisation should be avoided. A practical approach is to be maintained in the allocation of Triggers, with the aim that benefits outweigh costs and administration burden is avoided*." Examples of other means of inherent incentivisation include capacity projects relieving bottlenecks, and opex saving projects such as the closure of Terminal 1.

8.5.13. Across Q6, there were eleven triggered projects with completion dates, and a further eight in the 2019 – 2021 period. These eleven projects in Q6 represented less than 2% of the 660 investment decisions, with the capital value of the eleven Trigger Sheets totalling around £500m (2011/2012 prices). In contrast, the CAA proposes to apply Delivery Obligations to all projects in H7.

8.5.14. We have reviewed the records of the Trigger meetings that took place with the airlines during Q6 and have undertaken analysis of the work required to draft and agree a Trigger Sheet and then to sign it off as complete.

8.5.15. The airlines exercise their responsibilities diligently under the Q6 framework and there is extensive engagement and discussion required in the lead up to the agreement of a Trigger even though minimal additional information is produced when compared to a normal Investment Decision.

8.5.16. The minimum number of meetings with the airlines to define a Trigger Definition Sheet in Q6 was two, with the average around five, and the maximum being nine (note this also captures the occasions where changes were required to a Trigger post Investment Decision).

8.5.17. Therefore the average number of meetings to agree the completion of a Trigger was just below three. Taking the average of two days' work required for one Heathrow colleague per meeting per Trigger Sheet equates to a total Heathrow time demand of sixteen days per Trigger. This equates to 176 days across the Q6 period.

8.5.18. This is summarised in the table below:

Table 3: Number of days required for Triggers

No of Triggers completed in Q6	Average number of months spent drafting Trigger Sheet then signing	Average daily effort per 'active' meeting	No of days on Triggers
11	8 (5 in drafting and 3 in completion)	2	176

Source: Heathrow

8.5.19. The average attendance at a joint Heathrow/airlines Trigger meeting was nine people broadly split evenly between Heathrow and the airlines. These happened on a monthly basis as required with 38 meetings held during the period November 2013 to May 2019. These sessions were typically an hour long. Where no activity was required, the meetings were cancelled. To keep the analysis simple we have not included these meetings when building up the potential resource implication.

8.5.20. This is a good indicator of the level of effort currently involved and a baseline from which to consider the implications of the CAA's proposals.

The increased impact of Delivery Obligations on cost and resource

8.5.21. In comparison to Triggers, Delivery Obligations cover much more information and are intended to be set on every project passing through G3. This means an exponential increase in workload required - not just because of the requirement for every project to have a Delivery Obligation but because of the increased detail, depth and complexity.

8.5.22. Using the detail in the CAA's Final Proposals, the differences in process, between Triggers and Delivery Obligations which drive the increased workload, time and cost that require agreement with airlines are:

Table 4: Differences between Triggers and CAA's Final Proposals

Element	Trigger	Delivery Obligation
Cost	Yes (ex post)	Yes (ex-ante)
Scope	Yes (no regulatory significance)	Yes (with enhanced regulatory importance)
Quality	N/A	New
Timing	Yes	Yes (with enhanced details on % split for delays)
Weighting on scope	N/A	New
Weighting on quality	N/A	New
Weighting on timing	N/A	New
Indicator for delivery obligation has been met	Achievement criteria for timing	New overall process required
Indicator for delivery obligation has not been met	N/A	New – as Triggers are always achieved at some point – it's been a question of when. Now scope, quality and timing are under review.

Source: Heathrow

8.5.23. In terms of the Trigger rebate, there is little additional information on the actual Trigger Sheet from that contained in a standard G3 pack. However, the importance of the rebate means there is increased scrutiny and discussion, as evidenced in the effort detailed above to draft, agree and conclude the current process.

8.5.24. The Trigger rebate is a temporary adjustment during the period of delay through airport charges and has minimal (if any) impact on financing as it is quite distinct from permanent RAB reductions. The CAA's proposals to make RAB reductions for timing incentives is a significant departure where RAB reductions are typically for areas in which capital inefficiency has been identified. This proposal creates uncertainty on RAB reductions which may impact our financing, and it departs from efficiency of spend.

8.5.25. This is a very different circumstance to that of when a project goes late. It is to be expected that some projects will be late, often for reasons outside of Heathrow's control. Indeed, if every project was delivered ahead of schedule, we would be considered of not being optimistic enough in setting targets.

8.5.26. There is far more at stake with a Delivery Obligation, as it introduces six new decision points with the airlines (as outlined above), alongside further emphasis on the existing ones. This will require the development of additional information and detail. It is reasonable to expect the resources required to draft, agree and administer them will increase versus the current process.

8.5.27. One area where additional information will be required is for us to undertake full Quantitative Schedule Risk Analysis (QSRA) on every project. These are currently only carried out on more complex projects and involve the development of a number of variables, which are run through a Monte Carlo analysis tool. The purpose of this is to represent the potential real-world outcomes of a schedule being developed in an uncertain environment. Given the increased regulatory importance of the schedule under the CAA's Delivery Obligation proposals, QSRA will be required on the majority of projects as part of drafting a Delivery Obligation. This is in order to appropriately understand and quantify the potential risk being taken. This will require a substantial increase in resource across risk experts, planning resources and Project Managers to support the development & validation of the QSRA models and results. In addition to the governance detailed above this will add cost and time to each project.

8.5.28. Quality is also an area where there will be an increased demand. Currently, it is not explicitly referenced in investment decisions, and is taken as a given. The CAA's proposal suggests quality be captured by referencing an appropriate standard. Even the example project of PCA (which is atypical of Heathrow projects in that it very homogenous) would need to comply with multiple standards.

8.5.29. To illustrate the potential scale and impact of capturing quality as part of the process – [✂]. This will lead to lengthy discussions on the appropriateness of individual standards.

8.5.30. The CAA's proposals will require at least nine different decision points (including six new points) to be discussed and agreed with airlines for each project over the course of H7. As described above, the effort will need to reflect the capital at risk.

8.5.31. Currently the IFS are not actively involved in the setting and review of Trigger Definition Sheets. Given the increased technical elements is it likely their scope of services would be increased, with further cost implications on the portfolio.

8.5.32. With the huge increase in factors and increased regulatory weighting we have assumed that each Delivery Obligation will be 3 times as complex to develop initially. With efficiency and learning this could reduce down to 2 times the effort required by the end of the regulated period. The comparative resource estimate is based on an average increase in Heathrow effort of 2.5 times the current trigger process.

8.5.33. The final assumption required to quantify this impact is on the number of Investment Decisions that Delivery Obligations will apply to. The CAA *"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] We have optimistically assumed that the programmatic approach will increase the average Investment Decision size therefore reducing the number of Investment decisions to 400 from circa 660.

8.5.34. With these inputs the Heathrow effort required changes from 176 days for current Q6 triggers to 16,000 days.

[7] CAP2365, 7.108

Table 5: Number of days required for Delivery Obligations

Mechanism	Number in period	Level of effort compared to trigger	Base number of days	Number of days
Trigger	11	1	16	176
Delivery Obligation	400	2.5	16	16,000

Source: Heathrow

8.5.35. This represents a 90-fold increase in Heathrow effort. Given this inconceivable impact we have not taken this assessment further in terms of quantifying the financial impact.

8.5.36. This additional Heathrow resource would require an increase to the Leadership & Logistics allowance. We have not attempted to put a financial value on this as we do not think it is credible that this is the proposed way forward for H7. As we do not believe these measures are appropriate to implement, we maintain that the Q6 Leadership and Logistics allowance remains appropriate for H7.

8.5.37. The heavy burden of this regulatory intervention will also impact the airlines. It will require airlines to incorporate new steps into their processes and deploy additional capability to the capex development process or look to widen the scope of the IFS or other consultancy services. In addition to the increase in Heathrow FTE, airline resources would also need to be significantly increased to avoid delays in reviews and decision making. The CAA would also be impacted in terms of increased demand. The CAA has not adequately considered or provided for this impact in its Final Proposals.

8.5.38. The experience of Q6 is that the process of gaining agreement at each gateway has resulted in the airlines getting into more detail on elements of the projects presented. This will increase with more regulatory focus on the Delivery Obligation.

8.5.39. At the start of Q6 the intent was that the IFS would be deployed on key projects, which were typically over £20m. In the past year, as part of the process of obtaining agreement it has been required to commission IFS reports on ever smaller projects. Examples include the replacement of the fire doors within the rail station environment (Rail Access Controls costing £2.1m), and an IT project allowing employees to work remotely (Direct Access costing £0.8m). Such efforts to reach agreement are disproportionate, add time and cost to the process, and would be materially increased if the CAA's proposals are adopted.

New processes will lengthen governance timescales and defer the delivery of benefits

8.5.40. The development and agreement of Delivery Obligations will also add time into the process, deferring the delivery of benefits to the consumer. Given the multiple variables and the differing implications that say a 90% weighting on scope compared with 90% weighting on timing would mean to the project implementation plan and Investment Decision, an additional step would be required in governance between the options stage and Investment Decision adding at least a month as a minimum to every project. Given the experience of triggers this would take more than one meeting to agree the appropriate weighting, from which Heathrow could confidently work up the Investment Decision information.

8.5.41. The processes and documentation for current processes require Triggers to be agreed at Investment Decision. However, on many occasions the final drafting and agreement to the Trigger Definition Sheet has, with the agreement of all parties, been finalised after the Investment Decision. Given the greater implications of the Delivery Obligation this would need to remain on the critical path and be finalised in advance of the Investment Decision. This will inevitably require more work to be done between G2 and G3, slowing down the Investment Decision and resulting in later delivery of benefits. The CAA note that with increased focus on the Investment Decision there is an increased likelihood of disputes – "*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 to both HAL and airlines, there may be an increased prospect of disputes between HAL and airlines being escalated to us*."[8] However the scale and impact have not been quantified, and the CAA has failed to provide any detail or assurance that it will run an efficient escalation process such that the consumer benefit is not further delayed by its own processes.

8.5.42. The CAA will be required to have dedicated expertise and an appropriately sized team to deal with the likely escalations we all expect from this process to deal with disagreements in an objective, transparent and swift manner. The CAA is not currently actively involved in the governance process and it will required to respond to the dynamic project environment, where timely decisions are needed on a weekly basis to ensure efficient delivery. Any involvement by the CAA will add an additional step into the process with associated cost and time implications.

8.5.43. This extra step could delay projects by several months. We base this on previous experience where more routine issues have been escalated to the CAA for a resolution. For example a Security Service Exclusion Request was escalated to the CAA for a decision, and it took the CAA four months to reach a decision/view. Another recent example is where the CAA took almost one year to make a final decision on whether Hold Baggage Screening should be treated as an Other Regulated Charge. These are some examples of the duration to resolve escalations; the CAA will need to be far more agile, flexible and will need to make decisions in a timely manner to avoid the negative impact on consumer benefits not being delivered as soon as possible. The CAA has failed to take this into consideration in its Final Proposals.

8.5.44. These additional steps increase the risk of delay to capex delivery and increased costs. There is a direct correlation between time delays and cost over-runs. Delayed projects generally have increased prolongation and ancillary costs, specifically to construction site facilities, staff salaries, extension of construction bonds, security costs, etc. Delay leads to sections of work moving into different weather conditions resulting in the need to 'accelerate' the works in order to mitigate reduced effective working time.

8.5.45. This table represents current practise and the implications of Delivery Obligations

[8] CAP2365, 7.70

Table 6: Current practice compared to proposed Delivery Obligations

Step	Current Practice	Potential Practice under CAA FPs
1	G2 Options	G2 options
2	Design and planning work	Initial design work
3	Price obtained from supplier	Airline engagement and agreement to % weighting on Delivery Obligation baseline
4	Airline engagement at working level plus Stakeholder Group /Trigger Group	Possible referral to CAA
5	Investment Decision	Conclude design and planning
6	Start on site	Price obtained from supplier
7	Agreement of Trigger Definition Sheets	Investment Decision plus finalisation and agreement to Delivery Obligation
8	-	Possible referral to CAA
9	-	Resolution of issues
10	-	Agreement of Investment Decision/Delivery Obligation
11	-	Start on site

Source: Heathrow

8.5.46. The additional steps in setting and agreeing the proportionality split in advance of working up the Investment Decision, the expected increase in referrals to the CAA, and the need to agree the Delivery Obligation, will all add time and cost impacts to each individual project, with 3 months considered a reasonable assumption, depending on quick resolution of issues referred to the CAA. We have assumed a 3 week maximum resolution period with the CAA in order to contain any referrals to a monthly governance cycle. The 3 month impact should be considered in the context that the average duration to reach Investment Decision is currently 12 months; the CAA's proposals would increase this stage of a project by 25%.

8.5.47. The above analysis has considered the impact on a single project. There will also be a compounding effect as enabling projects get delayed, with colleagues not being able to move onto the next project in the pipeline. The increased activities and duration in agreeing the Investment Decision will also be seen in how Heathrow engages the supply chain. The prices obtained in advance of Investment Decision may only be valid for a certain period, say 90 days, and after that Heathrow would be required to revalidate the prices. Given the inflationary pressures in the market we are already seeing some instances where this contract validity period has reduced. If the process to reach Investment Decision, including any referrals to the CAA, takes longer than the validity of prices, the process will need to be rerun.

8.5.48. The capital plan as proposed in the Initial Proposals response, and updated in this response, is based on the continuation of Q6 processes with ongoing continuous improvement. This is then captured in our Opex and Revenue assumptions in the other building blocks, and ultimately the timescale of delivery of benefits to consumers. There would be significant impact in moving to the CAA's untested and onerous approach in the coming months. There are a number of major investment decisions in the early part of 2023, [✂] , and a move towards the CAA's proposed new regulatory approach would undoubtably delay the delivery of projects when compared to our current phasing assumptions for opex and revenue across the period.

8.5.49. A number of these decisions are time critical with the prime example being the runway resurfacing project. The project works are undertaken in the summer months due to the reduced impact the reduction in low visibility landing capability (from Category 3 to Category 1) has on the airport operation, alongside the increased productivity during favourable weather conditions. If the start date is missed it is conceivable that the schedule would need to slip one year.

8.5.50. The impact to supply chain has not been considered as part of the Final Proposals. Our supply chain of contractors and consultants seek consistency throughout the delivery process which enables them to appropriately price, schedule, resource and manage risks on projects. The proposed interventions expected to go live in Q4 2022 do not allow for enough time to re-calibrate Heathrow's objective setting with the supply chain. Any uncertainty and change in predictability in the pipeline of work coming through Investment Decisions will reduce Heathrow's ability to secure the most appropriate resource at the most efficient cost.

8.5.51. The CAA has therefore made a material error in not considering the evidence base from Q6 which clearly shows the detrimental impact that the Final Proposals would have on timing and thus the duration to deliver benefits to consumers.

Conclusion on the impacts of the CAA's ability to discharge its statutory duty

8.5.52. As set out in detail above, the CAA's proposals will cost more and delay delivery of benefits – this is clearly not in the consumer interest.

8.6. The CAA's proposals are not in line with its secondary duties

8.6.1. In addition to its primary duty, the CAA has a number of secondary duties, these include a duty to have regard to the need for:

- Ensuring the economical and efficient operating of Heathrow.
- Ensuring that regulation is transparent, accountable, proportionate, consistent and targeted.

8.6.2. On the contrary, these proposals:

- Impact on Heathrow's ability to be economical and efficient, as quantified above.
- Are not targeted where action is needed.
- Are not proportionate.
- Are not consistent.

8.6.3. In this section we deal with the final three of these points in more detail

The CAA's proposals are not targeted where action is needed

8.6.4. The CAA's Final Proposals provide no evidence of capital inefficiency of existing arrangements and fail to demonstrate the need for this change. In particular they fail to present any evidence to justify why such a material change is required from the well-established Q6 capex arrangements of ex-post reviews.

8.6.5. The CAA references unwarranted issues with the Q6 framework in its Final Proposals, such as:

- *“The Q6 approach does not provide sufficiently strong commercial incentives on HAL to ensure projects are delivered on or below budget”*
- *“Under the Q6 approach, it is not always clear to airlines whether the benefits/outputs from projects have been delivered”*[9]

8.6.6. We agree that promoting capex efficiency and delivering value for money to consumers is a priority. However, the CAA’s Final Proposal does not substantiate why the existing capex incentive arrangements are inefficient and therefore require change. Taking each of the above issues in turn:

- The Q6 experience demonstrates that Heathrow has strong commercial incentive not to spend more than is required to deliver projects. This can be seen in two ways; the majority of projects were delivered within the G3 estimated value, and for those projects where costs overruns occurred, Heathrow took decisive actions to minimise the costs increases and schedule delays.
- As outlined in our response to the Initial Proposals, by the end of 2018, 660 projects had passed the Gateway 3 (G3) process, with a total value of £2.9 billion (2018 prices). On the majority of occasions the current framework ensured projects in Heathrow’s portfolio were completed close to the agreed budget, with overspends in some projects balanced out with savings elsewhere, with the portfolio being completed within 0.5% of the cumulative G3 value apart from a few outliers.

8.6.7. The efficiency of this £2.9bn spend has been robustly reviewed throughout the process and there is no evidence of significant inefficient spend across the Q6 portfolio. On the contrary, the Independent Fund Surveyor (IFS), clearly stated that cost and time overruns for high value and high complexity projects are often caused by reasons outside of the project team’s control, with low value and low complexity projects generally delivered on time and under budget. It is also worth noting that a cost overrun does not automatically mean it is inefficient.

8.6.8. For those projects where cost overruns exist the actions taken by Heathrow demonstrate that the framework provides strong commercial incentives to manage any cost increases. A particularly relevant example of how Heathrow sought to minimise costs overruns is the cargo tunnel project. This is outlined below.

8.6.9. The project went through an Investment Decision in 2013, under Q5 arrangements. However, following increases in both cost and schedule Heathrow undertook a ‘standback’ review in 2018. This resulted in a project redesign with the project being taken through a ‘pseudo’ Gateway process, starting with a new G1 in 2019 leading to a new G3 in 2021. This led to a new approach – Design for Manufacture & Assembly – being introduced to drive efficiency in both cost and delivery. The new approach resulted in the schedule being improved from a G5 date of January 2026 at the time of the new G2, to a G5 date of March 2025 at the time of new G3. This improvement mitigated scope increases during the period due to external factors such as a change in Tunnel standards, and material inflation. The IFS in their new G3 report commended the team for their robust management and how they had addressed the issues associated with material price increases.

[9] CAP2365E3, Page 46

8.6.10. On the issue of the clarity of outputs and benefits to the airlines there is no evidence that there is any substantive issue. If there were, it would have been raised by the airlines or the IFS and managed at part of regular ongoing governance. On the projects reviewed by the IFS, which include a close out report, no material theme was identified. Furthermore, there were no significant issues in this area identified by the CAA's consultant Arcadis, who reviewed a selection of Q6 projects[10]. For each project in Pot 2 (projects not reviewed by the IFS) there was an assessment of Benefits Planned v Delivered, and for each project it is noted that all the planned benefits were delivered.

8.6.11. Regulatory decisions need to be based on evidence, the CAA cannot take comfort from airlines' comments at the outset of a price control determination, where these concerns have not been formally expressed in the appropriate governance fora through the Q6 period, and where the IFS and the CAA's own consultants have not identified a concern with this particular element of the Q6 framework.

8.6.12. Benefits reporting is another example where Heathrow continually looks to improve our own processes and procedures, and how we can deliver better reporting on benefits through the programme framework. This can and does happen without regulatory intervention.

8.6.13. In summary the Q6 experience demonstrates that Heathrow has strong commercial incentives to ensure that projects are delivered within the agreed budget. The CAA's proposals are not targeted where action is needed. They are unnecessary and undeliverable, and risk the progress made in Q6:

- Projects have been delivered on time and on budget, resulting in improved services to consumers.
- The current implicit incentive rate drives cost efficiency.
- Heathrow and the airlines worked collaboratively, with support of the IFS.
- The portfolio was able to respond in an agile manner to changing demands and circumstances.
- Regulatory burden, with referrals to the CAA, was kept to a minimum. In period reporting by the IFS were a key input into ex post reviews.

The CAA has not evidenced that a cap on capex is required

8.6.14. The cap on the capex envelope is superfluous and is not required as the current arrangements allows us and the airlines to change the overall envelope up or down, thus mimicking behaviours and relationships seen in a competitive market.

8.6.15. Furthermore, the application of CPI as an inflator is misaligned with the realities of construction projects where costs are sensitive to tender price changes (more discussion on this from paragraph 8.5.54).

8.6.16. Heathrow currently has no ability to increase the capex envelope without airline agreement. All projects need to be agreed, and if no agreement can be reached, there is already a process in place to escalate to the CAA. The development and core mechanism allows the capex envelope to increase (subject to airline agreement), an

[10] CAP1964A Heathrow Q6 Capex Efficiency Review

example of this is the inclusion of over £1bn of capex related to Pre-DCO Category C in setting airport charges for 2019.

8.6.17. The portfolio is based on mid-point prices, which have wide ranges at this early stage. The maturity of each programme is different: there is a 17% difference between the most likely and pessimistic cases for the Security Programme, and for T2 Baggage the difference is 30% between the most likely and pessimistic. This is consistent with Industry Best Practise where at an early stage the difference could be -50%/+100%.

8.6.18. The CAA's proposed cap does not cater for any upside cost pressure on any programmes as it is based on the mid-point capex assumption. Cost increases could occur for a multitude of reasons and not be an indication of inefficiency. If the increases cannot be accommodated within the portfolio cap by savings elsewhere, projects would need to be paused or stopped until the 2024 or 2025 application window. This is likely to lead to inefficiency and delay of benefits to consumers.

The CAA's proposals are not proportionate

8.6.19. As set out above, the CAA's proposals are unreasonably burdensome and will drive increased cost and delay with no evidence of benefit. For this reason, we conclude that they are not proportionate.

8.6.20. Furthermore, moving to an ex-ante approach would exacerbate, rather than alleviate, the difficulties the CAA proposals cite as justification to move to ex-ante. An ex-ante framework is reliant on the ability to estimate efficient costs, often multiple years in advance of delivery, and therefore requires reliable forecasts supported by historical costs or benchmarking data.

8.6.21. We repeat our request for the CAA to present the quantified evidence it has used to identify that the current framework may not have provided sufficiently strong incentives for efficiency over Q6. Without doing so, one can only assume that the CAA has either ignored the factual evidence before it, or made an error in the assessment of the evidence, given the significantly different outcomes that would be driven by the CAA's Final Proposals compared to the regulatory framework in place over the Q6 period.

8.6.22. We have also continued to present evidence that the CAA's proposals should adopt a more proportionate and targeted approach, where the application of ex-ante incentives should be assessed on an individual programme basis and should reflect their specific characteristics. However, the CAA's proposals present an incorrect view that it is appropriate to apply ex-ante incentives to the entire capex envelope, ignoring the complexity and nature of projects at Heathrow. This has not changed since the CAA's Initial Proposals.

The CAA's proposals are not consistent with other aspects of Heathrow's framework or external evidence

8.6.23. In the H7 Final Proposals, the CAA have provided Table F.7 as a worked example of ex ante capex efficiency incentive reconciliation. Presented by the CAA as a simplified example to illustrate the reconciliation process, the process is complex, the table contains a number of material errors and does not correctly implement the CAA policy. The existence of such material errors at this late stage of the process, well after the H7 period has begun, demonstrates the issues and risks associated with the CAA approach of leaving decisions until late in the process. The CAA has not done sufficient analysis to support the processes it proposes.

8.6.24. These errors include:

- The overall approach does not correctly implement the CAA's policy, as demonstrated by the flawed proposed approach for Regulatory Depreciation.

- The CAA use a pre-tax WACC as a discount factor for calculating NPVs. This is incorrect as it includes returns related to taxation that do not accrue to the company. The correct approach is to use the post-tax (vanilla) WACC for calculating NPVs.

- RAB Depreciation – RAB Depreciation is fixed for H7. Changes to the amount of capex passing into core, spent, or allowed in the adjusted baseline will not change the regulatory depreciation for H7. Given this, no adjustment for depreciation is required.

- The approach to calculating NPVs does not consider the proper timing of Cashflows.

8.6.25. The correct approach to the CAA's policy is set out below. It broadly follows the following steps:

- The NPV of the actual capex at the end of the period is calculated (line 10).

- The NPV of the Allowed Baseline (post Delivery Obligation adjustments) is calculated (line 9).

- The difference between these reflects the value of over or underspend by Heathrow relative to the baseline. Under the CAA's proposed approach Heathrow is exposed to 25% of this risk. Consequently 75% of the difference is added to the NPV of the Allowed Baseline to get the appropriate addition for H7 before considering revenues received (lines 13 and 22).

- Heathrow will have received revenue based on the final capex baseline. The NPV calculated in the previous step effectively assumes that revenue was based on the allowed baseline. Therefore, an adjustment is required to adjust the amount identified in the previous step to account for revenue difference that has arisen as a result of the difference between the final capex and allowed baselines (line 20). The NPV of this revenue adjustment is then added to the previous step to get the final correct adjustment to RAB (lines 23 and 24).

- Note that under the RAB reporting policy, in its regulatory accounts Heathrow will report RAB at the end of each year based on actual capital expenditure. The correction required to this reported RAB at the end of the period is set out in line 25.

- At this point, we would like to test whether the CAA has understood our preceding logic and if not, then perhaps we have just articulated just how long and complex, and therefore ridiculous, this whole proposal is.

Table 7: CAA's Final proposal on reconciliation steps

Line	**Calculation stage**	**(£m real prices)**					
Calculation of over/underspend at HAL's risk		**2022**	**2023**	**2024**	**2025**	**2026**	**Total**
1	Final capex baseline	105	105	105	105	105	**525**
2	Delivery obligation adjustments	5	5	5	5	5	**25**
3 = 1 - 2	Final capex baseline after delivery obligation adjustment	100	100	100	100	100	**500**
4	Outturn incurred capex subject to incentives	120	120	120	120	120	**600**
5 = 4 - 3	Over/underspend	20	20	20	20	20	**100**
6	WACC	4.18%	4.18%	4.18%	4.18%	4.18%	**-**
7	Number of years to 2026	4	3	2	1	0	**-**
8 = (1 + (6)) ^ (7)	NPV factor to 2026	1.18	1.13	1.09	1.04	1.00	**-**
9 = 5 * 8	NPV of over/underspend	24	23	22	21	20	**109**
10	Incentive rate	25%	25%	25%	25%	25%	**-**
11 = 9 * 10	NPV of over/underspend at HAL's risk	6	6	5	5	5	**27**
Adjustment to RAB at end of H7		**2022**	**2023**	**2024**	**2025**	**2026**	**Total**
12	Opening RAB	0	120	234	341	445	**-**
13 = 4	Outturn capex	120	120	120	120	120	**600**
14	Depreciation	0	6	13	16	20	**55**
15 = 12 + 13 - 14	Closing RAB	120	234	341	445	545	**-**
16 = 9	NPV of over/underspend	24	23	22	21	20	**109**
17 = 5	Over/underspend	20	20	20	20	20	**100**

18 = 16 - 17	Financing cost adjustment	4	3	2	1	0	**9**
19 = 2 * 8	NPV of delivery obligation adjustments	6	6	5	5	5	**27**
20 = 2	Delivery obligation adjustments	5	5	5	5	5	**25**
21 = 19 - 20	Financing cost of delivery obligation adjustments	1	1	0	0	0	**2**
15	Closing RAB	120	234	341	445	545	**-**
11	NPV of over/underspend at HAL's risk	6	6	5	5	5	**27**
18	Financing cost adjustment	4	3	2	1	0	**9**
21	Financing cost of delivery obligation adjustments	1	1	0	0	0	**2**
22 = 15 - 11 + (18 - 21)	**H8 opening RAB**	-	-	-	-	-	**524**

Source: Heathrow

The CAA's assertion that the "underlying capex plan is smaller and less complex than in previous price control periods"[11] is not correct.

8.6.26. The overall size of the H7 Portfolio is comparable to previous periods. Of more importance is the view on complexity. Q4 and Q5 were characterised by large new build terminal projects which could be hoarded off from the rest of operation. There were some remnants of that in Q6 with the completion of T2 and T3IB. These may be complex programmes but the operational interfaces for the majority of the construction were straight forward. The majority of Q6 works were done in the heart of the operation, requiring careful daily handovers, and ongoing changes to reflect the ever-changing operational constraints. These challenges will only increase in H7 as the works are all interfacing with the live operation, as it builds back.

8.6.27. An example of the level of intervention and interface required is the Security programme which requires the upgrade of every passenger and colleague screening area, and every control post. This involves the installation of new larger equipment and adoption of new processes. It will impact every airside ID holder, every security process, every security colleague, and 900 companies. This occurs across the whole estate, comprising 27 terminal locations across both passenger and colleague search

[11] CAP2365, 7.96

lanes: and 15 control posts comprising 40 vehicle search lanes. This is visually represented below with a snapshot of the works going on in the last quarter of 2023.

Figure 1: [✂]

[✂]

Source: Heathrow

8.6.28. This is just one example. Another is the complexity of keeping the airport operating whilst undertaking the extensive Asset Management & Compliance works, that should not be underestimated. The backlog from the lack of investment during the last few years due to the impact of Covid exacerbates the normal demands, and there is significant complexity in delivering a new Baggage system for Terminal 2.

The CAA's proposals are not consistent with other aspects of Heathrow's framework leading to double jeopardy

8.6.29. We noted in our response to the CAA's Initial Proposals that a well-designed and proportionate regulatory model should ensure that there are no opportunities for double jeopardy across individual elements. CAA's Final Proposals retain both implicit and explicit instances of incentive overlap. For example, in the event of a time overrun, there is a risk that we could be penalised twice for the same overrun:

- via the timing element of Delivery Obligations incentives (Triggers), and
- by the ex-ante incentive rate on associated cost-overruns.

8.6.30. This is clearly disproportionate and introduces an unacceptable level of risk onto the schedule. If schedules need to cater for every possibility they will naturally lengthen, and with that the time related elements of the project will increase.

The treatment of timing in the Delivery Obligations is not consistent with its impact on project delivery

8.6.31. The timing element is also fundamentally different from the elements relating to scope and quality. It is accepted that if reduced scope or quality is delivered in a project then that is a permanent impact and should be reflected in the RAB. However, the timing element is only a temporary impact. This is reflected in the current regulatory design where a rebate is paid only for the period the project is late, and not in perpetuity.

8.6.32. The CAA's Final Proposals are misaligned with the timing aspect of project delivery. The Final Proposals note that Heathrow have an appropriate level of control regarding post-G3 to commissioning activities, but this is not the case. The unique nature of the operational environment presents a challenging and dynamic possession window between us and the operation. It is common for agreed possession windows to be under pressure due to changes in daily operations. This is likely to be more evident in H7 as there is less predictability in airport operations as traffic builds back. While risk may be transferred, the timing element remains inherent to the delivery of the project.

8.6.33. A recent example is that the airlines have asked us to consider delaying the nightly closure time of the cargo tunnel due to changing operational requirements. Applying this example to the proposed future framework, a more formal delivery obligation will make a project like this less flexible and responsive to change.

8.6.34. We envisage more change control with associated impact on projects with these elements. Each change post Investment Decision will need to cover the whole Delivery Obligation, and not just any cost increase. This will add more cost and time to projects and by this stage expediency will be key as the project teams will be mobilised and have a 'standing army'. Any delay in agreeing revised Delivery Obligations with the airlines, including possible referral to the CAA, would likely lead to further claims from the supply chain for prolongation costs.

8.6.35. There is no incentive for Heathrow to deliver projects late in the current arrangement. The sooner that projects complete, the sooner Heathrow and the wider community can benefit from the project, be it a risk reduction, capacity increase or revenue generating project.

8.6.36. The timing element of Delivery Obligations is redundant as the incentive rate applied to ex ante projects means Heathrow is already at risk financially for project overruns. The Royal Institution of Chartered Surveyors (RICS) identifies that "*If a project is delayed, it is likely that both the employer and the contractor will incur additional costs.*"[12]

8.6.37. Similarly, the Institution of Civil Engineers report on reducing the gap between cost estimates and out-turns for major infrastructure projects and programmes identified that the increase in cost at the later stage of project is *"largely due to time"* and *"Whenever new demands are made after a contract is agreed and underway the result is almost always additional cost and delay"*[13].

8.6.38. In a typical cost plan, there are a number of elements of project costs which are time related. These include construction site facilities; management and supervision; extension of construction bonds and sureties and insurance; equipment such as cranes which could be in overheads, security costs, and logistics.

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[12] RICS, Extensions of time, 1st Edition, Page 4. https://www.rics.org/globalassets/rics-website/media/upholding-professional-standards/sector-standards/construction/black-book/extensions-of-time-1st-edition-rics.pdf

[13] ICE, 'ice report reducing thegap-betweencostestimatesandoutturnsfo-majorinfrastructureprojectsandprogrammes', Page 6 https://www.ice.org.uk/media/vmhdu4jc/ice-report-reducing-the-gap-between-cost-estimates-and-outturns-for-major-infrastructure-projects-and-programmes.pdf

8.6.39. An analysis by Heathrow's independent cost consultant (Turner & Townsend) took a sample of 10 Heathrow projects. This indicated the percentage of time-related elements ranged from 30 – 45%, compared to industry analysis (which included rail, highways, and utilities) with an average range of 32 – 42% (lowest was 17% with highest being 55%). This is shown in Appendix 44.

8.6.40. The impact of time delays on cost performance is demonstrated by the performance of Heathrow's trigger projects. All of the projects (Main tunnel, T3IB, T2 HBS, Bravo Taxiway, and Magenta) which missed the trigger date exhibited an increase in the budget. This is to be expected since scope elements at the time of Investment Decision are largely well understood. It is usually challenges around operational integration, possession times, and productivity which impact on project performance.

8.6.41. To bring the theory to life we have examined the performance of the T2 Hold Baggage Screening Project.

Table 8: T2 Hold Baggage Screening Project

Project	Agreed Budget	Estimate at Completion	G5 date at G3	Actual G5 date	Original duration
T2 HBS	£118.3	£169.6m	Jul 18	Aug 21	24 months

Source: Heathrow

8.6.42. Of the original £118.3m a high-level assessment identified the following elements from the G3 cost plan as being time related:

Table 9: T2 Hold Baggage Screening Project – cost plan being time critical

<table>
<tr><th>Element</th><th>£m</th></tr>
<tr><td>Delivery Integrator Inflation</td><td rowspan="6">[✂]</td></tr>
<tr><td>Preliminaries</td></tr>
<tr><td>DI Lost shift provision</td></tr>
<tr><td>Di overheads and profit</td></tr>
<tr><td>Leadership & logistics</td></tr>
<tr><td>Labour mitigation</td></tr>
<tr><td>Total</td><td>28.7</td></tr>
</table>

Source: Heathrow

8.6.43. This £28.7m is 24% of the total cost and within the expected range, at the low end.

8.6.44. The £28.7m across the 24-month planned G3 schedule gives a time related cost per month of £1.196m. Given the 38-month delay this would mean a time related cost increase of £44.2m which is just under 90% of the total cost increase. This is a simple analysis and does not account for time related elements sitting in other elements of the cost plan, which may sit with second tier suppliers.

8.6.45. This project performance is outside the normal performance of projects at Heathrow but does demonstrate that as currently envisaged, the Delivery Obligation and imposition of an incentive rate would penalise Heathrow twice for late project delivery. In many cases the project delivery is not down to inefficiency but other factors, such as change in operational requirements where project adjustments are required to protect the day-to-day passenger experience.

8.6.46. In the example proposed in Table F.3 CAP2365, there was a 17% weighting placed on timing, with 0% of the baseline added to the RAB where the project was over 10 months late. Using this methodology Heathrow would be exposed to a loss of £20.1m

(17% x £118.3m) for time related elements as well as £12.8m (£51.3m*25%) due to the incentive rate. This is a clear case of double jeopardy.

8.6.47. Delays on this project were due to a number of factors including supplier performance issues, unplanned operational embargos, increased mitigation requirements, and weather impacts.

The CAA's proposals are not consistent with regulatory best practice

8.6.48. Creating Delivery Obligations for all projects is unprecedented and regulatory best-practice has moved away from this approach. For example, Ofwat only require detailed ex-post assessments for enhancement expenditure (e.g. schemes that enhance capacity) of its regulated companies. Base expenditure (e.g. capital maintenance) is assessed at the start of a control period only. This resulted in only a small number of significant and complex projects being assessed on cost, scope, quality and timing.

8.6.49. The Final Proposals continue to inconsistently apply other regulatory approaches to capex incentives. For example, CAA notes that "*where appropriate, we consider our approach to be consistent with those applied elsewhere"* referring to capex incentives applied in other regulated industries. However, regarding incentive rates, the CAA notes that *"we do not believe that asymmetric rates applied in other sectors are appropriate comparators for HAL"*. Although we agree with the statement regarding asymmetric rates, we highlight that the CAA's Final Proposals cherry pick regulatory action.

8.6.50. The CAA's Final Proposal is a significant departure from European practices in regulating capex incentives at airports and inconsistent with the broader aviation industry. Regulatory intervention in period, and at the end of price control for regulated airports is unprecedented as evidenced by the regulatory regime in Amsterdam[14], Zurich[15] and Rome[16], and the regulatory burden proposed is disproportionate compared to industry best practice.

8.6.51. The Q6 arrangements are aligned to best practice airport capex incentives compared to other European airports. The regulatory burden is proportionate as interventions occur prior to a price control period. During the price control period, there is light touch or no intervention by regulators. This enables the airport to work constructively with the airlines to deliver benefits on time, on budget and to the expected quality. H7 is a departure from the effective capex incentives in use across Europe. There is no precedent to justify this regulatory action.

8.6.52. We also note that Dublin Airport's regulator, the Commission for Aviation Regulation (CAR), apply a capex incentives framework similar to our existing Q6 approach. There is a distinction between 'Core' capital maintenance and 'Capacity' enhancement projects. Dublin Airport is required to group projects (e.g. civil or asset care). The CAR assesses grouped core project capex at the start of the price control period and Dublin Airport is then enabled to deliver the outputs throughout the period.

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[14] https://www.schiphol.nl/en/download/b2b/1523623970/15KHzlSDWQUWwqQycsK4mC.pdf
[15] https://www.fedlex.admin.ch/eli/cc/2012/328/en
[16] http://www.adr.it/documents/17615/19795952/4_ENG_Proposal+of+2021+charges+MOD+FINAL.pdf/007aa524-3b7a-4ede-989f-79a0600cb34e

The CAR does not set obligations for Dublin Airport at an individual project level which enables flexibility to respond to changing conditions to capital delivery.

8.6.53. Overall, the CAA's proposals represent a wholesale departure from regulatory best-practice in the aviation sector and other regulated industries.

The CAA's treatment of inflation across the capex cap and capital incentives framework is inconsistent with external evidence

8.6.54. The CAA's Final Proposals apply CPI as the basis for ex-ante costing of inflation to the capex envelope. This is misaligned to the practices of how construction projects are contracted. By nature, our contracts are mainly complex and constrained scope over long periods of time, the result of this is inflation risks that cannot be transferred to the contractor without price implications and we would always have some shared element of risk in cost and price.

8.6.55. Changing market conditions regarding inflation, and in particular the likelihood of construction inflation being higher than CPI, increases the risk that Heathrow will not be able to deliver the required outcomes and improvements within the portfolio cap. We risk perverse incentives as investments are less likely to progress if tender prices return a sum that is above the baseline CPI. This is amplified as we progress through to later years of H7 with higher forecast construction inflation.

8.6.56. The Final Proposals have not provided sufficient clarity regarding how the additional 5% margin on the sum of capex will be applied. The CAA's Final Proposals note that the mechanism is applicable to new scope, projects and programmes, but not overspends. It is unclear whether this includes changing market conditions such as inflation or supply chain risks. The lack of clarity presents undue additional uncertainty on our capex plan in an environment where there is an excess of inherent uncertainty. Additionally, this adds another layer of regulatory burden as it requires extensive documentation and engagement with airlines and the CAA for applications related to new projects.

8.6.57. We acknowledge the CAA plans further discussions over the Summer of 2022. This is too late, especially as the cap was not contained in the Initial Proposals and we are already well past the start of the H7 period.

8.6.58. We have significant concerns over the practicality of the CAA's proposed approach. The two windows for applications provided are inflexible as projects do not neatly fit into these timescales. For example, the February 2025 window is likely to coincide with initial discussions on H8 capex, this is highly likely to result in deferral of decisions as we have seen at the start of H7.

8.6.59. The current framework includes significant engagement where airlines provide robust challenge, we are held to account for efficient spend, and there is appropriate governance in place to manage the overall capex portfolio without the need for an arbitrary and time-constrained cap. We reject the CAA's proposal to include a cap on the capex envelope without considering construction inflation or accounting for allowances related to uncontrollable risks between G3 and asset commissioning.

8.6.60. The use of an index to forecast inflation appropriately removes ambiguity over ownership of the risk between us and our contractors. The appropriate inflation assumption needs to be correctly reflected in the price at the outset. The use of CPI is thus inappropriate as our contractors would apply construction price inflation as the most appropriate measure.

8.6.61. The CAA note that '*as discussed in the Arcadis report, construction price inflation for H7 is difficult to forecast, with the risk that it varies materially from general inflation*', and that HAL is expected to manage these risks as part of a greater focus on capital efficiency.

8.6.62. Given the challenges facing the construction industry, it is very unlikely that Heathrow would be able to deliver the intended scope, with the costs inflated by CPI, and with capital spend capped. There is a substantial difference already between the CPI values contained in the Final Proposals, and those shown in the Arcadis Appendix, which was their Spring 2022 market view.

8.6.63. Arcadis published their Summer market view at the end of June and construction inflation forecasts have increased even in the short time since this report. The regional building TPI has risen from 29% to 29-32%; London Building TPI from 30% to 30-33%, and National Infrastructure TPI from 33% to 35%.

Table 10: Inflation comparisons

	CPI	Regional Building Construction TPI	London Building Construction TPI	National Infrastructure Construction TPI
Source	Table 3, CAP2365A	Arcadis Summer market view		
2021	-	5	6	6
2022	7.4	8-10	8-10	10
2023	4	2-3	2-3	4
2024	1.5	4	4	5
2025	1.9	5	5	5
2026	2.0	5	5	5
Total		29-32	30-33	35

Source: Arcadis

8.6.64. The Arcadis Summer view also states: '*From 2024 onwards, we retain our view that construction prices will increase faster than background inflation, and as CPI returns to around 2%, construction prices will rise much faster, at 4-5%'.*[17]

8.6.65. Turner & Townsend's latest UK market intelligence forecasts are shown below[18], and show a similar trend of construction inflation being above CPI.

[17] (Forecast, p6) link https://www.arcadis.com/en-gb/knowledge-hub/perspectives/europe/united-kingdom/2022/uk-summer-market-view-june-2022
[18] https://publications.turnerandtownsend.com/ukmi-q1-2022/tender-price-inflation-forecast

Table 11: Turner & Townsend's latest UK market intelligence forecasts

Year	Real Estate	Infrastructure
2021	6.0%	5.0%
2022	8.5%	6.0%
2023	4.0%	4.5%
2024	2.5%	4.5%
2025	4.0%	5.0%

Source: Turner & Townsend

8.6.66. We applied Arcadis' Summer 2022 National Infrastructure Construction TPI to the CAA's Price Control Model to demonstrate a comparison between the CAA's Final Proposal capex envelope escalated with CPI against construction inflation.

Table 12: Comparison of inflationary impact

Capex (£m)	2021	2022	2023	2024	2025	2026	Total
Final Proposals (2020 prices)		367	567	703	1,017	967	3,620
CPI (%)	2.6	7.4	4.0	1.5	1.9	2.0	
TPI (%)	6.0	6.0	4.0	5.0	5.0	5.0	
Outturn (CPI)	404	646	812	1194	1155	404	4,211
Outturn (TPI)	411	658	851	1281	1267	411	4,468
Difference between Outturn CPI and TPI		7	11	39	87	112	257
Final Proposal Outturn based on TPI (2020 prices)		374	577	736	1091	1061	3,840
Difference TPI inflation against CPI inflation (2020 prices)		7	10	33	74	94	219

Source: Heathrow

8.6.67. The additional c.£219m of costs related to construction inflation would breach the CAA's Final Proposal of a 5% margin (c.21% higher than the additional £181m allowance). Because it is unclear where the margin allowance is targeted, we are unsure if both CPI and TPI adjusted capex would be eligible to the 5% margin uplift.

8.6.68. The CAA's Final Proposals make an error of disallowing construction inflation as an escalation factor. The CAR in its Methodological Consultation paper on escalation assumptions for Dublin Airport notes two approaches to apply construction price inflation to their Capital Investment Plan:

- de-risk Dublin Airport for construction inflation entirely by performing an ex-ante adjustment for cost inflation observed in tender returns compared to forecasts, or alternatively.
- indexing the escalation element of the allowance to a construction inflation index.

8.6.69. Referring again to the CAR, we note that the Regulator considers incorporating construction price inflation to the regulatory model would add value in the current economic circumstances for the cost efficiency of Dublin Airport.

8.7. The correct approach for H7

8.7.1. The CAA's Final Proposals fail its primary and secondary duties against the requirements of CAA12. The Final Proposals are not targeted where regulatory action is needed, proportionate, consistent, accountable, or transparent. The lack of evidence and justification with respect to a need for regulatory activities regarding capex incentives continue to erode our confidence that the proposals are necessary.

8.7.2. The CAA's Final Proposals have rejected our proposal on alternative workable mechanisms and provided insufficient detail on rationale for their proposals. The Final Proposals would create perverse incentives and render us an outlier in capital investment best practice.

8.7.3. When one compares the Final Proposals to the current Q6 framework which, as evidenced above, has delivered the requisite outcomes, it is clear that there is no basis for the CAA to depart from this for H7. The proposed changes are against CAA's primary and secondary duties. The CAA must continue to use the existing Q6 arrangements for the H7 period and continue to task Heathrow to work collaboratively with the airlines and the IFS to deliver continuous improvements to current processes, as it has throughout Q6.

9. Other Regulated Charges

9.1 Summary

9.1.1 **The CAA's approach to setting ORCs differentially between airline and non-airline users is irrational and arbitrary**. Non-airline is not non-passenger. Users of ORCs are airline handlers, catering teams, retailers, government agencies, hoteliers and providers of surface transport. All of these have a significant impact on the passenger journey and provide services which are required to ensure passengers have the experience they expect when travelling through the airport.

9.1.2 Introducing a different charge, including annuities, allocated costs and rates, for non-airline users would:

- Lead to differentiated pricing for different parts of airline operations on the basis of the type of operator, not the activity they are carrying out. This is not transparent and will lead to confusion.
- Lead to a large pricing differential in pricing for different users. Taking the example of electricity, unit prices for non-airlines will be ~110% more expensive than unit prices for airlines in 2023. This is partly driven by the estimated brought forward under-recovery from 2022 (due to 2022 prices not including annuities and allocated costs for non-airlines) and recovery of annuities, allocated costs for 2023. Without brought forward under-recovery, non-airline prices would still be ~55% higher than airline prices due to these fixed costs.
- Lead to an arbitrary split of fixed costs as the basis of pricing for the period. This will not reinforce the user pays principle as the CAA intends but will distort it as usage and behaviour changes.
- Disincentivise the use of sustainable alternatives such as electric vehicle charging for non-airline users. Ensuring we build back sustainably is essential to meet consumer expectations and ensure the airport operates sustainably for future consumers.
- Risk leading to a distortion of competition between end users of ORC services.

9.1.3 The split of charges would lead to further regulatory burden and governance in particular through the new independent review mechanism the CAA seeks to implement. This is extra cost for no benefit.

9.1.4 **The CAA's proposed licence modifications will result in an unjustified burden and no consumer benefit.** We remain concerned by the approach to some of the associated licence conditions for ORCs, further detail is set out in Appendix C. Failure to address these issues risks the practical implementation of the ORC changes being undeliverable.

9.2 Introduction

9.2.1 Other Regulated Charges (ORCs) are a key part of Heathrow's regulatory framework. They represent the services provided by Heathrow which are essential to provide aviation services for passengers but can be charged on a unit basis, rather than a per passenger one. This means that charges for these services are outside of the overall passenger charge and are recovered from users directly. The services covered by ORCs are items such as electricity, baggage, assistance for passengers with reduced mobility, waste and parking.

9.2.2 The users of ORCs are airlines, airline handlers, hoteliers, retailers, government agencies and food and beverage operators. These are all key parties in providing the outcomes consumers expect from their airport experience. It is important we have the right framework in place to ensure that we can efficiently work together to provide these services at Heathrow in the interests of consumers.

9.2.3 ORCs are charged on a cost recovery basis and in Q6 were made up of three separate elements: direct operating costs, annuities for capital expenditure and allocated costs which represents a share of fixed overheads. The way ORCs are structured and priced has an impact on how services are used and how they are delivered. For H7 we have worked with our ORC customers to try and revise the scope of ORCs and the cost structure to make sure ORCs support our delivery of outcomes to consumers and our goals on efficiency and sustainability.

9.2.4 We broadly support the approach set out in the Final Proposals and in particular support the revised position of removing the ORC for bus and coach. This will enable Heathrow to be more commercial and deliver for consumers. However, there are errors in the CAA approach which require resolution:

- The proposal to continue to include annuities, allocated costs and rates in the calculation of ORCs for non-airlines while removing them for airlines will distort the user pays principle and is practically unworkable. It will also lead to disproportionate governance and administration requirements.

- The CAA's implementation of its ORC policy in the licence contains a number of errors which need correcting before the Final Decision. In its current form the licence imposes cumbersome and will lead to undeliverable obligations on Heathrow that will deliver no consumer benefit.

9.3 The scope of ORCs facilitates a more commercial approach

9.3.1 We accept the approach taken on the scope of ORCs. This reflects the agreement reached with airlines through engagement on our business plans and will ensure that ORCs cover only the services that are provided solely by Heathrow, cannot be charged on a per passenger basis and on which we can continue to collaborate to drive efficiencies and service.

9.3.2 We agree that the removal of bus and coach charges from ORCs is the correct approach, it will allow us to engage more effectively with bus and coach operators on a commercial basis to ensure we have the right mix of services operating at the airport. This will allow us to improve surface access options for consumers and directly delivers against the consumer outcome "I am confident I can get to and from the airport".

9.3.3 The CAA has acknowledged the possibility of removing charges for the use of the taxi feeder park from ORCs on the same basis as bus and coach revenues. We agree that this would be the best course of action for H7.

9.3.4 As noted by the Final Proposals, moving charges for these surface access services outside of ORCs would allow us to approach surface access on a '*more commercial footing'* which would be *'in the interests of consumers both now and in the future'.*

9.3.5 Taking a more commercial approach to the pricing of the taxi feeder park outside of ORCs will allow us to set a surface access strategy across both the provision of black cabs, who use the taxi feeder park, and private hire vehicles, who use facilities which sit outside of the ORC framework.

9.3.6 Overall, this will lead to a more joined up approach which will ensure the optimal surface access provision for consumers and can help to deliver on our carbon and sustainability goals.

9.3.7 Therefore, for the Final Decision Taxi Feeder Park should be removed from ORCs in line with the CAA's recommendation.

9.4 The removal of the marginal cost approach for non-airline users is irrational and will result in no benefit

9.4.1 A key feature of the CAA's Final Proposals is a revised approach to pricing. The Final Proposals include marginal cost pricing for airline users of ORCs. This removes the fixed cost elements of annuities, allocated costs and business rates from ORC prices for airlines. However, these continue to be included in pricing for non-airlines users. This effectively creates a dual pricing framework for airline and non-airlines users of the same services.

9.4.2 We welcome CAA agreement that a move to marginal pricing will be beneficial for a number of reasons including:

- Creating a stronger focus on costs that can be influenced and on which we can work together to drive efficiencies.
- Simplifying annual pricing.
- Reducing volatility in ORCs in the case of a significant downturn as was experienced during Covid-19.
- Ensuring that the price control can more effectively further the interests of consumers, in particular with regard to delivering on our sustainability goals.

We do not agree that the benefits of moving to a marginal cost approach are relevant only to airline marginal costs

9.4.3 Non-airline is not non-consumer related. The benefits of a marginal cost approach for consumers identified by the CAA apply to services provided by all users of ORCs. Therefore, the CAA's proposal that this marginal cost approach should apply only to airlines and that non-airline users should continue to pay for all fixed costs as part of their ORC prices is wrong.

9.4.4 The Final Proposals are wrong on this matter for the following reasons:

- Implementing dual pricing will disproportionately increase costs to non-airline ORC customers. Going forward costs for non-airline users will be 50% higher than the costs for airline users of the same service. The impact will be larger for 2023 as fixed costs were removed from ORCs for 2022, as agreed through 2021 ORC governance, meaning that the retrospective change to that position will result in Heathrow having to recover more from non-airline users in 2023.[1]

- A key benefit for users and ultimately consumers is the impact of marginal cost pricing on the ability for customers to make sustainable decisions. Excluding non-airlines from this will reduce the incentive on those users to grow sustainably.

- As identified by the CAA, setting a share of costs between airline and non-airline users at the start of the period will be difficult. Given the changing behaviours we expect over H7 it will also be arbitrary, likely inaccurate and distort the user pays principle. This is not transparent regulation.

- The boundaries between an airline and non-airline customer are not clear and as such any division of costs between the different categories of user will not be transparent or 'fair'.

- Implementing the split and dual pricing approach will be burdensome and increase costs for Heathrow. We are not confident that we would be able to make the necessary system changes to implement it from the effective date of the licence modifications. It is not clear that there are any benefits for consumers from this additional cost and in fact there is evidence that there will be detriment for consumers from this move.

- As set out at [section F5] of the Legal Annex, the proposal also suffers from legal errors. In proposing a dual pricing structure, the CAA has failed to properly discharge its statutory duties – including by neglecting its duties that concern the environment, and by distorting rather than promoting competition – and it has failed to make proper inquiries and consider relevant evidence about the effects of dual pricing.

Dual pricing will significantly increase costs for non-airline customers in 2023 which will have an impact on the ability to provide the services consumers expect

9.4.5 All users of ORCs provide key services for consumers. Ensuring that ORC costs are efficient and transparent for the providers of these services will ensure we can continue to deliver on these consumer outcomes.

9.4.6 If annuities and allocated costs are recovered through ORCs for non-airline customers this will increase the costs paid by non-airlines versus airline customers. An initial view, based on our known 2019 split of usage, shows that costs for non-airlines will be ~55% higher per unit for electricity and ~300% higher per unit for water.

9.4.7 This will be worse in 2023 due to the under recovery of annuities and allocated costs from our agreed marginal cost approach for pricing in 2022. Our initial analysis shows that prices for electricity will increase by ~158% for non-airline customers on a like for like basis. This will make a unit of low voltage electricity £0.604. This is compared to airlines who will see an increase of ~22% in their prices and who will be paying £0.264 per unit for low voltage electricity. This will have a significant impact on non-

[1] Calculations available at Appendix 50

airline customers and as a result could limit the services and facilities available for passengers at Heathrow.

9.4.8 We predict seeing a large negative impact on sustainability. Our first consumer outcome is 'An airport I want to travel from that offers me a good value choice of flights'. A key element of this outcome is consumers having trust in our airport's sustainability credentials. Our consumer research shows that consumers expect Heathrow to take action to be more sustainable.

9.4.9 Moving annuities and allocated costs to the airport charge is key in ensuring that service providers across the airport are incentivised to make the right sustainable choices such as the introduction of electric vehicles. Under the current structure, a significant proportion of our charge for electricity is annuity and allocated cost. With this we are not incentivising the adoption of sustainable alternatives. Over Q6 we have seen users actively decrease their usage of electric products due to the high charges, in turn this drives even higher charges as a result of the fixed nature of these costs and makes sustainable choices even less attractive. Through Q6, the published LV Electricity rate went from £0.234 at the start of 2017 to £0.324 at the start of 2020. About a 38% increase, not related to Covid, but due mostly to decreasing use.

9.4.10 This highlights that retaining the current pricing structure for non-airline ORCs users would be problematic for incentivising the most sustainable behaviours. The scale of the under recovery to be recovered in 2023 and the impact on electricity unit prices would further exacerbate this.

9.4.11 Having two different prices for airline and non-airline use of services such as electricity will mean that while airlines have the right incentives to make sustainable choices, non-airline customers will not. This is clearly an irrational and wrong outcome.

9.4.12 Our proposal is to include all fixed costs within the airport charge. As set out by the CAA, fixed costs for non-airline users are around £18m per year. Including these within the charge based on the CAA's H7 passenger forecasts equates to an increase of £0.25 per passenger across the period.

9.4.13 This is a small and proportionate increase on the charge for the purpose of ensuring we can continue to provide all the services passengers require and continue to grow sustainably in the interests of passengers.

Setting a share of fixed costs at a point in time is arbitrary and will distort the user pays principle

9.4.14 A key argument for retaining annuities and allocated costs for non-airline users is to protect the user pays principle. The CAA's view is that the principle is protected by ensuring the non-airline users pay the fixed costs. However, this ignores the reality of implementing its proposed split.

9.4.15 In order to retain non-airline shares of fixed costs within ORCs we would need to make a judgement on the non-airline share of these costs. To do this, the split would need to be based on past behaviour.

9.4.16 As has been recognised across the H7 price control process, past performance / behaviour cannot be an accurate predictor of the future in this time of unprecedented change in the aviation industry. This combined with a lack of flexibility across the period in adjusting the split means that, rather than being cost based and user pays, charges for non-airline ORC customers are likely to become inaccurate and arbitrary.

9.4.17 An example of this is electricity. Over H7, we expect that with the right investment and pricing, there will be different usage patterns from those previously seen. Any split of charging between airlines and non-airlines at any point and in particular at the start of the period will not take this into account and will subsequently mean that there is no link between non-airline usage of services and the ORCs they pay. Therefore, continuing to include annuities and allocated costs within non-airline ORCs is not closer to the user pays principle and actually distorts it.

9.4.18 The CAA has acknowledged the issues and complexity with implementing this and is proposing a one-off review of the split of costs. This review is ill defined and will introduce regulatory burden and cost for no obvious benefit. Ultimately, any cost allocation exercise involves judgments being made and given the clear consumer benefits of Heathrow's proposed methodology we see no benefit in a third party review.

9.4.19 It is also the case that if the review finds any issues in the split through the period this could lead to a large under or over recovery on the part of non-airline customers. Not only would this undermine one of the benefits the CAA has stated for the move to marginal costs but it would also lead to large volatility in pricing in 2023. As noted above, this will have an impact on our delivery of services and facilities for consumers.

Non-airline is not non-airline related and splitting parties for the purpose of pricing will result in arbitrary decisions having to be made

9.4.20 A number of ORC users who could be categorised as 'non-airline' are in fact close suppliers of airlines, e.g., ground handling and catering staff. The CAA's proposed approach will mean that ground handlers working for an airline will have to pay one price for a service while the airline directly pays a different price. Given both parties are providing a service on behalf of the airline to the passenger the attempt to differentiate them is arbitrary, irrational and wrong.

9.4.21 Airlines have already stated to Heathrow that they do not want the higher charges applied to their ground handling companies, demonstrating that users are also concerned about the distinction. The CAA has provided no guidance on which users it considers will fall into each category, suggesting that it also does not have a clear view on implementation. This is unacceptable at this stage in the process.

9.4.22 The issue articulated above is not unique to ground handling companies. Most service providers span the airline/non-airline divide, e.g., cleaning companies and assistance service operatives, the issue caused is therefore considerable.

Implementing dual pricing will be burdensome and lead to additional cost with no apparent benefit

9.4.23 As noted above, the Final Proposals accept that increased governance and audit will be required to implement a dual priced approach to ORCs. This increased governance and external review will lead to increased costs.

9.4.24 These costs will come in the form of:

- New costs of the review proposed by the CAA;

- Increased Heathrow costs to manage this new process and governance around it

- Increased Heathrow administrative costs to oversee the multiple prices for different users, ensure they are split appropriately and put the required billing and system changes in place;

- Increased burden on airlines through this additional governance; and

- Increased regulatory oversight and intervention through any licence changes needed to implement any pricing impacts stemming from the review of the annuity and allocated cost split.

9.4.25 Not only are these costs coming at a time where the industry is facing resource challenges, they cannot be justified on the basis of increased benefits to users. In fact, as demonstrated above, the change is likely to have a detrimental impact on the delivery of services, facilities and consumer outcomes.

9.4.26 For these reasons, the CAA's approach is a clear error in judgement. This is discussed further in [section F5] of the Legal Annex.

9.5 The proposed governance arrangements will not result in efficient improvements and will reduce regulatory certainty

9.5.1 The proposed dispute resolution processes afford the CAA broad scope to reach decisions on Heathrow's business which it does not have the power to do. As the airport operator, we are best placed, following careful consultation with users, to make decisions which will be in the interest of consumers and we should be free to do so. These amendments should therefore be removed.

10. WACC

10.1. Summary

10.1.1. The CAA has made material errors in its estimation of both the cost of equity and the cost of debt. The CAA estimate of 3.26% (Vanilla) is wrong and results in the returns to Heathrow being £3.1bn lower than they should be in H7. The CAA need to increase the WACC to 6.9% to be consistent with current market evidence.

The cost of equity is based on an incorrect estimate of asset beta

10.1.2. The CAA's Final Proposals use a flawed approach to estimating asset beta primarily driven by its use of assumptions that have no theoretical or empirical basis, thereby ignoring actual market data. The CAA must use market evidence to set airport asset beta without making arbitrary adjustments.

10.1.3. The adjustments the CAA has made to asset beta to account for the impact of TRS are flawed. They not only ignore the mitigation available to comparator airports and CMA precedent of making no adjustment to market beta in respect of TRS, but they are based on assumptions for which the CAA has no supporting evidence. The impact of the CAA's reduction in WACC is far greater than the expected mitigation the TRS would provide, which is nonsensical.

10.1.4. Overall, the CAA estimate of asset beta for Heathrow of 0.53 is not credible. It is at the bottom of the range of 0.52 to 0.62 that the CMA identified for airports in February 2020, pre-covid and before the material increase in investors' perception of risk. It is inconsistent with current market evidence for AENA, the closest comparator to Heathrow, of 0.79 to 0.87.

10.1.5. An estimate of 0.53 for asset beta means that the CAA considers that Heathrow is considerably less risky than the average firm in the market (average asset beta 0.75). Given the relative impact of Covid on Heathrow compared to other industries it is simply not credible for the CAA to assume that Heathrow is less risky than the average firm.

The cost of debt has been underestimated

10.1.6. In using a short-term approach to inflation forecasts, the CAA's approach to inflation in converting nominal to real cost of debt is neither consistent with the approaches it has used previously nor with clear CMA precedent. The approach is not correct for a real return regulatory regime. The CAA did not use a short-term approach previously when negative inflation was forecast. Changing its approach now when high inflation is forecast is opportunistic and undermines credibility and confidence in the stability of regulation.

10.1.7. The CAA has underestimated the cost of embedded debt by shortening the averaging period of its calculation to 13.5 years. This is neither consistent with the notional approach it has used elsewhere, nor with the actual tenor at issue of Heathrow debt prior to Covid of 20 years.

10.1.8. The CAA has also made errors in its assessment of Heathrow's cost of debt by ignoring clear market evidence on the spread between Heathrow's debt and the iBoxx index. As a result, it significantly underestimates the cost at which Heathrow can obtain debt for both embedded and new debt. The CAA has also underestimated Heathrow's issuance and liquidity costs.

10.2. Introduction

10.2.1. Setting the WACC correctly is crucial to achieving the balance of risk and return that is required to maintain Heathrow's financeability. If the CAA provides a financial package - in particular as regards the WACC - that is too low, then this will undercompensate investors for risk and create risks to investment that are ultimately to the detriment of consumers.

10.2.2. The CAA set out its view of Heathrow's WACC for H7 in its Final Proposals, identifying a range of between 2.44% and 4.08% (vanilla) with a spot estimate of 3.26%. This was based on an assessed cost of debt of 0.43% and a cost of equity of between 5.45% and 9.56%.

10.2.3. This estimate of WACC is materially below Heathrow's estimate of 6.9% vanilla, as a result of significant underestimates of both the cost of equity and the cost of debt. This difference amounts to a shortfall in returns of £3.1bn over H7, and results in the Final Proposals being unfinanceable.

10.2.4. In our response to the Initial Proposals, we clearly set out errors in the CAA's approach that meant it had significantly underestimated the cost of equity. Despite this, the WACC in the Final Proposals is materially (36bp) below even the bottom-end of the very broad (206bp) range consulted on in the Initial Proposals. The change in WACC range is summarised in Table 1 below.

Table 1: CAA range for Final Proposals compared to Initial Proposals

	Low end of the WACC range	Point estimate	High end of the WACC range
Initial Proposal	3.58%	N/A	5.64%
Final Proposal	2.44%	3.26%	4.08%
Change	(1.14%)	N/A	(1.56%)

Source: CAA

10.2.5. In its Final Proposals**:**

- The CAA continues to make significant errors in its assessment of Heathrow's cost of equity due to a flawed approach to estimating asset beta that continues to ignore evidence from a range of conventional beta estimates and market data, relying instead on unsupported and unevidenced assumptions;

- The updated inflation approach of the CAA is flawed and inconsistent with the CAA's own and CMA precedent. This leads to a large underestimate of Heathrow's real cost of debt, as well as introducing significant regulatory risk; and

- The CAA's proposal to shorten the averaging period for calculating the cost of embedded debt estimate is not consistent with other assumptions about the notional company, includes calculation errors and does not consider key pieces of relevant evidence.

10.2.6. For the reasons set out in the Legal Annex, these are not mere misjudgements. Rather, they are fundamental legal errors that render the CAA's approach unlawful and they require correction in the CAA's final decision.

10.2.7. In the following Sections we set out:

- A summary of the errors in the Final Proposals that need to be corrected;
- Context for our response: where we outline key contextual changes since we submitted our RBP2 and describe the key engagement / interaction / submissions we have provided to the CAA on the WACC since then.
- Response to the FPs: where we discuss the CAA's Final Proposals, where appropriate outlining our concerns and providing evidence to substantiate our concerns. We then present our views and a proposal that addresses these concerns.
- Consolidated view of Heathrow's proposals: where we provide a view of the effects of our proposed methodology to estimate the WACC.

10.3. Summary of Errors that need to be corrected

Errors in the estimate of Asset Beta

10.3.1. The CAA 0.44 to 0.62 estimate of asset beta follows a thirteen step process. Heathrow has significant concerns with many of the stages in the CAA's analysis. In several instances the CAA has made errors or has failed to provide any evidence for the assumptions used. The CAA has also drawn upon an inconsistent mix of evidence, using evidence from different time periods selectively and considering different combinations of airports at different steps.

10.3.2. In particular, Heathrow has concerns about errors made by the CAA in respect of:

- the current pandemic having no impact on the H7 beta;
- the weighted approach to the impact of the pandemic that is not supported by theory and assumes that other risks have not changed since early 2020;
- the view that network utilities can provide meaningful betas comparisons; and
- the assumptions regarding the role of volume risk in driving a difference between Heathrow and network utilities.

10.3.3. **The CAA must review available market data points to inform the view of risk associated with airport investment.** This approach is consistent with the approach taken by regulators – where evidence from a range of regression windows, which can provide robust estimates, is considered. As set out in the supporting report of Oxera on asset beta, an approach based on 'let the data speak' is scientifically sound and objective.[1] The latest evidence on asset beta for AENA, the closest comparator, ranges from 0.79 to 0.88. Heathrow considers that given this range, the estimate it set out in Update 1 and Update 2 of 0.82 remains appropriate.

[1] Oxera, H7 asset beta and inflation, August 2022. Appendix 47

Issues with the inflation assumption

10.3.4. In the Final Proposals the CAA has made a substantial change towards using short-term inflation forecasts (from the OBR) to deflate nominal debt costs. This proposal:

- Is a significant departure from its approach at previous price reviews, and represents a material change in the cost of debt compared to the Initial Proposals;
- Is based on incorrect reasoning; and
- Is not consistent with established regulatory practice (including appeal decisions by the CMA).

10.3.5. The proposed approach increases the risk of using an inaccurate inflation forecast and is inconsistent with how RABs are financed and how the cost of debt is determined in capital markets. The RAB is generally financed using long-term debt matched to the lives of the assets being financed. This means that deflating nominal inputs for the cost of debt using long-term inflation spanning multiple price controls is consistent with how the cost of debt was determined in the market.

10.3.6. The proposed approach is inconsistent with the CAA position at Q6, where the CAA correctly found that the most appropriate way to estimate the real cost of debt is to use the inflation priced in at issuance. More generally, in previous situations where forecast inflation was expected to deviate from long-run trends, the CAA and other regulators have stuck to a long-term approach. Deviating from this approach when inflation is high creates asymmetric regulatory risk.

10.3.7. **The CAA must avoid creating asymmetric regulatory risk and use a long-term RPI figure.** This is consistent with best practice and cross-sector regulatory precedence, how capital markets function and avoids regulatory inconsistency.

Issues with the estimate of embedded debt costs

10.3.8. The CAA has made several changes to its approach to embedded debt between IPs and FPs. Aside from inflation, the most material change is the decision to change the averaging on the iBoxx indices from a 20-year collapsing average to a 13.5-year fixed average. This is a significant shift of position and is inconsistent with the assumptions the CAA makes throughout the rest of the Final Proposals in respect of debt financing.

10.3.9. The CAA are clear that the notional company would look to match its assets and liabilities. The approach to averaging taken at IPs was consistent with this, using a 20-year collapsing average to estimate embedded debt for the notional company. In the Final Proposals, without providing a calculation, the CAA change to a 13.5 year average.

10.3.10. The CAA’s estimate of 13.5 years:

- Has failed to take account of Heathrow's actual average tenor of approximately 20 years; and
- Fails to achieve the stated aim of this change – which was to align more closely to the actual cost of HAL's Class A debt.

10.3.11. In addition, the CAA advisors have made a clear error in estimating Heathrow's cost of debt at issuance as a result of incorrectly estimating the costs of currency transactions and not considering a long enough period of issuance. Moreover, the CAA has ignored market data on the spread of Heathrow's bonds compared to the iBoxx. This has led the CAA to underestimate the actual cost of Heathrow's debt relative to the iBoxx index.

10.3.12. A comparison of the correct cost at issue for each Heathrow debt instrument with the matched iBoxx index at the time of issue shows that the average spread over the iBoxx index was 53bps. In addition, the spread of Heathrow debt over iBoxx in the market since 2010 has averaged 35bp. Taking into account an NIP of 10-20bp, this is consistent with the actual spread at issue. These spreads are much greater than the spread of 8bp identified by the CAA.

10.3.13. Heathrow estimates that the actual cost of embedded debt using the most up to date information, and a long-term assumption for RPI, is 1.7%. Even using the CAA's proposed approach to inflation - with which Heathrow disagrees - the actual cost of embedded debt is 0.64% for H7. This is nearly 0.5% higher than the allowance in the Final Proposal's which is based on the CAA's 13.5 year average and an incorrect spread.

10.3.14. A direct comparison of the final outputs is the most appropriate check of whether the CAA's allowance for the cost of embedded debt is 'more closely aligned' to actuals. To address this significant gap between the CAA's allowance and Heathrow's actual cost of embedded debt, for the final decision the CAA must revert to a 20-year collapsing average approach and use a correct adjustment for the relative cost of Heathrow debt**.**

What the CAA must do

10.3.15. In the paragraphs above we have set out what the CAA must do on the issues of asset beta, inflation and the cost of embedded debt averaging. Combining these issues with others set out in the remainder of this section, Table 2 summarises the actions required for the final decision. This covers issues on asset beta, debt beta, total market return, point in the cost of equity range, inflation, cost of embedded debt, cost of new debt and issuance and liquidity cost.

Table 2: Overview of errors

Issue	What the CAA must do
Asset beta	The CAA must base its estimate on market data and avoid arbitrary unsupported and unevidenced adjustments. The correct estimate is 0.82.
Debt beta	The CAA must adopt the same approach as the CMA for NERL and use an estimate for debt beta of 0.05.
Total market return	The CAA must retain the long-run constant TMR approach without adjustment.
Point in the cost of equity range	The CAA must set the point estimate 0.5% above the mid-point of the cost of equity range.
Inflation	The CAA must avoid creating asymmetric regulatory risk and use a long-term RPI figure of 2.9%.
Cost of embedded debt	The CAA must revert to a 20-year collapsing average approach for its final decision. The CAA must apply an upwards adjustment of 50bps to the trailing iBoxx estimate to account for Heathrow's costs relative to the index.
Cost of new debt	The CAA must increase its estimate of the Heathrow specific premium to 1.00% to take recent market evidence into account.
Issuance and liquidity costs	The CAA must correct its estimate of issuance costs to 6bps; its estimate of liquidity costs to 10bps, and its estimate of pandemic liquidity costs to 34bps.

10.4. Context for the response

Macroeconomic changes / industry changes

10.4.1. The pandemic continues to impact Heathrow and other airports. The trajectory for passenger numbers remains highly uncertain and is dependent on responses to ongoing pandemic risks in the UK and internationally. Recent data shows that in the EU there is currently a strong resurgence in Covid-19 cases and lockdowns have recently occurred in China.[2] Despite these ongoing risks, the CAA continues to assume that H7 will be unaffected by the pandemic and its allowances specifically exclude such risks. Stock prices of airports and airlines are depressed compared to the stock index – suggestive of enduring effects associated with the pandemic on the aviation sector.

10.4.2. In addition to this, in recent months, macroeconomic risks have increased. For example, the Bank of England expects the UK's GDP to contract in the 2023, and that, thereafter, GDP growth will remain close to zero for much of H7.[3] The high degree of economic uncertainty that has developed has also been associated with

[2] Oxera, H7 asset beta and inflation, August 2022. Appendix 47
[3] Bank of England, Monetary Policy Report, May 2022. https://www.bankofengland.co.uk/monetary-policy-report/2022/may-2022

extensive equity market volatility in the first half of 2022. This highlights the higher risks to equity investment in general, even before additional airport risk is considered.

10.4.3. The spread of Heathrow Class A bonds remains elevated and has not returned to pre-pandemic levels (see Figure 2 below). This demonstrates ongoing market concern in respect of risk for Heathrow and the aviation sector.

10.4.4. In response to the Final Proposals S&P continues to maintain a negative credit outlook for Heathrow, highlighting the uncertainties with the sustainability of passenger volume recoveries and risks around the WACC not being attractive enough to incentivise investments during H7. This shows the importance of the CAA giving such risks appropriate consideration.

10.4.5. Similarly, Fitch affirmed its Outlook negative rating for Heathrow in response to the Final Proposals noting that the proposals led to strained financial metrics that had exhausted the financial cushion for the current rating.[4]

10.5. Response to Final Proposals

10.5.1. In this section we set out our response on **seven topics:**

- **Asset beta,** which includes specific concerns regarding (i) the estimate of the pre-pandemic beta, (ii) accounting for the impact of the pandemic, and (iii) adjustments made in connection with the TRS;
- **Debt beta**;
- **Total market returns**;
- **Risk-free rate**;
- **Point in the range on the cost of equity**;
- **Inflation**; and
- **Cost of debt**, which includes specific concerns regarding (i) the cost of embedded debt, (ii) the cost of debt, and (iii) issuance and liquidity costs.

10.6. Approach to asset beta in general

CAA proposals

10.6.1. The CAA's approach to asset beta continues to be one that relies on multiple steps and assumptions. At each stage, the CAA makes arbitrary qualitative and quantitative assumptions for which it fails to provide supporting evidence.

10.6.2. Table 3 below sets out the thirteen-step process by which the CAA estimates the asset beta range of 0.44 to 0.62 in the Final Proposals. In summary, the CAA's process is (i) to estimate the asset beta of Heathrow prior to the pandemic (steps A and B); (ii) to then estimate the impact of future pandemics on asset beta (steps C to H); (iii) to then estimate the impact of the TRS (steps I to L); resulting in (iv) the final

[4] Fitch Ratings, Fitch Affirms Heathrow Funding and Heathrow Finance Notes; Outlook Negative, Aug 2022 Appendix 52

asset beta estimate for H7 (step M). We address in detail our concerns with the CAA's approach to these steps in the sections below.

10.6.3. The CAA continues to take no account of the impact of the current pandemic on asset beta in H7.

Table 3: CAA asset beta estimate from the Final Proposals

Step	Component	Low	High	Description
A	Pre-pandemic asset beta	0.50	0.50	Based on Q6 final decision using pre-2014 data for ADP and Fraport
B	Impact of the pandemic on risk differential between HAL and comparator airports	0.00	0.10	CAA assumption based on Flint asset beta estimates to Feb 2020 for ADP, Fraport and AENA
C	Flint 7-year asset beta estimate	0.63	0.69	Estimates based on market data to Jan 2022 for several airports
D	Flint estimate for COVID-like event duration (months)	24	36	Flint assumption
E	Flint assumed frequency of a COVID-like event (1 in X years)	50	20	Flint assumption
F	Flint estimate of the pandemic on comparator airport asset betas (using a weighting approach based on C to E)	0.03	0.09 to 0.10	Calculated figure
G	CAA estimated impact of the pandemic on comparator airport asset betas [5]	0.02	0.11	CAA assumption based on Flint analysis
H	Post-pandemic, pre-TRS asset beta (H = A + B + G)	0.52	0.71	Calculated figure
I	Network utility asset beta benchmark	0.342	0.342	CAA assumption based on the average of PR19 and RIIO-GD2/T2 – which use asset beta estimates prior to 2020 and 2021 respectively.
J	Proportion of difference due to traffic risk	90%	50%	Unsupported CAA assumption.
K	Proportion of traffic risk mitigated by TRS	50%	50%	Unsupported CAA assumption.
L	Impact of TRS (L = (I - H) * J * K)	(0.08)	(0.09)	Calculated figure
M	Post-pandemic, post-TRS asset beta (L = G + K)	0.44	0.62	Calculated figure

[5] It is not clear why the CAA range differs from the figures in the Flint report.

Concerns with CAA proposals

10.6.4. Heathrow has significant concerns with many of the stages in the CAA's analysis set out above. In several instances the CAA has made errors or has failed to provide any evidence for the assumptions used. The CAA has also drawn upon an inconsistent mix of evidence, used evidence from different time periods selectively and considered different combinations of airports at different steps.

10.6.5. Taken together, the unsupported assumptions throughout this multi-stage approach of adjustments produce a beta range that lies outside the range derived from available empirical evidence on airport asset betas. Given the number of assumptions and their impact on the beta, it would be good regulatory practice to consider this empirical evidence. However, the CAA continues to ignore data from the latest beta analysis in its range, even though such analysis is well-established regulatory practice.

10.6.6. The number of steps and assumptions involved in this estimation process has introduced an unnecessary and unprecedented level of regulatory risk compared to previous beta estimation exercises.

10.6.7. In particular, Heathrow has concerns about errors made by the CAA in respect of:

- the CAA's assumption that the ongoing pandemic has no impact on the H7 beta;
- the CAA's weighted approach to the impact of the pandemic that is not supported by theory and assumes without evidence that the change in risk perception since early 2020 is solely due to pandemic risks;
- the view that network utilities can provide meaningful beta comparisons;
- the assumptions regarding the role of volume risk in driving a difference between Heathrow and network utilities; and
- Ignoring the traffic risk sharing that is already in place at comparator airports and CMA precedent for traffic risk sharing in respect of NERL.

10.6.8. The CAA's beta estimates are manifest errors not supported by theory, regulatory precedent or sound evidence.

Heathrow's updated proposals

10.6.9. Available market data points should inform the view of risk associated with airport investment. This approach is consistent with the approach taken by regulators – where evidence from a range of regression windows, which can provide robust estimates, is considered.

10.6.10. In the response to the Initial Proposals, Heathrow estimated an asset beta of 0.82 based on daily data over periods of 2 and 5 years and since March 2020. To support this response to the Final Proposals, Heathrow has asked Oxera to provide up-to-date estimates of the asset betas for comparator airports.[6] The daily asset beta estimates of Oxera are set out in Table 4 below.

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[6] Oxera, H7 asset beta and inflation, August 2022, Appendix 47

10.6.11. The latest evidence on asset beta for AENA, the closest comparator, ranges from 0.79 to 0.87.[7] This demonstrates that Heathrow's estimate of 0.82 continues to be reasonable. The data also shows that the asset beta range for all estimates (2-year, 30-month and 5-year), when Fraport is excluded, lies above the upper end asset beta estimated by the CAA of 0.62. This evidence shows that the CAA is failing to place appropriate weight on figures from approaches that are standard regulatory practice.

Table 4: Daily spot asset beta estimates

Airport	2yr spot estimate	30-month spot estimate	5yr spot estimate
AENA	0.79	0.87	0.82
	Other airports		
ADP	0.63	0.76	0.79
Zurich	0.72	0.77	0.81
Fraport	0.61	0.59	0.69
Average	0.69	0.75	0.77
Average excluding Fraport	0.71	0.80	0.80

Source: Oxera

10.6.12. We also note that data on airline betas demonstrate a similar trend – rising significantly since March 2020, and remaining elevated since; highlighting the ongoing, elevated risks facing the aviation sector.

10.6.13. Oxera show that the pandemic has increased airline asset betas by around 0.25. Furthermore, there has been a divergence between the betas of airlines with operations more weighted towards the UK compared with those more weighted towards mainland Europe, suggesting that the upward trend in the betas of European airports may underestimate the increase in the beta of Heathrow. In particular, the data show that IAG has been the most affected by the pandemic.

10.6.14. This increase of 0.25 is consistent with Heathrow's estimate of the increase in beta compared to the CMA pre-pandemic range for airports (i.e. 0.82 compared to the mid-point of the CMA NERL range of 0.52 to 0.62). However, given the differential impact on UK versus European airlines due to the greater impact of the pandemic on UK air travel, it is possible that this uplift is insufficient for Heathrow.

10.6.15. The average asset beta of firms in the FTSE-All share is 0.75[8]. The CAA estimate of 0.53 means that their assessment is that the underlying asset risk of Heathrow is significantly less than the average asset risk of firms in the market. Given the impact of Covid on Heathrow compared to the market overall this is not credible. In contrast, Heathrow's estimate of 0.82 is consistent with it having a slightly higher asset risk than the market.

10.6.16. In the following sections we set out further detail on Heathrow's concerns with each stage in the CAA's approach to asset beta. These sections cover the pre-pandemic

[7] AENA is the airport the CAA identify as closest in characteristics to Heathrow. Oxera, in a previous report for Heathrow also concluded that AENA remains the most comparator company to Heathrow.
[8] Oxera, H7 asset beta and inflation, August 2022, Appendix 47

asset beta, the impact of the pandemic, and the impact of the TRS. The CAA's approach to the H7 asset beta is also discussed in the Legal Annex [section I1].

Pre-pandemic asset beta

CAA proposals

10.6.17. In the Final Proposals, the CAA revisits Q6 data on asset beta, noting: "pre-pandemic asset beta for HAL in H7 is likely to be in line with the level we previously determined for Q6 of 0.50."[9]

10.6.18. However, as the CAA recognises, in H7 Heathrow will not be operating with capacity constraints (as was the expectation for Q6), the CAA considers that the risk differential between Heathrow and other airports, that was previously assumed to be negative for Q6 (Heathrow is relatively less risky), is eliminated for H7.

10.6.19. To try to account for this elimination of perceived risk differences in H7 versus Q6, the CAA adds a 'wedge' to the Q6 asset beta. This wedge is set to zero at the low end and 0.1 at the high end (Step B in Table 3). Applying the wedge gives a pre-pandemic asset beta range of 0.50 to 0.60.

Concerns with CAA proposals

10.6.20. The CAA's assumptions for both (i) the pre-pandemic asset beta; and (ii) adjusting for risk differences in H7 versus Q6 are wrong. As a result, the analysis begins from the wrong asset beta base.

10.6.21. The CMA produced estimates of the pre-pandemic asset beta in the NERL findings, which used data up to the end of February 2020.[10] Specifically, the CMA estimate for AENA's asset beta was a range of 0.57 to 0.67.[11] AENA is the closest comparator for Heathrow, yet there is a 0.07 wedge between the CMA's range for asset beta and the range the CAA is proposing to apply.[12] The CMA also concluded that the overall asset beta range for airports, drawing on three airport comparators and ENAV was 0.52 to 0.62. It applied this to NERL without making any adjustment to that range for the traffic risk sharing mechanism in place. Again, this range is higher than that of the CAA, and represents an independent and robust estimate of the range of airport asset beta immediately prior to the pandemic.

10.6.22. The CAA states it does not expect there to be a risk differential between Heathrow and other airports for H7. So, the CMA estimate of 0.52 to 0.62 is the logical starting point under the methodology of the CAA. AENA beta data was not available at Q6, when the CAA selected their point estimate of 0.50, but the CAA should use the best available data in its analysis. AENA data should therefore be included in estimating the pre-pandemic asset beta for H7.

10.6.23. It is also important to note that the Q6 asset beta range for ADP, estimated by the CAA, was 0.59 to 0.60. Again, building on the AENA evidence, this suggests a

[9] CAA, CAP2365, para 9.62.
[10] CMA, NATS (En Route) Plc / CAA Regulatory Appeal, Final report, July 2020. Accessed here: https://www.gov.uk/cma-cases/nats-en-route-limited-nerl-price-determination
[11] Adjusting for a 0.05 debt beta.
[12] AENA is the airport the CAA identify as closest in characteristics to Heathrow. Oxera, in a previous report for Heathrow also concluded that AENA remains the closest comparator company to Heathrow.

starting point of 0.60 is appropriate, and provides no support for a pre-pandemic asset beta value that includes 0.50 in the range.

Heathrow's updated proposals

10.6.24. Heathrow disagrees with the CAA's proposed approach to asset beta in general. Nonetheless we still find issues within the CAA's own approach that require correction.

10.6.25. The CAA needs to adjust both the low and high starting points to be 0.6 in order to use (i) the best available evidence from the CMA estimates of asset beta pre-pandemic; and (ii) the best available evidence from Q6. Making zero adjustment for airport risk convergence, as the CAA do at the low end of the range, is not appropriate given the convergence of risk they highlight and the data that has become available on AENA since Q6.

Impact of the pandemic

CAA proposals

10.6.26. In order to capture the impact of the pandemic, the CAA continues to rely on a novel approach from Flint. CAA/Flint have retained the approach from Initial Proposals, making some minor estimation updates. This approach estimates a pre-pandemic asset beta and a 'pandemic beta'. A 'post pandemic' beta is determined by adding an adjustment to the pre-pandemic beta based on the duration of future pandemics and the frequency of pandemics occurring in future (steps C to F in Table 3).

10.6.27. Flint has estimated a pandemic impact of 0.03 to 0.10 based on data for a set of six comparator airports prior to and during the pandemic. However, **the CAA cites an estimated range from Flint of 0.02 to 0.11**. It is not clear why the CAA uses a different range to Tables 1 and 9 of Flint Report.[13]

Concerns with CAA proposals

10.6.28. Heathrow continues to be concerned with the errors in the CAA/Flint approach. In particular, the approach assumes the current pandemic has zero impact on the asset beta for H7, it assumes without evidence that all of the increase in asset beta since February 2020 is related to pandemic risk, and the approach is not supported by any relevant financial theory or empirical evidence.

10.6.29. The response of Flint on this point acknowledges the risk that Covid will continue to impact beta for the duration of H7 but declines to quantify it on the erroneous basis of evidence not being available. Specifically, the Flint reports states that, "*it is conceivable that there may be an unanticipated resurgence of the COVID19 pandemic (e.g. caused by a variant which evades vaccines and increases mortality, or triggers further significant travel constraints). This could lead to further periods of heightened systematic risks in the short term*."[14] Indeed, the updated Flint report classified data from January 2022 (the final month in their analysis), as "covid affected", again recognising the risks in H7 associated with the current pandemic.[15]

[13] Flint, H7 Updated Beta Assessment, March 2022.
[14] Flint, H7 Updated Beta Assessment, March 2022, pg.19.
[15] Other regulators have also recognised the pandemic risks are ongoing. Specifically, Ofwat's Draft Methodology released in July stated that they, "Consider that pandemics are a clear example of a

10.6.30. Flint's claim that reliable evidence to make an adjustment for this risk is not available is not credible, given the beta evidence that is available. The current approach is to recognise a risk for H7 that is consistent with Heathrow's previous submissions on this matter but to assume, wrongly and without evidence, that no quantification is possible and that it is therefore appropriate to simply assume the risk does not exist, rather give the issue due consideration and conduct a proper examination of the evidence.

10.6.31. As a result of making no allowance for the current pandemic, the CAA/Flint assume that the asset beta will have reverted to a long-term post pandemic value from 1st January 2022, and that it will remain there for the remainder of H7. Values since 1 January 2022 remain materially above this level; this is a clear error evidently not supported by data now available and so must be corrected.

10.6.32. In addition, the Flint approach assumes that all of the increase in asset beta observed since February 2020 is related to the risk of pandemics. No evidence is provided to support this assumption. Instead, it is more realistic to assume that the impact of the pandemic has revealed risks that airports are exposed to that investors had previously not considered. In particular, for example, their vulnerability to Government restrictions that have been shown can be applied at short notice. Rather than trying to second guess investors, the CAA should base its approach on the available market data.

10.6.33. Heathrow is concerned by the imbalance in the CAA's approach, where numerous adjustments to beta are made in the absence of evidence. In contrast, on the impact of the pandemic - where market observations are available - the CAA fails to make any adjustment on the basis of it being too challenging to quantify. The CAA has failed to give due weight to the evidence available and has substituted guesswork in its place.

10.6.34. To support this Final Proposal response Heathrow asked Oxera to provide theoretical and empirical evidence on the issue of asset beta. Overall, Oxera find that the CAA/Flint has arbitrarily defined the length of the pandemic period and that the CAA/Flint weighting procedure is based on arbitrary data selection and manipulation. Given this, Oxera find that the CAA's reweighting procedure would represent a concerning departure from scientifically grounded regulatory practice.

10.6.35. Oxera provide four pieces of evidence that show the pandemic continues to have an effect on the aviation sector, these are:

- Infection cases are still rising, and lockdowns are still in place – highlighting the impacts of lockdowns on global supply chains and the ongoing risks associated with new variants and higher case levels in the EU.
- Stock prices of airports and airlines are depressed compared to the stock index – suggestive of enduring effects associated with the pandemic on the aviation sector.
- Implied volatilities of relevant airports vis-à-vis that of the index – showing that airports are still facing relatively higher uncertainty than the rest of market, suggesting the persistence of Covid-19 related effects.

systematic risk whose relevance is unlikely to diminish, given research indicating pandemics like the Covid-19 outbreak will become more frequent in future."

- The recovery in the corporate travel sector is slow and may reflect a permanent shift in travel expenditures of corporations – and may increase sensitivity of total passenger numbers to changes in the economy, making airport revenues more sensitive to the economy than before.

10.6.36. Oxera also highlight the recent view of Moody's on risks to the aviation sector, in a credit opinion for Heathrow Finance PLC, which stated that, "*While traffic will be an important driver of the group's revenue, there are significant downside risks linked to the consequences of the coronavirus pandemic, particularly in the context of the emergence of the Omicron variant and the increase in the number of cases and continued restrictions to travel*".[16]

Heathrow's updated proposals

10.6.37. The asset beta for H7 needs to account for systematic risks associated with the current pandemic. The CAA's own advisers recognise these risks, but neither they, nor the CAA, provide an appropriate allowance in their estimates.

10.6.38. As set out by Oxera, an approach based on 'let the data speak' is scientifically sound and objective. Letting the data speak avoids the need for a series of arbitrary adjustments to the data. The asset beta estimates set out in Table 4 provide the latest data on these unadjusted estimates. The CAA should draw upon this data, as Heathrow has done, in setting the asset beta in the Final Decision.

Impact of the TRS

CAA proposals

10.6.39. In the Final Proposals, the CAA introduce new analysis in order to quantify the impact of the TRS on asset beta. This analysis uses the asset beta figures for network utilities (energy and water utilities) to quantify changes in systematic risk.

10.6.40. The stages in this analysis are captured by steps I to L in Table 3. In summary, the CAA take the difference between their estimate of the post-pandemic asset beta for Heathrow and the asset beta of network utilities (Step I) to define a relationship between asset beta and volume risk.

10.6.41. To define this relationship, the CAA makes an assumption about the relationship between volume risk and asset betas across sectors (Step J). The CAA then makes two further assumptions but is not clear on the precise values for each (grouping them together into a single 50% assumption in Step K), these are the reduction in volume risk from the TRS for H7, and the proportion of reduced volume risk that can be consider systematic.

Concerns with CAA proposals

10.6.42. Heathrow has several concerns regarding the CAA's approach to adjusting asset beta for the TRS. These concerns can be grouped into regulatory risk from unsupported assumptions, consideration of comparators and the use of network utilities. We discuss each below.

Regulatory risk from unsupported assumptions

[16] Moody's Heathrow Finance PLC Credit opinion, 31 January 2022, Appendix 33

10.6.43. As set out, the CAA's proposals include several assumptions when making TRS related adjustments. No evidence is provided in support of these assumptions. The CAA plainly admits to relying exclusively on its discretion in the absence of evidence for these assumptions: "*We are cognisant that the adjustment for the TRS mechanism relies to a significant extent on judgement in several areas where there is limited evidence available with which to carry out a detailed quantification. We nonetheless consider that applying such an adjustment is preferable to the alternative of adopting an estimate of the asset beta that does not adjust for the impact of the TRS mechanism at all*" .[17] No evidence is provided in support of this "preference".

10.6.44. With regards to the assumption that 50% to 90% of asset beta differences between airports and network utilities are volume driven, the CAA does not provide any evidence. Heathrow considers there to be a very wide scope for uncertainty over this parameter given that beta is determined by many variables (as discussed in further detail under the 'use of network utilities' heading below). Without evidence based on robust segmental beta analysis there is significant scope for assumptions in this area to be incorrect.

10.6.45. Oxera's review of the TRS adjustment proposed by the CAA reaches the same conclusion, which is that it is inappropriate for the CAA to arbitrarily assume that volume risks account for 50% to 90% of the asset beta differential, noting that risk differentials could be driven by multiple factors. They note that the features of the airports market are different to those of water and energy networks, and a regulatory mechanism such as TRS cannot override these differences and make the demand for airports behave in a similar way to the demand for utilities.

10.6.46. With regards to the assumption that 50% of traffic risk is mitigated by the TRS, the CAA is not clear about the components of this 50%, and fails to consider changes to profitability. The assumption that the TRS halves systematic volume risk difference would seem to imply, although not set out clearly by the CAA, that a high proportion of volume risks are assumed to be systematic (and hence would be reflected in asset beta). Again, the CAA provides no evidence for this assumption.

10.6.47. Even where some differences in asset beta arise from volume risk, the CAA approach assumes that the TRS reduces systematic risk proportionately. The CAA provides no discussion of the likely correlation between TRS and volume risk of Heathrow, and do not consider how the timing of cashflows is associated with this correlation.

10.6.48. Oxera's analysis finds further reasons that the CAA was wrong to assume that the TRS mechanism will reduce HAL's exposure to traffic risk by 50% under non-pandemic traffic shock scenarios. Namely, Oxera find that the 50% revenue sharing rate in the central band of the TRS mechanism will protect Heathrow from around 43% to 45% of overall impact on EBITDA. Oxera then use the CAA's Price Control Model (PCM) to show that the TRS mechanism can only provide a profitability and liquidity risk reduction of 4% to 14% during the H7 price control. This finding shows how the CAA's current assumption fails to appropriately capture risk to profitability and liquidity.

[17] CAA, CAP2365, para 9.160.

Consideration of comparators

10.6.49. In making an adjustment to asset beta for the TRS, the CAA has failed to recognise the protections that the regulatory regimes for comparator airports provide for absorbing non-extreme shocks.

10.6.50. In the Initial Proposal response, Heathrow highlighted that comparator airports already have means through which risk is shared.[18] The CAA responded to this point by considering only whether comparator airports had risk sharing that would mitigate *pandemic-like* shocks. However, the CAA did not address in their response how *non-pandemic shocks*, some of which are systematic, would be addressed through the mechanisms the other airports have to manage traffic risk.

10.6.51. Evidence from advisers to the CAA, in their report on the TRS, highlights the example of ADP, stating that, "ADP has an annual price control which in principle mitigates traffic risks through annual recalculation of the price cap. A traffic risk sharing mechanism was previously in place at ADP when operating in a multi-year price control".[19] It is these characteristics of the comparator airport regimes that the CAA is currently failing to place appropriate weight on.

10.6.52. By only partially considering this point, the CAA has failed to examine the evidence provided and still has not established the case that these comparators have a lower degree of risk sharing than the TRS offers in a range of circumstances.

Use of network utilities

10.6.53. Heathrow has significant concerns about the CAA wrongly assuming that utilities are a robust reference point relative to airports and has made this assumption without any evidence or material consultation.

10.6.54. As set out in Table 3, to estimate an adjustment to asset beta for the TRS, the CAA uses the asset betas of network utilities as a benchmark against which airport asset betas can be compared. However, network utilities do not provide a meaningful data point that can be used to calculate a precise adjustment. This is because observed betas are a function of many interacting variables, including:

- Cost risk;
- Revenue risk;
- Business specific asset characteristics;
- The degree of operating leverage;
- Regulatory design and implementation; and
- Market dynamics.

10.6.55. For all of these variables, there are differences between Heathrow and network utilities that means comparisons based on just one of these variables are not robust. The CAA acknowledges this by stating that, "network utilities operate in different

[18] Heathrow, CAP2265 response, Section 7.
[19] Deloitte, Review of the CAA's proposed traffic risk sharing mechanism, June 2022.

sectors and are subject to somewhat different risks to HAL".[20] The CAA also noted, but disregards, the recent position of the CMA for NERL that, "the CMA determined that regulated network utilities were not suitable comparators for NERL".[21]

10.6.56. In addition, Oxera find that the CAA's approach of using the average of the PR19 and RIIO-GD2/T2 asset beta is unreliable. Oxera emphasises that the comparability between energy and water betas is a highly controversial topic, and one that was heavily disputed by companies and regulators. Oxera conclude the CAA approach of, "*taking simple average of the water and energy betas, without deliberating the analyses underlying each determination, calls into question the broader robustness of its framework for quantifying the impact of TRS, which appears to be largely ad-hoc and unsubstantiated.*"[22]

10.6.57. Hence the CAA is wrongly proposing an approach which it knows is unreliable. The very broad alleged similarities the CAA highlights between Heathrow and network utilities – such as both being '*asset heavy*' and having '*long-lived assets*' – are not a valid basis for attempting to make direct beta comparisons. For example, some airlines that have higher systematic risk than airports are also asset heavy and have long-lived assets. Moreover, the same broad similarities could be claimed of several sectors that would never be conceivable comparators and the mere fact that network utilities are also regulated should not be dispositive as to their relevance for estimating Heathrow's asset beta.

Overall TRS adjustment

10.6.58. Overall, the CAA applies these assumptions to reach an adjustment for the TRS of -0.08 to -0.09, this adjustment is spuriously precise for all the reasons set out above and Heathrow considers that no weight should be placed on it.

10.6.59. Oxera also show the scale of the adjustment is inconsistent with the mitigation it provides. They show the present value of the revenue losses from the TRS adjustment to asset betas is £691m compared to an expected protection from the TRS of £419m. It is not credible that the TRS would reduce investors required returns by more than the protection it delivered. In addition, the protection provided by the TRS is very unlikely to be highly correlated with the market, and therefore unlikely to reduce systematic risk significantly. As a consequence, the resultant reduction in required return would be expected to be only a small proportion of the protection it provides.

10.6.60. In summary, the TRS adjustment does not take account of the risk mitigation available for comparator companies, it does not take account of clear CMA regulatory precedent, is based on a range of completely unevidenced assumptions, and is of a scale that is not credible give the expected mitigation the TRS provides.

Heathrow's updated proposals

10.6.61. The CAA needs to consider the level of traffic risk sharing already reflected within comparators' betas. The CAA has ignored how these comparators are protected against 'non-pandemic' variations in traffic risk in the Final Proposals. Appropriate

[20] CAA, CAP2365, para 9.154.
[21] CAA, CAP2365, para 9.156.
[22] Oxera, H7 asset beta and inflation, August 2022, Appendix 47

consideration of this would highlight that no adjustment to asset beta for the introduction of the TRS is required.

10.6.62. There is clear regulatory precedent in the NERL CMA case that no adjustment to observed asset betas is required for TRS, since none was applied by the CMA to NERL despite its strong traffic risk sharing mechanism.

10.6.63. The adjustments towards network utility betas are arbitrary, not evidence based, and use highly subjective inputs. Any analysis that attempts to adjust beta using such comparisons should be disregarded by the CAA.

10.7. Debt beta

CAA proposals

10.7.1. The CAA continue to apply a debt beta range of 0.05 to 0.10 in the Final Proposals, using 0.05 for the high end of its range, and 0.10 for the low end of its range.

10.7.2. The CAA's view is that there is a relationship between gearing and debt beta, where debt beta increases with gearing in the range between Heathrow and that of comparator airports. The CAA considers that their values are a "plausible assumption".

Concerns with CAA proposals

10.7.3. The CAA continues to wrongly rely on an assumption driven approach that is not supported by statistical evidence on debt betas. The CAA acknowledged at Initial Proposal stage that the relationship between gearing and debt beta was difficult to estimate, and at Final Proposals continues to not provide any evidence for the quantum of this relationship. Instead, it follows an assumption-led approach unsupported by empirical evidence.

10.7.4. The CAA estimate is also inconsistent with the CMA's recent findings for NERL. Where the CMA, in their review of debt beta, found that it was likely that the debt beta was lower than 0.1.

Heathrow's updated proposals

10.7.5. We consider that the CAA must adopt the same approach as the CMA for NERL and use an estimate for debt beta of 0.05.

10.8. Total market return

CAA proposals

10.8.1. The CAA's Final Proposals are to adopt the midpoint of the CMA's PR19 range for TMR of 5.85%.

Concerns with CAA proposals

10.8.2. Heathrow is concerned that the CAA's Final Proposals include some arguments regarding the alleged generosity of TMR. These arguments are not robust. For example, the CAA state that there is evidence to suggest that real equity market returns tend to fall during inflationary episodes based on a single reference to a 1994 paper by Ammer.

10.8.3. However, this paper finds evidence in the UK of a positive relationship between inflation and the real cost of equity capital – which is the opposite of the relationship the CAA was attempting to highlight.[23] Therefore, the evidence the CAA provides draws the opposite conclusion for Heathrow to the one they claim.

10.8.4. Heathrow finds that there are factors to suggest return requirements could be higher than historical averages in H7. For example, there has been significant equity market volatility in the first half of 2022, indicating that there is currently a higher than normal degree of risk in the equity market – which could place upward pressure on the cost of equity.

10.8.5. Heathrow continues to support a focus on long-run real historical returns for setting a constant TMR. The estimation of these historical returns requires assumptions on inflation, and Heathrow note that the CAA did not consider the latest historical inflation series published by the ONS in May 2022 in the Final Proposals. The ONS published new historical data series for inflation between 1950 and 1988.

10.8.6. Specifically, the ONS provide new estimates for both CPI and CPIH over that period. As these series are now the most up to date view of the ONS for inflation over that period, the CAA should consider the directional impact of this new series on the estimate of TMR. As the updated estimates for CPI are lower than previous ONS estimates, all else equal, their inclusion will increase estimates of historical real equity market returns.

Heathrow's updated proposals

10.8.7. Heathrow notes that there are no grounds for changing from a long-run real historical returns for setting a constant TMR. No weight should be placed on observations regarding 'generosity' given the absence of evidence for this, and that the evidence the CAA provided indicates the opposite effect.

10.8.8. Heathrow notes that there are factors which suggest upward pressure on H7 cost of equity estimates relative to the estimate established by the CMA in the water appeal, as summarised in Table 5 below. These factors are relevant to consider when assessing the point in the range for the cost of equity.

Table 5: Factors to consider for the TMR point estimate

Consideration	Implication for point estimate
Inflation environment for the UK	⬆
New historical CPIH/CPI inflation series	⬆
Recent equity market volatility	⬆

Source: Heathrow

10.9. Risk-free rate

CAA proposals

10.9.1. The Final Proposals continue to place weight on index-linked gilt yields with the inclusion of a convenience premium.

[23] Ammer, J. (1994), "Inflation, inflation risk and stock returns", Board of Governors of the Federal Reserve System: International Finance Discussion Papers, Number 464, April.

Concerns with CAA proposals

10.9.2. Heathrow considers the CAA's approach in the Final Proposals to be appropriate.

Heathrow's updated proposals

10.9.3. Heathrow does not propose any updates to the Final Proposals for the risk-free rate.

10.10. Point in the range for cost of equity

CAA proposals

10.10.1. In the Initial Proposals the CAA did not set out a view on the appropriate part of the range to adopt for their point estimate. In the Final Proposals the CAA has proposed adopting the mid-point of their range on the cost of equity.

Concerns with CAA proposals

10.10.2. Heathrow is concerned that the CAA propose adopting the mid-point in the range given the CMA's careful consideration of this point during the PR19 water appeals and the circumstances facing Heathrow in H7**.**

10.10.3. In its decisions on the Water companies, the CMA concluded that it was in consumers' interest to position the cost of equity above the midpoint of the range to help preserve the incentive for investors to continue to invest in the sector. In its Determination the CMA identified two key concerns that the point in the range needed to consider: firstly, that regulation should create a supportive long-term investment environment; and secondly, that the allowed return needs to be set in a way that encourages the right level of new investment. They were concerned that if the WACC were set too low, companies will not have the incentive to identify, develop and implement new and often complex investment programmes.

10.10.4. In addition, the CAA does not engage with Heathrow's Initial Proposals analysis on the appropriate point in the range. Heathrow drew upon work by Oxera, which, using the CMA's approach to PR19, estimates that the point estimate should be set at the 77th percentile. The CAA did not directly comment on this analysis so appears to have dismissed it without due consideration.

10.10.5. For the reasons set out in the Total Market Return section (Section 10.8), we do not consider the CAA's arguments regarding 'upward skew' within the parameter range to be robust. The sources the CAA are using actually suggest the opposite relationship between inflation and real equity returns for the UK. This is the only factor in the CAA's assessment that is used to argue for downwards pressure on the point estimate. Given the CAA's analysis is not robust, the considerations around welfare effects and investment are most relevant, meaning the CAA's decision not to set the point estimate above the mid-point of the range is a clear error.

10.10.6. Moreover, the use of mid-point in WACC estimation range is inconsistent with the CAA's own narrative about enduring risk post-pandemic and the difficulty in forecasting passenger numbers accurately. The CAA has stated that its asymmetric risk allowance means that there is no asymmetry in the Final Proposals overall. This is clearly not the case at present. The CAA traffic forecast has Heathrow at full capacity for the last two years of H7 with no opportunity to out-perform. However, the risk that the CAA forecast is too high is very large, and macroeconomic risk is also elevated. This means that the distribution of potential outcomes from the Final Proposals is highly asymmetric.

10.10.7. Finally, the CAA has not taken account of the congestion premium that airlines are able to achieve in operating at Heathrow as a result of the scope for entry being constrained by capacity limits. Frontier Economics demonstrated the scale of this premium prior to the pandemic to be over £200 on long-haul return flights, and £34 on short-haul return flights[24]. Frontier Economics have updated this work and shown that a premium continued to be achieved for long-haul in 2020 and 2021 despite the pandemic, albeit at a slightly lower level (£90-£160)[25]. This report sets out an excellent overview of aviation economics and explains why increases in airport charges at Heathrow will not be passed on to consumers in higher fares, nor affect their choice and availability of routes.

10.10.8. The fact that increases in airport charges will not be passed on to consumers strengthens the case for setting the point estimate above the mid-point of the range. If the WACC is too low, then consumers will suffer from a lack of investment in the airport. If the WACC is too high however, the fares paid by consumers will not increase. This means that the risk to consumers from choosing a point above the middle of the range is much more asymmetric than in other regulated utilities, and therefore that the benefits from aiming up are higher.

Heathrow's updated proposals

10.10.9. The evidence continues to support a adoption of a point estimate above the centre of the cost of equity range, and in line with the Initial Proposal response, Heathrow considers setting the point estimate 0.5% above the mid-point to be appropriate based on the Oxera analysis presented in response to the Initial Proposals.

10.11. Inflation

CAA proposals

10.11.1. An inflation assumption is needed to convert the cost of debt in nominal terms into real terms. In the Final Proposals the CAA has used an approach to inflation that is a significant departure from its approach at previous price controls. This is discussed further in the Legal Annex section I2.

10.11.2. The Final Proposals outline approaches for each of: fixed-rate embedded debt, index-linked embedded debt, new fixed-rate debt, and new index-linked debt.

10.11.3. The most substantial change proposed by the CAA is the proposal to use short-term inflation forecasts (from the OBR) as the basis for deflating fixed-rate debt.

Concerns with CAA proposals

10.11.4. The CAA has proposed an approach to inflation that:

- Is based on incorrect reasoning;

[24] Frontier Economics, Estimating the Congestion Premium at Heathrow, 2019 https://www.caa.co.uk/media/p4jftpe4/estimating-the-congestion-premium-at-heathrow.pdf
[25] Frontier Economics, Slot Scarcity and Airfares at Heathrow, April 2022, Annex 46

- Is not consistent with established regulatory practice (including appeal decisions by the CMA);

- Is a significant departure from its practice at previous price controls, and results in a significant quantum change from the Initial Proposals; and

- Risks creating financeability issues.

10.11.5. In effect the CAA's approach is to deviate from a real return regulatory regime. In such a regime, variance in outturn inflation is a risk carried by the company. If inflation is lower, returns are lower and vice-versa. The regulated company is expected to bear this risk and manage its finances accordingly. However, the CAA now propose to move away from this approach by implementing a mixed regime of a real return on equity and a nominal return on debt. The CAA has not consulted on this fundamental change to the regulatory regime, nor has it justified why the change is appropriate. The CAA must return to a real return regulatory approach in full.

Flaws in the CAA's reasoning

10.11.6. Heathrow asked Oxera to review the CAA's approach to inflation. Oxera's analysis highlights a number of concerns with the approach the CAA is proposing.

10.11.7. Firstly, the CAA state that the proposed approach to the cost of debt 'entails remunerating interest costs in full within the confines of each five-year regulatory period'. As Oxera point out, this is only true in expectation, because there will be no true-up of the real cost of debt allowance if actual inflation is different to forecasts. However, the CAA approach does not eliminate the risk that the real cost of debt and real equity returns will deviate from forecast.

10.11.8. As Oxera set out, inflation is volatile but is a mean-reverting process. Annual inflation measured over the long run will be less volatile than annual inflation measured over the next five years. As a result, the CAA Proposals adopt a variable that has a wide range of potential outcomes in place of a variable with a much narrower range of potential outcomes. This means that the proposed approach does not eliminate the risk to investors and customers that arises from the treatment of inflation but instead increases the risk of using an inaccurate inflation forecast.

10.11.9. Secondly, the approach of the CAA is inconsistent with how RABs are financed, and with how the cost of debt is determined in capital markets. Oxera highlight that the RAB is generally financed using long-term debt, and that deflating nominal inputs for the cost of debt using long-term inflation spanning multiple price controls is consistent with how the cost of debt was determined in the market. The long-term nature of debt is to match to the lives of the assets being financed.

10.11.10. Oxera emphasise that changing from long-term to short-term inflation forecasts, when inflation is high, would be asymmetric as it would claw back the allowance for the cost of embedded debt.

10.11.11. It is straightforward to see that the position in the Final Proposals is a change from the CAA's previous position on inflation from Q6. The CAA previously, and correctly, found that the most appropriate way to estimate the real cost of debt is to use the inflation priced in at issuance. This applies both to new debt and embedded debt. Specifically, the CAA's stated position in the Q6 final decision was that:

10.11.12. "*Ideally the choice of inflation assumption needs to reflect the future inflation expectations at the same point in time as the market data on the bond and cover the period of time to that bond's maturity*."[26]

10.11.13. The CAA has now failed to understand the same principle (which hasn't changed with the passage of time) that it did in at Q6. Shifting approach, when an otherwise symmetric mechanism is at an extreme end of the spectrum, is a clear example of asymmetric regulatory treatment. The regulatory risk arising from such asymmetric treatment will in time increase the cost of capital and be a source of detriment to consumers.

10.11.14. Further evidence on the inconsistency of the CAA's Final Proposals with regulatory practice and the asymmetric risk it creates is highlighted below.

Inconsistency with regulatory practice

10.11.15. Building on the example of CAA inconsistency above, as highlighted by Oxera, the issue of inflation treatment was discussed in the recent PR19 CMA appeals. Oxera explain that Yorkshire Water, one of the appellants, argued that, because inflation at the time of the appeals was known to be below target in the first year of PR19, a lower inflation estimate for the price control is needed to recover the nominal cost of capital in full, and to avoid weakening of interest coverage ratios. However, CMA decided against adopting short-term inflation for the PR19 price control, explaining that the real cost of capital should not be based on 'what could prove to be temporarily distorted figures'. The CMA also noted that, using a longer-term estimate is the '*fairest way to calculate the real cost of capital at this time*'.

10.11.16. The CMA also found that, "*a stable approach to the cost of capital over regulatory periods is consistent with investors making long-term financing decisions*" when discussing the selection of RPI assumption in the Bristol Water 2015 re-determination. It adopted an approach that focused on data over a longer horizon, concluding that, "*the use of only short-term RPI projections risks given insufficient weight to underlying trends in the real cost of debt over time*."[27]

10.11.17. To see the asymmetric regulatory risks that the CAA's proposed approach creates, previous situations where forecast inflation was expected to deviate from long-run trends can be reviewed. Here, evidence shows that in such situations, the CAA and other regulators have stuck to a long-term approach. Below we highlight two examples of this:

- Ofwat PR09 – at the time of Ofwat's PR09 final determination (late 2009), outturn RPI inflation was negative, and had experienced steep declines. This created a higher degree of inflation uncertainty heading into the price control period. Ofwat continued to set a 2.5% assumption for RPI in light of this, noting that "*Annual measures of RPI may be volatile, as is currently the case for forward projections. We have therefore assumed the nominal interest rate includes a longer-term view of inflation*".[28]

[26] CAA (2014), Estimating the cost of capital: a technical appendix for the economic regulation of Heathrow and Gatwick from April 2014: Notices of the proposed licences, CAP 1140.
[27] CMA (2015), Bristol Water plc: A reference under section 12(3)(a) of the Water Industry Act 1991, Final Report, para 10.61. Accessed here: https://www.gov.uk/cma-cases/bristol-water-plc-price-determination
[28] Ofwat, Future water and sewerage charges 2010-15: Final determinations, pg.138. https://www.ofwat.gov.uk/wp-content/uploads/2015/11/det_pr09_finalfull.pdf

- CAA Stansted Q5 – At the time of the Q5 decision for Stansted the CAA was conscious that economic uncertainty was making it more difficult to interpret inflation data. The CAA specifically noted that the latest Treasury survey of independent forecasts at the time was reporting an annual RPI inflation forecast of minus 1.9 per cent. Despite noting this very low short-term inflation forecast, the CAA did not update the inflation assumptions that fed into their building block approach.[29]

10.11.18. Consistent with this, Oxera find that inflation has been below long-term expectations on multiple occasions since BAA privatisation (1993-94; 1999-2000; 2001-2003; 2009; 2015-17) yet regulators have not sought to intervene during these episodes either in response to forecast or actual inflation being lower than the long-term average.

10.11.19. In summary, in previous situations where forecast inflation was expected to deviate from long-run trends, the CAA and other regulators have stuck to a long-term approach. Deviating from this approach when inflation is high creates asymmetric regulatory risk.

Financeability risks

10.11.20. Lastly, as Oxera set out, the impact of the CAA Proposals is to '*offset an expected inflationary increase in revenue to HAL by making an actual fixed reduction to the calculated real revenue requirement that flows into the price cap.*' This creates a greater financeability issue that in previous price controls, by putting additional pressure on financeability at a time when the airport already faces significant risk.

10.11.21. Moreover, the CAA's move from a real return approach to a mixed approach of real returns for equity and nominal returns for debt is a step change from previous approaches. Heathrow's approach to financing has been to optimise to reflect the risks with the existing policy, for example in its choice of Index Linked protection and use of fixed and variable debt. In particular, it has used higher levels of Index Linked protection than assumed by the CAA in order to protect against the risk of low inflation, that previously would have been ignored by the CAA in its approach of using long-run inflation (e.g. in the Stansted Q5 decision). The CAA change in approach to suddenly adjust for higher short-term inflation is inconsistent with this previous approach and will harm Heathrow disproportionally as a result of the level of Index Linked debt it holds being higher than assumed by the CAA. This is because its adjustment for inflation does not take into account the actual proportion of Index Linked debt and is therefore too high and the resulting cost of debt too low.

Heathrow's updated proposals

10.11.22. The CAA's Proposals create significant asymmetric regulatory risk. Heathrow continues to propose the use of a long-term RPI estimate of 2.9% consistent with current regulatory best practice. The CAA should adopt this RPI figure in its final decision to avoid regulatory inconsistency and undue risk.

[29] CAA, Airport Regulation Economic Regulation of Stansted Airport 2009-2014 CAA Decision, March 2009

10.12. Cost of embedded debt

CAA proposals

10.12.1. The CAA has made several changes to its approach to embedded debt between the Initial Proposals and Final Proposals. Aside from inflation, which we discuss in Section 10.11 above, the most material change is the decision to change the averaging on the iBoxx indices from a 20-year collapsing average to a 13.5-year fixed average. This is a significant shift of position and is different to the assumptions the CAA makes throughout the rest of the Final Proposals in respect of debt financing.

10.12.2. The CAA has also updated their estimate on the cost of Heathrow's debt issuance versus the iBoxx indices (the Heathrow specific premium). Having updated their approach for swap dates and swap costs since Initial Proposals, the CAA estimate this premium to be 8bps.

10.12.3. Using their updated approach, the CAA estimate a real cost of embedded debt of 0.17% for H7.

Concerns with CAA proposals

Averaging period

10.12.4. The CAA say in the Final Proposals that they estimate the WACC with reference to a notional financing structure. In multiple places, they consider the notional company would issue debt with a 20-year tenor – which is broadly consistent with the average years to maturity of the bonds in the iBoxx non-financials A and BBB 10+ indices.

10.12.5. The places where this 20-year assumption has been used include assessing the proportion of new debt for H7, calculating the amount of embedded debt that needs to be retired each year, and calculating liquidity requirements.

10.12.6. As the CAA set out, this notional assumption is linked to an average useful asset life of 20-years and a view that the notional company would look to match its assets and liabilities. The approach to averaging taken at IPs was consistent with this, using a 20-year collapsing average to estimate embedded debt for the notional company.

10.12.7. However, the CAA state in the Final Proposals that they have changed their approach to averaging in order to align more closely with the actual position of Heathrow (away from this consistent 20-year notional assumption). In doing so, they have relied on a narrow set of information and have made calculation errors.

10.12.8. Firstly, the CAA's estimate of 13.5 years has failed to take account of Heathrow's actual average tenor - which is not consistent with a 13.5 year assumption. This can be illustrated with a number of observations from Heathrow's balance sheet that are summarised in Table 6 below. For example, across all Heathrow's Class A debt the average tenor at issue is close to 20-years. And for Heathrow's GBP bonds, which are the closest match to the indices the CAA uses for setting the notional embedded debt figure, the average tenor is above 20 years.

Table 6: Heathrow average bond tenor at issue

Heathrow bond sample	Tenor (years)
All Class A	18
All Class A – pre-pandemic	19
All GBP bonds	21
All GBP bonds – pre-pandemic	22

Source: Heathrow

10.12.9. Secondly, by selecting an average of 13.5 years the CAA appears to have aligned the start date for their averaging period to the 2008 restructuring of Heathrow. Yet, the CAA acknowledge that Heathrow has a significant amount of debt that pre-dates 2008. They therefore adopt an approach that does not give this debt sufficient weight – undermining the purpose of checking their approach against Heathrow's actual debt. The CAA also provide no calculation to support their 13.5 year assumption, relying on a broad division of issuance into five-year periods to make an assertion about potential skew in their estimates.

10.12.10. Thirdly, by taking the CAA's own weighting of Class A bonds (as set out in Table 7 below) from the Final Proposals, we find that the figures do not support a 13.5 year average. This can be shown by assigning each period with a mean age of debt, and calculating the associated weighted implied tenor. Using the figure from Table 7 the resulting weighted tenor is 15.7 years.

Table 7: Debt issuance profile

Period	CAA weighting of Class A bonds	Mean age
Pre-2007	17%	17.5
2007-2011	14%	12.5
2012-2016	28%	7.5
2017-2021	41%	2.5

Source: Heathrow

10.12.11. Furthermore, the CAA weightings need to be corrected. This is because a significant amount of additional debt was raised at the end of Q6 to maintain a sufficient liquidity buffer associated with Covid. This did not increase net debt, and should be accounted for in the weighting process, and is recognised in the CAA's approach to pandemic liquidity costs. In Table 8 below, we set out these corrected weightings. As shown, the corrections mean there is less skew towards the 2017-2021 period than the CAA had assumed. The result is that the weighted implied tenor increases to 19.5 years. This is further evidence that supports the 20-year notional assumption the CAA was previously using in the Initial Proposals.

10.12.12. Building on these corrected weights, using the average iBoxx yields for each period (assuming Pre-2007 covers the period 2002 to 2006), the resulting nominal estimate for the cost of embedded debt is 4.65%. This is 43bps higher than the equivalent CAA figure set out in the Final Proposals.

Table 8: Debt issuance profile – corrected for liquidity

Period	Corrected weighting	Average iBoxx
Pre-2007	23%	5.8%
2007-2011	19%	6.1%
2012-2016	38%	4.2%
2017-2021	20%	2.7%
Weighted av.		**4.65%**

Source: Heathrow

10.12.13. We also note that the CAA's estimate for these weightings contain further errors. For example, the CAA figures do not take into account the additional debt amounts that arise from the accretion of interest linked bonds and swaps. The impact of these is to increase the effective amounts of debt in the earlier bands. This further demonstrates that a 13.5 year average assumptions is unsupported by evidence.

10.12.14. Finally, we note that the CAA has not assessed the impacts of its proposed shortened approach on the incentives and financial risk of Heathrow. In using a shorter look-back period for setting the cost of embedded debt, the CAA create an implicit incentive for Heathrow to shorten its weighted debt tenor. The CAA's approach disincentivises raising debt with an average debt tenor materially above 13.5 years due to the interest rate risk it would produce compared to the regulatory allowance. Shorter tenors would in turn increase the refinancing risk associated with maturity concentrations, reducing financial resilience to the long-term detriment of consumers.

10.12.15. As we go on to highlight below, in order to check whether the CAA is more closely aligned to actual costs they should review Heathrow's estimate of actual costs versus the final allowance.

Heathrow specific premium

10.12.16. The CAA has also made errors in estimating the Heathrow's cost of debt at issuance and as result has under-estimated it. In particular, with regards to the premium, Heathrow is concerned that it still fails to properly account for swap costs and that the allowance is inconsistent with straightforward comparisons of the yields on Heathrow's debt and the iBoxx.

10.12.17. The CAA's proposals significantly underestimate swap costs. While the Final Proposals include an estimate of swap costs - which were absent from the Initial Proposals - the figures included are too low. As set out in Table 9 below, the CAA's assumptions are far below the actual weighted average cost Heathrow has incurred on its swaps (with the exception of CHF swaps). At the upper end of the range the CAA understates the swap cost by 17bps.

Table 9: Cross-currency swaps costs

Basis points	AUD	CAD	CHF	EUR
Weighted average spread	29.3	20.9	10.2	11.0
CAA assumption	12.5 - 22.5	8.5	11.5	5.0 - 7.5
CAA underestimate	6.8 - 16.8	12.4	(1.4)	3.5 - 6.0

Source: Heathrow

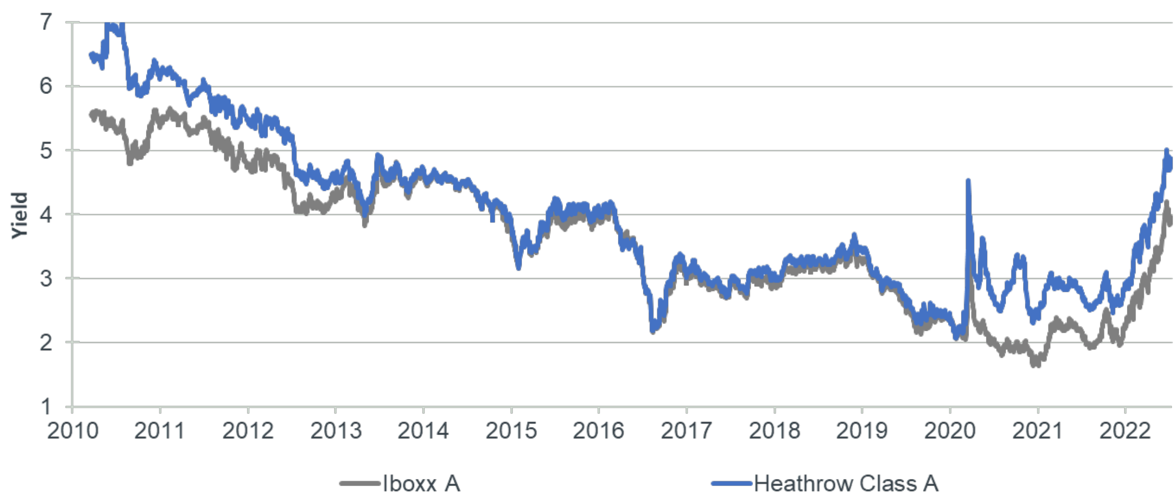
10.12.18. In addition, the CAA has not compared Heathrow's issuance with indexes of the correct tenor. This is an error because, as KPMG set out, when considering the spread at issue of company debt, consideration needs to be given to the selection of the benchmarks so that they are matched for credit rating and tenor.[30]

10.12.19. Furthermore, the CAA's proposed estimate of the Heathrow specific premium (8bps) is also not consistent with long-run evidence from the spreads of Heathrow's Class A bonds over the iBoxx.

10.12.20. The evidence here is twofold. Firstly, comparing yields to maturity on Heathrow's long-term GBP bonds to the iBoxx A index shows that on average they have traded at a premium of around 35bps.[31] Secondly, using yield at issuance data on all of Heathrow's Class A debt compared to the iBoxx A index at the time of issuance produces a premium of over 40bps. Including Class B debt in this comparison increases the premium to over 50bps.

10.12.21. Regarding the first point, Figure 1 shows how yields on long-term Class A Heathrow GBP bonds have compared to A-rated iBoxx yields over time. It is clear from the chart Heathrow debt has on average traded at yields greater than the iBoxx over time. There have also been periods where the gap in yields has been larger than others, namely the 2010 to 2013 period, and the period from 2020 onwards. This demonstrates the risks in picking a particular window of time to undertake comparisons or by focusing on a limited range of actual issuance data, as these may fail to adequately capture the long-term trends.

Figure 1: Spread of Heathrow Bonds to iBoxx A index since 2010



Source: Heathrow

10.12.22. KPMG conclude that market data on bond yields is the most relevant and reliable source of measuring the efficient cost of financing stating "sector-average bond yields and new issuance premiums have the capacity to serve as robust estimates of the price bond investors require to lend to a particular sector".[32]

[30] KPMG, Best Practice Approach to Assessing Debt Financeability for Heathrow Airport Limited, August 2022. Appendix 35

[31] Based on data between 2010 (based on traded yield data availability) and 2022.

[32] KPMG, Best Practice Approach to Assessing Debt Financeability for Heathrow Airport Limited, August 2022. Appendix 35

10.12.23. The CAA needs to take this evidence into account. The market evidence reflects the efficient cost of debt for Heathrow. The CAA cannot make an assumption that implies new lenders would be prepared to accept yields that are lower than those available on existing debt in the market. In practice, the cost of new debt is above the market spread and a new issue premium also needs to be taken into account. Bringing these points together, to get the actual cost of debt relative to the iBoxx, factoring in a 10-20bps New Issue Premium, means that a cost of embedded debt spread to the iBoxx of approximately 50bps is required.

10.12.24. Regarding the second point, Heathrow has reviewed issuance data across its debt portfolio to compare yields at issue against the iBoxx from the same dates. In order to make this comparison Heathrow has selected the tenor and rating of the iBoxx that best matches the particular bond and class of debt being considered and has also made the actual incurred cross-currency adjustments. This means the comparisons are like-for-like.

10.12.25. Table 10 below shows the result of that analysis. The spread of Heathrow yields versus the iBoxx across all Class A bonds (GBP and non-GBP) is 42bps on average. The spread on Class B is larger, at 110bps on average. Combining all classes of debt, the average spread relative to the iBoxx is 53bps on average.

Table 10: Yield to maturity on iBoxx vs Heathrow bonds at inception

Heathrow bond sample	Spread relative to Iboxx
Full list of Class A	42 bps
Full list of Class B	110 bps
All bonds (Class A and B)	53 bps

Source: Heathrow

10.12.26. As set out above, the CAA assumption for the Heathrow specific premium relative to the iBoxx is 8bps. The results of this analysis show that this proposed figure is a significant underestimate of the true spread – which has taken into account all of Heathrow's debt rather than only looking at a sub-sample and includes actual rather than estimated currency conversion costs.

10.12.27. An appropriate figure for the Heathrow Specific Premium is therefore in the range of 40bps to 50bps as this is the range that is consistently produced irrespective of method.

Comparison to Heathrow's actual cost of debt

10.12.28. The rationale for the CAA's amendments between Initial Proposals and Final Proposals was that they were seeking to align more closely to the actual cost of HAL's Class A debt. This applies to both the switch to the 13.5 year average and the inclusion of a Heathrow specific premium.

10.12.29. However, the CAA make errors in doing so which means that the Final Proposal estimate of the cost of embedded debt is significantly below Heathrow's actual cost of debt.

10.12.30. Heathrow estimates that the actual cost of embedded debt using the most up to date information, and a long-term assumption for RPI of 2.9%, is 1.7%. Even using the CAA's proposed approach to inflation - with which Heathrow disagrees - the actual cost of embedded debt is 0.64% for H7. This is nearly 0.5% higher than the allowance in the Final Proposals which based on the CAA's 13.5 year average and the 8bps Heathrow specific premium.

10.12.31. Heathrow considers that this direct comparison of the final outputs is the most appropriate check of whether the CAA's allowance for the cost of embedded debt is 'more closely aligned' to actuals. Such a comparison shows that a very large gap remains between the CAA approach and actual costs.

Heathrow's updated proposals

10.12.32. The CAA must address the errors in its notional approach to assessing the embedded cost of debt for the Final Decision. Specifically, if the CAA continues to not use Heathrow's actual embedded debt cost of 1.7% real, then it must:

- Revert to a 20-year collapsing average approach, consistent with Heathrow's actual debt issuance and the CAA's notional approach;
- Apply an upwards adjustment of 50bp to the trailing iBoxx estimate to account for Heathrow's costs relative to the index as evidenced by the spread of its bonds over iBoxx during the period.

10.12.33. In order to check whether the CAA is more closely aligned to actual costs they should review Heathrow's estimate of actual costs versus the final allowance, rather than undertaking partial comparisons that fail to achieve their stated aim.

10.12.34. We consider that the appropriate cost of embedded debt to use is 1.7% real based on Heathrow's actual cost of embedded debt over H7.

10.13. Cost of new debt

CAA proposals

10.13.1. The CAA has updated their index for estimating the cost of new debt from the average of the iBoxx A and BBB indices to using the BBB rated index. This is to reflect the degree of uncertainty regarding credit metrics and the ability to retain a BBB+ rating.

10.13.2. The CAA also propose applying a Heathrow specific premium to this index, and use the same 8bps assumption as they did for embedded debt. This is based on the CAA's assumption that in H7 there is an immediate reversion to long-run trends.

10.13.3. The CAA do not consider the trading spreads on Heathrow's debt instruments as suitable evidence for setting the Heathrow specific premium, mainly as they do not consider data from the pandemic period as a useful benchmark for H7.

10.13.4. The CAA continue to apply a small index-linked premium of 0.05% in line with their initial proposals. The CAA continue to not provide any allowance for the New Issuance Premium relative to Heathrow's RBP estimate of 0.1% to 0.2%.

Concerns with CAA proposals

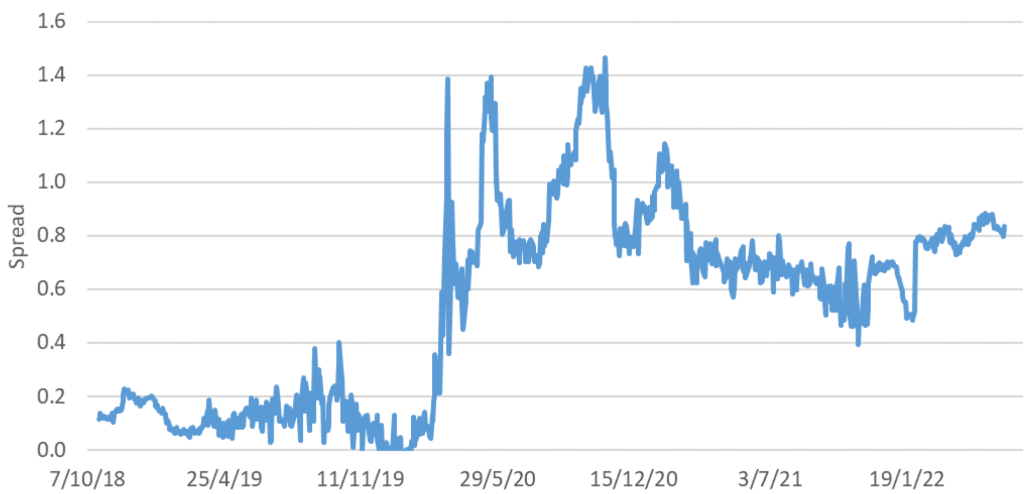
10.13.5. As set out in the cost of embedded debt response, the CAA's 8bps assumption for the Heathrow specific premium is too low. We do not repeat those arguments here, but highlight our concern that an incorrect number is being applied to the cost of new debt estimation too.

10.13.6. Figure 1 shows that the spread of Heathrow debt has varied. Consequently, the spread needed for estimating Heathrow's actual cost of debt may not be the same for new and embedded debt. In the case of embedded debt we have focussed on the spread of Heathrow bonds since 2010 and the actual cost at issue for all debt. In considering the likely cost for new debt, it is important to consider more recent evidence on spread. As we show below in Figure 2, the recent spread of Heathrow debt is higher than the long-term average used for embedded debt, and therefore the spread for the cost of new debt needs to be higher. For new debt, it is appropriate to focus on the more recent spread which is higher.

10.13.7. For the cost of new debt. the CAA needs to consider traded spread evidence which continues to show, several months into 2022, that Heathrow's bonds are trading with a large premium to their chosen benchmarks.

10.13.8. Our response to the Initial Proposals set out the high spread that has persisted on Heathrow's Class A bonds relative to the iBoxx A index since March 2020. The latest evidence for 2022 shows that Heathrow's long-term GBP bonds continue to trade at a spread of around 80bps to the iBoxx A index and that this relationship has been stable over the period. There is no evidence that this spread is reducing, and it has broadly been on a rising trend through 2022. The latest evidence on this spread is shown in Figure 2 below.

Figure 2: Recent spread of Heathrow Bonds to iBoxx A index



Source: Heathrow

10.13.9. Over the last six months the spread of Heathrow debt relative to the iBoxx has been 80bp. This is also equal to the average spread since March 2020. Taking into account a new issue premium of 10-20bp, this results in Heathrow's cost of debt currently being 0.95% higher than the iBoxx index. The CAA must take this differential into account in their estimate of the cost of new debt.

10.13.10. We note that there is no evidence that this spread will fall over H7. It is not correct for the CAA to assume it is solely related to the pandemic. Heathrow debt has experienced similar spreads in the past that were unrelated to pandemics as shown in Figure 1. The CAA should therefore apply this spread for the whole of H7.

10.13.11. We note the CAA's proposal to change index for calculating the cost of new debt to be BBB only. However, even with this updated proposal there is still a significant gap between the cost at which Heathrow can access finance and the CAA assumption. Heathrow's bonds have continued to trade at a persistent premium to the BBB index throughout 2022.

10.13.12. In addition, recent history has shown that the spread of Heathrow's bonds relative to the index can escalate rapidly where pandemic related shocks occur. There is therefore a risk that these spreads increase again over time.

10.13.13. From the above, it is clear that the CAA's assumption of an 8bps premium is not sufficiently capturing risk. Traded spreads continue to provide a transparent reference point on the market's ongoing risk perceptions of Heathrow's debt and cannot be disregarded. Heathrow cannot obtain new debt at a lower cost than this – it would be more efficient for lenders to buy existing Heathrow debt instead.

10.13.14. Heathrow has advocated an approach to estimating the spread to iBoxx based on the spread of its bonds compared to iBoxx. This spread is clear market evidence of the cost at which Heathrow would need to enter the market. In addition, any approach based on such spreads also needs to take into account the New Issue Premium that would be required when issuing new debt. Whilst the CAA are correct to ignore the NIP for comparisons based on actual issuance cost, it is not appropriate to exclude it for estimates based on bond spreads.

Heathrow's updated proposals

10.13.15. Market data on the spreads of Heathrow's bonds provides information on how the market perceives risk. We consider this to be relevant information that should be reflected when assessing the cost of new debt for H7. This data shows that the CAA's estimate for the Heathrow specific premium on new debt is too low, and it needs to be revised to take all appropriate evidence into account.

10.13.16. The CAA cannot rely on the 8bps assumption it estimated for embedded debt as this estimate was erroneous and did not consider a sufficiently wide range of issuances.

10.13.17. The market cost of debt has been increasing sharply during this year and is currently significantly higher than assumed in the CAA Final Proposals. The CAA use of a 1-month estimate was an appropriate attempt to try and reflect the most up to date data. However, for the final decision, the CAA must update their estimate to reflect the most recent data. As at the 16th June 2022, the 1-month average of the iBoxx 10+ A and BBB was 4.0%.

10.13.18. For the final decision, the CAA estimate of the cost of new debt should be:

- Based on the most up-to-date iBoxx data;
- Include an allowance of 100bp for the spread of Heathrow debt to iBoxx, based on 80bp bond spread, 10-20 bp NIP, and 5 bp adjustment for IL debt.

10.14. Liquidity and issuance costs

CAA proposals

10.14.1. In the Final Proposals the issuance and liquidity cost allowance was updated by the CAA to be 18bps in total. This compares to 10bps in the Initial Proposals. The difference is due to the CAA's inclusion of additional liquidity cost analysis. The 18bps allowance is comprised of 4bps for issuance costs, 7bps for liquidity costs, and 7bps for additional pandemic related liquidity costs.

10.14.2. The CAA's estimates of the liquidity allowances in their Final Proposals are summarised in Table 11 below. As set out, there are a number of assumptions they have used in the analysis to reach the final estimate of 7bps for each allowance.

10.14.3. The CAA estimates the cost of the base liquidity requirement by assuming that it would be appropriate for the notional company to target strong liquidity (x1.5) in 2022 and 2023, and then to target adequate liquidity (x1.2) thereafter. It assumes that 0.67 of this requirement is met by an undrawn liquidity facility, and the remainder is met by funds from operations.

10.14.4. The CAA estimates the pandemic related liquidity requirement by assuming that the notional company would require 1.5x the following years cash requirements liquidity plus 1.0x the following years requirements. It assumes that some of this liquidity is provided by the undrawn base liquidity requirement.

Table 11: CAA Final Proposals liquidity allowances

Liquidity allowance	
Average liquidity requirement (£m)	£2,597
Percent funded through the facility (%)	c.67%
Value funded through facility the facility (£m)	£1,730
Set up costs – per annum cost (%)	0.15%
Non-utilisation fee – per annum cost (%)	0.25%
Total per annum cost (%)	0.40%
Per annum cost (£m)	£7
Liquidity cost as % of notional debt	~7bps
Pandemic related liquidity	
2021 total liquidity requirement (£m)	£3,473
Assumed size of liquidity facility (£m)	£1,730
Assumed net cash balance (£m)	£1,743
Cost of debt net of deposit rate (%)	3.45%
Total cost (with 18-month run down) (£m)	£45m
Liquidity cost per annum as % of notional debt	~7bps

Concerns with CAA proposals

Issuance Costs

10.14.5. The CAA estimate of 4bp for issuance costs is based on the middle of the range set out in the Europe Economics Paper[33]. The EE estimate does not include the costs associated with maintaining a debt platform, such as rating agency fees, trustee fees, and the costs required to update paperwork periodically to reflect external impacts such as changes to accounting standards. These costs are recorded as interest costs, and for Heathrow, typically amount to around £3m per annum as set out in RBP update 2. Including these costs results in issuance costs of 6bp.

10.14.6. This estimate is consistent with that of Ofgem in ED2, where it has estimated transaction costs for energy companies of 6bp[34].

Base Liquidity Costs

10.14.7. We note the CAA's additional analysis of liquidity costs. However, there are a number of errors in the CAA approach that result in it underestimating the required liquidity cost. In particular:

- The requirement for 'adequate' liquidity from 2024 onwards is not consistent with the requirements specified in Heathrow's licence for availability of 2-years financial resources;
- The capex liquidity requirement in less than the capex assumed in the CAA plan. In addition, the opening debt of the notional company has been underestimated due to excluding expenditure associated with expansion from its assessment of debt. This results in the sum of peak capex and annual debt maturity being underestimated;
- The CAA does not include any allowance for some of the base liquidity being provided by cash balances. This would increase costs compared to an undrawn facility.

10.14.8. Heathrow's Licence requires it to certify each year that it has sufficient financial resources for the next two years (Condition E2.2). The CAA assumption of a requirement for only 'adequate' liquidity at 1.2x the current year is not consistent with this assumption. The CAA's assumption on the liquidity requirement must be consistent with Heathrow's licence. This results in the liquidity requirement being increased for 2024 to 2026 to twice the sum of capex and debt maturity rather than 1.2x.

10.14.9. The CAA has assumed peak capex of £1.0bn. The Final Proposals include peak capex of £1.1bn. Once the errors in the CAA's assessment of capital expenditure are addressed (see Capital Expenditure Chapter), the peak expenditure will increase to £1.2bn. In addition, the CAA has underestimated annual debt maturity as a result of underestimating opening debt. In its approach, it adds the RAB associated with expansion at the end of 2021 without taking account of the associated expenditure.

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[33] Europe Economics, "PR19 – Initial Assessment of Cost of Capital", 2017, Table 10.1 https://www.ofwat.gov.uk/wp-content/uploads/2017/12/Europe-Economics-Final-report.pdf

[34] Ofgem, RIIO-ED2, Draft Determinations – Finance Annex, June 2022, Table 6 Accessed here: https://www.ofgem.gov.uk/publications/riio-ed2-draft-determinations

Correcting these errors results in the sum of peak capex and annual debt maturity increasing from the CAA estimate of £1.5bn to £1.75bn.

10.14.10. After correcting both errors the average liquidity requirement calculated by the CAA would increase from £2.597bn to £3.938bn, resulting in a required liquidity facility of £2.638bn using the CAA multiple of 0.67. This results in annual costs of £10m pa, increasing the required liquidity allowance to 10bps instead of the 7bp calculated by the CAA.

10.14.11. We note that the cost of the facility identified by Heathrow, and also used by the CAA, is in the mid-point of the ranges identified by both Europe Economics and Ofgem in their ED2 decision of 35bp to 45bp.

10.14.12. The corrected estimate of liquidity costs of 10bp should be considered a minimum figure as it does not include any allowance for the cost of carry of the proportion of liquidity that is met by cash balances. This is taken into account by Ofgem in its assessment of liquidity costs for ED2, where it estimates the overall cost of the RCF and cash balances for energy companies is 14bp[35].

Pandemic Liquidity Costs

10.14.13. We note the CAA inclusion of additional pandemic liquidity costs. However, these have been significantly underestimated as a result of errors in the CAA's approach. In particular:

- The size of the required facility has been underestimated;
- The duration for which it will be retained has been underestimated; and
- The cost of the facility has been underestimated.

10.14.14. The CAA's approach to estimating the required liquidity buffer for covid misses some real-world requirements and also includes errors in the inputs it uses. During the pandemic Heathrow needed to be able to demonstrate that it had sufficient cash on hand to continue to operate despite the impact of the pandemic, with headroom for downside risks. This included ensuring that sufficient cash was on hand to secure well over a year's operation even in the event that no revenue was obtained. In the middle of 2021, Heathrow had cash on hand of £4.8bn[36], and by the end of the year the cash balance was £2.626bn, this reduction largely achieved by repaying the RCF facility so that it was undrawn at the end of the year[37]. This is significantly greater than the CAA estimate of £1.743bn cash requirement for the end of 2021.

10.14.15. The CAA's calculation set out in Table 9.18 has errors in its inputs. The maturing debt in each year is too low as a result of the CAA underestimating the opening debt balance as a result of excluding expenditure related to expansion from their opening debt. The debt service costs are too low in each year as a result of applying the wrong interest rates, the FFO is incorrect for 2020 and 2021, and the Capex estimate for 2022 is too low. However, the biggest issue is that the CAA approach makes no allowance for the additional liquidity required for potential downside

[35] Ofgem, RIIO-ED2 Draft Determinations – Finance Annex, Table 6 Accessed here: https://www.ofgem.gov.uk/publications/riio-ed2-draft-determinations
[36] Heathrow, Heathrow (SP) Limited Results for the six months ended 30 June 2021
[37] Heathrow, Annual Report and Financial Statements 2021, Heathrow SP

situations. Given the uncertainty around travel during the pandemic, and the possibility of restrictions on travel at any time, a much more prudent approach is required.

10.14.16. The CAA has no evidence that Heathrow was in practice being excessively cautious. Therefore, rather than trying to second guess the appropriate level of cash balance required, it should take account of Heathrow's actual cash balance at the end of 2021.

10.14.17. In its approach the CAA reduces the opening balance in 2021 over 18 months saying this is consistent with our estimate of 18 months. This is not a correct representation of Heathrow's approach in which we set out our view that the cash balance would be maintained during 2022 and then unwound during 2023, resulting in an effective duration of 18 months. The CAA's approach results in an effective duration of 9 months, which is not consistent with the ongoing risk to aviation.

10.14.18. This is demonstrated in Heathrow's half year accounts that show the cash balance at H1 at £2.601bn was close to the £2,626bn at the end of 2021. This shows that Heathrow continues to maintain a high cash buffer to manage the potential downside risks from Covid. Covid has not gone away, and there remains a risk of traffic restrictions this winter. We consider it would be highly imprudent to reduce cash balances too soon, and it is not apparent why a notionally financed company would take a different approach.

10.14.19. Moreover, given the CAA approach to the notional company, it would not be able to reduce its debt balances at the rate the CAA assume as the requirement for new debt is less than the rate at which the CAA runs down the balance. This is inconsistent.

10.14.20. The CAA has assumed a cost of new debt of 3.6% in its calculation of the liquidity costs. This is too low – the cost of new debt for Heathrow at this time is in excess of 5.0% as set out in Section 10.13.

10.14.21. Taken together these errors mean that the CAA has significantly underestimated the cost of the pandemic cash balances. It estimates a total cost over H7 of £45m. Correcting the errors on the amount of liquidity required, the period for which it is required, and the cost of carry results in an estimated cost over H7 of £193m over H7, £148m higher than the CAA estimate. This corrected cost amounts to a cost of cash balances of 34bp on average over H7.

Heathrow's updated proposals

10.14.22. For issuance costs, Heathrow estimates a total issuance cost of 6bps – which includes the annual platform costs and the one-off costs highlighted. This is 2bps higher than the CAA's 4bps estimate. It is consistent with the estimate of Ofgem for the issuance costs of energy companies at ED2.

10.14.23. The CAA's needs to correct its estimate of liquidity costs to 10bp to reflect the licence requirements on Heathrow to have financial resources available for the next two years. We note that this is a lower estimate of liquidity requirements than that of Ofgem for the Energy Companies of 14bp.

10.14.24. The CAA needs to correct its calculation of the additional liquidity costs arising from the requirement for high cash balances at the start of H7. The correct calculation of these costs is £193m, over four times greater than the cost the CAA has estimated.

10.15. Consolidated view of Heathrow's proposals for H7

10.15.1. In this section, Heathrow summarises the errors in the Final Proposals' WACC estimate and the financial impact of these errors on Heathrow, estimated by reference to the difference between Heathrow's position and the CAA's position.

10.15.2. The CAA has underestimated the cost of equity as a result of errors in its estimation of Heathrow's asset beta and not including an adjustment for the point in the range. Correcting these errors results in a cost of equity of 14.0% compared to the CAA estimate of 7.5%.

10.15.3. The CAA has underestimated the cost of embedded debt as a result of errors in its approach to inflation, an incorrect averaging period of 13.5 years, and using an incorrect spread for the cost of Heathrow debt relative to the iBoxx index. Correcting these errors results in a cost of embedded debt of 1.7% compared to the CAA estimate of 0.17%.

10.15.4. The CAA has underestimated the cost of new debt as a result of underestimating the relative cost of Heathrow debt compared to the iBoxx index. Correcting this error, and updating for June 2022 iBoxx data, results in an estimated cost of new debt of 2.1% real, compared to the CAA estimate of 0.89%.

10.15.5. The CAA has underestimated the cost of issuance and liquidity costs as a result of several errors in its approach. Correcting these would lead to an estimate of 0.16% for issuance and base liquidity costs plus 0.34% pandemic liquidity cost giving a total of 0.50% compared to the CAA estimate of 0.18%.

10.15.6. In combination these result in the CAA materially underestimating the WACC for H7. Correcting all these errors results in a WACC estimate of 6.9% compared to the CAA estimate of 3.26%.

Table 12: Financial impact on Heathrow of CAA errors

Component of calculation	CAA estimate	Heathrow estimate	Estimated financial impact on Heathrow for the H7 period of difference between CAA and Heathrow estimate
Cost of Equity	7.5%	14.0%	£2.2bn
Cost of Debt	0.25%	1.75%	£0.77bn
Issuance and Liquidity Costs	18bp	50bp	£0.16bn
Vanilla WACC	3.26%	6.9%	£3.1bn

Source: Heathrow

11 RAB Adjustment

11.1 Summary

11.1.1 The CAA has erred in its assessment of the RAB adjustment.

11.1.2 The effects of the Covid-19 pandemic were truly exceptional. Statements in the Q6 decision set the expectation that the CAA would review the price control in the case of exceptional circumstances. The CAA's statutory duties more generally called for action. Accordingly, the CAA was right in principle to take action to somewhat alleviate the impact of Covid-19 on Heathrow's financeability by implementing a RAB adjustment.

11.1.3 However, the decision to set the level of the RAB adjustment at £300m is a material error and contrary to the expectations set by the Q6 settlement. As evidenced in Heathrow's numerous submissions on this issue, an adjustment of this quantum (i) has not been properly calculated; (ii) is not consistent with Heathrow's regulatory framework; and (iii) does not appropriately have regard to Heathrow's financeability (particularly, its equity investability).

11.1.4 The CAA has made the following material errors in its calculation of the adjustment. In each case, it fails to have sufficient regard to Heathrow's financeability and - in turn - fails to protect long-term consumer interests, contrary to its core statutory duty.

- The £300m adjustment is not in line with the legitimate expectations set at the Q6 price control. The Q6 decision set out, in the context of Heathrow's requests for a clause to deal with unforeseen circumstances, that the price control would be reviewed in exceptional circumstances such as "*if key assumptions, such as traffic, are significantly worse than the forecast*"[1] and that the possibility of this review would be a credit strength. This statement was made in the context of a Q6 asset beta which remunerated shareholders only for what the CAA considered to be "limited downside" risks and not for bearing the risk of 'catastrophic' events. The £300m adjustment is not adequate to compensate for realised Q6 risks and as such does not fulfil the CAA's commitment to intervene appropriately in the exceptional circumstances of 2020-2021.

- The CAA's assessment that any further adjustment would be purely 'retrospective' or that Heathrow is asking for 'retrospective' action is wrong. Heathrow requested the adjustment at the very start of the Covid-19 pandemic, highlighting the ask in a letter to the CAA Chair in June 2020 expressing forward-looking financeability concerns. The CAA deferred its decision on the full quantum of the RAB adjustment to the H7 process. Therefore, it is only by the CAA's process that this request could be described as 'retrospective'. Both the CAA's commitment to intervene and Heathrow's request for an adjustment were forward-looking over 2020-2021.

- The CAA chose not to complete a forward-looking assessment of financeability when the request was submitted and at the time of the initial £300m adjustment, deferring its decision on the need for any further adjustment and corresponding financeability assessment until the H7 review process. However, the CAA has not carried out financeability analysis of the RAB adjustment as part of its H7

[1] CAA, Economic regulation at Heathrow from April 2014:Notice granting the licence, February 2014, Page 298, Paragraph I29

review and has continued to support its £300m adjustment on the basis that the **actual company** had continued to operate since the initial adjustment was made. This is inconsistent with the correct regulatory approach to financeability which should be agnostic to the actual financial structure of the regulated entity. The CAA has therefore committed an error by failing to substantiate its decision making and by not carrying out consistent financeability analysis.

- This failure to properly review the adjustment as part of the H7 process is also in breach of the commitments given to Heathrow in correspondence.[2]

- The calculation of the £300m is based on the CAA's decision to target a gearing of 69.5% for the notional company in 2020. This choice of gearing is arbitrary, not in line with the 60% gearing used by the CAA to set a Q6 price control which the CAA considered to be financeable for the notional company and was not consulted on.

- The £300m adjustment is not sufficient to ensure that investors can recover their efficiently incurred capital expenditure. The principle of recovery of efficiently incurred RAB is essential to the stability of the RAB-based framework. The CAA conflates (i) Heathrow's assertion of the principle that investors should recover efficiently incurred depreciation that they could not recover from airport operations due to Covid-19 (circumstances beyond Heathrow's control); with (ii) the notion that investors should always recover depreciation – even if they failed to do so due to avoidable poor airport performance. The CAA errs in characterising Heathrow's request as a request to recover depreciation due to poor performance – which it is not.

- The CAA has failed to appropriately exercise its discretion by not waiving the fixed annual depreciation charge for 2020 and 2021, representing £1.6bn of revenue. Customers and airlines will enjoy this investment without paying for it while Heathrow's financeability is placed at risk. The CAA does not consider or justify this value transfer. The £300m adjustment arbitrarily transfers value from investors to consumers by effectively 'writing off' part of the value of the assets by leaving it unrecovered.

- The £300m adjustment is not sufficient to ensure debt or equity financeability as calculated by KPMG[3] in their report submitted alongside our response to the Initial Proposals.

- A £300m adjustment would be inconsistent with the H7 risk sharing approach. Applying the same methodology as proposed under the TRS would be consistent with an adjustment the CAA believes would ensure financeability and the right outcomes for consumers in H7 and would have been the adjustment put in place if the CAA carried out a full assessment at the time of our request.

- The Final Proposals fail to take account of the effect the £300m RAB adjustment will have on future capacity requirements.

- The CAA decided upon the £300m adjustment by imposing an unlawfully high evidentiary threshold on Heathrow, namely that it was required to provide a

[2] Appendix 54

[3] Recovery of Covid-related losses for Heathrow Airport Limited, KPMG, December 2021, Appendix A16

"compelling case", rather than the CAA properly assessing which course of action would further consumers' interests and meet its other statutory duties.

11.1.5 An adjustment of £2,589m (2018 RPI) is required to ensure stability and credibility of the regime and ensure the right outcomes for consumers in H7.

11.2 Introduction

11.2.1 In July 2020, following the start of the Covid-19 pandemic and when it was clear that the impact of Covid-19 and the Government's response to it would have long-term impacts on aviation, Heathrow submitted a full request to the CAA for intervention in the form of a RAB adjustment. This adjustment was requested to ensure that Heathrow could continue to invest in the long-term interests of consumers and ramp-up aviation services as required by underpinning our debt and equity financeability.

11.2.2 The request for action was underpinned by statements from the CAA in its Q6 decision stating that Section 22 of CAA12 allowed it to review the price control in the event of exceptional circumstances and that "*the ability of a licensing regime to revisit the price control if key assumptions, such as traffic, are significantly worse than the forecast, could be a credit strength.*"[4]

11.2.3 The original adjustment proposed by Heathrow, based on the data and forecasts available in July 2020, equated to £1.7bn forward looking adjustment. This was calculated using an appropriately calibrated risk sharing framework designed to allow for an appropriate level of recovery of the losses caused by Covid-19. We proposed that this sum of £1.7bn be recovered over the longer term through an adjustment to Heathrow's RAB to spread the recovery evenly between current and future consumers.

11.2.4 Over the course of 2020 and into 2021, it became clear that the impact of Covid-19 would last longer and be deeper than was first forecast. It also became clear that the relationship between costs and revenues had changed, leading to a proposed change in the sharing rate used to calibrate the risk sharing. For this reason, the requested adjustment increased to approximately £2.6bn.

11.2.5 Our July 2020 submission set out that a RAB adjustment would be the best solution to implement an adjustment because:

- It deals with financeability issues and would reduce market perceptions of risk, helping to restore Heathrow's A- credit rating and mitigate the increase in the cost of capital;

- It would (therefore) enable continued investment, not only in 2021 but also in H7, in the long-term interests of consumers;

- It would allow lost revenues to be recovered over a long period, smoothing impacts on airlines and preventing short-term price rises, which might not be in the interests of consumers; and

- As a long-term policy, it is consistent with the principle of regulatory certainty.

11.2.6 In April 2021 (CAP2140) the CAA made the correct decision to implement an adjustment due to the impact of Covid-19 and agreed that using Heathrow's RAB was the best way to implement this adjustment, "*We consider that an early regulatory intervention, in the form of a RAB adjustment, ahead of the H7 price review (in line*

[4] CAA, Economic regulation at Heathrow from April 2014: Notice granting the licence, February 2014, Page 298, Paragraph I29

with Package 2) is the best way to further in the interests of consumers in response to the impact of the covid-19 pandemic having regard to our secondary duties"[5].

11.2.7 However, the CAA erred in the calculation of the adjustment in a number of ways, which are set out in this chapter and in the Legal Annex – including not considering all relevant evidence; failing to consult on important assumptions; failing to provide reasons for the decision; misapplying the CAA's statutory duty to have regard to financeability; and misapplying the CAA's primary statutory duty to further the interests of consumers and by applying unlawful standards of evidence before it would consider acting.

11.2.8 As we set out in our response to the CAA's Initial Proposals and in a further submission to the CAA on 3 May 2022, the £300m adjustment calculated by the CAA is not enough to secure financeability for either debt or equity. In both our response to the Initial Proposals and our additional submission, we set out several alternative methodologies to quantify the scale of adjustment required to ensure that Heathrow remained financeable by debt and equity. These pointed to an appropriate adjustment in the range of £1.6bn to £2.8bn.

11.2.9 An appropriate adjustment remains critical to ensure that the H7 price control can deliver for consumers. As set out throughout the Final Proposals, investor confidence in the framework is critical to ensure financeability. For example, the CAA acknowledges that *"a stable and predictable regulatory regime is a key factor in business risk evaluation."*[6] An appropriate RAB adjustment is therefore critical in ensuring investor confidence in the regime and underpinning investment for consumers.

11.2.10 Nevertheless, the Final Proposals continue to argue that an adjustment of £300m is all that is necessary to ensure that Heathrow remains financeable. This conclusion is clearly a material error.

11.2.11 The CAA is wrong to say that Heathrow's recent submissions contain *"little or no new evidence or arguments*"[7]. In May 2022 we provided a new submission setting out new arguments and methods of quantification which took into account views from the Thessaloniki forum of European aviation regulators and revised quantification methodologies based on impacts on use of assets and depreciation through the impact of Covid-19. The CAA's summary dismissal of the KPMG report on the recovery of Covid-19 related losses is also wrong. In both of these cases, as we set out in the Legal Annex, the CAA has failed to properly engage with Heathrow's submissions.

11.2.12 The CAA's attempt to recharacterise Covid as an everyday "*business risk*"[8] is irrational and inconsistent with its approach elsewhere in the H7 consultation process. We note that the CAA relies in its reasoning on the Competition Commission's ("*CC*") 2007 inquiry into Q5 charges and that at Q6 it '*rolled forward the Competition Commission's Q5 beta unchanged*'[9] into Q6. However, the CAA has drawn entirely the wrong conclusion from the inquiry's findings. In 2007 the CC recognised the difference between ordinary business risks and catastrophic risk and said that '*the*

[5] CAA, Economic regulation of Heathrow Airport Limited: response to its request for a covid-19 related RAB adjustment, Page 11, Paragraph 24
[6] CAA, H7 Final Proposals Section 3: Financial issues and implementation, Page 163, Paragraph 13.108
[7] CAA, H7 Final Proposals Section 3: Financial issues and implementation, Page 91, Paragraph 10.20
[8] For example see CAA CAP2365D: H7 Final Proposals Section 3, 28 June 2022, para 10.27.
[9] CAA CAP2365D: H7 Final Proposals Section 3, 28 June 2022, para 10.26 fn 54.

cost of capital *cannot capture the risks* *associated with truly catastrophic events*'[10]. These were events that it considered to be '*low frequency and high impact*' - like Covid - and the CC said that, when they arise, rather than already being provided for in the regulatory cost of capital: '*we expect that the CAA would intervene and a recovery plan would be agreed*'[11] By adopting the CC's Q5 beta for Q6 the CAA accepted this allocation of risk and that it would intervene in the event of an extreme downside scenario. This essential matter of regulatory certainty is covered in more detail in the Legal Annex [Section H4].

11.2.13 Given these errors, we have calculated an adjustment aligned to the proposed risk sharing approach to be implemented by the CAA for H7. This continues to be the most appropriate adjustment to ensure the CAA remains credible and Heathrow remains financeable. This is the best approach because:

- It utilises the 10% threshold which the CAA has taken as a marker of 'exceptional' performance against traffic forecasts across Heathrow's previous price controls to calibrate the adjustment; and

- The H7 risk sharing framework has been considered by the CAA to generate a sharing framework for sharing losses which is in the interests of consumers. Absent a forward-looking CAA decision when we first made our request, we can only assume that the CAA would also have considered that this sharing framework was in the interests of consumers at that time.

- The CAA has provided no reasons why this framework is in the interests of consumers by securing Heathrow's financeability in H7 but fails the consumer interest test despite it – logically – being the best way to secure Heathrow's financeability in 2020-21. It would be consistent regulatory practice to apply the best available framework to act in the interests of consumers without making artificial distinctions between calendar years. Applying inconsistent frameworks arbitrarily without good reasons would run counter to fundamental regulatory principles

11.2.14 Based on our revised calibration of the CAA's proposed risk sharing mechanism, this would lead to an adjustment of £2.589bn (2018 RPI).

11.2.15 Calculating an adjustment on this basis provides a number consistent with other calculation methodologies around debt and equity financeability and return of depreciation, evidencing that it represents a reasonable adjustment.

[10] CC: BAA Ltd, 28 September 2007, Appendix F, para 145.
[11] CC: BAA Ltd, 28 September 2007, Appendix F, para 145.

Table 1: Heathrow quantification of appropriate iH7 RAB adjustment

	Adjustment value *(£bn, 2018 RPI)*
Depreciation	£2.5
Unrecovered forecast depreciation	£1.6
Risk allocation implied by Q6 settlement	£2.8
Equity financeability adjustment	£2.8
Debt financeability adjustment	£2.6
Cumulative risk premium	£2.6 - £5.6
CAA risk sharing	£2.3
Heathrow risk sharing	£2.6

Source: Heathrow & KPMG

11.3 The CAA's Q6 decision set legitimate expectations that it would act in extreme circumstances

The CAA's assessment of legitimate expectations set in Q6 is partial

11.3.1 The Final Proposals wrongly conclude that the CAA did not create a legitimate expectation that it would intervene in the case of exceptional circumstances. What we mean by "legitimate expectation" in this case is both:

- A legitimate expectation in a formal public law sense; and
- A legitimate expectation in the sense that this is something Heathrow might reasonably have expected the CAA to actually do; the implication of this being that the statutory duties of regulators generally, and of the CAA in particular, will mean that such expectations should normally be upheld.

11.3.2 In its assessment of whether the Q6 price control set a legitimate expectation that the price control would be reopened in exceptional circumstances, the CAA selectively chooses quotes from both the Competition Commission (CC) report on Q5 and its Q6 Final Decision. This leads to the incorrect conclusion that:

- Heathrow expected it would bear the risk for all deviations of traffic against forecast with no protection in the case of exceptional circumstances;
- It was expected that Heathrow would bear the risk of not recovering depreciation in all circumstances; and
- There was no expectation that the CAA would take action in the event of exceptional circumstances and there was therefore no expectation that any CAA action would provide Heathrow with a certain level of protection in the case of such events.

11.3.3 In reaching this assessment the CAA:

- Does not include comments it made about the ability to reopen being a credit strength of Heathrow's regime;

- Confuses the principles of return of and return on the RAB; and

- Confuses Heathrow underperforming due to its own actions and underperformance due to external impacts.

11.3.4 KPMG's report highlights that the discussion on the allocation of traffic risk and the mechanisms to deal with exceptional circumstances has been ongoing since Q4[12]. In the Q4 review, the CC stated that: *"A volume term should not be included in airport charges for Q4. In the event of any catastrophic event leading to a significant and sustained fall in volume, there is a possibility of an interim review"[13].* KPMG also notes the CC's comments when setting the allowed return for Q4, that there is the scope for interim review in the event of major disruption[14].

11.3.5 In Q5, the CC clearly draws a distinction between what it considers are normal business risks and are therefore captured within the WACC, and other catastrophic risks which are not. The Final Proposals characterise this as the CC stating that catastrophic risks should be dealt with outside of regulation and attempts to conclude that as a communicable disease Covid-19 would be considered a normal business risk.

11.3.6 This characterisation is wrong. The CC defines a catastrophic event as one which has *"rendered much of Heathrow unusable for a significant amount of time"[15]*. Covid-19 did exactly this. This highlights that Covid-19 would be classed as a risk sitting outside of the WACC due to its impact on Heathrow's ability to operate.

11.3.7 The CC then goes on to say that in these circumstances "*We expect that the CAA would intervene and a recovery plan would be agreed between the CAA, BAA, airlines and probably the Government*"[16]. This evidences that the CC would expect CAA intervention in the case of a catastrophic event on the scale of Covid-19.

11.3.8 In regard to the CAA's own statements in Q6, the CAA analysis is partial and fails to include statements it made in regard to the financeability of the Q6 framework where it stated that "*the ability of a licensing regime to revisit the price control if key assumptions, such as traffic, are significantly worse than the forecast, could be a credit strength"[17].* This shows that the CAA expressly considered that the ability to reopen the price control applied to variations in traffic risk and as such undermines the CAA's conclusion that the Q6 decision was clear that all traffic risk would be borne by investors.

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[12] Appendix 48, Section 3.1
[13] BAA plc: a report on the economic regulation of the London airports companies (Heathrow Airport Ltd, Gatwick Airport Ltd and Stansted Airport Ltd), Competition Commission, November 2002 (Ch2 p.72)
[14] Appendix 48, Page 20
[15] CC: Economic Regulation of Heathrow and Gatwick Airports 2008 -2013 – CAA Decision, para E.70
[16] BAA plc: a report on the economic regulation of the London airports companies (Heathrow Airport Ltd and Gatwick Airport Ltd), Competition Commission, October 2007, para 4.102
[17] CAA CAP 1151: Economic regulation at Heathrow from April 2014: Notice granting the licence, para I29

11.3.9 This statement evidences that the ability to reopen was positioned as being credit positive for Heathrow. This creates a legitimate expectation for investors that the CAA's intervention in the case of any exceptional circumstances could be reasonably expected to be of a magnitude that was considered to strengthen Heathrow's credit position.

11.3.10 The CAA also argues that statements from the CC in 2008 evidence that the return on and of capital is at risk for investors. However, while the quote used states that return of and on investment cannot be disentangled from an airport's performance against its price cap, the quote does not deal with the loss of return of the RAB in an exceptional circumstance which is not influenced by company performance.

11.3.11 Therefore, the CAA is wrong to say that there is no legitimate expectation that it would take action in the event of exceptional circumstances or that precedent shows that return of the RAB is at risk in exceptional circumstances outside of a company's control.

11.3.12 This conclusion is supported by KPMG in its follow-on report:

"Based on the evidence outlined above across a number of statements made by the CAA and the CC, it is clear that the regulators explicitly referred to a differentiated regulatory treatment for different levels of outturn risk, in particular that any event that would lead to the airport being by and large not used or not operated for some reason would be subject to a different regulatory treatment and hence a different allocation of risk via a reopener"[18]

The CAA's conclusion that the Q6 framework was properly calibrated meaning that no adjustment is needed to take into account the impact of shocks of Covid-19 magnitude is incorrect

11.3.13 The Final Proposals conclude that the Q6 framework was calibrated based on the information available at the time and therefore it was not 'miscalibrated'. They also conclude that, as Heathrow did not appeal the calibration, no further action is needed due to the impact of Covid-19 and that to do so would constitute rate of return regulation.

11.3.14 These conclusions misunderstand the argument in our submissions. It is clear that the CAA's Q6 WACC did not take into account the risk of major events such as Covid-19. However, as established above, the CAA set a legitimate expectation through both Q5 and Q6 reviews that the price control could be reopened to deal with exceptional circumstances that could not be: a) foreseen at the time of the price control or b) factored into Heathrow's WACC. Therefore, it is not the case that the Q6 decision <u>should</u> have foreseen the crystallisation of risks such as Covid-19, but that it expressly <u>did not make allowances for these risks</u> and left the treatment of these risks for an alternative mechanism. By not rectifying this issue in its calculation of the RAB adjustment the CAA is not meeting the legitimate expectations of investors.

11.3.15 As set out above, the CC concluded that the Q5 asset beta did not take into account catastrophic risks. In its Q6 decision, the CAA retains the same approach to setting the asset beta, noting that *"there was insufficient evidence to suggest that the asset beta for UK airports had changed over the period 2008 to 2013."*[19].

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[18] Appendix 48, Page 22
[19] CAA, Estimating the cost of capital: technical appendix for the economic regulation of Heathrow and Gatwick from 2014: Notices granting the licence, February 2014, Page 42, Paragraph 6.42

11.3.16 Through the Q6 price control review, we argued that the risk around Heathrow's return was asymmetric and that there was a greater risk of downside occurring than upside. In the Q6 process, the CAA concluded that no additional allowance was required for this co-skewness and that standard CAPM, which assumed a symmetrical, normal distribution of risk was appropriate.

11.3.17 In its Final Proposals for H7 as part of its discussion of the asymmetric risk allowance, the CAA confirms that the CAPM WACC assumes that all risks are symmetrically distributed and therefore *"the CAPM beta and the allowed cost of equity will not compensate shareholders for bearing asymmetric risks"*[20]. It goes on to conclude that due to this, and to the fact that the downsides to which Heathrow is exposed cannot be matched by equivalent upsides, it is necessary to make a separate allowance for this asymmetric risk going forward.

11.3.18 We can therefore conclude that the Q6 asset beta does not include the risk of catastrophic events such as Covid-19 within the cost of equity, meaning that shareholders were not remunerated for taking this risk through the WACC. In its report, KPMG notes that it is in fact a well-established principle that asymmetric risk isn't remunerated through standard CAPM.[21]

11.3.19 We can also conclude that shareholders were not remunerated for taking this risk through other allowances as no additional allowance was made in the Q6 settlement.

11.3.20 Throughout the Q6 review, in response to our requests for a formal reopening mechanism to deal with this asymmetric risk, the CAA insisted that its flexible licence-based regime included the necessary means of intervening mid-period. It also stated that this licence-based flexibility was a credit strength for Heathrow in the case that building blocks, including passenger forecasts outturned materially differently to forecast.

11.3.21 The CAA planned for this asymmetric risk, should it outturn, to be dealt with through the ability to reopen the price control, rather than through allowances set at the time. Therefore, a reasonable quantification for any adjustment made through this reopening should seek to remunerate shareholders for the risk they could not be remunerated for through the CAPM cost of equity or the CAA's Q6 allowances.

The CAA's £300m adjustment is therefore not in line with the legitimate expectations set in the Q6 settlement

11.3.22 Given the above discussion, it is evident that:

- The CAA's Q6 price control set a legitimate expectation that it would be reopened in the event of exceptional circumstances;
- These exceptional circumstances could include variations in passenger volumes against forecast;
- The cost of equity set at Q6 did not take into account catastrophic events, meaning that shareholders were not remunerated for these through the WACC;

[20] CAA, H7 Final Proposals Section 3: Financial issues and implementation, Page 114, Paragraph 11.23
[21] Appendix 48, Page 25

- No other allowances were set at Q6 to remunerate shareholders for this risk; and

- All requests for formal mechanisms to deal with such exceptional circumstances more formally were dismissed in favour of the flexibility inherent in the price control.

11.3.23 Therefore, the CAA's review of the impact of Covid-19 should have assessed the appropriate adjustment to reflect the outturn of this risk, for which shareholders were not remunerated through the Q6 settlement. As shown by KPMG in their December 2021 report, an adjustment to reflect the risk allocation implied by the Q6 settlement would be in the region of £2.8bn. This is substantially higher than the CAA's £300m adjustment and evidences that the CAA's £300m adjustment is not in line with the legitimate expectation set at Q6 or the calibration of the Q6 price control.

11.4 The CAA's dismissal of Heathrow's request as 'retrospective' is incorrect

11.4.1 The Final Proposals dismiss the mechanisms we have proposed for calculating a reasonable adjustment on the basis that 'retrospective' action of this level is not required. However, the CAA incorrectly asserts that a RAB adjustment would constitute retrospective action.

11.4.2 We requested the adjustment first in June 2020 and followed up with a detailed submission in July 2020 as the pandemic was beginning to have a prolonged impact on Heathrow. The CAA failed to take any action until April 2021 and then continued to state that the decision would be made final as part of the H7 process. It was therefore the CAA's failure to take appropriate action in 2020 that has caused any request by Heathrow to appear 'retrospective'.

11.4.3 When the request was submitted, the CAA did not carry out any forward-looking financeability assessment to understand whether action was required to ensure that Heathrow could deliver in the interests of consumers. Then, in granting the £300m adjustment the CAA stated that it would review whether this remained appropriate as part of the H7 review. In the CAA's 11 May 2021 letter to Helen Stokes, the CAA states that *"it is the CAA's view that the majority of the issues raised by HAL's request for a RAB adjustment are best dealt with as part of the "in the round" consideration of the H7 price control."*[22]

11.4.4 However, no continuing financeability analysis has been carried out to assess this and the CAA's Initial and Final Proposals on H7 do not include any analysis of the impact of its £300m adjustment on debt and equity financeability. Instead, the CAA has continued to rely on the observation that Heathrow has continued to be operational and therefore justify that no further intervention is necessary and its £300m adjustment is appropriate. These assertions do not meet the standards of a financeability analysis and are inconsistent with the CAA's own established approach and established regulatory precedent across sectors and are inconsistent with the CAA's established approach and established regulatory precedent across sectors.

11.4.5 Heathrow's continued operation without financial distress is only as a result of our prudent financial management and strong liquidity position. Therefore, in taking the view that Heathrow was able to continue operating as expected, the CAA is conflating the prudent management of the company by Heathrow with its duties as a regulator

[22] CAA letter on the status of CAP2041, 11 May 2021, Page 1

to take action where is it needed to further the interests of consumers and ensure that the regulatory framework remains credible and consistent.

11.4.6 In taking this approach, the CAA is undermining investor confidence in the regime and is breaching commitments it made when granting the £300m adjustment to review the RAB adjustment more thoroughly though the H7 price control.

11.5 The CAA's approach to the RAB adjustment is inconsistent with its approach to debt and equity financeability

11.5.1 The CAA's £300m adjustment does not support financeability as it is not consistent with the legitimate expectations set at the Q6 price control or the basis on which risk was allocated in Q6.

11.5.2 KPMG's report highlights the importance of a clear and stable regulatory framework and the consistency of regulator's actions in supporting financeability. In its report KPMG concludes:

"Few can predict when a pandemic is about to occur. However, it is reasonable and necessary to be able to form rational expectations based on the regulator's statements on how the regulatory framework would deal with demand risk across different scenarios including in case of catastrophic risk events, should such risks materialise. If these expectations are inconsistent with the regulatory actions ex post, the regulated business is not financeable"[23]

The CAA's adjustment was based on targeting an arbitrary threshold which was not aligned with its Q6 financeability assessment for the notional company

11.5.3 The CAA's £300m adjustment was based on targeting gearing of 69.5% for the notional company. This was not consulted on or set out clearly in the CAA's April 2021 decision or since; we explain in the Legal Annex that this comprises a serious legal error.

11.5.4 The choice of targeting a gearing of 69.5% is arbitrary and is not grounded in the CAA's financeability assessment of the notional company used to set the Q6 price control.

The CAA's adjustment does not consider equity financeability and the importance of return of the RAB for investor confidence

11.5.5 As set out above, the Final Proposals take the position that return of the RAB through depreciation was always at risk and is not guaranteed. To evidence its view, the CAA wrongly uses evidence which states that return of the RAB should be linked to company performance. This is not in doubt. The question we are posing is whether return of the RAB should be lost due to actions outside of the company's control.

11.5.6 As we set out in our previous responses to the CAA and as was confirmed in the external report by Frontier Economics, the credibility of RAB-based regulation depends on investors being able to recover their efficiently incurred capex.[24] This has been a major factor in decisions by regulators and appeal bodies who have stepped in to ensure the stability of the RAB construct.

[23] Appendix 48, Page 42
[24] Frontier Economics, Heathrow Depreciation Recovery, March 2021

11.5.7 The CAA itself was clear about the importance of depreciation as a building block in the price control in its Q5 decision "*The purpose of the depreciation allowance within the revenue requirement calculation is to remunerate the company for its capital expenditure over the long term […] Depreciation policy should ensure that the company is remunerated once for the investment made*".[25]

11.5.8 Our investors have also been clear that return of the RAB is central to their confidence in the regulatory construct. In their statement[26], provided alongside this response, USS sets out the following:

"The RAB is a core underpinning to the regulatory framework and our view of regulatory predictability -the sanctity of the RAB is key regulatory principle for investors. It underpins the ability to invest substantial capital on the basis that, if efficiently incurred, you will recover that investment and earn a return on those assets. This enables investors like USS to provide capital at a relatively low cost to the benefit of consumers. The de facto loss of a significant portion of Heathrow's RAB, through regulatory depreciation during COVID, despite it being efficiently incurred, runs contrary to this."

11.5.9 This is echoed in the statement from CDPQ:

"By not ensuring that the RAB reopener covers, at least, depreciation during the pandemic, the CAA is putting at risk the return of (not just the return on) past investments which is one of the key tenets of the regulatory system. In doing so, the CAA has chosen to expose Heathrow to unlimited risks and negative returns while de facto maintaining its capped return. This is the opposite of a "fair bet" and shatters our previous perception of Heathrow's risks."[27]

11.5.10 In concluding that securing return of the RAB should not become a factor in its calculation of the RAB adjustment, the CAA is making the statement that investors in Heathrow have no guarantee that their efficient investment will be returned, even in the case of catastrophic events such as the near shut down of the airport due to government policy. This is simply not investable.

11.5.11 If the CAA had properly considered the equity investability implications of Covid-19 at the time of our request, this should have been a factor in its assessment of an appropriate level of adjustment.

11.5.12 Ensuring that investors receive return of the RAB for 2020 and 2021 would lead to an adjustment of £2.2bn.

Other regulators have highlighted the importance of considering depreciation policy and the inappropriate transfer of value to consumers when making adjustments for the impact of Covid-19

11.5.13 In January of this year, the Thessaloniki forum of European airport charges regulators reviewed the impact of Covid-19 and the actions that could be taken to balance cost recovery with ensuring competitive airport charges. As set out in our May 2022 additional submission on the RAB adjustment, a key area the forum reviewed was the impact of regulatory depreciation.

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[25]CC: Airports price control review – Initial proposals for Heathrow, Gatwick and Stansted, December 2006, para 17.2

[26] Appendix 36, Paragraph 5.4

[27] Appendix 37, Paragraph 5.4

11.5.14 In its 27 January 2022 paper, the forum set out recommendations for regulation of airport charges post Covid-19:

- Economic regulation has generally been designed only for 'normal economic cycles' the impacts of which will cancel themselves out. However, situations like Covid-19 are not part of this normal cycle and therefore would not be taken into account through economic regulation and the allowances given for risk and cost;

- In situations where the impact of these 'black swan' type events occurs, transferring these losses to airlines could be considered but this should ensure that incentives for efficiency are maintained;

- These sharing mechanisms could take account of reduced costs due to reduced passenger volumes, this is in particular the case with depreciation where the allocation of depreciation costs could be reviewed to reflect reduced usage. This would allow airports to recover their investments;

- However, care should be taken when increasing charges, which should remain competitive and non-discriminatory. This could be achieved by allowing the smoothing of such increases over a longer period of time; and

- Investments in future capacity could be impacted by levels of debt or cashflow. While investment plans should be reviewed to ensure that investments which are not required are postponed, investment plans should allow for the provision of the right levels of capacity and service quality over the long-term.

11.5.15 In regard to the treatment of deprecation the paper states:

'In exceptional situations like Covid-19 where the annual activity level has dropped dramatically, depreciation costs of these assets could be treated as a per unit cost instead of depreciating by for example a fixed amount independent of its actual use over a certain period of time. The allocation of the regulatory depreciation costs in the charges could also be postponed as a result of the fact that the actual use or degeneration of assets has been reduced during the crisis.'[28]

11.5.16 Heathrow carried out analysis to understand how postponing depreciation could be implemented. In addition to deferring all depreciation for 2020 and 2021, which we have previously proposed as having the biggest benefits for consumers by reinforcing the stability of the RAB-based framework and upholding the principles defended by the CMA, another approach could be to defer the recovery of depreciation based on passenger usage. We submit that a deferral would be the rational and proportionate approach and consistent with regulatory practice.

11.5.17 Our analysis showed that deferring depreciation on this basis would lead to a required adjustment of £1.2bn for 2020 and 2021. This is substantially higher than the £300m adjustment proposed by the CAA and reinforces that the CAA's proposed adjustment is not adequate.

[28] Thessaloniki Forum of Airport Charges Regulators, Airport charges in times of crisis, Paragraph 4.15, https://www.cnmc.es/file/308807/download

11.6 The CAA's adjustment is inconsistent with its approach for H7

11.6.1 We support the implementation of an appropriately calibrated TRS mechanism in the H7 price control to mitigate the impact of a future Covid-magnitude event.

11.6.2 In setting the TRS mechanism, the CAA has reviewed evidence to establish the variations that constitute exceptional circumstances and a sharing rate that is intended to take into account the impact of commercial revenues on the single till. It has also been guided by evidence from Credit Rating Agencies in establishing the recovery mechanism. While we have suggested some changes to the calibration and detailed changes to the implementation of the mechanism, we broadly agree that risk sharing of this nature is correct.

11.6.3 Through this TRS mechanism, the CAA is proposing that Heathrow recovers 50% of any losses from deviations against forecast of less than 10% and 105% of deviations above this. The CAA states that the TRS mechanism will ensure Heathrow remains financeable on a forward-looking basis even when facing greater risk through a period of recovery. The CAA states that this would be in the interests of consumers.

11.6.4 However, the CAA did not carry out the same rigorous review when establishing its £300m adjustment following the impact of Covid-19 to understand the scale of adjustment that would ensure Heathrow was financeable on a forward-looking basis in the interests of consumers. If the CAA considers that risk sharing is required to ensure that Heathrow is financeable and represents a 'fair bet' for investors in the H7 period, why was this not the case in 2020?

11.6.5 Applying the CAA's TRS mechanism to 2020 and 2021 would result in a RAB adjustment of £2.37bn under the CAA's mechanism or £2.589bn when implementing our proposed changes to calibration to reflect the H7 forecasts of costs and revenues.

11.6.6 As set out in our response to the CAA's Initial Proposals, not only does the CAA's £300m adjustment mean it is applying inconsistent frameworks to two price controls in which Heathrow is experiencing the same conditions, it also signals to investors that the CAA's commitments to intervene cannot be considered credible.

11.6.7 Ultimately, the impact of uncertainty will be borne by consumers through lower investment impacting service quality. For this reason, using the mechanism to calculate the RAB adjustment due to Covid-19 would be in the interests of consumers.

11.7 The CAA has not taken account of the effect its view on the RAB adjustment will have on future capacity requirements

11.7.1 As set out in our May 2022 additional submission, the CAA has not properly taken account of the effect of its view on the RAB adjustment on future capacity requirements.[29] This is a straightforward breach of its general duty under S1(1) CAA 2012: to further the interests of passengers in relation to the… availability… of airport operation services. The failure to consider this properly is a legal error; the failure to secure conditions in which expansion might flourish is a substantive error. Both will render the decision vulnerable on appeal.

[29] Heathrow previously highlighted the need for an appropriate adjustment to preserve the options of expansion in its Initial request for a RAB adjustment, July 2020 pages 14-16

11.7.2 In its consultations on the delivery of expansion, the CAA was clear that the delivery of an expanded Heathrow would have benefits for consumers, *"promoting timely delivery of new capacity at Heathrow airport that would benefit consumers by promoting choice, greater competition between airlines and increasing resilience".*[30] As part of its work, the CAA has also previously quantified the costs of a delay to expansion to consumers:

"this still implies estimates of consumer benefit in the range £0.9 billion to £2.5 billion per year (2018 prices). We consider that these represent relatively conservative estimates given the range of plausible estimates that have been put forward."[31]

11.7.3 This quantification was based on the costs to consumers of elevated airfares caused by the capacity constraints at Heathrow, also known as the congestion premium. Evidence for the existence of a congestion premium on fares charged by airlines was first put forward in a report by Frontier Economics for Heathrow.[32] The existence of this congestion premium was accepted by FTI consulting in a report for the CAA. This report concluded that, while further work would be required, in principle scarcity rents or the congestion premium could apply to airports.[33]

11.7.4 Evidence from Frontier Economics submitted alongside this response shows that the congestion premium was still in place during 2020 and 2021 despite the lower traffic: *"For long haul, we have found evidence of a premium of around 15%-23% for 2020 and 2021. This equates to around £90-£160 for a passenger making a return trip."* [34] This means that the benefits from expansion still remain, and indeed that expansion is far and away the best option for improving consumer outcomes.

11.7.5 In the absence of a RAB adjustment, Heathrow's balance sheet will remain stretched for some time. Without an appropriate adjustment either now or in the future, the delivery of expansion would likely be subject to a delay due to these constraints on Heathrow's financing. This would lead to a delay in the delivery of the benefits to consumers previously identified by the CAA. In not considering this impact in its decision making in either CAP2140 or its Initial Proposals, the CAA is failing to properly discharge its duties.

11.7.6 Additionally, the lack of confidence in the regime arising from an insufficient RAB adjustment will result in investment in expansion being seen as higher risk for investors and, consequently, lead to a higher cost of financing for the programme which would directly impact consumers. This is set out in the statement provided by USS:

"The USS view of expansion is that the regulatory arrangements for the existing two-runway model of Heathrow needs to be fixed first to incentivise long term investment before we would consider investing in a third runway."[35]

11.7.7 As evidenced above, the CAA's failure to fully consider the impact of its RAB adjustment decision does not set the right conditions for future expansion. This will

[30] CAA CAP1819, Paragraph 6
[31] CAA CAP1871, Early expansion costs condoc para 1.27, December 2019
[32] Appendix 46
[33]CAA CAP1722, Economic regulation of capacity expansion at Heathrow: policy update and consultation, https://publicapps.caa.co.uk/docs/33/CAP1722%20Economic%20regulation%20of%20capacity%20expansion%20at%20Heathrow%20policy%20update%20and%20consultation.pdf
[34] Appendix 46, Page 10
[35] Appendix 36, Paragraph 3.11

have demonstrable impacts on consumers through higher future costs and the potential delay of benefits. Under the CAA's own calculations, every year that expansion is delayed consumers miss out on £0.9 billion - £2.5 billion in benefits per year arising from the expansion. This is in contrast to Heathrow's request for an adjustment of £2.5bn, which would have an impact on charges of £100m per year.

11.7.8 A failure to consider detriment of this magnitude when taking its decision, demonstrates that the CAA has not considered its primary duty to current and future consumers when taking its decision.

11.8 Heathrow's proposed approach

The CAA's £300m RAB adjustment is an error

11.8.1 Our preferred approach, which best reflects the adjustment that the CAA would have made if it had carried out a full assessment when requested, is an adjustment of £2.589bn (2018 RPI) in line with the application of the properly calibrated H7 TRS mechanism.

11.8.2 Following a detailed review as part of the H7 process, the CAA has concluded that its proposed risk sharing mechanism would implement adjustments to Heathrow's revenues going forward which would be in the interests of consumers. Therefore, we conclude that this mechanism would be in the best interests of consumers when reviewing the regulatory adjustment needed to deal with the impact of Covid-19. This would also ensure regulatory consistency and stability of the framework, which is important to ensure investor confidence.

11.8.3 The adjustment of £2.589bn (2018 RPI) is also in line with the size of adjustment needed to appropriately compensate investors for the loss of regulatory depreciation in 2020 and 2021. As evidenced above, ensuring the return of the RAB in extreme circumstances is crucial to ensuring investor confidence which will allow future investment in the interests of consumers. Therefore, this provides further evidence that an adjustment of the magnitude we are proposing is appropriate.

12. Financial Framework and asymmetric risk

12.1. Summary

12.1.1. The CAA's approach to assessing financeability is confused and mixes aspects of the actual and notional companies in an inconsistent manner. Consequently, it fails to properly assess the financeability of the notional company.

12.1.2. In line with clear CAA and CMA precedent the CAA should target a BBB+ rating for the notional company. Financeability of the notional company should be assessed using credit metrics appropriate for a notional company. In particular, a rating of BBB+ requires FFO/Debt above 9.0%, Debt/EBITDA of less than 5.5x, and AICR of over 1.5x.

12.1.3. The CAA has drawn incorrect conclusions on debt financeability as a result of major errors in its approach: the opening gearing is not correct for the notional company; the debt costs for Heathrow have been significantly underestimated; it has not included the impact of its K factor adjustments, and the thresholds used to assess financeability are not appropriate for the notional company.

12.1.4. A correctly undertaken assessment of the Final Proposals shows they result in financial ratios that are not consistent with a BBB+ credit rating and therefore cannot be considered financeable. When the errors in operating costs, commercial revenues and the passenger forecast are also taken into account, financial ratios are not consistent with an investment grade credit rating. Without such a rating it is doubtful that the Final Proposals could be delivered as there would be insufficient liquidity available to deliver the required outcomes.

12.1.5. Furthermore, consideration of a p10 traffic downside scenario shows that even with Traffic Risk Sharing, the notional company would be unable to maintain an investment grade credit rating and would be unable to attract new debt or equity to deliver the expenditure in the Final Proposals. This clearly shows that the Final Proposals do not include sufficient headroom to absorb reasonably foreseeable downside scenarios.

12.1.6. The CAA relies on equity to provide liquidity in the event of a downgrade. However, the Final Proposals do not provide an investable proposition for equity. The returns achievable in the Final Proposals are well below the CAA allowed cost of equity, which in turn is also far below its true cost. In the context of significant equity losses from Covid-19, together with a CAA response that fails to meet investors' legitimate expectations, these very low returns mean that additional equity cannot be relied upon. Instead, shortfalls in liquidity would need to be met by cutting service opex and minimising capex, contrary to the interests of consumers.

12.1.7. The CAA has excluded 2022 risk from its asymmetric risk allowance. This is an error that effectively applies an ex-post adjustment to an ex-ante allowance. The CAA must correct its calculation of the allowance so that is reflects the actual ex-ante risk.

12.1.8. The CAA has made two changes to its approach to indexing charges between the Initial Proposals and the Final Proposals without consultation. Firstly, it has moved the inflation basis from RPI to CPI. Imposing this change without due consideration and consultation is a breach of public law. Secondly, it has moved from using known inflation data ($April_{t-1}$ compared to $April_{t-2}$) to using forecast inflation data accompanied by a correction mechanism to reflect actual inflation in later years. This is contrary to good regulation principles as it adds unnecessary complexity.

12.1.9. The CAA has, without consultation or explanation, introduced a new approach to calculating the return on RAB in its Price Control Model that reduces returns by £168m. Rather than calculating returns on the simple average of the opening and closing RAB which has been its established methodology in recent price controls and in its Initial Proposals, it discounts the closing RAB to the beginning of the year. This approach is an error as the revenue received throughout the year is not similarly discounted. The CAA must return to the approach used in the Initial Proposals.

12.1.10. In contrast to its approach at the Initial Proposals, the CAA has included a novel AK factor adjustment to return £258m of revenue it considers was over recovered in 2020 and 2021. In these years, actual revenue was hugely reduced as a result of Covid-19. The CAA approach therefore amounts to requiring Heathrow to return revenue that it never received. This decision is irrational and unevidenced and is in contrast to the regulatory precedent for other airports such as Dublin where it was recognised that such adjustments would be disproportionate. The CAA has not consulted on nor justified this change in approach. Given the CAA's failure to set out why this change should be made, the significant losses suffered in each of these years, and the regulatory precedent, the AK factor adjustments must be removed.

12.2. Introduction

Centrality of the financial framework to the H7 settlement

12.2.1. It is important that the financial framework for H7 is correctly calibrated and that the allowed revenues are sufficient to finance the activities of the notional company.

12.2.2. A key element of the required calibration is setting the right WACC. The WACC allowed by the CAA is insufficient as a result of multiple material errors in its approach. These errors are set out in Chapter 10.

12.2.3. This chapter focusses on:

- The CAA's assessment of financeability;
- The asymmetric risk allowance;
- Corporation tax;
- The use of forecast CPI for adjusting prices;
- Calculation of returns in the Price Control Model (PCM); and
- The AK factor adjustments for 2020 and 2021.

12.2.4. Section 12.3 sets out the errors in the CAA's approach to assessing financeability. It shows that the CAA should target BBB+ for the notional company and that the appropriate financial ratios for the notional company to achieve BBB+ are > 9% FFO/Debt, <5.5x Debt/EBITDA, and >1.5x AICR.

12.2.5. Section 12.4 assesses the debt financeability of the Final Proposals. It shows that after correcting the errors in the CAA's approach, the Final Proposals are not consistent with the notional company achieving a BBB+ rating and therefore they cannot be considered to be financeable. Moreover, it shows that when the CAA's errors in the passenger forecast, operating costs and commercial revenues are taken into account, the Final Proposals are not consistent with retaining an investment grade rating and therefore are unlikely to be deliverable. Finally, it considers a p10 traffic scenario and shows that the Final Proposals provide insufficient headroom for the notional company to function in such a scenario.

12.2.6. Section 12.5 assesses the equity financeability of the Final Proposals and shows that they are not investable from an equity perspective.

12.2.7. Section 12.6 sets out the errors the CAA has made in its calculation of the asymmetric risk allowance and a simpler calculation approach that results in the correct allowance being calculated.

12.2.8. Section 12.7 notes the CAA approach to corporation tax.

12.2.9. Section 12.8 sets out the issues with the CAA's proposed change to using forecast CPI instead of known RPI for adjusting prices. It sets out the issues with the CAA's proposals, why they are not in consumers interests, and why they are a breach of public law and should be changed for the Final Decision.

12.2.10. Section 12.9 sets out the errors with the way that the CAA has changed the calculation of allowed returns in the Price Control Model.

12.2.11. Section 12.10 sets out the errors in the CAA's approach of applying AK factor corrections in respect of a hypothetical over recovery of revenue in 2020 and 2021.

12.2.12. Section 12.11 set out our conclusions.

12.3. Approach to Assessing Financeability

Key elements

12.3.1. In the sections below we assess the financeability of Heathrow on a notional basis consistent with long established regulatory practice. However, we note that the CAA's duty requires that they ensure Heathrow itself is financeable, and therefore the CAA also must have regard to the financeability of the actual company. This is particularly relevant given the recent impact of Covid-19 on Heathrow and the £4bn of losses it has suffered in the last two years. The impact of the pandemic has been to reduce Heathrow's financial resilience, and this needs to be rebuilt in H7. The CAA cannot ignore this in its approach to the Final Decision.

12.3.2. The CAA has made a number of significant errors in its approach to assessing financeability of Heathrow. These errors can be grouped into:

- Errors in its specification of the requirements for the notional company;
- Errors in its understanding of the debt market in which the notional and real company operate; and
- Errors in its approach to undertaking its financeability assessment.

12.3.3. The result of these errors mean that the CAA has taken false comfort that its proposals are financeable. These errors need to be corrected for the Final Decision.

12.3.4. However, a large part of the problem lies in other elements of the price control. A key driver is the CAA's error in the specification of WACC as outlined in Chapter 10. Furthermore, multiple other errors result in the Proposals being unfinanceable in the round. The CAA must ensure that multiple errors do not compound to make the Final Decision unfinanceable.

12.3.5. The importance of a balanced approach was recognised by the CMA in the Water appeal where they noted that actual credit ratings would reflect the ability of companies to deliver cost assumptions and that it was therefore important to consider the balance of risk around whether such assumptions can be delivered in practice.

Errors in the CAA specification of the requirements for the notional company

12.3.6. The notional company is a tool used by regulators to abstract from any particular company's specifics and regulate an industry by incentivising efficient operational and financial performance in the context of regulatory duties. There is an implicit expectation that the characteristics of the notional company are attainable. If they were not, as a result of aspects of the notional company such as the cost of debt not being achievable, the use of a notional company approach would become impaired.

12.3.7. Heathrow commissioned a report from KPMG on best practice in relation to specification of the notional company[1]. This section draws on the findings of this report.

12.3.8. There are three key elements that need to be considered in specifying the requirements of the notional company:

- The proposed gearing of the notional company;
- Its target credit rating; and
- The financial ratios that are appropriate for the target credit rating.

12.3.9. KPMG note that the notional company needs to be consistent over time in that it evolves realistically over time as this helps ensure that the regulatory regime remains stable and predictable.

12.3.10. In its approach, the CAA has correctly specified a target gearing of 60%, but then has moved away from a notional approach in its specification of the target credit rating and the appropriate financial ratios. Instead, it has based its approach on aspects of the actual company.

12.3.11. The target credit rating for a notional company with 60% gearing should be BBB+. This is consistent with:

- The likely credit rating for a company with 60% gearing and an excellent business risk profile;
- CAA precedent for Heathrow[2]; and
- Regulatory precedent in Water[3] and Energy Sectors[4].

12.3.12. It is important that the CAA properly take into account the way that credit rating agencies would assess the notional company in the round. This was recognised by the CMA in the water appeal where they stated:

"(c) Third, we recognise the importance of maintaining investment-grade credit ratings. We also therefore need to cross-check our assumptions on how the credit rating agencies would interpret our decisions against any statements they have made or actions they have taken relating to the broader regulatory framework."

12.3.13. In particular, this means that the CAA should properly take into account the impact of the pandemic on the way that credit rating agencies would assess the notional company. For Heathrow, the impact of the pandemic and the consequential poor financial ratios would have resulted in a downgrade to the notional company in 2020

[1] Appendix 35

[2] Economic Regulation of Heathrow and Gatwick Airports 2008-2013, CAA decision at para 10.17, Link: Economic regulation of Heathrow and Gatwick airports 2008-2013:CAA decision (nationalarchives.gov.uk)

[3] Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited price determinations Final report, CMA at para 10.73(c), Link: Final report (publishing.service.gov.uk)

[4] Network price controls 2021-2028 - RIIO-2 Finance Annex Revised – Ofgem at page 49, Link: Network price controls 2021-2028 (RIIO-2) | Ofgem

of at least one-notch to BBB. Rating agencies will not upgrade companies unless their performance is firmly in the top half of the range for the new rating. Therefore, in targeting BBB+ for the notional company the CAA should take into account that:

- To recover to BBB+, Heathrow would require financial ratios well above the target level for BBB+; and

- The risk from a downgrade is much higher than a typical control as this would be to BBB- or below.

12.3.14. In contrast, the CAA has erroneously considered that a one-notch downgrade to the notional company in H7 would be from BBB+ to BBB[5]. In making this assumption, the CAA has failed to recognise the impact of Covid-19 on the notional company. In 2020 and 2021 the notional company would have experienced sub-investment grade credit metrics and, as was the case for the actual company, been downgraded at least one-notch. Therefore, in considering the potential for further downgrade, the CAA should have considered the current credit watch as being equivalent to a downgrade from BBB to BBB-. This would have a much more restrictive impact on the notional company than the CAA has considered, and therefore they have overestimated its ability to finance itself and deliver the right outcomes for consumers. The CAA's approach is therefore in error.

12.3.15. In addition, the CAA failed to appropriately consider the S&P statement that it might change the qualitative business risk profile of Heathrow downwards from excellent. Such a move would result in a multi-notch credit rating downgrade, resulting in an even greater impact on the notional company's ability to finance itself and its ability to deliver for consumers. This significantly increases the importance of the CAA setting a determination that allows the notional company to retain its excellent business risk profile and have strong credit strength at BBB+.

12.3.16. In respect of the appropriate credit ratios to target, Heathrow provided clear evidence to the CAA of the appropriate levels for a notional company based on the approach of the CMA in the Water Determinations. The CMA set out a target ratio for BBB+ of 9% FFO/Debt and 1.5x AICR.

12.3.17. These levels are consistent with the Competition Commission's previous approach for Heathrow in Q5. In this the Commission targeted BBB+ and set out that it considered that FFO/Debt ratios of 8.7% to 10%, and an AICR of 1.7x were consistent with a BBB+ rating[6]. This sets a clear precedent for a notional airport that the CAA has ignored.

12.3.18. KPMG have also reviewed the appropriate credit rating for a notional company. They conclude that the appropriate financial ratios for a BBB+ rated notional company are FFO/Debt of 9.0% and below 5.5x Debt/EBITDA.[7] Table 1 summarises the evidence from the CMA and KPMG.

[5] Final Proposal, CAA (CAP2365) at para. 13.35, Link: Economic regulation of Heathrow Airport Limited - H7 Final Proposals Section 3: Financial issues and implementation (caa.co.uk)
[6] Competition Commission: BAA Ltd A report on the economic regulation of the London airports companies (Heathrow Airport Ltd and Gatwick Airport Ltd), Table 21, page 76
[7] Appendix 35, page 14

Table 1 - Financial ratio thresholds for the notional company

	FFO/Debt	Debt/EBITDA	AICR
Threshold for Investment Grade	>6%	<7.0x	>1.1
Threshold for BBB+	>8%	<5.5x	>1.5

Source: CMA/KPMG

12.3.19. The CAA has not taken based its determination of appropriate financial ratios on a notional approach. Instead it has used an actual company approach by making reference to the targets set by S&P for the actual company of 7% FFO/Debt for a downgrade from BBB+ to BBB. In using this figure the CAA is making a number of errors:

- It is not taking a notional approach as it fails to take into account the structural enhancements present for Heathrow that provides a one-notch uplift;
- The CAA fails to take account that the threshold of 7% FFO/Debt is after a one-notch downgrade due to Covid-19. As such for the notional company, this should be considered as the border between BBB and BBB-. This is consistent with the previous approach of the CMA for both Water and Heathrow;
- The CAA has targeted the bottom of the band which is the rating downgrade trigger level, rather than the upper half of the band which is the minimum threshold to be considered for rating upgrade and is required to offset the downgrade resulting from Covid-19.

12.3.20. The CAA has ignored the one-notch benefit that the actual company achieves as a result of the whole business securitisation that is in place. KPMG demonstrate that a notional company would not benefit from such an uplift and therefore the CAA is wrong to assume such an uplift would be in place. KPMG state[8]:

"HAL's class A debt therefore cannot act as a reasonable proxy for the debt of the notional company, and it is appropriate to adjust the rating thresholds specified by the rating agencies for HAL when evaluating the notional company financeability."

12.3.21. Instead, the CAA has assumed that the notional company would benefit from some rating uplift as a result of the regulatory ringfence, noting that South Staffordshire Water plc receives some rating benefit from this. This view is not consistent with the rating agencies actual statements. In respect of South Staffordshire, Moody's state[9]:

"Moody's also notes that South Staffs Water's covenant package is less comprehensive than for most of its peers and primarily provides ring-fencing protection. Due to the lack of security and intercreditor arrangements and no explicit liquidity requirements the covenant package does not currently provide any additional credit enhancement to the Baa2 rating."

12.3.22. Moody's also state:

[8] Appendix 35, page 4

[9] Moody's, "Moody's affirms South Staffs Water at Baa2; stable outlook", Dec 2021, Link: [Research: Rating Action: Moody's affirms South Staffs Water at Baa2; stable outlook - Moody's (moodys.com)]

"Today, most UK water companies' licenses include specific terms that provide some protections against business and financial risk factors, including restrictions on the activities of the licensed business, the requirement to maintain an investment grade credit quality and limitations on distributions to affiliated regulated companies. […] Although these features are important in credit quality, they do not by themselves enhance credit quality"

12.3.23. These quotes demonstrate clearly that regulatory ringfencing will not enhance credit rating agencies views of credit quality. The CAA is therefore in error in assuming that the notional company would receive some benefit from them.

12.3.24. The CAA has also set out its view that it is inappropriate for it to take account of the thresholds used by the CMA for water companies because a notional water company might not be an appropriate comparator for a notional airport. This is because the aviation industry has significantly higher levels of risk. This view of the CAA is however inconsistent with its actual approach:

- Higher risk would be expected to result in rating agencies requiring stronger ratios to achieve a particular credit rating. However, the CAA's approach applies weaker ratios, without explaining why weaker ratios would be appropriate for a higher risk company;
- The CAA ignores the clear precedent set by the Competition Commission for target ratios for notional airports at Q5.

12.3.25. For its Final decision, the CAA must:

- Target a BBB+ rating for the notional company;
- Use an FFO/Debt target of 9%, and an AICR of x1.5 for assessing whether the ratios produced by its decision are consistent with the target rating; and
- In its assessment it should consider three-year averages, consistent with the approach set out by the rating agencies.

Errors in the CAA's understanding of UK debt markets

12.3.26. The CAA has made a number of errors in its approach to financeability as a result of not taking into account the actual characteristics of UK debt markets. In particular:

- It incorrectly assumes that a BBB rated company could obtain £3.5bn from UK markets over 5 years;
- It incorrectly assumes that a company with over £5bn of debt would not require access to foreign currency debt markets; and
- It incorrectly assumes that the notional company would receive a one-notch uplift in its credit rating from credit rating agencies.

12.3.27. The CAA sets out its view that a notionally financed Heathrow would need to issue around £0.7bn each year in H7 and that they considered that it would be very likely to be able to issue all the debt it requires at a BBB rating[10]. It also set out its view that Heathrow would not need to access non-sterling debt markets during H7[11].

12.3.28. The CAA is in error in both of these assumptions:

- Lazard set out that access to £3.5bn from sterling issuers would be extremely challenging to achieve at BBB. They identify only 1 example of a corporate issuer who has issued c.£3.5bn over a 5-year period both in GBP and with a maximum 20 year tenor. This is a strong A-rated issuer (see page 8, Executive Summary, Lazard report).[12]

- Lazard also show that a company with debt the scale of a notionally financed Heathrow would require access to non-sterling markets to achieve its financing needs. They state the potential difficulties for the notional company of securing all of its required financing in the GBP bond market meaning that accessing foreign currency bond markets is likely to be a necessity for achieving efficient issuance yield. Furthermore, they state that peers with total indebtedness above c.£5 billion have tended, in practice, to diversify into foreign currency bond markets (see pages 8 and 24 of the Lazard report).

12.3.29. Lazard show that such a rating uplift would be extremely unlikely given the difference in the protections investors obtain under that actual structure compared to the notional structure.

Expert evidence from Lazard shows that the CAA's Final Proposals imply a disconnect with market due to substantial inconsistencies between debt assumptions in regard to the Notional Company and the relevant cost allowance, especially around the credit quality determining Heathrow's debt financeability. Although the Final Proposals acknowledge the risk of the Notional Company facing a credit rating downgrade over H7 due to insufficient cashflows driven by too low charges, market data provides no examples of corporate issuers rated BBB or below who have issued the scale of debt that the Notional Company requires.

12.3.30. KPMG also demonstrate that the regulatory ringfence is not equivalent to a whole business securitisation and therefore would not enhance credit quality[13].

12.3.31. The impact of these errors is to compound the errors the CAA has made in the specification of the notional company. Specifically, it overestimates the ability of a BBB rated company the scale of Heathrow to fund its activities and significantly underestimates the likelihood and potential consequences of a further downgrade.

Errors in the CAA's approach to its financeability assessment

12.3.32. The CAA has made a number of errors in its calculation of Heathrow's financial ratios as part of its approach to assessing financeability. In particular:

- The opening gearing at December 2019 is incorrect;

[10] Final Proposal, CAA (CAP2365) at para. 13.35, Link: Economic regulation of Heathrow Airport Limited - H7 Final Proposals Section 3: Financial issues and implementation (caa.co.uk)
[11] CAA (CAP2365), Final Proposal, para 13.30, Link: Economic regulation of Heathrow Airport Limited - H7 Final Proposals Section 3: Financial issues and implementation (caa.co.uk)
[12] Appendix 34
[13] Appendix 35

- Operating costs, commercial revenues and interest costs for 2020 and 2021 are incorrect;

- It does not include the impact of the K factor adjustments included in the determination; and

- Its estimate of the cost of debt for H7 is materially in error.

12.3.33. These errors are explained in more detail below in the Debt Financeability Section.

12.3.34. In addition to these specific errors in assessing the financeability of its own decisions, the CAA's approach to estimating traffic, operating costs and commercial revenues for H7 has led it to being over confident in the financeability of its proposals. There are errors in its estimates of operating costs, commercial revenues and passenger numbers. When these errors are corrected, the Final Proposals are clearly not financeable. Without a realistic view of the building blocks the CAA is putting consumer outcomes at risk. The importance of realistic estimates of building blocks was recognised by the CMA in the Water Appeal where it noted:

"We recognise that the actual credit ratings will be influenced heavily by the ability of the water companies to achieve the cost and outcomes targets set for AMP7. It is therefore important to consider whether the assumptions made about costs and outcomes are likely to be achievable in practice, and whether the balance of risk for the companies is consistent with those credit ratings. We have also modelled downside scenarios to assess financial resilience to a reasonable downside in operational performance."

12.3.35. In addition, the CAA has not taken account of a reasonable downside scenario in making its assessment. In considering only a 10% reduction in traffic, they are ignoring the potential impact of a wide range of potential outcomes. Instead, the CAA should have used the p10 forecast to assess downside risk. The impact of this forecast on demand is much less than the actual reductions observed during Covid-19 and cannot be considered an extreme case.

12.3.36. In combination, the errors in the CAA approach means that it has significantly underestimated the risk to financeability arising from its proposals. Heathrow has been placed under significant financial stress as a result of Covid-19. However, the CAA does not take proper account of this in its assessment and is complacent about the risk to consumers that would arise from further credit rating downgrades.

12.3.37. The CAA significantly underestimate the impact of a multi-notch downgrade for the notional company:

- They ignore the one-notch downgrade that has already occurred for the notional company and therefore incorrectly assume that a two-notch downgrade would reduce the notional company to BBB- rather than to below investment grade;

- They significantly overestimate the amount of debt that Heathrow could raise and the standby facility needed to support liquidity if it lost investment grade; and

- It assumes that any liquidity shortfall would be made up by shareholders.

12.3.38. In practice, such a downgrade would significantly impact on liquidity making it difficult to fund the operation of the airport. Given the background of over £4bn of Covid-19 losses, and the clear failure of the regulatory regime that a multi-notch credit rating downgrade would represent, there would be no compelling commercial reason for equity to meet any liquidity shortfall. Instead, to manage a shortage of liquidity the airport would have to minimise capex and trade off opex savings against service. The likely outcome would be worse service, more delays and much less resilience in the operation. This outcome would clearly not be in consumers' interest.

12.3.39. The CAA must undertake a much more robust assessment of financeability for its Final Decision.

12.4. Debt Financeability

12.4.1. In this Section we show:

- A correct assessment of the financeability of the Final Proposals after correcting the errors in the opening gearing and the cost of debt. This assessment demonstrates that the Final Proposals are not consistent with achieving a BBB+ rating for the notional company.

- Further, that when correcting the CAA errors in the passenger forecast, operating costs and commercial revenues, the resulting ratios are not consistent with retaining an investment grade rating. Under this scenario the liquidity required to deliver the Final Proposals could not be obtained through debt.

- Moreover, if a reasonable (p10) downside is considered the situation worsens further. This demonstrates there is clearly insufficient headroom in the cashflows allowed in the Final Proposals.

Correct Assessment of CAA Final Proposals

12.4.2. The CAA's assessment of financeability is built from an incorrect calculation of the level of opening gearing. The CAA has failed to reflect the RAB associated with expansion in the closing RAB of 2019. Instead, the expansion RAB is added at the end of 2021, despite the vast majority of the expenditure occurring before the end of 2019. This is an error because the RAB is added, but the accompanying expenditure to deliver this RAB is not included in the opening amount of debt. This error results in the opening embedded debt being understated by £275m and the resulting level of debt and interest costs throughout H7 being underestimated.

12.4.3. As an alternative, the CAA should add the cashflows required to finance the expansion RAB at the same time the RAB is added at the end of 2021. This would increase the level of debt by £0.5bn. It is incorrect to add RAB at the end of 2021 without considering the expenditure that delivered it.

12.4.4. The CAA has justified this approach by stating that it is consistent with its RAB policy. This is a clear error for two reasons:

- Firstly, the CAA's approach does not reflect the timing of the actual cashflows and therefore the debt that would be expected to be in place for the notional company at the end of 2019. This is a critical error for financial modelling and a financeability analysis; and

- Secondly, the CAA approach does not reflect its own policy. In CAP1996,[14] the CAA state:

"2.2 […]We have previously said that HAL's efficiently incurred early costs of capacity expansion should be added to its RAB and recovered during the H7 price control period and beyond. In making these commitments, we took the view that developing expansion was in the consumer interest at the time the expenditure was incurred.

2.3 We do not consider it is appropriate to revisit this approach in the current changed circumstances, as that would not be consistent with the CAA's established policy and would undermine confidence in the regulatory framework and constitute an undesirable form of "hindsight regulation". Such an approach could have the effect of deterring future investment, to the detriment of users of airport services."

12.4.5. This statement makes clear that the costs of expansion are added to the RAB as they occur, and as actually occurred in the Regulatory Accounts for 2017, 2018, 2019, and 2020.

12.4.6. In addition, the CAA has made a number of other errors:

- the data used for 2020 and 2021 in respect of operating costs, commercial revenues and interest costs is incorrect;
- it does not take into account the K factor adjustments in its Final Proposals despite them having a material effect on cashflow;
- it uses an incorrect cost of debt for 2022 to 2026; and
- it uses the wrong financial ratios to assess financeability.

12.4.7. Below, we set out an analysis that corrects these errors, applying the K factor adjustments in 2025 and 2026. We have undertaken an analysis by applying the following corrections:

- Opening gearing at December 2019 of 60% based on a RAB of £16,598m, as stated in the Regulatory Accounts, with opening embedded debt of £10,774m. The CAA Final Proposals understate this opening embedded debt by £275m;
- Updated EBITDA and Capex for 2020 and 2021;
- Closing cash balances of £3.5 billion in 2020 and £2.6bn in 2021, in line with the cash held by Heathrow (SP) Limited during the pandemic. This implies £4.3bn of debt issuance in 2020 and 2021. The CAA's Final Proposals understate this by £0.8bn;
- Using the correct cost of debt for 2020 and 2021. Embedded debt 5.2%, or 2.3% for Index Linked (as per IBP), and 2.76% for new debt in 2020, 2.72% in 2021;

[14] CAA (CAP1996) paras 2.2ff, Link [Economic regulation of Heathrow Airport Limited: working paper on Q6 capital expenditure and early expansion costs (caa.co.uk)]

- Using the correct cost of debt for 2022 onwards. Embedded debt 4.8% (1.9% IL) and 5.0% for new debt (2.1% IL):
- A K factor adjustment of £1.31 (£106m) in 2025 and £2.38 (£194m) in 2026; and
- No dividends in 2022 and then a profile which sees notional gearing reduce to 60% by the end of H7.

12.4.8. Table 2 sets out the key resultant credit metrics arising for the notional company based on the Final Proposals after making the corrections set out above.

Table 22 - Analysis of financeability of Final Proposals

	2021	2022	2023	2024	2025	2026	Average 2022-24	Average 2022-26
Gearing	66.6%	61.6%	61.2%	60.8%	60.4%	60.0%		
FFO/Debt		3.9%	8.4%	10.9%	10.3%	8.1%	**7.7%**	**8.3%**
Net Debt/EBITDA		8.3x	6.4x	5.8x	6.0x	6.5x	**6.8x**	**6.6x**
AICR		1.0	1.9	2.3	2.1	1.8	**1.7**	**1.8**

Source: Heathrow

12.4.9. In this scenario, FFO/Debt is less than 9% on both a 3-year and 5-year view, and is deteriorating at the end of the period. For the notional company to return to a BBB+ rating, FFO to debt would have to be comfortably above the 9% threshold.

12.4.10. In addition, Net Debt/EBITDA is consistently above the maximum target of 5.5x for BBB+, and similar to FFO/Debt is worsening at the end of the period. These ratios are at the bottom end of investment grade.

12.4.11. These ratings demonstrate that the Final Proposals are not consistent with achieving a BBB+ credit rating and could potentially lead to a downgrading of the notional company to BBB-.

12.4.12. From an equity perspective, the scenario results in a total of £1,064m in dividends over 2023 to 2026. Over the 5 years the dividend yield is 2.8%. The equity IRR from the start of 2020 is 0.3% real, and from 2022 5.0% real. Both are well below the market rate for Heathrow's equity, and mean that there will be significant pressure to reduce investment to preserve cash and increase returns in the period.

12.4.13. In combination, this shows that the Final Proposals are neither financeable on a debt basis nor an equity basis.

Assessment of CAA Final Proposals using realistic building block assumptions

12.4.14. We have extended the analysis above to reflect our view of passenger numbers, as well as the adjustments to operating costs and commercial revenues which are highlighted in this response. This is consistent with the CMA approach that the financeability analysis needs to be based on a realistic estimate of costs. The resulting key financial metrics are set out in Table 3 below.

Table 3 - Analysis of financeability of Final Proposals with corrected passengers, opex and revenue

	2021	2022	2023	2024	2025	2026	Average 2022-24	Average 2022-26
Gearing	66.6%	62.3%	61.3%	60.8%	60.6%	60.0%		
FFO/Debt		2.6%	6.5%	8.4%	7.4%	6.5%	**5.8%**	**6.3%**
Net Debt/EBITDA		9.4x	7.4x	7.0x	7.5x	8.2x	**7.9x**	**7.9x**
AICR		0.6	1.3	1.5	1.1	0.7	**1.2**	**1.1**

Source: Heathrow

12.4.15. Table 3 shows that the average FFO/Debt over the first three years is less than 6.0% and therefore is not consistent with retaining an investment grade credit rating. As in the previous scenario, the metric is weakening at the end of the period, meaning that a downgrade early in the period would not be reversed during it.

12.4.16. In addition, Net Debt/EBITDA is above 7.0x throughout the period and therefore not consistent with maintaining an investment grade credit rating.

12.4.17. A similar picture is seen with AICR being below the investment grade threshold of 1.1 on average over the period, and well below 1.0 in the first and last years of the period.

12.4.18. With all three metrics insufficient to support an investment grade credit rating a multi-notch downgrade of the notional company would be inevitable. This will mean that in practice it would be difficult to fund the capital programme included in the Final Proposals, and instead we would have to cut capex and change the balance of opex and service in order to protect liquidity. This would be contrary to the interests of consumers.

12.4.19. From an equity perspective, the scenario is also unfinanceable. It results in a net equity injection of £0.1bn (small dividend in 2024 offset by larger equity injections in other years). The equity IRR from the start of 2020 is -2.1% real, and from 2022 1.4% real. This return is significantly below Heathrow's actual cost of equity and means that it would not make commercial sense for equity investors to provide the equity assumed in the scenario. This would lead to further downward pressure on investment and service.

12.4.20. Assuming no access to funding which would be highly likely in this scenario, the forecast closing cash balance at the end of 2024 would be insufficient to meet the next 2 years of net outflows (£0.4bn shortfall).

12.4.21. Instead, to manage a shortage of liquidity the airport would have to minimise capex and trade off opex savings against service. The likely outcome would be worse service, more delays and much less resilience in the operation. This outcome would clearly not be in consumers' interest.

Assessment of Downside Scenario

12.4.22. We have extended the analysis above to reflect the potential of a p10 downside demand forecast (i.e. 45.9m, 49.3m, 58.1m, 64.8m and 69.0m passengers over 2022 to 2026). This is a realistic downside and is not nearly as severe as the downside scenario experienced as a result of Covid-19. The assessment takes into account the mitigation provided by the proposed Traffic Risk Sharing mechanism (TRS), including an uplift to closing RAB of £1.7bn. The resulting key financial metrics are set out in Table 4 below.

Table 4 - Analysis of financeability of Final Proposals with p10 downside traffic forecast

	2021	2022	2023	2024	2025	2026	Average 2022-24	Average 2022-26
Gearing	66.6%	63.7%	62.8%	61.9%	60.9%	60.0%		
FFO/Debt		(0.5%)	1.3%	3.6%	3.3%	2.9%	**1.5%**	**2.1%**
Debt/EBITDA		13.8x	13.5x	11.4x	11.6x	12.3x	**12.9x**	**12.5x**
AICR		(0.1)	(0.2)	0.1	(0.0)	(0.2)	**0.0**	**(0.1)**

Source: Heathrow

12.4.23. Table 4 shows that the average FFO/Debt, Debt/EBITDA, and AICR are all well below the level required to achieve an investment grade credit rating (respectively 6%, 7x, and 1.1x). As such it is very unlikely that Heathrow would be able to continue to access the debt market at all, particularly give the poor performance in 2020 and 2021 prior to this period.

12.4.24. The scenario assumes equity injections in each year from 2023 onwards totalling £1.5bn. However, given that the equity IRR from the start of 2020 is -2.7% real, and from 2022 0.4% real, the willingness of shareholders to provide equity in this situation is questionable.

12.4.25. Overall, the scenario requires new debt finance of £3.0bn and new equity of £1.5bn. Given the financial metrics in the period, it would be very unlikely that any debt funding would be available and additional equity finance would not make sense given the extremely low returns. As a consequence, in this scenario liquidity would be eroded by 2023 and we would need to defer all but the most essential capex, as well as reduce opex at the expense of service and the long-run health of the airport.

12.4.26. This scenario demonstrates that in reality the Final Proposals do not include enough headroom to withstand a p10 traffic forecast, even with the TRS in place. This is clear evidence that they provide insufficient revenues to support financial resilience.

Overall assessment of debt financeability

12.4.27. The analysis set out above shows that the Final Proposals result in financial ratios for the notional company that are not consistent with it achieving the target BBB+ credit rating for the notional company.

12.4.28. In addition, when the errors in the CAA estimates of passenger numbers, operating costs and commercial revenues are also taken into account the Final Proposals result in financial ratios that are not consistent with retaining an investment grade credit rating. A multi-notch downgrade would effectively close off Heathrow's access to debt markets resulting in an inability to finance the proposed capital programme.

12.4.29. Moreover, when a reasonable downside scenario is assessed it is clear that, even taking account of the CAA's proposed TRS, it would become impossible to finance the operation of the airport without significant external intervention, e.g. from the Government. This demonstrates that there is insufficient cashflow generation in the Final Proposals to underpin appropriate financial resilience.

12.4.30. In combination, these scenarios show that the Final Proposals are not financeable from a debt perspective.

12.5. Equity Financeability

Key elements

12.5.1. There are a number of elements of the Final Proposals that undermine equity financeability:

- The limited RAB adjustment related to Covid-19 has undermined confidence of investors in the CAA's approach to regulation;
- Investor experience of regulation over several controls is that returns are well below the cost of capital;
- The cost of equity assumed of 7.5% is well below the true cost of 14% based on current market evidence; and
- The errors in the Final Proposals mean that the return that would actually be achieved is far below that assumed by the CAA.

12.5.2. Chapter 11 sets out why the CAA's approach to the RAB adjustment has breached the legitimate expectations of shareholders that the CAA would intervene appropriately in the event of exceptional circumstances. The CAA's apparent approach to regulation of unlimited downside and limited upside has significantly undermined equity investors willingness to invest.

12.5.3. USS, a shareholder in both Heathrow and NERL, state that its confidence in the regulatory framework has been challenged by the CAA's approach to Covid-19 and the RAB adjustment and that this has impacted its confidence in investing in the Government's RAB based approach for nuclear energy projects. They note that no rational investor would invest on the basis of capped upside and uncapped downside. USS also set out its concerns that on the basis of its experience with NERL it has significant doubts that the CAA would apply the TRS as described.[15]

12.5.4. CDPQ, a shareholder in Heathrow, also set out its concern that the CAA's approach has damaged Heathrow from an equity investment perspective. It states that the CAA's approach to the RAB adjustment and H7 WACC has led to it being concerned about the CAA's ability to act as a fair, objective and independent regulatory body and note that Covid-19 has exposed an apparent unwillingness to deliver a fair outcome if it involves taking contentious decisions. Similarly to USS, it explains that the CAA's approach has impacted its appetite for investing in the nuclear energy projects using the RAB model. They also express concern that the TRS mechanism would not be applied in practice given the CAA approach to NERL. CDPQ states that it puts weight on past regulatory actions, not just the legal framework.[16]

[15] Appendix 36
[16] Appendix 37

12.5.5. Ferrovial, a shareholder in Heathrow, clearly sets out its expectation that downside risk would be more protected at Heathrow than it would in an unregulated business, and that it would be able to recover capex. Ferrovial is deeply concerned with the CAA's approach in the Final Proposals. They stress that, given the long-term nature of infrastructure investment, a predictable and fair framework is required, however, they do not see the CAA delivering this.[17]

12.5.6. Expert evidence from Lazard shows that Heathrow's expected equity returns are underperforming market benchmarks, primarily driven by an insufficient RAB adjustment and a proposed WACC that leads to passenger charges that do not result in equity returns commensurate with the amount of risk typically borne by equity holders relative to market benchmarks. This results in a cumulative equity IRR by FY 2026 of 0.7% per the Final Proposal, which underperforms market data and would not attract best-in-class infrastructure capital from an equity finance perspective.

12.5.7. Chapter 10 sets out the errors in the CAA's approach to the cost of equity. It shows that current market data indicates a cost of equity for Heathrow of 14.0%. The CAA estimate of 7.5% is considerably below this and is insufficient to attract new equity to the airport given the risks.

12.5.8. The analysis set out in Section 12.4 shows that the errors in the Final Proposals mean that the actual returns that Heathrow will achieve are well below even the artificially low cost of equity the CAA has assumed. Even using the CAA assumptions for passengers, opex and commercial revenues the actual equity return achieved over H7 is only 5.1% real, i.e. 2.4% below the CAA's assumed cost of equity. Once the errors in opex, commercial revenue and passenger numbers are taken into account the return falls to 1.4% real. This is clearly insufficient to support new equity investment.

12.5.9. The CAA estimates that £1.75bn of equity would be provided in the event of a downgrade fails to take into account the commercial incentives on equity. Shareholders have already suffered £4.0bn of losses as a result of Covid-19 and the CAA is offering a return on equity that is well below the required return. It is not rational for equity to invest in this situation and therefore the CAA is in error to assume such investment would be forthcoming.

12.5.10. The CAA is relying on equity as a liquidity backstop in the event of a downgrading of Heathrow's credit rating. However, the lack of both an adequate return and of trust in the regulator means that equity cannot be relied upon to provide liquidity in this situation. In reality a liquidity crunch could only be managed by cutting service to save opex and deferring capex. The CAA's proposals are therefore creating a significant risk for consumers.

12.5.11. Finally, we note the impact of the H7 decision on WACC and the RAB adjustment on investors' appetite for expansion of Heathrow. This would unlock huge consumer benefits in terms of lower fares and increased choice of routes and destinations. The Airport Commission estimated the benefits to the economy to be in the range of £112bn to £211bn[18]. Expansion therefore is fundamental to the CAA's ability to deliver its duty of promoting consumers interests regarding range, availability, continuity, cost and quality of airport operation services. The equity financeability of

[17] Appendix 38

[18] Airport Commission 2, Economy: Wider Impacts Assessment, Table 29 (Link: Economy: Wider Impacts Assessment (publishing.service.gov.uk))

the Final Decision will have a significant impact on investors' appetite to invest in expansion and therefore in its deliverability. [✂][19]

12.6. Asymmetric Risk Allowance

12.6.1. In its Initial Proposals, the CAA separated the asymmetric risks faced by Heathrow into medium frequency, low impact shocks that were included in the shock factor as an adjustment to forecast passenger numbers, and low frequency high impact shocks that were treated separately by including an additional revenue allowance rather than adjusting the passenger forecast. Heathrow accepted the principles behind this approach but set out issues with the CAA calculation of the allowance.

12.6.2. In the Final Proposals, the CAA has set out its view that the asymmetric risk allowance should be based on an underlying pandemic risk based on:

- A 3.5% likelihood per year;
- A 3-year impact; and
- Passenger number reductions of 73%, 76% and 32%.
- We accept that these are the appropriate basis for estimating the asymmetric risk allowance.

12.6.3. However, the CAA approach does not result in an appropriate ex-ante risk allowance for H7 as it excludes impacts in 2022, 2023 and 2024 on the grounds that a pandemic has not occurred ex-post. Specifically, it excludes the risk of year 1, year 2 and year 3 impacts from a potential pandemic in 2022, it excludes risk of year 2 and year 3 impacts from 2023, and it excludes the risk of the year 3 impact in 2024.

12.6.4. The aim of an ex-ante risk allowance should be that over time, the expected income from the allowance should meet the expected impact of the risk it is intended to mitigate. If the allowance is not made for any years where the impact has not happened ex-post, then the expected value of the allowance will be less than the expected impact of the risk and therefore be insufficient. Effectively, in excluding these impacts the CAA approach is akin to requiring an insurance company to pay back any premiums at the end of a year where no claim has been made.

12.6.5. The CAA approach is clearly an error because it results in the expected revenue from the asymmetric risk allowance being insufficient to cover the risk it is intended to address.

12.6.6. This point is further illustrated by considering the situation were the same approach to be applied in H8. This is illustrated in Table 5, that sets out the number of years of pandemic impact (out of three) that is considered in each year.

Table 5 3 - Illustration of gaps in pandemic coverage from CAA approach

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Years Impact Included	0	1	2	3	3	0	1	2	3	3

[19] Appendices 36 (USS) and 37 (CDPQ)

12.6.7. Table 5 shows that over the 10-year period, only 18 years impact out of 30 are included, i.e. only 60% of the potential pandemic impact is included in the asymmetric risk allowance. This demonstrates clearly that the CAA approach will not appropriately compensate Heathrow from the asymmetric risk to which it is exposed.

12.6.8. The CAA approach to calculating the allowance is cumbersome. A more straightforward approach would be to directly estimate the potential impact and risk for each year. This is illustrated in the box below using the proposed CAA calibration of the TRS. This can be calculated separately for each year and results in a correct ex-ante allowance for pandemic risk. It produces adjustments of similar magnitude to those calculated by the CAA for 2025 and 2026. Step C will need to be adjusted to reflect the final calibration of the TRS.

Calculation of Asymmetric Risk Allowance

A	Annual risk of pandemic:	3.5% pa
B	Impact over three years:	181% of passengers (73% + 76% + 32%)
C	Expected mitigation of aero revenue:	174% (30% * 0.5 + (181% - 30%) * 1.05)
D	Annual unmitigated aero risk:	7.5% of aero revenue (= B – C)
E	Net non-aero impact per passenger:	£5.26
F	Unmitigated net-non aero impact:	Forecast pax * B * E
G	Total impact:	D + F
H	Risk Allowance:	G * A

12.6.9. For the Final Decision, the CAA needs to correct its approach so that it results in the appropriate allowance that equals the expected impact of the risk. The most straight forward approach would be to use the calculation approach set out in the box above.

12.6.10. Alternatively, if the CAA wishes to retain its current cumbersome approach, it must include:

- The year 1, year 2, and year 3 impacts of a pandemic starting in 2022;
- The year 2 and year 3 impacts of a pandemic starting in 2021; and
- The year 3 impact of a pandemic starting in 2020.

12.6.11. Note that including these adjustments in the CAA approach is not rewarding Heathrow for pandemics in previous years that have not happened. It is simply making the appropriate corrections to a clunky approach so that the correct ex-ante risk allowance is obtained.

12.6.12. We note that the asymmetric risk allowance for the final decision will need to reflect the aero revenue charge of the decision.

12.7. Corporation Tax

12.7.1. In the Final Proposals the CAA proposes to retain a pre-tax approach to setting tax allowances coupled with a tax uncertainty mechanism to account for any changes in the statutory rate of corporation tax during the period. Adjustments arising from the tax uncertainty mechanism would be made through a revenue adjustment in H8.

12.7.2. This approach is broadly consistent with that advocated by us. However, we consider there remains merit in allowing flexibility towards adjustments arising from the uncertainty mechanism so that there would be an option to implement upwards adjustments in RAB rather than revenue. This is because it may be in consumers' interests to spread the increased payments over a longer period.

12.7.3. We support the CAA's decision not to introduce a tax clawback mechanism. As we noted in our response to the Initial Proposals, such an adjustment should be theoretically unnecessary and in practice, as the CAA has identified, real life tax complications mean that it is uncertain whether any mechanism would appropriately affect differences in tax costs.

12.7.4. We also note that the CAA's proposed approach in respect of the clawback mechanism is consistent with its approach in previous decisions. For example, in the Q5 settlement the CAA stated:

> *"The actual tax faced by BAA will be affected by both the impact of the debt shield and the impact of any capital allowances. On the basis of the acquisition finance that BAA has put in place, the actual debt shield available to each airport would be greater than that assumed by the CAA under its notional 60 per cent gearing assumption. However, the CAA has, as part of this review, sought to put in place a number of policies designed to shield users from any additional risks that may be associated with higher levels of leverage than the notional 60 per cent gearing. It would not therefore be internally consistent with this approach if users were to enjoy any benefits of high leverage (beyond the CAA's 60 per cent assumption)."*[20]

12.8. Use of CPI for Indexing Prices

12.8.1. In its Initial Proposals the CAA used RPI to index charges based on the RPI values for April in the prior and pre-prior years to the charging year. These RPI values represent known figures at the time that charges for the charging year are determined.

12.8.2. The CAA has made two changes to its approach in the Final Proposals:

12.8.3. It has changed the indexation basis from RPI to CPI; and

12.8.4. For charges from 2023 onwards it has moved from using known indexation data to using unknown forecast data, with an additional retrospective correction mechanism.

The change from RPI to CPI as the inflation basis for charging

12.8.5. The approach to indexing charges is a key element of the regulatory framework. Consequently, changes in approach to this element should be assessed carefully and consulted on well in advance. The CAA has failed to provide anything other than a

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[20] CAA, Economic Regulation of Heathrow and Gatwick Airports 2008-13, CAA Decision, March 2008, Paragraph 10.54, Link: [Economic Regulation of Heathrow & Gatwick Airports 2008-2013 - CAA decision]

cursory analysis of this change and has failed to consult in a timely manner on this change, introducing it after the regulatory period has already started.

12.8.6. By choosing to move to indexing Heathrow's price control on a CPI basis (CPI minus X), with the RAB inflated by RPI and consequently the WACC also calculated on an RPI-real basis, the CAA has unnecessarily introduced inconsistency into the price control. This inconsistency appears to be present in the development capex adjustment in the licence that is now inconsistent in the use of CPI indexed numbers and an RPI indexed RAB. In addition, the change could have consequences that the CAA has not foreseen including for regulatory certainty and fairness if, for example, CPI and RPI diverge by more or less than expected in a sustained way. This change is clearly at odds with the CAA's duty to have regard to the principle that regulatory activities should be carried out in a way which is consistent.

12.8.7. Moreover, on the CAA's own terms, the idea that adopting CPI for the price cap can simply be compensated for by a change in the regulatory X amount, its move to CPI serves no valid purpose, and so is at odds with another of the CAA's duties - to have regard to the principle that regulatory activities should be targeted only at cases in which action is needed.

12.8.8. In addition, this change has not been properly consulted upon, warranting little more than a placeholder showing either RPI or CPI in the CAA's H7 Initial Proposals – draft licence modifications (CAP2275), with the possible consequences from using different inflation indices for the price cap and the WACC (in particular) not properly explored. Imposing this change without due consideration and consultation is a breach of public law.

12.8.9. Therefore, the CAA should return to using RPI to set prices in its Final Decision consistent with the approach used in the Initial Proposals.

Using forecast inflation rather than known inflation

12.8.10. In the Final Proposals the CAA proposes to change the inflation basis for calculating charges for 2023 onwards from using known inflation indices to using inflation indices that must be estimated with a forecast. To account for the error that this new approach will introduce the CAA has included an adjustment mechanism for later years to adjust future prices for any under or over recovery as a result of differences between forecast and outturn inflation.

12.8.11. Charges for the charging year are consulted on from August in the prior year. The previous approach, that was used for both the Initial Proposals and for the 2022 price cap, uses known April inflation data from the prior year compared to April in the pre-prior year to adjust for inflation. In contrast, the proposed approach is to use forecast year average inflation for the charging year compared to forecast year average inflation for the prior year. At the time of setting prices, both of these numbers are unknown and therefore need to be estimated.

12.8.12. In order to deal with the errors introduced by this estimation process, the CAA proposes to introduce a correction mechanism so that future prices can be adjusted to account for any over or under recovery of revenue as a result of differences in actual inflation from the estimates for both the prior year and the charging year. This adjustment would need to be applied every year and effectively creates additional uncertainty in the actual level of charging in each year. This uncertainty is not in consumers' interest as it will introduce unnecessary volatility in charges. In addition, it can lead to additional unfairness to airlines as those overpaying one year may not be the beneficiaries of lower charges two years later. On top of this, the changed approach introduces significant additional complexity in every year and additional potential areas of dispute. The CAA has not justified why this additional complexity is necessary or proportionate.

12.8.13. It is also notable that the CAA's proposed approach differs from that used for setting the 2022 charge in the interim price cap that was based on the previous approach of using known April data. The impact of this is that the CAA proposes to change its approach to indexation part way through the period.

12.8.14. The CAA has justified this change because they claim that the high inflation experienced in April 2022 would create a distortion in the charging profile. However, the impact is not a distortion, but simply a reflection of the actual pattern of inflation. We consider that the CAA's approach of introducing significantly more complexity into the price setting process in order to deliberately exclude the impact of a specific year's inflation estimate is disproportionate and contrary to good regulation principles.

12.8.15. Moreover, the CAA financial model is able to take into account April inflation figures being different to year average figures. Therefore, there is no expected gain to Heathrow from the higher forecast in April 2022. The only impact is a slightly different profile of charges.

12.8.16. The late change in approach by the CAA has also resulted in stakeholders being misled. [✂].This demonstrates that the CAA's approach has not been transparent and has not been communicated clearly.

12.8.17. For the Final Decision, the CAA should revert to using known April Indexation figures as for Q6 and the 2022 charges decision.

12.9. Approach to RAB in PCM

12.9.1. A key building block in the revenue calculation for Heathrow is the allowed return on capital.

12.9.2. At the Initial Proposals, and in all previous settlements, this return was calculated as:

$$Allowed\ Return = WACC * (opening\_RAB + closing\_RAB)/2$$

12.9.3. In the Final Proposals, the CAA has changed this calculation to:

$$Allowed\ Return = WACC * (opening\_RAB + \frac{closing\_RAB}{1 + WACC})/2$$

12.9.4. This change results in the revenues for Heathrow being £168m lower than they would have been using the previously established approach. The CAA has not consulted on this change nor offered any discussion of why it is justified or required it in its Final Proposals.

12.9.5. The proposed CAA approach discounts the closing RAB to the first of January. This would be appropriate if all of Heathrow's revenue was received on the first of January, however this is not the case. Revenue is received throughout the year. Consequently, the allowed return on RAB is lower than it should be.

12.9.6. If the CAA wanted to correctly adjust for the revenue being received during the year then the correct approach would be to adjust its calculation of the allowed revenue so that it matched the middle of the year, i.e. the average time at which it was accrued. The resulting calculation would therefore be:

$$Allowed\ Return = (1 + WACC)^{1/2} * WACC * (opening\_RAB + \frac{closing\_RAB}{1 + WACC})/2$$

12.9.7. In practice this approach produces a very similar answer as using the average RAB in the year, the methodology that the CAA used in all previous determinations and in the Initial Proposals.

12.9.8. For the Final Decision, the CAA must correct the calculation of allowed returns so that the returns match the timing in which they are received. The most straight forward and transparent way to do this is to return to calculating the allowed return by applying the WACC to a simple average of the opening and closing RAB. This is the same approach that was used for previous price controls and in the Initial Proposals.

12.10. AK Factor for 2020 and 2021

12.10.1. The CAA has applied an AK factor adjustment mechanism to the outcome for 2020 and 2021 without considering the underlying intention of the adjustments and the actual situation in these years. In effect, by applying these adjustments the CAA is reducing Heathrow's allowed revenue to recover money from Heathrow that it never received. This is an error, and the AK factor adjustment should be removed from the Final Decision.

12.10.2. Heathrow's regulated price adjustment approach for setting charges in a specific year includes a K factor adjustment which accounts for any over or under recovery of revenues from the charging year two years prior that arise because the outturn yield per passenger was different to the allowed yield per passenger.

12.10.3. A key aspect of this adjustment approach is that the allowed yield for the prior charging year is also recalculated to reflect outturn passenger numbers rather than the passenger numbers forecast ahead of the year. Where the passenger number outturn is significantly different to the forecast number this can lead to a big retrospective change in the allowed yield for the year. This can lead to a significant over- or under-recovery of revenue being determined.

12.10.4. This issue is caused by the inclusion in the allowed yield of adjustments relating to specific amounts of money that need to be recovered or excluded. These adjustments are sized so that the specific amount in question is recovered if passenger numbers in the charging year are exactly in line with the forecast. If outturn passenger numbers are different, the K factor adjustment for the charging year two years later takes into account the adjustments to the allowed yield that would be required to ensure that the desired monetary amount was actually recovered. This can lead to the outturn allowed yield being significantly different to the allowed yield calculated when prices are set.

12.10.5. This issue has materialised for adjustments relating to 2020 and 2021 due to the outturn number of passengers for both years being significantly below the number forecast in the K setting process. Specifically, the yield calculation suggests that Heathrow over recovered revenues of £91.4m in 2020 and £166.6m in 2021. This is despite aero revenue in 2020 being £1.3bn lower than forecast, and in 2021 being £1.0bn lower than forecast.

12.10.6. The majority of the AK factor adjustments for 2020 and 2021 are related to two specific adjustments: one relating to development capex, and one relating to the business rates adjustment. The remainder reflect small differences in the actual yield achieved as a result of the outturn mix of landing and departure charges being slightly different to those forecast ahead of the year.

12.10.7. The development capex adjustments are intended to adjust the allowed return to reflect the actual level of capex spent compared to that assumed in the determination. This ensures that Heathrow does recover revenues relating to return on assets for capex that it has not spent. This adjustment for 2020 was £40.2m and £91.5m in 2021.

12.10.8. The business rates adjustment is intended to pass on 80% of the reduction in business rates compared to the assumption made in the determination. Business rates reduced during Q6 and so an adjustment was applied to ensure that Heathrow did not receive revenue associated with 80% of the rates costs it no longer experienced. The adjustments were £34.6m in 2020 and £40.6m in 2021.

12.10.9. The CAA Initial Proposals did not include any AK factor adjustments for 2020 or 2021. In addition, the licence used to implement the charging cap for 2022 did not include a K factor adjustment for 2020 (as would normally have been included for the 2022 charge).

12.10.10. Excluding the K factor adjustments is an appropriate approach given the impact of Covid-19. The development capex adjustment is intended to ensure that Heathrow does not recover a return on capex that it has not spent. The impact of the pandemic resulted in Heathrow making losses rather than profits. In this situation, making a K factor adjustment to remove an unearned return makes no sense as no undue return has been obtained.

12.10.11. Similarly, the rates adjustment is intended to ensure that Heathrow does not recover revenue for a rates cost that it does not experience. The impact of Covid-19 on revenue however, meant that Heathrow did not recover this additional revenue.

12.10.12. For both these adjustments, since no excess revenue has actually been received, making subsequent adjustments to remove this revenue is effectively removing revenue that Heathrow did not actually receive. Given this situation it would be an error to apply the K factor mechanism to recover the amounts in subsequent years.

12.10.13. The inappropriateness of making such adjustments for 2020 and 2021 given the impact of the pandemic was recognised by the CAR in its approach to regulating Dublin Airport. In the draft decision for the 2022 interim review, the CAR set out that in 2020 it took the decision to remove all adjustments and triggers from Dublin's price cap. In regard to the K factor adjustment, it stated "It was decided that, having regard to each of our statutory objectives, it would be disproportionate to require Dublin Airport to rebate the 2020 overcollection in the circumstances of the pandemic."[21]

12.10.14. In the Final Proposals the CAA set out in its licence an intention to include the AK factor adjustments for 2020 and 2021, albeit allowing Heathrow flexibility around when they would be applied. The CAA has not set out a justification for this change

[21]Commission for Aviation Regulation, Draft Decision on the Second Interim Review of the 2019 Determination in relation to 2022, October 2021, Page 7, Paragraph 3.11, Link: [Draft Decision(2).pdf (aviationreg.ie)]

in approach from the Initial Proposals and have not explained why the AK factor adjustments remain appropriate given the impact of Covid-19 meant that Heathrow was not actually over recovering the revenues the K factor was intended to adjust for.

12.10.15. The CAA has not set out why the AK factor adjustments should be applied. In particular, they have not explained how these adjustments protect consumers given that the protection intended was to avoid over recovery of revenues yet actual revenues were much lower than assumed.

12.10.16. For the Final Decision, the CAA must remove the AK factor adjustments for 2020 and 2021.

12.11. Section Conclusion

12.11.1. The CAA's approach to assessing financeability is confused and mixes aspects of the actual and notional companies in an inconsistent manner. For the Final Decision, the CAA should target a BBB+ rating for the notional company. Financeability of the notional company should be assessed using credit metrics appropriate for a notional company. In particular, a rating of BBB+ requires FFO/Debt above 9.0%, Debt/EBITDA of less than 5.5x, and AICR of over 1.5x.

12.11.2. A correct assessment of the Final Proposals shows that they are not consistent with retaining a BBB+ credit rating and result in a return below the cost of equity the CAA has assumed. Furthermore, when errors in passengers, opex and commercial revenue are taken into account the Final Proposals are not consistent with retaining an investment grade credit rating. Finally, when a reasonable p10 traffic downside scenario is considered, it is clear that even with TRS the liquidity required to deliver the expenditure included in the Final Proposals could not be obtained. Together these demonstrate that the Proposals are not financeable and that there is significant risk to their deliverability.

12.11.3. The principle reasons the Final Proposals are unfinanceable is the gross underestimation of the required WACC, and the errors in the other key building blocks. These errors must be corrected by the CAA in its Final Decision.

12.11.4. The CAA has excluded 2022 risk from its asymmetric risk allowance. This is an error that effectively applies an ex-post adjustment to an ex-ante allowance. The CAA must correct its calculation of the allowance so that is reflects the actual ex-ante risk.

12.11.5. The CAA has made two changes to its approach to indexing charges between the Initial Proposals and the Final Proposals without consultation. Firstly, it has moved the inflation basis from RPI to CPI. Imposing this change without due consideration and consultation is a breach of public law. Secondly, it has moved from using known inflation data (April_{t-1} compared to April_{t-2}) to using forecast inflation data accompanied by a correction mechanism to reflect actual inflation in later years. This is contrary to good regulation principles as it adds unnecessary complexity and uncertainty. The CAA should return to the approach used in Q6 and for the Initial Proposals.

12.11.6. The CAA has introduced a new approach to calculating the return on RAB in its Price Control Model that is in error and reduces returns by £168m. The CAA must return to the approach used in the Initial Proposals and previous regulatory periods.

12.11.7. In contrast to its approach at the Initial Proposals, the CAA has included a novel AK factor adjustment to return £258m of revenue it considers was over recovered in 2020 and 2021. In these years, actual revenue was hugely reduced as a result of Covid-19. The CAA approach therefore amounts to requiring Heathrow to return revenue that it never received. This decision is irrational and unevidenced and is in contrast to the regulatory precedent for other airports such as Dublin where it was recognised that such adjustments would be disproportionate. The CAA has not consulted on or justified this change in approach. Given the CAA's failure to set out why this change should be made, the significant losses suffered by Heathrow in each of these years, and the regulatory precedent, the AK factor adjustments must be removed.

C. Appendix C: Notice of Proposed Licence Modifications

C.1 Introduction

C.1.1 This section contains Heathrow's comments on the CAA's Appendix C.

C.1.2 In general we have not commented (in this section) on each and every issue raised in the main body of our response. Rather, where we make a comment in the main body which affects the drafting on the licence conditions, that also should be taken as a comment to that effect on the relevant draft condition. So, for example: for our responses to the substantive issues summarised at paragraph C6-C10 of Appendix C, we refer to the main body of our response.

C.1.1 The current draft H7 Licence shows improvements from the previous version shared by the CAA in CAP2275, however, there are still issues that need resolving to ensure that the licence is fit for purpose throughout the H7 period. The CAA has not provided a mark-up of the full licence, instead only sharing segments. This has made the review challenging and risks errors being missed. We therefore request that the CAA provides a full mark-up of the licence prior to its final decision so we can ensure that there are no errors in the drafting or the implementation of the policies.

C.2 General Comments

C.1.2 The CAA appears to have maintained the definition of "Regulatory Year", used in CAP2275. As stated previously this results in the Licence obligations having retrospective effect between 1 January 2022 and the time the H7 Licence properly comes in to force. This does not work in practice and in any event is not legally permissible because it breaches the rule on retrospectivity: it purports to compel Heathrow to have complied in the past with an obligation of which Heathrow could not have been aware, because it did not exist. Heathrow maintains the points raised in its response to CAP2275 and requests certainty from the CAA that it will amend the definition such that Heathrow does not end up in breach of a licence condition which was not in force at the relevant time.

C.1.3 Certain of the proposed conditions also contain fixed dates, e.g., E2.3, we expect the CAA to ensure that the effective date in all such conditions allows Heathrow enough time to comply following publication of the Final Decision.

C.1.4 The requirement for Heathrow to use "all reasonable endeavours" to meet licence obligations places too high a burden on Heathrow. As the CAA will be aware "reasonable endeavours" has a specific legal meaning which will place a high burden on Heathrow to ensure we are complying with the conditions in a consistent manner. Placing an additional obligation on Heathrow to meet "all reasonable endeavours" is too onerous, and unjustified. There is a line of case law on what "all reasonable endeavours" means. However: its meaning remains unclear. Therefore, the current wording breaches the "regulatory certainty" principles. For the avoidance of doubt, Heathrow's view is that the best line of authority is that in *CPC Group Ltd v Qatari Diar Real Estate Investment Company* [2010] EWHC 1535, and *Brooke Home (Bicester) Ltd v Portfolio Property Partners Ltd* [2021] EWHC 3015 – and that the meaning in this context is that Heathrow is not required to put aside its own commercial interests when assessing what is required by the obligation.

C.3 Measures, Targets and Incentives

C.1.5 We note that for the reputational measures the CAA has set targets to be achieved by the end of 2026. At the same time the CAA is requiring reporting throughout the period to the current performance, this will result in Heathrow being ‘behind’ on its performance throughout H7 – when in fact we will be rightly working towards achieving the measures in 2026. We instead propose that the obligation is amended such that Heathrow reports against progress towards the end of period target. This will present a fairer picture of how Heathrow is performing.

C.4 Detailed response

Licence Condition and proposed modification	**Heathrow response**	**Propose**d amendment (if applicable)
C1.1 (removal of At)	The CAA's proposal has removed At – the cost pass-through for runway expansion costs. This removes a condition that may be required, possibly in some new form, rather than providing the new formulation as part of the consultation. We do not see there is any benefit in removing the adjustment mechanism for H7.	We request that the condition is reinserted in the form set out in our response to CAP2265.
C1.1 (CPI forecast average); C1.2; C1.3; C1.18(a)(i)1; and C1.19(f)	The CAA's proposals have moved away from the established approach of using actual April RPI and it is now proposing to move to an average year CPI forecast for two years. This significant change to adopt CPI has not been consulted on prior to the Final Proposals and due process has not been followed. The use of forecast average years introduces another layer of complexity and uncertainty in to the price control. The forecast CPI would need to be updated to actuals through the k factor in subsequent years, therefore, using actual inflation would provide more certainty on the charge as no corrections are required. We ask for the continued use of actual inflation.	C1.1(c): CPI_{2023} is the percentage change (positive or negative) in the Office for National Statistics monthly D7BT Consumer Price Index between April in Regulatory Year t-1 and the immediately preceding April
C1.1 (triggers) and C1.13	It is our view that the capex process set out by the CAA is unworkable and delivers no benefit to consumers, as set out	C1.13: Tt is the trigger factor in Regulatory Year t, which is a change in the maximum revenue yield per passenger occurring when the Licensee achieves specific capital

	in our response. We therefore ask the CAA to reinstate the appropriate drafting from Q6. Notwithstanding Heathrow's position, the CAA's proposals for H7 capex incentives do not include triggers proposals and therefore continuing to include the triggers drafting without clarification is an error. In the event the CAA maintains its position the Licence should make clear that triggers are for those projects that form part of Q6 and iH7 only.	investment milestones associated with relevant projects, which commenced between 2014 and 2022, earlier or later than the milestone month in the Capital Investment Triggers Handbook. The factor shall be calculated as follows:
C1.4	The CAA is proposing to increase the deadband figure from £21m to £22.12m. Our view is that the existing deadband of £21m remains appropriate as set out in Chapter 3 – Regulatory Framework.	Replace "£22.12m" with "£21m"
C1.7 to C1.12	Our response to the CAA's proposals on capex incentives is set out in Chapter 8. We therefore ask the CAA to remove all new drafting relating to capex incentives and revert to the drafting contained in the Q6 licence. In the event that the CAA does not correct its manifest errors in this regard the proposed mechanism for reviewing requests under C1.9 needs to be amended. Currently there is no route of appeal, other than judicial review, which is clearly unsatisfactory in this situation, for Heathrow. This cannot be correct given the importance of capital spend to Heathrow, consumers and airlines. The CAA is acting *ultra vires* in granting itself these powers, particularly in respect of being final arbitrator with no ability for Heathrow to challenge that decision.	Remove
C1.8 (c) and (d); C1.13 (b) (ii) and (iii)	The proposal includes the use of actual average RPI for 2018 and forecast average RPI for the relevant year.	

	The price control formula is proposing to move to CPI but using RPI for other factor adjustments. This is introducing further complexity and inconsistency in the price control condition. It is important to introduce consistency by using the same inflation measure, which is based on actual inflation as opposed to forecasts. This provides certainty on price as no adjustments are required. The calculation set out at Table C.4 also uses the pre-tax WACC. This should be corrected to post-tax in order to reflect the actual value to Heathrow.	C1.7(c): RWACC is the post-tax RPI-real weighted average cost of capital which shall have a value of [XX]%
C1.13 and 14	We understand that it is the CAA's intention that Triggers are to be removed for H7 (see paras 7.117 of the FPs). Notwithstanding Heathrow's position to the contrary, if the CAA's Final Decision maintains that Triggers are no longer required then these conditions will need amending to clarify that they only apply to ongoing Q6 and iH7 projects.	
C1.15	As we have noted in our response to CAP2265 and CAP2275, the CAA's proposals have not provided a justification for its 65% sharing rate for over and under recovery against forecast TDOC revenues. For this reason, we do not think that the risk sharing mechanism is required. We support the inclusion of a provision to adjust Heathrow's price control in the event that a change to legislation prevented Heathrow from levying a Terminal Drop-Off Charge. As set out in Chapter 6 – Commercial Revenues, The Private Parking Code of Practice published by the Department for Levelling Up, Housing & Communities in February 2022 will mean that we are unable to collect	

	revenues from the TDOC from 2024. For this reason, we have removed all TDOC revenues from our baseline for 2024 onwards. However, the uncertainty provision is still required in case of any legal or regulatory changes ahead of this known change. We also consider it appropriate to broaden the adjustment for total nonrecovery to include regulatory decisions, and where there is agreement between Heathrow and the airlines or Heathrow and the CAA. The formula also does not take account of inflation to uplift the regulatory allowance from 2020 prices to current year prices.	
C1.17	We have set out our response to the CAA's proposed TRS mechanism in Chapter 3. The calculations in the formulae at C1.18 will need to be updated to reflect the required sharing rate. As set out in Chapter 3, we propose that deviations from forecast within the 10% band are recovered in one year at year t+2. This is in line with regulatory precedent and cashflow assessments carried out by Credit Rating Agencies.	Tables C.6 and C.7 will need to be updated to reflect required sharing rates of 115% above to 10% threshold and also align the recovery time frame for recovery within the 10% band to year t+2.
C1.19	Conditions C1.19 and C1.20 should be removed and the AK parameter should be removed from C1.1 and C1.2. There is no justification for a measure to retrospectively recover '*over recovery of revenue from airport charges*' when it is plain that whatever the resulting average yield no such over-recovery of revenue took place in 2020 and 2021, the years worst affected by the pandemic. Indeed,	C1.19 and C1.20 to be removed and the AK parameter to be removed from the formulae in C1.1 and C1.2.

	Heathrow significantly under-recovered its target revenue in both 2020 and 2021. To ignore this exceptional context, and instead insist on enforcing a mathematical adjustment to a meaningless yield, is irrational and wrong in law on well-established public law grounds. It is also in breach of the legal prohibition on introducing measures with retrospective effect and the CAA's failure to correct for this is an error made in the exercise of discretion. Introducing this measure would also be a breach of the CAA's duties, notably its financing duty, by undermining investors' faith that regulatory decisions will be made on logical, evidence-based grounds. As such it would also be a breach of the primary duty to users, by increasing investment risk and so the cost of capital. It is also a breach of the CAA's statutory principles that regulatory activity be carried out in a way which is transparent, accountable and proportionate and targeted only at cases in which action is needed. In addition the CAA's holding cap (see CAP2305) and Initial Proposals (CAP2265) did not include an AK correction factor for 2020 and 2021. If this was an oversight it should not be Heathrow that is penalised. This significant change arrived only with the H7 Final Proposals and so did not benefit from the greater scrutiny that could have been afforded it had it been consulted upon earlier in the process. Consequently, the CAA has failed in its public law duty to consult adequately on this new condition. Public law standards for consultation are examined in more detail in the Legal Annex [B3]. Should these manifest errors be overlooked and the measure retained there are a number of errors that need to be corrected. First, the CAA proposes to inflate the	

	supposed 'over-recovery' of 2020 and 2021 revenue by the pre-tax RPI-real weighted average cost of capital (RWACC). This is wrong. Should the cost of capital be applied at all, which we dispute, it should be post-tax. This approach is inconsistent with past practice and so undermines regulatory certainty, and compounds the CAA's error in failing to meet its financing duty. For small accidental under or over recoveries the previous position was that these were marginal changes to the amount of debt held and therefore should be inflated using an appropriate cost of debt The Treasury Bill discount rate is appropriate. The size of the adjustment[1] is irrelevant.	
C2.4	We strongly disagree with the CAA's decision to impose a requirement on Heathrow to carry out a review of the cost allocation methodology. This new requirement has not been properly evidenced to demonstrate that the additional burden will result in clear consumer benefit. Dual pricing will be very burdensome to administer and lead to considerable confusion and uncertainty for all parties. It will also stifle incentives for users to move to using more sustainable options. Further, the CAA does not appear to have considered the consequences of the outcome of the audit and any disagreement with it. As the CAA will be all too aware cost allocation methodologies can be challenged in a number of ways and it is erroneous to assume that carrying out such an assessment on ORCs will provide any certainty or	Remove

[1] CAA H7 Final Proposals, section 3, para 14.17

	benefit without having spent the time to adequately scope out the review and the potential outcomes. Further detail is set out in Chapter 9.	
C2.5	The definition of Regulatory Year risks putting us in breach for 2022, see paragraph C.2.1 above for more detail.	
C2.12	Condition C2.12(c)(ii) still contains a reference to supplying information to "users representatives". Given the position taken in other clauses we assume this was an oversight and request it is removed.	Remove "or their representatives"
D2.14	The proposed modifications are unnecessarily burdensome, "all reasonable endeavours" has a specific legal meaning which places far too high a burden upon Heathrow. The wording "reasonable steps" is more appropriate and ensures Heathrow is fully accountable through the process.	Revert to "reasonable steps"
E2.2	We request that the CAA reviews the effective date of this condition so that it accords with the publication of the final determination.	
E2.13	As E2.2	
F1.1	F1.1(a): The revision to the text that becomes: "to allow Relevant Parties to scrutinise, challenge and collaborate with the Licensee to drive efficient costs and appropriate service levels and to propose *and, where relevant, agree* amendments to" (our emphasis) is not acceptable. This use of "*agree*" undermines the helpful revisions to the earlier text in F1.1(a) made since the IPs. The first sentence of F1.1(a) currently requires Heathrow to "use reasonable	F1.1(a): Remove: "*and, where relevant, agree*" from the quoted section of text so that it reads: "to allow Relevant Parties to scrutinise, challenge and collaborate with the Licensee to drive efficient costs and appropriate service levels and to propose amendments to"

	endeavours to agree" which, whilst burdensome, will ensure Heathrow can continue to operate its business efficiently and economically. The text quoted above retains the requirement to agree (where relevant) in the case of amendments, and this therefore adds inefficiency back in to the process. In addition, the use of "*where relevant*" is unclear and not legally defined. This phrasing achieves nothing of practical value but could give rise to confusion and disputes were parties to have differing interpretations. F1.1(b): We reiterate the objection in our response to the IPs to the obligation that we consult Relevant Parties on "*<u>any</u> proposed changes*" which, due to use of the word "*any*", is disproportionate. F1.1(b)(iv): We reiterate the point in our response to the IPs that we cannot see a clear reason for the inclusion of the Terminal Drop-Off Charge in the F1.1(b) list but note that the scope of the provision has been narrowed to changes in excess of 10 per cent of the charge applicable in Regulatory Year 2022. F1.1(b)(v): We again suggest removing "*policies and proposals for any other airport operation service it provides*" – this is overly broad, ill-defined and redundant. Relevant services will anyway be discussed through our established governance groups.	F1.1(b)(v): "its proposals for future investment that have the potential to affect those parties".
F1.3	In the Final Proposals the CAA proposes the following text: "The Licensee shall within the Regulatory Year 2023 consult on, use reasonable endeavours to agree, and make available to Relevant Parties and the CAA, one or more	"The Licensee shall within five months of the commencement of this Licence consult on, use reasonable endeavours to agree, and make available to Relevant Parties and the CAA, one or more protocols,

	protocols, handbooks or other arrangements setting out how it will satisfy the obligations in Condition F1.1(a) and, to the extent those protocols, handbooks or other arrangements have been agreed, the Licensee shall comply with them." Since the IPs the CAA has advanced the date upon which this Condition would start to apply, to 1 January 2023 from 1 October 2022. This has, however, left the wording at the mercy of the vagaries of the process. The wording that we provided (and reiterate here) in our response to the IPs, sets a start date for this Condition of five months after commencement of this Licence. Formulated in this way the date is 'mobile' which achieves the same aim while avoiding the risk of either needing to again rephrase the condition or of the CAA illegally imposing obligations retrospectively. By including the text "*to the extent those protocols, handbooks or other arrangements <u>have been agreed</u>*" the CAA appears to be intending to create two categories of arrangements, those agreed and those not. These would, on this wording, receive differing recognition and enforcement regimes in the Licence. This approach is impractical and in any case unnecessary since Heathrow must comply with the obligations in Condition F1.1(a) regardless and its policies will, by necessity, play a role in any assessment as to whether it has complied.	handbooks or other arrangements setting out how it will satisfy the obligations in Condition F1.1(a)."
F1.4	The CAA's proposed licence condition that Heathrow's protocols include the elements set out in guidance are unacceptable because Heathrow has not seen this Guidance, nor is it proposed that Heathrow will see such Guidance prior to the Final Decision. As Guidance is unappealable it is unacceptable to make it a licence breach	F1.4 and F1.5 should be removed.

	for Heathrow not to comply with a document it has not had a chance to review yet. As such, this wording would give the CAA the power to revise the impositions of the Licence by changing its guidance through merely a consultation process. This is not consistent with the CAA12 and is ultra vires. Guidance has a particular role in the regime and Heathrow will continue to take it into account in the usual way. It is not consistent or appropriate for the CAA to use a legal device to elevate its guidance to the status of a licence condition.	
F1.6	There is a typo in the drafting, “that” is repeated.	
F1.7	We reiterate our position put forward in our response to the IPs that with its revisions to the Section F Conditions the CAA has, in places, sought to disproportionately widen its remit. We suggested that the phrase “or if directed by the CAA by notice to do so” be removed and we reiterate that here. Either, the CAA has the power under the CAA12 already to serve such a notice, in which case that should be the route the CAA uses. Or it does not have such a power in which case it should not be seeking to grant itself new powers through modification to Heathrow’s Licence.	“The Licensee shall, in consultation with Relevant Parties, review the protocols, handbooks or other arrangements it has in place to meet the requirements of Condition F1.1(a) from time to time and update them as necessary in accordance with that Condition”
F1.8	We reiterate our position put forward in our response to the IPs (specifically our response to CAP2275 para 3.5ff) that while the language of this condition is only slightly changed over the existing licence the effect is wider because of the broader potential scope of disputes that might be referred to the CAA under the proposed modifications to other section F conditions.	Remove F1.8

	It is not at all clear that the CAA has the legal authority to grant itself dispute resolution powers under a licence which is intended to place obligations on Heathrow. Generally, a regulator's dispute resolution powers are effected in statute. This allows Parliament to decide upon the scope, oversight regime and the procedures and protections that must be followed. The proposed Condition F1.8 lacks a statutory basis and is vague in respect of its scope. It lacks any oversight aside from the limited grounds available at judicial review. If Parliament had intended the CAA to have dispute resolution powers, it would have granted them in primary legislation. There is no basis for the CAA to grant itself those powers through the Licence.	
Schedule 1: 3.6(b)	We request that the clause is modified such that months are counted from the first full month of operation. This is to ensure that Heathrow is able to obtain a robust sample size for monitoring purposes.	
Schedule 1: 3.10	The weighting needs to be altered such that it accounts for differing volumes per terminal. We agree that the data should be reported as a Heathrow average given the available set of data inputs.	
Schedule 1: Table 4	Measures R1, R2, R3, R5 and R7 should be moved to Table 5. The targets for these measures have been set at an 'Airport wide' level not at an individual terminal level as they are influenced by actions of airlines and other partners. Publishing at a more granular level risks sharing commercially sensitive data.	"A weighted airport average of the SpA QSM scores for the overall satisfaction question below"

D. Appendix D: Q6 Capex Review

1.1.1. The CAA's Final Proposals set out to reduce Heathrow's opening RAB by £12.7 million to reflect the proposed inefficiency for the Cargo Main Tunnel project.

1.1.2. We remain confident that all Q6 capital expenditure has been delivered efficiently. There is no clear evidence that the actions of Heathrow may have directly attributed to wasted spend or lost benefits and we therefore do not consider that any adjustment should be made.

1.1.3. The Independent Fund Surveyor (IFS) has undertaken multiple reviews of capital expenditure alongside numerous detailed governance sessions with stakeholders on the detail of the Q6 capital expenditure, where we have demonstrated our projects have been delivered efficiently.

1.1.4. We note the CAA may review capital projects that are ongoing during iH7 at the end of H7 if there is evidence of inefficiency. We urge the CAA to conduct any review as soon as practicable during H7 to avoid any uncertainty on the opening position of the RAB for H8.

Cargo Tunnel

1.1.1 We are disappointed with the CAA and its unjustified view of proposing to reduce Heathrow's RAB at the upper end of its range at £12.7m.

1.1.2 As we set out in our response to CAP1996 and 2265, the cargo tunnel has been a challenging project. Heathrow has managed the project proactively with the best information available at the time. Furthermore, there is no clear evidence that the actions of Heathrow may have directly attributed to wasted spend or lost benefits. We therefore do not consider that any adjustment should be made.

1.1.3 We point out to the CAA again the statement made by Arcadis "*The value, if any, that has and can in the future be gained from the work carried out was not readily available at the time of the Arcadis review. This would require a detailed breakdown of the figures identifying those works which have been taken forward to provide a benefit against those works now considered to be abortive. Until such a stage has been reached it would not be possible to develop any meaningful assessment of the quantum of any inefficiency*". Therefore, the CAA's proposal is not justified.

Main Tunnel and remaining capital projects

1.1.4 We agree with the CAA's proposal that there has been no inefficient spend on the main tunnel.

1.1.5 We also agree with the CAA's position that all other projects have been delivered efficiently and there will be no further adjustments in relation to them.

iH7 capital projects

1.1.6 We welcome the CAA's proposal that any iH7 projects that require any further review will be subject to the existing ex-post review capex arrangements.

1.1.7 However, we encourage the CAA to complete any necessary reviews in a timely manner and in line when those projects are completed. This avoids placing disproportionate pressure on stakeholders at the end of the H7 period and ensures the history of the project is relatively recent. This approach also avoids uncertainty and increased risk by reopening the H7 RAB position at the end of H7.

E. Appendix E: Early Expansion Costs

1.1.1 We remind the CAA that prior to the pandemic, Heathrow was working to meet the challenge set by the Secretary of State to secure planning consent by end of 2021 and deliver runway opening by 2026 in order to maximise consumer benefits.

1.1.2 The expansion programme would have become the UK's most comprehensive and technically challenging Development Consent Order (DCO), presenting unique challenges that no other major planning programme had faced.

1.1.3 We disagree with the CAA's view that there is any inefficiency for costs incurred before March 2020. We had to ensure we had the right capabilities, expertise, and governance arrangements to meet the requirements of the CAA and the Secretary of State. We have provided substantial amount of information to the CAA to demonstrate all costs have been efficiently incurred and directly related to the DCO.

1.1.4 We welcome the CAA's proposal to allow the full cost of wind down costs, appeal costs and Interim Property Hardship Scheme. Though we continue to disagree with the CAA on its approach to apply financing costs of 4.83% on early expansion costs for the period after January 2020.