Economic regulation of Heathrow: response to CAA consultation on Covid-19 related RAB adjustment (CAP2098)

Heathrow's response

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Contents

Executive Summary

1. We welcome the consultation and the CAA's stated intention to press on at pace with a decision on an adjustment. It is a critical matter for consumers, the future of Heathrow and privately financed regulated infrastructure across the UK.

2. We also welcome the CAA view that doing nothing is now not an option. However, we are concerned that the CAA are still not properly responding to the gravity of the current situation. We are also concerned in places that the CAA has still not fully engaged with the evidence provided by Heathrow and frequently falls back on statements that the issues raised are "complex" and "difficult". This complexity will not ease with the passage of time and, once more, we request that the CAA engages fully with all the evidence and acts swiftly to respond to the crisis we face. We outline specific areas of concern later in this document.

3. In this response to the consultation, Heathrow sets out its view that the most appropriate response from the CAA would be to adopt Option 4. This would protect consumer interests by helping to ensure that COVID doesn't unnecessarily leave a permanent scar on the infrastructure at Heathrow. It would provide investors an appropriate balance of risk thereby providing the necessary long-term incentives to protect Heathrow as a critical piece of UK infrastructure.

4. We believe that at the end of March the CAA should act immediately to support market confidence and underpin the principle of regulatory depreciation. Specifically, it should set out:

    - A proposed policy change to remove regulatory depreciation for 2020 as the appropriate action under option 2 or 4. (£800m in 2018 prices);
    - Its intention to introduce risk sharing for the H7 period and to apply that risk sharing to adjust for the outturn during Q6/iH7 as the appropriate action under option 3 or 4; and
    - That it will calculate an adjustment arising from the risk sharing for Covid and then add the amount of that adjustment above 2020 depreciation (that has already been adjusted) to the RAB from the start of 2022 as implementing actions under options 1, 3 or 4.

5. By taking such action the CAA will:

    - Improve credit rating agencies' confidence in the regulatory framework and thereby ensure that Heathrow is not downgraded, avoiding an unnecessary increase in the cost of debt that consumers will have to pay;
    - Help the process of obtaining a waiver from creditors if needed;
    - Unlock additional investment in the airport delivering significant benefits to consumers earlier and helping mitigate service risks as passenger numbers recover; and
    - Help ensure that Heathrow can finance itself appropriately during the year.

6. Making these commitments now rather than later as part of H7 will deliver these benefits at no extra cost to consumers and without unduly constraining the approach that the CAA chooses to take later in H7.

7. In addition, making the adjustment we propose for H7 will lead to charges being £8.5 lower per passenger in H7. Moreover, even if the lower WACC and other impacts the adjustment delivers that reduce charges significantly are ignored, the impact of the adjustment amounts to around only £2 per passenger, compared to an average fare at Heathrow of around £400, i.e. an impact of less than 0.5% on fares. This impact can be compared to the budget announcement on 3rd March that APD will increase in April 2022 by £2 per passenger for long-haul economy flights, and by £5 per passenger for premium economy, business and first-class flights.

8. The outlook has deteriorated further even since the CAA issued its consultation at the start of February. 2020 was catastrophic for Heathrow; passenger numbers were down 73%, revenues were down 63% and we made a loss of over £2bn. However, despite progress with domestic vaccine rollout, the operating environment for Heathrow is becoming increasingly difficult. The UK Government has completely banned flights to some destinations, introduced hotel quarantine for others, added multiple additional testing requirements for all flights and warned consumers against booking overseas travel at all. Governments outside the UK have also restricted travel further, particularly to the UK. The current situation is exceptional, and it is not clear yet when normality for Heathrow might start to return.

9. Heathrow has played its part. It has taken extensive and effective action to protect its business including reducing cost and headcount to save £400m, slashing capital expenditure by two thirds, maximising sources of liquidity and injecting £600m of capital into the business. This has been done whilst ensuring the safety and security of our passengers and delivering very high levels of passenger satisfaction. However, the CAA need to act now to help underpin Heathrow's ability to continue to meet the needs of its consumers.

10. In addition to underestimating the gravity of the current situation, we fear the CAA has not fully appreciated the potential longer-term detrimental impacts for consumers and the nation resulting from their approach to regulation of the UK's only hub airport. The slowness of the CAA's response is raising questions about the UK regulatory model and financeability for both equity and debt. The CAA states that issues are "complex and difficult" but it does not appear to have sought to unravel those complexities. It cannot be stressed enough that how the CAA responds to the need to adjust the regulatory settlement is more than just a technical regulatory debate in that:

- Heathrow is both an important asset for consumers and a unique national asset as one of a handful of hub airports in the world and the largest port in the country. Failure to support the stability of long-term investment will only further damage its competitiveness. The key strategic nature of the airport is a factor the CAA must consider in the light of its primary duty to consumers.

- Heathrow is also a prominent RAB based regulated business. As set out by Frontier Economics[1] the purpose of the RAB model is to provide predictability for investors by allowing for the recovery of efficiently incurred expenditure. It is this predictability that sits at the heart of the UK regulatory model and helps to ensure that efficient levels of financing can be maintained. Failure to ensure that the key regulatory principles, for example the return of regulatory depreciation, are enacted in practice undermines the UK regulatory model. This can only increase the danger of credit rating downgrades,

[1] Report at Annex 3

undermine investor confidence and make raising debt harder and more expensive both this year and over the longer term.

- Heathrow is financed privately by both debt and equity. The CAA's financeability duty covers both elements. This private financing has saved the public purse billions – and unlike many other firms in global aviation, we have not had recourse to any bespoke public funding in the crisis. However, this private financing relies on confidence and a sustainable balance of risk and reward which in turn depends upon the regulator taking the right actions. Failure to restore that balance will make domestic and global investors wary and unwilling to finance UK infrastructure.

11. The CAA says that making an adjustment is shifting the burden of dealing with the pandemic from shareholder to consumers. This is not true. An adjustment is about dealing with an exceptional event which was never intended to be accommodated in the settlement. If it had been, consumers would have had to pay far more previously to account for these extraordinary events outside of our control. This is not shifting the burden – it simply reflects that the current events are outside the range envisaged by the price control. The CAA made it clear in the Q6 Determination that it could be revisited in exceptional circumstances. Furthermore, as we have demonstrated and the CAA appears to accept in principle, a proportionate adjustment that actually addresses the risk / reward issues will bring airport charges down against what they would otherwise have to be in the next 5 years.

12. The CAA has focused on the burden borne by equity. Firstly, there is a mistaken implicit assumption that equity in Heathrow has done comparatively well and it would also be largely held whole if the adjustment were delivered. This is not true. Heathrow's returns over the period 2003 and 2019 were 5.1% compared to a CAA allowance of 5.7%. During the pandemic, Heathrow shareholders have suffered greater losses than other equity investors in the sector (see *Figure 5* in Annex 1). In addition, Heathrow has had a greater capital injection than other companies in the sector whilst receiving the lowest amount of assistance from the state (see *Figure 4* in Annex 1). Heathrow is experiencing negative cashflow, and each pound of additional debt reduces equity value by the same amount. Even after the adjustment we have proposed, the losses borne in 2020 and 2021 would be far greater than experienced in the past, including during the financial crash.

13. Secondly, the CAA's approach appears sometimes to misconceive the current situation as primarily a balance sheet issue as seen in the calibration and quantification issues raised in the consultation. The issue at hand is about the balance between risk and reward. It is the regulator's duty to ensure that the balance it sets is aligned with consumer interest and market reality.

14. In conclusion, the CAA needs to act quickly to remove regulatory depreciation for 2020 and provide more clarity over its approach at H7. The greater the visibility that the CAA is taking this issue seriously and that an appropriate approach will be used for H7, the greater the confidence investors will gain, and the greater the benefits to consumers the CAA's actions now would unlock.

Summary of issues

15. The CAA has set out four packages of potential policy options for dealing with the pandemic. There is some overlap between these, and they can used in combination. As a result, we have focused on two sets of underlying issues across the options:

- The issues around making an immediate adjustment (Option 2 and part of Option 4); and
- The issues around determining the final adjustment to be made as part of H7 (Option 1, Option 3, and part of Option 4).

16. We are concerned that the CAA's work thus far fails to give proper effect to its statutory duties. It has made no proper attempt to weigh different types of consumer benefit (see below at para 25) choosing instead to focus entirely on narrow price considerations. Even within its own narrow framework, the CAA has conducted only the briefest analysis (at Appendix F of the Consultation); has failed to grapple with the evidence Heathrow has submitted; and has failed to reach any clear view on the correct position. All of these are legal errors which could render the CAA's decision vulnerable to challenge.

Immediate adjustment

17. The CAA must make an immediate adjustment. It must be material if it is to build confidence for capital investment and deliver for consumers in 2021. Action now gives far more benefit than action later. If the CAA fails to act now it would be in breach of its duties towards consumers and in ensuring that Heathrow can finance its functions.

18. In requesting the removal of regulatory depreciation for 2020, we have proposed a mechanism for the immediate adjustment that allows the CAA to act in the knowledge that it will not affect the 2021 airport charge. Nor will it have any impact on the airport charge before the CAA can review the adjustment as part of the wider H7 settlement. This approach radically reduces the dangers of calibrating an adjustment made now. For this reason, supported by the pressing need for swift action, we see no merit in Option 1.

19. In respect of an adjustment in March we have a number of concerns with the CAA's approach:

- Although it is right for the CAA to focus on compliance with covenants and gearing in the short term, as it would be against consumers' interest not to do so, this should not be at the expense of the real issue of whether the risk/reward balance is correct and that the right incentives for financeability are in place. Adopting Option 4 or a substantial RAB adjustment and a policy to adopt Option 3 could help give investors confidence that an appropriate balance of risk and reward will be in place and significantly ease a waiver process if required;
- The CAA has significantly underestimated the risk of a credit downgrade and the importance of the comfort that rating agencies would take from early CAA action; and
- The CAA appear complacent about the risks to consumers, capacity and passenger service from the current squeeze on investment caused by the existing uncertainty around the balance of risk.

20. The risk of a downgrade is high and increases significantly if there is no action now. For example, in their statement on Heathrow on 4th March S&P set out that their rating decision was based on the assumption that the CAA had not considered a no intervention option in CAP2098 and that the CAA would allow recovery of cashflows lost in 2020 due to the pandemic[2]. They also set out that they would downgrade Heathrow if traffic levels were worse than they forecast. The future is currently highly uncertain. The other rating agencies will include their own downsides in any assessment of Heathrow, and these are becoming gloomier. A downgrade would lead to significant additional costs to consumers. Credit Ratings Agencies need confidence that Heathrow is financeable and the views of Agencies will understandably influence investors. The CAA acting appropriately will give this confidence – failure to act will remove it.

21. The constraints this year severely reduce our ability to restore capacity quickly and safely with good levels of service if demand recovers quickly. We simply do not have the cash to cover all scenarios without clear evidence of strong regulatory support. The CAA's discussion also misunderstands and falsely compares the impact in one year (i.e.2021) in terms of aggregate investment with an adjustment value where the benefit to consumers is delivered over many years of the total adjustment. A like-for-like comparison needs to account for impacts and value over the same time period.

22. The CAA states that calculating an appropriate immediate adjustment in Q1 2021 is difficult. We set out five approaches for calculating an adjustment based on the outcome in 2020 ranging from £657m to £1,139m. We present an analysis of the strengths and weaknesses of each option. We show that the most appropriate approach at this time is to simply remove regulatory depreciation for 2020.

23. Removing regulatory depreciation for 2020 remains a simple, defensible approach that would address the need to act now and deliver significant benefits to consumers including by safeguarding investments that will protect service and growth. It would help minimise financing costs and secure that Heathrow can finance its functions. It does not require a licence change and can be implemented quickly.

24. Critically, suspending regulatory depreciation would also re-establish a core principle of UK RAB based regulation which otherwise effectively ceases to function. Regulatory depreciation – or "return of the RAB" has been fundamental to all UK RAB regulation for over 30 years. It is a key plank of how investors have lent to and invested in UK companies like Heathrow. Undermining this principle would inevitably cause a reassessment of the basic risk for investors across all UK regulated sectors. The CAA must consider these wider ramifications of its approach before acting.

Adjustment at H7

25. The CAA still has not properly engaged in appropriate quantifiable terms on the level of risk that Heathrow was expected to bear in Q6 under the assumptions of the settlement. It must do so to properly consider the application.

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[2] S&P Global Ratings, Heathrow Funding Class A 'BBB+' And Class B 'BBB-' Ratings Taken Off CreditWatch Negative And Affirmed; Outlook Negative, March 4th 2021

26. Failure to address this question leads to some of the issues with calibration in the CAA's thinking. For example, option 1C is based on a speculative notion of allocating depreciation between equity and debt that is equivalent to a revenue threshold of 25% - i.e. it is effectively assuming that Heathrow would bear the first 25% of any revenue losses. In terms of CAPM with normally distributed returns, this is equivalent to investors bearing all the risk for a 1 in 2,000-year event. This is not a credible threshold for a regulated company to bear before regulatory intervention is made.

27. We believe that the CAA has underestimated the impact that current decisions and actions would have on investor confidence in any future traffic risk sharing (TRS) mechanism. It is only necessary to look at NERL to see that TRS arrangements put in place ahead of a big crisis are challenging to honour in the event. This can also be seen in the response to TRS mechanisms at other airports such as Rome, Madrid and Paris where regulators are considering how and to what extent existing mechanisms can be implemented. Following this crisis, what a regulator has done in response to it will matter much more to investors than what a regulator says they would do in the future.

28. In terms of H7, the CAA has not understood the constraints the company would be under in the event of an inadequate or no adjustment and why this removes the ability to include a depreciation adjustment in H7. The CAA analysis is based on the wrong metrics and has ignored the impact on equity. Without an adequate RAB adjustment, and thus the capacity to shape depreciation after 2022, airport charges will be much higher in H7 than needed.

29. In this response we set out our proposal for the adjustment to be taken in H7 based on the proposals in our previous submissions (themselves a version of Option 3). Such an approach would result in a substantial RAB adjustment of £2.6bn based on our current traffic forecast, and lead to charges being £8.5 lower per passenger in H7. Moreover, even if the lower WACC and other impacts the adjustment delivers that reduce charges significantly are ignored, the adjustment amounts to around only £2 per passenger, compared to an average fare at Heathrow of around £400, i.e. an impact of less than 0.5% on fares.

30. The approach we propose has been carefully calibrated by comparison with the traffic risk sharing measures for other airports and NERL; consistency with the WACC set at Q6; and consistency with the important principle of the recovery of regulatory depreciation. We show that it is consistent with the objectives the CAA set out in CAP2098 and with their wider duties.

31. A lower adjustment would result in a higher WACC, higher charges in H7, lower investment and worse customer service and therefore be inconsistent with the duties of the CAA.

Other Issues

32. There are a number of places in the consultation where the CAA has been made incorrect statements, shown a fundamental lack of understanding of an issue, or set out issues in a way that are partial or misleading. For example:

- The CAA describe the Q6 shock allowance as a mechanism for managing volume risk. The Q6 determination makes it explicit that this is not an allowance to manage risk, but an adjustment to allow a central outcome3;

- The CAA raise the issue of the extent to which a diversified investor could manage beta risk. Beta is a measure of the risk of a fully diversified investor. This shows a fundamental lack of understanding of CAPM by the CAA;

- The CAA refers on a number of occasions to the situation being faced by the 'aviation sector' and how this influences the CAA's thinking in relation to Heathrow's requested RAB Amendment. The impacts of Covid-19 on the "aviation sector" (beyond those on Heathrow consumers and upon Heathrow Airport itself) are irrelevant to the CAA's assessment of Heathrow's request. The CAA's relevant statutory powers are not in respect of the "aviation sector", the "aviation sector" is not economically regulated by the CAA and considering the "aviation sector" is not one of the CAA's relevant statutory duties.

33. In assessing impacts on service quality the CAA decided not to focus on the expert and factual evidence it received on potential service impacts a RAB adjustment could avoid but on whether existing regulatory incentives for service and investment are adequate and how it could use the tools it has to take enforcement action against Heathrow. In spite of willingness to pay evidence provided by Heathrow, the CAA has made no attempt to engage with or value the benefits to consumers of the improvements that can be delivered with a RAB adjustment. Instead, the CAA has relied on an assumption that benefits remain 'uncertain' and that the projects could not be delivered due to airline governance constraints. This approach could lead to real, quantifiable detriment for consumers in the H7 period.

34. The Civil Aviation Act 2012 (CAA12) sets out the CAA's primary duty to carry out its functions in a way 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*"[4]. We are extremely concerned that in its consultation the CAA gives the appearance of focusing only on cost. Indeed, it is telling that protecting service quality and investment is the fourth objective for the CAA in assessing approaches, behind the cost of equity and the level of airport charge which are the first and third objectives. An approach that assumes that consumer interests are served only by a lower short-term airport charge rather than ensuring the airport can provide the right level of capacity to meet demand or provide the quality of service expected by consumers is not in line with the CAA's primary duty.

35. The CAA has also failed to address issues raised in the previous submissions that we have made on this issue. For example, it has not addressed the key issue of the risk that investors would be expected to bear at Q6; it has not progressed or responded to the evidence we provided in respect of treatment of outperformance in response to CAP1966. It has not addressed the points we made in the July submission on the appropriate measure to base a risk sharing mechanism on. This is symptomatic of a continuing failure by the CAA to engage

[3] CAA, CAP1151, p183: "*The CAA considered that the effects of demand shocks on traffic could be split into two: - an expected level of demand shocks, which may be accounted in the forecast level of traffic; and - variations around this expected level, which may be accounted for in the cost of capital, as these constitute risk. The allowance for demand shocks in the traffic forecasts and in the cost of capital were two different concepts.*"
[4] https://www.legislation.gov.uk/ukpga/2012/19/section/1/enacted, Section 1

with evidence that Heathrow provides. Moreover, it adds delay, uncertainty and unnecessary complexity into regulatory processes.

36. We are concerned that in respect of financing, the CAA has stayed too much inside a regulatory bubble and not tested issues with a wider range of views. We understand that at the time of submission the regulatory team has not discussed the issue with the third-party bankers and advisors whose details were provided by Heathrow. This is very surprising, given what is at stake, and we consider it to almost certainly be a breach of the CAA's duty to make proper inquiries. As the regulator the CAA should proactively seek out a wide range of market views to support any position, especially on a matter this material both financially and for fundamental principles of regulation. This includes any suggestions provided by Heathrow and other stakeholders as well as the regulator proactively seeking its own contacts. It is vital that in making judgements that hinge on the impact of its actions on real-world investors the CAA seeks to inform itself as fully as possible with investor input.

37. Finally, the CAA is moving far too slowly. Ofwat agreed an adjustment in principle for water company bad debt from non-household retailers in April 2020. It agreed an adjustment in principle with Thames Tideway in summer 2020. Ofgem has already allowed energy companies to recover an additional £23 per customer due to high bad debt from Covid. These changes are for sectors much less badly affected than airports by Covid. The need for a large and urgent adjustment, while perhaps daunting, is a reason to act quickly – not a reason for dither and delay. The situation is dire and urgent.

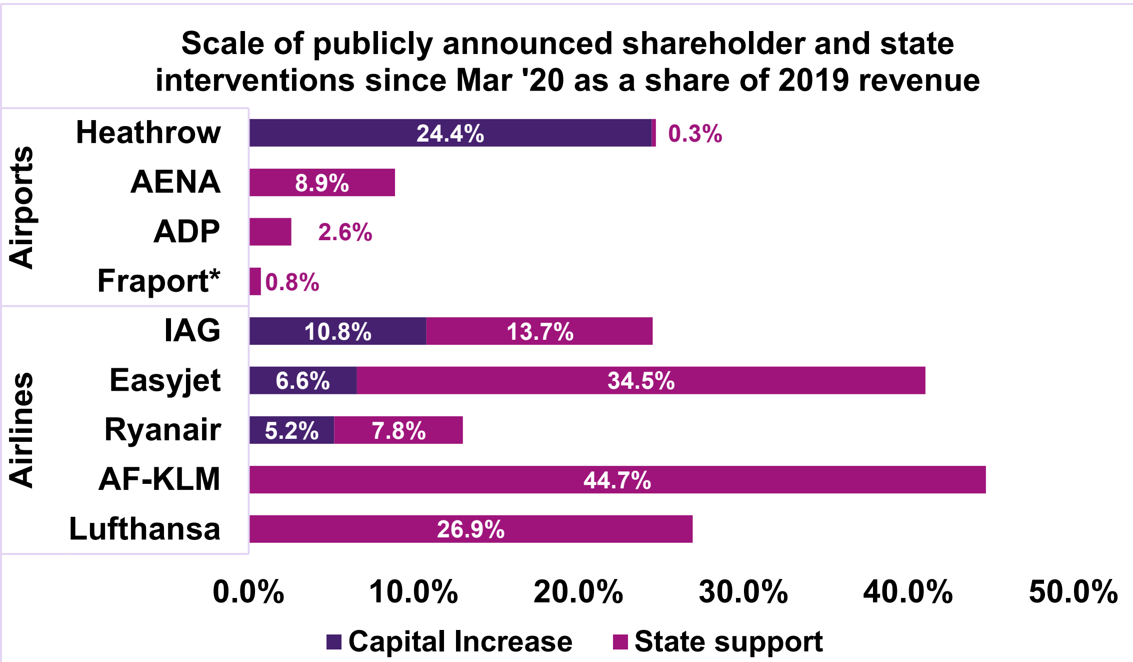
Introduction

38. This document is the response to CAP2098. It is the third formal submission we have made to the CAA on the need for a RAB adjustment to deal with the impacts of Covid-19. Our submission in July 2020, and our response to CAP1966 in December 2020 both contain significant analysis and arguments that the CAA has not yet engaged with. In this document we refer to some of this previous analysis, and therefore this submission should be considered in addition to those.

39. In all of these submissions we have set out our request firmly in the context of the CAA's duties. The CAA needs to make its decision on the basis of these duties and not upon other considerations such as its view of 'fairness', 'affordability' or impact on 'the wider aviation sector'.

40. A key theme running through both CAP1966 and CAP2098 is that Heathrow has been relatively lightly impacted compared to the rest of the sector and that its shareholders have done relatively little. This is incorrect. An analysis of the actions taken across the sector is set out in Annex 1. This shows that Heathrow has proportionately injected more capital into its regulated business than any other airport or airline and at the same time received the smallest state package (see Figure 1). In addition, Heathrow shareholders have lost around three-quarters of the value in their investment, a greater loss than experienced for other airports and airlines (see *Figure 5* in Annex 1).

Figure 1 Scale of shareholder and state interventions since the start of the crisis as a share of 2019 revenue



Source: Heathrow

41. Not least given this context, it is surprising that in their consultation the CAA suggest that shareholders should provide further equity. Investment decisions are made on the basis of there being the right incentives. The CAA has a duty to ensure Heathrow's financeability and needs to take clear action to address the risk/reward balance and restore the appropriate

incentives to invest. It is not the CAA's duty to attempt to compel equity decisions, but CAA can act to ensure that regulation facilitates ongoing private sector investment.

42. We note the CAA's comment (in CAP1966) in relation to the RAB adjustment that "both HAL and the airlines will have the ability to appeal our decision on these matters to the CMA in due course".

43. The CAA also needs to consider carefully the wider issues around Heathrow that are at stake including (i) the survival and ongoing competitiveness of a major national asset in the UK's hub airport (ii) the stability and confidence in debt financing for the UK's RAB based regulatory model given the issues with recovery of regulatory depreciation and (iii) confidence in wider equity investment, including foreign investment, in UK regulated businesses and infrastructure more widely.

44. An adjustment to the iH7 settlement remains imperative for the regulator to fulfil its duties and we continue to believe our proposed adjustment is the best option:

- Consumer interest and ongoing financeability for debt and equity require an adjustment to iH7 to restore the risk / reward balance on which Q6 was based;
- Heathrow continues to believe a RAB based adjustment is the best way to restore that balance, by limiting the immediate charges impact, maximising flexibility and transparency and reinforcing long-standing core principles of UK regulation;
- Heathrow continues to believe that the appropriate way to calibrate the scale of an adjustment is a transparent quantification based on a proper assessment and allocation of risk;
- Such an approach does not imply that Heathrow equity investors bear none of the costs of Covid – on the contrary they are and will continue to suffer severe financial downside impacts from the pandemic;
- Heathrow therefore continues to believe that our original proposal – described by the CAA as option 4 - remains the most consistent with consumer interests and the UK RAB based regulatory system.

45. This response does nonetheless engage with the issues raised in the CAA's Options 1-3. We see the issues around the Options essentially resolve to the question of what immediate adjustment to make and then how to structure adjustment in H7 and we have built our response around these questions.

46. Option 1 (no action now) completely fails to address the situation, does not meet the CAA's duties and would also preclude stakeholders' rights of appeal on a critical issue. The CAA would be far better served to act now in a proportionate way and then review and further adjust in H7 – with no immediate impact on the airport charge and the potential to make further changes without impact on future airport charges.

47. In this response we set out:

- A summary of why a Covid related RAB adjustment is required;
- An assessment of the CAA objectives and options;

- The issues around the initial adjustment that needs to be made immediately;
- The issues around the total adjustment than needs to be made as part of H7; and
- Heathrow's proposed approach.

Why a Covid related RAB adjustment is required

48. Making a substantial RAB adjustment is consistent with the CAA's duties and is in the interests of consumers. In particular:

- It will restore credibility in the regulatory framework and lower the cost of financing compared to making no adjustment;
- It will result in lower charges for consumers in H7 and beyond;
- It will result in greater investment and improved service for passengers; and
- It will secure that Heathrow is able to finance itself economically and efficiently.

It will restore credibility in the regulatory framework

49. The impact of the pandemic on Heathrow in 2020 and 2021 is well beyond the range that could reasonably expected given the allowed WACC at Q6 and CAPM assumptions that variations in returns are normally distributed. Calculated out, the scale of losses in 2020 would not be expected to occur for a company with Heathrow's equity beta, as defined by the CAA in the settlement, over a timescale a million times the current age of the universe. This would be comic if it was not so mistaken in terms of economics. It is clear that the impact is not compatible with CAPM assumptions and that the losses experienced are well beyond those that shareholders would have been expected to bear. The CAA need to take action to ensure that the risk and reward balance is corrected.

50. A key consequence of the pandemic for Heathrow is that it is not recovering revenue associated with regulatory depreciation. This means that not only is it not obtaining a return on regulatory capital it is also not getting return of capital. This is unprecedented in a regulatory setting and is not consistent with widespread regulatory precedent around the importance of recovering capital invested in a regulatory setting. Annex 3 sets out a summary of this precedent. In addition, we show below in Section "Level of Risk consistent with Q6 determination" that impacts sufficiently large to result in non-recovery of regulatory depreciation are not consistent with CAPM and the WACC allowed at Q6.

51. The impact of the pandemic has been to significantly increase the markets perception of the risk of airports, and the asset betas of listed airports have increased significantly. The extent of the increase in WACC will depend upon the mitigating actions that investors anticipate in future events. In our response to CAP1966 and in our RBP we showed that the impact of the RAB adjustment we requested would be to reduce the increase in Heathrow's pre-tax WACC by 1.5%. The magnitude of this difference is supported by empirical estimates of the effect identified by Insight Economics. We address this in Annex 4.

52. We have yet to see evidence that the CAA has engaged with the fundamental trade-off presented by the situation Heathrow currently faces. In our view the CAA should be undertaking a careful assessment as to which will adversely impact consumers more:

- Increasing the value of the RAB now, allowing investors to recover some of their losses resulting in improved investment and service by Heathrow along with lower prices for consumers; or

- Failing to increase the value of the RAB now, resulting in an increased cost of capital, higher prices for consumers coupled with reduced investment and service by Heathrow.

53. The CAA goes some way to considering this trade off in Appendix F but the analysis is perfunctory. It does not appear to reach a conclusion on what the trade-off actually means in financial terms; nor does it explain what this means for consumer interests or how it affects the CAA's proposed course of action. Heathrow has presented clear evidence that consumers interests will be best served by investment now (see Section "Impact on Service") and we consider it irrational that the CAA has not sought to engage and conclude on this evidence. The CAA risks proceeding on the basis of an error of fact; and breaching its duty to undertake sufficient enquiry. Ultimately, it will not be putting itself in a position to comply with its primary duty.

It will result in lower prices for H7

54. Our RBP submission for H7 clearly shows that charges would be £8.5 per passenger lower for consumers in the event of the RAB adjustment we have proposed compared to making no adjustment. In CAP2098 the CAA appear to consider that the higher charges associated with no adjustment can be delivered without making a substantial adjustment for iH7. There are two key misunderstandings in the CAA approach that need to be addressed

    - The CAA's view that a risk sharing mechanism for H7 would have credibility for investors even if no adjustment was made for iH7; and
    - The CAA's view that a substantial depreciation adjustment can be applied at H7 for a case that does not include an adjustment for iH7.

55. The CAA's view and analysis in both areas is incorrect. Investors will not believe that the CAA will apply a risk sharing mechanism in future if they do not make an adjustment in the current extreme circumstances. Moreover, the CAA's current approach to the NERL risk sharing mechanism demonstrates that the CAA would not feel bound by such a mechanism. This issue is addressed below in "Why H7 risk sharing must be applied for iH7".

56. In addition, Investors took comfort from the CAA's statements at Q6 about the settlement being able to be reopened in the event of exceptional circumstances. If the CAA fail to make an appropriate adjustment in the current exceptional circumstances, then they will lose trust that the CAA would take action in future events.

57. The CAA's view on the depreciation adjustment is based on the analysis in Appendix F of CAP2098A. This analysis is flawed as it does not consider the constraints on depreciation adjustments that we set out for the no adjustment case. In this situation Heathrow is constrained by the need to return gearing to pre-pandemic levels thereby restoring financial resilience and financial efficiency. With no RAB adjustment the gearing change required is higher and cashflows are lower. Reducing depreciation acts to increase gearing (each £1 of gearing reduction adds £1 to RAB with a marginal gearing of 100%) and there is simply no scope to include any such impact in that situation. This issue is addressed in Annex 4.

58. Without a RAB adjustment, airport charges will inevitably, but unnecessarily, need to be much higher in H7 than they otherwise would be.

It will result in more investment and better service for passengers

59. In CAP2098 the CAA gives the appearance of being indifferent to the service consumers receive and focusing only on cost. Indeed, it is telling that protecting service quality and investment is the fourth objective for the CAA in assessing approaches, behind the level of airport charge which is the first objective. An approach that assumes that consumer interests are served only by a lower short-term airport charge rather than ensuring the airport can provide the right level of capacity to meet demand or provide the quality of service expected by consumers is not consistent with the CAA's primary duty.

60. The current constraints faced by Heathrow severely reduce our ability to restore capacity quickly with good levels of service if demand recovers faster than expected. Action now by the CAA would significantly increase the scope of action Heathrow could take.

61. We are most concerned that in assessing impacts on service quality the CAA has not focussed on the evidence we have provided, but on whether existing regulatory incentives for service and investment are adequate and how it could use the tools it has to take enforcement action against Heathrow.

62. The service and investment benefits arising from action by the CAA in respect of the RAB adjustment are set out in our RBP and in the Section "Impact on Service" below.

It will secure that Heathrow is able to finance itself economically and efficiently

63. The current situation is that traffic is significantly lower than forecast in the investor statement and RBP published in December. This is putting [REDACTED]on [REDACTED].

64. We set out an analysis of the risks in Annex 2 and show that the [REDACTED]. We show that this [REDACTED] and that the risk arises as a result of very low operating cashflows, rather than financial structure.

65. We show in Section "Compliance with Heathrow Covenants" that early and substantial action by the CAA would greatly mitigate the risks arising from the current situation. In Section "Risk of Credit Rating Downgrade and access to finance" we show that such action would also significantly reduce the risk of a credit rating downgrade and Heathrow having difficulty in accessing debt markets.

CAA Objectives and Options

CAA Objectives

66. In CAP2098, the CAA set out the following objectives for assessing potential approaches for addressing the impact of Covid 19.

   i. *"we need to protect customers from undue increases in airport charges that could arise if the cost of equity finance and HAL's cost of capital increase unduly (since the impact of the covid-19 pandemic may increase the perception of risks and level of return necessary to compensate investors for these risks in the future);*

   ii. *we need to protect customers by enabling HAL to be able to raise debt efficiently, so it is able to finance investment efficiently. In previous documents, we have set out that this means HAL should be able to raise investment-grade debt finance;*

   iii. *we should promote affordable charges in H7 and beyond. While affordability is always an important consideration, this is particularly important in supporting recovery of the aviation sector more widely; and*

   iv. *we should seek to protect and appropriately incentivise the delivery of efficient investment and service quality levels."*

67. In general, we consider these principles are appropriate and are consistent with the approach that we proposed in our original submission in July and response to CAP1966. However, we note that in the respect of the third of these principles, the CAA has no duties in respect of the recovery of the aviation sector more widely. It is important that the CAA do not confuse their duties in respect of Heathrow consumers and Heathrow itself with wider considerations about the aviation sector that are not relevant to their role as a Regulator of Heathrow airport.

68. In addition, we consider that these principles are not complete nor sufficient. In particular, they do not address the CAA's duties:

   - To secure that HAL is able to finance its provision of airport operation services at Heathrow airport;
   - To promote economy and efficiency on the part of HAL in its provision of airport operation services at Heathrow airport; and
   - To have regard to the better regulation principles including consistency, accountability and transparency.

69. The requirement for the CAA to secure that Heathrow is able to finance its functions is wider than simply the cost of equity and the ability of Heathrow to access new debt. It also requires that Heathrow is able to access equity markets if required. The CAA has ignored equity financeability in its approach and this is inconsistent with its duties.

70. The CAA has not considered the impact of the proposals in its consultation on the incentives than Heathrow will face to be efficient and economical. Consequently, it is not taking proper account of its duties in this regard.

71. Finally, the CAA has not given sufficient weight to the better regulation principles and in particular the requirement to be consistent. This is clear in the CAA's view that it can take a different view on the consumer interest in a forward-looking risk sharing mechanism that it does to deal with the current situation for 2020 and 2021. This is not a consistent approach.

72. As a result of not taking into account these additional factors, the CAA has undertaken an incomplete analysis and arrived at conclusions that are not consistent with its duties. The CAA must take into account these duties in its assessment for the next steps.

Assessment of CAA Options

73. The CAA propose four broad options of potential intervention options:

- No intervention before H7, but consider interventions at H7;
- Application of H7 traffic risk-sharing approach to 2020-2021 (potentially in combination with option 2);
- Heathrow's proposed approach for intervention now and risk sharing proposal for iH7 and H7.
- Targeted intervention now and consider further intervention at H7;

74. To some extent these options overlap. All of the options include determining the precise intervention as part of the H7 process; and all bar option 1 include the potential for intervention now. As a consequence, we have organised our response around:

- The adjustment to be made immediately (Option 2 and part of Option 4); and
- The final adjustment to be made as part of H7 (Options 1, 3, and part of Option 4).

Adjustment to Be Made Immediately

75. There is an urgent need to make a substantial adjustment now in Spring 2021. The immediate traffic situation is worsening and as a consequence the short-term financial outlook is deteriorating. Action now will significantly increase confidence in the Regulatory framework for investors. This would significantly assist Heathrow in being able to [REDACTED], avoid a further downgrade of its credit rating, preserve access to the debt markets, and support passenger service and investment.

76. In Paragraph 2.12, the CAA set out three reasons why it might be appropriate to make an intervention immediately:

- Heathrow's current financial position;
- The potential impact on the cost of debt from a credit rating downgrade; and
- Potential impacts on service and investment.

77. The CAA has set out an assessment for the need for action now relating to all these criteria. In respect of the risk to credit ratings, access to finance, and the impact on investment and service we consider that the CAA has significantly underestimated both the risk present in each area and the benefit that a substantial adjustment in March would make to these risks. We set this out in the Sections below.

78. In addition, in respect of Heathrow's current financial position, we consider that the CAA has also failed to properly understand the risk and has focussed on balance sheet issues, rather than the imbalance between risk and reward and the need for action to increase investor and market confidence. We set out an analysis of the current financial situation in Annex 2 and discuss the resulting issues below.

Compliance with Heathrow Covenants

79. In the December Investor Report Heathrow set out that it anticipated meeting its covenant requirements in 2021. This assessment was based on the TWV forecast as described in the RBP. Since publication, the traffic outlook has worsened, [REDACTED].

80. Heathrow has not updated its forecast for 2021. Nevertheless, it is possible to use the PR scenario included in the RBP to [REDACTED], Annex 2 sets out an [REDACTED].

81. Annex 2 shows:

- [REDACTED];
- [REDACTED];
- [REDACTED]; and
- [REDCATED].

82. [REDACTED].

83. This analysis shows that the issue for Heathrow in 2021 is not one of balance sheet and gearing, but one of a significant reduction in cash flow due to the pandemic.

84. We have also considered covenant compliance for the notional company, i.e. one with gearing at 60% at the end of 2019. In this case gearing covenants are satisfied, however ICR covenants are not met in either the TWV or PR scenario. This shows that a [REDACTED].

85. Notwithstanding the work we have undertaken in relation to the notional gearing structure we strongly refute the CAA's position set out in para E14 of the consultation that the notional position is the "correct" one against which the CAA should carry out its assessment. The Civil Aviation Act 2012 s3(a) clearly states that the CAA should have a mind to *"the need to secure that each holder of a licence under this Chapter is able to finance its provision of airport operation services in the area for which the licence is granted"* (emphasis added). It is therefore incumbent on the CAA to demonstrate that Heathrow as it currently stands can be financed properly.

86. Meeting ICR thresholds cannot be addressed by a RAB adjustment or equity and therefore requires creditor forbearance. Creditor forbearance requires confidence in the regulatory regime being supportive of Heathrow. A RAB adjustment by the CAA would underpin creditor confidence and [REDACTED]. We note that for a notionally financed company, the FFO shortfall would be even greater than for the actual company so the [REDACTED] is not a result of the specific choice of capital structure by Heathrow. Compliance with gearing covenants is not a direct requirement for action by the CAA, but CAA action is required to restore the risk reward balance.

87. Before creditors would be ready to grant a waiver, they will need to have confidence in both the role of equity as a buffer for debt and that the regulatory environment in which Heathrow operates will act appropriately to ensure that Heathrow is financeable. Action by the CAA is vital to deliver this. A significant RAB adjustment now would give creditors confidence that:

- The regulatory regime was doing what was expected at Q6 and would allow Heathrow to recover an appropriate proportion of the losses incurred as a result of Covid thereby underpinning the security of their debt; and

- That the risk reward balance for equity would be addressed appropriately underpinning the confidence of debt investors in the equity buffer.

88. If the CAA do not act now, or take insufficient action now, [REDACTED].

89. This requires not just an appropriate and substantial RAB adjustment now, but also a clear commitment now to Option 4 or at a minimum Option 3 as part of the H7 process.

Risk of Credit Rating Downgrade and access to finance

90. Existing investors and credit rating agencies have told us that they have placed significant reliance on the strength of the regulatory regime and that they expect the Regulator to act to address the current situation that Heathrow is in. Annex 5 provides further information from shareholders. If no action is taken by the CAA now, then investors will lower their confidence in the regime. This could result in:

- A further credit rating downgrade;
- Less access to liquidity facilities reducing future financial resilience; and/or
- Difficulty in accessing new debt in either the quantity required or at an acceptable cost.

91. In our response to CAP1966 we estimated that a credit rating downgrade would lead to at least £300m additional interest cost that would be reflected in customers' bills. In its consultation, the CAA has:

- Downplayed the risk of an additional downgrade in 2021;
- Downplayed the impact that an adjustment in March would have on Credit Rating Agencies; and
- Underestimated the impact on consumers that such a downgrade would have.

92. The Credit Rating Agencies (CRAs) are currently assessing the rating of Heathrow debt. S&P updated their rating on 4th March[5]. In their update, S&P made clear that the rating depends upon the H7 regulatory reset including the RAB adjustment. They also took comfort from the CAA position in CAP2098 that it had not considered a "no intervention option". They set out their view that the CAA "*will likely provide some recovery of cash flows HFL lost in 2020 due to the pandemic*". However, S&P stated that they would down grade Heathrow one notch if traffic levels were worse than they forecast.

93. The other CRAs are developing their own traffic scenarios including downside sensitivities. Given the ongoing deterioration in traffic, these scenarios are likely to be more onerous than those used in their previous assessments and may be more pessimistic than that used by S&P. The action that the CAA takes at the end of March will also have a significant impact on the assessment they make.

94. In CAP2098 the CAA set out their view that CRAs will take a long-term view in making their assessments and look past the current situation. However, this does not reflect their actual approach. In their assessments CRAs will consider the risks in the short term as well as the medium and longer terms. They will be particularly concerned by [REDACTED]. Given this, the risk of a downgrade is imminent and pressing. Failure by the CAA to act appropriately would only add to this risk.

95. In Annex 2 we show that the key [REDACTED] risk is related to interest cover metrics and that this risk would be greater under the notional balance sheet than for Heathrow's actual balance sheet and that therefore this risk does not arise from specific financing choices Heathrow has made.

96. [REDACTED].

97. The CAA also states in CAP2098 that it does not believe that an immediate RAB intervention would make any difference to a CRA assessment. Whilst this is narrowly true in the sense that a RAB adjustment would not have a direct impact on ICR covenants, it completely ignores the role of wider issues such as the strength of the regulatory regime in its decisions.

[5] S&P Global, Heathrow Funding Class A 'BBB+' And Class B 'BBB-' Ratings Taken Off CreditWatch Negative And Affirmed; Outlook Negative, 4th March

By making a substantial adjustment now, the CAA would increase the comfort CRAs would place in the regulatory regime and allow them to take a broader and longer-term perspective. It would also give them more confidence [REDACTED]. This would significantly reduce the risk of downgrade.

98. Finally, the CAA has set out its view that the impact of a downgrade would be between 39 and 57 basis points, rather than the 100 or so basis points identified by Heathrow. An analysis is presented in Table 4 in Annex E based on the difference in spreads between iBoxx A and BBB corporate 15yr+ indices. This analysis shows once again that the CAA has failed to understand the impact of the current situation on investor confidence in Heathrow. Whilst the approach used by the CAA identifies the likely cost of a downgrade for companies largely unaffected by the pandemic, it does not reflect the impact of a downgrade on companies that have been significantly impacted by Covid. The spread of Heathrow (and other aviation sector) debt is currently much higher than that of the iBoxx indices and therefore those indices are currently irrelevant for assessing potential changes in the cost of debt that Heathrow would face. We provided evidence in response to the RFI that showed direct market evidence that the difference in cost for Heathrow would be well in excess of 100bp for a downgrade. That the cost increase might be lower for companies largely unaffected by Covid is not relevant to the cost increase that would occur for Heathrow.

99. In addition to underestimating the potential cost of a downgrade, the CAA has failed to consider the potential impact that a failure to act by them would have on Heathrow's access to finance. Debt investors have told us that they expect the CAA to act in the current situation. If the CAA do not act, then investors would have to reassess the attractiveness of Heathrow as a creditor. Particularly in 2021, this could increase execution risk and significantly constrain Heathrow's ability to access new debt finance at acceptable terms.

100. In addition, the availability of liquidity facilities would reduce if Heathrow was downgraded. This could result in a smaller overall facility, reducing financial resilience for future events.

101. Heathrow's investors are primarily long-term institutional investors and therefore the question of Heathrow's financeability cannot be considered simply in respect of Heathrow's short-term financial position. It is imperative that the CAA takes into account Heathrow's ability to remain attractive to investors in the medium to long term and recognises that a significant part of this assessment will be influenced by how the CAA responds to the current crisis.

102. We are extremely concerned that ahead of this consultation the CAA does not appear to have consulted widely within the investment community or CRAs to understand their views and the potential consequences of action or inaction. We provided the CAA with the contact details of three market participants that were willing to discuss the Heathrow situation with the CAA well before the consultation was published. We are disappointed that the CAA did not engage or attempt to broaden their understanding. We encourage the CAA to consult more widely and not just with a narrow range of regulatory advisors.

103. The CAA can significantly moderate the risk of a credit rating downgrade and/or closure of the debt markets by acting decisively now. In particular by:

- Removing regulatory depreciation for 2020 allowing a significant uplift in RAB and creating a powerful signal to investors that the CAA will take decisive action in H7; and

- Setting out their plan to adopt Option 4 or at a minimum Option 3 for H7 giving creditors confidence that the risks being currently experienced will be appropriately addressed and that sufficient mitigation will be set in place in for any future events.

Impact on Service

104. In CAP2098, the CAA concludes that, given the incentives under the current regulatory framework, there is unlikely to be a risk to service quality if no RAB adjustment is made. It notes that the impact on service of any lack of investment is unclear and that under the adjustment mechanism we have proposed it does not appear that the costs of the adjustment to consumers will be outweighed by any benefits they receive.

105. The CAA has not put any weight on or given consideration to the evidence we have provided, both direct consumer insight in the form of Willingness to Pay, and expert evidence in the form of the witness statement provided by our Chief Operating Officer Emma Gilthorpe, setting out the potential impacts on service. Instead, it is notable that the CAA reaches its conclusion without carrying out any meaningful analysis of the evidence we have provided or what reductions in maintenance spend or future investment could mean for passenger satisfaction or the delivery of outcomes to consumers.

106. While the CAA acknowledges that issues such as a lack of investment in maintenance could impact on service to passengers, it chooses not to focus on how the RAB adjustment and in particular an adjustment in 2021 could enable investment to the benefit of consumers and focuses on whether it has the tools available to enforce the required service levels, without consideration of whether they can be met under the current constraints we are facing.

107. The CAA's assumption that the incentives in the current price control are sufficient to both ensure that Heathrow invests and that service quality is maintained to the required standards is fundamentally flawed. The impact of Covid-19 on our aeronautical and commercial revenues has led to severe negative cashflows meaning that we do not have sufficient cashflows to invest in additional capex. Additionally, the impact of Covid-19 has highlighted the asymmetrical risk/ reward balance in Heathrow's framework. A framework which does not allow for the recovery of efficiently incurred expenditure, as would be the case with Heathrow's framework in the absence of a substantial RAB adjustment, does not incentivise investment.

108. In our previous submissions[6] and specifically in the witness statement from Emma Gilthorpe we set out they key areas of service quality that will be impacted if the CAA chooses not to make a RAB adjustment in 2021. These were:

- Reduced terminal capacity due to continued consolidation of terminal operations in order to reduce both operating expenditure and avoid capital expenditure in closed terminals which would lead to constrained capacity through recovery and high levels of congestion;

- Delayed recruitment of operational and security colleagues that would lead to longer security queue times and lower punctuality; and

[6] RAB adjustment submission, Response to CAP1966, RFI response, RBP

- Reduced investment in 2021 and the start of H7 leading to deferred maintenance expenditure and delayed delivery of projects that deliver improvements to the key service areas valued by consumers. This limits our ability to deliver on key consumer outcomes and ensure service quality metrics are maintained.

In addition to the specific service impacts of these individual issues, taken together this will lead to a reduction in overall passenger satisfaction leading to direct consumer harm through 2021.

Reduced terminal capacity

109. As we have set out in previous responses, consolidation of terminal operations is a key action to reduce operating expenditure and to defer capital expenditure. It was made clear in the witness statement provided by Emma Gilthorpe that, given cost constraints and the capital required to reopen these closed terminals, we would be very cautious about opening terminals until we were sure that any rise in demand that required increased capacity was not temporary. The consequence of this is that, while ensuring safety and security remains our top priority, any temporary peaks in demand would lead to impacts on the service levels we could provide.

110. The key impacts of reduced capacity in passenger peaks would be:

- Increased security queue times which will leave us unable to meet our current SQRB targets. Perception of security wait times is a key driver of overall satisfaction for departing passengers at Heathrow. Therefore, it is clear that a rise in security queue times will negatively impact passengers' overall satisfaction with the experience at Heathrow

- Decreased pier usage will result in more passengers having to use non-pier served stands which will require more bussing.

- Increased congestion at peak periods leading to a decrease in overall satisfaction and reducing predictability and reliability for passengers on their journey through Heathrow.

111. Additionally, government restrictions on travel and guidance on testing and social distancing are impacting our operations and putting increasing pressure on our capacity and service levels. As set out above, ensuring the safety and security of our passengers and colleagues will always be our top priority. This means that, without an urgent RAB adjustment allowing us to invest more in service quality, we may need to reduce capacity to ensure safety is maintained and government guidelines and processes are followed.

112. These impacts on capacity and service as a consequence of government interventions can be felt across the passenger journey:

- **Surface access:** Public transport modes to the airport have reduced capacity due to social distancing measures. Conversely, there is now greater demand for private transport modes putting strain on our car parks and forecourts. This could see impacts to passengers' journey times and mean they are unable to use their preferred mode to access the airport.

- **Pre-departure testing:** Requirements to produce a negative test before flying are becoming increasingly regular. While some forms of testing can be carried out by passengers off-airport, increasing acceptance of antigen testing carried out on airport ahead of travel could lead to the need for significant testing facilities at the airport. This will require significant capacity and capability to deliver.

- **Check-in:** Due to required document checks following the implementation of Covid travel restrictions transaction times at check-in have increased. The removal of facilities such as self-service bag drop and online check-in due to document check requirements have also led to more passengers using check-in desks. In total these changes in processes have reduced capacity at check-in by 50%-60%.

  This reduced capacity means increasing wait times for passengers and longer queues at the airport. Additionally, due to guidance on social distancing, these longer queues require more space to ensure that passengers and colleagues remain safe, meaning that more capacity is required in the terminals to accommodate the check-in process. Given the importance of check-in to the passenger experience, the third most important driver of satisfaction among departing passengers at Heathrow, this change in check-in operations will have an impact on passenger satisfaction and the overall Heathrow journey experience.

- **Security:** Social distancing requirements mean that where previously two or three passengers would stand close together and concurrently divest items, now passengers need to divest items one at a time. This leads to longer processing times. This combined with a higher number of bags per passenger due to the shift in passenger mix towards leisure passengers is decreasing flow rate and reducing capacity at security by around 30% compared to 2019.

- **Departure lounge:** Social distancing restrictions means that we have to limit the number of seats available for passengers in the departure lounge. Additionally, restrictions on retail space and the opening of Lounges mean that there is a lower volume of space available for passengers to use while waiting to board their flight. We know that having a comfortable space to wait in is important for passengers, in particular having a range of different types of seating and lounge areas, with passenger perceptions of the departure lounge and ambiance of the airport being important drivers of overall satisfaction. Ensuring passengers have comfortable departure lounge space and ensuring the space is safe would require more capacity.

- **Track transit:** The Terminal 5 track transit system is important to ensure passengers have a quick and easy journey to their gate in the Terminal 5 satellites. Social distancing measures mean that the capacity of the track transit system is reduced, increasing passengers' journey times to the gate and reducing their overall satisfaction with their Heathrow experience.

- **Immigration:** The immigration process is the key driver of satisfaction for Heathrow's arriving passengers. As with check-in, increased document checks are raising transaction times for passengers and therefore reducing capacity ad flow rate through immigration. Additional resource constraints at UK Border Force are exacerbating this issue, further reducing capacity. This in turn is causing longer queues for passengers which require increased capacity to manage safely. This is a key point of concern for our operation and it is becoming clear that even a slight increase in passenger numbers would create capacity issues if the current resource issues and process continue.

- **Baggage reclaim:** The increased transaction times in immigration are causing delays in passengers reaching the baggage belts meaning that baggage belts are needed for a longer period of time per flight. This is exacerbated by social distancing measures which limits passengers' access to belts and measures taken to avoid the dual allocation of baggage belts. This further adds to the length of time the belt is needed to serve each flight and reduces capacity by around 20% versus pre-Covid levels. In order to maintain service levels and ensure passengers can collect their bags safely, more capacity is needed.

113. The points above highlight the key impacts of Covid-19 and related government interventions on our operations and our ability to provide the levels of service and safety expected by passengers. Absent a RAB adjustment in 2021 we will not be able to fund the necessary capital spend and increased operating expenditure needed to increase the capacity in order to serve our passengers to the level expected. This means that capacity may have to be limited at peak times in order to safely manage passenger volumes, particularly if traffic recovers faster than forecast. This would clearly be detrimental for consumers but is the only way we could ensure the safety of our passengers and colleagues.

114. In the CAP2098 document, the CAA notes that Heathrow is incentivised to meet increased passenger demand as it would drive increased revenues. While it is correct that increased passenger numbers and therefore increased revenues is an incentive to increase capacity and meet demand, the safety of our passengers and colleagues will always be our number one priority. Safety obligations under pandemic measures are more onerous and expensive to implement than before the crisis. This has increased the cost of serving airport users safely. In addition, due to the issues with the risk/reward balance in the current framework and therefore the likelihood that incremental investment will earn a return below the cost of capital, investors will seek to minimise investment. This means that, due to the increased opex and capex required, we will be unable to bring online new capacity in order to serve our passengers safely until the correct risk/reward balance is restored and may have to impose capacity restrictions to ensure the operation is safe.

Reduced investment in 2021 and at the start of H7

115. In line with the above, ensuring the safety and security of passengers and colleagues will remain our top priority. However, the impact of cash constraints has meant that we have had to significantly scale back our proposed investment plan for 2020 and 2021. This scaling back of capex in the iH7 period also delays the start of investment in the H7 period due to the time lag before capital projects can ramp up at the start of the period.

116. In our response to CAP1966 and the additional information we provided at the request of the CAA, we set out our internal risk assessment of how we expected this scaling back of investment to impact our ability to maintain and improve service quality both through 2021 and into H7 and provided details of the investments which could be accelerated if the CAA were to make an adjustment in 2021. This assessment set out that we would expect to see the following impacts if the CAA waited until H7 to make any adjustment:

- Delayed investment in the Regulated Security and Security transformation schemes will put pressure on queue times for passenger security, staff search and control posts;

- Deferred investment in programmes to deliver automation and touchless journey capability;

- Deferred asset maintenance spend will lead to a larger number of asset failures on key assets covered by the SQRB scheme; and

- Deferred asset replacement will lead to use having to take a larger number of assets out of service at the same time, reducing asset availability and resilience across the airport.

117. In our response to the CAA's request for information, we confirmed that if the CAA were to make an adjustment to the RAB in January 2021 in line with our proposals we could finance an accelerated programme of investment through 2021 and into the start of H7. This amounted to a portfolio of £221m of investment and included investment in programmes to deliver on consumers' key priorities. Due to the additional time being taken by the CAA to reach a decision on an adjustment for 2021, the restart or acceleration of these projects would be delayed versus the programme set out in our RBP. However, starting in 2021 would still help to deliver more benefits for consumers earlier than an adjustment as part of the H7 process would allow.

118. The key programmes of work that could be accelerated or restarted include:

- Commencing work on the Security Transformation programme earlier than scheduled, allowing the key benefits of a quicker and easier security experience for consumers to be delivered up to 18 months earlier than would be the case with an adjustment at the start of H7. This would allow us to improve on the key consumer outcome of providing a predictable and reliable journey through the airport as well as allowing consumers to feel increasingly comfortable and secure through an upgraded security process.

- Increasing spend on asset replacement allowing us to recommence schemes would allow us to reduce the currently high risk of these priority assets failing or the need to take large numbers of assets out of service at the same time in the future which would safeguard against our ability to deliver the predictable and reliable journey outcome.

  i) Repairs to the Northern Perimeter Road

  ii) Baggage Campus-side Logistics and Conformance (SAC)

  iii) Mid-life renewal of lifts and escalators and passenger conveyors (T3 and T4).

  iv) Refurbishment of arrivals reclaims in T3.

  v) Early design of runway resurfacing and delivery of works to pavements which are critical to ensure effective mitigation of the main works.

  vi) T5 Track Transit System re-life of the rolling stock and controls.

  vii) Re-life T3 Pier 6 airbridges and T5B airbridges.

  viii) Pipework re-life and valve replacements for the fire-main.

ix) Surface water drainage infrastructure renewal to avoid the drainage system collapsing.

x) Replacement of life expired low voltage power distribution boards in T3.

xi) Replacement of obsolete low level controls and operational technology in baggage systems in T1 (serves T2) and T5.

xii) Replacement of life expired navigational aids.

xiii) Replacement of life expired airfield approach lighting.

xiv) Replacement of pre-conditioned air with ground mounted systems and latest available air distribution system.

xv) Airfield ground lighting – replacement of life expired Direct Current cabling due to risk of joint failures and localised failures of the ground lighting system.

xvi) Fire alarm replacement in T4 and T5 to prevent avoidable (false) activations and evacuations which delay passengers or creates congestion through security when the event is stood down.

xvii) Cargo and Airside Road Tunnel refurbishments to accelerate the construction programme and reduce impact on service vehicles and passenger transfers journey times.

- Commencing work on key paused projects which will help us to deliver additional automation through the airport journey and enable touchless journeys for consumers and deliver efficiencies for our airline partners. This will help to deliver on the key consumer outcomes of ensuring passengers feel comfortable and secure on their airport journey and ensuring they can have a predictable and reliable journey.

- Completing critical maintenance in Terminal 4 to ensure a safe return to passenger service earlier than currently planned. This will be particularly important to support the provision of capacity needed to serve passengers safely in line with government guidance on Covid-19 as set out in the section above.

- Bring forward investment in sustainability including ATM and ground efficiency projects which will increase predictability and reliability of operations, energy saving projects to reduce future costs, electric vehicle charging providing infrastructure for consumers and colleagues, investment in pre-conditioned air and investment in solar power. Consumers have told us that investment in sustainability is important for them and will improve delivery against the key outcome of providing an airport that consumers want to travel from. Additionally, it will allow Heathrow to have a measurable positive impact on local air quality. This is important for delivery on our local community outcome.

- Accelerate work on the CTA tunnel to allow for delivery up to eight months ahead of schedule allowing for both an increase in journey predictability and reliability and reduced programme costs with a saving of up to £6.5m.

119. The accelerated delivery of these programmes will generate increased benefits for consumers more quickly. Programmes such as Security Transformation, Automation, Terminal 4 maintenance and increased asset replacement spend will also help to avoid consumer detriment caused by longer queue times, increased congestion, decreased capacity or reduced punctuality.

120. In its document, the CAA dismisses the delivery of this investment and the potential benefits it could drive, stating that as it has not yet been through airline governance the potential benefits are uncertain. While it is correct to note that airline governance is a key part of the capital efficiency framework and that we will always seek to agree capital investment projects with the airline community, the CAA should not be constrained by the capital governance process when establishing whether facilitating earlier or accelerated investment in these projects would be beneficial to consumers. In not assessing the benefit of these investments for consumers the CAA is failing to carry out its primary duty.

121. The CAA also asserts that the benefits of these projects to consumers are unlikely to be equivalent to the size of the RAB adjustment requested. The CAA appears to have made this assertion without evidence on the quantum of benefit these programmes could generate for consumers. The investments proposed have value to consumers beyond 2021 and would mean that a higher proportion of passengers would experience the benefits of these investments through the H7 period through earlier delivery. Without an immediate adjustment to the RAB, the delivery of these benefits earlier would not be possible.

122. To inform our IBP we carried out a Willingness to Pay exercise to understand which service improvements consumers would value most. As part of preparation for the RBP, we commissioned Systra to carry out research into passenger priorities in a post covid-19 world[7]. 2,877 current and 1,828 potential passengers were interviewed to understand how they would prioritise and value Heathrow's proposed initiatives and service improvements during H7. Quantitative analysis of interview responses produced passenger willingness to pay for improvements in terms of a percentage of air fare. For example, passengers valued the benefit of going from a pre-March 2020 level of cleaning to enhanced Covid-19 safe cleaning as 1.58% of air fare. Using the average fare paid by a Heathrow passenger in 2019 (£400), the willingness to pay from benefits associated with the proposed initiatives have been applied to the mid-case H7 passenger forecast. Using this evidence we can estimate the benefits to users of these additional service improvements:

- Our Security Transformation programme would deliver benefits of up to £5.12 per passenger 18 months earlier than anticipated by allowing them to keep electronics, liquids and gels inside the baggage and reducing security queue times. Using our mid-case H7 forecasts, this could equate to up to £340m of additional benefits delivered for passengers in H7 versus a case where an adjustment was made as part of the H7 decision.

- Our automation and touchless journey programmes could deliver large amounts of consumer benefit, with consumers valuing an increase in self service bag drop provision at £3.96 and increased use of biometrics to reduce contact with colleagues through the passenger journey at £4.24 per departing passenger and £4.28 per connecting passenger.

[7] Systra, Heathrow Airport Passenger Priorities in a Post-Covid World, December 2020

- Investment in sustainability is also valued by consumers, with a reduction in Heathrow's carbon footprint of 15% being valued at around £4.44.

123. In total, the accelerated delivery of these programmes could drive additional benefits of up to £1.45bn for passengers through the H7 period. This shows a clear consumer benefit of facilitating the delivery of these schemes through a RAB adjustment.

124. A RAB adjustment in 2021 would also allow us to restart a number of operational, rather than capital, initiatives which have clear benefits for consumers, colleagues and the local community. These include:

- An earlier commencement of recruitment of security colleagues in order to ensure that we have the capacity to serve a larger number of passengers should demand recover faster than expected or peaks occur over the next year.

- A restoration of the Heathrow free travel zone from Q4 of 2021, rather than the current commitment of 2022, to ensure that colleagues and passengers have access to free and subsidised public transport in and around the airport more quickly.

- Restart noise and vortex activity to offer noise insulation support to local residents who have been put on a waiting list.

125. In addition to the consumer benefits set out above generated through additional expenditure, without and adjustment, delayed and deferred expenditure on asset maintenance and replacement will have an impact on our ability to meet performance standards under the SQRB scheme. Cash constraints have meant we have been forced to delay and defer expenditure in our asset programme. Absent the ability to carry out much needed asset replacement activity in 2021, we will have to further defer expenditure into the H7 period. This would lead to both a drop in asset reliability, and a consequential risk to our performance against asset availability metrics, but would also mean that we would have to take a number of assets out of service in the same timeframe to carry out the required repairs and renewals during H7, further impacting our service quality. In our response to the CAA's RFI in 2020, we provided an overview of the key service quality impacts this ongoing deferral would have. Following further work to prioritise capital through 2021, the key impacts on service quality for H7 would be:

- **T3 Low Voltage Switchboards**: This is the replacement of life expired electrical distribution equipment. A programme of regular replacement of components ensures that risk does not accumulate which can lead to localised loss of service more comprehensive replacements. Passenger sensitive equipment and security screening equipment are some of the systems which depend on a safe and reliable power supply.

- **Stands 316, 317, 319, 321 Pier 7 Airbridge Replacement:** Airbridges are the first and last impression for a passenger and the replacement of life expired and obsolete airbridges will ensure equipment availability and an improvement in the interior décor. The delay of these replacements has a knock-on delay to the planned airbridge replacements in Pier 6 which are also life expired.

- **T5 Reclaim Belt 4:** Modification to increase capacity but construction has been suspended and the hoarding remains in place in the arrivals hall.

- **Stand entry guidance system**: the units are serviceable but unable to accept new aircraft types until the central processor units have been replaced.

- **Refurbishment of surface water drains:** Some drains are >50 years old and degradation means that there is a risk of collapse. If the degradation is not too severe, it is possible to reline the pipe with a sleeve or a spray coating. Once a pipe collapses then the remediation is more complex and can require unplanned closure to affected parts of the airfield. Unattended drain collapses restrict pipe capacity and cause puddling of surface water which can lead to aerodrome congestion due to unstable ground, localised flooding (and freezing, and increased avian activity.

- **Refurbishment of fire-main valves:** The fire-main is a pressurised network which distributes fire water to all hydrants. Valves are used to manage the network and mitigate planned or unplanned maintenance works. Unserviceable fire-main valves can result in a loss of the fire main for sections of the airfield or other critical facilities such as road tunnels.

- **Replacement of pavements and roads.** The Alpha South block replacement was paused in 2020 as well as some airside roads projects. Structural failure will result in local diversions and longer routes for aircraft and service vehicles.

- **T5 Toilets Expansion and Refurbishments, T4 Toilets Renewal:** The availability of serviceable and clean toilet facilities influences the passenger experience which is reflected in QSM feedback. This project included refurbishment and renewal of as well as the provision of new accessible facilities to meet new legislation

126. The value of consumer benefit at risk and the potential capacity implications of the CAA not taking immediate action is compelling. The CAA would not be carrying out its statutory duties if it did not prioritise ensuring that the needs of users were furthered in relation to the range, availability, cost, continuity and quality of airport operation services. As demonstrated elsewhere in our response, failing to make a RAB adjustment now would impact the cost of airport operation services for consumers in future. Additionally, from a service perspective, failing to make a RAB adjustment now would impact:

- The availability of airport operation services by constraining capacity in the immediate recovery from Covid-19 in order to secure the safety of passengers and colleagues; and

- The quality of airport operation services by reducing investment available to maintain and improve service to passengers.

Determining the appropriate adjustment to be made immediately

127. In a number of places in its consultation, the CAA highlight the difficulty they perceive in calculating an appropriate scale for any immediate intervention ahead of a final determination of the amount as part of H7.

128. We consider that the CAA is overstating the difficulty of making such a calculation. There are a wide range of possible alternative calculations that can be considered, as shown below. Furthermore, they all indicate a similar scale of intervention, helping to reduce concerns of miscalculation.

129. In addition, any immediate adjustment would be subject to correction during H7. Using the RAB adjustment mechanism proposed by Heathrow of removing 2020 regulatory depreciation could be done with no impact on airport charges in 2021 and any impact on H7 charges would reflect the H7 review. This flexibility largely eliminates the pressing need for a completely precise quantification approach in Spring 2021.

130. At the same time the CAA appears to miss the dangers of failing to act at sufficient scale now to ensure they minimise impacts on consumers, enable Heathrow to finance its functions and maintain compliance with its covenants, help avoid a credit rating downgrade, and give investors confidence in the regulatory system.

131. Given this asymmetry of risks, the CAA should be focused on decisive action now and appropriate adjustment at H7 rather than concerns of precision in a volatile environment.

132. We set out five potential approaches that could be used to calculate the scale of an immediate adjustment. All of these are based on outturn data for 2020 or on actions that have already taken place and therefore do not rely on assumptions about 2021. We summarise each of these below, and then explain why we consider the approach we have proposed is the most appropriate.

133. The five approaches are:

- Use the approach proposed by Heathrow in Option 4 based on 2020 data alone. This would result in an adjustment of £1,139m (2018p) based on the outturn in 2020;
- Use the approach 1C set out by the CAA based on 2020 data alone. This would result in an adjustment of £942m (2018p) based on the analysis in CAP2098A table 9;
- Use the approach 1B set out by the CAA based on 2020 data alone. This results in an adjustment of £886m (2018p) based on CAP2098A table 9;
- Remove regulatory depreciation for 2020 as per Option 4. This would result in an adjustment of £830m (2018p) based on CAP2098A table 9;
- Match the interest paid in 2020. This would result in an adjustment of £684m (2020p).

Table 1 - Potential calculations for adjustment under option 2

Option	A	B	C	D	E
Approach	Option 4 2020 only	CAA 1C 2020 only	CAA 1B 2020 only	2020 Regulatory Depreciation	2020 Actual interest paid
Size of adjustment (2018p)	£1,139m	£942m	£886m	£830m	£657m

Source: CAA/Heathrow

134. We consider that option A above is the right approach for calibrating the size of the adjustment required at H7. It is considerably larger than the other approaches, but this simply reflects the huge magnitude of the losses faced by Heathrow in 2020 (over £2bn).

135. In contrast, we consider that the approaches in options B and C (CAA approaches 1B and 1C) significantly underestimate the appropriate scale of adjustment to be made at H7 (see below). However, an advantage of these approaches from the CAA perspective is that they are derived from approaches the CAA have identified themselves.

136. A disadvantage of options A to C is that the scale of the adjustment is greater than regulatory depreciation in 2020. This means that implementing an adjustment of that scale without a licence change could be difficult. In addition, the CAA may consider that using one of these approaches at this stage might create undue expectations about the approach that the CAA would take at H7. Therefore, we rule out these approaches for an immediate adjustment.

137. Option E would signal to debt investors the importance the CAA gives to ensuring that debt is properly financeable. The disadvantage of this approach is that it is somewhat arbitrary and not related to underlying regulatory principles, a risk allocation framework, or to a calculation approach that would be appropriate for H7.

138. We consider that option D remains the best approach. It has the advantage of being related to an important regulatory principle (see Annex 3); it is a conservative amount compared to any approach used to calculate a final adjustment based on the outturn of 2020 (e.g. options A to C) and does not bind the CAA in respect of the approach it finally adopts in H7. In addition, it is easily implementable by the CAA immediately without the need for a licence modification.

139. We note that the range of interventions for the approaches we have identified is between £657m and £1,139m (2018p) and that the approach we have proposed is at the lower end of this range. This should give the CAA confidence that the scale of adjustment we have proposed is proportionate.

140. In addition, we consider that analysis such as the above, shows that there are multiple approaches that can be used to quantify an appropriate adjustment and that the CAA cannot claim that difficulty in confidently calibrating / quantifying an option prevents it from acting now. On the contrary it has multiple reasonable ways to quantify and would thus be derelict in its duties if it failed to act.

Appropriate adjustment to make now

141. In the sections above we have demonstrated that there is a compelling case for the CAA to act now to remove 2020 regulatory depreciation.

142. Such an approach will:

- Give credit rating agencies confidence in the regulatory framework and thereby ensure that Heathrow is not downgraded avoiding an unnecessary increase in the cost of debt that consumers will have to pay;
- Help obtaining a waiver from creditors for an ICR covenant breach if needed;
- Unlock additional investment in the airport delivering significant benefits to consumers earlier and helping mitigate service risks as passenger numbers recover;
- Help ensure that Heathrow can finance itself appropriately during the year.

143. Making an adjustment now rather than later as part of H7 will deliver these benefits at no extra costs to consumers and without unduly constraining the approach that the CAA chooses to take later in H7.

144. Making a larger adjustment than we have proposed at this stage is not necessary if done in combination with a commitment to an appropriately calibrated Option 3 or Option 4. However, making a smaller adjustment could put at risk the benefits identified above, especially those related to additional investment. Therefore, the approach the CAA needs to take is clear.

145. The CAA is able to signal its intentions to provide the necessary support to Heathrow by way of a policy statement. This can be done swiftly and would not require the CAA to amend Heathrow's existing licence. Any necessary licence amendments required to formalise the policy could then be addressed in Heathrow's H7 licence.

Adjustment to be made as part of H7

146. The CAA has set out five potential approaches for an adjustment to be made in H7:

- CAA Option 1 considers three options, 1A, 1B and 1C;
- CAA Option 3 proposes introducing a risk sharing mechanism for H7 and reconciling this with 2020 and 2021, albeit no quantification is presented in the consultation;
- CAA Option 4 as proposed by Heathrow (and which is a specific example of the CAA Option 3 with an adjustment now and a calibrated TRS mechanism).

147. In the following Sections we set out:

- Why H7 risk sharing must be applied for iH7 and therefore why the CAA should announce they will adopt Option 4 or a version of Option 3 at the end of March;
- A high-level assessment of the approach that should be taken at H7;
- The level of risk consistent with the Q6 determination;
- The best way to measure risk;
- How do we incorporate potential cost savings; and
- Key considerations for future or historical performance

148. We then conclude on the approach the CAA should take to the adjustment to be made as part of H7.

Why H7 risk sharing must be applied for iH7

149. In our response to CAP1966 we set out our view that investors would not believe that a risk sharing mechanism for H7 would be implemented in practice if no adjustments were made for iH7.

150. In appendix C of CAP2098A the CAA set out their view that introducing a TRS mechanism would fully mitigate investors' perception of risk and that it was credible for a regulator to apply a new mechanism to future performance without it applying it to the past and that investors could readily distinguish between the framework that applied in Q6 and iH7 and any forward-looking TRS mechanism.

151. The CAA has made a fundamental error of reasoning here:

- Investors will consider that CAA is bound by its duties and that if these duties lead to the CAA acting in a specific way now, then they will do the same in the future irrespective of the specifics of any risk sharing mechanism.
- The CAA approach to NERL during Covid will confirm this view. The CAA is not honouring the specific ex-ante risk sharing mechanism in NERL's licence because it does not consider that doing so is consistent with its duties. This provides investors

concrete current evidence that the CAA does not consider its decisions are bound by pre-existing ex-ante risk sharing mechanisms.

- Investors would also note the statements made at Q6 by the CAA in respect of the ability to reopen in exceptional circumstances and draw conclusions from how the CAA respond to the current exceptional circumstances.

152. Investors perception of the level of risk will be informed by the actions of the regulator, not the specific mechanics of any risk sharing mechanism. If no adjustment is made now it will be because the CAA has determined that such an adjustment is not in consumers' interest. In the event that an occurrence such as the current pandemic were to happen in the future, Investors would conclude that the CAA would make the same judgement about consumer interests for that event as well. Given this, and that the CAA's primary duty is to consumers, Investors would conclude that the CAA could not make an adjustment in future as to do so would be contrary to their duties.

153. We do not think that it is credible that the CAA can consider that investors would believe the CAA could make a different decision about the actions that are in consumer interests in a future event than they do in the current event even were a more specific mechanism in place than that for Q6. This means that investors' expectations of what would happen in a future event will be determined by the actions the CAA takes now in respect of Covid. This will be true irrespective of any specific mechanism that is put in place for the future.

154. The example of the treatment of NERL by the CAA in the current situation is relevant. Investors considered that NERL had clear regulatory protections in place for downside events that limited its exposure to 4.4% of revenue. However, the CAA now proposes to not honour the mechanism in place for NERL.

155. Indeed, in submissions to the CMA, the CAA has questioned whether it needs to make any adjustment to reflect the losses that NERL has suffered from Covid. For example, in CAP1910A (p8) the CAA openly question whether any weight should be given to the existing mechanism:

> *"In light of the impact Covid-19 and the limitations of the regulatory framework, we would also expect the 2021 review process to include consideration of what revenue correction, **if any**, should be applied to 2020 and 2021."* (Emphasis added)
>
> *"whether there is a need for **any** reconciliation, taking account of evidence from and views of NERL and stakeholders"* (Emphasis added)

156. More recently, the latest CAA consultation on NERL (CAP 1994) does not commit to implementing the protection mechanism in full. Surprisingly, the consultation does not even consider whether not implementing the protection mechanism now it is required would undermine future confidence in the integrity of the regulator.

157. Irrespective of the eventual decision made for NERL, investors have seen that the CAA does not consider that it is bound in practice by ex-ante risk sharing mechanisms. Instead they will see that the CAA's initial response is to effectively dismiss the applicability of the existing risk share arrangements. Consequently, investors will place more faith in what the CAA finally decides on for NERL and for Heathrow on this occasion as a guide for what would happen in future rather than rely on what is promised in any future ex-ante mechanism.

158. Consequently, if the CAA do not apply any proposed risk sharing mechanism for H7 to iH7, investors will not believe that it would be implemented in practice if required. This means therefore, that to retain investor confidence the CAA **must** apply any proposed risk mechanism to iH7.

159. On behalf of Heathrow, Economics Insight examine a number of case studies showing the impact of Government not meeting the expectations of investors and the consequent impact on investor expectations. They show that investors in strategic infrastructure hold a reasonable expectation that the government / regulator would not want firms to fail (and investors to fail to generate a return) for force majeure reasons. Therefore, in the limited cases where this has not happened, this has been coupled with negative impacts on investors' risk perceptions and firms have failed to the detriment of taxpayers and/or consumers.[8]

160. The need for regulatory consistency means that the CAA must adopt option 3 for H7 and therefore it should set out its intention to do so at the end of March. We show below that a properly calibrated option 3 would be consistent with Heathrow's proposals for the adjustment.

Assessment of Approaches for H7

161. In the introduction to this Section we noted the five approaches identified by the CAA for H7.

162. Of the options identified by the CAA, we dismiss option 1A. Although this approach identifies potential additional costs arising from raising new capital, it ignores a wide range of additional costs (e.g. such as cleaning and signage) that have arisen as a result of Covid and therefore is partial. As far as we are aware it is not an approach taken by any other regulator. However, whilst the pandemic has resulted in additional costs, its most significant impact has been to reduce the number of passengers and hence Heathrow's income. The need to restore the appropriate balance between risk and reward means that the response to Covid is best dealt with as a broad proportionate overall adjustment.

163. At this stage, the CAA has not properly engaged methodologically with the various elements that need to be considered in the approach for H7 such as the appropriate measure for risk, the incentives created by an approach, and the need for consistency and proportionality. In addition, the CAA has not taken a broad and holistic approach to quantification of an adjustment.

164. In the following sections we set out the key issues that need to be considered:

- What is the level of risk that Heathrow was expected to bear in Q6/iH7 (or should be expected to bear in H7);
- What is the appropriate metric to use to measure impact of risk (passenger numbers; revenue; EBITDA; or cashflow to equity);
- How to take account of cost savings and additional costs;

[8] Economic Insight, Evidence to support the CAA's consultation on HAL's COVID-19 related RAB adjustment, March 2021

- How to account for out-performance;
- We then set out our view on the approach that should be taken at H7.

Level of Risk consistent with Q6 determination

165. A key starting point for assessing the scale of any potential intervention in iH7 (or considering a TRS approach for H7) is to establish the level of risk that Heathrow should bear given its WACC and the expectations of investors in regulated businesses.

166. To date the CAA has largely failed to engage with this issue, apart from a partial and narrow approach in option 1C identified in Appendix I of its consultation (see below). The failure of the CAA to engage meaningfully on this issue is a key contributor to the delay in their approach to addressing the impact of the pandemic on Heathrow, and represents a failing of its administrative duties.

167. In the following sections we address:

- Investor expectations of risk at Q6. We demonstrate that investors did expect that the CAA would take action in the event of low probability high impact events in contrast to the views of the CAA;
- That the events of 2020 are not consistent with expectations under CAPM;
- That the CAA has failed to understand the critical importance of regulatory depreciation in giving investors' confidence in regulation; and
- And that unlike Option 4, the approaches 1B and 1C identified by the CAA do not adequately address the risk expectations for Q6.

Investor expectations on risk at Q6

168. In appendix D, the CAA state that they consider it is reasonable to assume that investors' expectations would have included the prospect of low-probability, high-impact events and this would have influenced their required returns. In addition, the CAA state that they do not consider investors had any basis for assuming that the CAA would intervene to protect Heathrow from traffic risk events.

169. This statement by the CAA is disingenuous and does not reflect the debate at Q6 on asymmetry of returns and the protection that would be given from the ability to reopen the determination in the event of extreme circumstances. In particular:

- It does not reflect the debate around three-factor approaches to CAPM to account for asymmetry and the CAA final decision on this issue;
- It does not reflect the explicit discussion during Q6 in respect of putting in a specific mechanism to deal with extreme circumstances;
- It does not reflect the understanding of other stakeholders in Q6 of the risk protections that were being provided at Q6 from the CAA's stated approach to reopening; and

- The CAA's use of Heathrow's debt prospectus as 'evidence' that investors were cognisant of the risks presented by a pandemic is misjudged. As the CAA is aware prospectuses are required to take a cautious view of all possible risks and do not represent a picture of probable outcomes faced by investors. It is unreasonable and incorrect of the CAA to assume that because a theoretical risk was cited in a prospectus, that risk would have been priced into the securities by the market.

170. At Q6 Heathrow argued that the risk around its return was asymmetric and that there was a much greater range of potential downside returns compared to upside returns. Heathrow argued that this led to co-skewness in returns and that investors would seek a premium to bear this additional risk. In its determination, the CAA concluded that it would not include an additional allowance for the co-skewness of equity returns and that the standard CAPM that assumed a symmetrical, normal distribution of risk was appropriate[9].

171. The Q6 process also included extensive debate on the ability to reopen the price control in exceptional circumstances. In the Initial Proposals, the CAA consulted on including a licence condition codifying the ability to reopen the price control in extreme circumstances, noting that such conditions existed elsewhere. The CAA's final decision was to instead rely on its powers under Section 22 to make any necessary changes through the price control. The CAA set out its position in the Final Proposals: "*The CAA therefore intends to rely on the modification mechanism in section 22 of the Act to make any necessary changes during the period covered by the price control. Any party materially affected by a price control could request that the CAA uses its powers under section 22 to modify the licence in such circumstances and the CAA will consider each request on its merits".*[10] This statement, and the discussion which led up to it, clearly set an expectation that the price control could be modified in exceptional circumstances. The powers that the CAA has in relation to modification are not merely symbolic, they are there to be exercised otherwise they are of no value. The current situation has been acknowledged by all to be extreme and unprecedented, therefore, to not act using the powers available undermines the CAA's role and the powers afforded to it.

172. Throughout the Q6 process, it is notable that the airline community agreed that there should be a mechanism to reopen or adjust the price control in the event of extreme circumstances. The CAA noted airline views in its Final Proposals document:[11]

"BA commented that in principle it supported reopeners, although such provisions should not undermine the price control settlement."

"The LACC agreed that reopeners should only be in extreme circumstances, and considered that the CAA should issue a criteria and process in advance of the licence coming into force."

It is also the case that airlines viewed this ability to reopen the price control as risk protection. In its response to the CAA on Equity Betas for Q6, British Airways explicitly states that Heathrow's systematic risk is reduced through the CAA's ability to revisit the price control as it removes a significant element of the traffic risk faced by airports over the regulatory period:

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[9] CAA, Estimating the cost of capital: technical appendix for the economic regulation of Heathrow and Gatwick from April 2014: Notices granting the licences CAP 1155

[10] CAP1103 CAA Final Proposals, October 2013, https://publicapps.caa.co.uk/docs/33/CAP%201103.pdf, Paragraph 12.114

[11] Ibid, paragraphs 12.112-12.113

"Through the licences and the regulatory regime set out in the Initial Proposals, one key aspect in which systematic risks are further reduced is through the ability of the CAA to revisit the price control should the assumptions made in the final determination be found to be inappropriate. The current regulatory setting meant that a fixed allowance for the quinquennium left airports with a high degree of volume risk. This is the key risk faced by airports and the option for the CAA to revisit their assumptions removes a significant element of this risk."[12]

173. It is clear from this evidence that:

- The WACC at Q6 was only intended to deal with symmetrical risks and not exceptional circumstances;
- Airlines and Investors views at the time of the determination was that the Determination would be reopened in the event of exception circumstances and therefore that Heathrow was not fully exposed to unlimited volume risk; and
- Therefore, that the statements made by the CAA are categorically incorrect.

Risk Under CAPM

174. The CAA state that CAPM assumes that investors' return expectations conform to a normal distribution and do not include a lower bound. They conclude from this that the arguments we put forward around reasonable lower bounds lack foundation. This completely misrepresents the approach that we provided in our response to CAP1966.

175. It is of course true that the CAPM assumption of normally distributed returns means that there is no absolute theoretical lower bound of return. However, this ignores the two key elements of our response:

- Increasingly large deviations of returns would be expected to occur at lower and lower frequencies, i.e. longer and longer return periods;
- The regulatory framework explicitly included the option to open the determination in the event of exceptional circumstances; and
- Therefore, it is reasonable for investors to assume that at some frequency of event (at which an event would be regarded as exceptional) there would be an intervention. This frequency of event would be equivalent to a particular scale of deviation, and that therefore investors would not be expected to bear downside risks beyond this level.

176. Beta assumptions allow the frequency of expected loss to be calculated. In our response to CAP1966 we set out how different assumptions about the return period at which mitigation would apply would translate into amounts of risk based on the equity beta of Heathrow at Q6 and the average volatility in returns of shares. This risk was expressed as the percentage of forecast revenue that would be expected to be borne for a particular level of return period. The resulting revenue thresholds are set out in Table 2.

[12] Equity Betas for Heathrow and Gatwick in the Q6 Price Control Review: Note Prepared for British Airways by CEPA, June 2013, page 2

Table 2 - Maximum revenue loss expectations for revenue loss given Q6 equity beta

Return Period (years)	Expected Loss for Heathrow £m	Loss as % revenue
20	311	10%
32	372	12%
75	468	15%
333	609	20%
2,000	749	25%
20,000	902	30%

Source: Heathrow

177. Table 2 shows that as the scale of losses increases, the return period in which such a loss would be expected to occur under CAPM increases exponentially. Indeed, the revenue loss that Heathrow actually experienced in 2020 of 64% would be expected given the beta used to have a return period of $2x10^{15}$ years, i.e. over a million times longer than the current age of the universe (13.7bn years). This demonstrates that CAPM is not relevant to the scale of the impact experienced by Heathrow and that no approach based on CAPM alone would compensate Heathrow for the risk that has materialised from Covid.

178. The CAA is therefore demonstrably wrong to say that the current level of losses experienced by Heathrow are compatible with the CAPM assumptions at Q6.

179. There is clearly a discussion to be had around the appropriate return period to set the level of risk exposure for Heathrow at which circumstances can be considered to be exceptional. We consider that a 1 in 20-year event is an appropriate threshold for a regulation based on 5-year periods. In addition, we showed in our response to CAP1966 that such an assumption was consistent with regulatory precedent in aviation; and with building block/RoRE based approaches that properly protect regulatory depreciation.

Building Block Approaches and the importance of regulatory depreciation

180. Regulatory asset bases have become a key foundation of regulation in the UK. They represent the cumulative balance of expenditure a company has made offset by the amount it has recovered from customers through charges. Companies are allowed to make a fair return on the net amount they have invested (return on the RAB) and understand that they will recover the amount they have invested over time through depreciation included in charges (return of the RAB). This provides a mechanism by which regulators can assure investors that long-term investments they make today will be able to be fairly recovered over the life of the investments. Strong investor confidence in the RAB has resulted in lower costs of capital for regulated businesses and enabled significant long-term investment in the UK's infrastructure.

181. A key element of this RAB construct is 'the return of the RAB' (depreciation) reflected in revenue collected from consumers. Where an external shock means that this revenue is not collected, as is anticipated for Heathrow in 2020 and 2021, then in practice return of the RAB is not happening. In other words, not only are investors not earning a return on the RAB for the years in question, they are also losing return of the RAB. If this is not addressed, then it

has the potential to severely undermine investors' confidence in the RAB as a way of ensuring they recover their investments appropriately.

182. We have commissioned an analysis of the role of regulatory depreciation from Frontier Economics, provided at Annex 3, to supplement our understanding of this issue.

183. The CAA touch on this issue of depreciation in Appendix I in relation to option 1C. In this, the CAA:

- State that equity capital is at risk in most commercial businesses and that capital losses are a prospect any equity investor must make;
- State that they consider it reasonable to consider that equity investors would not expect recovery of the equity return in the face of an exceptional traffic shock; and
- arbitrarily allocate depreciation of the RAB to debt and equity in line with the assumption of the debt and equity split for the notional financing of the RAB.

184. In the subsections below we:

- Show that the CAA is incorrect to state that equity investors in regulated businesses would expect to lose equity capital in a regulated business for circumstances beyond their control; and
- That the CAA approach of separating depreciation into debt and equity elements is not based on sound corporate finance principles or practice.

Return of Equity Capital

185. In CAP2098 the CAA state that equity capital is at risk in most commercial businesses, and capital losses are a prospect any equity investor must face. This view is used to justify an approach that allows losses of equity capital even for factors that are outside the control of management. This approach by the CAA completely ignores:

- That Heathrow is a regulated business and the role of regulation in limiting returns on the upside. This is further reinforced by the capacity constraints that have limited any potential Heathrow volume upside for a number of regulatory periods. It is not appropriate to have a regulatory regime with limited upside exposure and unlimited downside exposure; and
- The balance between the level of risk and the allowed WACC.

186. The expectations of investors in regulated companies are different. Annex 3 shows that the UK regulation is underpinned by the fundamental commitment of return of capital employed. Whist equity should not be protected from losses arising from poor performance, the Covid situation is outside of management control. Consistent with the fundamental principle of returning capital, this circumstance should not lead to loss of capital.

187. The allowed WACC in a determination implies a limited level of volatility in returns consistent with the market volatility in returns for a company with the same equity beta. The backstop of regulation means, as argued above, that investors would expect the regulator to intervene if actual returns exceptionally diverged away from this level. Given:

- That the reasonable volatility in returns associated with Heathrow's Q6 WACC (see below) is not consistent with losses of the magnitude that lead to non-recovery of regulatory depreciation; and

- That the CAA specified they would take action in exceptional circumstances at Q6;

- We therefore do not consider it is credible to argue that investors would not expect recovery in the face of an exceptional circumstances.

188. In addition, we note that no regulator has ever stated that the return of equity (as opposed to return on equity) is at risk in the event of an exceptional shock or circumstances. Therefore, we do not understand why the CAA considers that investors would have considered this to be the view of a regulator or how that view would comply with their duties as a regulator.

Allocation of depreciation between debt and equity

189. The split of depreciation into debt and equity elements is not based on any regulatory precedent, nor is it based on sound corporate finance principles or practice.

190. Debt holders expect to recover the amounts that they have lent. However, the timing of these claims is not necessarily matched to the timing of depreciation and in practice repayments are often funded by new debt, rather than operating cashflow. Lenders therefore rely on the long-term ability of a company to finance its functions to underpin recovery, and in particular upon the strength of the equity buffer to protect its investment.

191. It is important to note however, that debt has no recourse to equity beyond the value of the equity holding. If the losses faced by equity are large, the value of the equity holding can become worthless at which point there would be no equity buffer and debt investors would have no recourse.

192. Without confidence in the equity buffer the ability of a company to finance itself other than through operating cashflow disappears. The CAA appear to believe that protecting an element of depreciation related to the 'debt' part of the RAB would give creditors comfort. In practice it would not, because the lack of protection for equity could undermine confidence in the equity buffer, and the extra operating cashflow provided is unrelated to the timing of debt claims as they arise in practice. This means that the risk of non-recovery could be substantial. Given this, it does not make sense to allocate depreciation into debt and equity elements. Instead the CAA must consider the overall risk reward balance.

Building Block Approaches

193. The CAA set out a building block approach in option 1C. In this section we set this approach in the context of other potential building block approaches including those set out in our response to CAP1966.

194. We note that the approach adopted by the CAA is based on the real cost of debt. This approach fails to take into account that the actual cash cost of debt is higher as the majority of debt is priced on a nominal basis. This higher cash amount will need to be paid, before any return can be allocated to equity, and therefore not taking this higher cost into account results in the returns to equity being over estimated. Given this, the debt element of return should be based on the cash cost of debt rather than the real cost.

195. Considering the interplay of the appropriate way to treat debt costs, and whether loss of return of capital is acceptable results in four potential building block approaches for assessing the potential level of loss that Heathrow might be expected to bear:

- A: Allowing recovery of opex, depreciation, and the cash cost of interest for a notionally geared company;
- B: Allowing recovery of opex, depreciation, and the real cost of interest for a notionally geared company;
- C: Allowing recovery of opex, the cash cost of interest for a notionally geared company, and 60% of depreciation;
- D: Allowing recovery of opex, the real cost of interest for a notionally geared company, and 60% of depreciation. (CAA option 1C).

196. In considering a building block approach it is important to undertake a cross check of such an approach with the return period such an impact would be expected to have under CAPM to ensure that the risk is properly calibrated. The CAA has not undertaken such an analysis. Table 3 sets out the equivalent return periods for different building block approaches.

Table 3 - Return period of different building block approaches

Approach	Revenue Loss not covered (2019p)	As percentage of revenue	Return Period under CAPM
A[1]	£295m	10%	20 years
B	£449m	15%	75 years
C[1]	£623m	20%	333 years
D (CAA 1C)	£776m	25%	2,000 years

Source: Heathrow

[1] Cash debt costs based on 2019 actual of 3.56%, compared to real equivalent of 2.0% (reflecting the proportion of IL debt)

197. Table 3 shows that under CAPM, the return period for either of the approaches that do not include full recovery of depreciation are very high, and that in the case proposed by the CAA in CAP2098 is 2,000 years. These return periods demonstrate that not allowing full recovery of depreciation is not consistent with the expected level of risk for a regulated company.

198. The analysis undertaken by the CAA uses actual debt costs for 2020 and 2021 rather than the cost of debt allowed at Q6. Using the Q6 allowed cost of debt would reduce the revenue loss amounts and percentages of revenue.

199. We consider that approach A is clearly superior:

- It ensures that the recovery of regulatory depreciation is not considered to be at risk from events outside management control and therefore underpins a fundamental regulatory principle;

- All of the other approaches have return periods for the risk that are too high and inconsistent with regulatory expectations of risk where there is an expectation that a determination will be revisited in the event of exceptional circumstances.

Assessment of Options 1B, 1C and 4 in respect of risk

200. In option 1B, the CAA propose an adjustment based on sharing the impact of the pandemic with consumers equally. The CAA have not provided justifications for:

- Why a 50% sharing rate is appropriate and provides an appropriate risk reward balance for Heathrow;
- How the approach is consistent with the Q6 WACC; or
- Why foregone dividends from 2020 and 2021 are excluded from the assessment (so that in practice Heathrow would bear more than 50% of the impact).

201. A key flaw in approach 1B is that the level of risk Heathrow is expected to bear depends upon the size of event. This is inconsistent with a Q6 WACC based on a fixed risk allocation. Moreover, the approach is not consistent with the Q6 WACC. For example, allocating 50% of the losses in 2020 to equity is equivalent to over 30% of revenue and therefore subjecting Heathrow to a 1 in 20,000 year shock based on CAPM and the Q6 equity beta.

202. Option 1C also suffers from a lack of risk calibration. The approach amounts to a revenue threshold of 25% and is equivalent to Heathrow being expected to bear variations with return periods of up to 1 in 2,000 years.

203. In our response to CAP1966 we show that a 10% revenue threshold is consistent with the existing regulation of AENA, a WACC comparator for Heathrow and with the traffic risk sharing in NERL's licence (4.4% revenue downside) once adjusted for operational gearing.

204. This means that a revenue threshold of 10% is consistent with:

- Regulatory precedent and market evidence for the WACC for Heathrow;
- With exceptional circumstances needed regulatory adjustment relating to risks likely to occur less often that once every 20 years; and with
- The important principle of properly recovering regulatory depreciation.

205. This demonstrates that a 10% revenue threshold is an appropriate threshold for risk for Heathrow and consistent with the Q6 WACC.

Measure of Risk

206. In order to implement a risk sharing mechanism it is necessary to have a metric by which the outturn and forecast can be compared. The CAA has not addressed this specifically in its consultation, and we believe that it is helpful to consider this carefully. We set out an analysis of the options in our July submission, but it is clear that the CAA has not explicitly considered

this issue as they use implicitly different options for approaches 1B and 1C. For completeness we address the options again here:

- Using passenger numbers compared to forecast;
- Using revenue compared to forecast (as proposed in option 4 and the RBP);
- Using EBITDA compared to forecast (as implicitly adopted by the CAA in option 1C); and
- Using cashflow to equity (as implicitly adopted by the CAA in option 1B).

Passenger Numbers

207. A key advantage of using passenger numbers as a measure of risk is that they are the most exogenous of the possible measures and therefore the least able to be mitigated by management action. However, the difficulty with using passenger numbers is that a variation in passenger numbers needs to be converted into a financial amount, and the relationship between revenue and passenger numbers is complex. Factors leading to this complexity include:

- Load factor differences can lead to changes in the balance between income from landing charges and departure charges;
- Changes in surface access can lead to big differences in surface access income per passenger (e.g. car parking, HEX etc); and
- Retail can be impacted by restrictions on opening that mean even those passengers travelling will not contribute to retail income.

208. In 2020, passenger numbers fell by 73%, whereas revenue only fell by 63% as the combination of factors resulted in more income per passenger than in the forecast. However, other situations could have led to lower income per passenger and the experience of 2020 cannot be considered as potentially typical of the relationship between passenger numbers and revenue.

209. Given this complexity in the relationship between passenger numbers and revenue, we consider that passenger numbers are not as good a measure of the impact of the risk as using revenue directly would be.

Revenue

210. In contrast to using passenger numbers as a risk measure, using revenue results in a direct financial measure of the impact of any exceptional circumstances on Heathrow. It automatically takes account of issues such as the balance of landing and departure charges and whether there are additional impacts in surface access or retail revenue. In addition, revenue is direct to measure and compare to a baseline and therefore is straightforward to use in an ex-ante approach that can support financing. Incentives to maximise revenue can be retained by setting an appropriate recovery rate (see below).

211. The regulation of Heathrow is based on a single till, and therefore the relevant revenue is both aeronautical and non-aeronautical revenue. Revenue from ORCs should be excluded

as over and under recoveries of ORCs are passed on to airlines and other users in subsequent years through an existing mechanism and Heathrow makes no return on ORCs so they are not linked to return assumptions

212. The use of revenue is also consistent with the regulatory recovery models of other airports across Europe.

EBITDA

213. The use of EBITDA as a measure of risk has the advantage that it reflects the net operating impact on Heathrow. This is the approach that the CAA implicitly adopted for option 1C. However, using EBITDA in this way reduces any incentive on Heathrow to mitigate its losses by reducing costs or developing new sources of revenue. This means it is less consistent with the CAA's duty to promote economy and efficiency. In addition, the overlap with costs associated with ORCs means that this approach is not as straight forward as revenue and requires careful cost allocation, at a minimum adding complexity.

Cashflow post interest and tax

214. The CAA's option 1B implicitly uses cashflow post interest and tax as a measure of risk as it is based on the impact on gearing of an initially notional financed company. Such an approach has the downsides of EBITDA in terms of incentives for efficiency and economy in respect of revenue and operating costs, but also reduces incentives to manage financing costs. In addition, using this basis as a measure or risk could resemble profit protection to some external stakeholders. Furthermore, such an approach is much more complicated to implement as it requires a number of assumptions in respect of parameters that are notional rather than real. Given this we consider that this option is significantly less appropriate than using EBITDA.

Conclusion on risk measure

215. Given this analysis we consider that revenue is by far the best variable to use to measure the impact of risk. Unlike passenger numbers, it does not require potentially inaccurate assumptions around income per passenger. It is easily and directly measured and can be used without impacting the incentives to respond efficiently and economically.

Cost Savings

216. In its consultation the CAA has raised the issue of how to deal appropriately with cost savings made during the pandemic. This is an issue for risk measures based on passenger numbers or revenues. It is not an issue for approaches based on EBITDA, or post-tax cashflows as these automatically account for cost savings.

217. In the section above we demonstrated that an approach based on using revenue as a risk measure had the most desirable properties. However, a revenue approach requires an appropriate adjustment to account for cost changes that would be reasonably expected to occur with the change in revenue.

218. In our response to CAP1966 we set out the regulatory incentive issues that arose from having a mechanism that reflected actual reductions in cost. We noted that the airport cost base is largely fixed, and that the recovery rate of 0.95 we included in our proposal for revenue beyond the threshold automatically made some adjustment for cost savings as passenger numbers and revenues fell.

219. Subsequent to that response, we have considered this area further in respect of the appropriate traffic risk sharing mechanism for H7. An appropriate risk sharing mechanism should include an adjustment to reflect either potential cost savings or additional costs if revenues fall or increase above the risk threshold. Making explicit adjustments for changes in actual operating costs results in inappropriate incentives – the airport lacks a proper incentive to drive efficiency if all changes in costs are simply reflected directly. Therefore, a preferable approach would be to adjust the recovery rate (beyond the threshold) so that it was matched with the likely sensitivity of costs, for example to changes in volumes.

220. It is possible to calculate such a recovery rate using the opex elasticity we included in the IBP and RBP. In addition, we now have final data on the cost savings that were achieved in 2020. We have therefore made assessments of the rate at which cost savings would be expected to be made against revenue based on the elasticities included in our RBP modelling and also on the cost savings actually made in 2020.

- Using the IBP short run opex elasticity of 0.39 results in an expected variance of £0.14 in cost reduction for every £1.00 reduction in revenue[13];
- Actual cost savings for 2020 were 15% of revenue losses;
- Excluding ORC revenues and costs, actual cost savings were 14% of revenue losses.

221. The resulting matched incentive rates are set out in Table 4.

Table 4 - Cost matching recovery rates

Approach	RBP Opex elasticity	Total opex savings compared to revenue losses	Opex savings compared to revenue losses excluding ORC revenue and costs
Equivalent recovery rate	0.86	0.85	0.86

Source: Heathrow

222. Table 4 shows that a recovery rate of 0.86 would match both the theoretical elasticity-based rate of expected cost savings with revenue loss, and also the actual ratio of opex savings to revenue savings (excluding ORCs). It is appropriate to exclude ORC revenue and costs as the ORC revenue is excluded from our proposed adjustment mechanism, and cost savings from ORCs are passed directly back to airlines.

223. Given this we propose that the recovery rate to include in the H7 traffic risk sharing mechanism and for calculating the appropriate RAB adjustment for the impact of Covid in 2020 and 2021 should be 0.86 rather than 0.95 as set out previously. This rate ensures that appropriate levels of cost saving are implicitly assumed in the mechanism whilst retaining the necessary incentives to manage costs appropriately.

[13] Applying the elasticity of 0.39 to 2020 forecast revenues of £2,786m (exc ORCs) and costs of £998m (exc ORC costs) results in a cost to revenue ratio of 0.14

Historic/Future performance

224. In CAP2098 the CAA identify the potential need to adjust for previous outperformance in Q6 but do not develop this beyond the analysis set out in CAP1966 nor address the points that we made in response to CAP 1966.

225. A key context for Heathrow is that it had underperformed the regulatory settlement in aggregate over the past. In our July submission we showed that on average returns between 2003 and 2019 were 0.6% below the WACC allowed by the CAA. Recent performance in Q6, a period during which there was an extended boom in aviation, should be set in this longer context. Recent good performance has not made up for previous underperformance.

226. We set out a detailed discussion of this issue in our response to CAP1966. It is disappointing that the CAA has not yet engaged on the substance of this issue and the evidence presented. In our CAP1966 response we set out a number of arguments that need to be addressed. We do not repeat them in full here but in summary the key issues are:

- The right period needs to be used for assessing performance;
- The approach needs to be appropriate in terms of regulatory consistency and incentive properties;
- Performance needs to be calculated in the right way;
- The impact of any past performance on consumers needs to be considered; and
- Any resulting adjustment for performance needs to be made in the right way.

227. It is not clear why the CAA consider that only Q6's historical performance is relevant. It would be just as valid to consider the current period was iH7 i.e. just 2020 and 2021, and that the Q6 performance was that of a previous period. We consider that as a company with an equity beta of above 1.0, returns would be expected to be above par during good times and below in bad times. Given this, if past performance is to be considered, it should be considered over the whole economic cycle. In our response to CAP1966 we showed that on this basis Heathrow had underperformed through the cycle by £0.3bn.

228. A key aspect of any adjustment for Q6 is that it would be capricious and asymmetric. It is doubtful the CAA would have raised an issue in respect of previous performance if Heathrow had underperformed earlier in Q6. Moreover, such an approach has a chilling impact on incentives in a forward-looking risk sharing approach and leads to significant time inconsistency with the impact of the mechanism becoming inconsistent and unrelated to the underlying risk.

229. We also showed in our response to CAP1966 that the CAA had calculated outperformance in an inconsistent manner that did not take all factors into account. In our response to CAP1966 we set out a range of alternative approaches to estimating outperformance that resulted in materially different estimates.

230. In addition, the CAA has not considered the impact of Heathrow outperformance on consumers during Q6. In particular:

- Service levels were the highest they have ever been with passengers regarding Heathrow as the best large airport in Europe;
- The congestion premium at Heathrow meant that any short-term economic outperformance was not leading to higher fares for consumers as lower airport charges would not have been passed on; and
- The significant congestion premium at Heathrow and the higher number of passengers meant that airlines accrued the vast majority of the benefits arising from the higher passenger numbers that led to good performance.

231. Given these broad impacts it is not clear that any retrospective adjustment needs to be made.

232. Finally, it is important to consider the sources and allocation of risk that is being addressed in any approach. In general Heathrow's performance should be measured over the whole economic cycle. However, in practice variations relating to the impact of the economic cycle are likely to be well below the risk threshold proposed. This can be seen in the global financial crisis in 2008-2010 where the revenue shortfall did not exceed the proposed risk threshold of 8%. Therefore, it is clear that the risk sharing mechanism proposed is not intended to manage normal economic risks and the economic cycle or to adjust for out/under performance which has been caused by management action or inaction, but to manage exceptional circumstances beyond management control. Given this, we do not consider it is appropriate to adjust for variations in years where the performance was within this range. We set out this issue further in the next section.

Approaches for adjusting for outperformance

233. In considering potential adjustments for performance, it is useful to be clear about what the performance is being compared to. In particular, it is useful to think of the 'risk band' – the amount of risk that Heathrow is expected to bear in any one year, and the 'recovery amount' – the amount of compensation for risk materialising beyond the risk band. For example, based on our response to CAP1966 the risk band would be the first 8% of expected revenue either side of the forecast, and the recovery amount would be 95% of the revenue difference beyond the risk band.

234. It is also important to think about the impact of any approach for adjusting for performance on forward looking risk sharing mechanisms and to ensure that the approach does not result in incorrect incentives or in risk thresholds that in effect can vary and are therefore not consistent with assumptions underpinning the WACC.

235. There are essentially three approaches that can be used to adjust for performance:

- Only take account of performance outside the risk band (i.e. outperformance only taken into account if over the 8% revenue threshold in any one year);
- Offsetting any outperformance first against losses up to the risk band, and only then against any recovery amount; or
- Calculating a recovery amount and then adjusting for outperformance.

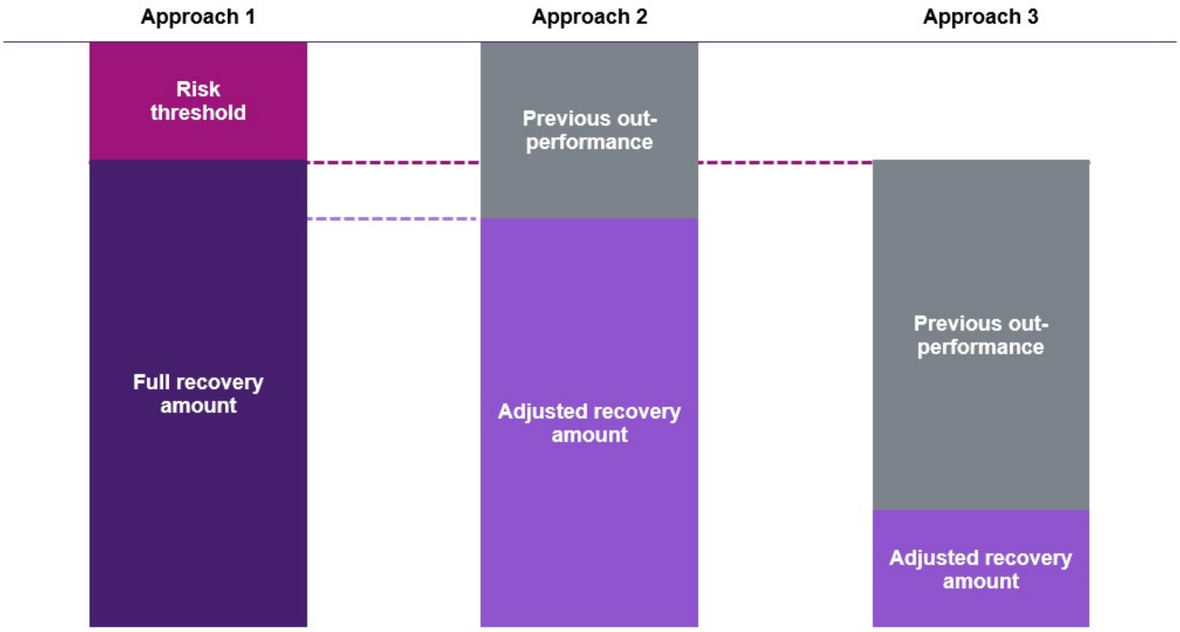
236. The first approach is the one we have proposed for H7 in our RBP. This makes no adjustment for performance within the risk band, and would total performance outside the band within a

regulatory period. If underperformance beyond the risk threshold in one year was followed by overperformance in a later year, then the recovery amounts from each incident would potentially offset.

237. We consider that this is the correct approach for outperformance as it treats the risk threshold symmetrically, and performance in one year has no impact on incentives for later years. The approach is symmetric, time consistent and has consistent risk allocation. It also ensures that the mechanism is only used for exceptional circumstances.

238. Figure 1 illustrates the remaining two approaches.

Figure 2 - Illustration of approaches to outperformance



Source: Heathrow

239. The second approach offsets any previous outperformance first against the risk band absorbed by the company, and only then makes an adjustment to the recovery amount if the risk band absorbed is less than previous outperformance. For example, under Heathrow's proposed 8% revenue threshold, the total risk band for Heathrow in 2020 and 2021 is £426m (2018p). In this situation only any outperformance above £426m would be removed from the recovery amount.

240. There are many substantial weaknesses with this second approach:

- The right period for assessing performance in the round is arguable (see above) and the approach can lead to arbitrary clawback of performance in prior years;
- The approach can lead to time inconsistency with outcomes at different times having different impacts;
- The approach results in conflating economic risk that Heathrow is expected to bear with risk from exceptional circumstances that it should not bear;

- The approach is likely to lead to asymmetry, as previous underperformance is unlikely to be used to increase the recovery amount; and

- The approach is not appropriate for a future risk sharing mechanism as it leads to bad incentive effects whereby incentives for future outperformance can be lost. For example, underperformance in year 1 of H7 could trigger a recovery amount that then would be eroded by outperformance in later years. No good regulator would implement an approach with such a property.

241. The third approach offsets any outperformance directly against the recovery amount and takes no account of the risk threshold. This appears to be the approach being considered by the CAA. In addition to all of the weaknesses of the second approach, this approach also suffers from treating underperformance up to the risk threshold in a different way to outperformance under the risk threshold. Effectively, it does not allow small outperformances in one year to be offset by small under performances in other years. This is arbitrary and not based on any sound regulatory principles.

242. Of the thee options, only the first is consistent with the better regulation principles and the CAA's duties towards finance and efficiency. Under this approach no adjustment would be required for Q6 because Heathrow did not exceed the 8% revenue risk threshold during the period.

243. Overall, we conclude that no adjustment for historic outperformance is required in H7 because:

- Heathrow has not outperformed over the economic cycle; and

- That under an approach suitable for addressing in period variations, there is no requirement for adjustment as Heathrow did not out-perform by more than the risk threshold in any year in Q6.

Heathrow's Proposed Approach

244. For completeness, we set out our proposed approach for to the RAB adjustment for the March decision and as part of H7. [14]. This is intended as a package of measures, in which Heathrow has sought to respond constructively to the CAA's thinking in CAP2098 and elsewhere.

245. As part of their decision at the end of March the CAA should set out:

- A proposed policy change to remove regulatory depreciation for 2020. (£800m in 2018 prices);
- Its intention to introduce risk sharing for the H7 period and to apply that risk sharing to the outturn during Q6/iH7;
- That it will calculate an adjustment arising from the risk sharing for Q6/iH7 and then add the amount of that adjustment above 2020 depreciation (that has already been adjusted) to the RAB from the start of 2022.

246. For H7, the CAA should introduce a risk sharing approach and apply an equivalent reconciliation on the outrun from Q6/iH7 through a RAB adjustment for the start of 2022. The risk sharing should be based on a symmetric approach:

- Heathrow bearing 100% of revenue risk of variations in revenue up to 8% either side of forecast revenue;
- Heathrow bearing 14% of revenue risk for variation from forecast revenue beyond 8% (i.e. a recovery rate of 0.86);
- A recovery amount would be determined for each year that revenue was outside the 8% threshold with the final RAB adjustment reflecting the NPV of the sum of the amounts. This means that the recovery amount from underperformance in a particular year may be offset by the recovery amount from outperformance in a different year, but that variations in revenue that are less than 8% from forecast are excluded;
- The approach would include a final adjustment at the start of 2023 to reflect the difference in outturn of 2021 compared to that assumed for the H7 decision.

247. Table 5 sets out the amounts of revenue lost and proposed to be included in the RAB adjustment for the TWV and PR traffic scenarios. Actual amounts should vary based on actual outcomes in line with the principles established.

[14] This is as an alternative to a one-off RAB adjustment, which we continue to believe would be a viable, appropriate way of responding to the circumstances of the COVID pandemic

Table 5 - Amounts to be recovered under proposed approach for different traffic scenarios

£bn (2018p)	TWV	PR
Revenue Loss	3.27	[REDACTED]
Loss Borne by Heathrow	0.68	[REDACTED]
Recovery Amount	2.59	[REDACTED]

Source: Heathrow

248. In the following paragraphs we set out why this approach is consistent with the CAA Objectives set out in CAP2098 and why it is therefore in the interests of consumers for the CAA to take this approach.

249. The difference between the approach set out above and that set out in our response to CAP1966 are:

- No explicit removal in advance of regulatory depreciation for 2021. The statement of the intention to apply an appropriate TRS for Q6/iH7 that is the same for H7 will provide the market confidence that the 2021 depreciation removal was intended to achieve; and the timing of such removal would be very similar (i.e. early 2022).

- Increasing the risk share of Heathrow beyond 8% revenue from 5% to 14%. This is based on the latest evidence on actual costs and results in the TRS producing a balanced hedge for expected reductions in operating costs whilst retaining appropriate incentives on Heathrow to manage costs and revenues appropriately.

Assessment of Heathrow's approach using CAA Objectives

250. We consider that the approach we propose is optimal for consumers and will lead to the best long-term outcome for them. In this section we assess our proposal against each of the objectives proposed by the CAA.

251. In Section "CAA Objectives" we set out our view that the CAA objectives were not complete and did not fully address the CAA's duties of financeability, economy and efficiency, or alignment with the better regulation principles. Accordingly, we also assess our proposal against these additional requirements.

Objective 1: Protect consumers by avoiding undue increases in the cost of equity finance

252. In our response to CAP1966 and RBP we set out robust evidence that showed the RAB adjustment we proposed would reduce the increase in WACC resulting from Covid by 1.5% pre-tax, i.e. from 9.5% to 8.0%.

253. Evidence from Economic Insight shows that the magnitude of the WACC reduction we have estimated is consistent with market data on the impact on share prices following announcements of Government aid for a number of firms. Economic insight showed that aid amounting to 10% of revenue lost decreased equity betas by 0.0298 and asset betas by

0.0264.[15] This compares with the relationship implied by Heathrow's analysis of 0.047 for equity beta and 0.019 for asset beta. Economic Insight have identified that caution should be applied before assuming the data is precise for Heathrow's situation. Nevertheless, the empirical evidence supports the order of magnitude of the effect identified by Heathrow.

254. This benefit can only be obtained by both making an adjustment for the outcome in 2020 and 2021 and putting in place an equivalent risk sharing mechanism for H7. Putting a risk sharing mechanism in place for H7 without applying to iH7 would not result in a reduction is the level of risk perceived by investors (see Section "Why H7 risk sharing must be applied for iH7"). Without this reduction in risk, the cost of equity would not be lower.

255. A smaller adjustment than that proposed by Heathrow would lead to a smaller impact on the WACC, and therefore would not mitigate the impact on WACC and cost of equity finance appropriately and with full benefits for consumers. Equally, if the CAA fails to implement our proposed RAB adjustment, the only logical outcome is a higher WACC at the H7 decision point.

Objective 2: Protecting consumers from the consequences of HAL experiencing difficulties with raising debt

256. Our proposal includes an immediate waiver of 2020 regulatory depreciation and that the CAA commit to adopt an appropriately calibrated Option 3 or 4 during H7. We set out why this is critical to enable Heathrow raise debt efficiently and economically in Sections "Compliance with Heathrow Covenants" and "Risk of Credit Rating Downgrade and access to finance".

257. These Sections show that urgent action is required by the CAA to underpin the confidence of investors in the Regulatory framework and help ensure Heathrow can maintain compliance with its covenants, help avoid a downgrade in Heathrow's credit rating, and help ensure Heathrow can continue to access the debt markets efficiently.

258. If action is not taken now, then the likelihood of a credit rating downgrade is much higher, and the [REDACTED]. This could significantly curtail Heathrow's access to debt finance and significantly increase its cost.

Objective 3: Promoting affordable charges in H7

259. The potential impacts on H7 charges depend upon what actions the CAA takes now as well as those during the H7 process.

Immediate Decisions

260. Any action the CAA take immediately would have no permanent impact on the choices they could make at H7 in terms of the RAB adjustment or other elements of H7 decision. Therefore, taking appropriate early action as we have requested does not impact charges negatively for H7.

261. In contrast, taking no action now could lead to a downgrade in Heathrow's debt and a loss of confidence in Heathrow by the debt market. This would result in much higher debt costs, potentially for an extended time (i.e. at least the duration of H7). This would need to be

[15] Economic Insight, IMPACT OF EX-ANTE MECHANISMS ON INVESTOR RISK PERCEPTIONS, Jan 2021

reflected in the H7 cost of debt leading to higher charges for airlines. Action now as we have requested would significantly mitigate this risk and protect consumers from higher charges in H7.

Decisions as part of H7

262. In the RBP we set out the impact on charges for scenarios that included and excluded a RAB adjustment in line with our proposals. This demonstrated that a without a RAB adjustment, bills would be £8.5 higher in H7, despite significantly lower levels of investment.

263. Of this difference, £7.4 relates to lower depreciation in the case with a RAB adjustment, and £1.1 relates to the net impact of the higher WACC partially offset by the lower RAB in the no adjustment case. This demonstrates that even before the depreciation adjustment, the case with the RAB adjustment is lower cost to consumers than taking no action would be.

264. In the consultation, the CAA appear to consider that it will be possible to reduce regulatory depreciation significantly in a situation where there has been no RAB adjustment. This is based on a faulty analysis in Appendix F of CAP2098A (see Annex 4). This analysis is flawed as it does not consider the constraints on depreciation adjustments that we set out for the no adjustment case (see Annex 4 paragraphs 20-25). In this situation Heathrow is constrained by the need to return gearing to pre-pandemic levels thereby restoring financial resilience and financial efficiency.

265. The requirement to restore gearing to its initial level is not a feature of Heathrow's specific actual level of gearing. It is a consequence of needing to restore financial efficiency and resilience. As such, it would occur irrespective of the initial level of gearing. Economic Insight show that such a return of gearing to initial levels is typical for a wide range of companies following a financial shock[16].

266. If no RAB adjustment is made the starting position in respect of gearing is further away from target, and cashflows would be lower due to a return on a smaller RAB. Consequently, the action required to achieve the gearing change would be higher, and the ability to deliver it lower. Reducing depreciation acts to increase gearing (each £1 of gearing reduction adds £1 to RAB with a marginal gearing of 100%) and there is simply no scope to include a depreciation reduction that has this impact on gearing in a situation where gearing needs to be reduced to this scale.

267. The CAA has also failed to consider the impact on investment that a large depreciation adjustment would have. Capital expenditure also acts to increase gearing at a marginal 100% for every £ spent. A large depreciation adjustment in conjunction with gearing above target would result in a very strong incentive to reduce investment, irrespective of the level of WACC. Economic Insight show that increases in gearing following a financial shock tend to lead to significant reductions in investment[17]. To have such a disincentive would not be in consumers interests and not consistent with the CAA's duties.

268. Above all, Heathrow will not accept a depreciation adjustment in a situation where the impact of Covid has not been sufficiently addressed and such a reduction would reduce financial efficiency and resilience.

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[16] Economic Insight, Need for Gearing Recovery, March 21
[17] Economic Insight, Need for Gearing Recovery, March 21

269. As a consequence, bills will be significantly lower for consumers if the CAA adopt the approach we propose.

Objective 4: Protect efficient investment and service levels

270. The potential impacts on H7 charges depend upon what actions the CAA takes now as well as those during the H7 process.

Immediate Decisions

271. As set out earlier in the response, an adjustment as proposed using our mechanism would allow us to increase investment in 2021 and protect and improve service levels for consumers. Making the proposed adjustment in 2021 to remove depreciation could allow us to restart projects which have been paused or deferred due to the impact of Covid-19. This would impact both our ability to meet current service quality targets in 2021 and through to the start of H7 by bringing forward deferred asset maintenance and replacement spend and would allow us to deliver increased consumer benefit through investment in key programmes delivering service improvements which consumers have told us are important to them.

272. Increased investment in 2021 would deliver the initiatives listed below, the benefits of which are explored in more detail earlier in our response:

- Earlier than scheduled commencement and completion of the Security Transformation programme, allowing the key benefits of a quicker and easier security experience for consumers to be delivered up to 18 months earlier than would be the case with an adjustment at the start of H7.

- Recommencing of key paused projects which will help us to deliver additional automation through the airport journey and enable touchless journeys for consumers and deliver efficiencies for our airline partners.

- Completion of critical maintenance in Terminal 4 to ensure a safe return to passenger service earlier than currently planned.

- Acceleration of investment in sustainability including ATM and ground efficiency projects which will increase predictability and reliability of operations, energy saving projects to reduce future costs, electric vehicle charging providing infrastructure for consumers and colleagues, investment in pre-conditioned air and investment in solar power.

- Acceleration of work on the CTA tunnel to allow for delivery up to eight months ahead of schedule allowing for both an increase in journey predictability and reliability and reduced programme costs with a saving of up to £6.5m.

273. A RAB adjustment in 2021 could also allow us to restart a number of initiatives which require an opex, rather than capex, investment. These include:

- An earlier commencement of recruitment of security colleagues in order to ensure that we have the capacity to serve a larger number of passengers should demand recover faster than expected or peaks occur over the next year.

- A restoration of the Heathrow free travel zone from Q4 of 2021, rather than the current planning for 2022 at earliest, to ensure that colleagues and passengers have access to free and subsidised public transport in and around the airport more quickly.

- Restart noise and vortex activity to offer noise insulation support to local residents who have been put on a waiting list.

274. In addition to restarting and accelerating activities for the benefit of consumers, airlines and our local community a RAB adjustment in 2021 following Heathrow's proposed mechanism would allow us to restart deferred expenditure on asset maintenance and replacement, helping us to ensure that we meet our SQRB targets in 2021 and through the H7 period. Absent the ability to carry out much needed asset replacement activity in 2021, we will have to further defer expenditure into the H7 period. This would lead to both a drop in asset reliability, and a consequential risk to our performance against asset availability metrics, but would also mean that we would have to take a number of assets out of service in the same timeframe to carry out the required repairs and renewals during H7, further impacting our service quality.

275. It is important to note that ensuring the safety of colleagues and passengers will always remain our top priority. In the current circumstances, this trade-off between the investment which can be made and the need to ensure safety of passengers and colleagues is heightened. Furthermore, Government interventions mean that more capacity and therefore increased cost is needed to serve passengers safely in line with social distancing requirements and ensure travel restrictions are properly enforced. This means that, absent a RAB adjustment in 2021 we may need to restrict capacity in order to balance safety and affordability. The net result will be consumer harm from reduced functional capacity as we ensure there is no impact upon the safety of operations.

Decisions as part of H7

276. In our RBP chapter 10.2 – Outcomes - Next Steps we set out the potential impact on service quality of the CAA making no adjustment to Heathrow's RAB in either 2021 or through the H7 process. It set out that, in a no adjustment scenario, Heathrow's capital plan would reduce to under £2bn and, while we would continue to invest to ensure a safe and secure operation, we would not be able to make the welfare enhancing investments set out in our central case.

277. Under this case, consumer outcomes are materially worse than our RBP mid case with Heathrow being unable to improve service in any area. Such a scaled back capital plan would also pose risks for the maintenance of current service levels, in particular in regard to overall passenger satisfaction with their experience at Heathrow.

Figure 3: Consumer outcomes under RAB adjustment scenarios

Source: Heathrow

278. In contrast, Heathrow's proposed £3.5bn capital plan under an adjustment scenario would allow us to deliver service improvements in targeted areas through the H7 period and improve on the delivery of key outcomes to consumers. Some of these key improvements include:

- Increase in departures punctuality from 78.4% in 2019 to 80.5% in 2026 through key investments in our Automation and Digitalisation programme. Ensuring passengers have a predictable and reliable journey is a key consumer outcome and improvements in punctuality were some of the most valued service improvements from our willingness to pay exercise. Key projects within this programme include investment in automating the airfield, such as automated stand and gate allocation, investment in extended timewise separation and investment in automated solutions to reduce queueing, such as predictive analytics and personalised notifications. Our updated WTP evidence shows that departing passengers value a 2% increase in punctuality at around £5 per passenger. This demonstrates the scale of consumer benefits at risk if these punctuality related investments cannot be funded.

- Reduced baggage misconnect rates from 9/1000 in 2019 to 7/1000 in 2026 through investment in enhanced service and resilience as part of our Future Ready Airport programme. Reducing baggage misconnect rates was of high value for passengers in our WTP evidence, being rate as one of the top valued improvements.

- Increased Passenger Experience rating from 4.24 in 2019 to 4.26 in 2026 through investment in service as part of our Future Ready Airport programme. Through this capital allocation we would be able to make targeted investments in the services that passengers prioritise. The investments include security process improvements, greater variety of options to relax at the airport (e.g. seating) improvements in immigration, more efficient connection journeys, increased use of automation across the passenger journey, putting passenger in greater control through more digital and real-time information, more frontline staff available to support passengers when they need them. We will keep consumer priorities under review through the period in order to identify the right investments to increase passenger experience.

279. In addition to these improvements, our proposed £3.5bn capital plan allows us to maintain our current service levels across the rest of our service measures for the H7 period. In contrast a £2bn portfolio would put some of these service levels at risk and could lead to degradations in service in the following areas:

- Overall Passenger Satisfaction levels at Heathrow instead of increasing to 4.26 in 2026 will fall to 4.23 or lower due to:

  i) Wayfinding – historically when we haven't been able to maintain, refresh and improve wayfinding throughout the passengers' journey, this this has resulted in passenger satisfaction levels begin to decline until this investment is made. In the £2bn we will not able to fund this continuous investment in wayfinding. Historically this has resulted on average a 0.08 decline in wayfinding satisfaction levels. With limited wayfinding investment as part of the £2bn capex plan the H7 Wayfinding target would need to reduce to 4.10.

  ii) Security – without the proposed capital spend on security transformation in H7 as part of the £3.5bn alongside the additional measures that have been introduced due to Covid-19, we expect that the average security waiting time for passengers will increase by 2026. Historically we have seen that each additional perceived minute spent in security reduces ratings for security waiting time by 0.06. The impact of an average increase on overall departures satisfaction would be 0.003. In this scenario we would proposed that the target for queue times for H7 is reduced to 90% of passengers within 5 mins instead of 95%

  iii) Wi-Fi - Over the years when Heathrow hasn't invested in Wi-Fi in line with improvements in wider Wi-Fi technology, we have found that passenger perception of the service begins to decline. This then recovers once we launch an enhanced service offering that is in line with or above the Wi-Fi experience they are experiencing away from the airport. A lack of investment in Wi-Fi through the H7 period should be expected to produce a similar decline in satisfaction levels for Wi-Fi of 0.07. This will result in overall satisfaction levels declining by 0.003. With no Wi-Fi investment in the £2bn capex plan the H7 Wi-Fi target would need reducing to 3.95 to reflect Heathrow's lack of ability to keep up with wider market developments.

- Overall Passenger Satisfaction in 2026 could be lower than 4.23 if we are not able to invest both capex and opex during H7 to support our partners in maintaining the average 2019 queuing levels in check-in or immigration. With each additional minute of additional average queuing time at check-in reducing overall Departures satisfaction levels by 0.001 and an additional minute in immigration impacting overall Arrivals satisfaction by 0.03.

- Reducing investment available for asset maintenance would impact our ability to meet current asset availability targets in the £2bn plan as we will need to extend the asset life across the airport increasing the risk of faults and failures. This could leave us unable to deliver on the key consumer outcome of providing a predictable and reliable journey, as it lowers Heathrow's ability to consistently meet the 99% availability targets for H7 for Lifts, Escalators and Travelators, Stand Facilities, Stand Availability, TTS, Stand Entry Guidance and Baggage Reclaim Belt. In the £2bn plan we would propose reducing the target levels for these measures to 97% to reflect the increased chance of asset failure resulting from asset working beyond their expected end of life.

Impact on Expansion

280. The decision by the Supreme Court has reinstated the ANPS and removed barriers to expansion of Heathrow by adding a third runway. Analysis by the airports commission and DfT showed that expansion would deliver huge benefits to consumers. We remain convinced that the economic case for expansion remains strong and expansion would deliver significant benefits to consumers in the future.

281. However, in the event of no adjustment, Heathrow would not be able to finance expansion during H7. Additional Government aid or significant pre-funding would be required to enable it to go ahead in this period. Avoiding an adjustment therefore risks leading to a significant delay in expansion and the well-understood benefits of increasing the UK's hub airport capacity. Based on previous estimates, including those made by the CAA, each additional year of delay in delivering expansion leads to billions of pounds of lost value for consumers.

Additional Objectives identified by Heathrow

282. In Section "CAA Objectives", we identified that the CAA objectives were not complete. In particular, they did not adequately address the CAA's financing duty, the economic and efficient duty, or the need to have regard to the better regulation principles, in particular consistency. We assess our proposal against these criteria.

Financing Duty

283. The CAA has a duty to secure that Heathrow is able to finance its provision of airport operation services. Meeting this duty requires that both equity and debt are financeable. Equity financeability is especially important in exceptional circumstances where debt investors are dependent upon the equity buffer to support their investments.

284. The approach we have proposed directly addresses this issue, both in the short term and the long term.

285. In the short term, the approach we propose of removing regulatory depreciation for 2020 and setting out the intention to apply Option 3 or 4 at H7 would provide an element of comfort to debt investors and rating agencies. Without such an intervention, the likelihood of a credit

rating downgrade is much higher, the [REDACTED], and the risk that Heathrow would lose access to the debt markets would increase significantly.

286. Any smaller action by the CAA in the short-term could undermine the significant benefit of an intervention now as it could be treated as a signal that the eventual H7 settlement would be inadequate.

287. In the longer term, the key to ensuring equity financeability is restoring the risk reward balance. This requires putting the right traffic risk sharing in place for H7 and applying it retrospectively to 2020 and 2021. The approach we have proposed is carefully calibrated to be consistent with the cost of capital included in the RBP; to be consistent with the reasonable expectations under CAPM for investors in a regulated business, to protect the recovery of regulatory depreciation, and to be consistent with other relevant comparators in the sector.

288. An approach by the CAA that resulted in a smaller adjustment would not be consistent with these benchmarks and therefore require a higher cost of equity. This outcome would be worse for consumers than one that set the risk balance we have proposed with its lower WACC.

Economy and Efficiency Duty

289. The CAA has a duty to promote economy and efficiency on the part of Heathrow in its provision of airport operation services. The key to meeting this duty is to ensure that the appropriate incentives on Heathrow to operate efficiently are retrained. The approach proposed by Heathrow where Heathrow bears the first 8% of revenue risk and then only 14% of the risk beyond this preserves the incentives on Heathrow to manage costs and optimise revenues. As such it is consistent with the duty.

290. In contrast, the approaches 1B and 1C set out by the CAA remove all incentives on Heathrow to manage costs and revenues during exceptional circumstances. As such, they are not consistent with this duty.

Better Regulation Principles

291. The CAA has a duty to have regard to the “better regulation” principles specified in section 1(4) CAA12. These principles require that action is targeted, proportionate and consistent and carried out in a transparent manner.

292. In CAP2098, the CAA has focussed mainly on its interpretation of the requirement to be proportionate, which we consider to be incorrect. In particular, the CAA appears to have given little weight to the requirement that it behaves consistently. We would urge the CAA to specifically and explicitly test its proposals against each of the better regulation principles as part of its decision making.

293. In CAP2098, the CAA appear to treat the requirement to be proportionate to mean that the CAA should do the absolute minimum possible (e.g. paragraph 2.29). This is an incorrect interpretation of the requirement for proportionality. It is clear that the requirement for proportionality requires the regulator to respond in a way which balances the needs and interests of affected parties and responds to them appropriately. It does not, however, include an implicit assumption that ‘proportionate’ equates to minimal.

294. For the CAA to be consistent with its requirement to be consistent it must adopt either Option 3 or 4. If it does not, then it is effectively stating that the action it would take in a future event would be different to that it is taking for 2020 and 2021 despite its duties being identical in both situations. Not only would such an asymmetric approach be in breach of the requirement to be consistent, it would undermine trust in the regulator. No investor would believe that the actions it would take in the future would be any different to those that it took today in respect of 2020 and 2021 precisely because the regulators duties would be the same.

295. In addition, the approach that the CAA takes in response to exceptional circumstances must be consistent with the approach to risk allocation and the WACC for Q6. The CAA clearly set out an expectation that the price control would be opened in the event of exceptional circumstances, and all stakeholders at this time understood that this placed a limit on the exposure of Heathrow to volume risk – both upside and downside. In addition, the deliberate and specific use of a symmetric CAPM approach requires that volume risk is limited as the large impacts experienced by Heathrow in 2020 and 2021 are far greater than could be reasonably expected under the normally distributed returns on which CAPM is based.

296. The approach proposed by Heathrow is consistent in time and is consistent with the risk allocation and WACC allowed at Q6. An approach other than Option 3 or 4 would clearly be inconsistent in time and therefore in breach of the CAA's duty. Moreover, an approach that resulted in a smaller adjustment than we have proposed would be inconsistent with the risk allocation and WACC at Q6 and also in breach of the CAA's duty.

Overall Summary

297. In this Section we have shown that the proposal by Heathrow is consistent with the objectives identified by the CAA, and also with its duties in respect of financeability, economy and efficiency, and to have regard to the better regulation principles including the need to be consistent.

298. In this Section, we have also shown that doing any less than proposed by Heathrow would result in a worse outcome for consumers, and in many cases be inconsistent with the principles set out by the CAA and its wider duties.

299. Therefore it is clear that the CAA should adopt our proposed approach in full.

Annex 1: Additional Information on relative support and investor returns

Unlike Heathrow, other airports have received significant state funded support which has offset their need to raise additional private finance or seek a regulatory intervention

1. Since the start of the Covid-19 crisis, the Aviation sector has needed to take extraordinary measures to preserve liquidity in the face of an unprecedented drop in demand. All players have looked for sources of private funding to extend their liquidity horizons and navigate the pressures induced by this crisis. However, some airlines and airports have seen their need to raise private financing partially mitigated as they have received significant financial support from governments, which has varied drastically in size, scope and distribution. Publicly announced measures (excluding the value of non-sector specific job retention measures such as the UK's furlough scheme) amount to ~£117bn to the global aviation sector (including support to both airports and airlines) in various forms such as direct grants, loan guarantees, tax relief, funding charge discounts and other liquidity provision measures.[18]

Airports, including those subject to economic regulation, have received significant state support, which has directly compensated them for losses during the crisis and supported their financing position

2. Contrary to the CAA's assertion in CAP2098, airports have been beneficiaries of a large amount of state support.[19] Since the crisis began, airports have received ~8% of their 2019 revenues from such measures, totalling nearly £13bn.[20] This has helped airports that have received state support to offset their need to seek additional private funding either through compensating them for lost revenues during the crisis, offsetting their costs or investments or offsetting their aeronautical charge to allowing them to offer discounts helping to encourage airlines to fly. It should be noted airports with some level of state ownership may also see benefit from a reduction in their need to raise private funding if they receive support through reallocation of government budgets.

3. Important state-funded measures which have been provided to airports include:

    1) The United States federal government providing support to 405 airports worth nearly £7.8bn to offset contributions to planned capital investments and compensation for lost revenues.[21] Note this programme was extended by a further ~£1.5bn, which is currently being allocated.[22]

    2) the German government's support programme to compensate large airports for losses during the crisis, worth ~ £1.2bn.[23]

    3) the Norwegian government's support programme to offset Norwegian airports' aeronautical charges worth ~£0.4bn.[24]

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[18] Various press releases, government websites and airport/airline financial statements. *N.B. value of job support / wage subsidy schemes is only included in these figures if it was included in a sector-specific package. (Excl. Cargo Airlines).
[19] CAP 2098: Economic regulation of Heathrow Airport Limited: response to its request for a covid-19 RAB adjustment, CAA, Feb 2021
[20] Various press releases and airport financial statements, ACI (2019 airports revenue est. at $172.2bn, exchange rate used: 1.00 GBP = 1.29 USD)
[21] FAA website
[22] https://www.faa.gov/airports/crrsaa/
[23] State Aid SA.57644 (2020/N) – Germany - COVID-19: Airport Scheme, European Commission, Aug 2020
[24] Credit Opinion Update - Avinor AS, Moody's, Jan 2021

4) the French government providing ~£0.1bn to compensate ADP for the loss of revenue resulting from the drop in airport tax revenues due to the crisis.[25]

4. Other individual UK airports have also benefitted from significant support from the UK government and local councils. Within the London market, Gatwick has taken up £250m from the UK government's Covid Corporate Financing Facility.[26] Stansted airport has benefitted from a £260m loan provided from councils in the Greater Manchester area to their parent company (Manchester Airport Group).[27] Additionally, Luton airport has secured a £60m loan from Luton's council.[28] Liverpool Airport has likewise received a £34m loan from Liverpool's combined authority[29], and Birmingham Airport £18.5m from Birmingham Council and other local authorities[30]. Cardiff Airport has had an injection of £80m from the Welsh Government[31]. Scottish airports have also received compensation for losses during the crisis in a package worth ~£17.2m.[32] Beyond the furlough scheme, the UK government has provided business rates relief to airports, capped at a value of £8m per site. Whilst this measure offsets up to 100% of the cost of business rates at other airports, it covers less than 7% of Heathrow's rates bill.[33]

5. It is important to note that at the start of 2021, there are several ongoing discussions between airports and their home governments to secure further state support. European airports are lobbying the EU for more universal support, in particular seeking compensation for lost revenues and unrecovered fixed costs, as well as a subsidy for charges.[34] Turkish airports are discussing a package that could be worth millions of dollars with authorities to offset an annual guarantee payment worth up to~£1.0bn[35] and Istanbul Airport is contemplating 3 years' relief from government concession fees. Japanese airports are also in discussion over a (£0.6bn) package to offset aeronautical charges and ~£0.1bn in interest free loans.[36] Therefore, airports could receive significant further support as the crisis continues.

Airports also benefit indirectly when their home carriers receive state support because they gain greater protection on revenues from airport charges

6. Airlines have been given more state support than airports, receiving more than £104bn (or 16% of 2019 revenues).[37] This indirectly benefits airports whose home carriers receive support, as these airlines are more insulated from a prolonged period of low demand. This means those airports gain greater security on future revenues from aeronautical charges, providing greater protection from the risk of lower traffic volumes However, it also highlights the inequality between the support provided to airlines and airports as a consequence of the crisis.

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[25] 2020 Full year financial results, Aeroports De Paris, Feb 2021
[26] https://www.thisismoney.co.uk/money/markets/article-9179223/Gatwick-increases-Government-borrowing-75m.html
[27] https://www.bbc.co.uk/news/uk-england-manchester-52544786
[28] https://www.bbc.co.uk/news/uk-england-beds-bucks-herts-54160169
[29] Coronavirus: Liverpool John Lennon Airport given £34m loan - BBC News
[30] Birmingham Airport to get £18.5m emergency loan - BBC News
[31] The Welsh Government is giving Cardiff Airport a huge sum of money and writing off debt (msn.com)
[32] State Aid SA.58466 (2020/N) – United Kingdom - COVID-19: Aid scheme for Scottish airports, EU commission, Dec 2020
[33] https://www.telegraph.co.uk/business/2020/11/24/business-rates-subsidy-covers-just-7pc-heathrows-120m-bill/
[34] Airports & tourism organisations urge revision of 'wholly inadequate" state aid rules, as new forecast shows industries in systemic collapse, Jan 2021, ACI Europe
[35] https://www.bloombergquint.com/business/turkish-airports-in-talks-for-state-support-amid-traffic-slump
[36] https://www.japantimes.co.jp/news/2020/12/17/business/covid-airlines-aid/
[37] Airline websites, various press releases and government websites, IATA economics – Est. 2019 Airline total revenue was $838bn (exchange rate 1GBP = 1.29 USD), Heathrow analysis

7. Examples of important packages which have been provided to boost the liquidity positions of the home carriers for major European hub airports:

   1) The German government providing ~£8.2bn in silent participation/recapitalisation and loan guarantees to Lufthansa.[38]

   2) The French government providing ~£6.4bn in loan guarantees and a shareholder loan to Air France.[39]

   3) The Dutch government providing ~£3.1bn in loan guarantees and a direct loan to KLM.[40]

   4) The UK government providing ~ £2.6 bn in an export finance loan and commercial paper/short-term loans to British airways.[41]

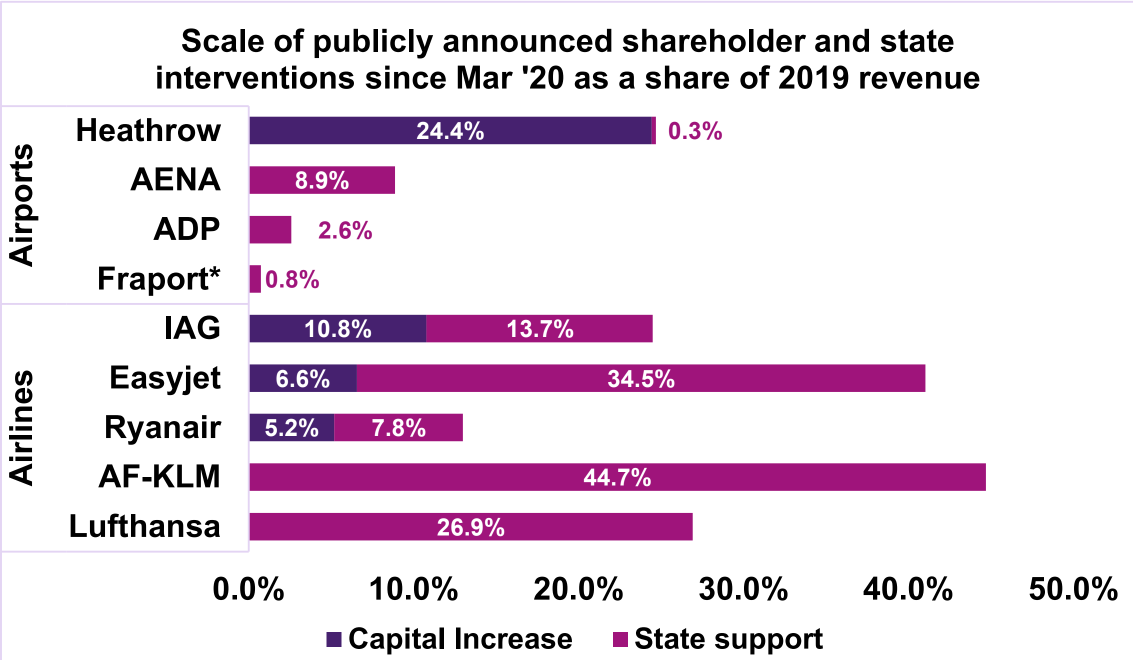
   5) The Spanish government providing ~£0.7bn in loan guarantees to Iberia.[42]

Despite receiving the least state support, Heathrow's shareholders have provided the largest capital injection of any major European airline or airport

8. Heathrow have received the smallest state support package of any major European airline or airport, resulting in experiencing the greatest pressure to raise liquidity through private means and greatest pressure on returns. Consequently, Heathrow's shareholders have provided the largest capital injection of any comparator in relative terms and compares as a measure with some of the larger state support packages that major European airlines and airports have received.

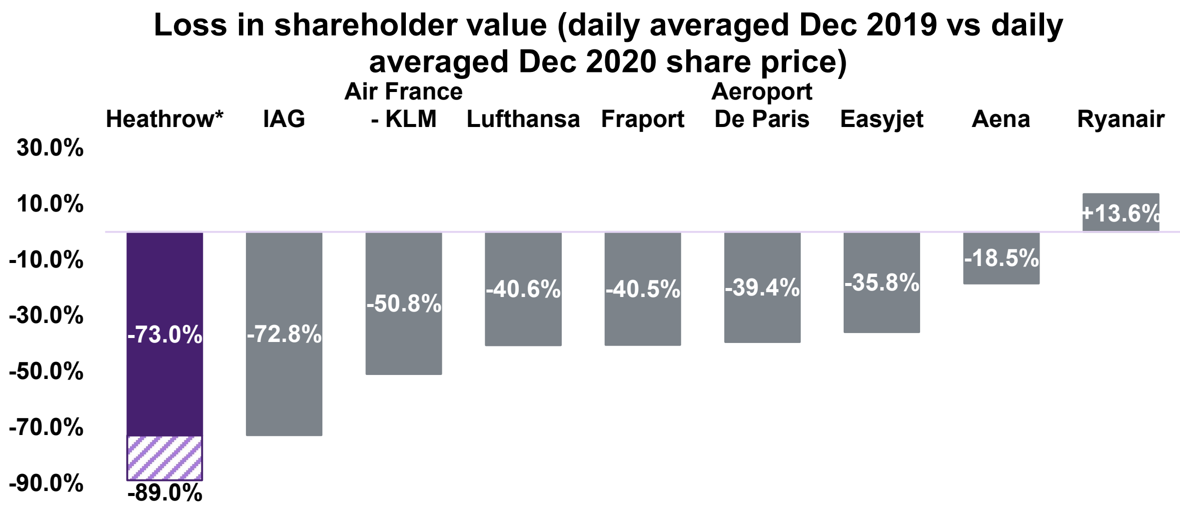
[38] https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1179
[39] https://www.reuters.com/article/us-health-coronavirus-airfrance-eu-idUSKBN22G0I3
[40] https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1333
[41] https://centreforaviation.com/analysis/reports/british-airways--easyjet-uk-export-finances-new-form-of-state-aid-548577
[42] https://simpleflying.com/iag-iberia-vueling-loans/

Figure 4 Scale of shareholder and state interventions since the start of the crisis as a share of 2019 revenue[43]



9. Heathrow's shareholders have made this significant measure, despite Heathrow losing the most shareholder value of any major European airline or airport.

Figure 5 Loss in shareholder value[44,45]



[43] Financial statements and various press releases. * The German government continue to negotiate terms of a state aid package to compensate large German airports for losses due to the crisis. This could mean Fraport's contribution due to state support could increase to as much as 12.1% of 2019 revenues.
[44] Comparator shareholder value measured as the loss in Share price in Dec 20 when compared to Dec 2019 (i.e. the last period before aviation shareholder value would have been affected by Covid-19)
[45] Heathrow is not listed. Therefore the loss in shareholder value is estimated using 3 methods: 1. Actual (RAB-debt) at end 2019 compared to end 2020 for -73% loss of value. 2. Forecast (RAB-debt) for 2020 in 2019 compared to actual RAB-debt in 2020 (taking into account £300m less dividend than forecast and £750m new equity) for -77% loss in value; and 3. Forecast (RAB-debt) for 2020 in 2019 compared to forecast for 2021 in 2020 for - 89% loss of value.

10. Beyond receiving more direct support than Heathrow, other major European airports have benefitted from massive packages to their home carriers, which has helped preserve their shareholder value. Air France, KLM and Lufthansa have received some of the largest support packages to network airlines (collectively worth £17.7bn)[46], helping to better insulate their hub airports from a reduction in aeronautical charges, and reducing their need to find private funding or seek regulatory adjustments.

In summary

11. Contrary to the CAA's assertion in CAP2098, airports around the world and within London have been beneficiaries of a large amount of direct state support, with globally announced measures totalling nearly £13bn (or 8% of 2019 revenues).

12. As the crisis lengthens, direct state support for airports is expected to grow with negotiations ongoing and maturing in the EU, Turkey and Japan.

13. Although state support favours airlines; airports whose home carriers receive greater support benefit indirectly as they are more insulated from risks to revenue from aeronautical charges.

14. In lieu of the levels of direct and indirect state support experienced by other airports, Heathrow's shareholders have stepped in with the largest private capital injection in relative terms of any major European airline or airport. This comes despite Heathrow incurring the largest loss in shareholder value of any major European airline or airport.

[46] Airline websites, various press releases and government websites.

Annex 2: Financial Constraints in 2021 - Confidential and Commercially sensitive

[REDACTED]

Annex 3: The importance of recovering regulatory depreciation

March 2021

HEATHROW DEPRECIATION RECOVERY

Introduction

This note has been prepared for Heathrow Airport Limited.

The pandemic has created unprecedented and unforeseen business conditions for Heathrow; conditions which are still ongoing in 2021.

Air traffic has fallen to a tiny fraction of its pre-pandemic levels, especially in terms of passenger movements. This fall results primarily from restrictions on personal movement imposed by national governments as well as specific restrictions on air travel. The financial consequences for all airports, Heathrow included, have been enormous, with revenues from aeronautical and non-aeronautical services falling by unimagined amounts. Losses have mounted as a consequence.

Heathrow has been in discussion with its economic regulator, the CAA, about appropriate remedies for this extraordinary event. One strand of that conversation has focused on the extent to which the regulatory regime should or could protect private investors from such events, especially given the role of government intervention in suspending most international air travel.

Heathrow has pointed to the fact that revenues have fallen so low that it has not even been able to recover depreciation charged against its Regulatory Asset Base (RAB) in its regulatory accounts. As far as we are aware, this situation is unprecedented in the history of *ex ante* regulation of infrastructure assets in the UK. Consequently, Heathrow has asked Frontier to consider the precedents available for the recovery of regulatory depreciation under the UK regulatory regime.

This brief review covers experience in the UK.[47]

Protections for investment under the UK regulatory regime

One of the key principles of the incentive regulation of private infrastructure is that the equity-holders in the companies are exposed to commercial and performance risk, so as to induce greater efficiency and improved performance more generally.

This does not mean, however, that investors are exposed to unlimited risk. Some regulatory regimes have explicit "stabilisers" with charges readjusting if demand rises (or falls) more than a prescribed percentage from original expectations. Others are calibrated with provisions like RoRE, where the extent of the upside (or downside) performance risk is explicitly quantified.

As well as these explicit mechanisms, the way the regimes handle the RAB has come to be seen as a key element in creating stability in the UK regulatory environment.

The curiosity is that, as Stern points out in his influential paper on the RAB[48], the concept of the RAB itself is not to be found in primary UK legislation or company licences. But nevertheless the RAB plays

47 The issue clearly arises in other geographies, but we have focussed on precedent most likely to be relevant to the CAA's considerations.

48 Stern, J. (2014), 'The Role of the Regulatory Asset Base as an Instrument of Regulatory Commitment', European Networks Law and Regulation Quarterly, 2:1, pp. 15–27.

a crucial role in informing investor expectations of the stability of the UK regulatory environment. In particular, Stern points to the implicit protections provided against “retrospective ‘asset taking’ and prospective asset-stranding”.

Stern argues that the stability of the RAB commitments acts as an essential commitment device for the UK regime, but that “precisely because [RABs] have no explicit legislative support, their reliability as a commitment device depends crucially on regulators keeping to the spirit as well as the letter of RAB commitments.”

Other organisations have looked to the stability and low finance costs of the UK regulatory regimes, especially in comparison to other models such as PPP or private concessions, and concluded that the advantages of the RAB stem from both its flexibility and the predictability of the regime when it comes to protecting the value of the RAB.[49]

We note that protection of the RAB, implicit or otherwise, is not quite the same thing as writing off historic depreciation. As non-recovery of depreciation has never been considered as a regulatory possibility, there are no case studies covering that precise scenario.

Th CAA might argue that Heathrow’s RAB has been left unchanged. Rather, Heathrow is simply experiencing the crystallisation of a commercial risk, which taken to its logical extreme means that it is unable to recover its regulated depreciation for 2020 (and potentially for 2021).

We would argue that the current slump in traffic is not the expression of normal commercial risk, but rather the consequences of (understandable) coordinated international intervention to close down mobility so as to contain the impacts of the pandemic. As such, the situation Heathrow is faced with is not the expression of a risk inherent in the market. Non-recovery of depreciation has never been considered, either by investors or regulators in setting the allowable WACC for Heathrow. Consequently “writing off” historic depreciation because the public health interventions mean there is no customer base from which to recover them in 2020 is functionally identical to writing down Heathrow’s RAB.

For this reason, we have explored case studies of where the UK regulatory regime has stood in defence of the RAB, as a relevant illustration of the point made by Stern.

Illustrations that for investors there is a strong presumption in favour of RAB-recovery

We start by noting that UK regulatory regimes, including that at Heathrow, provide no guarantee that *all* investment undertaken by the regulated company can be recovered through user charges.

But what all regimes share is a commitment that efficiently undertaken investment will be added to the RAB and that those costs will ultimately be recovered, even while the return on those assets is subject to commercial performance-related risk.

Although the method of assessing “efficiently undertaken” may vary, the principle is the same. Decisions on investment are made in a cost-effective manner, taking into account all available information at the time the investment decision was made. For instance, at Heathrow, all capex projects pass through the Gateway process, and ultimately only efficiently incurred capex is included in the RAB. Sometimes conditions change unexpectedly, making past investment sub-optimal with the benefit of hindsight. But regulators do not apply this form of hindsight to retrospectively adjust the RAB. Once the initial decision on efficiency has been taken, the investment in included in the RAB, and future regulatory depreciation adjusted to ensure recovery of that initial investment.

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49 See for instance International Transport Forum (2018) ‘Private Investment in Transport Infrastructure: Dealing with Uncertainty in Contracts’ (https://www.itf-oecd.org/sites/default/files/docs/private-investment-transport-infrastruture.pdf).

This is such a strong principle within the regulation, that regulators have made active efforts to work with companies to ensure the recovery of these costs in exceptional circumstances. This guarantee of cost recovery is crucial for investor confidence and keeping costs of capital low. Regulatory decisions across a variety of sectors within the UK demonstrate this principle.

Looking at examples, the CAA's own papers in the context of the 2019 RP3 NERL price control stated that it "will allow all efficiently incurred capex spending [into the RAB] provided that it satisfies the governance proposals".[50] In water, Ofwat has explicitly "set regulated charges to be sufficient to allow the recovery of all capital invested".[51]

The RAB model has been applied in other sectors too, and for precisely this purpose of protecting initial investment. For instance the UK Government has chosen a RAB model for nuclear explicitly because "by the end of operations or earlier, all capital invested in the plant and approved as efficient by the Regulator would be paid back to investors".[52]

It is evident, therefore, that the presumption of UK regulatory practice is that the RAB is used to allow investors to recover their capex costs, once those costs have originally been assessed to be efficient.

There is also ample evidence of a resistance in the regime to making ex-post adjustments to previously approved elements of the RAB. In energy markets, Ofgem has stated in its RIIO handbook that it "will commit to not making retrospective adjustments to the RAV so long as outputs are delivered".[53]

Furthermore, and most prominently, in 2012 the Competition Commission rejected an attempt by the Northern Ireland regulator, UReg, to reduce Phoenix Gas' RAB. The rationale for this reduction was that demand for gas in the province had not grown to the level anticipated when the original investment was approved. Consequently UReg wished to remunerate a network more efficiently scaled to the actual level of demand. But to do so involved writing off previously-agreed investment embodied in Phoenix Gas' RAB.

The CC's decision clearly stated that "[i]n line with normal regulatory practice…to reduce ex post and without clear signalling the opening value of the RAB is a step that should not normally be taken without very good justification". [54]

Therefore, once efficiently incurred investments have entered into the RAB, regulatory precedent can be seen to strongly advise against making any ex-post adjustments. In the present case, Heathrow is requesting corrective action to ensure that the Q6 regulatory decision with respect to the RAB is honoured, while failure to take this action would, as explained above, amount to a writing down of the RAB.

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[50] CAA, (2019), *Reference to the CMA of NERL RP3 price controls: CAA response to NERL's Statement of Case* - https://assets.publishing.service.gov.uk/media/5df9eebe40f0b6095a7681d6/CAA_response_to_NERL_SoC.pdf

[51] Ofwat, (2015), *Financeability and financing the asset base – a discussion paper* - https://www.ofwat.gov.uk/wp-content/uploads/2015/11/prs_inf1103fpl_financeability.pdf

[52] BEIS, (2019), *RAB Model For Nuclear* - https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/943746/rab-model-for-nuclear-consultation-.pdf

[53] Ofgem, (2010), *Handbook for implementing the RIIO model* - https://www.ofgem.gov.uk/ofgem-publications/51871/riiohandbookpdf

[54] Competition Commission, (2012), *Phoenix Natural Gas Limited price determination* - https://assets.publishing.service.gov.uk/media/551948b8e5274a142b000186/phoenix_natural_gas_limited_price_determination.pdf

Regulators have worked with companies to ensure cost recovery in exceptional circumstances

In addition to the general principle that the RAB should be protected from regulatory hindsight, there have been cases where regulators have also worked with companies to alter the profile of depreciation to ensure cost recovery of otherwise potentially stranded assets (because the alternative would have been to permit unacceptably high price increases in the future). These actions further demonstrate the assumption that investors must be allowed to recover their efficient costs.

In the context of the replacement of copper-wire with optical fibre, Ofcom has allowed Openreach to accelerate the depreciation for its copper assets – that are soon to be retired – such that the asset value is zero in 2030/31 (long before the end of the standard asset lifetime). This is to allow investors to recover their costs by NPV-neutral means, before the assets are retired. Ofcom argued "that it is appropriate and in line with [its] objectives to give Openreach the opportunity to recover these efficiently incurred costs".[55]

Ofgem has behaved similarly towards gas distribution networks, adjusting the depreciation in unusual circumstances, given the assumption that investors must be able to recover their costs. As a result of the uncertain future of gas networks, it was feared that declining flows could lead to increasing unit costs for customers in the longer-term. It should be noted that these rising customer costs were only feared because Ofgem was taking investors' recovery of efficient capex as given. The regulator therefore allowed distribution networks to alter the profile of their depreciation[56], so that networks could collect more in the short-term thus "[decreasing] the risk of increasing per customer charges should the forecast lower utilisation of the networks transpire".[57]

These cases further demonstrate that regulators implicitly take investors' recovery of costs as a core principle.

Undermining the security of RAB could impact significantly on financing costs

As already noted, RAB regulation in the UK is associated with very low financing rates, especially when compared to other forms of private investment.[58] This is despite the fact that the RAB model represents a very incomplete contract containing minimal legal protection for investors. It is therefore "the predictability and credibility of the institutional framework around the system of regulation rather than the relevant legislation itself" which allows the low costs of capital associated with the RAB.[59] In our view, the implicit assumption of all parties regarding the predictability of the RAB is central in determining its low financing costs, and that removing this predictability would likely increase financing costs of RAB projects across many sectors.

This was certainly the view of the Competition Commission in the Phoenix case, which concluded that the stability of the RAB was the key concern. "[T]o remove historic outperformance and deferred capex could have adverse consequences in creating a perception of regulatory instability…we also note that there is substantial risk that the consequences of such measures would be to reduce the

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55 Ofcom, (2020), *Promoting investment and competition in fibre networks: Wholesale Fixed Telecoms Market Review 2021-26 – Annexes 1-23 of 24* - https://www.ofcom.org.uk/__data/assets/pdf_file/0031/188923/wftmr-annexes-1-23.pdf

56 The depreciation profile was changed form straight-line to front-loaded.

57 Ofgem, (2012), *RIIO-GD1: Initial Proposals: Supporting Documents – Finance and uncertainty* - https://www.ofgem.gov.uk/ofgem-publications/48208/gd1-finance-initial-proposals-270712pdf

58 Elliott, D., Francis, R., (2019), *Infrastructure Funding: Does it Matter Where the Money Comes From?* - https://www.itf-oecd.org/sites/default/files/docs/infrastructure-funding-where-money-comes-from.pdf

59 Elliott, D., Francis, R., (2019), *Infrastructure Funding: Does it Matter Where the Money Comes From?* - https://www.itf-oecd.org/sites/default/files/docs/infrastructure-funding-where-money-comes-from.pdf

willingness of investors to invest in future…and could increase the cost of capital applying”.[60] This opinion is also held by Ofwat who stated in 2015 that “[t]he regulatory transparency and certainty associated with the calculation of the RCV is a factor that has resulted in the sectors having a relatively low cost of capital”.[61]

It is evident that the security of capex within the RAB is an implicit assumption shared across all sectors of regulation, and that it is precisely this assumption that allows the low financing costs that we have seen associated with the RAB model in the UK. To make adjustments to the RAB could jeopardise its predictability and stability, which would likely have knock-on effects for future financing costs. In the present case, Heathrow is requesting corrective action to ensure that the Q6 regulatory decision with respect to the RAB is honoured, while failure to take this action would, as explained above, amount to a writing down of the RAB.

60 Competition Commission, (2012), *Phoenix Natural Gas Limited price determination* - https://assets.publishing.service.gov.uk/media/551948b8e5274a142b000186/phoenix_natural_gas_limited_price_determination.pdf

61 Ofwat, (2015), *Financeability and financing the asset base – a discussion paper* - https://www.ofwat.gov.uk/wp-content/uploads/2015/11/prs_inf1103fpl_financeability.pdf

Annex 4: Additional Issues Raised in Consultation and Appendices

1. This annex addresses a number of issues arising from the consultation that are not addressed in the main part of the response.

Cost of Equity – Appendix C

2. In this section we address two specific questions raised by the CAA, and also thirdly note that it has mischaracterised the shock factor in its consultation. The specific questions raised in the appendix are:

   - the extent to which investors expect the impact of such crises to be mitigated by holding diverse portfolios of assets; and
   - how frequently investors expect crises of similar magnitude to recur.

3. In respect of the first of these questions, the CAA state “it is not clear that investors would reflect the full impact of the crisis in an increase in the asset beta: investors may consider some of the impact of the crisis can be mitigated by holding a diverse portfolio of assets.”

4. This shows a simple and fundamental misunderstanding of CAPM by the CAA. The asset beta of an asset is a measure of risk for a fully diversified investor. Therefore, by definition, a fully diversified investor would expect the impact on asset beta to be reflected in full in its returns. Diversification has no mitigation impact on asset beta. This is a basic principle of corporate finance, evidenced widely across all research and practice on CAPM.

5. In respect of the second issue in respect of expected return period, we agree that it is difficult to measure. However, any assumption around market views on return periods, and what this means for asset beta needs to be consistent with real market data. For example, the CAA apply Heathrow’s approach to estimating the impact of the pandemic to a 100-year return period rather than a 30-year return period and note that in this case the increase in asset beta would only be 0.14. However, the observed increase in actual investment markets for the asset beta is between 0.3 to 0.4. Given this it is clearly not appropriate to use that methodology with a 100-year return period assumption because it fails to explain the market movements that have actually occurred.

6. Irrespective of assumptions around return periods, investors’ expectations of return will be driven by the actual asset beta measured by market data. Any analysis of WACC should be primarily based on the market data and be consistent with it.

7. Thirdly, in CAP2098 the CAA have misrepresented the role of the Shock Factor at Q6. For example, in paragraph C13 they state Heathrow “was paid an additional premium in the form of a “shock adjustment” to the traffic forecast to manage volume risk.” This incorrect and misleading statement was also made in paragraph C10.

8. At Q6, the CAA were very clear that the shock factor was not included to manage volume risk. Rather, it was intended to try and ensure that the expected outcome for passenger volumes was reflected appropriately in the Determination.

9. In CAP1115 the CAA are very clear and precise that the shock factor is not an allowance for risk.[62] The CAA makes it clear that the shock factor is included because the traffic forecast is a biased predicter of traffic and needs to be adjusted to remove the bias. They are also very clear that all of the traffic risk is intended to be captures by the WACC. They note the shock factor is separate to the WACC and state "The cost of capital includes an allowance that reflects the risk that actual traffic might be different to the expected traffic".

10. We are disappointed that the CAA has misrepresented the role of the Q6 shock factor in this way. It should correct this as soon as possible.

Investor Expectations at Q6/iH7I – Appendix D

1. The issues raised in this appendix have been addressed in Section Level of Risk consistent with Q6 determination" above.

Impact on Financing – Appendix E

2. The majority of the issues raised in Appendix E are addressed in the main response and in Annex 2. See Sections "Compliance with Heathrow Covenants", and "Risk of Credit Rating Downgrade and access to finance".

3. In paragraph E11, the CAA set out a view that by taking action now, this would "result in consumers implicitly underwriting HAL's highly-leveraged financial structure." This sentence implies that the need for action by the CAA set out by Heathrow has arisen solely as a result of Heathrow's specific capital structure. This is incorrect. We show in Annex 2 that the key impact of the pandemic on Heathrow is the impact of the loss of revenue on ICR metrics and that this position would be worse under the notional balance sheet than it is for the actual balance sheet that is strengthened by its structuring.

4. Indeed, Heathrow's actual financial structure has proven to be extremely robust. Its tiered nature greatly diversifies its access to different types of debt investor and significantly improves the efficiency at which the company can access the debt markets. It enabled Heathrow to draw down a very high level of liquidity at the start of the pandemic and supported the raising of an additional £1.4bn of new debt in October in the midst of the worst crisis Heathrow has faced.

5. In the Section "Impact of the covid-19 pandemic on HAL's notional gearing" the CAA state that "that, even in the absence of any equity injection, notional gearing can be restored to 60% by 2023 by dividend forbearance under HAL's own RBP scenarios."

6. The gearing and dividends included in the RBP submissions are not Heathrow's plans, but reflect the limitations of the PCM model provided by the CAA. The PCM model sets cashflows to achieve a particular level of gearing and does not allow real world treasury approaches to be modelled without significant complexity. The resulting flows to and from equity in the model are therefore a consequence of the CAA's assumptions built into the model and do not represent Heathrow's financing plan and indeed are not representative of real-world financing.

[62] CAA, Estimating the cost of capital: a technical appendix to the CAA's Final Proposal for economic regulation of Heathrow and Gatwick after April 2014, CAP1115, Paragraphs 7.82 to 7.86

7. In addition, the CAA state "Even if gearing were to remain above 60% for most or all of H7, we have seen no convincing evidence to suggest that this would lead to materially adverse effects for HAL's cost of capital, credit metrics or financial structure more generally". Heathrow has not argued that a higher gearing would cause these things. We have argued that gearing above target reduces financial resilience and financial efficiency and that given this Heathrow would seek to reduce gearing back to original levels over the H7 period.

The relationship between the RAB adjustment and H7 charges – Appendix F

8. There are a number of key issues and mistaken analysis in this appendix. In particular:

- At paragraph F5 the CAA set out a comparison on charges with and without a RAB adjustment with all other H7 variables being the same;
- In paragraphs F7 to F9 the CAA set out a view that a depreciation adjustment is possible in a no RAB adjustment case;
- The use of a different indexation basis for charges from that in the RBP and on which the Regulatory settlement will be based is misleading and confusing.

9. The comparison the CAA make in paragraph F5 is false. The difference in variables in the RBP for the cases with and without a RAB adjustment reflect the differential impact of such an adjustment. Without an adjustment, WACC would be higher, a higher shock factor would be required, capex would be constrained and no adjustment could be made to depreciation. Clearly, if the only difference between the scenarios was the size of the RAB, the scenario with the higher RAB would have higher charges. However, the impact of the RAB adjustment on these variables means that the net charge is in fact lower if an adjustment is made.

10. In paragraphs F7 to F9 the CAA undertake an analysis of credit metrics for cases with and without a RAB adjustment and conclude "*This demonstrates that depreciation can be reduced in the No Adjustment scenario while maintaining credit metrics that are comparable or superior to those in the scenario where a RAB adjustment is applied".*

11. This conclusion is incorrect as credit metrics are not the reason a depreciation adjustment cannot be included in H7 if there is no RAB adjustment. Heathrow has considered two constraints when assessing the possibility of reducing depreciation for H7:

- The need to restore gearing to the pre-pandemic level; and
- The impact on credit metrics.

12. In the RBP case with a RAB adjustment, the second of these constraints is the most binding and that is why the scale of the depreciation adjustment is limited by credit metrics. In the RBP case with no RAB adjustment it is the first of these constraints that is binding. With no RAB adjustment, the scale of gearing adjustment required is much greater than the case with an adjustment. This was explained in detail in the response to CAP1966 and in the Depreciation chapter of the RBP.

13. The requirement to restore gearing to its initial level is not a feature of Heathrow's specific actual level of gearing. It is a consequence of needing to restore financial efficiency and resilience. As such, it would occur irrespective of the initial level of gearing. Economic Insight

show that such a return of gearing to initial levels is typical for a wide range of companies following a financial shock[63].

14. If no RAB adjustment is made the starting position in respect of gearing is further away from target, and cashflows would be lower due to a return on a smaller RAB. Consequently, the action required to achieve the gearing change would be higher, and the ability to deliver it lower. Reducing depreciation acts to increase gearing (each £1 of gearing reduction adds £1 to RAB with a marginal gearing of 100%) and there is simply no scope to include a depreciation reduction that has this impact on gearing in a situation where gearing needs to be reduced to this scale.

15. The CAA has also failed to consider the impact on investment that a large depreciation adjustment would have. Capital expenditure also acts to increase gearing at a marginal 100% for every £ spent. A large depreciation adjustment in conjunction with gearing above target would result in a very strong incentive to reduce investment, irrespective of the level of WACC. Economic Insight show that increases in gearing following a financial shock tend to lead to significant reductions in investment[64]. To have such a disincentive would not be in consumers interests and not consistent with the CAA's duties.

16. Finally. the CAA's presentation of charges in real CPI terms is confusing. Doing this results in a discrepancy to numbers set out in the RBP on real RPI terms and with which stakeholders are familiar. As a consequence, it leads to unnecessary confusion and a proliferation of different numbers purporting to represent the same quantity and is not consistent with the better regulation requirement for transparency. Heathrow presented figures in its RBP in a real RPI basis as this is consistent with the regulatory framework for H7. To avoid confusion, the CAA should adopt the same approach.

Impact on Service – Appendix G

17. The issues raised in this appendix are addressed in Sections "Impact on Service", and "Objective 4: Protect efficient investment and service levels".

Impact on Early Intervention – Appendix H

18. The issues raised in this appendix are addressed in Section "Adjustment to Be Made Immediately".

Approaches to calculating adjustment – Appendix I

19. The issues raised in this appendix are addressed in Section "Adjustment to be made as part of H7".

Regulatory Precedent – Appendix K

20. In appendix K, the CAA rightly states that the response to Covid in both the aviation sector internationally and across other UK regulated sectors is mixed. However, it goes on to assert that the CAA has taken comparable action to that taken by other regulators and that there is no evidence that regulated companies have asked for an adjustment of the same magnitude as Heathrow's. We dispute both of these statements.

[63] Economic Insight, Need for Gearing Recovery, March 21
[64] Economic Insight, Need for Gearing Recovery, March 21

21. The CAA's actions in response to Covid-19 have not been comparable to those taken by other regulators. Other regulators in the UK, in sectors which have been far less directly and drastically affected than aviation, have already taken proactive action to address the impacts of Covid-19 including:

1) **Ofgem default tariff cap increase[65]:** Covid-19 has impacted the energy industry through reduced non-domestic demand due to the closure of businesses, through changes in home circumstances such as redundancy and furlough impacting the ability of domestic customers to pay their bills and through social distancing restrictions reducing field activities for energy companies. Due to these impacts, Covid-19 has had a material and unforeseeable impact on energy suppliers.

   Ofgem has accepted that it could not reasonably expect suppliers to have anticipated and prepared for an event of this scale. It has therefore decided to adjust the cap now for debt-related costs for default tariff customers and has committed to keep any adjustments required for other costs under review. It sets out that its proposed adjustment will help to ensure that suppliers have the finances to continue supply and to fulfil their licence obligations.

   Given the uncertainty on future costs Ofgem has implemented a 'float and true up' approach which implements an adjustment based on an approximate value now, with a true up when more information is available. It has decided to implement the adjustment now to avoid higher future bills in winter, which would not be in the interests of consumers. The recovery of historic costs in pervious cap periods will be spread over two periods in the future.

   The approach taken by Ofgem mirrors Heathrow's proposed approach to an adjustment in many respects. In particular in the way that Ofgem has decided to make an adjustment now in order to protect delivery for consumers and in spreading the recovery over time to avoid price spikes when this is most likely to impact consumers.

2) **Ofwat adjustments for bad debt[66]:** In line with its primary focus to protect the interests of consumers, Ofwat took measures to relieve business customers of the pressure of having to pay their water bills on time if they were seriously impacted by Covid-19. In order to do this, Ofwat implemented liquidity support to companies in the business retail market. The support relieved Retailers of the requirement to pay the full amount of their wholesale bills for the period. Ofwat implemented a payment mechanism which required Retailers to pay either 60% of primary charges due to Wholesalers or 94% of the cash they collected from customers if they were able to provide information about the invoiced amounts they were receiving from customers.

   Ofwat also took action on bad debt. It took the view that it would be appropriate to set a cap on the amount of bad debt that Retailers should be expected to absorb as a consequence of Covid-19. It set this at 1% above the market average, which usually sits at 1%. It committed to providing regulatory protection for a portion of the exposure above this level. Ofwat also set a cap on the additional exposure that each Wholesaler

[65] Decision on the potential impact of COVID-19 on the default tariff cap (ofgem.gov.uk)
[66] https://www.ofwat.gov.uk/wp-content/uploads/2020/04/Proposals-to-address-liquidity-challenges-and-increases-in-bad-debt-%E2%80%93-decision-document.pdf

could face as a result of the measures to help the liquidity of retailers above and beyond the sharing factor already set out in the price control.

This shows decisive and pragmatic action from Ofwat with the key aim of protecting the interests of consumers.

3) **Ofwat adjustment for Thames Tideway:** The regulatory arrangements in place for Tideway include a cost sharing structure that allocates the risk of capital expenditure 40% to Tideway and 60% to consumers. The impact of Covid-19 has caused Tideway to incur significant additional costs, which are expected to amount to £233m and will add around nine months to the timetable for delivery.[67] At the time of Tideway's investor update reporting these costs (August 2020) Tideway confirmed that the company was in discussion with Ofwat on a package of measures to mitigate the financial impact of Covid-19. In response Ofwat stated:

   "When the lockdown came, Tideway acted to find a pragmatic balance between protecting water customers, while safeguarding workers and the wider community. We are investigating the impact of COVID-19 on the project, which might mean a modest increase in cost. But, if Tideway hadn't acted when it did it is possible that the cost and the impact on water customers would have been much higher"

   Although no formal decision has yet been published by Ofwat, this statement and course of action clearly shows Ofwat's acceptance that Covid-19 is an exceptional circumstance, the consequences of which for Thames Tideway need to be reviewed and reflected in cost allowances going forward. A detailed public statement on treatment would we expected from Ofwat at some future point.

4) **DfT and rail[68]:** Following the imposition of lockdown restrictions, the Department for Transport implemented Emergency Measures Agreements with train operating companies (TOCs) in order to ensure that train services continued to operate. These agreements transferred all revenue and cost risk to the Government with TOCs transitioning from the original franchise agreements to contracts with provided a pre-determined management fee. This move readdressed the risk/reward balance of for TOCs in recognition of the exceptional impact of Covid-19. These measures were originally put in place for a six-month period but were further extended in September 2020 with the agreements put in place for up to 18 months.

11. Additionally, regulators and Government bodies responsible for airports regulation across Europe have already been taking action:

1) **CAR decision on Dublin:[69]** Through 2020 the Commission for Aviation Regulation (CAR) has been carrying out a review of the regulatory arrangements at Dublin airport following the impact of Covid-19. In December the CAR published its decision in relation to changes to the price control for 2020 and 2021 confirming that all triggers and adjustments, including adjustments for capex, service quality and over recovery

[67] Tideway, Tideway Operational update to investors, 24th August 2020
[68] https://www.gov.uk/government/speeches/rail-update-emergency-recovery-measures-agreements
[69] https://www.aviationreg.ie/_fileupload/2019%20Determination/2020%20Interim%20Review/Final%20Decision.pdf

against the maximum allowable yield will be removed and that there will be no adjustments in future years in relation to 2020 and 2021.

The CAR's decision, in particular the decision not to adjust for over recovery against the per passenger price cap, accepts that the impact of Covid-19 is an exceptional circumstance meaning that some of the current aspects of the price control are no longer fit for purpose. The CAR also sets out that future review of the price control in general will be required as the situation develops to reflect the impact of Covid-19.

2) **Aena Covid-cost recovery:**[70] Royal Decree-Law21/2020 of 9 June sets out that Aena will be able to recover the costs of making facilities available to the Ministry of Health for the testing of incoming passengers and the costs of operational safety and hygiene measures that had to be adopted as a consequence of the Covid-19 pandemic. The Decree sets out that these costs can either be recovered through the DORA in the current regulatory period or the costs can be capitalised and recovered over the next two regulatory periods. These costs totalled €27.5 million at 30 September 2020.

3) **Aeroporti di Roma's (AdR):** AdR's regulatory framework and concession agreement include a risk share mechanism and review threshold. The mechanism sets a passenger volume dead band of 5% after which 50% of the impact is shared with airlines and a 6% threshold for a review of charges. In its November 2020 investor presentation, AdR clearly set out of that implementing the risk protections in the framework along with accessing Government support following the impact of Covid play a key part in its Covid-19 recovery strategy[71]. There is also the potential for a 2 year extension to support Covid-19 recovery. This shows a clear intention from AdR to fully recover the losses to which it is entitled in the following regulatory periods.

12. In addition to the specific financial actions set out above, other regulators have also made efforts to understand the potential impacts of Covid-19 on the sectors they regulate and ensure that the regulatory environment allows companies to continue serving customers safely without regulatory targets or restrictions potentially leading to perverse incentives. Examples of such action include:

1) **Ofwat:** In March 2020 Ofwat wrote to the industry setting out its understanding that the sector would be likely to face significant challenges due to social distancing requirements which could make it difficult for companies to meet some of the performance commitments set out in the regulatory settlement.[72] It made it clear for companies that, rather than seeking to meet these specific performance commitments, they should instead prioritise meeting their core service obligations *"incentives and penalties in Ofwat's regulatory regime should not get in the way of effective prioritisation in the interests of customers"*. In December 2020, Ofwat commissioned Frontier Economics to carry out a review of the economic impacts of Covid 19 on the water sector[73] to understand both the impacts on the sector to date and the potential

[70] http://www.aena.es/csee/Satellite?blobcol=urldata&blobheader=application%2Fpdf&blobkey=id&blobtable=MungoBlobs&blobwhere=3000011250167&ssbinary=true&blobheadername1=Content-disposition&blobheadervalue1=attachment;%20filename=9M%202020%20Management%20report.pdf
[71] Diapositiva 1 (atlantia.it), slides 13-17
[72] https://www.ofwat.gov.uk/wp-content/uploads/2020/03/Letter-to-all-CEOs-from-Rachel-Fletcher-on-COVID19-water-industry-response.pdf
[73] https://www.ofwat.gov.uk/wp-content/uploads/2020/12/Economic-impacts-of-COVID-19-on-the-water-sector-Dec-2020.pdf

future impacts. The report identified the positive and negative impacts of Covid-19 in order to support Ofwat's understanding of the opportunities and challenges water companies would face in meeting the PR19 settlement.

2) **Ofgem:** On 8 April, Ofgem sent letters to both energy suppliers and network companies setting out that its immediate focus and objectives following the impact of Covid-19 would be ensuring that companies protect consumers from immediate harm and maintaining security of supply.[74] It set out that companies could deprioritise lower priority works and services to focus on these key objectives without fear of regulatory enforcement or penalties. Ofgem also continued to keep the sector informed on its expectations through a series of updates in 2020.

13. The CAA on the other hand, while accepting the exceptional impact of Covid-19 has not made any decisions on action for Heathrow. The CAA points to two examples in bullet point 2 of its paragraph K4 as being regulatory actions it has taken in line with actions taken by other regulators. These were in fact agreements made between Heathrow and the airline community which did not require any regulatory action from the CAA beyond confirmation. This highlights the CAA's overall lack of action in regard to the impact of Covid-19 on Heathrow.

14. Additionally, the CAA's consultation regarding the implementation of NERL's traffic risk sharing mechanism further highlights the CAA's inaction under the current circumstances. While the CAA's consultation looks at the options available for allowing NERL to recover some of its losses, it does not provide the option of implementing NERL's traffic risk sharing mechanism as set out in its price control. Instead, the CAA consults on ways to either smooth the impact, reduce the amount recovered or stop recovery in its entirety.[75]

15. It is not relevant for the CAA to state that no other regulated company has asked for and received such a sizeable regulatory adjustment as that requested by Heathrow arising from the impact of Covid. As the CAA rightly sets out, different regulated companies are exposed to different markets, different frameworks and have different provisions for action in exceptional circumstances. This means that the size and form of any adjustment requested will be relative to the individual company's circumstances and the framework they operate under. It is entirely reasonable that the only fully regulated airport in the UK will need more significant action than say a water firm that has seen far less impact from the pandemic.

16. It is also not relevant to state that Heathrow's proposal of using the RAB to recover losses is unique and therefore invalidates evidence of regulatory precedent elsewhere. In fact, the CAA's consultation on the recovery of losses for NERL within their price control framework references use of the RAB to smooth the recovery of lost revenues through future years meaning there is precedent for the recovery of losses through this mechanism from the CAA's own publications.[76]

17. The key point of evidence provided by reviewing regulatory precedent is that regulated companies, contrary to the CAA's assertion, are asking for adjustments and for the mechanisms in their frameworks to be implemented in response to revenue losses due to

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[74] https://www.ofgem.gov.uk/system/files/docs/2020/04/networks_letter_0.pdf

[75] https://publicapps.caa.co.uk/docs/33/NERL%20price%20controls%20review%20consultation%20(CAP1994).pdf

[76] https://publicapps.caa.co.uk/docs/33/NERL%20price%20controls%20review%20consultation%20(CAP1994).pdf, page 22

Covid-19 and that regulators are working to understand the impact of Covid-19 and ensure that the regulatory framework accounts for this. The CAA has not yet taking such action. Indeed, while it remains the case that many airports across Europe are going through their regulatory processes, with limited final decisions, there is clear evidence that airports across Europe are looking to recover the losses to which they are entitled.

18. In Appendix K, the CAA also makes a passing remark regarding the evidence we have previously provided on state support received by airlines and airports. The CAA notes that government support has been targeted at airlines, rather than airports. It appears to use this observation to dismiss any evidence on state aid as being relevant for its consideration of the implementation of a RAB adjustment. We do not agree that this is a relevant observation:

1) In concluding that airlines receive higher amounts of state support than airports, the CAA is acknowledging that airlines have had and continue to have access to state support which is not being made available to airports in general and Heathrow in particular. This makes the case for regulatory intervention in order to ensure Heathrow's financeability yet more compelling.

2) State support packages are continuing to be made available for airports internationally. Annex 1 sets out the key state support packages which are being made available. It is also the case that widespread state ownership of airports has led to support being made available through different, indirect channels, which are harder to identify. This highlights the disparity between the state support provided to other airports and the lack of support provided to Heathrow and further reinforces the need for regulatory intervention.

Annex 5: Investors' Views – Confidential and Commercially sensitive

1. The CAA has asked questions on the impact on investor expectations and investment decisions of the scale and timing of an adjustment. To provide further context we have collated a set of investor statements in relation to the adjustment and regulator action.

2. Debt investors are constrained by various compliance issues from providing direct written statements to the regulator. We have provided the CAA with contacts of active debt market participants to provide them with investor perspectives. We would urge the CAA to include these contacts, and their own active search for perspectives of other active market participant as part of their evidence gathering. We also provide a link to a BNP assessment of Heathrow debt.

3. Credit ratings agencies (CRA) can also provide a debt investor perspective via their public statements. S&P undated their rating assessment on 4th March. The most recent rating document by Fitch is here and by Moody's here. As CRA reviews are continuous, we will also forward any additional statements as they emerge after the deadline for this submission.

4. Equity investors expectations and investment decisions are also fundamental to the CAA's consideration of its financeabilty duty. We include 6 statements from equity investors in including those currently who are direct investors in Heathrow and those who have wider interests. Again, we would urge the CAA to supplement this with any further perspectives from actual market participants and potential investors.

5. While specific investment strategies and assessments vary, all investors both debt and equity are clear on the importance they attach to

   (i) a stable, balanced regulatory settlement based on a rational calibration of risk and reward

   (ii) delivering on important principles of regulation including the effective return of regulatory depreciation and ensuring the commercial financeablity of the business

   (iii) timely regulatory action to demonstrate the regulator will and can act even in difficult circumstances

6. Statements are provided by the following shareholders:

   - [REDACTED]

Annex 6: Willingness to Pay

1. In order to demonstrate the benefits to consumers of the projects which can be delivered with a RAB adjustment, our response uses outputs from our Willingness to Pay (WTP) work to date. This analysis is a standard, widely used way to gain insight into consumer preferences, trade-offs and the value of particular consumer services.

2. The WTP work has been carried out in line with the CAA's CAP1540 guidance and with challenge and insight from the Consumer Challenge Board (CCB). This annex provides further information on the work undertaken to reach these values and evidence on the robustness of the outputs.

3. In the CAA's CAP1540 guidance on the production of high quality consumer engagement and the development of Outcomes-based regulation (OBR) the CAA noted that it expected Heathrow to conduct a Willingness to Pay (WTP) exercise in order to inform a number of steps in the development of OBR, such as the setting of targets and incentives.[77]

4. The CAA noted that it should be used as part of the process of *'robust investment appraisal to define the most cost beneficial option to deliver service improvement'*[78]. It also set out its views on how we should ensure that the WTP exercise is robust. These included carrying out a qualitative phase to ensure the survey is meaningful and ensuring that there was strong assurance carried out on the work with the use of best practice design and analysis.

5. On the basis that the analysis meets these expectations, and given the CAA's guidance, we believe that the WTP analysis provides an important element of evidence as the CAA considers consumer preferences and consumer interest in relation to an iH7 adjustment.

Systra willingness to pay analysis

6. In order to inform our IBP, we carried out WTP research to understand how consumers valued different priority aspects of their journey[79]. We provided the CAA with the full report as part of the evidence base for both our IBP and RBP. The work consisted of three phases:

- **Phase 1 – Qualitative unconstrained improvements:** The qualitative phase invited passengers to suggest potential future service improvements based on their current experience at Heathrow and other airports across the globe. Four high level categories of improvement emerged from the research which led to 40 broad service areas being put forward for potential improvement. The four categories were:

    i. Control and predictability

    ii. Ease

    iii. Wellbeing

    iv. Customer care

[77] CAA, CAP1540, https://publicapps.caa.co.uk/docs/33/CAP1540BusinessPlanGuidanceAPR17.pdf
[78] CAA, CAP1540, paragraph 2.13
[79] Systra, Heathrow Airport Customer Valuation Research, November 2018

The exercise also found that, while price is always an influencing factor on where consumers fly from, there were more factors than the ticket price alone, let alone the airport charge itself. Instead, consumers weigh up the ticket price alongside efficiency, other direct costs, such as the cost of getting to the airport, and the cost of 'stress'.

- **Phase 2 – Quantitative prioritisation:** Following this initial exercise Systra undertook a prioritisation survey to understand which aspects of service consumers prioritised. This allowed passengers to rank service improvements in priority order in order to identify the most preferred service improvements for including in the WTP survey.

- **Phase 3 – Quantitative trade-off (WTP survey):** This shortlist of improvements was then included in a second survey. This survey used a trade-off exercise to identify the relative importance of each improvement in the context of passengers paying for the service improvement as a direct increase to their airfare. 22 service improvements were tested with both direct and connecting passengers. This exercise provided consumer valuations of improvements in each individual service area which can be used to prioritise service improvements through the business planning process. The methodology followed was independently validated as in line with best practice and other WTP exercises carried out for regulated companies in other sectors.

7. Both the CCB, Airline Community and CAA were involved through the process of developing and carrying out the WTP exercise. The CCB in particular reported their view on the progress and outputs of the exercise through their issues log. In total the WTP work was a specific agenda item at nine regular monthly sessions with the CCB. Additional sessions were also held with CCB experts on the WTP study such as the sessions on 25 April 2017 and 5 September 2018 with David Holden.

8. The WTP exercise showed that both direct and connecting passengers were willing to pay more for service improvements in a number of areas. The CCB observed that this was contrary to the view of airlines and the CAA, who were emphasising the importance of the 'affordability challenge' in the context of expansion.[80]

[80] The H7 Consumer Challenge BoardReport on the Heathrow Airport Limited Initial Business Plan (caa.co.uk), Page 22, "There is no consumer sourced evidence, as yet, to support the 'affordability challenge', in fact all of HAL's central consumer engagement (WTP etc.) appears to contradict the challenge"

Figure 6: Mean WTP value for defined service improvements - Direct Passengers

Aspect of Service (Current ➔ Improved Level)*	WTP (£)
Punctuality – [80➔] 85 out of 100 flights will depart on time	£6.49
Time waiting at passport control – 9 out of 10 times you will go through passport control in < [30➔] 20 minutes (Non-EEA)	£5.56
Time waiting at baggage reclaim for all bags - 9 out of 10 times you will wait no more than [45➔] 35 minutes	£3.86
Real-time information on waiting times at passport control, security and baggage reclaim (New)	£3.76
Wi-Fi Access - Ultra-high speed Wifi connection with total coverage throughout airport at any time (New)	£3.48
Time waiting at Security - 9 out of 10 times you will go through security in less than [5➔] 3 minutes	£3.36
Time waiting at passport control - 9 out of 10 times you will go through passport control in < [10➔] 5 minutes (EEA)	£3.25
Dedicated lanes at Security for passengers that would like extra assistance - New additional security lane(s)	£2.70
Travel time, from arriving at the airport, to reaching your departure terminal - 10% less time [needed]	£2.58
Self Service Bag Drops - You are able to choose self-service bag drop machines if you want (New)	£2.32
Real-time information about your onward travel from Heathrow by car, bus, rail, tube, taxi (New)	£2.15
Facilities at departure gate 'satellite' areas - Improved seating, F&B, retail and other services such as showers and spa	£2.15
Types of seating - A larger variety of different seating options that meet different needs	£2.03
Number of charging points - Charging points located near to all blocks of seating within the airport (New)	£1.95
Character of the airport - The airport to have a more distinct British look and feel (New)	£1.05
10% less time to walk from security to your departure gate	£1.47
2 minutes to find a member of airport staff able to help when you have a problem (New)	£1.14
Storage facility for hand luggage after security, where you can leave your bag while you explore the departure lounge (New)	£1.13
Off-airport check-in and bag drop facilities (New)	£0.99
Wheelchairs available to be borrowed (New)	£0.78
Provision of music in the terminals - Music played to passengers while they are within the terminal building (New)	£0.64
Pushchairs available to be borrowed (New)	£0.64

Source: Systra

Figure 7: Mean WTP values for defined service improvements - Connecting passengers

ATTRIBUTE*	WTP (£)
The walk to connect flights will take 10% less time	£6.85
Time waiting at Security - 9 out of 10 times you will go through security in less than [5→] 3 minutes	£6.34
Punctuality - [80→] 85 out of 100 flights will depart on time	£6.13
Airport staff available to meet you off your plane if you have limited time to connect between flights (New)	£5.81
Wi-Fi Access - Ultra-high speed Wifi connection with total coverage throughout airport at any time (New)	£5.63
[13→] 10 out of 1000 passengers' baggage will miss the connection between flights	£5.28
Types of seating - A larger variety of different seating options that meet different needs	£4.90
10% less time to walk from security to your departure gate	£4.09
Real-time information about the time it will take you to get through security (New)	£3.36
Number of charging points - Charging points located near to all blocks of seating within the airport (New)	£3.25
Dedicated lanes at Security for passengers that would like extra assistance - New additional security lane(s)	£3.13
Facilities at departure gate 'satellite' areas - Improved seating, F&B, retail and other services such as showers and spa	£2.87
Storage facility for hand luggage after security, where you can leave your bag while you explore the departure lounge (New)	£2.85
2 minutes to find a member of airport staff able to help when you have a problem (New)	£2.52
Pushchairs available to be borrowed (New)	£1.77
Wheelchairs available to be borrowed (New)	£1.71
Character of the airport - The airport to have a more distinct British look and feel (New)	£1.65
Provision of music in the terminals - Music played to passengers while they are within the terminal building (New)	£1.03

Source: Systra

9. In discussion with the CCB, there was concern that the WTP values appeared high and that, in using the mean value, half of the passengers would be dissatisfied with the increase in cost for the improvement they were receiving in service. While it was clear that the methodology followed by Systra followed best practice and was in line with the methodology used to carry out similar exercises in other sectors, included other regulated sectors, following further discussion with the CCB we commissioned Systra to carry out an Aggregate Benefit Study to provide further external validation of the valuations provided by the WTP exercise to understand whether any scaling of the original results was required. In addition, Heathrow also had the work and findings carried out by Systra independently reviewed by Economic Insight.

10. This showed that using the 67th percentile results of our original WTP exercise, the value which 2/3 of passengers would be willing to pay for service improvements, meant that no further scaling of the values would be required. In their final report, Systra confirmed that using the 67th percentile outputs would be a “conservative estimate of the benefit passengers assign to each defined service improvement”[81].

81

11. In the final version of their challenge log, the CCB noted that while the WTP values seemed to differ from observations of price in the wider consumer air travel sector, the Systra WTP and Aggregate Benefit study reports could be pointed to as "two independent robust consumer engagement projects that produce results that are aligned."[82] This provided us with the reassurance that the outputs from these exercises were robust and an appropriate basis for our business planning activity. We therefore used the 67th percentile values for our IBP.

Figure 8: 67th percentile WTP values - Direct passengers

Aspect of Service (Current → Improved Level)*	WTP (£)
Punctuality – [80→] 85 out of 100 flights will depart on time	£3.71
Time waiting at passport control - 9 out of 10 times you will go through passport control in < [30→] 20 minutes (Non-EEA)	£2.56
Real-time information on waiting times at passport control, security and baggage reclaim (New)	£2.15
Time waiting at baggage reclaim for all bags - 9 out of 10 times you will wait no more than [45→] 35 minutes	£1.78
Time waiting at Security - 9 out of 10 times you will go through security in less than [5→] 3 minutes	£1.55
Dedicated lanes at Security for passengers that would like extra assistance - New additional security lane(s)	£1.54
Time waiting at passport control - 9 out of 10 times you will go through passport control in < [10→] 5 minutes (EEA)	£1.50
Wi-Fi Access - Ultra-high speed Wifi connection with total coverage throughout airport at any time (New)	£1.35
Self Service Bag Drops - You are able to choose self-service bag drop machines if you want (New)	£1.33
Real-time information about your onward travel from Heathrow by car, bus, rail, tube, taxi (New)	£1.23
Travel time, from arriving at the airport, to reaching your departure terminal - 10% less time [needed]	£1.19
Types of seating - A larger variety of different seating options that meet different needs	£0.93
Facilities at departure gate 'satellite' areas - Improved seating, F&B, retail and other services such as showers and spa	£0.84
Number of charging points - Charging points located near to all blocks of seating within the airport (New)	£0.76
Character of the airport - The airport to have a more distinct British look and feel (New)	£0.41
Provision of music in the terminals - Music played to passengers while they are within the terminal building (New)	£0.25

Source: Systra

[82] CONSUMER CHALLENGE BOARD (CCB) (caa.co.uk), Issue 3a

Figure 9: 67th percentile WTP values - Connecting passengers

ATTRIBUTE*	WTP (£)
Time waiting at Security - 9 out of 10 times you will go through security in less than [5→] 3 minutes	£4.80
Punctuality - [80→] 85 out of 100 flights will depart on time	£4.64
[13→] 10 out of 1000 passengers' baggage will miss the connection between flights	£4.00
The walk to connect flights will take 10% less time	£3.02
Airport staff available to meet you off your plane if you have limited time to connect between flights (New)	£2.56
Real-time information about the time it will take you to get through security (New)	£2.54
Dedicated lanes at Security for passengers that would like extra assistance - New additional security lane(s)	£2.37
Wi-Fi Access - Ultra-high speed Wifi connection with total coverage throughout airport at any time (New)	£2.28
Types of seating - A larger variety of different seating options that meet different needs	£2.16
10% less time to walk from security to your departure gate	£1.80
Number of charging points - Charging points located near to all blocks of seating within the airport (New)	£1.32
Storage facility for hand luggage after security, where you can leave your bag while you explore the departure lounge (New)	£1.26
Facilities at departure gate 'satellite' areas - Improved seating, F&B, retail and other services such as showers and spa	£1.16
Character of the airport - The airport to have a more distinct British look and feel (New)	£0.67
Provision of music in the terminals - Music played to passengers while they are within the terminal building (New)	£0.42

Source: Systra

12. In addition to the Aggregate Benefit Study, Systra carried out further internal and external validation of the values defined from the WTP exercise. These exercises concluded that:

- The benefit values were intuitive, representing around 1% of passengers' air fare for a priority improvement;
- Through the survey, respondents were asked to identify their top three improvements from the list of improvements provided, this initial priority order was consistent with the relative value outputs obtained from the MaxDiff exercise;
- Respondents were asked to give their overall view on service quality and fare levels. 52% wanted service levels to improve and fares to increase slightly. This accords with the appetite for service improvements seen in the WTP values; and
- Meta-analysis carried out on behalf of the DfT analysing the values of time from 400 studies internationally sets out values of travel time, wait time and walk time for international air passengers.[83] These values are broadly in line with those obtained from our WTP study. The value for walk time from security to reach the gate for direct passengers calculated from our WTP exercise is in line with the value derived from the meta-analysis at £1.50 per minute. While connecting passengers assigned a value of almost double that figure to walking time in our

[83] Values of travel time in Europe: Review and meta-analysis, 2016, Wardman, Chintakayala, de Jong

WTP study, this is intuitively reasonable as their average fare is twice as high and their sole purpose of visiting Heathrow is to make a connection.

13. In their report on our IBP, the CCB noted concerns that we had not reached the maximum WTP values for passengers in the service improvements we had proposed. They also noted that the 'affordability challenge' which was constraining our service increases had not been evidenced even as passengers' willingness to pay more for service improvements had been.[84] This tension is equally relevant to consideration of an iH7 adjustment given its potential impacts on service at the airport as well as net impacts on the airport charge.

14. The CCB's view on the two reports, the use of the conservative 67th percentile value and the internal and external validation carried out by Systra give us the confidence that our WTP work is robust and provides a suitable basis for assessing the consumer valuations and prioritisation of service improvements.

Updated valuations post-Covid

15. Following the impact of Covid-19, we commissioned Systra to carry out research into passenger priorities in a post Covid-19 world[85]. This exercise was intended to understand if there had been any changes in consumer needs or priorities following Covid-19 and specifically:

- In the changed environment since Heathrow published its Initial Business Plan (submitted December 2019), have consumer needs changed related to their end-to-end airport journey?
- How would consumers prioritise and value Heathrow's proposed initiatives / potential service improvements during H7 (the next regulatory period) in order to improve their overall end-to-end airport journey?
- How have consumer emotions and behaviour towards air travel and airports changed as a result of Covid-19? Which pandemic-related needs will remain beyond Covid-19?

16. 2,877 current and 1,828 potential passengers were interviewed as part of the study to understand how they would prioritise and value Heathrow's proposed initiatives and service improvements during H7. Systra also carried out some qualitative research to assess consumers' emotions and anxieties in light of Covid-19.

17. The study asked respondents to prioritise proposed initiatives for H7 to understand which initiatives were most important for passengers. In total 25 initiatives were tested with direct passengers and 22 with connecting passengers. This highlighted the following priorities for direct and connecting passengers:

[84] The H7 Consumer Challenge BoardReport on the Heathrow Airport Limited Initial Business Plan (caa.co.uk), pages 11 and 12
[85] Systra, Heathrow Airport Passenger Priorities in a Post-Covid World, December 2020

Table 6: Proposed Initiatives of Highest Priority amongst Direct/Connecting and Current/Potential passengers

Direct passengers	Connecting passengers
Current: 1. Reduced time at Passport Control 2. Reduced time at Baggage Reclaim 3. Enhanced cleaning so surfaces are Covid-19 safe 4. Better/more options to access LHR by public transport 5. No need to remove liquids/electronics from bags when going through Security 6. Reduced time at Security Search 7. Enhanced Punctuality of Flights	**Current:** 1. Enhanced cleaning so surfaces are Covid-19 safe 2. Ultra-high speed wi-fi throughout the airport 3. Staff deployed to help anywhere along the passenger journey 4. Reduced time through Security 5. Real time information about different stages of the airport journey 6. No need to remove liquids/electronics from bags when going through Security 7. Reduced connecting times between flights
Potential: 1. Enhanced cleaning so surfaces are Covid-19 safe 2. Reduced time at Passport Control 3. Reduced time at Baggage Reclaim 4. Staff deployed to help anywhere along the passenger journey 5. Real time information about different stages of the airport journey 6. Enhanced Punctuality of Flights 7. Reduced time at Security Search	**Potential:** 1. Enhanced cleaning so surfaces are Covid-19 safe 2. Staff deployed to help anywhere along the passenger journey 3. Real time information about different stages of the airport journey 4. 10% less time to walk from arriving flight to departure gate 5. Ultra-high speed wi-fi throughout the airport 6. Ability to charge electronic items throughout airport journey 7. Reduced time at Security Search

Source: Systra

18. The study also included a money-based 'initiative' so that passengers' relative priorities could be derived as a percentage of the average air fare. For current passengers, the value of each of their top five initiatives was between 1.3%-1.6% of average fare. For potential passengers this was between 1.4%-2% of the average fare.

19. These results show that consumers now assign a very high priority to enhanced cleaning and measures to ensure that the airport is Covid-safe. However, in all other respects, consumers' priorities for the proposed initiatives are similar to those derived in the previous WTP study. This alignment with the previous WTP work and intuitive increase in the value of cleanliness gives us comfort that this updated study is robust.

20. A smaller-scale survey of current passengers also obtained a priority order of proposed deteriorations in service quality. The most acceptable of the service deteriorations proposed was '7 out of 10 times you will go through security in less than 5 minutes' from a base of 9 out of 10 times. However, this reduction in service would be equivalent to an increase in average fare of 0.9%. The least acceptable deterioration would be '10 out of 1000 passengers' baggage will not travel with them on the same flight' from a current base of 9 out of 1000. This would be the equivalent of a 1.24% increase in air fare.

21. In order to assess the benefit value to consumers of the capital investments we would be able to undertake if the CAA were to make a RAB adjustment, we applied the values obtained from the passenger priorities research to our RBP mid-case passenger forecast. We used the average air fare in 2019 (£400) in order to calculate the level of benefits.

Conclusion

22. In conclusion, the best practice methodology and robust challenge on our WTP work from the CCB has assured us that the benefit values provided are robust and representative of consumer valuations of service improvements at Heathrow. The alignment of the Passenger Priorities Post-Covid work with this WTP study assures us that this updated work is a robust estimate of the values assigned to improvements by consumers in a post-Covid world. As

such, we consider the values used in this response to assess the benefit of a RAB adjustment to be a robust representation of the consumer benefit at risk should the CAA choose not to make a RAB adjustment in 2021 or at the start of H7.