Economic Regulation of Heathrow Airport:
CAP1964: Working paper on the efficiency of HAL's capital expenditure during Q6

17th November 2020

Executive summary

The Arcadis Heathrow Q6 Capex Efficiency Review shows very substantial, and in some cases still unquantified, cost over-runs despite what are presumably appropriate levels of contingency within individual scheme budgets. It also confirms Heathrow Airport Ltd. (HAL) impose significant management costs on projects, despite clear evidence of inefficient control of critical issues including specification, programme, cost and quality.

The impact is amplified by the form of contract used, which results in fundamentally misaligned incentives and assigns the majority of risk on the Employer. The resulting inefficient costs are, almost without exception (since there are only two instances in the last twenty years of costs being disallowed, one being a project carried out without airline support), recovered through the RAB and therefore passed on to consumers. HAL therefore bear little or no cost risk, while benefiting from the higher regulated return where out-turn costs exceed agreed budgets.

The CAA's proposal for an alternative regulatory framework is welcome and consideration could be given to making HAL, as asset owner, responsible for delivering capital projects to agreed budgets and specifications. This would overcome the inevitable and recognised difficulties inherent in *ex post* regulatory scrutiny and any concern as to regulatory gaming on the part of HAL.

Similar if not greater concerns apply to HAL's claim to recover over £0.5bn of Category B & C, wind-down and legal costs incurred between October 2016 and February 2020 on the North West Runway (NWR) scheme.

The starting point for the claim is 25th October 2016, the date of Government's decision to support the NWR scheme that was assessed by the Airports Commission ('The Commission'). Its July 2015 Final Report concluded this was the preferred option of the three shortlisted schemes on the basis of a number of specific assumptions. These included a capital cost estimate of £17.6bn (at 2014 prices) for the relocation of existing and development of all necessary new infrastructure (both airside and landside), within a defined 'red line' site boundary, to allow capacity for a total of 740,000 ATM's. In addition, and essential to affordability, the business case assumed that the whole of this capacity would be fully taken up within two years of the third runway opening in 2026.

These fundamental assumptions were confirmed in the Government's subsequent review, its response to the Transport Committee's Inquiry and the Airports National Policy Statement (ANPS) that was subsequently designated.

The CAA's regulatory proposals from October 2016 therefore reasonably assumed that HAL would proceed with developing what was understood to be a viable and deliverable scheme to allow a DCO application to be submitted within two years.

Instead however, HAL, admitting that NWR remained only a concept while assuring Government that the cost of NWR could be significantly reduced, embarked on a series of abortive attempts to arrive at an affordable and deliverable scheme.

By February 2020, over seven years after the Commission started work and almost five years since its Final Report, HAL's proposals remained unclear. The only certainty is that its proposed 'Step 0,' at a cost which exceeds both Heathrow's current RAB and the Commission's estimate for the whole NWR scheme, provides only a third runway and none of the supporting infrastructure, including passenger processing capacity and aircraft stands, which Government assumed in its decision making.

This enormous capital cost would therefore need to be recovered from, at best, a small increase in passenger numbers. If taken forward, Heathrow's charges, already the highest in the world, would inevitably need to increase still further, reducing competitiveness and resulting in airport expansion having the completely opposite effect to that intended.

By at least October 2016, HAL either knew or should have known that its NWR scheme was fundamentally flawed and could not meet the criteria assumed by Government and subsequently specified in the ANPS. However, it clearly assumed that Heathrow expansion was a *fait accompli* and that its costs would be recovered regardless of outputs or efficiency.

The CAA expected HAL to incur relatively modest costs in quickly and efficiently taking forward to DCO stage what was reasonably assumed to be a well-developed scheme, as indicated by its assumed timescales and provision of a £10m pa threshold for efficiently incurred Category B costs.

In reality, HAL's costs and forecasts have spiralled beyond any sensibly anticipated level and include for example a £1.75bn increase in HAL's estimated early Category C costs in a period of just over a year.

A test of exceptional circumstances should therefore be applied in considering HAL's application to recover its costs through the RAB. Assuming airlines did formally support Heathrow expansion from 25th October 2016, this and the CAA's subsequent regulatory determinations were on the basis of the NWR scheme which Government supported in its decision of that date.

On or before that date HAL knew, or should have known, that its proposals could not meet Government's fundamental assumptions, including but not limited to cost, capacity and deliverability, which were subsequently enshrined in the designated ANPS.

HAL's costs between October 2016 and February 2020 were therefore not incurred, as airlines and the CAA had assumed, in developing a scheme in compliance with the ANPS. Instead, HAL's costs relate entirely (with the exception of its defence against legal challenge) to a series of abortive exercises, resulting in a proposal which, even if assumed to be a first stage of some larger scheme, is patently unaffordable and fundamentally inconsistent with the ANPS.

On the application of any test of efficiency, HAL's claim should therefore be disallowed.

Introduction

This response to the consultation is submitted by Heathrow Hub Ltd/Runway Innovations Ltd. (HHL/RIL), promoters of the Heathrow Extended Northern Runway (ENR) scheme.

We welcome the CAA's review of Heathrow Airport Ltd.'s (HAL) efficiency. This is particularly important and timely, not only in testing the validity of stakeholders' long-standing concerns [1] and press interest [2] but in view of HAL's past and potential future costs on its North West Runway (NWR) scheme.

Our response is aligned with the following topics in the consultation;

- **A** Whether there is evidence of inefficiency in relation to the projects considered in the Arcadis Heathrow Q6 Capex Efficiency Review;
- **B** Reviewing these findings in the context of broader issues;
- **C** We also consider HAL's 'Step 0' proposal in the context of the issues raised in the consultation.

A Inefficiency in Q6 Capex

A1.0 Introduction

A1.1 CAP1964A, the Arcadis Heathrow Q6 Capex Efficiency Review ('the Review') provides a detailed review of the four major projects assessed and which have significantly exceeded their agreed budgets.

A1.2 However, the Review does not discuss whether, or at what level, contingencies were included in the original agreed cost estimates for each scheme. We assume that appropriate allowances would have been made in accordance with normal commercial practice. For example, HAL's cost estimate for NWR *"incorporates an overall risk provision of around 28%, which the IFS considers is an acceptable level of contingency for this stage of the programme"* [3] and *"is in line with industry benchmarks."* [4]

A1.3 This may explain why the Review reports that the out-turn costs of some of the smaller, non-IFS assured projects are slightly below the *"Last Approved Budget."* However, contingencies would effectively make the cost over-runs on major projects even more serious.

A1.4 We comment below on two of the projects reviewed.

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[1] For example, *"Currently the CAA's position is to talk tough whilst not taking any definitive stance on these issues. The result is to signal to HAL, as a monopoly subject to regulation, and with a regulator that historically is loathe* (sic) *to sanction for any inefficient costs, that they can increase costs without fear of sanction. The CAA must define what are the "rules of the game" so that HAL is subject to some kind of discipline and the CAA can do its job, to protect the consumer"* – Response to CAP1658, IAG July 2018 https://www.caa.co.uk/uploadedFiles/CAA/Content/Accordion/Standard_Content/Commercial/Airports/Files/IAG%20CAP1658%20response%20FINAL.pdf

[2] For example, *"Under a complex — and some say perverse — incentive system, the west London hub is encouraged to spend as much as it can on developing the site"* - Sunday Times March 18th 2018 https://www.thetimes.co.uk/article/heathrow-the-cash-machine-with-an-airport-attached-pcfhmw7rr and *"As with most ventures that have monopolistic aspects, Heathrow is not subject to ordinary restraints on capital expenditure" "The gold-plated reason for Heathrow's bloated runway costs",* Financial Times 25th March 2018 https://www.ft.com/content/3668a0a4-2ec7-11e8-9b4b-bc4b9f08f381

[3] Para. 8, CAP1871, CAA December 2019

[4] Para. 9, *ibid*

A2.0 **T3 Integrated Baggage (T3IB)**

A2.1 While the Review's scope was limited to Q6, it notes this project was *"included within the Q5 CIP at £234m. In March 2012 the Estimate at Completion (EAC) increased to £360m, and in June 2013 increased to £435m."* In terms of the works remaining at Q6, the Review confirms costs of *"£92.2m (out of £435m EAC at end of Q5) remaining spend at start of Q6. In December 2014 the remaining spend increased by £43.9m (to) £136.1m (EAC increasing to £478.9m)."* [5]

A2.2 The Review notes *"HAL developed and deployed the estimate in parallel with the continued delivery of the project, as opposed to having a structured definition of scope and procurement route,"* [6] *"even … late in the project, it would appear there remained an element of uncertainty around the scope required to complete the works"* and *"it is difficult to appreciate when clarity of scope actually became obvious."* [7]

A2.3 These uncertainties, with consequent impacts on programme and cost, are all the more significant since *"the two main contracts being cost reimbursable, all costs incurred by the contractors, subject to specific contractual exclusions, would be payable. Therefore, HAL had no option but to pay the Contractors even if they were underperforming."* [8]

A2.4 The Review does not explain why HAL would choose to adopt such a form of contract and concludes "*there is insufficient evidence for a firm conclusion that the project was inefficient, however Arcadis has not been convinced that the project was delivered efficiently."* [9] Even considering only the works carried out in Q6, it is difficult to reconcile this with the evidence, or indeed deduce what the Review actually concludes.

A2.5 We note £30m of T3IB capex incurred in Q5 was disallowed in 2013 as, applying the *"test of whether the expenditure would have been incurred by an efficient operator,"* [10] the CAA concluded it was *"demonstrably inefficient."* [11] While airlines argued for a higher disallowance, the *CAA considered "that disallowing a significant amount of expenditure on a project that began with airline support and included in the RAB is inadvisable unless "exceptional circumstances" can be demonstrated."* [12]

A2.6 We would question the inference that airline support at the point where a capital project is approved is a material factor in any later disallowance decision. If this is correct, it is difficult to see how sanctions can ever be imposed, even where out-turn costs significantly exceed pre-agreed budgets.

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[5] Para. 4.2.1, Heathrow Q6 Capex Efficiency Review, CAP1964A, Arcadis for CAA September 2020

[6] Para. 4.2.3, *ibid*

[7] Para. 4.2.4, *ibid*

[8] Para. 4.2.4, Heathrow Q6 Capex Efficiency Review, CAP1964A, Arcadis for CAA September 2020

[9] Para. 2.6, *ibid*

[10] Para. 9.6, Economic Regulation at Heathrow Airport from April 2014: Final Proposals CAP1103, CAA October 2013 https://publicapps.caa.co.uk/docs/33/CAP%201103.pdf

[11] Para. B12, Appendix B, Reference to the CMA of NERL RP3 price controls: CAA response to provisional findings, CAP1910, CAA April 2020

[12] *ibid*

A3.0 **Main Tunnel and Cargo Tunnel**

A3.1 The 'Tunnels Refurbishment Contract' was executed on 17th January 2014 [13] for refurbishment of both the Cargo and Main Vehicle Tunnels incorporating *"design, building, civils and services elements with the primary objective of reducing the life safety risk to 'As Low as Reasonably Possible' (ALARP)."* [14]

A3.2 Subsequently, HAL's 2019 Strategic Capital Business Plan (*'SCBP'*) confirmed that *"Refurbishing and replacing the tunnel asset systems" (Q6 Business Case reference B131)* [15] was continuing on site *"for the duration of 2019"* and provided the following cost estimates;

- 'Settlement Baseline' £117.3m
- 'December 2018 Baseline' £113.0m
- 'December 2018 EAC (Estimate At Completion)' £160.7m.

A3.3 The Arcadis Review shows the following combined cost estimates for both the "Main & Cargo Tunnel Refurbishments";

- 'Last approved budget' £130.9m
- 'Forecast cost £343.3m' - *"the forecast cost is used on projects that are yet to be completed at the time of this review"* [16] and costs *"have continued to increase since Arcadis' analysis took place."* [17] The project remains incomplete.

A3.4 The Review states *"the price base for the figures contained within this report are nominal and as reported at the time of undertaking the review. These numbers have not been adjusted to consider inflation or where there have been further updates to the prices based on subsequent amendments from HAL or where projects are still on-going."* However, it is not clear which base date is assumed. [18]

A3.5 For the Cargo Tunnel, the Review notes *"in recommencing the project, and with reference to the significant variance between budget and solution, HAL made no attempt to gain any form of alignment. HAL progressed the project with little chance of making any meaningful savings and without setting any realistic cost limits for which the design team to work within."* Yet it concludes that only *"potential inefficiency* (could be) *identified."*

A3.6 In considering the Main Tunnel, the Review simply states it was *"efficiently delivered."* [19] It is difficult to reconcile these conclusions with the evidence.

A3.7 For both projects the Review notes *"there were a large number of design issues carried forward from the design stage into the main contract," "the question to be asked is whether the HAL project Team knew what scope was reflected in the contract documentation"* and *"providing* (the contractor) *met with the*

[13] Para. 4.4.3.2, Heathrow Q6 Capex Efficiency Review, CAP1964A, Arcadis for CAA September 2020
[14] Para. 4.4.3.1, *ibid*
[15] B131 CTA and Cargo Tunnels, Strategic Capital Business Plan, HAL April 2019
https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/investor/reports-and-presentations/other-business-reporting/Strategic-Capital-Business-Plan-2019.pdf
[16] Para. 2.5, Heathrow Q6 Capex Efficiency Review, CAP1964A, Arcadis for CAA September 2020
[17] Para. 1.38, CAP1964
[18] Introduction, Heathrow Q6 Capex Efficiency Review, CAP1964A, Arcadis for CAA September 2020
[19] Para. 2.6, *ibid*

requirements of the performance specifications there should have been no need for redesign, unless HAL instructed a change to requirements." [20]

A3.8 There is no explanation of whether the tender scope and specification were in fact clear, if HAL did instruct any significant variations to the contract, and if so the reason. This makes it impossible to understand the scale of any inefficiency. However, the contract was commenced *"in a state of incomplete readiness"* and HAL appear to have relied on *"consistency in the pricing of the work across all four tenderers"* [21] in lieu of clear and comprehensive tender documentation.

A3.9 Furthermore, the Review concludes that the form of contract, presumably as also used on T3IB *"in common with other HAL projects,"* was entirely inappropriate as it *"provides little incentive for the Contractor to control costs once the threshold pain level has been reached."* [22] If the contract does not include clear specifications and provisions, fails to provide the Contract Administrator with appropriate powers and sanctions, and inappropriately apportions risk, then it seems pointless to question whether *"HAL did do all in their powers to support and intervene and administer the contract as it was intended."* [23]

A3.10 There is no explanation for HAL's wide use of this form of contract which appears to largely apportion risk to the Employer. This appears inexplicable, not only in the way responsibilities are allocated but because it could be seen as disincentivising HAL to control costs since any over-runs, even on the scale shown in the reviewed projects, are almost without exception recovered via the RAB.

A3.11 Furthermore, on the Main Tunnel the Review notes *"there have been a number of scope reductions significantly in response to budget challenges. It is unclear to the IFS how compliance with mandatory requirements has been sustained and assured throughout this process."* [24] Hence, it is not clear if the project has met some or all of the important life safety objectives that required the project to be undertaken.

A4.0 **Conclusion re Arcadis Review**

A4.1 As both airport owner and scheme promoter, HAL has, or would reasonably be expected to have, the unique benefits of detailed asset knowledge as well as *"experience in the successful delivery of major construction projects … and on the experiences and lessons learned from major UK and global programmes."* HAL applies a significant 15.5% cost to each project, over and above those imposed by its *'Design Integrators'*, for what is termed *'Leadership and Logistics,'* [25] providing *"a range of programme management and procurement services."* [26]

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[20] Para. 4.4.3.3, *ibid*

[21] Para. 4.4.7.1, *ibid*

[22] Para. 4.4.3.3, *ibid*

[23] i*bid*

[24] *ibid*

[25] Page 13, Review of Heathrow Airport's Q6 Capex Governance Framework, CEPA for CAA April 2017 https://publicapps.caa.co.uk/docs/33/1563e_H7_Capex_Governance_report_by_CEPA.pdf

[26] Figure 10, Leadership and Logistics categories, Final Report on a study of Heathrow's cost and revenue allocation, PA Consulting for CAA February 2018 https://publicapps.caa.co.uk/docs/33/PA%20report%20on%20cost%20and%20revenue%20allocation%20study%20with%20HAL%20response.pdf

A4.2 HAL might therefore be assumed to be a competent asset owner, experienced scheme promoter and efficient project manager. The Review instead shows significant inefficiencies.

A4.3 However, the Review finds *"there is insufficient evidence for a firm conclusion that these projects were inefficient, although they were not entirely convinced that the projects were delivered efficiently"* [27] and *"HAL's actions may have contributed to the inefficiency of those projects but … the impact of the inefficiency in these cases was difficult to quantify and/or difficult to clearly attribute to HAL."* [28]

A4.4 On the Tunnels contract, *"in relation to the … issues of malpractice, major defects and main subcontractor failure, Arcadis questioned the adequacy of HAL's management and assurance surrounding these and how they allowed this to happen."* [29] For example, the Cargo Tunnel cost increased by £74m in 2017 alone, yet *"no formal review of the budget took place,"* and *"HAL continued to progress the project with little chance of making any meaningful savings and without setting realistic cost limits for which* (sic) *the design team to work within"* [30]

A4.5 The Review states at least some of the cost increase *"is a result of changes in scope instructed by HAL and cannot, therefore, be considered inefficient.*" [31] The quantum is redacted and there is no explanation of these changes or whether they could have been reasonably foreseen. However, it seems illogical that the Review then apparently concludes that any and all cost increases arising from scope change are assumed to be efficient.

A4.6 The review of smaller projects indicates other inefficiencies - for example the Northern Perimeter Parking project where *"unforeseen ground conditions had a significant cost impact on the project as only a visual survey was carried out prior to the commencement of the works."* [32] The project cost increased from an estimate of £3.1m (presumably including contingencies) to £4.9m but there is no explanation for the failure to carry out any ground condition survey at design stage, the need for which would seem obvious, or how the Review can conclude *"the reason for this is understandable under the circumstances and HAL have taken this on board as learning."*[33]

A4.7 Overall, the Review concludes *"the impact of these* (delays and cost over-runs) *is not considered substantial enough to have delivered a financial or benefits loss to customers due to the actions of HAL."* [34] Clearly there is no direct economic loss, but the addition of unanticipated costs to the RAB must surely adversely impact on consumers, airlines or both.

[27] Para. 1.55, CAP1964, CAA September 2020
[28] Para. 1.63, *ibid*
[29] Para. 4.4.5.3, *ibid*
[30] Para. 4.4.7.3, *ibid*
[31] Para. 4.4.7.2, *ibid*
[32] Para. 2.6, Heathrow Q6 Capex Efficiency Review, CAP1964A, Arcadis for CAA September 2020
[33] Para. 2.6 *ibid*
[34] Para. 2.8, *ibid*

A4.8 In view of the above, we trust the Review's conclusions do not represent the regulator's considered judgement. If taken at face value, it is difficult to see how economic regulation on the basis *of ex post* scrutiny in any way mitigates inefficiency and HAL's acknowledged market power. [35]

A4.9 The CAA reached its market power determination as, *inter alia*, *"it considers the … the strength of airline demand to operate from Heathrow means that HAL would be effectively insulated from the effects of any switching away as a result of higher airport charges."* [36]

A4.10 We note that the CAA's 2017 assessment, which considered whether the new capital expenditure governance regime put in place for the Q6 control period was fit for purpose and provided the intended incentives on HAL to deliver capital efficiency, concluded;

- *"Despite the new process being in place, consideration of efficiency continues to primarily rest on the CAA's ex post review of expenditure undertaken at the end of the control period. … Although individual projects have business cases, these tend to be more qualitative than quantitative and we conclude that this lack of quantification is a significant contributor to the degree of scope and cost change that we observe in the early stages of the process.*
- *It is not currently sufficiently clear what the benefits are, whether they are being maximised or whether the level of cost associated with a project is commensurate with its expected value to passengers. As a project is developed there is no effective tool to assess whether the cost is affordable and/or whether the cost benefit ratio is sufficient to warrant investment"* [37]

A4.11 More recently, the CAA recognised *"the risk that incentives may be gamed or may have unforeseen consequences"* and noted *"the regulatory regime applicable to HAL does not contain a general obligation to promote economy and efficiency across the full range of HAL's activities."* [38]

A4.12 These issues are particularly serious in the absence of other remedies where inefficiency may give rise to abuse of market power. The CAA acknowledge that *"competition law is not well suited to deal with questions of efficiency and would involve a lengthy process, making timely intervention to protect the interests of users difficult."* [39] Meanwhile, airlines, as proxy for consumers, are powerless since they *"do not bring commercial pressure to bear on HAL as the capacity constraints at Heathrow means they have no countervailing buyer power."* [40]

A4.13 Furthermore, as the Competition Commission recognised in 2009, there is an inherent asymmetry between the relative ability of HAL and airlines to resource scrutiny of capital projects. [41] The

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[35] "*Taking account of the analysis outlined in this document […] the CAA has concluded that HAL has [substantial market power] in the provision of airport operation services to [full service carriers] and associated feeder traffic airlines that are limited to Heathrow*" – Para. 5.24, Market power determination in relation to Heathrow Airport, CAP 1133 CAA 2014.

[36] Para. 2.4, *ibid*

[37] Page 4, Review of Heathrow Airport's Q6 Capex Governance Framework, Cambridge Economic Policy Associates Ltd. for CAA April 2017

[38] Para. 2.18, CAP1825, Economic regulation of Heathrow Airport Limited from January 2020: notice of proposed licence modifications, CAA August 2019

[39] Page 30, CAP1825

[40] Para. 2.12, CAP1825

[41] "*We accept the value of the role played by the airlines in the regulatory process: but nonetheless believe that even the collective efforts of airlines are insufficient to negotiate on equal terms with BAA. Revenues from regulated airport charges are a much higher proportion of BAA's revenues than they are of airlines' costs, meaning that BAA is likely to be willing to devote significantly more resource to the regulatory process. BAA's monopoly on the provision of many types of information increases its advantage, requiring engagement by an*

consultation acknowledges the current difficulties which airlines face [42] but the loss of experienced staff is likely to result in longer term challenges.

A4.14 We understand HAL's argument that *"in a diverse capex portfolio such as HAL's, it is likely that at least one project will exceed its budgeted costs."* [43] However, where four major projects have significantly exceeded their budgets, it is important that every effort is made to not only achieve but also conclusively demonstrate efficiency.

A4.15 The Competition Commission, in its Final Report, noted it was *"surprised during the Heathrow/Gatwick Q5 review, by the very substantial increases made to the capital expenditure programmes at both Heathrow and Gatwick, which suggested to us weaknesses in BAA's planning of capital expenditure and/or a degree of 'regulatory gaming"* [44] and that *"some of the criticisms mentioned above are inherent in RAB-based regulation, which incentivizes BAA to 'play the regulatory game' – i.e. to invest in order to achieve an allowed return – rather than providing what users necessarily want, in terms of quantity, quality, location and timing of investment*" [45]

A4.16 Whether or not the resulting cost over-runs are disallowable, the clear and ongoing inefficiencies mean it is important for all parties to have confidence that there can be no accusation of *"regulatory gaming"* under HAL's ownership. This seems particularly important in view of airlines' concerns over HAL's gearing and dividend payments. [46]

A4.17 The current regulatory approach *"places the onus on the CAA to demonstrate that HAL has been inefficient in its expenditure"* [47] on an *"ex post"* basis. This clearly presents significant challenges. [48] The CAA has made only two relatively modest disallowances over the past twenty years, [49] illustrating the difficulty in meeting the test of *"exceptional circumstances."* We note the example in CAP1343 of how this test might be applied where external factors apply [50] under the Airport Charges Regulations [51] and EU Airport Charges Directive. [52] However, we are not clear how the test is applied where the circumstances arise from failings on the part of HAL and do not directly and immediately result in a request for changes to regulated charges.

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active regulator, to redress the balance" – Para. 12, CAA comments on regulation and on BAA's performance, Appendix 6.1, Competition Commission https://webarchive.nationalarchives.gov.uk/20140402211932/http://www.competition-commission.org.uk/assets/competitioncommission/docs/pdf/non-inquiry/rep_pub/reports/2009/fulltext/545_6_1.pdf

[42] "*We recognise the stretch on resources that HAL, airlines and other stakeholders are currently experiencing"* - Introduction, CAP1964

[43] Para. 9.7, Economic Regulation at Heathrow: Final Proposals CAP1103, CAA October 2013

[44] Para. 7.39, BAA airports market investigation, Final Report, Competition Commission, March 2009 https://webarchive.nationalarchives.gov.uk/20140402170726/http://www.competition-commission.org.uk/assets/competitioncommission/docs/pdf/non-inquiry/rep_pub/reports/2009/fulltext/545.pdf

[45] Para. 6.22, BAA Airports Market Investigation, Competition Commission March 2009

[46] For example, IAG response to CAP1782 consultation, https://www.caa.co.uk/uploadedFiles/CAA/Content/Accordion/Standard_Content/Commercial/Airports/H7/International%20Consolidated%20Airlines%20Group%20(IAG).pdf

[47] Para. 1.21, CAP1964

[48] Para. 10, CAP1951

[49] Disallowances of £30m on T3IB and £22.5m on Personal Rapid Transport System, Paras. B12 and B13, Appendix B, Reference to the CMA of NERL RP3 price controls: CAA response to provisional findings, CAP1910, CAA April 2020

[50] Para. 5.15, CAP1343

[51] Article 9, The Airport Charges Regulations 2011 No. 2491

[52] Article 6 (2), EU Airport Charges Directive 2009/12/EC

A4.18 HAL's Capital Efficiency Handbook defines *"the delivery of an asset in a manner which optimises and balances Scope, Time, Cost, and Risk, procured in an appropriate manner having followed a structured Development process with appropriate decision points and governance."* [53] Although the Review clearly shows inefficiencies in a number of major projects when tested against these criteria, it appears the CAA may not see these as meeting the test of *"exceptional circumstances."*

A4.19 Of the two disallowances made since 2000, one was the result of the project proceeding without airline support. [54] There is therefore effectively only the single disallowance of £30m, over a period when the RAB increased, for example, from £2,530m in 1998 [55] to £16,202m in 2018. It inevitably begs the question of when the test can ever be meaningfully applied.

A4.20 In the case of HAL's claim for over half a billion pounds of Category B & C, wind-down and legal costs, the CAA must presumably consider the issue of disallowance in the context of *"airline support"* [56] for both the work carried out and the costs incurred, and any conditions or limitations that might have been imposed on such support.

A4.21 It is therefore welcome that the consultation proposes an alternative *'Demonstrably Wasteful or Inefficient'* approach as *"a logical next step from the existing framework for the treatment of capex."* [57]

A4.22 There is clearly a need for a new approach, and we suggest this could include consideration of what might be termed a conventional commercial approach to the procurement and delivery of capital projects as an alternative to *ex post* regulatory scrutiny of investment efficiency.

A4.23 We trust there is common ground that economic regulation, however stringent, is no substitute for competitive commercial tension. There would therefore appear to be no reason why HAL, as the private owner of Heathrow's assets, should not be fully responsible for efficient investment in capital projects rather than, as now, receiving upside benefits while, not least because of HAL's choice of construction contract, effectively leaving consumers responsible for the vast majority of downside risk.

A4.24 Agreement as to scope, cost, programme, risk allocation and procurement would still be required with the airline community, who effectively act as proxy for end users and ultimately fund the proposed investment.

A4.25 However, HAL would then be responsible for procuring and delivering capital projects in accordance with these agreed terms. This would include ensuring tenderers were provided with detailed and accurate information on existing assets, closely specifying the works, ensuring appropriate contract conditions, including contingencies, and monitoring programme, quality and cost to ensure outcomes consistent with pre-agreed conditions.

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[53] Para. 9, Appendix C, CAP1964

[54] Para. B13, Appendix B, Reference to the CMA of NERL RP3 price controls: CAA response to provisional findings, CAP1910, CAA April 2020

[55] Figure 36, Imagine a World Class Heathrow, London First June 2008 https://londoneconomics.co.uk/wp-content/uploads/2011/09/54-Analysis-of-the-regulatory-environment-facing-the-owners-of-London-Heathrow.pdf

[56] Para. B12, Appendix B, Reference to the CMA of NERL RP3 price controls: CAA response to provisional findings, CAP1910, CAA April 2020

[57] Para. 1, *ibid*

A4.26 Any claim by the appointed contractor, arising for example, from unexpected or unforeseen asset conditions, exceptionally inclement weather, force majeure etc. or as a result of client variations, would be determined between client and contractor through industry-standard contractual procedures, with arbitration as a last resort.

A4.27 HAL, as asset owner and project client, would bear responsibility for cost over-runs where, for example, asset information was found to be incomplete or inaccurate, or where variations had been instructed without the agreement of users.

A4.28 This would appear to largely avoid the need for regulatory scrutiny, particularly the recognised and unavoidable challenges inherent in attempting to determine efficiency *ex post* and would fully incentivise HAL to efficiently and effectively manage projects.

A4.29 There would appear to be no reason why Heathrow's capital projects could not be procured and delivered in this way. If nothing else, it would overcome the difficulty of *"judging performance with the benefit of hindsight,"* [58] lighten the regulatory burden on all parties and allay any concerns as to HAL's motivations and incentives.

A4.30 We understand that Gatwick Airport Ltd. (GAL) procures capital projects in a similar commercial way [59] under the terms of its Licence. [60] This appears to have been successful, and certainly the CAA's consultation for Gatwick's next regulatory period from March 2021 does not propose any changes. [61] Placing responsibility on the asset owner does not seem to have had any negative impact on asset value since Vinci's 2019 transaction valued Gatwick close to 20 x EBITDA [62] - close to the highest of any UK or European transaction [63] over the past twenty years [64]

A4.31 We note the CAA's concern that some form of commercial approach, or any other proposal to create incentives for efficiency, may result in an increase in HAL's cost of capital. [65] We suggest it may be relevant to consider Gatwick and unregulated airports as comparators in assessing this risk.

A4.32 The Review also casts further serious doubt on HAL's ability to accurately estimate the cost and risk of the NWR scheme. We address this below.

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[58] Para. 17, CAP1964

[59] Gatwick Airport Ltd. *"does not face direct financial incentives similar to the investment 'triggers' in its previous price cap. Neither is it subject to the enhanced governance arrangements that now apply to Heathrow Airport Limited's investment"* – Para. 6.6, CAP1502, CAA December 2016

[60] Schedule 4, Licence granted to Gatwick Airport Ltd. by the Civil Aviation Authority under section 15 of the Civil Aviation Act 2012 13th February 2014

[61] Economic regulation of Gatwick Airport Limited: consultation on new commitments, CAP 1973 October 2020

[62] *"Gatwick Airport joins Vinci Airports",* Vinci December 2018
https://www.vinci.com/commun/presentations.nsf/0A8E90C7557C5C99C1258370001F3506/$file/cruiser-presentation-version-vinci.pdf

[63] We note the sale of London City airport was an outlier with a reported valuation of c.28 x EBITDA
https://www.infrastructureinvestor.com/canadian-led-consortium-wins-london-city-airport/

[64] Figure 8a, UK airport traffic and European transactions, Airport Valuations, PwC February 2019 https://www.pwc.co.uk/transport-logistics/assets/airport-valuations-february-2019.pdf

[65] Para.15, CAP1964

B Reviewing findings in the broader context

B1.0 Category B & C Costs

B1.1 We welcome the consultation's further consideration of NWR planning (Category B) and early construction (Category C) costs which HAL seek to recover for the period between October 2016 and February 2020, (with additional and as yet unknown costs relating to its Supreme Court appeal).

B1.2 The consultation proposes some *"updates"* to previous policy on cost recovery and risk sharing. However, both the findings of the Arcadis Review of Q6 capex efficiency and our own analysis of HAL's NWR scheme show the need for a more fundamental reassessment.

B1.3 We do not seek to challenge either "*the long-established regulatory principle that efficiently incurred capital costs are added to HAL's RAB"* [66] or the CAA's policy that efficiently incurred expansion costs will be added to HAL's RAB, [67] subject to their being *"transparently identified and separately reported."* [68]

B1.4 We also agree that assessing the *"efficiency of capex projects on an ex post basis is challenging."* However, CAP1750 and CAP1751, the Independent Planning Cost Reviews which considered whether NWR scheme costs were efficiently incurred in 2016-17, concluded HAL did not have;

- A *"clear and singular integrated baseline plan to approval of the DCO that aligns requirements and scope with the associated time, cost and risk"* or;
- *"A programme level change control process for the expansion programme to manage the baseline scope, cost, schedule and risk."*

B1.5 Furthermore, the consultants *"were unable to undertake our review of cost as planned as a result of the quality and timely availability of cost information."* [69]

B1.6 The Reviews also do not appear to consider the critical issue, that in order to be considered for recovery through the RAB, HAL's costs should not only be supported by evidence and correctly *"allocated"* but should be *"efficiently incurred"* [70] in the wider sense, i.e.: solely on outputs which deliver benefits to and are of value to users/consumers.

B1.7 CAP1940 noted the assumption that HAL would *"develop a high quality planning application,"* and reserved the right to impose a financial penalty *"in certain limited circumstances where HAL had unilaterally withdrawn from the planning process."* [71] However, there was no consideration of a scenario where HAL failed to develop a credible and viable scheme.

B1.8 We therefore welcome the CAA's proposal to use a Demonstrably Inefficient or Wasteful Expenditure (DIWE) framework to determine any disallowance of HAL's capex, and in particular note the following tests;

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[66] Para. 25, CAP1940 June 2020

[67] Para. 26, *ibid*

[68] Footnote 27, *ibid*

[69] Para. 4.1.3, Key Findings, Independent Planning Cost Review, CAP 1750, PwC for CAA November 2018

[70] Para. 35, CAP1940 June 2020

[71] Paras. 21 & 22, *ibid*

- *"the extent to which any expenditure was increased by any material error or mistake on the part of HAL and/or its third-party contractors.*
- *The extent to which those outputs were appropriate outputs to be delivered in the context of creating (direct and indirect) benefits for the users of its services."*

B1.9 HAL seek to recover the following costs which it claims to have incurred on the NWR scheme between 25th October 2016, the date of Governments Preference Decision, and 27th February 2020, when judgement was handed down in the Court of Appeal;

- £504m *"early expansion costs"* comprising £394m Category B & £110m Category C costs incurred from 25th October 2016 to February 2020 [72]
- £46m "*wind-down costs to Q3 2020"* [73]
- £TBA legal costs [74]

B1.10 We note the current pandemic will require fundamental reconsideration of demand forecasts and the regulatory framework. However, these are immaterial to HAL's claim which relates entirely to its costs before the impacts of Covid-19 became apparent.

B1.11 HAL also seek to recover its legal costs in connection with the Supreme Court appeal, heard on 7th and 8th October 2020, but again these are unrelated to the pandemic.

B1.12 HAL's claim should therefore be considered on the basis of assumptions prior to February 2020. In assessing whether these costs were efficiently incurred, we compare the outputs and consumer benefits assumed by the Airports Commission and Government with HAL's expansion proposals as developed by February 2020.

B2.0 **Airports Commission's and Government's assumptions**

B2.1 The Airports Commission's ('The Commission') very first report made clear the need *"to ensure that the outputs of this process are of sufficient depth and rigour to enable Government to make a swift decision on our recommendations."* [75] It subsequently asked the three shortlisted scheme promoters, including HHL, to submit material to allow the Commission *"to develop as comprehensive a picture as possible of the risks and opportunities within each of the proposals, and to prepare the background evidence needed for the delivery of a final recommendation"* [76]*… "to ensure that the Commission is well-placed to deliver a timely and robust final report."* [77]

B2.2 As promoters of the ENR scheme, we were well aware of the Commission's reasonable expectation that scheme promoters submitted robust proposals.

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[72] Footnote 22, *ibid*

[73] Para. 40 *ibid*

[74] Para. 43 *ibid*

[75] Para. 1.22, Guidance Document 01: Submitting evidence and proposals to the Airports Commission, February 2013 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/70285/submitting-evidence-airports-commission.pdf

[76] Para. 68, Interim Report, Airports Commission December 2013

[77] Para. 1.4, *ibid*

B2.3 The Commission's Final Report confirmed it had "*unanimously concluded that the proposal for a new Northwest Runway at Heathrow Airport … presents the strongest case."* [78] This relied on HAL's claims that NWR would provide capacity for 740,000 air transport movements per year [79] at a capital cost of £17.6bn (excluding surface access) [80] at 2014 prices. [81]

B2.4 A Statement of Principles, agreed in the course of 2016 between the Secretary of State and each promoter, subsequently confirmed the key undertakings and assumptions for each scheme.

B2.5 HAL's Statement, signed in October 2016, confirmed HAL's *"intention to develop a new full length runway, with new terminal and other handling capacity sufficient for the Airport to deliver 740,000 ATMs per annum, forecast to serve up to 130 million passengers per year"* and that *"the incremental investment to construct this Scheme and related property purchases, compensation and mitigations is currently forecast to require a £16.4 billion capital outlay between 2019 and 2035 (as noted in HAL's submission to the Airports Commission in 2015)."* [82] It is not clear why this cost estimate differs from the Commission's estimate of £17.6bn, comprising £12.8bn works costs, £2.6bn risk and £2.2 Optimism Bias. [83] [84]

B2.6 In March 2018 the House of Commons Transport Committee's report on the draft Airports National Policy Statement (ANPS) confirmed Government's evidence that the NWR business case relied on the assumption that the entire new capacity of a third runway *"will be filled within two years of an opening date in 2026."* [85]

B2.7 This was disputed in Government's response, which stated *"it is not assumed that Heathrow will fill up within 2 years of opening. This is a modelling result which reflects the extent of pent-up demand for services from Heathrow. In practice, supply constraints … could mean it takes longer for Heathrow to reach full capacity. This is why a sensitivity test was undertaken … to assess the impact of phasing capacity evenly over 10 years."* [86]

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[78] Executive Summary, Final Report, Airports Commission July 2015 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/440316/airports-commission-final-report.pdf

[79] Para. 5.10 and Table 12.1, Airports Commission Final Report July 2015

[80] Para. 13.80, *ibid*

[81] Table 11.1, *ibid*

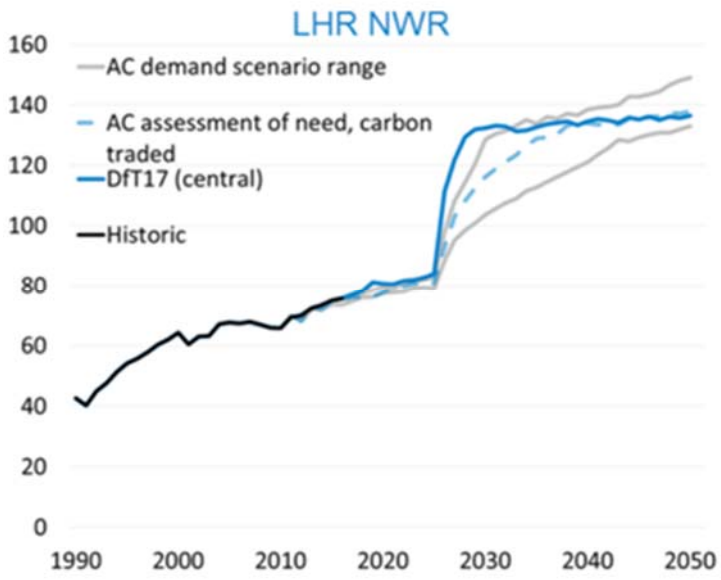
[82] Appendix 1: Scheme – Statement of Principles agreed between Heathrow Airport Limited and the Secretary of State for Transport in relation to the Heathrow north-west runway scheme, 25th October 2016 https://www.gov.uk/government/publications/heathrow-airport-limited-statement-of-principles

[83] Table 11.1, Airports Commission Final Report July 2015

[84] Cost & Commercial Viability: Cost & Revenue Identification Update, Jacobs for Airports Commission June 2015

[85] Page 52, Airports National Policy Statement, Third Report of Session 2017-19, House of Commons Transport Committee March 2018 https://publications.parliament.uk/pa/cm201719/cmselect/cmtrans/548/548.pdf

[86] Page 31, Government Response to the Transport Committee Report on the revised draft Airports National Policy Statement, Secretary of State for Transport June 2018 https://old.parliament.uk/documents/commons-committees/transport/government-response-to-the-transport-committee-report-on-the-revised-draft-airports-nps-web-version.pdf



B2.8 However, as shown above, the DfT's NWR business case in 2017, [87] after Government's decision to support the scheme, clearly showed that *"under the LHR Northwest Runway scheme, Heathrow airport is expected to be full by 2028"* (i.e.; two years after the new runway was assumed to open in 2026) "*compared to 2035 in the AC's assessment of need, carbon traded forecasts. This assumes no phasing of additional capacity, and no barriers to airlines making use of this capacity as soon as it becomes available."* [88]

B2.9 This is also consistent with HAL's earliest assumptions which, in 2014, confirmed 740,000 ATM's and 130mppa by 2030, *"the end year of the 3R* (3 runway) *forecasts. This is a notional 'worse case' scenario and assumes that the airport will operate at maximum capacity and have all infrastructure operational by 2030."* [89]

B2.10 In June 2018 the Statement of Principles was *"superseded and replaced in its entirety by the Relationship Framework Document setting out the relationship between the Department for Transport and Heathrow Airport Limited."* This stated *"the NPS sets out the parameters for the Scheme. Accordingly, this Relationship Framework Document does not need to deal with the definition of the Scheme and how it will achieve the desired capacity."* [90]

B2.11 The ANPS, designated at the same time, confirmed that NWR was assumed to deliver capacity of 740,000 ATM's pa [91] at a capital cost of £17.6bn [92] excluding the cost of, or contributions to, surface

[87] Figure 2.4, *"Terminal passengers at the expanded airport"*- Updated Appraisal Report, Airport Capacity in the South East, DfT October 2017

[88] Para. 2.19, Updated Appraisal Report, Airport Capacity in the South East, DfT October 2017

[89] Slide 6, Appendix to 5.8 – A resource efficient Heathrow, Taking Britain Further, Volume 1 Technical Submission, HAL 2014 https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/about/airports-commission/technical-assessment/10_Heathrow_3RNW_-_Resource_Efficiency.pdf

[90] Annex 1, NPS: How issues are addressed, Relationship Framework Document between the Department for Transport and Heathrow Airport Limited, 26th June 2018

[91] Para. 3.59, Airports National Policy Statement, DfT June 2018

[92] Para. 3.56, *ibid*

access works physically needed [93] as well as those required to mitigate the environmental impacts of the scheme. [94] [95] The ANPS also assumed that the full NWR scheme would be delivered and operating at capacity by 2030, [96] referencing the DfT's appraisal showing the additional local employment peaking in 2030 with no further increase between 2030 and 2050. [97]

B2.12 The Relationship Framework Document also stated *"the Department is aware of significant progress made by Heathrow towards the delivery of the Scheme, which as matters currently stand goes beyond the position of other potential promoters of the Scheme"* [98] This effectively confirmed that Government assumed the NWR scheme was mature and had been developed to a stage where there could be confidence in its cost, deliverability, impacts and benefits.

B2.13 Subsequently the CAA developed a regulatory framework which included significant financial incentives for HAL to *"make a high quality planning application."* [99]

B2.14 We describe this sequence of assessment and decision making in detail because, by February 2020, over seven years had elapsed since the start of the Airports Commission's process. By then, HAL not only had corporate memory of previous (albeit failed) third runway schemes over at least the past twenty years, [100] but also policy support via a uniquely site and scheme specific National Policy Statement and Government's – we believe unprecedented - assurance of fully supportive economic regulation. [101]

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[93] *"The Government expects the applicant to secure the upgrading or enhancing of road, rail or other transport networks or services which are physically needed to be completed to enable the Northwest Runway to operate. This includes works to the M25, local road diversions and improvements including the diversion of the A4 and A3044, and on-airport station works and safeguarding"* - Costs of works, page 32 Relationship Framework Document between the Department for Transport and Heathrow Airport Limited 26th June 2018 and para. 5.19 Airports NPS June 2018

[94] *"The airport will be expected to achieve a public transport mode share of at least 50% by 2030, and at least 55% by 2040, for passengers"*- Para. 3.51 Airports NPS June 2018

[95] *"The amount of any contribution for surface access schemes that can be included in Heathrow's regulated asset base is subject to the approval of the CAA given in accordance with its policies"*- Costs of works, p.32 Relationship Framework Document between the Department for Transport and Heathrow Airport Limited 26th June 2018

[96] For example;

- "*The Airports NPS covers development that is anticipated to be required by 2030 as well as other development required to support it"* – para.1.21, Airports NPS
- *"The Heathrow Northwest Runway scheme is expected to generate up to 114,000 additional jobs in the local area by 2030"* - Para. 3.28, Airports NPS June 2018 referencing page 29 of Updated Appraisal Report: Airport Capacity in the South East, DfT October 2017

[97] Table 6.1, Updated Appraisal Report: Airport Capacity in the South East, DfT October 2017 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/653879/updated-appraisal-report-airport-capacity-in-the-south-east.pdf

[98] Para. 2.6, Relationship Framework Document between the Department for Transport and Heathrow Airport Limited, 26th June 2018

[99] Para. 24, CAP1940

[100] For example, South East and East of England Regional Air Services Study (SERAS) 2002, Project for the Sustainable Development of Heathrow and Adding Capacity at Heathrow airport 2007 https://webarchive.nationalarchives.gov.uk/20100203122040/http://www.dft.gov.uk/consultations/archive/2008/heathrowconsultation/consultationdocument/

[101] For example;

- *"Economic regulation consistent with adequate risk sharing and long-term, predictable and stable financial returns that are commensurate with the higher risk nature of the investment relating to the Scheme compared to Heathrow's business as usual"* (para. 9.1.1.7, Relationship Framework Document between the Department for Transport and Heathrow Airport Limited, 26th June 2018);
- "*A regulatory determination which ensures that all economically and efficiently incurred costs are included in the regulatory asset base (RAB) including, among other things, recovery of costs for planning, noise mitigation, property and community compensation,*

B2.15 It would therefore seem reasonable to expect HAL to have developed an affordable and deliverable *"high quality"* scheme consistent with the assumptions of a scheme cost of £17.6bn (at 2014 prices) to deliver capacity for 740,000 ATM's.

B2.16 However, it is clear that from October 2016, HAL instead embarked on a series of fundamental redesigns of NWR in attempting to arrive at a deliverable, viable and affordable scheme instead of that considered by the Airports Commission and reviewed by Government.

B3.0 Cost

B3.1 In 2016, HAL, apparently seeking to influence Government's decision on whether to accept the Airports Commission's recommendation, claimed the cost of NWR could be significantly reduced. In a press interview, HAL's Chairman wondered *"you think, is there a smarter way to do this?"* [102] and suggested a cut of *"up to £3bn"* was possible.

B3.2 The Secretary of State's October 2016 statement to Parliament, announcing Government's decision to support NWR, gave an *"assurance on costs,"* saying *"A new runway will bring in new capacity to meet demand and allow for greater levels of competition, which will lower fares relative to no expansion, even after the costs of construction are taken into account. It is important to send the message that this is not expansion at any cost, but the right scheme at the right price. I expect the industry to work together to drive down costs for the benefit of passengers. As the regulator, the CAA will have a vital part to play in achieving that and ensuring that new capacity fosters competition."* [103]

B3.3 Subsequently, in December 2017, HAL announced it had *"identified options that could enable delivery of an expanded hub airport for Britain for £2.5bn less than the plans submitted to the Airports Commission in 2015. The revised £14bn option would be delivered without compromising on Heathrow's local commitments or passenger experience."* [104] Notably however this did not include a commitment to

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development costs and costs in meeting any requirements of the NPS by Heathrow; all reasonably incurred expenditure in relation to surface access and environmental matters by Heathrow and any reasonably incurred expenditure for maintaining support for and progressing Expansion by Heathrow. Heathrow's case assumes that contributions such as those relating to surface access schemes, environmental and/or community measures remain affordable" (para. 9.1.1.8 *ibid*);

- "The regulatory framework determined by the CAA will provide an appropriate level of assurance of the long-term, predictable, stable and adequate returns for key elements of the Expansion and does not materially change any of the relevant assumptions Heathrow has made in its current funding and financing plan (as such assumptions are applicable to the current Scheme) in the event the Scheme progresses. Heathrow's commercial decision on whether or not to proceed with investment related to Expansion is dependent on a regulatory settlement that is consistent with these factors and on terms and conditions which Heathrow's shareholders view as a commercially viable basis upon which to take forward investment" (para. 9.1.1.9 *ibid*)

[102] Lord Deighton interview, The Times, 16th September 2016 https://www.thetimes.co.uk/article/heathrow-offers-3bn-cost-cut-in-bid-to-secure- third-runway-hps0lsqxp

[103] Column 165, Hansard 25th October 2016 https://hansard.parliament.uk/commons/2016-10-25/debates/4D74A7CB-8921-48BD-9960-FD15D5D1EEDF/AirportCapacity

[104] *"The options that would enable the identified £2.5bn cost reductions involve three things:*

- Repositioning new buildings over existing public transport and baggage infrastructure. This includes building additional capacity at both Terminals 2 and 5 rather than a dedicated terminal or satellite building between today's northern runway and the new northwest runway

- Technological advancements which reduce the amount of terminal space required to process passengers without compromising experience

- More efficient phasing of capacity construction – incrementally increasing terminal capacity in blocks to better match growing demand" – Press release, Heathrow Airport Ltd. 18th December 2017 https://mediacentre.heathrow.com/pressrelease/details/81/Expansion-News-23/9064

delivering the same or comparable scope, or the same capacity, as the scheme assessed by the Commission and supported by Government.

B3.4 In June 2018, a DfT briefing paper confirmed that *"since 2016, Heathrow has announced that it has identified potential cost savings of up to £2.5 billion* (compared to the scheme assessed by the Airports Commission) *through engagement with airlines under the oversight of the CAA."* [105]

B3.5 This revised proposal, termed the *'Westerly Option,'* [106] omitted the satellite terminal and aircraft stands adjacent to the third runway. These were core elements of the NWR scheme assessed by the Commission and reviewed by Government, [107] and critical to efficient airport operations by allowing aircraft using the North West Runway to largely operate independently from the existing airfield. The Commission concluded this was necessary to avoid what would otherwise be unacceptable levels of ground congestion on linking taxiways. [108]

B3.6 However, HAL's subsequent 2019 public consultation showed that, despite extensive development work, the *'Westerly Option'* had by then been abandoned. [109]

B4.0 **Deliverability**

B4.1 It is clear that HAL's costs since October 2016 were incurred not only in a search for an affordable scheme, but also in attempts to make NWR deliverable. In September 2016, HAL's Chairman effectively confirmed that NWR at that stage was little more than a concept, stating *"it's the natural next stage when you move from concept to design and delivery."* [110]

B4.2 For example, the NWR scheme requires the M25 to be diverted, with the northern tie-ins in extremely close proximity to the M25/M4 interchange, presenting very significant challenges, not only in terms of ensuring highways geometries compliant with DMRB [111] standards but also runway height and gradients, and their relationship with the existing airport campus.

B4.3 In 2017 Highways England stated *"the runway (and) the taxiways over the M25 must be raised sufficiently above the existing ground level to prevent the M25 having to be lowered to a level which will*

[105] Heathrow North West Runway economic regulation: financing and affordability explanatory briefing, DfT 21st June 2018 https://www.gov.uk/government/publications/heathrow-north-west-runway-and-economic-regulation/heathrow-north-west-runway-economic-regulation-financing-and-affordability-explanatory-briefing

[106] Westerly Option Masterplan, Westerly Option Review, Arcadis for CAA May 2018

[107] Heathrow Expansion Programme: Cost Efficiency Review – Westerly Option Review, Arcadis for CAA May 2018 https://www.caa.co.uk/uploadedFiles/CAA/Content/Accordion/Standard_Content/Commercial/Airports/Westerly%20Option%20Review%20Report_FINAL%20Redacted%20to%20be%20published.pdf

[108] In order to avoid ground congestion and capacity constraints, NWR will require *"satellite and R3 largely operated as a single unit with limited taxiing to/from the remainder of the airfield"* - Para 2.1.3 Operational Efficiency: Phasing and Facilities Review, Jacobs for Airports Commission, June 2015

[109] Figures 6.2.3 and 6.3.3, Preferred Masterplan, HAL June 2019

[110] Lord Deighton interview, The Times, 16th September 2016

[111] Design Manual for Roads & Bridges, Standards for Highways

result in a gradient on the carriageway in excess of 3% in any location. This would result in unacceptable capacity and safety implications as a result of slow-moving HGVs." [112]

B4.4 As late as 2018, HAL admitted that its original proposal to bridge the M25, as assumed by the Commission, had been found to be impossible. [113] This belatedly recognised the challenge of raising the whole airfield level by 9 metres, [114] not least because of the amount of fill that would be required. [115] In evidence to the Transport Committee's Inquiry into the ANPS, HAL was unable to confirm any alternative proposal, stating only that a *"a range of options"* was being considered, [116] that there was no plan [117] other than noting the options of either *"tunnelling or bridging"* [118] and therefore no cost estimate. [119]

B4.5 In the absence of firm proposals, HAL stated they were *"consulting to ask people's views"* [120] and a range of options was included in the June 2019 consultation. This included a preferred scheme but noted *"Highways England is continuing to consider the acceptability of the bridging study."* [121] The consultation acknowledged that *"options should ensure that the M25 is kept operational during the works although isolated closures might be required in order to facilitate construction"* [122] but neither the Scheme Development Report nor Construction Proposals documents provided any information on construction impacts on the M25 or the wider highway network.

B4.6 In 2019, Highways England's response to the CAA's consultation stated *"In demonstrating acceptability to Highways England, HAL will need to undertake design work on a number of complex SRN assets, which will include a new tunnel taking the M25 under a series of airfield bridges crossing the motorway, as well as consequential changes to, for example, structural, pavement and drainage assets. Highways England would only be able to confirm that the proposals are acceptable at the DCO stage following completion of this design work."* [123]

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[112] M25 Heathrow Tunnels, Deliverability Report, Highways England (dated December 2017 but including material up to December 2018) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/781894/EIR_768_483_Information_005_.pdf

[113] *"Bridging the runway over the M25 as well as tunnelling the M25 under the runway has been discontinued due to delivery complexity and the impacts to road users during the construction period"* - Para. 7.3.7, Our Emerging Plans, HAL, January 2018

[114] *"Bridging over the existing level of the M25 has been discontinued by us as an option because it would be necessary to raise the airfield level by +9 metres"* - Para. 5.5.3, Our Emerging Plans, HAL, January 2018

[115] *"However, on further investigation, it was found that the volume of earthworks required to support the runway at a 9m elevation above the M25 was unviable"* – Para. 3.4.8, Scheme Development Report, HAL, January 2018

[116] Para. 5.5.4, Our Emerging Plans, HAL, January 2018

[117] *"There is a lot more work that we need to do. The first thing to do will be to finalise what the plan is. We will only be able to do that once we have completed the first consultation and come down to an individual scheme. Then we will be able to do a far more detailed costing"* – Q382, Oral evidence HC548, 5th February 2018

[118] *"The tunnelling and the bridging are the two options that we think are the most logical when it comes to balancing cost disruption and deliverability"* – Q391, *ibid*

[119] Q382, *ibid*

[120] Q391, *ibid*

[121] Para. 1.5.35, Updated Scheme Development Report, Document 3 of 5, HAL June 2019

[122] Para. 1.3.7, *ibid*

[123] Highways England response to CAA Consultation on The Economic Regulation of Capacity Expansion at Heathrow Airport: Consultation on Early Costs and Regulatory Timetable CAA CAP 1819, 21st August 2019 https://www.caa.co.uk/uploadedFiles/CAA/Content/Accordion/Standard_Content/Commercial/Airports/H7/Highways%20England.pdf

B4.7 Despite the costs which HAL had incurred in developing its proposals by 2019, Highways England felt it necessary to advise the CAA that *"any proposal by the CAA to restrict or regulate HAL's Category B costs could therefore undermine the ability of HAL to develop a sufficiently detailed design which satisfies the requirements of DfT Circular 02/13, and result in Highways England being unable to accept the DCO proposals submitted by HAL. This may jeopardise successful delivery of the project."* [124]

B5.0 **Landtake**

B5.1 HAL had assumed that the 'red line' scheme boundary shown on its masterplan, and included in the ANPS, allowed for the full extent of the NWR scheme, including provision for relocating displaced property and infrastructure. [125] The Statement of Principles confirmed;

- *"New zones of offices, hotels and ancillary infrastructure have been highlighted on the masterplan in order to replace displaced facilities or to meet increased demand from a third runway"*
- *"At this stage, a new commercial development zone is proposed to the west of Heathrow West, plus more intensive use of the land currently along the A4 Bath Road which will now be between the runways."* [126]

B5.2 The Transport Committee's report specifically assumed that *"The direct impacts on local community and planning considered within the NPS, and to which a future NWR development consent order (DCO) will apply, are indicated by the 'redline' boundary map'."* [127]

B5.3 The ANPS similarly confirmed that the red line boundary defined the full extent of the scheme, for example noting the proposed relocation of the "*"two Immigration Removal Centres (IRC's) to the north-west of Heathrow Airport, run as one facility, within the land shown inside the red line on the scheme boundary map (at Annex A)."* [128]

B5.4 However, HAL's 2019 consultation showed the need for a significant amount of additional land beyond the red line boundary defined by the ANPS. The consultation included a plan titled 'Additional area outside of Annex A Boundary' and stated "*since consulting at Airport Expansion Consultation One, we have carefully considered the footprint of the proposals relative to the indicative boundary in the ANPS. Figure 5.5.3 illustrates the additional land required for expansion beyond the ANPS Annex A Boundary."* [129]

B5.5 This not only resulted in much greater environmental and community impacts but presented new delivery and cost risks not anticipated or considered by the Commission or Government.

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[124] Highways England response to CAA Consultation on The Economic Regulation of Capacity Expansion at Heathrow Airport: Consultation on Early Costs and Regulatory Timetable CAA CAP 1819, 21st August 2019 https://www.caa.co.uk/uploadedFiles/CAA/Content/Accordion/Standard_Content/Commercial/Airports/H7/Highways%20England.pdf

[125] *"The inclusion within the masterplan of large areas set aside for development which would no longer be suitable for residential land due to the proximity of the runways"* - Para. 8.19, Heathrow Airport North West Runway: Business case and sustainability assessment, Airports Commission November 2014

[126] Appendix 1: Scheme, *ibid*

[127] Page 106, House of Commons Transport Committee, Airports National Policy Statement, Third Report of Session 2017-19, March 2018

[128] Para. 5.128, ANPS, June 2018

[129] Figure 5.5.3 and Para. 5.5.5, Preferred Masterplan, HAL June 2019

B6.0 **Maturity of NWR scheme**

B6.1 As late as 2018, HAL's Chief Executive admitted that there was in fact effectively no settled NWR scheme, stating *"we are talking only about options at this stage; we have not finalised a particular plan, and that is what we are consulting on at the moment."* [130] The continued lack of any final scheme was clearly shown in the range of outline options in HAL's July 2019 public consultation.

B6.2 The same year, in evidence to the Transport Committee's Inquiry, IAG's Chief Executive confirmed *"we do not know what the budget is yet. We do not even know what the plan is."* [131]

B6.3 Hence HAL's costs since October 2016 were incurred in attempts to transform the *"concept"* described by HAL's Chairman into a deliverable, viable and affordable scheme.

B6.4 Following Government's October 2016 decision to support the NWR scheme, the CAA specifically assumed the process would see *"HAL engaging with airlines and other stakeholders during 2017 on the appropriate scope, design and cost of the capacity expansion"* and *"HAL-led activities to secure planning permission through the DCO process."* [132]

B6.5 We agree that *"scheme development'* is a normal part of any process to take a scheme to DCO stage. The CAA reasonably assumed this would take place during the course of 2017, allowing consultation *"on a draft DCO in the summer of 2017"* and preparation of a DCO application in *"2018 and 2019."* [133]

B6.6 Clearly, the CAA assumed that, by the time of Government's October 2016 decision, the NWR scheme was mature and deliverable. It is significant that the CAA recognised the need *"to limit the exposure of HAL to (efficient) cost increases associated with changes in project design that are genuinely outside of its control and were not reasonably foreseeable"* [134] – this obviously did not foresee and indeed specifically excluded any changes in design within HAL's control, for example those that might arise as a result of an immature and flawed scheme.

B6.7 The CAA further confirmed that *"Category B costs should be defined as costs which are directly connected with, and solely for the purposes of, seeking planning consent through the Development Consent Order (DCO) process"* [135] and *"efficiently incurred."* [136]

B6.8 It is significant that the CAA's final proposals allowed that "*up to £10 million per year of 'efficient' Category B costs can be recovered."* [137] The policy did make provision for *"Category B costs above £10*

[130] Oral evidence to House of Commons Transport Committee, Q353 5th February 2018
[131] Oral evidence to House of Commons Transport Committee, Q578 20th February 2018
[132] Para. 2.2, CAP1510, CAA January 2017
[133] Para. 2.11, *ibid*
[134] Para. 5.6, *ibid*
[135] Para. 1.3, CAP1469, CAA November 2016
[136] Para. 3.1, *ibid*
[137] Para. 4.16, *ibid*

million" [138] but clearly it was never anticipated that HAL's costs would reach anywhere near the level now claimed.

B6.9 Hence, the CAA's policy is not, as HAL appear to assume, to allow recovery of unlimited costs incurred after October 2016 on fundamental changes to the concept which the Commission assessed, or on extensive work on alternative, and largely abortive, options, or on the development of the current alternative proposal that nevertheless remains unaffordable and undeliverable ('Step 0').

C 'Step 0'

C1.0 Cost and scope

C1.1 The Arcadis Review (*'The Review'*) for the CAA describes and considers only 'Step 0,' a first phase *"aligned to Phase 1 that represents infrastructure required on the runway opening day, anticipated to be in 2026."* [139] The Review lacks any information on an overall scheme that HAL might now propose, but it is clear from even this limited scope that it is fundamentally different to that assessed by the Commission and assumed by Government.

C1.2 All cost estimates have been redacted from the Review, (e.g.: Tables 1 & 19) but CAP1871 references Table 19 and confirms an estimate of £14.369bn (at 2014 prices) for works to deliver a third runway opening in 2026. [140]

C1.3 The Review might at first sight appear to substantiate HAL's claim in December 2019 that its scheme *"meets all requirements of the Airports National Policy Statement, with overall costs in-line with the £14 billion original plan submitted to the Airports Commission back in 2014,"* [141] (although HAL's 2014 estimate was in fact £15.592bn). [142]

C1.4 It may also appear consistent with the CAA's July 2019 consultation which stated "*HAL's total forecast costs to deliver the new runway and associated capacity by 2026 remain broadly in line with 2017 expectations (although there are certain changes in the scope of the infrastructure it intends to deliver for 2026). HAL's current estimates suggest that its total capital costs to facilitate the opening of a new runway in 2026 will be in the region of £14 billion (in 2014 prices)."* [143]

C1.5 However, the 'Step 0' cost estimate is not remotely comparable with the NWR scheme which the Commission assessed and which the ANPS assumes. 'Step 0' completely omits critical elements including, for example, the new terminal, satellite, aircraft stands, Tracked Transit System (TTS), baggage system and the additional aircraft stands, serviced areas and ancillary facilities including car parking.

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[138] Para. 4.26, *ibid*

[139] Page 2, HAL Masterplan Review, 'Step 0' Report, Arcadis for CAA, CAP1871B October 2019

[140] Table B1, CAP1871

[141] Press release, HAL 23rd December 2019 https://mediacentre.heathrow.com/pressrelease/details/81/Expansion-News-23/11937

[142] Table 14, Cost Plan Summary, Volume 3 Taking Britain Forward, HAL May 2014
https://www.heathrowexpansion.com/documents/taking-britain-further-volume-3/

[143] Para. 7, *ibid*

C1.6 IAG have noted that *"HAL's original £14bn forecast would deliver both the runway and new terminal capacity (T6A or T5XA) by 2026. HAL's new version of £14bn by 2026 only delivers the runway. This change in scope is significant as it reduces the available airport terminal capacity at runway opening, increases the total cost of the original scope by up to £3bn taking it above £17bn."* [144]

C1.7 However, we believe IAG under-estimates the cost of HAL's revised proposal compared to the NWR scheme which the Commission assessed.

Airports Commission Final Report July 2015 NWR *'Base Scheme'* cost estimate [145]			**Arcadis Review of HAL 'Step 0' cost estimate October 2019 (from CAP1871B)**		**Additions to 'Step 0' for consistency with Airports Commission July 2015 NWR £17.6bn cost estimate**	
Element	**Description**	**£m**	**Element**	**£m**	**Note**	**£m**
Enabling works	Site clearance/decants/ demolitions	239	Enabling works	899		0
	Earthworks/site levelling and remediation	155	Earthworks	1,635		0
Landside infrastructure	Utilities	172	Utilities	1,434		0
	Rivers	105	Rivers	595		0
	Landside connectivity	97	Assume not included in 'Step 0'	0	Assume Commission costs to allow consistent comparison	97
	Car parks	500				500
	Power generation	93				93
Airfield, airfield infrastructure & ancillary facilities	Runways & Taxiways	413	Runways & Taxiways	1,042		0
	Airfield instrumentation	44				
	ATC, security, fire station, fuel systems, de-icing pads, surface water drainage	185				
	Airside roads and tunnels	333				
	Baggage & TTS tunnels - civils	363				
	Baggage tunnels - fit-out	177	Assume not included in 'Step 0'	0	Assume Commission costs to allow consistent comparison	177
	TTS tunnels – fit out	111				111
	TTS stations, cars and maintenance base	552				552
	Aircraft stands	199	Assume not included in 'Step 0'	0	Assume Commission costs to allow consistent comparison	199

[144] Para. 3, Response to Economic regulation of capacity expansion at Heathrow airport: consultation on early costs and regulatory timetable, CAP1819, IAG August 2019 https://www.caa.co.uk/uploadedFiles/CAA/Content/Accordion/Standard_Content/Commercial/Airports/H7/International%20Airline%20Group%20(IAG).pdf

[145] Appendix C, Scheme capital cost estimate breakdown, Jacobs for Airports Commission June 2015

	Noise control measures	73	Included in Programme Specifics	0		0
	Services areas for ancillary facilities	71	Assume not included in 'Step 0'	0	Assume Commission costs to allow consistent comparison	71
Terminal buildings	Terminal, piers and satellites	3,329	Assume not included in 'Step 0'	0	Assume Commission costs to allow consistent comparison	3,329
Equipment	Baggage handling systems	730	Assume not included in 'Step 0'	0	Assume Commission costs to allow consistent comparison	730
Landscape		138	Landscape	199		0
Operational commissioning	Development consents, operational readiness & handover	127	*'Programme Specifics'*	6,618	Assume Arcadis Review includes all Commission cost estimates, + allowance for all necessary additional landtake, property purchase and mitigation	0
	Land, property & infrastructure purchase	2,226				
Environmental compensation & mitigation		338				
Community impacts		347				
Project/design team fees		1,668				
Risk	Risk	2,557	Risk	Assume included above	Assume included above	
	Optimism Bias	2,301				
Sub-total		**17,643**		**12,422**		**5,859**
Surface access	Roads	1,400	Roads	1,947		0
Sub-total		**19,043**		**14,369**		**5,859**
Add to *'Step 0'* for consistency with Commission assumed scope				5,859		
Total *'Step 0'*				**20,228**		

C1.8 As shown above, adding the NWR infrastructure that is missing from 'Step 0," using the Commission's costs, increases the total cost estimate of HAL's revised scheme to c.**£20.2bn** at 2014 prices. [146] In addition, the following additional factors should be considered;

C1.9 **Landtake** – the Commission's 2015 estimate excluded the additional land which HAL's 2019 consultation showed was now required. However, in the absence of any detailed cost information, we assume the Review includes an appropriate cost within its 'Programme Specific Costs.' [147]

[146] We assume 'Step 0' includes below ground civils works for infrastructure (e.g.; baggage tunnels, transit system, fuel pipelines, utilities etc.) developed in later phases to avoid subsequent disruption/on-costs/risk to operational airfield.

[147] "*The scope for programme specifics includes property acquisition, noise insulation, development consent order (DCO) CAT B costs, T5+, T1 baggage prolongation and other operational and community spends"* – Para. 5.5, HAL Masterplan Review, 'Step 0' Report, Arcadis for CAA, CAP1871B October 2019

C1.10 **Car parks** – the Commission's estimate assumed £500m which appears inadequate.

C1.11 As shown above, [148] HAL propose 'Northern & Southern Parkways' with, largely tunnelled, 'shuttle' connections to and between terminals. Extensive infrastructure work would be required within an operational airfield environment, with its challenges of a complex network of existing tunnels and utilities.

Element	Description	Unit	Rate	Cost	Commission estimate
Car parks	Northern and Southern Parkways, paras. 7.7.3-4, Preferred Masterplan June 2019	52,500 spaces	£25,000/space (assumes 25% of rate of T2 MSCP - 1,340 spaces, £140m at 2011 prices, HAL Project Definition Sheet 8 = £104,000/space) [149]	£1,300m	£500m
Passenger transit system between car parks and terminals	Tunnels (civils/fit out)	5,000m	£80,000/m (Commission's estimate for TTS system T5-T6)	£400m	
	Stations (surface) serving car parks	4 no.	£10m/station	£40m	
	Stations (sub-surface serving terminals)	2 no.	£400m/station (Commission's estimate for TTS system T5-T6)	£800m	

[148] Figure 5.2.6, Preferred Masterplan HAL June 2019

[149] Press reports suggest different, even higher rates – "*In 2010, the airport started work on a 3,320-space multi-storey car park at Terminal 2. The agreed cost, to be clawed back via passenger charges, was £202.7m. At that price, each space cost more than £61,000 — more than four times the typical amount. Gatwick airport built a 1,177-space car park in 2011 for £17m, about £14,400 per space. Bristol airport is spending £9.5m on a facility with more than 1,000 spaces*" - Heathrow: the cash machine with an airport attached, The Times 18th March 2018

	including vertical circulation/escape				
	Depot/maintenance base	1 no.	Commission's estimate for TTS system T5-T6)	£150m	
	Transit vehicles	20	£2m/vehicle (Commission's estimate for TTS system T5-T6)	£40m	
Sub-totals				£2,730m	£500m
Additional cost (assuming rates allow for Optimism Bias/Risk)				**£2,230m**	

C1.12 Our approximate analysis above suggests an additional cost for car parks of **£2.2bn**

C1.13 **Surface access** – the Commission assumed an additional cost, over and above its £17.6bn estimate and varying between £4bn [150] and £5bn, [151] for works other than those *"physically needed."* [152] DfT subsequently confirmed *"we are confident that the £5 billion captures everything that we think will be needed."* [153] The Commission's estimates included highway enhancements schemes, which may or may not be required, as well as £809m for Southern Rail Access. Western Rail Access was assumed to be delivered by Network Rail regardless of Heathrow expansion albeit *"subject to a satisfactory business case and the agreement of acceptable terms with the Heathrow aviation industry."* [154]

C1.14 The Review states *"Arcadis has identified potential challenges that may arise at 'Step 0' in Landside areas if passenger mode choice is unchanged through some of the Surface Access Strategy work proposed by HAL. If HAL cannot deliver the shift in mode share to public transport, there may be a greater demand on parking and forecourts than anticipated which could cause delays and congestion at the airport. However, at this stage in the masterplan process the level of detail required to assure the plan is not yet fully developed."* [155]

C1.15 The ANPS states *"the airport will be expected to achieve a public transport mode share of at least 50% by 2030, and at least 55% by 2040, for passengers."* [156] This compares to public transport mode shares of 39% for passengers in 2019 [157] and 27% for staff in 2017. [158]

C1.16 The ANPS does not make provision for any change in mode share conditions or critical dates to take account of HAL's proposed scheme changes or the inevitable slippage in dates. We therefore assume

[150] Table 25, Cost and Commercial Viability: Financial Modelling Input Costs Update, PWC for Airports Commission July 2015

[151] Table H2, Cost and Commercial Viability: Cost and Revenue Identification Update, Heathrow Airport North West Runway, Jacobs for Airports Commission June 2015

[152] The Relationship Framework Document between the Secretary of State and HAL and the ANPS both confirm *"the Government expects the applicant to secure the upgrading or enhancing of road, rail or other transport networks or services which are physically needed* (our emphasis) *to be completed to enable the Northwest Runway to operate. This includes works to the M25, local road diversions and improvements including the diversion of the A4 and A3044, and on-airport station works and safeguarding"* - Costs of works, page 32 Relationship Framework Document June 2018 and para. 5.19 Airports NPS June 2018

[153] Oral evidence to House of Commons Transport Committee, Q45 4th December 2017

[154] Para. 10, Railways Act 2005 Statement, March 2012 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/3641/railways-act-2005.pdf

[155] Page 3, HAL Masterplan Review, 'Step 0' Report, Arcadis for CAA, CAP1871B October 2019

[156] Para. 3.51, Airports NPS June 2018

[157] Table 6a, 2019 Passenger Survey, CAA https://www.caa.co.uk/uploadedFiles/CAA/Content/Standard_Content/Data_and_analysis/Datasets/Passenger_survey/2019/T06_2019.pdf

[158] Graphic 2.18, Surface Access Proposals, HAL, June 2019 https://assets.heathrowconsultation.com/wp-content/uploads/sites/5/2019/06/Surface-Access-Proposals.pdf

that 'Step 0' would trigger a requirement for the **£0.8bn** contribution to Southern Rail Access which the Commission identified and a similar contribution of **£0.8bn** to Western Rail Access.

C1.17 **Community compensation** – the Arcadis Review does not provide a breakdown of 'Programme Specifics' and confirms *"an assumption has been made that any additional community requirements will be funded from CIL and Section 106 payments. HAL have not made any specific inclusion or reference to an annual Communities Compensation Fund which was referenced as part of the National Policy Statement."* [159] We are not able to make an assessment but assume the Arcadis estimate includes all necessary costs.

C1.18 We therefore estimate a cost of c.**£24bn** (in 2014 prices) for HAL's revised scheme on a comparable basis with the Commission's estimate, where 'Step 0' represents a first phase of development.

C1.19 If 'Step 0' alone was taken forward, we assume the Review's cost estimate of **£14.4bn** (in 2014 prices) is accurate, but on the basis that the cost of a new terminal, satellite, aircraft stands, Tracked Transit System (TTS), baggage system, included in the NWR scheme, plus the additional costs of car parking and Southern Rail Access, would be deferred to a future date. These would be required to deliver the capacity assumed by the Commission and Government and conditioned in the ANPS.

C2.0 **Capacity**

C2.1 'Step 0' assumes that, in lieu of new terminal capacity, *"additional demand is anticipated to be catered for by enhancing existing facilities which are part of the existing 'On-Airport' portfolio of capital projects and are referred to as the 'Plus' projects. This includes increasing T5 capacity to 40mppa through the T5 plus programme comprising of works including the extension of T5B and C by converting remote stands to contact stands."* [160] In addition, the 'Plus' projects would "*increase T3 capacity"* [161] to "*generate an overall capacity of 95mppa."* [162] We assume the cost of these projects is included in the 'Step 0' estimate.

C2.2 Heathrow handled 81m passengers in 2019, [163] and 'Step 0' is therefore assumed to increase capacity by 14mppa, an additional 7mppa in both T3 and T5. [164] However the Review notes *"no specific details of the internal terminal operating process improvements have been provided by HAL"* and *"the lack of information for the current and proposed passenger processor facilities within the terminals means that Arcadis is unable to assess and review in detail whether the capacity increases proposed by HAL can be achieved."* [165]

C2.2 All references to the assumed ATM capacity of 'Step 0' have been redacted from the Review. However, Heathrow handled 80.9m terminal passengers and 478,059 ATM's in 2019, [166] of which 473,233 were

[159] *ibid*

[160] Para. 2.2.5.1, *ibid*

[161] Para. 2.2.4.4, *ibid*

[162] Para. 2.3.2, *ibid*

[163] https://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-Airport-data/Airport-data-2019/

[164] Figure 8-1, Operational Efficiency: Ground Infrastructure Heathrow Airport North West Runway Jacobs for Airports Commission November 2014

[165] Para. 2.3.2, *ibid*

[166] https://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-Airport-data/Airport-data-2019/

passenger flights, with an average 213.7 seats/ATM and 80% load factors [167] - an average 171 pax/ATM. [168]

C2.3 On these assumptions, terminal capacity of 95mppa suggests an increase to c.555,000 ATM's. However, Heathrow's average aircraft size, over 200 seats as a result of runway capacity constraints, is far higher than the European top ten airport average of c.170. [169]

C2.4 Even before the pandemic, the CAA's consultants noted *"for both the medium and long-term models, HAL assume much lower growth in seat capacity than the trend seen during Q6* [170] and that HAL also *"assumes a tail-off in load factor increases from 2019 to 2021"* [171]

C2.5 In the future, Heathrow may therefore more closely match the European average aircraft size. The pandemic has accelerated what was already a trend to smaller aircraft, with the global B747 fleet almost entirely withdrawn and large numbers of A380's unlikely to be brought back into service.

C2.6 HAL's assumption of 95mppa, on which any business or affordability case presumably relies, therefore appears highly uncertain. Assuming aircraft size reduces to 190 seats, still much higher than the European average, and the same 80% load factor as 2019, then 555,000 ATM's would handle only 84.4mppa – just 3.5mppa more than 2019.

C2.7 In considering stand capacity, the Review states, while *"details are not provided, a significant increase in the number of stands is proposed."* [172] Although no figure is given, we assume 'Step 0' would provide 181 stands – 177 existing [173] (excluding 12 dedicated freighter stands) [174] plus 4 through the T2 Kilo Apron development. [175] As part of the 'T5 Plus' scheme, "*five non-contact stands located at the northern and southern ends of the T5B and T5C satellites will be converted to contact stands"* [176] but this provides no additional stand capacity.

C2.8 The 177 existing stands handled 473,233 passenger ATM's, an average of 2,674 movements/stand/pa. On that basis, 555,000 ATM's would require 208 stands. Alternatively, using passenger numbers of 80.9m on 177 stands, the ratio of 0.46mppa/stand suggests a requirement of 207 stands. It is not clear

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[167] Results for year ended 31st December 2019, Heathrow (SP) Ltd. https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/investor/reports-and-presentations/financial-results/2019/Heathrow-Limited-Q4-2019-Presentation.pdf

[168] Figure 2, Heathrow 2017 Emission Inventory shows growth trend in average number of passengers per movement, from 141 in 2007 to 164 in 2017 http://www.heathrowairwatch.org.uk/documents/Heathrow_Airport_2017_Emission_Inventory_Issue_1.pdf

[169] Average aircraft size, 2004-13 at Europe's busiest airports https://www.anna.aero/2014/02/05/aircraft-size-is-growing-at-europes-busiest-airports/

[170] Page 20, Heathrow Interim H7 Price Control: Review of HAL's initial submission, CEPA for CAA 28th February 2019 https://publicapps.caa.co.uk/docs/33/CEPA_iH7Review_InterimReport.pdf

[171] Page 20, *ibid*

[172] Para. 6.1, Operational Efficiency: Ground Infrastructure Heathrow Airport North West Runway, Jacobs for Airports Commission November 2014

[173] Appendix 7, Heathrow Strategic Capital Business Plan, HAL June 2020

[174] Table 5.1, Stand limits Summer 2020 (Total Physical Stand Supply, not S20 Declared Stands) https://www.acl-uk.org/wp-content/uploads/2019/09/S20-Declaration-Letter-Final-Appendices-160919.pdf

[175] B243 Kilo Apron Development, p.36 Strategic Capital Business Plan, HAL June 2020

[176] Para. 2.2.4.3, *ibid*

what stand capacity 'Step 0' is assumed to provide, and if the cost of what appears to be a need for additional stands has been included.

C3.0 Affordability

C3.1 The 'Step 0' cost estimate of £14.4bn would be c.£19bn at 2020 prices, [177] and therefore considerably more than Heathrow's current RAB. [178] Assuming the most likely scenario of smaller aircraft, the cost would need to be recovered from just 3.5m additional passengers - a capital cost of c.£5.4bn per million passenger capacity at 2020 prices. For comparison, Heathrow's charges trebled [179] following the addition of c.£11bn capital expenditure to the RAB between 2005 and 2014, [180] a period when passenger numbers increased from 67.68 to 73.37mppa, [181] representing a capital cost of c.£1.9bn per million passenger capacity.

C3.2 HAL may claim that 'Step 0' is simply the first phase of a larger scheme, and that affordability should be assessed on the basis of a much higher capacity if and when additional terminal facilities, aircraft stands and supporting infrastructure are developed in the future. It is however impossible to judge any assumption as the table in HAL's December 2019 Initial Business Plan showing the assumed *"release of ATM's once capacity is available"* [182] has been entirely redacted.

C3.3 In any case, there is a significant risk that any further development will be found to be undeliverable, whether because of cost, affordability, noise, airspace constraints or environmental limits. The latter is significant in view of the UK's commitment to net zero UK carbon emissions by 2050 and growing scrutiny of aviation's impacts. In addition, there is now new and unprecedented uncertainty around future demand forecasts.

C4.0 Consistency with ANPS

C4.1 HAL's proposal, as described in the Arcadis Review, is therefore not only unaffordable but is entirely inconsistent with the evidence base that underpins Government's policy support through the ANPS. This assumed a capital cost of £17.6bn would deliver infrastructure capacity for 740,000 ATM's pa and between 133 and 149mppa, [183] (or in the case of HAL's revised assumptions in July 2019, "*756,000 ATMs, supporting 142mppa including an 8% resilience allowance.")* [184]

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[177] UK tender price and building cost indices, release date October 2020 http://costmodelling.com/construction-indices

[178] £16.598bn Closing RAB 31st December 2019 https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/investor/reports-and-presentations/financial-results/2019/Heathrow_Limited_Q4_2019_results_release.pdf

[179] Figure C.10, Appendix C, Market power determination in relation to Heathrow Airport – statement of reasons CAP1133, CAA 2013

[180] £11bn at 2014 prices, Para.3.4, Strategic themes for the review of Heathrow Airport Limited's charges ('H7') Technical Appendices, CAP1383a, CAA March 2016

[181] https://www.caa.co.uk/uploadedFiles/CAA/Content/Standard_Content/Data_and_analysis/Datasets/Airport_stats/Airport_data_2015/Table_10_3_Terminal_Pax_2005_2015.pdf

[182] Para. 6, page 164 Initial Business Plan, HAL December 2019

[183] Table 6.3, *ibid*

[184] Para. 2.3.1, HAL Masterplan Review, 'Step 0' Report, Arcadis for CAA, CAP1871B October 2019

C4.2 In addition, Government assumed that all infrastructure would be delivered in a single phase, with "*no phasing of additional capacity, and no barriers to airlines making use of this capacity as soon as it becomes available."* [185]

C4.3 The Relationship Framework Document between the Secretary of State for Transport and HAL states *"Heathrow has also assumed privately-funded investment is deliverable with a regulatory determination which ensures that all economically and efficiently incurred costs are included in the regulatory asset base (RAB)"* [186]

C4.4 CAP1940 sets out the criteria for *"considering whether expansion costs should be added to HAL's RAB and are in the interest of consumers,"* and includes the need for these to be *"efficiently incurred."* [187]

C4.5 HAL's costs between October 2016 and February 2020 cannot have been *"economically and efficiently incurred"* where the sole output is a still immature proposal that is fundamentally different to the scheme which was assessed by the Commission, approved by Government and specified in detail in the ANPS, and which is unaffordable on any assessment metric.

C5.0 **HAL's claim**

C5.1 At least as early as October 2016, HAL either knew, or should have known, that it could not deliver the NWR scheme which Government assumed, and which was subsequently described in the ANPS. It nevertheless chose to continue incurring very significant costs. The c.£1.75bn increase in HAL's estimated early Category C costs in a period of just over a year, [188] clearly signalled that the NWR scheme was effectively out of control.

C5.2 By HAL's own admission, it simply assumed its scheme was a *"fait accompli,"* [189] suggesting the same casual approach to efficiency and regulatory oversight that is described in the Q6 capex Review, an assumption that its costs, however recklessly and inefficiently incurred, would be recovered, and that their addition to the RAB would generate ongoing returns and thereby indemnify shareholders.

C5.3 HAL's sense of entitlement sharply contrasts with Gatwick Airport Ltd.'s (GAL) approach to its proposed DCO application to *"make the best use of the existing Northern* (standby) *runway."* In its 2020 commitment, GAL *"considers that it is best placed to manage the ongoing costs and risks associated with moving any such airfield project(s) towards delivery. GAL is therefore willing to maintain its price Commitment that the maximum gross tariff will not increase in real terms, through to 2024/25. Under the proposed extended Commitments, GAL would bear all the planning, development and delivery costs*

[185] Para. 2.19, Updated Appraisal Report, Airport Capacity in the South East, DfT October 2017

[186] Para. 9.1.1.8, Relationship Framework Document between the Secretary of State for Transport and HAL, June 2018

[187] Para. 35, CAP1940, CAA June 2020

[188] *"In the April 2018 Consultation … HAL's latest estimate was that it would spend approximately £650 million (in 2014 prices) on early Category C costs. In the Autumn of 2018 … HAL's forecasts of these costs had, by then, increased significantly, suggesting total spending might reach £1.6 billion. HAL has now provided more detailed information on its forecasts for these costs and its latest estimate for early Category C costs has increased further to £2.4 billion (in 2014 prices)"* – Paras. 2.2-2.3, Economic regulation of capacity expansion at Heathrow airport: consultation on early costs and regulatory timetable CAP1819, CAA July 2019

[189] https://www.dailymail.co.uk/news/article-7275969/Heathrow-expansion-fait-accompli-airports-chief- executive-says.html

associated with additional airfield development project(s) through this period, with no impact on the price protection for airlines and passengers." [190]

C5.4 In considering HAL's application for a Covid-19 related RAB adjustment, the CAA rightly questions *"why its customers should provide support for the business (through the RAB adjustment) when the financial difficulties appear, at least in part, to be exacerbated by the decisions of its management and shareholders."* [191] Similarly, customers should not be expected to bear the cost of HAL's fundamental inefficiencies in its attempts to progress the NWR scheme since October 2016.

C5.5 We therefore believe that accepting HAL's claim and allowing it to recover costs of over half a billion pounds, whether in whole or in part, would be a prima facie breach of the CAA's primary duty, to *"carry out its functions … in a manner which it considers will further the interests of users of air transport services regarding the range, availability, continuity, cost and quality of airport operation services."* [192]

C5.6 We trust the CAA will accordingly reject HAL's claim. Any other decision would require users to bear the cost of developing an abortive scheme that was fatally flawed, from at least as early as October 2016, while not only absolving HAL of financial risk but allowing a regulatory return on its costs.

[190] Para. 9.5, Gatwick Airport Ltd.'s finalised, extended Commitments, 27th January 2020 https://www.caa.co.uk/uploadedFiles/CAA/Content/Accordion/Standard_Content/Commercial/Airports/GAL%20Extended%20Commitments%20(Jan2020).pdf

[191] Para. D.20, CAP1966A

[192] Para. 1, Civil Aviation Act 2012