UK Civil Aviation Authority

Economic regulation of Heathrow Airport Limited: H8 Initial Proposals

Appendices E - L

CAP 3232F

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APPENDIX E

OBR proposed measures

E1 In this appendix we summarise the proposed measures, targets and types of incentives to be included in the OBR framework and MTI scheme and comments on the status and next steps for these measures ahead of our final proposals.

Table E1: OBR proposed measures

Measure	Metric[1]	Target	Incentive type	Comments
Cleanliness	Survey score – moving annual average	4.15	Financial Rebate and Bonus	Existing MTI measure retained; incentive allocation to be considered further
Wayfinding	Survey score – moving annual average	4.20	Financial Rebate and Bonus	Existing MTI measure retained; incentive allocation to be considered further
Helpfulness/attitude of security staff	Survey score – moving annual average	4.10	Financial	Existing MTI measure; retained as additional condition for security queue time central search bonus incentive

[1] Survey score - moving annual average: HAL's Quality of Service Monitor (QSM) passenger survey tool for tracking passenger satisfaction with elements of Heathrow's operation and service uses a 1-5 scale - Extremely Poor (1), Poor (2), Average (3), Good (4), to Excellent (5).

Measure	Metric[1]	Target	Incentive type	Comments
Wi-Fi performance	Survey score – moving annual average	4.10	Financial Rebate	Existing MTI measure
Security queue time - Central search	% of queues <5 mins % of queues <10 mins	95% 99%	Financial Rebate and Bonus Rebate	Existing MTI measure retained; associated eligibility criteria to be considered further
Security queue time - Transfer search	% of queues <10 mins	95%	Financial Rebate and Bonus	Existing MTI measure retained
Security queue time - Staff search	% of queues <10 mins	95%	Financial Rebate and Bonus	New financial bonus incentive added to measure; bonus incentive allocation to be considered further
Control posts vehicle queuing time	% of queues <15 mins	95%	Financial Rebate and Bonus	New financial bonus incentive added to measure; bonus incentive allocation to be considered further
Availability of lifts, escalators and travelators	% of time available for use	99%	Financial Rebate	Existing MTI measure
Availability of check-in infrastructure	% of time available for use	98%	Financial Rebate	Existing MTI measure
Baggage System reclaim availability - arrivals carousel	% of time available for use	99%	Financial Rebate	Existing MTI measure; associated eligibility criteria to be considered further

Measure	Metric[1]	Target	Incentive type	Comments
Terminal 5 track transit system availability	% of time available for use 1 train 2 trains	 99% 97%	Financial Rebate	New Service Day metric with 98% target and two-train availability target to be agreed by HAL and airlines and replace existing MTI
Stand availability	% of time available for use	99%	Financial Rebate	Existing MTI measure
Availability of jetties	% of time available for use	99%	Financial Rebate	Existing MTI measure
Availability of fixed electrical ground power	% of time available for use	99%	Financial Rebate	Existing MTI measure
Availability of stand entry guidance	% of time available for use	99%	Financial Rebate	Existing MTI measure
Availability of pre-conditioned air	% of time available for use	98%	Financial Rebate	Existing MTI measure; serviceability definition and target to be considered further
Pier-served stand usage	% of passengers served	95%	Financial Rebate	Existing MTI measure
Runway operational resilience	Number of daily deferred aircraft movements	0	Financial Rebate	Existing MTI measure

Measure	Metric[1]	Target	Incentive type	Comments
Timely Delivery from Departures Baggage system	% of bags delivered >20 mins before departure time	98%	Financial Rebate	New financial rebate incentive applied to existing MTI measure; associated eligibility criteria to be considered further
Passenger Assistance Service - overall satisfaction	Survey score – moving annual average	4.00	Financial Rebate	New financial rebate incentive applied to existing MTI measure; associated eligibility criteria to be considered further
Overall satisfaction	Survey score – moving annual average	4.26	Reputational	Existing MTI measure; HAL proposals for increased 4.35 target and financial bonus incentive to be considered further
Customer effort (ease)	% of passengers reporting 'easy' or 'very easy'	91%	Reputational	Existing MTI measure; HAL proposal for increased 91.6% target to be considered further
Enjoy my time at the airport	% of passengers reporting 'enjoyable' or 'very enjoyable'	80.5%	Reputational	Existing MTI measure; HAL proposal for reduced 77.1% target to be considered further
Feel safe and secure	% of passengers agreeing they felt safe and secure	96%	Reputational	Existing MTI measure
Ease of access to the airport	Survey score – moving annual average	4.44	Reputational	Existing MTI measure; HAL proposal for reduced 4.38 target to be considered further
Helpfulness/attitude of airport staff	Survey score – moving annual average	4.36	Reputational	Existing MTI measure; HAL proposal for increased 4.37 target to be considered further

Measure	Metric[1]	Target	Incentive type	Comments
Baggage misconnect rate	Average number of missed bags per 1000 passengers	9.8	Reputational	New target proposed by HAL
Departure punctuality	% of flights taking-off within 15 mins of scheduled departure time	80.5%	Reputational	Existing MTI measure; H7 target retained
Airport departures management	Average time between start request and take-off	30 mins	Reputational	Existing MTI measure
Airport arrivals management	Average time between touch down and chocks on	10 mins	Reputational	Existing MTI measure
Passenger injuries	Number of passenger injuries	0.32	Reputational	New target proposed by HAL; to be met by end of H8 2031
Immigration queue times	% of queues < 45 mins (non-EEA) or 25 mins (EEA)	95%	Reputational	Existing MTI measure
Carbon emissions	Total carbon emissions as Tonnes CO2 per year	See notes	Reputational	New target reductions proposed by HAL of: - In the air 15% reduction from 2019 to 2030 - On the ground 45% reduction from 2029 to 2030 End of H8 2031 target to be considered further

APPENDIX F

Business plan incentive

Background

F1 Our H8 Final Method Statement and Business Plan Guidance set out the new financial incentive mechanism to incentivise HAL to submit a high-quality business plan for H8.

F2 Under this business plan incentive[2] ("BPI"), HAL may receive a financial reward, or incur a financial penalty, depending on our assessment of the quality of its business plan against the published criteria.

F3 We said we intended to consult in our initial proposals on our initial assessment of the H8 Business Plan against our incentive criteria, following which we would consider any further evidence before reaching our final decision on any applicable bonus or penalty.

F4 This document sets out our initial assessment for consultation as part of our initial proposals. This assessment is made solely with respect to the H8 Business Plan submitted by HAL on 10 July 2025 and takes no account, at this stage, of any further information or clarifications subsequently provided by HAL.

F5 We intend to update this assessment for our final proposals to take into consideration all business plan-related information submitted by HAL up to that point.

Our approach

F6 In the H8 Final Method Statement, we said we would assess HAL's H8 Business Plan against the following nine criteria:

1. that the plan meets the requirements that we have set out in our Business Plan Guidance, particularly on areas that are material and where high quality information will be important for us to be able properly to develop our proposals for the H8 price control;
2. that the plan is presented in a clear and coherent way, so that stakeholders can engage with the material presented;
3. the way in which the plan benefits consumers is clearly demonstrated;

[2] H8 Method Statement and Business Plan Guidance, page 22

4. the plan is coherent and joined up across its separate sections;
5. the plan is appropriately challenging in the targets it sets;
6. there is evidence of third party assurance;
7. the plan is submitted on time;
8. HAL responds to follow-up information requests in a timely way; and
9. any additional information that HAL might submit to us late in the price control process is appropriate and HAL can justify why the further submission is necessary, proportionate, appropriate and in the interests of consumers.

F7 We said we would then assign the quality of the plan to one the following three categories:

- Very high-quality plan: the plan exceeds our expectations against the criteria. For example, it is clear how consumers' needs (as ascertained through consumer research and stakeholder engagement) have informed the development of the plan and how they will be furthered by the implementation of the plan, and the plan is ambitious in the targets it sets for HAL.
- High-quality plan: the plan meets the requirements set out in the criteria. For example, there is some evidence of how consumers' needs have informed the development of the plan and how they will be furthered by the implementation of the plan, and the plan sets moderate targets for HAL.
- Low-quality plan: the plan fails to meet a number of the requirements set out in the criteria. For example, there are significant failings and insufficient evidence of how consumers' needs have informed the development of the plan and how they will be furthered by the implementation of the plan, and the targets set for HAL in the plan are not sufficiently stretching.

F8 We developed a symmetrical incentive mechanism with potential for bonuses and penalties equivalent to up to 10bps of return on regulatory equity ("RORE") in each year of the H8 period, to be calculated by reference to the forecast RAB values over the H8 period, with the bonus/penalty to be included in allowed revenue for the H8 period. This would equate to up to about £8 million per year, or around £0.10 per passenger, and the assessment could lead to a penalty or reward within this range.

F9 We said we would set a high bar for HAL to earn a reward. For example, HAL would need to demonstrate that it meets our criteria of a high-quality business plan, as well as achieving "very high-quality" status in the areas of its business plan that we consider, having reviewed the plan, to be a high priority for furthering the interests of consumers. In contrast, if HAL were not to meet the requirements of a high-quality business plan and achieves "low-quality" status in

priority areas, we would consider applying a penalty. Nonetheless, a full penalty would only be appropriate if the plan was assessed as low quality across a significant number of criteria or areas of the plan and there was consumer detriment.

F10 We said that our assessment of the quality of the plan would be made in the round and that we would explain our assessment to avoid applying disproportionate rewards or penalties, for example where there is a single area of the plan that is high or low quality.

Our assessment

F11 The following sections set out our assessment of HAL's H8 Business Plan submitted on 10 July 2025 against each of the criteria described above, including performance against the business planning guidance criterion.

F12 As part of the H8 price control process, we have also engaged with airlines on the BPI and considered any areas of concern raised, noting that overall, airlines took the view that HAL has failed the majority of the BPI criteria, and the CAA should trigger the process for imposing a penalty under the BPI.

F13 We then categorise the quality of the plan and explain our assessment of the potential reward/penalty.

Performance against Business Plan Guidance criterion

Criteria 1: HAL's plan meets the requirements that we have set out in our Business Plan Guidance, particularly on areas that are material and where high-quality information will be important for us to be able properly to develop our proposals for H8

F14 A detailed assessment of the plan, separated by each of the main workstream areas, against our criteria will be published at a later date.

F15 This analysis indicates that while HAL met the requirements of the Business Plan Guidance in many important areas, there were also a number of important areas where it failed to meet our expectations.

F16 As set out in the definition criteria, we have considered whether these variances from the requirements of the Business Plan Guidance were material and important to the development of our proposals for the H8 price control.

F17 Examples of areas where HAL has failed to meet our requirements, and where this is significant to our work to develop the H8 price control, include:

- HAL's forecasts across all opex categories had less granularity than requested, and several cost items (for example, IT & computer services and rents) have been reclassified into different cost categories, resulting in inconsistent levels of information between the latest outturn year (2024, the baseline year) and the forecasts from 2025 onwards. Data consistency between baseline year and forecasts is important for us to be able to properly develop our view of opex costs for H8. A similar shortcoming arises for the commercial revenue forecasts.

- While HAL presented analysis of the benefits of achieving an A- credit rating rather than a BBB+ credit rating, it did not present a rounded assessment of the overall *net* cost or benefit of the higher rating.

- Although HAL has assembled an extensive body of consumer research and this research informed aspects of the H8 Business Plan, we consider clearer links between planned investments and consumer outcomes could have been articulated.

- In the case of Other Regulated Charges ("ORCs"), HAL failed to provide forecasts split by each Specified Facility, and did not provide forecasts of future ORC volume drivers and fixed costs, contrary to the requirements of the guidance.

F18 While noting that several important areas of the business plan were assessed as below the standard we expected, we also identified some examples of where HAL had provided very good information (which may be regarded as exceeding the requirements of the Business Plan Guidance):

- In relation to HAL's proposals for capex, the excel-based data tables provided by HAL for each capex project within the portfolio, met our expectations, detailing how much expenditure was already incurred in each project, how much HAL plans to incur in H8 and how much will be spent beyond the end of the H8 period. This whole life cost profile is critical for our assessment of capex efficiency;

- for each project at gateway stage of maturity at or beyond P2 tranche ("P2T"), we received very detailed project cost sheets. Although these failed to provide standard cost information expected at this level of maturity, the detailed narratives included in these project cost sheets were fundamental for our "need assessment" of projects that are at a reasonable level of maturity; and

- HAL also provided the CAA with extensive data on its financial structure, presenting information on a security-by-security basis including in respect of its derivative portfolio. It was also responsive in respect of follow-up queries, and facilitated detailed presentations of the analysis conducted by its advisors, KPMG, which underpinned HAL's cost of debt estimates. We will consider such follow-up information in our assessment of the H8 Business Plan in our final proposals. It is also noted however that not all of this material was shared with airlines.

F19 Our above assessment is made based solely on HAL's H8 Business Plan submission dated 10 July 2025. Since that time, HAL has responded to requests for clarification and in some cases submitted additional information. We said in our Method Statement that our assessment would also consider how HAL responds to these follow-up requests, and so ahead of H8 final proposals, our assessment will continue to be updated to reflect this.

Performance against the other criteria

Criteria 2: The plan is presented in a clear and coherent way, so that stakeholders can engage with the material presented

F20 We found that the H8 Business Plan had a logical structure, with the main document and appendices broadly clear, comprehensive and accessible.

F21 However, the use of a variety of different categorisation frameworks ("objectives", "foundations", "beacons", "values", "enablers" etc), while having a positive intent, provided a degree of complexity which detracted from rather than enhancing the clarity of the presentation.

F22 We noted there were some redactions in the version of the plan which HAL shared with airline stakeholders that appeared unnecessary (for example, historical passenger numbers, a key driver of operational costs and revenues, and NPV and IRR, in three of the 20 business cases).

F23 We also found that some of the data submitted by HAL was "hard-coded" when it would have been appropriate to provide the calculation formulae. This sometimes made it hard for us to work out how HAL had derived its figures or required us to submit follow-up requests for clarification. This was noted by the airlines, who expressed concerns as to the quality and transparency of the plan and said prevented an assessment of whether it is delivering for the consumer.

F24 Overall, HAL has generally met the expectations in this area, with the above noted exceptions.

Criteria 3: The way in which the plan benefits consumers is clearly demonstrated

F25 At an individual project level, the capex business cases were detailed and well-presented, and demonstrated the benefits of projects, for example in relation to

opex savings, commercial revenues generated, and so on. However, while HAL had undertaken substantial customer research of various types, it was difficult to discern at the aggregate level how it had been used in developing the plan. There did not appear to be a clear process whereby the customer research had led to the identification of needs, the screening of options and subsequently to the development of the plan; instead, the consumer research seemed more to perform the role of a 'sense check'. This meant that we found it difficult to identify the consumer "golden thread" which HAL suggested ran through the document.

F26 Given the significant real increase in airport charges proposed by HAL, it was also not sufficiently clear what consumers may expect to receive in return in terms of specific improvements. Airline stakeholders also noted that HAL had not expressed the 'headline' impact of its plan on the level of airport charges on a 'like-for-like' basis (in particular, having excluded business rates from its calculation of future airport charges).

F27 Overall, HAL did not meet our expectations in this area.

Criteria 4: The plan is coherent and joined up across its separate sections

F28 A business plan contains a number of elements which are inter-related and need to be coherent and 'joined-up' across its separate sections: for example, how demand forecasts impact expenditures and revenues, and the effect of such expenditure on output and quality, all informed by customer needs and the impact on charges.

F29 There are clear linkages between demand forecasts and operational expenditure requirements and commercial revenue estimates, which are transparently and clearly presented. Similarly, HAL's H8 Business Plan uses consumer engagement to inform the update of the OBR framework and Measures, Targets and Incentives ("MTI") scheme in respect of service quality at the airport. More broadly, service quality is also linked to capital investment and in particular asset maintenance which underpins resilience, and these appear reasonably evidenced.

F30 Conversely, some areas where we would expect greater cohesion, such as the relationship between consumer research to prioritisation of projects as discussed in relation to consumer benefit, failed to meet our expectations.

F31 Nonetheless, HAL has generally met the expectations in this area.

Criteria 5: The plan is appropriately challenging in the targets it sets

F32 We have considered this criterion principally with respect to the efficiency assumptions HAL has assumed in its plan:

- opex efficiency assumption of 1.2 per cent a year on costs under HAL's management control;

- commercial revenues management stretch assumption of 1 per cent; and
- capex efficiency assumption of 5 per cent,

F33 On the face of it, these assumptions appear reasonably challenging targets for HAL, when compared to the targets applied in other regulated utilities. However, supporting evidence that the starting baseline is efficient appears to be insufficient.

F34 On service quality, in our view, HAL's plan maintains targets set for H7 albeit with some additional cost overlays to maintain specific measures. The proposed changes to security queue measurement would introduce daily measurement, but it is unclear whether this would be equivalent to the current targets for the H7 period. No changes are proposed to the outcomes set in the H7 price control and HAL also provides a reasoned approach to evolving the rebate and bonus incentives. While the plan appears to maintain service performance, there should be scope for greater improvements.

F35 We also considered whether HAL's assumptions regarding financing costs and sustainability were appropriately challenging. We noted the extensive analysis conducted by HAL's advisors, KPMG, that carried out tests of the efficiency of HAL's financing strategy compared to counterfactual strategies that it considered to be reasonable.

F36 As for sustainability, we found it difficult to verify whether HAL's targets were appropriately challenging with limited information on the assumptions made and the extent to which its plans support progress towards longer-term environmental goals, such as "net zero".

F37 Overall, the plan did not meet our expectations in this area.

Criteria 6: There is evidence of third-party assurance

F38 We have assessed HAL's performance against this criterion in respect of the assurance provision requirements detailed across the method statement.

- While not strictly third-party assurance, but required as part of the method statement, HAL presented a statement of its board approval and assurance processes and listed the targeted independent assurance conducted in key aspects of its plan.
- In relation to consumer research and engagement, HAL listed six elements to its assurance process. Of these, only two relate to third-party assurance. Findings from the assurance lack transparency.

- The 'capex by category and by project' requirements set out that HAL could provide third party assurance of the cost estimates as one way, among others, of evidencing that the cost estimates are efficient, which is particularly relevant where projects are unique and difficult to benchmark. We have not seen evidence of third-party assurance justifying the efficiency of project cost estimates.

F39 Overall, the plan has not met our expectations in this area.

Criteria 7: HAL submits its plan on time

F40 HAL's plan was submitted on-time, on 10th July 2025 and it has met the expectations for this criterion.

Criteria 8: HAL responds to follow-up information requests in a timely way

F41 We will consider this in our final assessment of the H8 Business Plan in our final proposals.

F42 To date, generally HAL has responded promptly to our follow-up requests, although some requests have taken longer. We will continue to monitor HAL's performance in this regard on an ongoing basis to inform our assessment in our final proposals.

Criteria 9: Any additional information that HAL might submit to us late in the price control process is appropriate and HAL can justify why the further submission is necessary, proportionate, appropriate and in the interests of consumers.

F43 We will consider this in our final assessment of the business plan in our final proposals.

Categorisation of quality of HAL's H8 Business Plan

F44 Based on our detailed assessment of seven of the above nine criteria relevant to these initial proposals, we consider that HAL has sufficiently met three of these criteria within the H8 Business Plan submitted on 10 July 2025.

F45 To determine the categorisation of HAL's H8 Business Plan, we have applied this to the dimensions below, previously defined in the H8 Method Statement and Business Plan Guidance for assessing the quality of the plan:

Table 1.1: Approach to categorising HAL's plan

Quality	Meeting the criteria	Consumer needs	Demonstrating ambition

Very high	HAL's H8 Business Plan exceeds our expectations against the criteria	It is clear how consumers' needs have informed the development of the H8 Business Plan and how they will be furthered by the implementation of the H8 Business Plan	The H8 Business Plan is ambitious in the targets it sets for HAL
High	HAL's H8 Business Plan meets the requirements set out in the criteria	There is some evidence of how consumers' needs have informed the development of the H8 Business Plan and how they will be furthered by the implementation of the H8 Business Plan	The H8 Business Plan sets moderate targets for HAL
Low	HAL's H8 Business Plan fails to meet a number of the requirements set out in the criteria	There are significant failings and insufficient evidence of how consumers' needs have informed the development of the H8 Business Plan and how they will be furthered by the implementation of the H8 Business Plan	The targets set for HAL in the H8 Business Plan are not sufficiently stretching

F46 Applying the above categorisation and considering the H8 Business Plan in the round, HAL's plan falls short of high quality. While there are high quality aspects of the plan there are also significant areas where our expectations were not met.

Assessment of potential reward/penalty

F47 In our Final Method Statement, we said that, in order to earn a reward, HAL would need to demonstrate that it meets our criteria of a high-quality business plan, as well as achieving "very high-quality" status in priority areas. Conversely, we said we would consider applying a penalty if HAL were not to meet the requirements of a high quality business plan and achieves "low quality" status in priority areas.

F48 Our assessment has identified a number of areas of significant weakness. Nonetheless, since 10 July 2025, HAL has and responded to our requests for further information. Our initial assessment is that these have being helpful and have provided important new information and context. The business plan incentive was designed to encompass such follow up information in our final assessment, with scope for HAL to continue to improve the overall quality of its plan ahead for our final proposals. As such, at this stage, we do not intend to propose a reward/penalty for our assessment.

APPENDIX G

Cargo movement forecasts

Introduction

G1 Cargo Air Traffic Movements ("cargo ATMs") refer to the number of flights, including arrivals, departures, and transit movements, dedicated to the transportation of freight and/or mail.

G2 Cargo ATMs are the key driver of cargo revenue. Incentivising HAL to optimise the level of cargo revenue it generates benefits consumers by reducing the airport charges. Within the "single till", cargo revenue is deducted from the efficient operating costs that HAL recovers through charges.

G3 We set our initial proposals for cargo revenue in Chapter 5 (Commercial revenues), where we explain that we have estimated our proposed cargo revenue as the product of the forecast number of cargo ATMs and cargo yield per ATM.

G4 This appendix sets out:

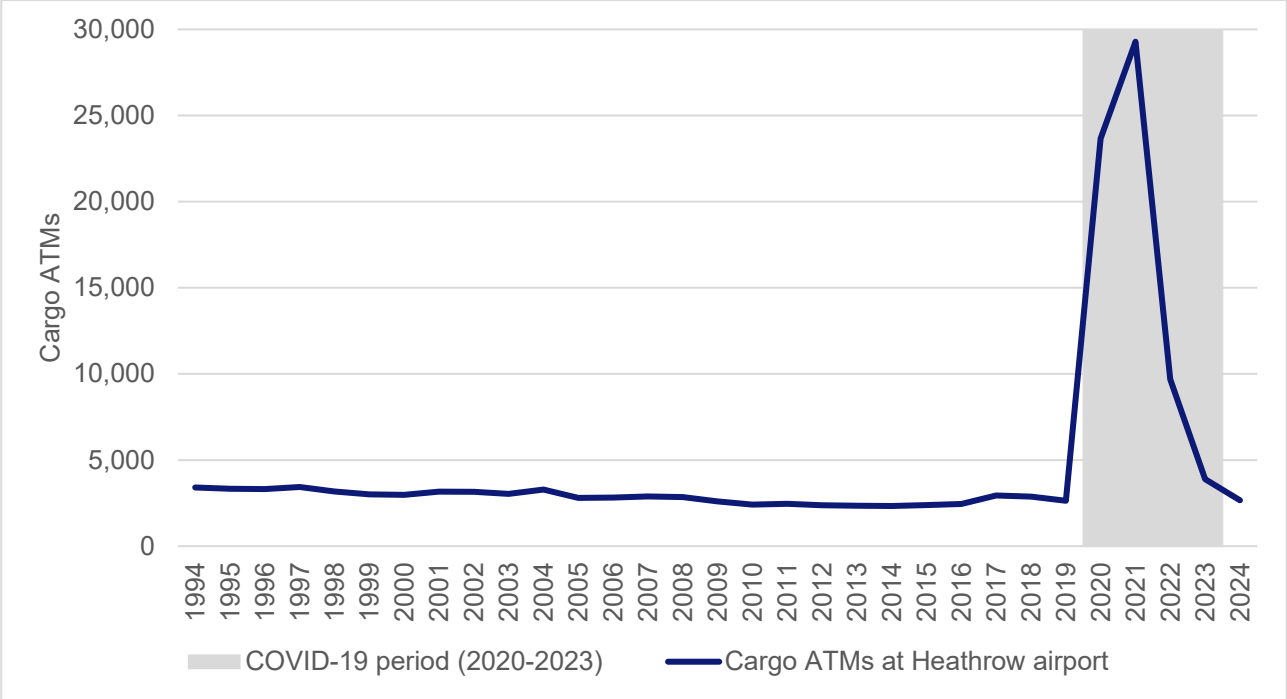
- the method we have used;
- our proposed cargo ATM forecasts for the H8 period; and
- next steps and implementation.

Our method

Overall approach

G5 We have forecast cargo ATMs for the H8 period using a time-series econometric model. Figure G.1 shows the number of cargo ATMs between 1994 and 2024 at Heathrow airport. Excluding the covid-19 period, cargo ATMs have historically followed a steady pattern, which we would expect to continue in H8. This provides a reasonable basis for using time-series modelling.

Figure G.1: Historical cargo ATMs at Heathrow airport, 1994 – 2024



Source: CAA analysis of CAA's cargo ATMs data (available at UK airport data | UK Civil Aviation Authority - Table 06 Air Transport Movements)

Data

G6 We have used the CAA cargo ATMs data for Heathrow airport publicly available as part of the CAA UK airport statistics.[3] Our data set covers the period from 1994 to 2024, the latest full year of data available at the time of writing.

G7 We have compared the CAA cargo ATM data for Heathrow airport with the cargo ATMs that HAL reported in its H8 business plan data tables, for the 2014 to 2024 period, and concluded that there were no material discrepancies between the two sources. We have used the CAA data as it is publicly available and covers a longer period.

G8 As Figure G.1 shows, cargo ATMs at Heathrow airport have gradually declined from around 3,400 in the mid-1990s to 2,600 movements in 2024. This downward trend is likely a reflection of prioritising passenger services within the overall annual 480,000 ATM cap for Heathrow Airport; limited slot availability; and increased use of belly hold cargo capacity on widebody aircraft.

G9 During the covid-19 pandemic, cargo ATMs temporarily increased, reaching over 29,000 in 2021. This was driven by the collapse in passenger services and the urgent demand for air freight capacity, which led to the temporary conversion of

[3] UK airport data | UK Civil Aviation Authority - Table 06 Air Transport Movements.

commercial aircraft to carry cargo. Cargo ATMs retuned to pre-pandemic levels in 2024.

Model

G10 The choice of model specification that is most appropriate for a particular time series is informed by two features, which we discuss in turn below:

- stationarity: whether the series remains relatively flat over time ("stationary"); or whether it shows trend, seasonality, or one-off spikes or dips ("non-stationary"); and
- autocorrelation: whether values in a time series are correlated with past values.

Stationarity

G11 A visual inspection of cargo ATMs at Heathrow airport over time, plotted in Figure G.1, suggests a slight downward trend from mid-1990s to 2024 with a spike during the covid-19 years (2020-2023). This indicates that the cargo ATMs time series is non-stationary.

G12 We have confirmed the findings from our visual inspection through the Augmented Dick-Fuller ("ADF") statistical test for stationarity. Table G.1 shows the test results, which confirm that Heathrow airport's cargo ATM series is non-stationary.[4]

Table G.1: Augmented Dick-Fuller data stationarity test results

Time series data	p-value*	AIC	BIC
Cargo ATMs from 1994 to 2024	0.5491	13.3003	13.3971

Source: CAA analysis. Notes: * a p-value greater than 0.05 means that the series is non-stationary at the 5% confidence level. AIC – Akaike Information Criterion. BIC – Bayesian Information Criterion. AIC and BIC are metrics used to automatically select the optimal model fit when performing the ADF test.

G13 We will account for the non-stationarity of the cargo ATM data by including a time trend and covid-19 dummy variables in the model (more details later in this section).

Autocorrelation

G14 The type of time-series econometric model that best fits the cargo ATMs data depends on:

- whether cargo ATMs correlate over time:

[4] The null hypothesis of the ADF test is that the time series is non-stationary. Failing to reject the null hypothesis (that is, p-value greater than 0.05) indicates that the time series is non-stationary at the 5% significance level.

with their own past values (autoregressive or “AR” models),

with past forecast errors (moving average or “MA” models), or

with both past values and past forecast errors (“ARMA” models); and

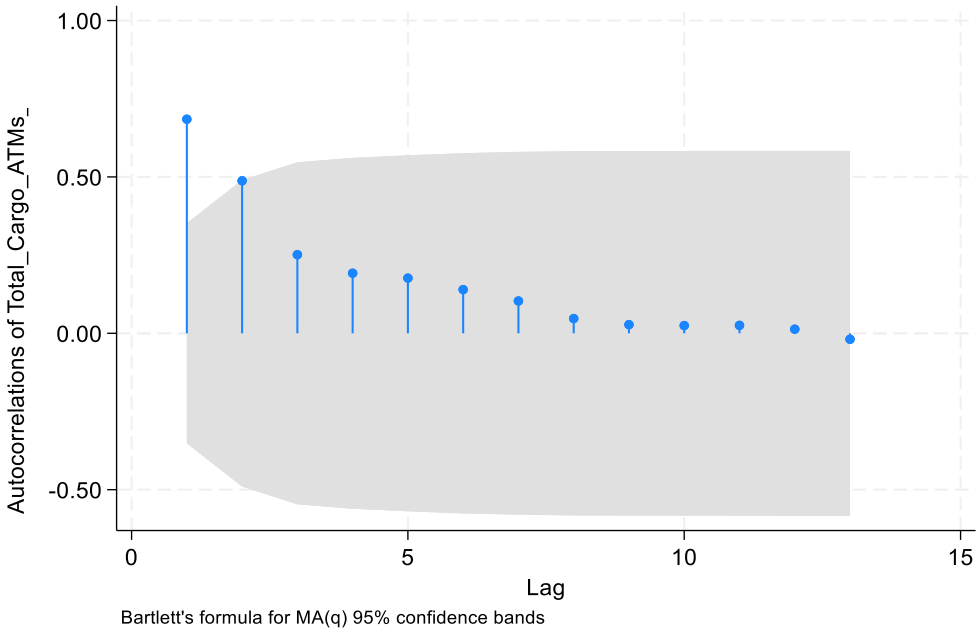
- the number of past values (or lag structure) that most strongly correlates with current cargo ATMs:

  lags of the series itself (lag order “p”), and/or

  lags of past forecast errors (lag order “q”).

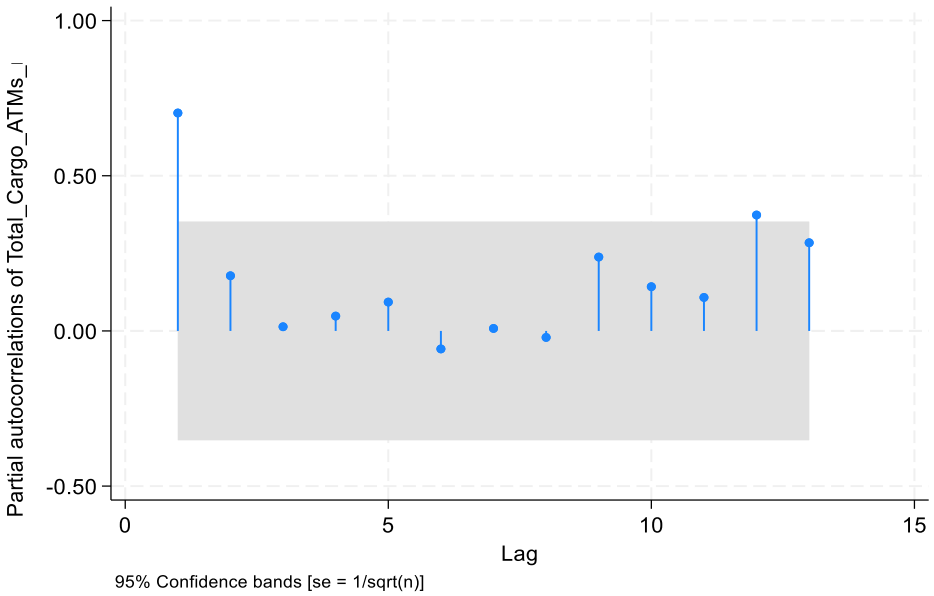
G15 We have conducted autocorrelation function (“ACF”) and partial autocorrelation function (“PACF”) tests to inform our choice of both the type of time-series econometric model and corresponding lag order at which the model should be estimated.

Figure G.2: ACF of cargo ATMs at Heathrow airport (1994 to 2024)



Source: CAA analysis. Notes: Te ACF test excludes data for the covid-19 years from 2020 to 2023. Autocorrelations within the grey bands are statistically insignificant at the 5% significance level.

Figure G.3: PACF plot of cargo ATMs at Heathrow airport (1994 to 2024)



Source: CAA analysis. Notes: The PACF test excludes data for the covid-19 years from 2020 to 2023. Autocorrelations within the grey bands are statistically insignificant at the 5% significance level.

G16 The ACF test (Figure G.2) shows two statistically significant autocorrelations, at lag 1 and 2, with subsequent autocorrelations insignificant and showing an exponential decay. The PACF test (Figure G.3) shows one statistically significant partial autocorrelation at lag 1, followed by a sharp drop in the value of the subsequent partial autocorrelations. These patterns are characteristic of a first-order autoregressive time-series model ("AR (1)"), indicating that each year's cargo ATMs are highly correlated with their value in the previous year.

Estimation

G17 We have forecasted cargo ATMs at Heathrow airport using an AR (1) time-series econometric model, with time trend and covid-19 year dummies from 2020 to 2023. Our model is expressed as follows:

Equation 1: Model specification for forecasting cargo ATMs at Heathrow airport

$$y_t = \alpha + \beta_t + \emptyset y_{t-1} + \delta_{2020} D_{2020,t} + \delta_{2021} D_{2021,t} + \delta_{2022} D_{2022,t} + \delta_{2023} D_{2023,t} + \varepsilon_t$$

Where:

- y_t represents the value of cargo ATMs at time t;
- α is the intercept;
- β_t is the time trend component;
- $\emptyset$ is the AR (1) coefficient;
- $\delta_{2020} D_{2020,t}$ is the covid-19 impact of 2020 when $D_{2020,t} = 1$ or else 0;
- $\delta_{2021} D_{2021,t}$ is the covid-19 impact of 2021 when $D_{2021,t} = 1$ or else 0;

- $\delta_{2022}D_{2022,t}$ is the covid-19 impact of 2022 when $D_{2022,t} = 1$ or else 0;
- $\delta_{2023}D_{2023,t}$ is the covid-19 impact of 2023 when $D_{2023,t} = 1$ or else 0; and
- $t \in [1994,2024]$

G18 Table G.2 shows that our AR (1) model with time trend and covid year dummies explains 99.9% of the total variation in historical cargo ATMs at Heathrow airport, indicating a very strong fit.[5] The AR (1) coefficient is highly significant, indicating that cargo ATMs are significantly determined by previous year's movements. The time trend is statistically significant with a negative coefficient, indicating a downward trend in cargo ATMs over time. All covid-19 dummies are statistically significant, capturing the elevated levels of cargo activity observed during the pandemic period.

Table G.2: Econometric model estimation for cargo ATMs at Heathrow airport

Model	Constant	AR (1) coefficient	Time trend	Year dummies#	N	Pseudo R^2
AR (1) with time trend	3370.603***	0.8784***	-27.18**	Sig.	31	0.9992

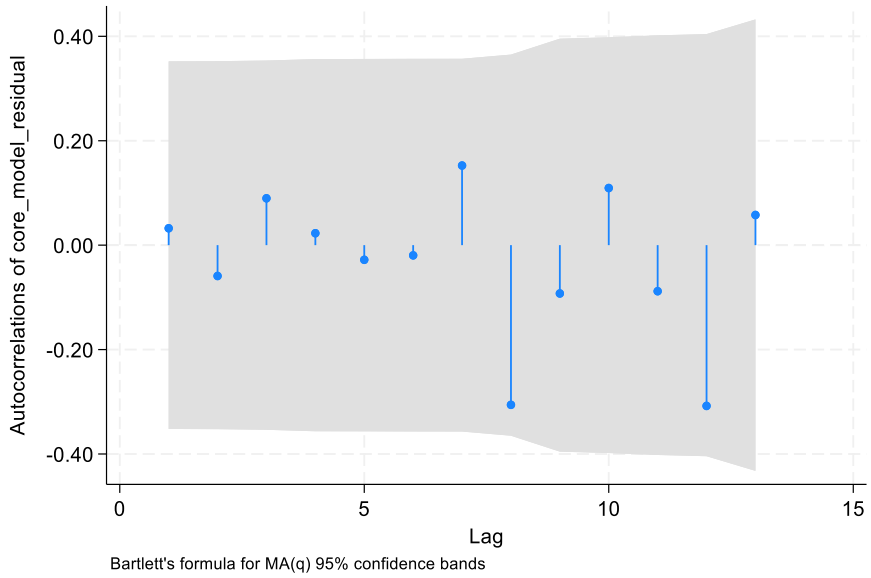
Source: CAA analysis. Notes: N=number of observations. *, **, *** denote statistical significance at 10%, 5% and 1% respectively. # Coefficients of covid-19 year dummies are: 2020 dummy: 21038.66***, 2021 dummy: 26673.79***, 2022 dummy: 7075.023***, 2023 dummy: 1263.665***.

G19 The residuals of our model indicate that it fully captures the systematic patterns in the data and further confirms its robustness and appropriateness for forecasting. As Figure G.4 shows, the temporal correlations of the model residuals are all statistically insignificant and the pattern is consistent with white noise.[6]

[5] We have assessed the model fit using the pseudo R^2 statistic, which is calculated as the proportion of total variation in the dependent variable (cargo ATMs) that is explained by the model, analogous to the R^2 measure in classical regression. We have calculated it as follows: pseudo R^2 = 1- (sum of squared residuals / sum of squared differences between each observed cargo ATM and the overall mean).

[6] We have also conducted a more formal white noise test, the Portmanteau test, to assess whether the model residuals were uncorrelated over time. We specified the test using one lag to ensure consistency with our AR (1) specification. The test produced a p-value of 0.8502, which is well above the conventional 5% significance threshold. This indicates that there is no statistically significant autocorrelation in the residuals at lag 1, at the 5% significance level.

Figure G.4: ACF plot of residuals (1994 to 2024)



Source: CAA analysis. Note: Autocorrelations within the grey bands are statistically insignificant at the 5% significance level.

Cargo movement forecasts

G20 Table G.3 shows our forecast cargo ATMs at Heathrow airport for the H8 period. We have used this forecast to estimate our proposed cargo revenue, as we explain in Chapter 5 (Commercial revenues). Our model uses data up to 2024, the latest year for which data is available at the time of writing. We, therefore, forecast cargo ATMs from 2025 onwards, noting that only forecasts for the H8 period are relevant for our initial proposals.

Table G.3: Forecast of cargo ATMs at Heathrow airport for H8

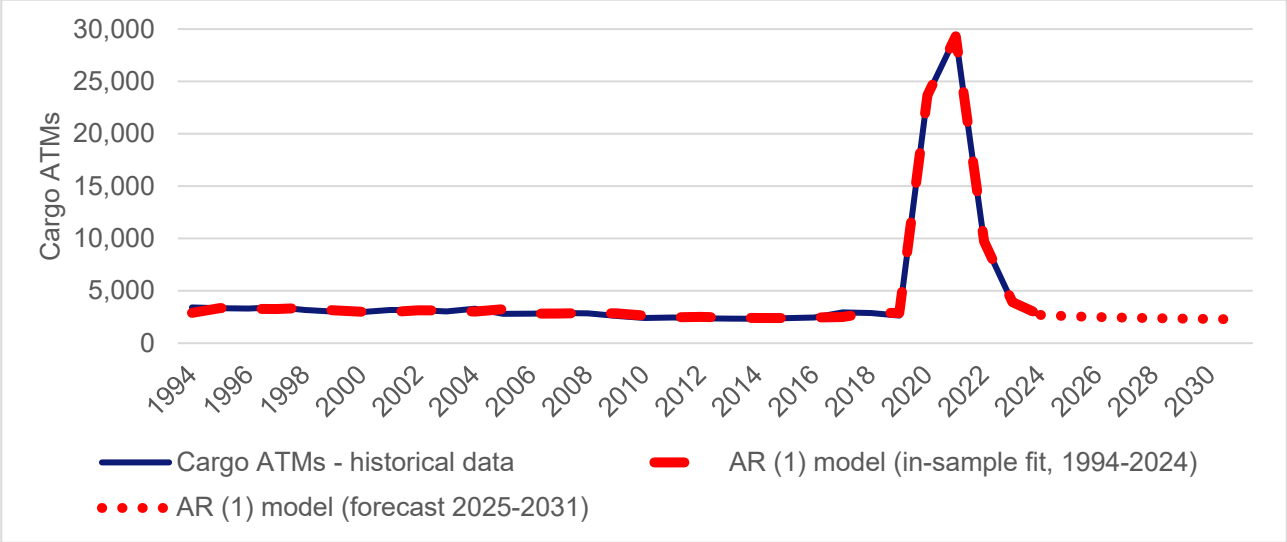
	H7 period		H8 Period				
	2025	2026	2027	2028	2029	2030	2031
Cargo ATMs	2,573	2,500	2,440	2,390	2,347	2,309	2,274

Source: CAA analysis

G21 Figure G.5 shows the historical cargo ATMs at Heathrow airport plotted against the model's in-sample fit and its forecasts. The model closely tracks cargo ATMs from 1994 to 2024, capturing both the pre-covid downward trend and the temporary pandemic surge. The 2025-2031 forecast reflects the return to the pre-covid pattern, with cargo ATMs declining gradually from 2,667 in 2024 to 2,274 by 2031.

G22 Our proposed cargo ATMs for the H8 period combined with the passenger ATMs implicit in our proposed passenger forecasts remain within the 480,000 annual movement cap at Heathrow airport.

Figure G.5: Historical and forecast cargo ATMs at Heathrow airport, 1994 to 2031



Source: CAA analysis

Next steps and implementation

G23 We welcome the views of stakeholders on any issue raised in this appendix and will consider these carefully as part of our work to develop our final proposals.

G24 More broadly, in developing our final proposals, we will continue to refine our projections of cargo ATMs, which is an important input in our estimated cargo revenue, as we set out in Chapter 5 (Commercial revenues). This work will be informed by stakeholders' responses to this consultation and our updated analysis.

APPENDIX H

Indicative set of projects in the capex envelope

H1 In this appendix we present the results of our H8 capex assessment, by business case and by project.

H2 Table H.1 shows the summary of our need assessment scoring by business case and the percentage of each business case's capex that our capex envelope of £5.9bn (2024 CPI) accommodates.

Table H.1: Summary of our capex assessment by business case

Business case	Weighted score	Weighted score (as a % of maximum score of 54)	HAL H8 capex (£ million, 2024 CPI)	% of capex in the envelope
Projects Post-G3				
BC01.00 Security Programme	-	-	28	100%
BC02.00 T2 Baggage Programme	-	-	5	100%
BC03.01 Asset Management & Compliance Programme	-	-	94	100%
BC08.00 Carbon and Sustainability Programme	-	-	-5	100%
BC12.00 Commercial Programme	-	-	5	100%
BC16.00 Efficient Airport programme	-	-	2	100%
Projects Pre-G3				
BC02.00 T2 Baggage Programme	38	71%	488	100%
BC03.02 Terminal 4 Front Door and Car Park	37	69%	316	100%
BC03.03 T3 Hold Baggage Screening replacement (T3IB)	33	61%	92	100%
BC01.00 Security Programme	32	59%	320	91%
BC03.04 T5 Pilz Obsolescence	31	57%	113	100%
BC05.00 Electrical network	22	41%	568	91%
BC11.00 Occupancy infrastructure	20	37%	394	100%
BC08.00 Carbon and Sustainability Programme	18	34%	373	74%
BC16.00 Efficient Airport programme	16	29%	210	100%
BC15.00 T5 Early Bag Store front door	14	26%	50	100%
BC03.01 Asset Management & Compliance Programme	14	26%	1,942	76%
BC04.00 H8 new asset renewal scope	12	23%	1,185	63%
BC12.00 Commercial Programme	12	22%	224	57%
BC13.00 H8 new - commercial scope	11	21%	567	26%
BC14.00 Digital	11	20%	455	35%
BC06.00 Heat decarbonisation	9	16%	319	15%

Business case	Weighted score	Weighted score (as a % of maximum score of 54)	HAL H8 capex (£ million, 2024 CPI)	% of capex in the envelope
BC09.00 People and Planet	8	14%	207	30%
BC17.00 H8 new - Passenger Experience	8	14%	310	21%
BC10.00 Modernising Heathrow Programme	3	6%	1,783	13%
BC07.00 Noise mitigation	0	0%	241	0%
HAL H8 capex plan prior phasing and efficiency			**10,287**	**58%**
People and Planet prioritisation adjustment*	-	-	-112	
Phasing adjustment	-	-	-176	
HAL H8 capex plan prior efficiency			**9,999**	
Efficiency	-	-	-497	
HAL H8 capex plan post adjustments and efficiency			**9,502**	

Source: Steer.

H3 Table H.2 lists the 488 projects ranked by the strength of their need case, as measured by the need case scores reflective of the information available for these initial proposals, as follows:

- Dark green projects: the indicative set of projects that the capex envelope of £5.9 billion (2024 CPI) we propose for H8 accommodates.
- Red projects: the indicative set of projects not accommodated by our H8 capex envelope.

Table H.2: H8 projects ranked by the strength of their need case (£m, 2024 CPI prices)

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
Dark Green: indicative set of projects that our capex envelope accommodates							
1	G015	PRJ-001800 - B73-015.00 - Tr3 - T1 Backbone Phase 2	T2 Baggage	Post-G3	Post-G3	5	5
2	G08	PRJ-001717 - B73-008.00 - Tr3 - T1 Backbone Phase 1	T2 Baggage	Post-G3	Post-G3	0	5
3	G06	PRJ-001713 - B73-006.00 - Tr3 - IT ICS Asset Refresh Phase 1	T2 Baggage	Post-G3	Post-G3	0	5
4	C025	PRJ-001868 - B7680.24 Major Equipment Procurement	Security	Post-G3	Post-G3	7	12
5	C014	PRJ-001716 - B7680.11 – T5 CSA	Security	Post-G3	Post-G3	12	24
6	C012	PRJ-001701 - B7680.08 - T2 CSA, CS & T2B	Security	Post-G3	Post-G3	7	31

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
7	H022	PRJ-001895 - B76-006.02 - Passenger Flow Monitoring (PFM) Deployment Wave 2	Efficient A.	Post-G3	Post-G3	2	33
8	K037	PRJ-001683 - B75-037.00 - ULEZ Park & Ride Car Park	Commercial	Post-G3	Post-G3	0	33
9	K013	PRJ-001856 - B75-058.00 CI Existing Products 2024-2026	Commercial	Post-G3	Post-G3	4	37
10	K02	PRJ-001043 - B6611.05 – GRD Replacement – MRI Horizon	Commercial	Post-G3	Post-G3	0	37
11	T08	PRJ-001654 - B74-005.01 ATM Efficiencies – Pairwise Departures (PWS)	C&S	Post-G3	Post-G3	0	37
12	A156	PRJ-001755 - B71-079.00 - Commercial Minor Works 2026 – Property	AMC	Post-G3	Post-G3	1	39
13	A150	PRJ-001749 - B71-071.03 - Central Minor Works	AMC	Post-G3	Post-G3	14	52
14	A149	PRJ-001748 - B71-071.02 - Central Minor Works 2025	AMC	Post-G3	Post-G3	19	72
15	A137	PRJ-001672 - B71-059.00 - Technology Capital Purchase H7	AMC	Post-G3	Post-G3	2	74
16	A135	PRJ-001669 - B71-056.00 - Commercial Minor Works 2023 - Property	AMC	Post-G3	Post-G3	-0	74
17	A126	PRJ-001644 - B71-041.00 - T4 HBS – Right Hand Side (RHS)	AMC	Post-G3	Post-G3	21	96
18	A111	PRJ-001600 - B71-030.00 - T4 Emergency Lighting CBUs	AMC	Post-G3	Post-G3	1	97
19	A110	PRJ-001596 - B71-029.00 - T4 Sewage Chamber Refurbishment	AMC	Post-G3	Post-G3	1	98
20	A096	PRJ-001573 - B71-007.00 - T2 Landside PRS Host Area Expansion	AMC	Post-G3	Post-G3	1	99
21	A073	PRJ-001422 - B7209.03 - MSCP4 Urgent Structural Works	AMC	Post-G3	Post-G3	1	99
22	A068	PRJ-001409 - B7231.01 - CP24A & Spout Lane	AMC	Post-G3	Post-G3	1	101
23	A067	PRJ-001408 - B7232 - Western Campus Baggage Obsolescence	AMC	Post-G3	Post-G3	2	103
24	A062	PRJ-001331 - B7227.00 Terminals Critical Asset Management and Compliance	AMC	Post-G3	Post-G3	2	105
25	A045	PRJ-000743 - B6361.02 Western Campus Logistics and Compliance	AMC	Post-G3	Post-G3	0	105
26	A026	PRJ-000465 - B6206.13 Rail OTN & PLC Replacement	AMC	Post-G3	Post-G3	10	115
27	A014	PRJ-000206 - Main Tunnel	AMC	Post-G3	Post-G3	8	124
28	A012	PRJ-000181 - B7216 AGL Reinforcement	AMC	Post-G3	Post-G3	1	125

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
29	T01	PRG-000074 - B74-000.00 - H7 Carbon Programme: Programme Initiation and Scoping	C&S	NA	NA	-5	120
30	C01	PRG-000072 - B7680 - Security Transformation Programme	Security	49	91%	15	135
31	C016	PRJ-001719 - B7680.13 - T4 CSA & CS	Security	49	91%	34	170
32	J01	Electricity network 11KV and 33KV upgrades	AMC	45	83%	174	343
33	G01	PRG-000073 - B7233 - T2 Baggage - Strategy and Scoping	T2 Baggage	41	76%	32	375
34	G011	PRJ-001789 - B73-011.00 - Tr4 - Demolitions North	T2 Baggage	41	76%	6	382
35	G017	PRJ-001816 - B73-017.00 Tr5 T2A Baggage System	T2 Baggage	41	76%	282	663
36	G021	PRJ-001884 - B73-021.00 Shell & Core	T2 Baggage	41	76%	53	716
37	G022	PRJ-001890 - B73-022.00 T2A Office and Welfare	T2 Baggage	41	76%	2	719
38	G023	Decommission T1 baggage system	T2 Baggage	41	76%	0	719
39	G024	Baggage P2 R&O's	T2 Baggage	41	76%	25	744
40	D03	PRJ-001901 - B71-152 Terminal 4 Front Door and Car Park - Tranche 34	AMC	37	69%	295	1,039
41	C024	PRJ-001864 - B7680.23 T5 BA crew L20 & Royal Suite	Security	36	67%	6	1,046
42	C041	In airport Cargo, OAA Upgrade to Southside CPSRA & Control Post 25 Phase 2	Security	34	63%	61	1,107
43	E01	T3 Standard 3 HBS Replacement	AMC	33	61%	86	1,193
44	M06	H8 Shell & Core x 45 (all terminals)	Commercial	33	61%	45	1,238
45	C031	PRJ-001920 - B7680.30 – High Complexity Control Posts	Security	32	59%	26	1,264
46	C039	PRJ-002005 - B7680.38 T5 BA Crew L20	Security	32	59%	3	1,267
47	F02	PRJ-001903 - B7320.01 Project 1 – T5 Pilz Obsolescence Phase 1	AMC	31	57%	4	1,271
48	F03	PRJ-001903 - B7320.01 Project 2	AMC	31	57%	6	1,277
49	F04	PRJ-001903 - B7320.01 Project 3	AMC	31	57%	10	1,287
50	F05	PRJ-001903 - B7320.01 Project 4	AMC	31	57%	32	1,318
51	F06	PRJ-001903 - B7320.01 Project 5	AMC	31	57%	55	1,373
52	C037	PRJ-001956 - B7680.36 CPC	Security	31	57%	79	1,452
53	C015	PRJ-001718 - B7680.12 T3 Non-Pax Search – Arrivals	Security	30	56%	3	1,455

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
54	C026	PRJ-001869 - B7680.25 T3 Non-Pax Search – Departures	Security	30	56%	9	1,464
55	C027	PRJ-001897 - B7680.27 – Control Posts 12 & 18	Security	30	56%	20	1,484
56	A169	PRJ-001770 - B7228.03 - Northern Runway	AMC	27	50%	28	1,512
57	A172	PRJ-001793 - B71-097.00 - FIDS and Media Screens - Low Complexity	AMC	27	50%	1	1,514
58	A192	PRJ-001827 - B71-120 Airside Specialist Vehicles	AMC	27	50%	41	1,554
59	T03	PRJ-001605 - B7239 - Airspace Modernisation – Airspace Change	C&S	27	50%	9	1,564
60	T04	PRJ-001606 - B7239 - Airspace Modernisation – Easterly Alternation Infrastructure	C&S	27	50%	102	1,666
61	T023	PRJ-001809 - B74-005.02 – ATM Efficiencies – Reduction of Departure Spacing (RODS)	C&S	27	50%	2	1,668
62	T024	PRJ-001810 - B74-005.03 ATM Efficiencies – Departure Management (DMAN)	C&S	27	50%	2	1,670
63	T025	PRJ-001941 - B74-022.00 Easterly Alternation Airspace Change Proposals (EA-ACP)	C&S	27	50%	1	1,671
64	T030	Airspace Change noise mitigation + minor G2 increase	C&S	27	50%	22	1,693
65	T034	B74-023.00 Intelligent Integrated Queue Project (IIQP)	C&S	27	50%	1	1,694
66	P03	T5 Capacity Optimisation Phase 1	MH	25	46%	214	1,908
67	A125	PRJ-001642 - B7231.02 - Waste Areas Incl Landside Sweeper Tip	AMC	23	43%	3	1,911
68	A147	PRJ-001736 - B71-030.01 - Rail UPS	AMC	23	43%	13	1,924
69	A190	PRJ-001822 - B71-115 FIDS and Media Screens - High Complexity	AMC	23	43%	10	1,933
70	C035	PRJ-001933 - B7680.34 - Tranche 2: Advanced Screening Algorithms	Security	22	41%	11	1,944
71	A066	PRJ-001337 - B7226 T2 chilled water	AMC	21	39%	17	1,961
72	A193	PRJ-001831 - B71-124 T4 Level Transfers	AMC	21	39%	5	1,966
73	A194	PRJ-001837 - B71-130 Airside Water Treatment Project	AMC	21	39%	3	1,969
74	A198	PRJ-001854 - B71-003.01 Wave 1 - Airside Roads Renewal	AMC	21	39%	6	1,975
75	A202	PRJ-001872 - B71-098.01 Stands 303/305/334	AMC	21	39%	8	1,983

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
76	A203	PRJ-001873 - B71-098.02 T5 Stand Replacements	AMC	21	39%	22	2,005
77	A204	PRJ-001874 - B71-098.03 Stands 307/336	AMC	21	39%	2	2,007
78	A205	PRJ-001875 - B71-098.04 Stand Entry Guidance System Replacement	AMC	21	39%	5	2,012
79	A206	PRJ-001876 - B71-098.05 T5 Stand Refurbishment	AMC	21	39%	3	2,016
80	A234	Asset Management & Compliance P2 R&O's	AMC	21	39%	48	2,063
81	A236	At height safety for Terminals and car parks - Suicide and accident prevention	AMC	21	39%	41	2,104
82	A275	Manchester Arena Inquiry	AMC	21	39%	6	2,110
83	N01	Occupancy Infrastructure	None	20	37%	368	2,478
84	A033	PRJ-000498 - B7205 M1/14 Firemain Controls	AMC	19	35%	1	2,479
85	A038	PRJ-000512 - B7221.00 PFOS (Trace contaminants – Fluorosurfactants (PFOS))	AMC	19	35%	37	2,516
86	A114	PRJ-001603 - B71-033.00 - Heart System Renewal	AMC	19	35%	20	2,537
87	A119	PRJ-001618 - B71-036.00 - CPSRA Strengthening	AMC	19	35%	1	2,538
88	A142	PRJ-001692 - B6214.09 - Southern Catchment	AMC	19	35%	45	2,583
89	A163	PRJ-001764 - B71-086.00 Cyber for Assurance - 2023	AMC	19	35%	6	2,589
90	A189	PRJ-001821 - B71-114 UPS & Vesda Systems Replacement	AMC	19	35%	14	2,603
91	A207	PRJ-001877 - B71-143 HRMS Replacement	AMC	19	35%	5	2,608
92	A278	Border Security Enhancement	AMC	19	35%	0	2,608
93	B03	Per and Polyfluoroalkyl Substances Remediation	AMC	19	35%	37	2,645
94	B04	Cyber Security Mitigation - Operational Technology and End Devices	AMC	19	35%	9	2,655
95	T06	PRJ-001619 - B74-003.00 PCA Improvements on Served Stands - Phase 1	C&S	18	33%	12	2,667
96	T011	PRJ-001703 - B74-008.00 Carbon - Data and insights	C&S	18	33%	2	2,669
97	T026	PRJ-001992 - B74-003.01 PCA Improvements on Served Stands - Phase 2	C&S	18	33%	26	2,695
98	T027	PRJ-001993 - B74-003.02 PCA Improvements on Served Stands - Phase 3	C&S	18	33%	80	2,775

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
99	R01	PRJ-001686 - B74-006 - Decarbonisation of Heat	C&S	18	33%	44	2,818
100	Q01	Next-Gen Passenger Services - Passenger Automation	Commercial	18	33%	149	2,968
101	G020	PRJ-001883 - B73-020.00 Essential Asset Replacement	T2 Baggage	18	33%	55	3,023
102	A085	PRJ-001531 - B71-069.00 - Minimum Energy Efficiency Standards (MEES) - EPC Compliance Property	AMC	17	31%	1	3,024
103	A092	PRJ-001569 - B71-003.00 Wave 1 - Landside Roads and Perimeter Fence Renewal	AMC	17	31%	12	3,036
104	A104	PRJ-001589 - B71-022.00 - T5 BMS Upgrade	AMC	17	31%	30	3,067
105	A105	PRJ-001590 - B71-023.00 - T4 BMS Upgrade	AMC	17	31%	24	3,091
106	A145	PRJ-001698 - B71-035.01 - Wave 1 NATS Asset Replacement Phase 2	AMC	17	31%	1	3,092
107	A146	PRJ-001700 - B71-064 - Runway Approach Lighting Renewal	AMC	17	31%	9	3,100
108	A213	PRJ-001893 - B71-150 Baggage Data Analytics	AMC	17	31%	2	3,103
109	A214	PRJ-001916 - B71-151.01 T3 LV Switchboard Replacement (Phase 2)	AMC	17	31%	25	3,128
110	A215	PRJ-001917 - B71-151.02 T4 LV Switchboard Replacement (Phase 1)	AMC	17	31%	10	3,138
111	A216	PRJ-001918 - B71-151.03 Estates LV Switchboard Replacement (Phase 1)	AMC	17	31%	12	3,150
112	A218	PRJ-001923 - B71-154.02 Airfield Pavements Rolling Lifecycle – Concrete 2026	AMC	17	31%	19	3,169
113	A219	PRJ-001924 - B71-154.03 Airfield Pavements Rolling Lifecycle – Asphalt	AMC	17	31%	34	3,203
114	A220	PRJ-001925 - B71-154.04 Airfield Pavements Rolling Lifecycle – Life Extension	AMC	17	31%	6	3,209
115	A245	Rail Stations - Tunnel Vent Fan, Dampers, Fan Drives & Rotork Valves	AMC	17	31%	7	3,216
116	A274	Street Lighting Renewals	AMC	17	31%	9	3,225
117	B012	Pedestrian crossings (airside phase 2)	AMC	17	31%	7	3,232
118	B015	Terminal Buildings EPC (Energy Efficiency Compliance)	AMC	17	31%	15	3,247

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
119	B020	HAL owned HV Network Renewals	AMC	17	31%	1	3,248
120	B021	Rolling renewal of HV cabling	AMC	17	31%	1	3,249
121	B022	CTA Sanitation Block	AMC	17	31%	4	3,253
122	B028	T4 Chilled Water Pipework Renewals	AMC	17	31%	1	3,254
123	B031	Pump Renewals - T5 Fire Main Pump Renewals (Energy Centre)	AMC	17	31%	1	3,255
124	B052	Calorifier Renewals	AMC	17	31%	1	3,256
125	B058	Replace 1km of network per year - Surface Water and Pollution	AMC	17	31%	3	3,259
126	B06	T4/5 HBS (Hold Baggage Screening) Bearing Replacement Phase 2	AMC	17	31%	3	3,262
127	B085	T4 Smoke Control - Replacement of Smoke Detection Equipment and Panels	AMC	17	31%	0	3,262
128	B09	HV Resilience Renewals (2025 Power Incident Review)	AMC	17	31%	9	3,271
129	B092	T5 Check-In Renewals	AMC	17	31%	1	3,271
130	B096	T4/T5 HBS (Hold Baggage Screening) Replacement	AMC	17	31%	5	3,277
131	B104	T4 Safe Walking Route	AMC	17	31%	0	3,277
132	K01	PRJ-001563 - B75-019.00 - Cargo Southside Transformation	Commercial	17	31%	55	3,332
133	L08	Additional changing places (accessible washrooms) provision	Commercial	17	31%	5	3,337
134	L09	Additional accessible toilets	Commercial	17	31%	9	3,346
135	L10	Terminal 3 arrivals Baggage reclaim buggy route	Commercial	17	31%	23	3,370
136	L13	Terminal 4 accessible route for remote operations	Commercial	17	31%	5	3,374
137	L17	Additional lift access for EMA handling	Commercial	17	31%	19	3,393
138	A249	MSCP4 - Repair	AMC	16	30%	27	3,420
139	A250	MSCP5 Expansion Joints	AMC	16	30%	10	3,430
140	B118	Airport Noise and Operations Monitoring (ANOMS)	AMC	16	30%	8	3,438
141	B125	Airport Operating to Plan (AOP)	AMC	16	30%	2	3,440
142	B126	TMS Stand Planning system	AMC	16	30%	2	3,442
143	B131	Crisplant Sort Controller (CSC) baggage platform and products	AMC	16	30%	9	3,450

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
144	B132	Baggage desktop and laptop client operating systems and hardware	AMC	16	30%	4	3,454
145	B133	Bag messaging for compliance with IATA 1755	AMC	16	30%	4	3,458
146	B136	Tech. component of refurbs - Airport Ops Ctrl Centre, STAR & Compass Centers	AMC	16	30%	5	3,463
147	B144	Lighting Control System (LCS)	AMC	16	30%	1	3,463
148	B146	Archway Metal Detector (AMD Net)	AMC	16	30%	2	3,465
149	B155	Microsoft platform and connectors	AMC	16	30%	0	3,465
150	B158	Essential maintenance for Heathrow's ageing data centres	AMC	16	30%	19	3,485
151	B164	Counter Unmanned Aerial systems (C-UAS) and Perimeter Intrusion Detection system (PIDS)	AMC	16	30%	14	3,499
152	B172	Governance, risk and compliance solutions	AMC	16	30%	2	3,501
153	B185	Policy	AMC	16	30%	1	3,502
154	M16	Land optimisation - decking (LS 2 and LS4) - replace Pex/N4	Commercia l	16	30%	75	3,577
155	M18	Perimeter parking opportunities	Commercia l	16	30%	19	3,595
156	H01	PRG-000076 - B76-004.00 - Efficient Airport Programme: Programme Initiation and Scoping	Efficient A.	16	30%	3	3,598
157	H06	PRJ-001614 - B76-003 - Border Force Holding Rooms - T2, T4 and T5	Efficient A.	16	30%	1	3,600
158	H010	PRJ-001726 - B76-008 - PAX ID (Biometrics)	Efficient A.	16	30%	8	3,607
159	H021	PRJ-001894 - B76-006.00 - Passenger Flow Monitoring (PFM) - Futures	Efficient A.	16	30%	18	3,625
160	H025	PRJ-001936 - B76-019.00 Seating Improvements	Efficient A.	16	30%	11	3,636
161	H026	PRJ-001937 - B76-020.00 Digital Screen Optimisation	Efficient A.	16	30%	1	3,637
162	H028	PRJ-001945 - B76-003.01 - Border Force Holding Rooms - T3	Efficient A.	16	30%	0	3,637
163	H040	PRJ-001985 - B76-033.00 Additional Coaching Gate T5	Efficient A.	16	30%	6	3,643
164	H043	EA P2 R&O's	Efficient A.	16	30%	54	3,697
165	A083	PRJ-001525 - B6672.04 - Blast Protection - Terminals	AMC	15	28%	21	3,718
166	A191	PRJ-001825 - B71-118 Airside Pedestrian Crossings	AMC	15	28%	11	3,729

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
167	A195	PRJ-001838 - B71-131 External Potable Water Project	AMC	15	28%	40	3,769
168	A243	T5D Attenuators Overhaul	AMC	15	28%	6	3,775
169	A246	TTS Train Control - (Regional Automatic Train Operation & Regional Automatic Train Protection)	AMC	15	28%	10	3,785
170	A266	Traffic Signals (Urban Traffic Control) - Systems	AMC	15	28%	13	3,799
171	B016	Rolling programme for pavements and stands	AMC	15	28%	51	3,850
172	B02	Continued Passive Fire Protection Renewals	AMC	15	28%	1	3,851
173	B034	Installation and renewal of UPS for Critical Assets	AMC	15	28%	3	3,854
174	B036	T5 Fuel Farm Fire Water Deluge Pumping Station Renewals (Pumps and Valves)	AMC	15	28%	2	3,856
175	B038	Control Tower Refurbishment	AMC	15	28%	24	3,880
176	B044	Potable Water Network Renewals (1km of network per year)	AMC	15	28%	3	3,883
177	B05	Airfield Stand Flood Towers	AMC	15	28%	19	3,901
178	B055	AGL DC Cable Replacement	AMC	15	28%	1	3,902
179	B061	T2 - Internal Potable Renewal	AMC	15	28%	0	3,902
180	B062	T4 - Internal Potable Renewal	AMC	15	28%	0	3,902
181	B064	T3 - Internal Potable Renewal	AMC	15	28%	0	3,902
182	B065	T5 - Internal Potable Renewal	AMC	15	28%	0	3,902
183	B067	UPS Renewals – roads, baggage tunnels	AMC	15	28%	0	3,903
184	B068	T5 UPS Renewals	AMC	15	28%	0	3,903
185	B069	T2 UPS Renewals	AMC	15	28%	0	3,903
186	B073	APPROACH 27L Renew of LEDs	AMC	15	28%	1	3,904
187	B076	Computer Room Air Conditioning Unit Renewals (CRAC)	AMC	15	28%	1	3,904
188	B078	T5 Chilled Water Pipework Renewals	AMC	15	28%	1	3,905
189	B080	Low Voltage Network Distribution Board Renewals	AMC	15	28%	1	3,906
190	B081	Baggage PLC Replacement - Eastern Campus S7-400	AMC	15	28%	2	3,908
191	B082	T3 Baggage - Controls replacement	AMC	15	28%	3	3,911

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
192	B084	TTS - UPS Equipment Rooms	AMC	15	28%	0	3,911
193	B087	Fire Detection Equipment and Panel Renewals	AMC	15	28%	0	3,911
194	B095	Cooling Towers Renewals	AMC	15	28%	3	3,915
195	B098	Stand Infrastructure Renewals	AMC	15	28%	17	3,932
196	B100	Heavy Rail Tunnel - Re-Railing Rolling Lifecycle	AMC	15	28%	0	3,932
197	B103	Copper 50 Pair Network Cable Migration	AMC	15	28%	0	3,932
198	B106	Cargo Tunnel Renewals	AMC	15	28%	1	3,934
199	B110	Potable water tanks and plant rooms renewals	AMC	15	28%	2	3,936
200	B112	Main Tunnel Renewals	AMC	15	28%	3	3,939
201	B115	Property: T3 Interior	AMC	15	28%	9	3,948
202	H04	PRJ-001608 - B76-001.00 - Airfield Optimisation	Efficient A.	15	28%	2	3,950
203	H013	PRJ-001733 - B76-015 - TMS Stand Planning integration	Efficient A.	15	28%	1	3,952
204	H016	PRJ-001865 - B76-017.00 - Manual Handling Aids	Efficient A.	15	28%	3	3,955
205	H017	PRJ-001885 - B76-016.02: T2 LED Replacement	Efficient A.	15	28%	3	3,958
206	H027	PRJ-001943 - B76-021.00 VCF Enhancements	Efficient A.	15	28%	20	3,978
207	H029	PRJ-001950 - B76-022.00 EDM T4 LED Replacement	Efficient A.	15	28%	0	3,978
208	H031	PRJ-001952 - B76-024.00 EDM T5 LED Replacement Wave 2	Efficient A.	15	28%	0	3,978
209	H032	PRJ-001953 - B76-025.00 - EDM Estates and Rail LED Replacement	Efficient A.	15	28%	0	3,979
210	H033	PRJ-001954 - B76-026.00 EDM IE5 Motor Upgrade (Phase 1)	Efficient A.	15	28%	4	3,983
211	H034	PRJ-001955 - B76-027.00 EDM Phase 2 Futures	Efficient A.	15	28%	11	3,994
212	H041	APOC Systems, Tools and Processes inc Punctuality	Efficient A.	15	28%	9	4,002
213	H042	Baggage Improvement Scope	Efficient A.	15	28%	40	4,043
214	A244	Heavy Rail Tunnel - Re-Railing	AMC	14	26%	4	4,047
215	B137	HEART infrastructure monitoring system	AMC	14	26%	3	4,050
216	B142	Stand Entry Guidance system (SEGS)	AMC	14	26%	8	4,058
217	B145	Urban Traffic Control (UTC)	AMC	14	26%	2	4,060
218	B154	Health and Safety Incident Management system	AMC	14	26%	8	4,068
219	B157	Security technology replacements and upgrades	AMC	14	26%	16	4,083
220	B159	Secure data and file transfer solution upgrade	AMC	14	26%	23	4,107

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
221	B174	Zero trust identity and access management	AMC	14	26%	9	4,116
222	B175	Embed security awareness and training into culture of org	AMC	14	26%	2	4,117
223	B186	Immutable Backups	AMC	14	26%	3	4,121
224	B187	Cyber resilience and recoverability	AMC	14	26%	9	4,130
225	K021	PRG-000075 - B75-035.00 - Commercial Revenue Programme: Programme Initiation and Scoping	Commercial	14	26%	2	4,132
226	K047	PRJ-001899 - B75-042.01 - Land Opt - Long Stay 2/3	Commercial	14	26%	9	4,141
227	K065	Commercial P2 R&O's	Commercial	14	26%	51	4,193
228	V01	T5 Early Bag Store	None	14	26%	47	4,239
229	A056	PRJ-001254 - B7651.00 Safety & Resilience	AMC	13	24%	1	4,240
230	A176	PRJ-001802 - B71-100 H7 Main Tunnel Renewals	AMC	13	24%	24	4,264
231	A183	PRJ-001812 - B71-106 - LEPC Rolling Lifecycle Phase 1	AMC	13	24%	12	4,277
232	A184	PRJ-001813 - B71-107 - LEPC Rolling Lifecycle Phase 2	AMC	13	24%	20	4,297
233	A186	PRJ-001817 - B71-110 Landside Safety Project	AMC	13	24%	11	4,307
234	A187	PRJ-001818 - B71-111 Longford Link Bridge Project	AMC	13	24%	0	4,308
235	A188	PRJ-001819 - B71-112 Colleague Car Parking Project	AMC	13	24%	1	4,309
236	A227	PRJ-001960 - B71-163 LifeX Test System and Mobile Data Terminals	AMC	13	24%	0	4,309
237	A238	T4 PAVA System	AMC	13	24%	2	4,311
238	A251	Airside Roads Renewal	AMC	13	24%	18	4,329
239	A276	Landside Roads Renewal	AMC	13	24%	9	4,338
240	B010	Airside/Landside Security Fencing - Rolling Renewals	AMC	13	24%	10	4,348
241	B011	Substation Roofs	AMC	13	24%	4	4,352
242	B013	RAAC Structural Elements	AMC	13	24%	8	4,360
243	B014	West Ramp Coach Park- Renewal Work	AMC	13	24%	9	4,368
244	B017	Western Campus Inter-Terminal Baggage Transport Asset Replacement (DCV)	AMC	13	24%	78	4,446
245	B018	RAAC External Cladding	AMC	13	24%	14	4,460
246	B019	Engineering Spares and Emergencies	AMC	13	24%	22	4,482
247	B023	Pioneer Data Centre power supply, UPS and support facilities	AMC	13	24%	1	4,483

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
248	B024	NATS - DME FERNAU 2020 - South	AMC	13	24%	1	4,484
249	B025	NATS - EFPS Hardware & Software refresh HATCT & VCF	AMC	13	24%	1	4,484
250	B026	NATS - UPS HATCT	AMC	13	24%	1	4,485
251	B027	NATS - SIM Upgrade	AMC	13	24%	1	4,485
252	B029	NATS - SMR Terma 2000 N/S/E/W	AMC	13	24%	1	4,487
253	B030	NATS - SENSIS MLAT	AMC	13	24%	1	4,488
254	B032	Rolling Maid Reader Asset Renewal 610e & 620 (2000 units across 6 years)	AMC	13	24%	1	4,489
255	B033	NATS - Instrument Landing System Indra Navia	AMC	13	24%	2	4,492
256	B035	NATS - SDPS HATCT & VCF	AMC	13	24%	4	4,495
257	B037	Southern Runway - Western Section Resurfacing	AMC	13	24%	15	4,510
258	B039	T3 Overhead height barriers to protect external RAAC cladding	AMC	13	24%	1	4,511
259	B040	T4 Cladding Replacement (airside)	AMC	13	24%	5	4,517
260	B041	MSCP5 Expansion Joints phase 2	AMC	13	24%	9	4,526
261	B042	TTS - Train Control - RATP (Regional Automatic Train Protection) & RATO (Regional Automatic Train Operation)	AMC	13	24%	21	4,546
262	B047	Main Tunnel North Plant Room Sump	AMC	13	24%	0	4,546
263	B048	T4 Public Address Voice Alarm Replacement	AMC	13	24%	0	4,546
264	B056	Fire Main Valve Replacement Strategy	AMC	13	24%	1	4,547
265	B057	Traffic Signals	AMC	13	24%	2	4,550
266	B059	Heavy Rail Tunnel - Mobile Communication System (GSM-R) Battery (UPS) Replacement	AMC	13	24%	0	4,550
267	B060	Internal Potable Renewal - Non Terminal Buildings	AMC	13	24%	0	4,550
268	B063	TTS - Power Distribution System PLC and Controls	AMC	13	24%	0	4,550
269	B066	Airside Generator change over panels renewals	AMC	13	24%	0	4,550
270	B07	Fire Main Network and System Renewals	AMC	13	24%	15	4,565
271	B071	Rail Stations - T5 Fire System Replacement	AMC	13	24%	0	4,565
272	B072	Western Interface Building Baxorter M&E Renewal	AMC	13	24%	0	4,565
273	B074	T3IB 4 x Pre and Final Sorter Renewal	AMC	13	24%	1	4,566

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
274	B077	T5 DCV (Destination Coded Vehicle) Unloader EOL and Track Replacement	AMC	13	24%	1	4,567
275	B08	Pump Renewals – M1-14 Fire Main Pumping Station	AMC	13	24%	6	4,572
276	B086	TTS - Power Distribution System Switch Gear	AMC	13	24%	0	4,573
277	B089	Fire Damper Replacements	AMC	13	24%	0	4,573
278	B090	Heavy Rail Tunnel - Replacement of Overhead Wires	AMC	13	24%	0	4,573
279	B091	Heavy Rail Tunnel - Switches and Crossings	AMC	13	24%	0	4,574
280	B094	Radio System (emergency)	AMC	13	24%	1	4,574
281	B099	BA - Renewal Work	AMC	13	24%	0	4,574
282	B102	CCR (Constant Current Regulators) replacement (12 to 6.6 AMPs)	AMC	13	24%	0	4,575
283	B109	UKPNS NAMP Works (H8)	AMC	13	24%	2	4,576
284	B113	MSCP (all) Fire Detection and Evacuation Systems	AMC	13	24%	5	4,581
285	B135	Handheld baggage scanners and location codes used by VIBES and BRS scanners	AMC	13	24%	2	4,583
286	B139	Lift renewal	AMC	13	24%	6	4,589
287	B147	Flight Information Display Systems (FIDS)	AMC	13	24%	6	4,595
288	A112	PRJ-001601 - B71-031.00 - Wave 1 Tunnel Improvements in ART, SAR, NAR	AMC	12	22%	96	4,691
289	A160	PRJ-001759 - B71-060.02 - HV NAMP 2024	AMC	12	22%	1	4,692
290	A162	PRJ-001761 - B71-060.04 - HV NAMP 2026	AMC	12	22%	4	4,696
291	A231	B71-138 - T3 Pier 7 Structural	AMC	12	22%	98	4,794
292	A232	T3 Refurbishment of Pier 7 and Connector (EXTERNAL)	AMC	12	22%	305	5,099
293	A233	T3 Refurbishment of Pier 7 and Connector (INTERNAL)	AMC	12	22%	12	5,111
294	A235	Colleague car parking Access Control	AMC	12	22%	2	5,113
295	A239	Passive Fire Protection Renewals	AMC	12	22%	11	5,124
296	A240	Fire Station (East & Headquarters Buildings) Uninteruptible Power Supply Communications Room Remediation	AMC	12	22%	1	5,124
297	A252	Fire Door Renewals	AMC	12	22%	1	5,126
298	A277	ATP Enhancements CAA Enforcement and Operational Efficiency	AMC	12	22%	0	5,126

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
299	B163	CCTV re-fresh	AMC	12	22%	16	5,141
300	B165	Physical access control re-fresh	AMC	12	22%	8	5,149
301	B167	End user computing, including laptops, desktops, phones and multi-functional devices	AMC	12	22%	16	5,165
302	B183	Cyber threat intelligence platform enhancements	AMC	12	22%	1	5,165
303	B184	Extended attack surface management	AMC	12	22%	1	5,166
304	J02	Electricity network 132KV new network	AMC	12	22%	310	5,476
305	U02	Climate Adaptation to Flood risk	C&S	12	22%	59	5,535
306	A080	PRJ-001514 - B7237 MSCP3 Intumescent Paint, MSCP3 Civils Rehabilitation and Safety Improvements	AMC	11	20%	20	5,555
307	A091	PRJ-001568 - B71-002.00 - Wave 1 Non-Terminal Buildings Rehab and Emergency Lighting Renewal	AMC	11	20%	3	5,558
308	A113	PRJ-001602 - B71-032.00 - T4 PLC and Check-in Asset Replacement	AMC	11	20%	27	5,585
309	A124	PRJ-001641 - B7231.03 - UKPNS HVAC System	AMC	11	20%	2	5,588
310	A262	Chiller Renewals	AMC	11	20%	9	5,596
311	A263	Water Treatment for Cooling Towers	AMC	11	20%	2	5,599
312	A272	WeCa Inter Terminal Baggage Transport Asset Replacement DCV	AMC	11	20%	43	5,642
313	B01	Continued Chiller Renewals	AMC	11	20%	3	5,645
314	B053	Potable Water Pumping Stations Renewal Programme	AMC	11	20%	1	5,645
315	B101	Terminal stand-alone toilet facilities	AMC	11	20%	0	5,646
316	B114	Terminal Publlic Toilets and Welfare Rolling Renewals	AMC	11	20%	12	5,658
317	B117	Aerodrome Live Fault Reporting (ALFRED)	AMC	11	20%	8	5,666
318	B130	Sort Allocation Computer (SAC) and Supervisory Control And Data Acquisition (SCADA) baggage platform and products obsolecence.	AMC	11	20%	39	5,705
319	B140	DTS Servers	AMC	11	20%	2	5,707
320	B143	Common Data Environment (M-Files)	AMC	11	20%	2	5,709
321	B148	Operational Performance Measurement (OPM)	AMC	11	20%	6	5,715
322	B149	SSBD replacement	AMC	11	20%	16	5,730

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
323	B156	Minor Capital Works for corporate systems	AMC	11	20%	9	5,740
324	B160	Database standardisation to migrate apps and systems from Oracle to Microsoft SQL	AMC	11	20%	4	5,743
325	B161	Network asset re-fresh - access switches, wireless LAN points, firewalls, telephony	AMC	11	20%	23	5,767
326	B162	Server estate - incl. op system and database upgrade, plus H/W and virtualisation upgrade	AMC	11	20%	16	5,782
327	B166	Shared storage re-fresh	AMC	11	20%	14	5,796
328	B168	Radio network consolidation	AMC	11	20%	8	5,804
329	B169	Centrally held provision for technology equipment not covered by a Capital budget	AMC	11	20%	6	5,810
330	B170	End User Compute devices and Identities cloud migration to Entra ID	AMC	11	20%	12	5,822
331	B177	Modernisation of end point protection	AMC	11	20%	2	5,824
332	B178	Cloud workload protection platform	AMC	11	20%	2	5,826
333	B179	Network microsegmentaion for zero trust	AMC	11	20%	7	5,833
334	B180	Operational Technology protection	AMC	11	20%	5	5,837
335	B181	Multi cloud cloud security posture management solutions	AMC	11	20%	2	5,839
336	Q03	Intelligent Operations and Optimisation	Commercial	11	20%	89	5,927
337	M08	T2 Towers Upgrade (Advertising)	Commercial	11	20%	4	5,931
Red: indicative set of projects not accommodated by our H8 capex envelope							
338	A178	PRJ-001804 - B71-102 Rail Fire System (2023)	AMC	10	19%	6	5,938
339	A247	Building Sustainability and Energy Performance	AMC	10	19%	19	5,956
340	A248	Joint and bearing replacement T4 on and off ramp	AMC	10	19%	10	5,966
341	K027	PRJ-001529 - B75-068.00 BA Crew Car Park	Commercial	10	19%	18	5,984
342	M01	T3 Pier 6 Lounge	Commercial	10	19%	37	6,021
343	M02	T5 Level 30 & 40 Lounge	Commercial	10	19%	99	6,120
344	M14	VIP Phase 4	Commercial	10	19%	35	6,156
345	M15	Retail New Scope : T4 IDL	Commercial	10	19%	19	6,174

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
346	A177	PRJ-001803 - B71-101 Landside Roads H7 Rolling Life Cycle - Project 1 - 2023 Resurfacing - Tranche 33	AMC	9	17%	0	6,175
347	A241	Rehabilitation of non terminal buildings	AMC	9	17%	49	6,223
348	A259	B71-139 - T3 Pier 5 Roof	AMC	9	17%	30	6,254
349	A261	Water Treatment - Closed loop systems - Terminal 2	AMC	9	17%	2	6,256
350	B046	Stations - Switchgear and Transformer replacement (CTA & T4)	AMC	9	17%	0	6,256
351	B049	Central Battery Units - Renewals	AMC	9	17%	0	6,256
352	B051	AGL Fitting Replacements	AMC	9	17%	1	6,257
353	B070	Grooved Type Joints Replacements	AMC	9	17%	0	6,257
354	B075	Boiler Renewals	AMC	9	17%	1	6,258
355	B079	T5 Switchboard replacement	AMC	9	17%	1	6,259
356	B088	TTS - Station Doors Overhaul	AMC	9	17%	0	6,259
357	B093	T4 - Sanitation block renewals	AMC	9	17%	1	6,260
358	B097	T5 Baggage - Controls Replacement (S7-400 & Profibus)	AMC	9	17%	8	6,267
359	B105	Remote Sites Welfare Toilet Renewals	AMC	9	17%	1	6,268
360	B108	T3 Canopy replacement (either side of T3 East Wing)	AMC	9	17%	2	6,270
361	B111	T3 Renewal of Pier 5 and 7 Gate Rooms and Stairwells	AMC	9	17%	2	6,272
362	B121	Baggage Data Analytics (Merlin & ADMRIS)	AMC	9	17%	6	6,278
363	B127	Passenger Flow Monitoring, Xovis	AMC	9	17%	2	6,280
364	B141	MAXIMO asset management system	AMC	9	17%	2	6,282
365	B171	Asset Lifecycle Management	AMC	9	17%	9	6,291
366	K028	PRJ-001534 - B75-005.00 - Car Park Proposition	Commercial	9	17%	1	6,291
367	K039	PRJ-001688 - B75-040 - T5C Airline Lounge	Commercial	9	17%	4	6,295
368	A237	Flight Information Display Screens Renewals	AMC	8	15%	23	6,318
369	A242	Engineering Female Toilets	AMC	8	15%	3	6,321
370	A260	Toilet Block Rolling Refurbishment T2-T5	AMC	8	15%	32	6,354
371	B123	Documented Operations Reporting and Information Systems (DORIS)	AMC	8	15%	4	6,358
372	B134	Vanderlande Trafficlite remote baggage IT monitoring and management system	AMC	8	15%	2	6,359

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
373	B151	Azure Active Directory Business to Consumer	AMC	8	15%	2	6,361
374	B153	BACS payment system	AMC	8	15%	1	6,362
375	T07	PRJ-001620 - B74-004.00 - EV Charging Stations	C&S	8	15%	7	6,369
376	T014	PRJ-001743 - B74-004.02 - EV Back Office	C&S	8	15%	0	6,370
377	T015	PRJ-001745 - B74-011.02 - CBS eBus Charging	C&S	8	15%	9	6,379
378	T016	PRJ-001746 - B74-011.03 - Bus + Coach eBus Charging	C&S	8	15%	3	6,382
379	T038	eBus Charging Depot (HAL)	C&S	8	15%	14	6,395
380	U05	Zero Waste	C&S	8	15%	43	6,438
381	Q06	Predictive and Proactive Asset Management	Commercial	8	15%	5	6,443
382	M19	Onwards travel proposition	Commercial	8	15%	9	6,452
383	A029	PRJ-000487 - B6214.02 Pollution Infrastructure Renewal	AMC	7	13%	11	6,464
384	A093	PRJ-001570 - B71-004.00 - T3 Roofing structural renewal	AMC	7	13%	13	6,477
385	A099	PRJ-001578 - B71-013.00 - IDAHO Roadmap	AMC	7	13%	4	6,481
386	A103	PRJ-001588 - B71-021.00 - Wave 1 Heavy Rail Tunnel Water Ingress & Fire Compliance	AMC	7	13%	1	6,483
387	A108	PRJ-001594 - B71-027.00 - TTS Switch Overhauls and Replacements	AMC	7	13%	1	6,484
388	A182	PRJ-001808 - B7205.08 T3 Service Subways - remedial works - 2024 works (FINAL)	AMC	7	13%	2	6,485
389	A271	B71-164 - TBS SAC Obsolescence	AMC	7	13%	15	6,500
390	B043	T3 Cladding Panel Replacement (including East Wing)	AMC	7	13%	0	6,501
391	B045	DTS (Data Transmission System) Servers	AMC	7	13%	0	6,501
392	B050	T4 Cladding Replacement (landside)	AMC	7	13%	1	6,502
393	B054	Control Post Barrier Renewals	AMC	7	13%	1	6,502
394	B083	Engineering Minor Works	AMC	7	13%	112	6,614
395	B107	Non-Terminal Buildings - Roofs	AMC	7	13%	2	6,616
396	B119	Foreign Object Debris (FOD) application and hardware	AMC	7	13%	7	6,623
397	B150	HEX Enterprise Resource Planning System	AMC	7	13%	1	6,624
398	B152	Quantum Treasury system	AMC	7	13%	1	6,625

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
399	B173	Vulnerability management and remediation	AMC	7	13%	4	6,629
400	B176	Strengething of data loss prevention controls	AMC	7	13%	4	6,633
401	B182	Next gen Sec Incident & Event Management and Sec Orchestration, Automation & Response modernisation and upgrade	AMC	7	13%	1	6,634
402	T010	PRJ-001687 - B74-007 - CTA Active Travel Project	C&S	7	13%	2	6,635
403	T019	PRJ-001777 - B74-002.09 - Active Travel – East	C&S	7	13%	12	6,647
404	R02	Heat Decarbonisation (Energy Hub, Easy wins, Temp Reduction, Energy Hub)	C&S	7	13%	254	6,901
405	K056	PRJ-001967 - B75-074.00 Consent Project (Compliance)	Commercial	7	13%	3	6,904
406	B116	Keyboard Video Monitor (KVM) system in Control Centre	AMC	6	11%	9	6,913
407	B120	Automated Public Address system (APA)	AMC	6	11%	6	6,920
408	B122	Airport Community APP	AMC	6	11%	6	6,926
409	B124	Heathrow Roster Management System (HRMS)	AMC	6	11%	3	6,929
410	B128	Telematics System, Journeo	AMC	6	11%	1	6,930
411	B129	Better Suite applications, Copenhagen Optimisation	AMC	6	11%	4	6,934
412	B138	ArcGIS (Heathrow Explorer)	AMC	6	11%	3	6,937
413	T036	Bus Priority	C&S	6	11%	8	6,945
414	K019	Public and Private 5G Infrastructure	Commercial	6	11%	16	6,961
415	K044	PRJ-001771 - B75-018.02 - VIP Diplomatic Product	Commercial	6	11%	16	6,976
416	K045	PRJ-001892 - B75-059.00 HCC Capacity	Commercial	6	11%	2	6,978
417	K049	PRJ-001909 - B75-063.00 T2 Space Opt - T2 L20 AS - Retail Units at Connections	Commercial	6	11%	2	6,981
418	K051	PRJ-001911 - B75-065.00 T5 Space Opt - L20 AS - Retail & F&B inc BOH	Commercial	6	11%	3	6,984
419	K052	PRJ-001912 - B75-066.00 T5 Space Opt - L20 AS- F&B in Ex-Lounge	Commercial	6	11%	4	6,988
420	K053	PRJ-001913 - B75-067.00 VIP Communal Lounge	Commercial	6	11%	10	6,998
421	K055	PRJ-001942 - B75-071.00 T2 Space Opt – T2 L10 – LS Retail and F&B Changes	Commercial	6	11%	2	7,000

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
422	Q02	Next-Gen Passenger Services - Commercial Revenues	Commercial	6	11%	140	7,140
423	M10	Retail New Scope : T5 IDL	Commercial	6	11%	73	7,213
424	M11	Retail New Scope : T3 IDL	Commercial	6	11%	37	7,250
425	J03	National Grid Connection - Connecting Cable	AMC	5	9%	47	7,297
426	T018	PRJ-001775 - B74-002.07 - Active Travel - Secure Cycle Parking	C&S	5	9%	1	7,298
427	U03	eGSE	C&S	5	9%	66	7,364
428	U04	Nature Positive	C&S	5	9%	25	7,389
429	L01	Additional washroom capacity in Terminal 5 and general	Commercial	5	9%	15	7,404
430	L02	Cleaning	Commercial	5	9%	7	7,411
431	L03	Water refill stations	Commercial	5	9%	2	7,413
432	L04	Seating and Digital signage	Commercial	5	9%	47	7,460
433	L05	Multi faith prayer rooms	Commercial	5	9%	7	7,467
434	L06	Family proposition & provision	Commercial	5	9%	13	7,480
435	L07	Premium proposition & provision	Commercial	5	9%	17	7,496
436	L11	Creation of quiet spaces for sensory needs	Commercial	5	9%	9	7,506
437	L12	Enablement Hub Upgrades	Commercial	5	9%	5	7,510
438	L14	Support and integration for Air Passenger Assist App	Commercial	5	9%	5	7,515
439	L15	Autonomous wheelchairs full rollout	Commercial	5	9%	3	7,518
440	L16	Provision of alternative mobility equipment	Commercial	5	9%	3	7,521
441	L18	Digital proposition development	Commercial	5	9%	8	7,529
442	L19	Enhanced border experience	Commercial	5	9%	56	7,585
443	L20	Connections	Commercial	5	9%	9	7,595
444	L21	Airport look and feel – Exteriors (painting, cleaning, decorating facades)	Commercial	5	9%	3	7,598
445	L22	Airport look and feel – Passenger long distance walkways (decoration, intelligent lighting)	Commercial	5	9%	6	7,604

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
446	L23	Airport look and feel – Gate areas Terminals 3, 4 and 5	Commercial	5	9%	7	7,611
447	L24	Airport look and feel – T3 specific targeted improvements (including IDL and Pier flooring)	Commercial	5	9%	7	7,618
448	C040	Data Insight – Dashboards & Reporting, Pro-active Service and Support Model & Prescriptive Maintenance Algorithms	Security	5	9%	31	7,648
449	A228	PRJ-001986 - B71-167 CC Remob - MEP	AMC	4	7%	7	7,655
450	A229	PRJ-001987 - B71-168 CC Remob - Working Areas, Meeting Rooms, Safety & Security	AMC	4	7%	2	7,657
451	A230	PRJ-001988 - B71-169 CC Remob - Welfare	AMC	4	7%	5	7,662
452	A253	T3 Facility Asset Plan	AMC	4	7%	2	7,665
453	A254	T2 Cladding Remedial Works	AMC	4	7%	6	7,671
454	A258	T3 INTERNAL Pier 7 & Connector structural rehabilitation - Stairwell	AMC	4	7%	4	7,675
455	A268	Station Digital Mobile Radio Network	AMC	4	7%	2	7,677
456	A269	Picopass Card and Card Reader Replacement	AMC	4	7%	35	7,712
457	A270	New Integrated Test Facility (ITF) Project	AMC	4	7%	42	7,754
458	A273	Surface Movement Radar gearbox	AMC	4	7%	13	7,767
459	T022	PRJ-001780 - B74-002.03 - Bus/Coach Waiting Facilities	C&S	4	7%	3	7,770
460	T029	Active Travel North	C&S	4	7%	9	7,779
461	T040	Hatton Cross Bus Capacity	C&S	4	7%	7	7,787
462	K09	PRJ-001696 - B75-043 - Marketing e-commerce (WeChat)	Commercial	4	7%	1	7,787
463	K010	PRJ-001697 - B75-044 - 3rd Party Distribution (B2B)	Commercial	4	7%	2	7,789
464	K018	PRJ-001983 - B75-084.00 CI Retail Manager	Commercial	4	7%	0	7,790
465	K020	Tr7 SSO/Loyalty	Commercial	4	7%	0	7,790
466	K035	PRJ-001638 - B75-019.01 - Airside Transhipment Centre	Commercial	4	7%	2	7,792
467	K046	PRJ-001896 - B75-060.00 T5 Luxury	Commercial	4	7%	1	7,793
468	K061	T5 Satellites Space Optimisation	Commercial	4	7%	2	7,796
469	K063	Tr7 C&C	Commercial	4	7%	0	7,796

Rank	ID	Project name	Programme	Score (points)	Score out of 100%	H8 Capex (£ million, CPI 2024)	H8 Cumulative capex (£ million, CPI
470	K064	Tr7 VIP	Commercial	4	7%	1	7,797
471	Q08	Enterprise operational systems and data enablement	Commercial	4	7%	37	7,834
472	M04	T2 IDL	Commercial	4	7%	9	7,844
473	M07	Advertising - Interior LED	Commercial	4	7%	5	7,849
474	M09	Mass Advertising Digitalisation & Removal	Commercial	4	7%	19	7,867
475	M17	Carpark revolution	Commercial	4	7%	19	7,886
476	M05	T5 Satellites	Commercial	3	6%	3	7,889
477	T021	PRJ-001779 - B74-002.02 - Heathrow Travel Wallet	C&S	2	4%	1	7,889
478	T028	Taxi + Private Hire	C&S	2	4%	4	7,893
479	T031	AVA enhancements	C&S	2	4%	7	7,900
480	T037	Colleague Car Parking	C&S	2	4%	3	7,903
481	M13	VIP Cars	Commercial	2	4%	2	7,905
482	M21	Poyle	Commercial	1	2%	21	7,926
483	S01	Noise Mitigation (linked to capacity restrictions)	C&S	0	0%	225	8,151
484	Q07	Modernising Corporate Processes	Commercial	0	0%	5	8,155
485	P02	Development Consent order	MH	0	0%	173	8,329
486	P04	T5 Capacity Optimisation Phase 2	MH	0	0%	716	9,045
487	P05	Enabling Modernising Heathrow	MH	0	0%	322	9,367
488	P06	Ancillary Projects	MH	0	0%	239	9,606
NA	U01	People and Planet prioritisation adjustment (labelled as 'carbon programme efficiencies/phasing' in CAA Data Tables)	C&S	NA	NA	-104	9,502

APPENDIX I

Application of historical capex incentives

Introduction

I1 A core part of the CAA's regulation of HAL is ensuring that we provide effective incentives for HAL to develop and maintain its assets efficiently and securing value for money for consumers. This furthers the interests of consumers by:

- ensuring that airport charges are no higher than they need to be to reflect the efficient costs incurred by HAL; and
- incentivising HAL to carry out its activities in an efficient and economical way.

I2 Our approach to incentives for capital efficiency changed at the H7 price control when we introduced forward looking (or "ex ante") capex efficiency arrangements. These arrangements have been applied to projects approved at Gateway 3 ("G3") of the HAL-airlines capital governance process from 1 March 2024 onwards.[7]

I3 In previous price controls, we performed a backward looking (or "*ex post"*) assessment of the capex that HAL had incurred, to determine whether it had been efficiently incurred. Our most recent *ex post* efficiency review covered expenditure up to 31 December 2018.[8]

I4 *Ex post* efficiency assessments have proved challenging in practice. Nonetheless, in the absence of stronger forward-looking incentives for the period before March 2024, they continue to provide useful incentives for efficiency.

I5 This capex efficiency review covers capex incurred by HAL from 1 January 2019, which is the cut-off of our last *ex post* review. This means that our initial proposals cover capex incurred under two types of arrangements:

[7] We worked with HAL and the airlines to update the capex governance arrangements needed for the *ex ante* efficiency framework. To allow time for this work, we set 1 March 2024 as the date when the new *ex ante* capex efficiency arrangements would start, meaning that only projects approved at G3 from that date qualify for *ex ante* review.

[8] CAA, Economic regulation of Heathrow: working paper on the efficiency of HAL's capital expenditure during Q6 (CAP 1964), September 2020.

- the *ex post* arrangements applied to capex incurred in Q6+1 (2019), iH7 (2020 and 2021), and H7 projects that went through G3 approval before 1 March 2024. For these projects, we are undertaking an *ex post* assessment to determine if any adjustment to the RAB is appropriate.
- the *ex ante* incentives apply to capex incurred in projects that went through G3 approval from 1 March 2024 onwards.

I6 At this stage, we have used a cut-off date of 31 December 2024 to select projects in scope of our review. This cut-off date aligns with HAL's latest regulatory accounts.

I7 Under the *ex ante* capex efficiency framework, the efficiency adjustment is calculated when a project passes gateway 7 ("G7") of the capex governance process, which is when the project reaches financial closure.[9] As of our cut-off date of 31 December 2024, none of the projects with capex incurred under *ex ante* arrangements (that is to say with G3 approval from 1 March 2024) had reached G7.

I8 This appendix sets out the:

- the method we have used in our *ex post* capex review;
- the process we have followed to date; and
- next steps and implementation.

Our method

Overall approach

I9 We propose to build on the approach to the *ex post* capex review we used to determine the capex adjustment to the H7 opening RAB. That approach was developed through extensive stakeholder consultation[10] and drew on regulatory precedent from aviation and other sectors. Key features of our approach include:

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[9] Under the *ex ante* capex efficiency framework, the capex efficiency adjustment can be negative, if HAL has overspent, or positive, if HAL has underspent, relative to baselines defined at G3 with associated Delivery Obligations. This framework is implemented through HAL-airline capital governance arrangements, including the Capital Efficiency Handbook.

[10] CAA, Economic regulation of Heathrow: working paper on the efficiency of HAL's capital expenditure during Q6 (CAP 1964), September 2020.

CAA, Economic regulation of Heathrow Airport Limited: working paper on Q6 capital expenditure and early expansion costs (CAP 1996), April 2021.

- assessment framework: we retain the Demonstrably Inefficient or Wasteful framework, "DIWE framework" for our efficiency assessment of the sampled projects. The DIWE framework has been used in *ex post* efficiency reviews in other regulated sectors and the CMA accepted the CAA's DIWE framework in its review of NATS Reference Period 3 price control (for the period January 2020 to December 2024); and
- sampling: we conduct the *ex post* efficiency review on a sample of projects undertaken by HAL.

I10 This appendix sets out our approach to making the selection of projects used in our sample, which then are subjected to detailed assessment. Our approach to this prioritisation exercise is explained further below.

Sample project selection

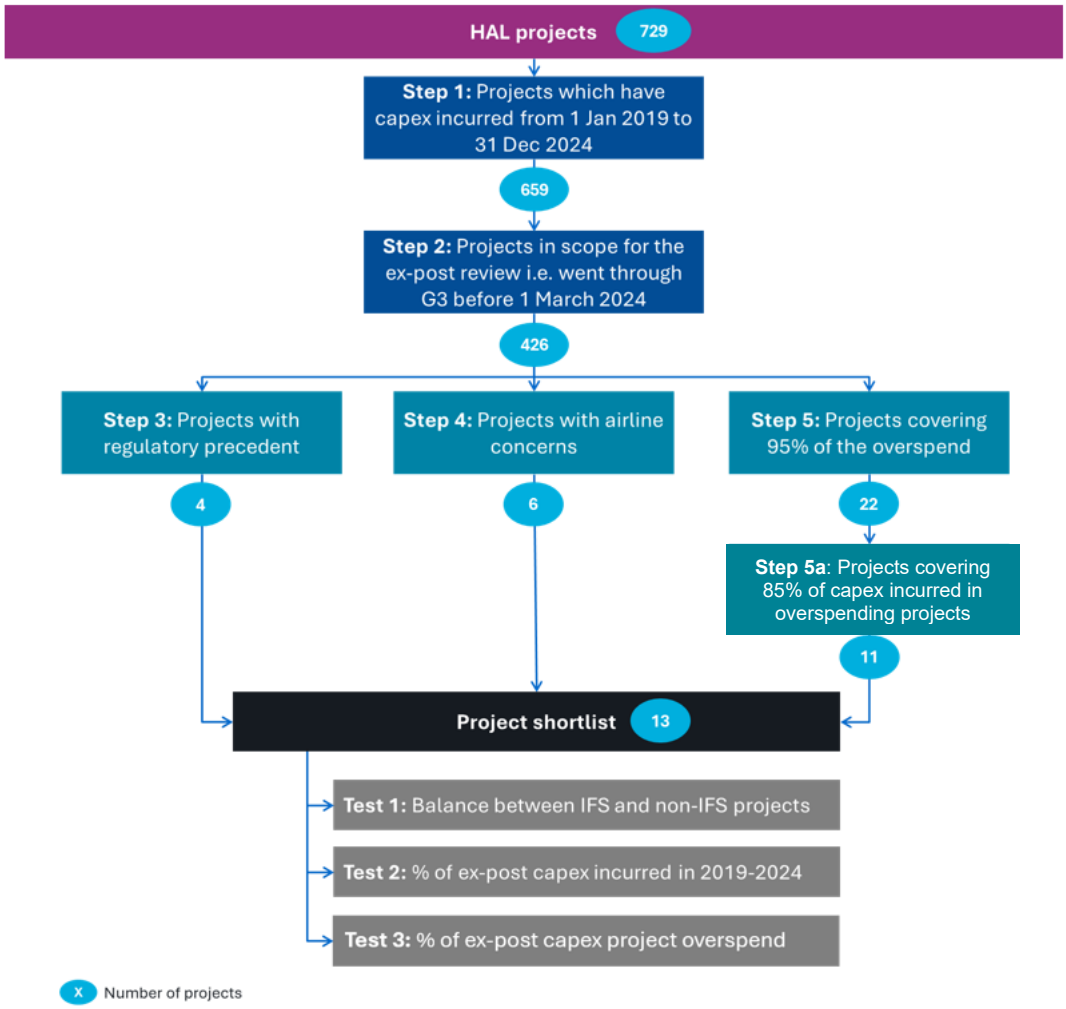
I11 In selecting projects for *ex post* review, we propose to apply a structured method that starts with the full set of projects and filters these down based on materiality and risk of inefficiency. Figure I.1 illustrates our five-step method, which involves:

- Step 1: working with HAL, we identified a list of 729 projects in progress from 1 January 2019 to 31 December 2024. This was our starting point. We note that some projects in the list were awaiting financial closure, meaning that albeit listed as 'in progress', they did not incur any capex over the reference period 2019-2024. Removing these projects reduced the list to 659 projects which incurred capex from 1 January 2019 to 31 December 2024. The capex incurred in these 659 projects reconciles to the capex reported in HAL's regulatory accounts for the period from 2019 to 2024.
- Step 2: we identified which of the 659 projects with capex incurred in the 2019 to 2024 period had G3 approval before 1 March 2024. The 426 projects under this category total £2.8 billion of capex (in nominal prices), which is the capex in scope for our *ex post* review.
- Steps 3 to 5 applied a series of risk and materiality filters which resulted in a shortlist of 13 projects:
    - Regulatory precedent (Step 3): In our H7 Final Proposals,[11] we said that our conclusions on the *ex post* efficiency assessment of four projects were interim and we would review the capex incurred in these projects since the last review (that is, capex incurred since 1 January 2019) at the next review. These four projects were: Main Tunnel; Cargo Tunnel; T4 hold baggage system; and Magenta.

[11] CAA, Economic regulation of Heathrow Airport Limited: H7 Final Proposals Appendices D-K (CAP 2365), June 2022, paragraphs D9, D22, D26.

- Airlines concerns (Step 4): working with our consultants, Steer, we ran a workshop with airlines to understand their priorities for *ex post* review. The airlines indicated six projects where they had concerns regarding cost efficiency: main tunnel; cargo tunnel; magenta; runway resurfacing – southern runway; Compass Centre acquisition; and track transit system enhancements.
- Materiality of overspend (Steps 5): We consider that a project shows overspend when its Estimated At Completion ("EAC") capex is higher than its Budget At Completion (BAC) capex. Projects that show an overspend have higher risks of having given rise to inefficient and/or wasteful expenditure and are, therefore, the focus of our analysis. Out of the 426 projects in scope for *ex post* review, we identified 22 projects with the highest overspend, covering 95% of the overspend across all 426 projects in scope.
- Materiality of capex incurred in projects that overspent (Step 5a): Many of the 22 projects with the largest overspend amounts are very small and it would be disproportionate to perform an *ex post* review of all of these. Instead, we focused on the subset of 11 largest projects (measured by the capex incurred). These account for 85% of the capex incurred in projects that overspent.

Figure I.1: Method for sample project selection



Source: CAA and Steer analysis

I12 The result of the 5-step sampling method above is a shortlist of 13 projects that meet one or multiple of the criteria set out in Steps 3 to 5. To provide an additional level of robustness, we applied three tests to the shortlist of 13 projects to ensure that they formed a balanced sample of projects for our *ex post* review:

- Test 1: include both IFS and Non-IFS reviewed projects. Under the capex governance framework, the Independent Funds Surveyor ("IFS") is responsible for independently scrutinising the progress of the larger and strategically important projects in HAL's portfolio. Projects that overspent and are not subject to IFS scrutiny carry a higher risk of inefficiency, as they have not benefited from ongoing scrutiny. However, those are generally of lower materiality (typically less than £20 million) and a lower level of complexity, so that potential inefficiencies in non-IFS projects are potentially less detrimental to consumers' interests. Of the 13 shortlisted projects, nine (69%) were scrutinised by the IFS and four (31%) were not. We are content that our shortlist of 13 projects has a balanced mix of IFS-assured and non-IFS assured projects in furthering the interests of consumers.
- Test 2: proportion of total capex in scope for *ex post* review. We want to ensure that we account for a material portion of the capex incurred by HAL as part of the *ex post* review. The 13 projects shortlisted account for 31% of the £2.8 billion (nominal prices) of capex in scope, and we consider that this is a material share of the capex in scope for ex post review.
- Test 3: we want to ensure that we account for most of the overspend incurred in the projects in scope for the *ex post* review. The combination of Steps 3, 4, 5 and 5a mean that the 13 projects shortlisted account for 89% of the overspend across all 426 projects in scope for *ex post* review.

I13 Bearing all of the above in mind, we are satisfied that the 13 projects shortlisted form a balanced sample of projects for *ex post* review in furthering the interest of consumers. Also, airlines reviewed this final list and have not raised any significant concerns about project selection. Table I.2 lists the 13 projects we selected for *ex post* review, amount of overspend, and capex incurred over the 2019-2024 period. It also shows the comparison between total overspend and capex for the 13 projects selected and as a proportion of the 426 projects in scope.

Table I.2: Sample of projects selected for *ex post* capex efficiency review

Project (£m in nominal prices)	EAC (£m)	BAC (£m)	Overspend = EAC minus BAC (£m)	Overspend/ BAC (%)	Regulatory precedent	Airlines concerns	Overspend materiality	IFS	Capex incurred 2019-2024 (£m)
PRJ-000206 - Main Tunnel	337	85	252	296%	✓	✓	✓	✓	106
PRJ-000255 - Airside Taxiways - Cul De Sacs Tr6	22	17	5	29%			✓		22
PRJ-000387 - Cargo Tunnel	210	54	156	287%	✓	✓	✓	✓	152
PRJ-000533 - B216 T1_T2 HBS	170	118	51	43%			✓	✓	39
PRJ-000535 - B216 T4 HBS	181	96	85	88%	✓		✓	✓	78
PRJ-000537 - B216 T5 HBS	171	148	24	16%			✓	✓	37
PRJ-000742 - B6361.01 Eastern Campus Logistics and Compliance	18	13	5	36%			✓		17
PRJ-000776 - B7509 Magenta	56	41	15	36%	✓	✓	✓	✓	56
PRJ-001330 - B7228 Runway Resurfacing - Southern Runway	132	129	3	3%		✓	✓	✓	109
PRJ-001410 - B7201.08 - Forecourt Health and Safety Works	17	11	6	59%			✓		17
PRJ-001524 - B7228 - Runway Resurfacing - Deep Interventions	25	21	4	17%			✓	✓	25
PRJ-000800 - B6401 TTS Enhancements	82	82	0	0%		✓		✓	57
PRJ-001786 - B75-053.00 - Compass Centre Acquisition	127	127	0	0%		✓			127
Total for the 13 projects selected for review	**1,548**	**943**	**605**	**64%**	**4**	**6**	**11**	**9**	**842**
Total for the 426 projects in scope			**680**						**2,755**
13 projects selected for review as a % of 426 projects in scope			**89%**						**31%**

Source: CAA and Steer analysis

The DIWE framework

I14 We propose to retain the DIWE framework for the *ex post* efficiency assessment of capex delivered under *ex post* arrangements between 1 January 2019 and 31 December 2024. Specifically, we propose to retain the nine DIWE criteria we applied as part of our H7 review, which we consulted on extensively and were reviewed by the CMA as part of its redetermination of the NATS RP3 price control.

I15 The DIWE framework has two important features:

- it explicitly recognises that HAL cannot contract out responsibility for project development and delivery, so that inefficiency by one of HAL's contractors on a project is treated in the same way as inefficiency by HAL; and
- it places the onus on the CAA to demonstrate that HAL has been inefficient in its expenditure. So, the starting point is that expenditure which is potentially subject to disallowance is presumed to have been reasonably incurred, unless we demonstrate inefficient and wasteful expenditure.

I16 Table I.3 lists the nine DIWE criteria that we use to assess whether capital incurred in each of the 13 projects selected for the *ex post* review can be considered as demonstrably inefficient and wasteful. For ease of reference, we include in the table shorthand labels for each of our DIWE criteria.

Table I.3: CAA DIWE criteria

CAA DIWE criteria	Criteria in short form
a) The extent to which HAL identified and utilised appropriate resources.	Use of resources
b) The process by which any third-party contract was procured.	Procurement
c) The extent to which HAL was, or ought to have been, able to control the relevant expenditure, including: i. whether HAL had in place appropriate processes to oversee and control its internal costs; ii. whether HAL had in place appropriate contract management processes to oversee and control third-party costs; and iii. to what extent these processes were applied effectively.	Cost control
d) The information that was reasonably available to HAL and/or its third-party contractors, at the time that it and/or they made any relevant decisions in relation to expenditure or the control of expenditure. This includes information relating to stakeholder views in relation to that expenditure.	Decision making
e) The extent to which any expenditure involved an unnecessary duplication of activity on the part of HAL and/or its third-party contractors.	Duplication
f) 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.	Error
g) The extent to which any expenditure was increased by any avoidable delay on the part of HAL and/or its third-party contractors.	Delay

CAA DIWE criteria		Criteria in short form
h)	The extent to which any expenditure was proportionate to the outputs which that expenditure was intended to, and/or did, deliver.	Value for money
i)	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 or in facilitating HAL's efficient compliance with regulatory or statutory obligations.	Benefits

Source: CAA, CAP 1964, p.47-49.

Process to date

I17 We appointed consultants, Steer, to provide technical expertise for the *ex post* review of the 13 selected projects. Steer's support has included identifying the information required from airlines, the IFS, and HAL. Steer has also supported us in all "deep dive" sessions held with these stakeholders.

I18 Table I.5, presented at the end of this document, lists the information that we have reviewed, with support from Steer, in relation to the 13 projects in our sample. For the nine IFS-assured projects, we have considered the wide-ranging and detailed documents produced by the IFS, which we consider an important, robust, and independent source of evidence. We have also held regular deep dives with the IFS, which have assisted our interpretation of the evidence and provided wider context.

I19 We have also received substantial information from HAL, in response to our requests for information; through a Questions and Answers (Q&A) process managed by the CAA; and through dedicated deep dives. For the four (out of 13) non-IFS assured projects, the information we received from HAL and the airlines are our primary source of evidence, noting that HAL has also provided substantial information related to the IFS-assured projects selected for review.

I20 Our review is still ongoing. At the time of initial proposals, we were still receiving information from HAL and the airlines, reviewing the information, and following up with further clarifications and requests, through the Q&A process.

I21 Our preliminary review at the time of these initial proposals indicates that we have not found evidence of demonstrable inefficient or wasteful expenditure in the capex incurred between 1 January 2019 and 31 December 2024 in three (out of the 13) projects selected for review.

I22 For ten (out of 13) projects selected for review, we have requested substantial additional evidence from HAL following our preliminary analysis, which we received in January and February 2026. We have also received evidence from the airline community in late February 2026. We continue to work with HAL, the IFS, and the airline community to gather further evidence on the projects under review.

I23

I24 Table I.4 lists the status of our analysis at the time of initial proposals and sets out next steps, by project. In three projects we have reached preliminary views while the remaining ten projects are a work in progress.

Table I.4: Status of our *ex post* review and next steps, by project

Project (£m in nominal prices)	Overspend = EAC minus BAC (£m)	Capex incurred 2019-2024 (£m)	Gateway stage as of 31 Dec 24	Status of review	Next steps
PRJ-000206 - Main Tunnel	252	106	G4 – ongoing	Work in progress.	• Review of evidence related to the 2019-2024 period is ongoing.
PRJ-000255 - Airside Taxiways - Cul De Sacs Tr6	5	22	G7 – closed	No DIWE found in capex incurred from 2019 to 2024.	• No further steps required for preliminary findings, as we reviewed all the evidence and project has reached financial closure (G7).
PRJ-000387 - Cargo Tunnel	156	152	G4 – ongoing	Work in progress.	• Review of evidence related to the 2019-2024 period is ongoing.
PRJ-000533 - B216 T1_T2 HBS	51	39	G7 – closed	Work in progress.	• Review of further evidence related to the 2019-2024 period is ongoing.
PRJ-000535 - B216 T4 HBS	85	78	G7 – closed	Work in progress.	• Review of further evidence related to the 2019-2024 period is ingoing.
PRJ-000537 - B216 T5 HBS	24	37	G7 – closed	Work in progress.	• Review of further evidence related to the 2019-2024 period is ongoing.
PRJ-000742 - B6361.01 Eastern Campus Logistics and Compliance	5	17	G5 - ready for use	Work in progress.	• Review of further evidence related to the 2019-2024 period is ongoing.
PRJ-000776 - B7509 Magenta	15	56	G7 – closed	Work in progress.	• Review of further evidence related to the 2019-2024 period is ongoing.
PRJ-001330 - B7228 Runway Resurfacing - Southern Runway	3	109	G4 – ongoing	Work in progress.	• Review of further evidence related to the 2019-2024 period is ongoing.
PRJ-001410 - B7201.08 - Forecourt Health and Safety Works	6	17	G6 - in operation	No DIWE found in capex incurred from 2019 to 2024.	• No further steps required for preliminary findings, as we reviewed all the evidence and project is operational and near to financial closure (G7).
PRJ-001524 - B7228 - Runway Resurfacing	4	25	G7 – closed	No DIWE found in capex incurred from 2019 to 2024.	• No further steps required for preliminary finding, as we reviewed all the evidence and project reached financial closure (G7).

Project (£m in nominal prices)	Overspend = EAC minus BAC (£m)	Capex incurred 2019-2024 (£m)	Gateway stage as of 31 Dec 24	Status of review	Next steps
PRJ-000800 - B6401 TTS Enhancements	0	57	G4 – ongoing	Work in progress	• Review of further evidence related to the 2019-2024 period is ongoing.
PRJ-001786 - B75-053.00 - Compass Centre Acquisition	0	127	G7 – closed	Work in progress	• Review of further evidence related to the 2019-2024 period is ongoing.

Source: CAA and Steer analysis

Next steps and implementation

I25 Following the publication of these initial proposals, we will continue our review as explained above, with a focus on the 10 projects indicated in Table I.4 for further assessment. We expect to publish a further update on this work in the summer of 2026, alongside the report from our consultants, to allow stakeholders to comment on these issues. We will take account of those comments in developing our final proposals.

I26 At final proposals, we will also update the cut-off date for our review of projects under *ex ante* arrangements, to align with the latest published regulatory accounts, which we expect to be for the period ending 31 December 2025. If a RAB adjustment related to *ex ante* arrangements is appropriate, we will explain in our final proposals how this will be implemented in practice.

I27 We welcome the views of stakeholders on any of the issues discussed in this Appendix and will consider these carefully as part of our work to develop our final proposals.

Annex: Document register for the *ex post* review

I28 The table below compiles all the documents that we have reviewed as of 31 December 2024 as part the *ex post* capex efficiency review.

I29 In addition to the documents listed below, we have also received supplementary information through a Q&A process and through project-specific deep dives held with HAL, the airline community, and the IFS.

I30 We note that we have received substantial further information in January and February 2026 from HAL and the airlines, which is not listed in the table below as we are still in the process of reviewing this new information.

Table I.5: List of documents reviewed as of 31 December 2024

Project	Documentation
PRJ-000206 - Main Tunnel	• IFS Monthly reports • IFS G3 gateway report • IFS Interim close out report • IFS summary report
PRJ-000255 - Airside Taxiways - Cul De Sacs Tr6	• Project Management Plan Between G3 and G4 • Alpha North Tender Programme • Description of the Scope of the Alpha North Project Pre G3 • Alpha North Achievement of G3 report • Alpha North Achievement of G3 certificate • Description of the Scope of the Alpha North Project • Schedule Update • Request for approval of the funding for the Alpha North Project • Request for approval of the funding for the Alpha North Project • Alpha North Lessons Learned • Description of the Scope of Block 21 Outer Project • Block 21 Outer Project G3 Risk Register • Block 21 Outer Project G3 Schedule • Block 21 Outer Achievement of G3 report • Block 21 Outer Achievement of G3 certificate
PRJ-000387 - Cargo Tunnel	• IFS Monthly reports • IFS G3 gateway report • IFS Pseudo-G3 gateway report • CCRS Comments for November 2023 Report (issue 12th January 2024) • IFS summary report
PRJ-000533 - B216 T1_T2 HBS	• IFS Monthly reports (August 2014– September 2021) • IFS Initial review • IFS G3 gateway report • IFS Close out report • IFS Summary report • List of compensation events of the DI • Deed of Amendment 6 with the DI
PRJ-000535 - B216 T4 HBS	• IFS Monthly reports (August 2014– September 2021) • IFS Initial review • IFS G3 gateway reports • IFS Close out report • IFS summary report • List of compensation events of the DI • Deed of Amendment 6 with the DI

Project	Documentation
PRJ-000537 - B216 T5 HBS	• IFS Monthly reports (August 2014– September 2021) • IFS Initial review • IFS G3 gateway report • IFS Close out report • IFS summary report
PRJ-000742 - B6361.01 Eastern Campus Logistics and Compliance	• Business Case describing the project at G3 • Project Management Plan at G3 • Risk Register at G3 • Summarised schedule at G3 • Lessons Learned • Benefits Realisation Plan • Business Case Benefits Map • Project Schedule at G5

PRJ-000776 - B7509 Magenta	• IFS Monthly reports (May 2020 – October 2021)
	• IFS G3 Business Case
	• IFS Gateway reports
	  ○ G2
	  ○ G3
	• IFS Close out report
	• IFS summary report

PRJ-000800 - B6401 TTS Enhancements	• IFS Monthly reports (June 2021– March 2025) • IFS G3 gateway report • IFS summary report
PRJ-001330 - B7228 Runway Resurfacing - Southern Runway	• IFS Monthly reports (June 2022– March 2025) • IFS G3 gateway reports • IFS Southern Runway – CCRS – IFS comments 27 Jan 2025 • IFS G3 gateway presentation • IFS summary report
PRJ-001410 - B7201.08 - Forecourt Health and Safety Works	• Implementation Schedule • Contract Status Report for T1 and T2 works • Contract Status Report for T4 works • Project Description at G1 • Project Schedule with progress up to 17/2/24 (G4) • G3 Cost Plan • Contract Status Report • Change Register up to 16/8/23 • Cost breakdown and changes between G7 and G3 • Latest Project Schedule • Risk Register • Lessons Learned • Chain of emails confirming the realisation of the benefits • Changes in cost G7 vs G3
PRJ-001524 - B7228 - Runway Resurfacing - Deep Interventions	• IFS Monthly reports (June 2022– May 2023) • IFS G2-G3 gateway reports • IFS summary report
PRJ-001786 - B75-053.00 - Compass Centre Acquisition	• CBRE UK Full Property Report • Compass Centre Acquisition CPB Sep 2023 presentation • Compass Centre Acquisition Detailed Expenditure Report • Capitalisation of Assets spreadsheet • Signed CC acquisition funding Sep 2023

APPENDIX J

Explanation of notional company

J1 We and other regulators have traditionally set price controls for HAL based on assumptions in respect of a "notional company": that is, a hypothetical company that faces broadly the same business risks as the licensee, but whose financial structure is defined based on a series of assumptions in respect of, among things:

- the level of gearing;
- the types of financial instruments issued, including the proportions of fixed-rate, floating-rate and index-linked instruments;
- the cost of these instruments;
- the profile and tenor of issuance; and
- whether the notional company puts in place any structural features that influence its WACC or risk profile.

J2 The rationale behind the use of a notional company is that setting maximum allowed charges directly based on the company's actual financial structure without any adjustments would provide weaker incentives on HAL to finance itself efficiently and responsibly.

J3 At the same time, it is important to ensure that we define a notional company based on benchmarks that we consider are achievable, financeable and would allow an airport operator subject to HAL's operating conditions to access debt and equity capital on reasonable terms.

J4 Defining the notional company in an arbitrary or unbounded manner would not be in the interest of consumers: for example, because it could over-remunerate HAL or because it would undermine access to capital on a cost-efficient basis, leading to higher-than-necessary financing costs[12]. It is therefore important for us to ensure, to the extent that it is practical to do so, that our notional assumptions are internally consistent and realistic.

J5 The definition of the notional company is an important input into the WACC and our assessment of financeability. We set out the detailed assumptions that we make in respect of the notional company and how these have informed our

[12] In extreme cases, an excessively low cost of embedded debt could lead to financial distress, the costs of which to consumers could be significant.

assessment have determined these elements of the price control in chapters 9 (Cost of capital), 10 (Financial framework) and 11 (Price cap and financeability).

J6 The use of the notional company to set price controls does not preclude HAL adopting different decisions in respect of its actual financial structure. Where these decisions enable it to outperform the price control settlement, we generally do not seek to claw back this outperformance, but we also do not compensate HAL where its financing decisions result in underperformance.

APPENDIX K

RAB roll forward rules

Purpose and basis of the calculation

K1 This Appendix specifies the detail of the formulae that we intend to use for tracking the regulatory asset base ("RAB") for the purposes of setting the H8 price control.

K2 The equations set out below are based on the projections made by the CAA in reaching these initial proposals on the charge conditions for the H8 price control period from 1 January 2027 to 31 December 2031.

Inflation adjustment

K3 The data used in calculating inflation adjustments is the Consumer Prices Index including owner occupiers' housing costs (CPIH): CPIH INDEX 00: ALL ITEMS 2015=100 (the L522 series) published by the Office for National Statistics. From the CPIH data, we have adopted the following series:

(a) $\mathrm{CPIH}_{\mathrm{Dec,t}}$ is the CPIH index for December of Regulatory Year t;

(b) $\mathrm{CPIH}_{\mathrm{Dec,t-1}}$ is the CPIH index for December of Regulatory Year $\mathrm{t}-1$;

(c) $\mathrm{CPIH}_{\mathrm{Annual,t}}$ is the arithmetic mean of monthly CPIH index values for each month in Regulatory Year t; and

(d) $\mathrm{CPIH}_{\mathrm{Annual,2024}}$ is the arithmetic mean of monthly CPIH index values for each month in Regulatory Year 2024.

K4 From these series we have constructed the following inflation adjustment terms:

Inflation adjustment	Used for
$\frac{\mathrm{CPIH}_{\mathrm{Dec,t}}}{\mathrm{CPIH}_{\mathrm{Dec,t-1}}}$	Annual CPIH growth from December of Regulatory Year $\mathrm{t}-1$ prices to December of Regulatory Year t prices
$\frac{\mathrm{CPIH}_{\mathrm{Dec,t}}}{\mathrm{CPIH}_{\mathrm{Annual,t}}}$	CPIH growth from annual average of Regulatory Year t prices to December of Regulatory Year t prices (within year CPIH growth)
$\frac{\mathrm{CPIH}_{\mathrm{Dec,t}}}{\mathrm{CPIH}_{\mathrm{Annual,2024}}}$	CPIH growth from 2024 CPIH annual average prices to December of Regulatory Year t prices

K5 In each year, the RAB is expressed in December CPIH-real prices of that year. The CAA assumed ordinary depreciation figures are expressed in 2024 CPIH-real annual average prices.

K6 A value corresponding to a Regulatory Year can be expressed in different price bases and denoted by the subscripts as follows:

Price base	Subscript
CPIH prices in December of the previous Regulatory Year	$\mathrm{Dec, t-1}$
CPIH prices in December of that Regulatory Year	$\mathrm{Dec, t}$
Annual average CPIH prices of that Regulatory Year	$\mathrm{Annual, t}$
Annual average CPIH prices of Regulatory Year 2024	$\mathrm{Annual, 2024}$

Composition of the RAB

K7 The RAB at the end of Regulatory Year t is given by $\mathrm{RAB(t)_{Dec,t}}$.

The Opening RAB

K8 The Opening RAB of Regulatory Year t equals to the Closing RAB of Regulatory Year $\mathrm{t-1}$, both expressed in CPIH prices in December of Regulatory Year $\mathrm{t-1}$. That is:

$$\text{Opening RAB(t)}_{\mathrm{Dec,t-1}} = \text{Closing RAB(t}-1)_{\mathrm{Dec,t-1}}$$

K9 For H8, the Opening RAB of Regulatory Year 2027 expressed in CPIH prices in December of Regulatory Year 2026, $\text{Opening RAB(2027)}_{\mathrm{Dec,2026}}$, is £21,636.996 million. Detailed calculations are given in chapter 10 Financial framework.

Annual RAB roll-forward

K10 The annual RAB roll-forward is given by:

$$\begin{aligned}&\text{Closing RAB(t)}_{\mathrm{Dec,t}}\\&= \text{Opening RAB(t)}_{\mathrm{Dec,t-1}} \times \frac{\mathrm{CPIH_{Dec,t}}}{\mathrm{CPIH_{Dec,t-1}}}\\&+ \left[\text{Actual capex(t)}_{\mathrm{Annual,t}} - \text{Proceeds from disposals(t)}_{\mathrm{Annual,t}}\right.\\&\left.+ \text{TRSA(t)}_{\mathrm{Annual,t}}\right] \times \frac{\mathrm{CPIH_{Dec,t}}}{\mathrm{CPIH_{Annual,t}}}\\&- \text{CAA assumed ordinary depreciation(t)}_{\mathrm{Annual,2024}} \times \frac{\mathrm{CPIH_{Dec,t}}}{\mathrm{CPIH_{Annual,2024}}}\end{aligned}$$

where:

(a) t represents Regulatory Years 2027, 2028, 2029, 2030 and 2031;

(b) $\text{Closing RAB(t)}_{\text{Dec,t}}$ is the RAB at the end of Regulatory Year t;

(c) $\text{Opening RAB(t)}_{\text{Dec,t}-1}$ is the Opening RAB at the beginning of Regulatory Year t;

(d) $\text{Actual capex(t)}_{\text{Annual,t}}$ is the capital expenditure that has been spent in Regulatory Year t;

(e) $\text{Proceeds from disposals(t)}_{\text{Annual,t}}$ is the proceeds from disposals in Regulatory Year t;

(f) $\text{TRSA(t)}_{\text{Annual,t}}$ is the adjustment to the RAB in Regulatory Year t for the part of the traffic risk sharing adjustment that is not implemented by adjusting allowed charges in H8. It is calculated as follows:

(i) $\text{TRSA(2027)}_{\text{Annual,2027}} = 0.7 \times \text{ARS(2027)}_{\text{Annual,2027}} \times (1 + \text{RWACC})^{4.5}$;

(ii) $\text{TRSA(2028)}_{\text{Annual,2028}} = 0.8 \times \text{ARS(2028)}_{\text{Annual,2028}} \times (1 + \text{RWACC})^{3.5}$;

(iii) $\text{TRSA(2029)}_{\text{Annual,2029}} = 0.9 \times \text{ARS(2029)}_{\text{Annual,2029}} \times (1 + \text{RWACC})^{2.5}$;

(iv) $\text{TRSA(2030)}_{\text{Annual,2030}} = \text{ARS(2030)}_{\text{Annual,2030}} \times (1 + \text{RWACC})^{1.5}$;and

(v) $\text{TRSA(2031)}_{\text{Annual,2031}} = \text{ARS(2031)}_{\text{Annual,2031}} \times (1 + \text{RWACC})^{0.5}$;

where:

1. $\text{ARS(t)}_{\text{Annual,t}}$ is calculated in the same way as ARS_t in Condition C1.17 of HAL's licence; and

2. RWACC is the pre-tax CPIH-real weighted average cost of capital which shall have a value of 5.86%; and

(g) $\text{CAA assumed ordinary depreciation(t)}_{\text{Annual,2024}}$ is the CAA's assumed ordinary depreciation in Regulatory Year t. The values over H8 in these initial proposals are given by:

(i) Regulatory Year 2027: £1,046.899 million;

(ii) Regulatory Year 2028: £1,104.181 million;

(iii) Regulatory Year 2029: £1,173.150 million;

(iv) Regulatory Year 2030: £1,215.804 million; and

(v) Regulatory Year 2031: £1,253.840 million.

Adjustments in addition to annual RAB roll-forward

K11 In addition to the annual roll-forward formula set out in in paragraph K10 above, at various points of H8, we may adjust the RAB, with appropriate indexation factors applied, to reflect our policy decisions on capex efficiency as required. We will adopt an evidence-based approach to conduct efficiency assessments

on HAL's capex and early expansion costs and the associated financing costs, in order to ensure that only efficient capex is renumerated.

K12 For 2031, we will adjust the RAB through the Cost of new debt indexation term $\mathrm{CONDI}(2031)_{\mathrm{Dec},2031}$ to true up the difference between forecast and outturn cost of new debt indexation during H8. The calculation of $\mathrm{CONDI}(2031)_{\mathrm{Dec},2031}$ is given by the workbook titled "CAA_H8_cost_of_new_debt_indexation.xls" which is a part of this Appendix.[13]

[13] To be published as part of the final proposals.

APPENDIX L

Credit metric thresholds

L1 To assess HAL's arguments in respect of the thresholds that should apply for the net debt to EBITDA margin, we reviewed the Fitch rating methodologies and discussed with the relevant analysts at Fitch. From this, we understand that, where an entity has some features that resemble a corporately financed structure while other features resemble a project finance structure, Fitch would use judgment to determine the threshold. Fitch also identified the list of factors which it would consider in assessing the degree to which an entity is corporate-like or project finance-like.[14]

L2 We have analysed the degree to which the notional company meets each of the criteria for either a corporate or project financed entity. In conducting this analysis, we considered the ringfence licence conditions that would apply to a licensee were that licensee not already bound by the restrictions of a whole business securitisation as HAL has been. We have previously taken a stance of not imposing licence conditions which would cut across HAL's financing arrangements and have noted that the restrictions in HAL's financing documents serve to protect consumers even if that is not their original intent.[15]

L3 Consequently, we can infer that the notional company, by virtue of not having whole business securitisation, would likely have a more comprehensive set of ringfence licence conditions. We would expect that the notional company's ringfence conditions might resemble those of energy networks as those licence conditions were created without being restricted by the existence of a single licensee that already had in place a whole business securitisation.

L4 Our analysis of the restrictions that would apply for the notional company showed that, for four of the five criteria, the notional company more closely resembles a project financed entity. We have then interpolated between the different criteria as shown in Table L.1 below:

[14] The list of factors is set out in appendix E of Fitch's transportation infrastructure credit rating methodology: Transportation Infrastructure Rating Criteria

[15] For example, we noted that "bondholders and consumers have a common interest in HAL remaining financially robust" in CAP1832

Table L.1: Analysis of rating threshold

	Project finance like	Corporate finance like
Threshold for A rating	8x	4x
Threshold for BBB rating	11x	5.5x
Threshold for BBB rating	11x	5.5x
Implied threshold for BBB+ rating	10x	5x
CAA-assessed weighting for notional company	80%	20%
Implied threshold level for BBB+ for the notional company	9x	9x

Source: Fitch transport infrastructure rating criteria and CAA analysis

L5 We have considered the issues of whether to apply a one notch differential between the thresholds that are relevant for the notional company compared to those that apply to HAL. In considering the issue we reviewed our position from the H7 price control.

L6 Our position for the H7 price control was that there was some merit in the argument that a whole business securitisation would produce a one notch uplift in rating but that other factors were also relevant. The other factors we noted for the H7 price control were that the notional company would still be financeable with a BBB rating and that some regulated companies, such as South Staffordshire Water Plc, benefit from a degree of rating uplift by virtue of the regulatory ring fence.[16]

L7 As noted above, HAL's financing requirement for the H8 period is comparable to that for the H7 period and, therefore, we conclude that a BBB rating would still be likely to be sufficient for the notional company to be able to finance its activities. And, in respect of South Staffordshire Water Plc, the only change has been that S&P moved it to negative outlook in November 2024[17] due to sectoral concerns only to later reaffirm the BBB+ rating as 'stable'.[18]

L8 We have, therefore, applied a one notch differential in determining the threshold levels though interpret the findings considering the above commentary.

[16] The regulatory ring fence refers to the set of licence conditions which exist to safeguard consumers. These licence conditions include, for example, restrictions on the disposal of assets and include requirements for HAL's ultimate controller to provide a written undertaking to the CAA.

[17] See 12nov2024spratingactionon8ukwatercompanies.pdf

[18] See Annual Performance Report 2024/25