

Update on technical assessment of the CAA regulatory models for Heathrow expansion



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Executive summary

This report provides an update to Steer's technical assessment of the regulatory models being considered by the Civil Aviation Authority (CAA) for Heathrow expansion, following the publication of CAP 3251 and the subsequent stakeholder consultation process. It should be read alongside Steer's May 2026 report on the Heathrow expansion regulatory models assessment. The purpose of this report is to consider comments made by stakeholders as part of the consultation process and to provide a structured and transparent technical assessment to support the CAA's wider regulatory judgement.

The report focuses on the regulatory models shortlisted by the CAA in CAP 3251: the package of models 1a, 2 and 4a; model 3; models 4b and 5b; and model 7b. These models differ materially in the extent to which they would change Heathrow's current integrated airport model. Models 1a, 2 and 4a retain HAL's responsibility for system planning, delivery, ownership, and operation, while strengthening governance, incentives and procurement scrutiny. Models 4b and 5b introduce more formalised contracting arrangements for design and build, and potentially operation. Model 7b would represent the most significant structural change, as it could introduce direct competition for airport operation services through an alternative developer and operator.

We have retained the assessment methodology used in our previous report, as we consider it remains valid in light of the new information available. The assessment focuses on three CAP 3195 criteria: Criterion A, appropriate support for capacity expansion; Criterion B, cost efficiency; and Criterion F, service quality. The assessment also continues to recognise the importance of asset perimeter, distinguishing between assets that can be clearly ring-fenced and assets that depend on integrated airport-wide control. We acknowledge that the shortlisted models could apply not only to new expansion assets but also to major infrastructure developments within the existing airport perimeter, including future developments in the Central Terminal Area.

Our assessment indicates that no single model dominates across all criteria. However, models 1a and 2 continue to perform positively across the three criteria, and when combined with model 4a they provide a coherent package of regulatory changes that can support capacity expansion, cost efficiency, and service quality while preserving Heathrow's integrated operating model. This package would require strengthened governance, clearer information requirements, approval gates, change-control processes, and procurement scrutiny. It would also require the airline community to have a structured role in defining future governance arrangements and in contributing to material decisions affecting infrastructure development, operational transition, service quality, airport charges, and the allocation of costs and risks.

Model 3, a long-term regulatory framework for expansion, is assessed as having no material direct impact on the technical construction or operation of assets at Heathrow under the criteria considered in this report.

Models 4b and 5b are assessed as potentially positive for appropriate support for capacity expansion and cost efficiency, provided that the asset scope, contractual responsibilities and interfaces are sufficiently clear. Model 4b is likely to be most suitable for assets where design and construction can be ring-fenced while ownership and long-term operation remain with HAL, such as terminal buildings, satellite terminals, baggage systems linked to a defined terminal package, landside access infrastructure, car parks, commercial areas, logistics facilities, and utilities or support infrastructure. Model 5b is likely to be more appropriate where both delivery and operation can be clearly specified and performance-managed for a defined period, such as terminal buildings, car parks or logistics areas. Both models would be less suitable for runway and taxiway operations, which depend on integrated airport-wide operational control.

Model 7b could provide cost-efficiency benefits by introducing direct competition for airport operation services and by allowing an alternative promoter to develop and operate defined assets. However, it also creates the most significant technical and operational risks, even including migration measures. Unlike the CAA's assessment in CAP 3251, which treats model 7b as neutral under Criterion A, our assessment indicates a negative impact on appropriate support for capacity expansion because of coordination and governance risks, structural fragmentation, additional operational interfaces, and reduced clarity over end-to-end accountability. We consider that model 7b is technically feasible in principle, but only if supported by a highly developed regulatory, contractual and operational architecture.

Stakeholder responses to CAP 3251 provide useful context for the assessment of model 7b. Several stakeholders recognise that a multi-operator model would introduce additional coordination requirements and costs, while also arguing that these could be outweighed by capital and operating cost savings. Our assessment is that coordination costs would likely be materially lower than potential construction and operating cost savings. We also note that uncertainty around the future economic regulation of an alternative operator could affect incentives to develop and operate infrastructure efficiently.

The treatment of airport charges and service quality is central to the effectiveness of competition-based models. If a single cross-campus maximum average charge were applied across all facilities, it is unclear how direct competition between terminal operators would operate in practice, particularly where price and service quality are expected to influence airline choice. Similarly, while system-wide service standards, interface requirements and resilience protocols could mitigate some risks, they would not remove the need for clear accountability for end-to-end passenger outcomes, baggage connections, irregular operations and operational resilience. The airline community should therefore be closely involved in the design of governance, service standards, charging arrangements, and terminal allocation.

Overall, the findings indicate that the models that preserve Heathrow's integrated operating model while strengthening governance, incentives and procurement scrutiny (models 1a, 2, 4a) are likely to be the most straightforward to implement

and provide positive impacts across the criteria assessed. Models 4b and 5b may also be technically implementable for suitably ring-fenced assets, subject to detailed contract design and strong interface management. Model 7b offers potential cost-efficiency benefits for certain type of assets, but would require substantially more developed arrangements for asset boundaries, common services, regulatory triggers, performance standards, interface protocols, dispute resolution, and transition planning.

Further work should focus on defining the implementation requirements in more detail, including the asset perimeters to which each model could apply, the role of airlines and other airport users, and the information required to test cost, service and operational impacts more robustly.

1 Introduction

Background

- 1.1 This report has been prepared by Steer Davies & Gleave Limited (Steer) for the UK Civil Aviation Authority (CAA) as part of the Independent Technical Assessment of expansion plans for Heathrow Airport (Heathrow), delivered under the Contract Ref. 3634.

Purpose and scope of this report

- 1.2 This report provides an update on the technical assessment of the implications of different regulatory models for Heathrow Airport expansion following the consultation process launched by the CAA in May 2026 (Heathrow capacity expansion – consultation on a shortlist of regulatory models, CAP 3251). In June 2026, the CAA received responses from a range of stakeholders providing their views on CAP 3251, which were made available to us.
- 1.3 Steer’s assessment focuses on the technical implications of regulatory models in relation to:
- operational feasibility and deliverability,
 - costs efficiency, and
 - service quality.
- 1.4 This report should be read in conjunction with Steer’s report CAP3251b-steer-heathrow-expansion-regulatory-models-assessment published by the CAA in May 2026.
- 1.5 The report does not seek to recommend a preferred regulatory model. Instead, it provides a transparent and structured assessment framework to inform the CAA’s wider regulatory judgement.

Structure of this report

- 1.6 The remainder of this report is structured as follows:
- Chapter 2 provides an overview of the regulatory models set out in CAP 3195 and CAP 3251;
 - Chapter 3 sets out the methodology applied in our assessment;
 - Chapter 4 addresses the views of stakeholders on the CAP 3251 consultation;
 - Chapter 5 presents the assessment and results; and
 - Chapter 6 provides our initial technical considerations for the implementation of the regulatory models shortlisted in CAP 3251.

2 Overview of regulatory models

Regulatory models set out in CAP 3195

- 2.1 The list below includes the regulatory models set out in the CAA's Working Paper on regulatory models CAP 3195.

Table 2.1: List of regulatory models included in the CAA consultation document CAP 3195

Regulatory model	Description / Sub-options
Regulatory model 1	Changes to the current capex governance framework
Regulatory model 1a	Changes to capex governance processes
Regulatory model 1b	Separating HAL's system planning function from its operational function
Regulatory model 2	Targeted adjustments to the existing incentive regime
Regulatory model 3	Long-term regulatory framework for expansion
Regulatory model 4	CAA oversight/mandate of procurement
Regulatory model 4a	Enhanced scrutiny of HAL's approach to procurement
Regulatory model 4b	Mandate Design and Build contract
Regulatory model 5	Contract for delivery and operation
Regulatory model 5a	Operation (management contract)
Regulatory model 5b	Design, Build, Operate
Regulatory model 6	Third party builds assets, then transfers ownership to HAL
Regulatory model 7	Third party continues to own and operate assets
Regulatory model 7a	Wholesale supplier model
Regulatory model 7b	Direct competition for airport operation services
Regulatory model 8	Transfer of ownership and operation of an existing asset
Regulatory model 9	New frameworks for setting airport charges
Regulatory model 9a	Price benchmarking
Regulatory model 9b	LRIC (Long Run Incremental Costs)
Regulatory model 9c	"Lighter touch" regulation

Source: Working paper on regulatory models CAP 3195. Note: HAL stands for Heathrow Airport Limited

Regulatory models set out in CAP 3251

- 2.2 In the document Heathrow capacity expansion – consultation on a shortlist of regulatory models CAP 3251, the CAA indicated the regulatory models that are being taken forward for further analysis. These are marked in the table below.

Table 2.2: List of regulatory models included in the CAA consultation document CAP 3251

Regulatory model	Description	Shortlisted
Regulatory model 1a	Changes to capex governance processes	✓
Regulatory model 1b	Separating HAL's system planning function from its operational function	
Regulatory model 2	Targeted adjustments to the existing incentive regime	✓
Regulatory model 3	Long-term regulatory framework for expansion	✓
Regulatory model 4a	Enhanced scrutiny of HAL's approach to procurement	✓
Regulatory model 4b	Mandate Design and Build contract	✓
Regulatory model 5a	Operation (management contract)	
Regulatory model 5b	Design, Build, Operate	✓
Regulatory model 6	Third party builds assets, then transfers ownership to HAL	
Regulatory model 7a	Wholesale supplier model	
Regulatory model 7b	Direct competition for airport operation services	✓
Regulatory model 8	Transfer of ownership and operation of an existing asset	
Regulatory model 9a	Price benchmarking	
Regulatory model 9b	LRIC (Long Run Incremental Costs)	
Regulatory model 9c	"Lighter touch" regulation	

Source: Heathrow capacity expansion – consultation on a shortlist of regulatory models CAP 3251

- 2.3 The CAA took a further step in packaging some of the shortlisted regulatory models, as follows:

- **Regulatory models 1a, 2 and 4a:** This package of models includes changes to capex governance processes, targeted adjustments to the existing incentive regime, and enhanced scrutiny of HAL's approach to procurement. According to the CAA, these models would be intended to encourage capital efficiency and reduce the risk of cost over-runs in the expansion programme.
- **Regulatory model 3:** This model refers to the introduction of a long-term regulatory framework for expansion through, for example, a cost of capital for expansion and/or caps and collars on returns. According to the CAA, this model is designed to encourage efficient financing and avoid any undue upward pressure on HAL's cost of capital, so that airport charges would be lower than otherwise.
- **Regulatory models 4b and 5b:** Under these models, the CAA could mandate tendering by HAL for the design and build of assets, and also operation for regulatory model 5b. According to the CAA, these models would encourage

competition and capital efficiency and are consistent with their statutory duty to promote competition where appropriate.

- **Regulatory model 7b:** This model intends to promote direct competition for airport operation services between HAL and an alternative developer. This could, for instance, be applied in the circumstances where an alternative developer was to apply for and be awarded a Development Consent Order (DCO) by the Secretary of State for the development of new terminal and/runway and associated facilities at Heathrow Airport. According to the CAA, this model could encourage competition and efficiency.

- 2.4 Below we provide a brief description of our understanding of each of the regulatory models shortlisted above. The descriptions summarise the key features of each model, including the extent to which they imply changes to governance, procurement, delivery, ownership or operation arrangements. The descriptions are intended to provide context for our assessment and do not represent an evaluation of the merits of any model.

Regulatory model 1a – Changes to capex governance processes

- 2.5 Regulatory model 1a focuses specifically on changes to capex governance processes. This may include enhanced scrutiny, revised approval processes or strengthened assurance mechanisms within the existing HAL's regulatory framework. Responsibility for system planning, delivery and operation would remain with HAL.

Regulatory model 2 – Targeted adjustments to the existing incentive regime

- 2.6 Regulatory model 2 considers targeted adjustments to the existing incentive regime applied to HAL. The model seeks to influence behaviour and outcomes through modified incentives related to cost efficiency, delivery performance or service quality, without introducing material changes to ownership, procurement or operational structures.

Regulatory model 3 – Long-term regulatory framework for expansion

- 2.7 Regulatory model 3 considers the introduction of a long-term regulatory framework tailored to the delivery of expansion. The objective of this model is to provide greater regulatory certainty over an extended period, reflecting the long timescales associated with planning and delivering major airport infrastructure, while retaining the existing delivery and ownership structure.

Regulatory model 4a – Enhanced scrutiny of HAL's approach to procurement

- 2.8 Regulatory model 4a focuses on enhanced scrutiny of HAL's procurement approach. This may include increased regulatory oversight of procurement strategies, contract structures or supplier selection processes, while delivery and ownership responsibilities remain unchanged.

Regulatory model 4b – Mandate Design and Build contract

- 2.9 Regulatory model 4b considers mandating the use of a Design and Build contract for the delivery of expansion assets, but in a more consolidated and integrated manner than the way that HAL has done it in the past. Under this model, HAL would retain ownership and operational responsibility, while design and construction activities would be consolidated and undertaken by a contractor under a single integrated contract, to the extent practical and efficient. The design risks will be entirely transferred to the contractor. In any scenario, it is expected that the contract will have financial penalties and bonuses associated with the timely delivery of the infrastructure.

Regulatory model 5b – Design, Build, Operate

- 2.10 Regulatory model 5b builds on regulatory model 4b and considers an integrated Design, Build and Operate arrangement, under which a third party would be responsible for designing, constructing and operating assets for a defined period. Ownership is understood to remain with HAL. The third-party operator could have revenue risk, or the contract could be structured as an availability payment or as a cost-plus margin type contract. The design risks will be entirely transferred to the contractor. In any scenario, it is expected that the contract will have financial penalties and bonuses associated with the timely delivery of the infrastructure and will include service levels for the operation phase.

Regulatory model 7b – Direct competition for airport operation services

- 2.11 Regulatory model 7b considers direct competition for airport infrastructure development and operation. Under this model, multiple operators may compete to provide services and/or operate assets, subject to regulatory and contractual arrangements. The model includes Design, Build and Operation of an asset or group of assets, which implies that an alternative promoter could develop and operate a new terminal at Heathrow or, in an extreme scenario, all of the new infrastructure that needs to be developed under the expansion programme, subject to DCO approval from the planning inspectorate and the Department for Transport (DfT).
- 2.12 This represents a more fundamental change to the current integrated airport model and introduces additional interfaces between asset owners, operators and the airport system.
- 2.13 It will be at the CAA discretion to trigger a market power assessment and determine if there is a case to introduce economic regulation for the new operator.

3 Methodology and Assessment Framework

Methodology

- 3.1 Based on the new information available, we have concluded that the methodology that we used to undertake the initial assessment of the regulatory models is still valid. The methodology is captured in Steer's report CAP3251b-steer-heathrow-expansion-regulatory-models-assessment published by the CAA in May 2026.

Regulatory models in scope

- 3.2 While we assess all of the regulatory models set out in CAP 3251, the depth of assessment undertaken in this report varies by model. The assessment focuses in particular on those regulatory models that would introduce material changes to delivery, ownership or operation arrangements, as these models raise more significant technical considerations in relation to operational feasibility, cost efficiency and service quality.

Assessment criteria in scope

- 3.3 As per our previous report, this report focuses on the technical assessment of regulatory models under the following criteria set out in CAP 3195:
- **Criterion A – Appropriate support for capacity expansion:** Whether the regulatory model is suitable to support the delivery of expansion and to avoid delay and disruption.
 - **Criterion B – Costs:** Whether the regulatory model promotes efficiency and control of the costs of expansion, while delivering the benefits of expansion for consumers.
 - **Criterion F – Service quality:** Whether the regulatory model promotes an appropriate level of service quality, including improvements where appropriate.

Competitive landscape assumption

- 3.4 Our assessment is developed on the basis of Heathrow expansion being delivered and, for models involving competition between operators (particularly Model 7b), the assumption that there will be opportunities for competition among different infrastructure developers/operators. Under these models, the creation of new

capacity is assumed to introduce competitive dynamics, including differences in service quality, airline preference and operational performance across terminals.

- 3.5 For the purposes of this assessment, it is assumed that capacity will exceed demand for a period following expansion, enabling competition between operators. It is also assumed that airlines (with the exception of British Airways and, potentially, its alliance partners, due to operational and network constraints) could have some ability to switch terminals over time. These assumptions are relevant to the assessment of competition-driven models and are not applied to models where airport operations remain integrated.

4 Stakeholder views on regulatory models

- 4.1 Following the publication of CAP 3251, the CAA received multiple responses from stakeholders sharing their views on the proposed shortlist of regulatory models. In this section we address those responses that we consider that provide relevant new information or deserve a clarification from our side.

Stakeholder views on regulatory model 7b

Additional coordination and costs

- 4.2 Several stakeholders, including IAG and Airlines for America, acknowledged that there would be additional coordination and costs if there were several developers/operators at Heathrow. IAG state the following: *“we recognise that introducing competition does require investment in the systems, protocols and oversight needed to coordinate across multiple operators. We do not dismiss this.”* Airlines for America state the following: *“While such an approach may have the potential to introduce additional competitive discipline, they also raise important questions regarding operational coordination, fragmentation, implementation complexity and overall consumer outcomes.”*
- 4.3 Moreover, several stakeholders indicate that the additional cost linked to competition could be outweighed by the construction and operation cost savings. IAG state the following: *“But the question for the CAA is not whether there is any coordination cost, there clearly is some, but whether that coordination cost is more than offset by the savings made possible by competitive capital efficiency and overwhelming benefits to consumers this would bring.”* We assessed that the enhanced coordination cost would be materially lower than the construction and operation cost savings brought by an alternative promoter. But it is crucial to consider in the analysis also the non-financial factors of competition. These include the additional complexities involved in coordination matters and governance, risk of not providing consistent and smooth passenger journeys, the determination of charges for the use of all the common facilities including airfield (wholesale charges), and a potential economic regulation on terminal charges for the alternative developer.
- 4.4 Heathrow Reimagined state the following: *“Steer sets out further examples of mitigations that could be implemented, including in relation to interoperability standards, joint operational planning, crisis management protocols, etc. However, it does not set out in detail why such mitigations, in its view, would be insufficient.”*

Our experience is that mitigations are effective at other airports where terminal and airfield activities are separately operated.” In response to this statement, we clarify that, with the appropriate mitigation measures in place, it is technically feasible for an alternative promoter to develop and operate assets at Heathrow (with the relevant caveats indicated in our assessment), but this comes with additional layers of complexity and risks, hence our negative scores.

Cost savings

- 4.5 HAL, in their response to the consultation process, provide a reference on the required capital investment savings to offset the increased financing costs. HAL state the following: *“Analysis indicates that standalone terminal financing would increase airport charges by at least £2.73 per passenger, rising to £5.56 per passenger to maintain Heathrow’s credit rating. Any third-party terminal operator would need to deliver very substantial capex savings — likely above 30% — before consumers could be better off.”* We concluded that the net impact on savings could be up to 15%, but not likely to reach 30%. Our estimate is very high level and based on theoretical competition-driven efficiencies (not based on a potential different scope of works), and would need to be fine tuned with detailed information from the alternative promoter. The assessment of the potential impact on financing costs is out of our scope.

Airport charges

- 4.6 Contrary to our assumption on a competitive model, some stakeholders suggested that there should be *“a single cross-campus maximum average charge per passenger applied across all facilities”*. If this single charge also applies to terminal facilities, it is difficult to understand how competition would effectively work between terminal operators, as we understand that price is the main decision factor for choosing a service, followed by service quality, and under the assumption that the CAA will impose minimum levels of service across the airport even if the alternative promoter does not operate under an economic regulation (the case of Gatwick).

Service levels

- 4.7 HAL state that *“Comparator evidence from JFK and LAX indicates that fragmented terminal operation leads to lower passenger satisfaction and less consistent service quality.”* This statement seems to refer to the ratings/scores of airports as a whole, and not at the performance of each of the terminals. Comparing service quality levels of airports across regions presents many challenges, including aspects such as cultural and legacy differences. The lower scores at some airports with different terminal operators might be driven by other factors. We consider that it would be helpful to have access to evidence of the impact on service quality of a pre and post separation of terminal operations.

Asset perimeter

- 4.8 HWL and other stakeholders claim that regulatory model 7b should be decoupled from expansion (alluding to the expansion programme that only contemplated the

new infrastructure of the expanded airport perimeter). As explained in the Asset perimeters section, our assessment supports a broader approach to the application of regulatory models and includes infrastructure within the existing airport perimeter.

Stakeholder views on other regulatory models

- 4.9 Delta stated that *“For models where multiple entities could potentially operate assets at Heathrow (Model 5b), Delta’s experience at international comparators such as JFK suggests that these options may not be effective in generating competition. Delta would be happy to provide the CAA with further evidence on this if this would be of assistance”*. We encourage Delta to provide such evidence and clarify the competition aspect that they refer to, which it appears to also apply to model 7b.

5 Assessment

- 5.1 In this chapter we provide our updated assessment of the regulatory models shortlisted in CAP 3251 according to the metrics, scoring framework, and mitigation framework described in our methodology.

Asset perimeters

- 5.2 For the assessment of the regulatory models, we defined in our previous report the type of infrastructure assets that we considered that each regulatory model applies to, which we named ‘asset perimeters’. There were cases in which we undertook different assessments of the same regulatory model depending on the type of asset it was referenced to.
- 5.3 We created two types of asset classifications; the first differentiating between existing infrastructure and new infrastructure related to expansion, and the second separating the assets in airfield, terminal, and other assets (e.g. car parks).
- 5.4 Some stakeholders claim that the CAA’s proposed regulatory models should also apply to existing infrastructure and not just to the expansion programme (i.e. new assets developed in the extended airport perimeter and also major developments in the Central Terminal Area involving T1, T2 and T3). Contrary to the distinction that we made in our previous report, we acknowledge that the regulatory models could apply to all major infrastructure developments, regardless of their location.
- 5.5 Although we assess that most of the regulatory models could be applied to all types of assets, we still have the firm view that there are certain incompatibilities, such as the possibility of having two operators of the airfield, which will imply duplication of resources to ensure safety levels and, potentially, a decrease in the efficiency, resilience, and number of air traffic movements, undermining one of the key objectives set out in the Heathrow Expansion National Policy Statement (HENPS) consultation document released in June 2026.
- 5.6 The draft HENPS states that the promoters of Heathrow expansion need to submit a proposal to develop the entire scheme, and not just an infrastructure element of it such a terminal building. This framework proposed by the DfT is, in our view, applicable to HAL, but it is not fully compatible with the provision of safe and efficient operations, as described above, if there is a third-party developer and additional measures are not implemented. A compatible option could be for an alternative developer to build the new runway (and associated airfield infrastructure) and a terminal building, but only operate the terminal building and transfer the airfield assets to HAL. This model is used in airport concessions in

Turkey, where the airport authority and grantor of the concession takes ownership of the airfield assets after the initial construction obligations are completed, and the private developer only operates the terminal facilities.

Results of the assessment

- 5.7 After reviewing the comments from stakeholders and analysing the latest evidence that is available to us, we consider that the results obtained in our previous assessment are still valid. The methodology that we used for our initial assessment has proven to address the key issues that stakeholders have identified, and our initial results have not been challenged with evidence.
- 5.8 The table below provides the summary results that we presented in our previous report. The scores are assessed in a scale from -3 to +3, with the negative results showing a detrimental impact versus status quo, and the opposite for the positive results.

Figure 5.1: Summary results by regulatory model

Model	Description	Criterion A scores	Criterion B scores	Criterion F scores
1a	Changes to capex governance processes			
2	Targeted adjustments to the existing incentive regime			
3	Long-term regulatory framework for expansion			
4a	Enhanced scrutiny of HAL's approach to procurement			
4b	Mandate Design and Build contract			
5b	Design, Build, Operate			
7b	Direct competition for airport operation services			

Source: Steer. Note: for further details refer to Steer's report CAP3251b-steer-heathrow-expansion-regulatory-models-assessment published by the CAA in May 2026.

- 5.9 Our assessment indicates that no single model dominates across all criteria, but Changes to capex governance processes (model 1a) and Targeted adjustments to the existing incentive regime (model 2) have positive scores across the three criteria. Combining these two models with Enhanced scrutiny of HAL's approach to procurement (model 4a), results in a package of regulatory changes that will benefit the appropriate support for capacity expansion (criterion A), cost efficiency (criterion B), and service levels (criterion F).
- 5.10 We assessed that regulatory model 3, Long-term regulatory framework for expansion, would not have a relevant impact on these criteria.
- 5.11 Steer's assessment also finds that regulatory models 4b and 5b provide positive results for appropriate support for capacity expansion (criterion A), and cost efficiency (criterion B).
- 5.12 Differently to the rest of the shortlisted regulatory models, Direct competition for airport operation services (model 7b) presents a negative score in one of the criteria. Specifically, we assessed that there could be a negative impact on the appropriate support for capacity expansion (criterion A) due to coordination and governance risks, structural fragmentation, and increased operational interfaces. We also concluded that this model could bring a beneficial impact to cost efficiency (criterion B).

- 5.13 In general, our conclusions on the impact of the shortlisted regulatory models are consistent with the CAA's conclusions reflected in CAP 3251, except for model 7b, which is assessed by the CAA to have a 'neutral' impact under criterion A.

6 Technical considerations for the implementation

- 6.1 This section captures our initial technical considerations for the implementation of the regulatory models shortlisted by the CAA in CAP 3251. Further analysis will need to be undertaken when the models evolve to a more defined stage.
- 6.2 We have not included in this analysis regulatory model 3, Long-term regulatory framework for expansion, because we assess that it does not have a direct impact on the construction and operation of assets at Heathrow.

Technical considerations for the implementation of models 1a, 2 and 4a

- 6.3 The implementation of models 1a, 2 and 4a would not require a fundamental change to the current airport operating model, as HAL would retain responsibility for system planning, delivery, ownership and operation. The main technical requirement would therefore be to define a strengthened governance and assurance framework that can operate within the existing regulatory structure while providing the CAA with sufficient visibility and control over key infrastructure development decisions. This should include clear approval gates, defined information requirements, transparent change-control processes, and escalation mechanisms for material changes in scope, cost, schedule or risk allocation.
- 6.4 From a technical perspective, the effectiveness of this package would depend on the extent to which governance, incentives and procurement scrutiny are designed as an integrated set of measures rather than as separate interventions. Adjustments to the incentive regime should be linked to measurable delivery and operational outcomes, including cost efficiency, schedule performance, asset readiness, resilience and service quality during transition. Similarly, enhanced scrutiny of procurement should focus not only on whether HAL follows robust procurement processes, but also on whether contract strategies allocate risk efficiently, preserve operational integration and create appropriate incentives for suppliers to deliver assets that are fit for efficient long-term operation.
- 6.5 The future governance arrangements should also include a structured role for the airline community, both in defining the governance framework and as key stakeholders in material decisions affecting infrastructure development and operation. Airlines will be directly affected by decisions on phasing, operational transition, service quality, resilience, airport charges and the allocation of costs

and risks. Their involvement should therefore be formalised through clear consultation points, transparent information-sharing arrangements and defined mechanisms for capturing airline views before key programme decisions are made. This would help ensure that the governance framework reflects operational realities, supports consumer outcomes, and provides appropriate challenge to HAL's proposals while avoiding unnecessary duplication or delay.

- 6.6 The CAA may also need access to independent technical advice to challenge cost estimates, procurement strategy, delivery schedules and interface risks. Overall, these models are likely to be technically implementable with relatively limited structural disruption, provided that the governance arrangements are sufficiently specific, timely and outcome-focused.

Technical considerations for the implementation of models 4b and 5b

- 6.7 The implementation of models 4b and 5b would require a much more detailed definition of the assets, interfaces and contractual scope than the models that could operate within HAL's existing delivery framework. Under model 4b, the CAA would need to consider how a mandated Design and Build structure could be applied without reducing HAL's ability to manage system-wide integration, safety, resilience and operational readiness. Under model 5b, this challenge would be greater because the contract would also extend into operation for a defined period. In both cases, the technical feasibility of implementation would depend on the extent to which the scope can be specified clearly, including asset boundaries, design standards, performance requirements, hand-back obligations, interface responsibilities, and the allocation of design, construction, commissioning and transition risks.
- 6.8 A key technical consideration would be the design of the procurement and governance arrangements needed to preserve integration across the airport system while still securing the benefits of competition and risk transfer. The contract would need to include robust requirements for design assurance, construction staging, operational continuity, systems integration, safety management, testing and commissioning, and coordination with HAL's retained responsibilities. The CAA would also need to determine the level of regulatory oversight involvement required during procurement, contract award and delivery, including whether independent technical advice is needed to review tender specifications, evaluate risk allocation, assess value for money and monitor delivery performance. Without sufficiently detailed governance and interface arrangements, the potential benefits of competition could be weakened by additional coordination costs, disputes over responsibilities, or delays in resolving technical interfaces.
- 6.9 For model 5b, the inclusion of an operating period creates additional technical requirements beyond those associated with delivery. Service levels, resilience obligations, operational performance incentives, passenger experience

requirements and arrangements for irregular operations would need to be defined in a way that is consistent with Heathrow's wider operating model.

- 6.10 The airline community should also have a structured role in informing the specification of the infrastructure design and the operational requirements, transition arrangements, and service standards, as airlines would be directly affected by decisions on terminal processes, asset readiness, allocation of operational risk and service quality.
- 6.11 Model 4b is likely to be most suitable for asset packages where design and construction can be sufficiently ring-fenced and specified, while ownership and long-term operation remain with HAL. This could include new terminal buildings or substantial terminal modules, satellite terminals, baggage handling systems linked to a defined terminal package, landside access infrastructure, car parks, commercial areas, logistics facilities, and utilities or support infrastructure with clearly specified availability and resilience requirements. Model 4b could also be applied to selected airfield-related construction works, provided that there is a clear and robust asset integration process in the contract.
- 6.12 Model 5b is likely to be better suited to asset packages where the operating responsibility can also be clearly defined and performance-managed for a defined period. This points to assets with relatively identifiable operational boundaries, such as terminal buildings, car parks, or logistics areas. It would be less suitable for assets that are intrinsically dependent on integrated airport-wide operational control, particularly runway and taxiway operations.
- 6.13 Overall, models 4b and 5b are technically implementable, but their success would depend on careful contract design, strong system-wide governance and a clear allocation of responsibilities between HAL, the contractor, the CAA and airport users.

Technical considerations for the implementation of model 7b

- 6.14 The implementation of model 7b would represent the most significant departure from Heathrow's current integrated airport model, as it could introduce a separate developer and operator responsible for the delivery and operation of material airport assets. This would require a detailed definition of the asset perimeter, the services to be provided by the alternative operator, and the boundaries between the responsibilities of HAL and the new operator. The technical feasibility of the model would depend on whether these boundaries can be specified in a way that preserves safe, resilient and efficient airport-wide operations while still allowing meaningful competition between operators.
- 6.15 A central technical requirement would be the creation of a binding system-wide governance framework covering infrastructure development planning, operational planning, interface management, safety assurance, resilience, crisis response, airfield access, passenger flows and connections, baggage systems and connections, utilities, IT systems and common-use infrastructure. This framework

would need to define how decisions are made where the actions of one operator affect the performance of another, including during construction, commissioning, transition and day-to-day operation. Without robust governance and escalation mechanisms, model 7b could create material coordination risks, including delays in resolving technical interfaces, inconsistent operational standards, duplication of resources and reduced clarity over accountability for end-to-end passenger and airline outcomes.

- 6.16 Model 7b would also require the CAA to consider how the alternative operator would be regulated in relation to service levels and airport charges, and how common services would be charged. In particular, the model would need clear arrangements for the use of airfield infrastructure, common systems, common surface access infrastructure, inter-terminal connectivity, utilities, security interfaces, and other shared services. There would need to be clarity on the circumstances in which market power would be conducted and whether the alternative operator would be subject to economic regulation. We assess that this uncertainty should not impact the potential benefits of the competitive dynamics between the promoters to obtain the DCO approval, but there could be potential risks for airlines and consumers if charges, service standards, and surface access arrangements are not sufficiently transparent from the outset.
- 6.17 From an asset perimeter perspective, model 7b is likely to be most technically credible where the assets can be operated with a sufficiently clear boundary from HAL's retained functions. This points primarily to terminal buildings. The model would be much more difficult to apply to other asset categories, where safety, resilience, and capacity depend on integrated operating model. Under model 7b, if a third party were to develop the entire scheme as set out under the draft HENPS, this might only be compatible with the provision of safe and efficient operations if additional measures are implemented. A compatible option could be for an alternative developer to build the new runway (and associated airfield infrastructure) and a terminal building, but only operate the terminal building and transfer the airfield assets to HAL. The CAA would need to define the way in which the transfer of assets is undertaken from a technical and economic perspective.
- 6.18 The airline community would need to be closely involved in the definition and implementation of model 7b, because airlines would be directly affected by terminal allocation, charging arrangements, service standards, operational interfaces, resilience arrangements, and the ability to switch between terminal operators over time. Their role should include input into the design of the governance framework, the specification of service and operational requirements, and the mechanisms for resolving disputes between operators where airline or passenger outcomes are affected. The framework for this regulatory model should avoid discrimination of airport services to airlines where, for example, a terminal operator may offer lower terminal charges for operating at terminal facilities in which certain airlines cannot operate because of their size of operations or aircraft models.
- 6.19 Overall, model 7b is technically implementable in principle, but only with a highly developed regulatory, contractual and operational architecture. The potential

efficiency benefits associated with competition would need to be balanced against the additional complexity of operating Heathrow as a multi-operator airport. Implementation would therefore require early definition of asset boundaries, common service arrangements, regulatory triggers, performance standards, interface protocols, dispute resolution processes, and transition plans. In the absence of these arrangements, the model could create material risks to delivery certainty, operational integration, service consistency, and accountability.

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