



HEATHROW: COMPARING FREIGHT VERSUS PASSENGER USAGE

Operational, Charging and Revenue Evidence for the CAA's Review of
the Traffic Distribution Rules

A Supporting Annex to the RABA Response to CAP 3250

Prepared for the Government and Industry Regulator

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1. Executive Summary

1.1 This supporting annex reframes the Heathrow freight versus passenger usage analysis in a form suitable to sit alongside the RABA evidence paper on the comparative economic value of air transport movements. It is intended to reinforce the core RABA response to CAP 3250 by translating the original technical note into a structured policy annex.

1.2 The evidence supports four conclusions. First, the Heathrow Coordination Committee (HCC) and local rules process can influence operational coordination, but it is not an adequate substitute for a statutory traffic distribution rule where the decision is fundamentally one of national capacity policy.

1.3 Second, Heathrow Airport Limited (HAL) can legitimately feed operational evidence into capacity declarations and local rules - including runway, stand, apron, terminal, cargo handling and ground movement constraints. However, HAL cannot use those mechanisms to make a durable public interest choice between whole-plane cargo, business aviation and passenger/bellyhold operations in the way the Traffic Distribution Rules (TDRs) do.

1.4 Third, a Boeing 777 passenger service carrying a high passenger load and bellyhold freight is materially more valuable to HAL than an equivalent Boeing 777 freighter using the same runway slot and broadly similar widebody stand resources. On the indicative assumptions used in this note, a long-haul passenger 777 turn generates approximately £22,000-£24,500 in airport-related revenue, compared with approximately £4,800-£5,100 for a 777F freighter turn. That suggests an order-of-magnitude revenue ratio of around 4.5:1 to 5:1 in favour of the passenger-plus-bellyhold movement.

1.5 Fourth, the operational comparison is more nuanced than the commercial comparison. A freighter theoretically may turn more quickly than a long-haul passenger aircraft, but that is if all part of the cargo handling system are fully synchronized – which at a busy airport like Heathrow, which is already using between 65-80% of its cargo handling capacity, would be a bold assumption against which to plan.

1.6 It also still occupies scarce runway, stand, taxiway and cargo interface capacity. Wake-separation impacts are not likely to transform hourly throughput on their own, but in a heavily constrained Heathrow peak they add to the wider opportunity cost of inserting additional heavy freighter aircraft into a mixed passenger stream.

1.7 The policy implication is straightforward: CAP 3250 is unsafe to the extent it assumes that local rules, capacity declarations, airport charges or slot trading can replace the TDRs. They cannot. Those mechanisms can manage the airport operation; they cannot by themselves deliver a strategic distribution of traffic across the London and UK airport systems.

Table 1: Headline Findings

Issue	Finding	Relevance to TDR review
HCC/local rules	Useful operational forum, but not a national policy-making mechanism.	Does not replace the statutory clarity of the TDRs.
HAL influence	Strongest where grounded in declared operational constraints, weaker where based on commercial preference.	Commercial incentives cannot safely substitute for public-interest capacity policy.
Airport revenue	Passenger-plus-bellyhold 777 generates around 4.5-5 times the indicative HAL revenue of a 777F turn.	Shows the opportunity cost of allocating scarce peak slots to freighter-only movements.
Turnaround/stand use	Freighters may turn faster, but require cargo-adjacent stands and ground interface capacity.	The capacity constraint is not simply runway time.

Issue	Finding	Relevance to TDR review
Airspace separation	777 freighters are heavy aircraft; the effect is sequence-dependent and modest but not zero.	Even small peak-hour impacts matter at Heathrow.

Source: RABA analysis based on the Heathrow supporting note, HAL Conditions of Use assumptions and the core CAP 3250 response evidence base.

2. Purpose and Relationship to the Core Response

2.1 This annex has been prepared to support the RABA response to the CAA's CAP 3250 consultation on draft advice to the Secretary of State concerning the 1991 Traffic Distribution Rules at Heathrow and Gatwick.

2.2 The core response argues that the TDRs should be retained because Heathrow and Gatwick remain highly constrained, because Heathrow's air cargo role is overwhelmingly dependent on bellyhold capacity carried by passenger aircraft, and because whole-plane cargo and business aviation are better accommodated through a distributed UK airport system.

2.3 This annex focuses on a narrower evidential question: whether, at Heathrow specifically, a freighter-only movement should be treated as equivalent to a passenger-plus-bellyhold movement when scarce peak slot capacity is being protected. It addresses slot governance, local rules, airport charges, HAL revenue, turnaround requirements, wake-separation and capacity effects.

2.4 The annex is deliberately complementary to the separate RABA evidence paper, Appraising the Comparative Economic Value of Freight Only vs Passenger Air Transport Movements. That paper considers wider economic value, GVA, employment, trade and regional freight strategy. This annex considers the more airport-specific operational and commercial evidence relevant to Heathrow.

2.5 The figures in this note are indicative. They are not presented as a formal tariff quotation for any operator or aircraft registration. Actual charges depend on aircraft variant, certificated noise and emissions performance, time of operation, passenger mix, transfer status, stand occupancy, cargo handling arrangements and the applicable HAL Conditions of Use at the time of operation.

3. Heathrow Slot Governance: HCC, ACL and Local Rules

3.1 Heathrow is a coordinated airport. Airport Coordination Limited (ACL) acts as the independent slot coordinator and applies the relevant UK slot regulations, the Worldwide Airport Slot Guidelines (WASG) and any applicable local rules and coordination parameters.

3.2 The Heathrow Coordination Committee (HCC) provides an airport-specific forum through which the airport operator, air traffic control, incumbent and prospective airline users, airline representative bodies and other relevant representatives can discuss operational parameters, local guidelines and coordination issues.

3.3 For the purposes of the TDR review, the important point is not simply who sits on the HCC, but what the HCC is designed to do. It is an operational and coordination forum. It is not a substitute for the Secretary of State's statutory power to make traffic distribution rules for airports serving the same area.

3.4 Local rules sit beneath the generic slot allocation framework. They can be used to manage Heathrow-specific issues such as apron and stand constraints, ad hoc operations, turnaround pairing, monitoring and the practical sequencing of constrained operations. They do not, however, create a robust national policy test for whether scarce peak slots should be used by passenger services, whole-plane cargo services or business aviation.

Table 2: Heathrow Slot Governance and Local Rules - Relevant Roles

Actor / mechanism	Core function	Relevance to the TDR issue
Airport Coordination Limited (ACL)	Independent coordinator applying UK slot rules, WASG priority criteria and local rules/parameters.	Allocates within the applicable framework; does not decide national traffic distribution policy.
Heathrow Coordination Committee (HCC)	Advisory and coordination forum for airport operator, ATC, airlines and representatives.	Can advise on local rules and constraints, but is not a substitute for ministerial TDR policy.
Heathrow Airport Limited (HAL)	Airport operator; declares operational capacity parameters and identifies constraints.	Influential on operational facts, but its commercial preference should not determine slot policy.
NATS / ATC	Provides air traffic and sequencing input relevant to runway throughput, separations and resilience.	Relevant to capacity declaration and operational constraints.
Airlines and representative bodies	Represent incumbent and prospective users and scheduling requirements.	Important stakeholder voice, but naturally focused on user interests rather than national capacity distribution.
Local rules	Airport-specific coordination rules supplementing the general slot framework.	Useful for operation; insufficient to replace a statutory rule protecting scarce peak capacity.

Source: RABA analysis of the local coordination role described in the Heathrow supporting note and core CAP 3250 response.

Local rules after the generic slot rules have been applied

3.5 The practical sequencing is important. ACL first applies the core slot allocation framework: historic precedence, utilisation requirements, new entrant provisions, priority criteria and other general rules. Local rules then supplement that framework to reflect airport-specific constraints.

3.6 At Heathrow, those constraints can include runway throughput, stand availability, terminal and gate capacity, apron congestion, cargo stand and handling interface, ad hoc slot availability and turnaround requirements. These are genuine operational matters, but they are narrower than the strategic question addressed by the TDRs.

3.7 CAP 3250's reliance on local rules is therefore misplaced if the assumption is that they can replicate the public-interest function of the TDRs. A local rule can help manage capacity once the allowed traffic mix has been determined. It is much less well suited to determining whether freighter-only or GA/BA traffic should be able to compete for peak Heathrow and Gatwick slots in the first place.

4. HAL's Role and the Limits of Local Rules

4.1 HAL's strongest and most legitimate role in the slot coordination process is the provision of factual operational evidence. That includes the runway movement envelope, stand and terminal constraints, taxiway and apron capacity, cargo handling capacity, environmental restrictions and other matters affecting whether a proposed schedule can be delivered safely and efficiently.

4.2 HAL may also have a clear commercial preference for passenger services over freighter-only movements because passenger flights generate per-passenger aeronautical revenue, non-aeronautical revenue and bellyhold freight opportunities that are not available from a freighter aircraft. However, HAL's commercial preference is not, by itself, a sufficient legal or policy basis for local rules that exclude or disadvantage a traffic category.

4.3 This distinction is central to the CAP 3250 debate. If the TDRs are revoked, HAL and the HCC may still be able to identify operational constraints affecting freighter or business aviation operations. They would be less well placed to make a clear public-interest decision that scarce peak capacity should be reserved for passenger and bellyhold services because of national economic, trade, connectivity and regional policy considerations.

4.4 For that reason, the existence of local rules and capacity declarations should be seen as complementary to the TDRs, not as a replacement for them. The TDRs provide the strategic traffic-distribution policy; local rules then help implement the operational consequences of that policy.

Table 3: HAL Influence - Operational Evidence versus Commercial Preference

HAL input	Can legitimately support local rules?	Limitations
Runway capacity, declared scheduling limits and resilience margins	Yes. These are core coordination parameters.	They do not determine which traffic types maximise national value.
Stand, apron and cargo-interface constraints	Yes, where evidenced and applied transparently.	May manage feasibility but not substitute for a strategic traffic distribution rule.
Handling capacity, cargo terminal interface and truck-aircraft access	Yes, if the constraint is real and objectively evidenced.	Could be temporary or facility-specific; not a complete policy test.
Noise, emissions and night restrictions	Yes, within the statutory and regulatory framework.	Must be applied consistently and not as disguised commercial discrimination.
HAL revenue preference for passenger services	Not as a standalone basis.	Commercial incentives do not replace the Secretary of State's public-interest decision.

Source: RABA analysis drawing on the Heathrow supporting note and the core response's discussion of local rules, capacity declarations, charges and Condition C4.

5. Commercial and Revenue Comparison: 777F vs Passenger 777

5.1 The original Heathrow note compared a Boeing 777F freighter with a Boeing 777 passenger aircraft. The exact calculation will vary by aircraft registration, charge band, time of operation, airline contract and passenger/cargo mix. The policy conclusion is nevertheless robust: a passenger 777 carrying substantial passenger loads and bellyhold cargo generates materially more airport revenue than a 777F using the same scarce runway slot.

5.2 The reason is simple. Movement, landing and environmental charges may be broadly similar for comparable 777 variants in comparable time periods. The passenger aircraft, however, also generates passenger charges and significant non-aeronautical revenue. The freighter has little or none of that revenue, while its direct cargo handling contribution to HAL is likely to be limited because most cargo handling income is captured by third-party cargo handlers or through commercial arrangements that do not replicate passenger charges.

5.3 The indicative calculation below assumes a 777-300ER-type passenger aircraft with approximately 350-370 seats, a 90 per cent passenger load factor, around 320 departing passengers and 20 tonnes of bellyhold cargo. It compares that with a 777F carrying around 75 per cent of its structural payload, equivalent to approximately 77-83 tonnes of cargo. It assumes similar widebody movement and parking requirements, modest environmental charges and negligible direct fuel margin to HAL.

Table 4: Indicative Operating Assumptions for Comparison

Assumption	Passenger 777	777F freighter
Aircraft type	777-300ER-type long-haul passenger aircraft	777F dedicated freighter
Passenger load	Approx. 320 departing passengers (90% load factor on a 350-370 seat configuration)	Minimal crew only; no passenger-charge base
Cargo load	Approx. 20 tonnes bellyhold	Approx. 77-83 tonnes (75% of typical 777F structural payload)
Movement charges	Broadly similar per movement, subject to noise/time bands	Broadly similar per movement, subject to noise/time bands
Parking / stand	Widebody stand occupation, typically longer passenger turn	Widebody/cargo stand occupation; potentially shorter but cargo-interface dependent
Fuel margin	Assumed negligible direct HAL revenue	Assumed negligible direct HAL revenue

Source: Assumptions derived from the Heathrow supporting note. Figures are indicative and should be checked against the applicable HAL Conditions of Use and operator-specific data before final submission.

Table 5: Indicative HAL Revenue per Aircraft Turn - Passenger 777 versus 777F

Revenue category	Passenger 777 (£)	777F (£)	Comment
Movement / landing and departure charges	3,000	3,000	Comparable widebody movement assumption; exact amount depends on noise and time band.
Passenger charges	15,400	0	Approx. 320 departing passengers at an indicative £48 average charge.
Environmental charges	750	750	Indicative amount; actual NOx/carbon/noise charges vary by aircraft and time.
Parking / stand	750	750	Assumes modest stand charge beyond any free period.
Cargo handling / airport share	140	560	Assumes £7 per tonne effective HAL-related cargo revenue; most cargo handling income remains with handlers.
Fuel margin to HAL	0	0	Assumes no material direct fuel margin to HAL.
Non-aeronautical passenger revenue	4,300	0	Approx. 320 long-haul departing passengers at £13.50 average non-aeronautical revenue.
Indicative total - peak	24,500	5,100	Passenger aircraft generates around 4.8 times the freighter revenue.
Indicative total - off-peak	22,000-24,000	4,800	Passenger aircraft still generates around 4.5-5 times the freighter revenue.

Source: RABA calculation based on the Heathrow supporting note. It is an illustrative commercial comparison, not a formal HAL charging quotation.

5.4 The calculation is conservative in one important respect. It does not fully monetise the passenger aircraft's wider benefits: business connectivity, inbound tourism, transfer feed, route network economics, onward hub connectivity, airline employment, surface access use and the trade facilitation value of bellyhold freight. Those effects are considered in the companion economic value paper.

5.5 Conversely, the calculation should not be read as suggesting that dedicated freighters have no value. They plainly do. They are important for integrators, express freight, outsized cargo, high-volume flows, e-commerce, pharmaceuticals and other time-critical markets. The issue is not whether freighters are valuable; it is whether they should be able to compete for scarce Heathrow peak slots when alternative airports can accommodate dedicated freight with lower opportunity cost.

6. Operational Comparison: Turnaround, Stands, Wake Separation and Capacity

6.1 A freighter aircraft can sometimes turn more quickly than a long-haul passenger aircraft because it does not require passenger boarding, disembarkation, security processes, catering, cabin cleaning or baggage reconciliation to the same extent. The original note identifies a typical passenger 777 turnaround of approximately 90-120 minutes or more at Heathrow, with a 777F capable of shorter turns where cargo handling is efficient.

6.2 That advantage should not be overstated in the context of Heathrow peak capacity. While a freighter theoretically could turnaround more quickly than a long-haul passenger aircraft, that is dependent upon all parts of the cargo handling system are fully synchronized – which at a busy airport like Heathrow, which is already using between 65-80% of its cargo handling capacity, would be a bold assumption against which to plan.

6.3 A 777F will still require a heavy-aircraft arrival and departure slot, a suitable widebody stand, cargo handling resource, landside interface, apron and tug activity, and onward road feeder access. For whole-plane cargo, the scarce resource is not merely runway time. It is the combined system of runway, taxiway, stand, cargo apron, handling and landside logistics capacity. This means

6.4 The airspace and wake-separation issue is also sequence-dependent. Heathrow uses modern separation and runway-optimisation tools, including time-based separation and wake recategorisation approaches. A 777 following another heavy aircraft may not be unusually disruptive compared with other long-haul heavy passenger movements. A narrowbody following a 777, however, may require greater separation than a narrowbody following another narrowbody. The effect of inserting additional 777F operations into a mixed peak stream is therefore likely to be modest in aggregate but not zero.

6.5 The practical consequence is that whole-plane cargo operations are more likely to create opportunity cost through stand, apron, cargo interface and slot-use productivity than through a simple runway-separation penalty. That is still directly relevant to CAP 3250 because the CAA's draft advice assumes that the absence of a dramatic capacity effect means the TDRs can safely be revoked. In a near-capacity Heathrow system, small effects and foregone alternatives matter.

Table 6: Operational Comparison - Passenger 777 and 777F at Heathrow

Operational issue	Passenger 777	777F freighter	Policy significance
Turnaround time	Typically 90-120+ minutes for full long-haul passenger processing.	Potentially shorter, approximately 37-90 minutes where handling is efficient.	Faster freighter turns do not remove the need for scarce runway and stand capacity.
Stand requirement	Widebody passenger stand with terminal/gate interface.	Widebody cargo-capable stand, apron and landside/cargo interface.	Cargo-specific stand/interface may be more constraining than the nominal aircraft turn time.
Handling process	Passengers, baggage, catering, cleaning, fuel, security and bellyhold cargo.	Cargo build/break, ULD handling, ramp equipment, trucking and warehouse interface.	Different operational pressures; not a simple like-for-like substitution.
Wake/separation	Heavy-aircraft sequencing common within Heathrow long-haul banks.	Also a heavy aircraft; impact depends on preceding/following aircraft mix.	Can marginally reduce peak-hour flexibility when inserted into narrowbody stream.
Hourly capacity effect	Part of Heathrow's established mixed passenger operation.	Likely modest but not zero; could contribute to 1-2 movements/hour effect in constrained scenarios.	Even small reductions or constraints matter at 98%+ capacity utilisation.

Source: RABA synthesis of the Heathrow supporting note. Exact impacts require ACL/HAL/NATS operational modelling for specific sequences and seasons.

7. Implications for the TDR Review

7.1 The evidence in this annex reinforces the core RABA response in three respects. First, it demonstrates that a freighter-only 777 and a passenger 777 with bellyhold cargo are not equivalent uses of a scarce Heathrow slot. Even before wider economic value is considered, the airport-revenue comparison is heavily weighted towards the passenger-plus-bellyhold movement.

7.2 Second, it demonstrates that CAP 3250 places too much reliance on local rules and capacity declarations. Those mechanisms can describe and manage the operational limits of Heathrow. They do not answer the national policy question of whether whole-plane cargo and GA/BA should be able to establish regular peak series at Heathrow and Gatwick.

7.3 Third, it shows why the “little or no material impact” argument is not a sufficient case for revocation. If revocation produces little change, there is little public-interest benefit in removing a rule that has provided stable protection for more than three decades. If revocation does produce change, the downside risk is asymmetric because acquired slots, historic precedence and commercial expectations can be difficult to unwind.

7.4 The appropriate policy conclusion is therefore not that dedicated freighters should be excluded from the UK airport system. It is that they should be encouraged to operate from airports better aligned with their needs: airports with available runway capacity, cargo-adjacent stands, longer operating windows, more direct road feeder integration, and lower opportunity cost to passenger and bellyhold connectivity.

Table 7: CAP 3250 Proposition and Heathrow-Specific Response

CAP 3250 proposition	Heathrow-specific evidence from this annex	RABA conclusion
Local rules can mitigate risk	Local rules manage operational constraints but do not make national traffic distribution choices.	They are complementary to, not substitutes for, the TDRs.
Charges can influence behaviour	Passenger 777 generates far higher HAL revenue, but charging is regulated and constrained.	Charges cannot reliably replace a statutory capacity rule.
Whole-plane cargo may have little practical impact	Impact may be gradual, but even a small number of peak slots has high opportunity cost.	Uncertainty supports retention, not revocation.
Freighters are important to air cargo	Correct, but Heathrow cargo is primarily a passenger-bellyhold model.	Freighter capacity should be developed through a distributed strategy.
WASG alignment favours repeal	WASG informs coordination but domestic traffic distribution rules can define the framework.	The question is proportionality and public interest, not regulatory tidiness.

Source: RABA analysis drawing together the Heathrow annex and the core CAP 3250 response.

8. Conclusions and Recommendations

8.1 The Heathrow comparison strengthens the case for retaining the 1991 TDRs. It shows that the relevant choice at Heathrow is not between “cargo” and “no cargo”. Heathrow’s cargo role is already overwhelmingly supported by passenger bellyhold capacity. The real choice is whether scarce peak slots should remain focused on passenger-plus-bellyhold operations or be opened to a greater possibility of freighter-only and GA/BA series.

8.2 On the indicative revenue evidence, the passenger-plus-bellyhold movement produces several times the airport revenue of the freighter-only movement. On the operational evidence, the freighter may turn faster but still requires scarce heavy-aircraft runway, stand, cargo and landside logistics capacity. On the policy evidence, local rules and capacity declarations are not capable of performing the strategic role of the TDRs.

8.3 RABA should therefore maintain the following position in the final submission and any ministerial briefing material:

- The Secretary of State should not revoke the 1991 TDRs at this stage.
- The CAA should recognise that local rules, capacity declarations, airport charges and slot trading are not equivalent substitutes for a statutory traffic distribution rule.
- Any future reform should be linked to actual additional capacity, a reformed slot framework and a published national air freight strategy.
- Heathrow’s role as the UK’s principal air cargo gateway should continue to be supported through passenger bellyhold capacity.
- Dedicated freighter growth should be accommodated through a distributed UK cargo airport network, including airports with available capacity and better cargo operating conditions.

8.4 In short, the TDRs remain a proportionate and targeted tool. They protect scarce Heathrow and Gatwick peak capacity for the highest-value combined passenger, bellyhold and connectivity uses while allowing the UK to develop dedicated freighter capacity at airports better suited to that role.

9. Sources and References

- [1] CAA, CAP 3250, Review of the Traffic Distribution Rules 1991: Consultation on Draft Advice to the Secretary of State, May 2026.
- [2] RABA, Response to CAA Consultation on CAP 3250, June 2026.
- [3] RABA evidence paper, Appraising the Comparative Economic Value of Freight Only vs Passenger Air Transport Movements, June 2026.
- [4] RABA supporting note, Heathrow - Comparing Freight vs Passenger Usage, June 2026.
- [5] Heathrow Airport Limited, Conditions of Use / Airport Charges Decision 2026 and regulated charges materials.
- [6] Heathrow Airport Limited, annual report and cargo/statistical materials cited in the RABA evidence paper.
- [7] Airport Coordination Limited / Heathrow coordination materials, including local rules and declared capacity materials, as relevant to the applicable season.
- [8] Worldwide Airport Slot Guidelines, Edition 4 (effective 1 August 2025), including principles on local guidelines and national/regional regulations.
- [9] NATS / Heathrow operational materials on Time Based Separation, wake recategorisation and runway operating procedures, to be cross-checked against the final operational season relied upon.
- [10] Boeing 777 airport planning and turnaround materials, used for indicative aircraft handling assumptions.

Table 8: Submission Caveat

Caveat	Drafting implication
Indicative charging and revenue figures	Before submission, the figures should be cross-checked against the exact HAL Conditions of Use and the relevant aircraft noise/emissions bands if a precise tariff calculation is required.
Operational capacity effects	Exact hourly effects require season-specific ACL/HAL/NATS operational modelling. The policy point does not depend on a precise number; it depends on the opportunity cost of scarce peak capacity.
HCC membership	The class-based description should be checked against the latest HCC membership/terms of reference if the final annex is to name individual organisations.

Source: Drafting caveats retained to ensure the annex remains robust and defensible.