

Heathrow Expansion

Updated scheme design - Master Planning

**Development Strategy submitted to the Airports Commission
by Runway Innovations Ltd and Heathrow Hub Ltd**

June 2014



TABLE OF CONTENTS	ABBREVIATIONS.....V	
	1	INTRODUCTION..... 1
	2	AIRPORT MASTERPLAN..... 1
	3	HEATHROW HUB INTERCHANGE AND SURFACE ACCESS STRATEGY 3
	4	CO-ORDINATION OF AIRPORT MASTERPLAN AND SURFACE ACCESS 3
	5	RESPONSE TO COMMISSION'S QUESTIONS..... 3
APPENDICES		
1	DRAWING P_47067372/TL/GA/01 REV06	
2	DRAWING P_47067372/TL/SK/93 REV01	
3	COST PLAN	
4	COMPARISON OF COST PLANS	
5	ANSWERS TO QUERIES	

ABBREVIATIONS

Abbreviation	Meaning
AC	Airports Commission
APM	Automated People Mover
ATC	Air Traffic Control
ATM	Air Transport Movement
ATM	Air Traffic Management
CAA	Civil Aviation Authority
CTA	Central Terminal Area (of Heathrow Airport)
DfT	Department for Transport
GBAS	Ground Based Augmentation Systems
HAL	Heathrow Airport Limited
HH	Heathrow Hub Transport Interchange
ILS	Instrument Landing System
T2, T4, T5	Terminals 2, 4 and 5 at Heathrow Airport
T6	A possible new terminal at Heathrow to support airfield expansion

1 INTRODUCTION

Heathrow Hub Ltd and Runway Innovations Ltd are pleased to provide this further submission, with a revised cost estimate for our airport scheme design.

This follows our previous submission of the airport masterplan, and further detail on our proposals for the Heathrow Hub interchange and the wider surface access strategy.

To recap, these submissions have been made separately, for two reasons;

- Our airport masterplan is restricted to the immediate area required for airport expansion, to allow a direct comparison with HAL's proposals and;
- The Heathrow Hub interchange proposals and surface access strategy are capable of implementation with either our or HAL's airport masterplan.

2 AIRPORT MASTERPLAN

This develops the previous masterplan described in Section 3 of our previous report dated 27 May 2014 (v2). The revised general arrangement drawing 47067372/TL/GA/01 Rev 06, as previously issued, is at Appendix 1.

As discussed with the Commission at our meeting on 11 June 2014, this now provides dual southern taxiways to the south of the western apron as well as an additional fuel farm.

We note that our "toast-rack" arrangement follows the same spacing as that currently existing between T5B and C, which allows either a double taxiway like that at T5 or a single Code F taxiway. Our drawing shows the latter but could equally accommodate the former.

We have assumed ILS aerals centrally located in the safety zone between the two proposed in-line northern runways. This provides certainty of deliverability even with current navigational aids. We propose to continue to monitor global trials and certification of GBAS, which will allow a final decision to be taken before designs are frozen prior to construction.

The Commission's consultants also requested we consider options for the location of additional cargo and maintenance facilities.

We attach, at Appendix 2, a schematic general arrangement drawing showing a possible extension of the existing BA World Cargo Centre to the south, and replacement of the outdated and inefficient cargo facilities in the south west corner of the airport.

Alternatively, it may be possible to consider redevelopment of part of the existing maintenance base on the eastern side of the airport. This area, if redeveloped, would release valuable airfield space, not only for cargo and maintenance but also for additional satellites and aircraft stands should these be required in the future as part of the T2 campus.

We have also considered an alternative option, replacing all or part of T4 with new ancillary facilities, as the drawing attached at Appendix 1. This may also provide additional benefits, e.g. strengthening the surface access "spine," and avoiding the need for sub-optimal landside and/or airside connections between T4 and the T5/T2 campuses.

We emphasise that these are indicative options and a detailed analysis of scheduling, fleet mix, runway allocation and stand occupancy will be required to confirm feasibility. We are currently carrying out ground modelling, which will inform further development of options for the airport masterplan.

However in order to present a “worst case” financial and space planning scenario, our cost estimate assumes demolition of the existing T4 campus and a larger “T6” building envelope, increased by 30% compared to our previous cost estimate and masterplan to compensate for the loss of T4. We also assume a 20% increase in T6 satellite areas.

We have also re-assessed stand capacity, and confirm that our proposals provides a total length of aircraft stand frontage broadly comparable to HAL's proposal, (this comparison of course being consistent whether T4 is retained or removed in HAL's or our schemes).

Hence we believe our updated cost plan and masterplan are sufficiently robust to cover all foreseeable options.

The revised estimate of capital cost, (rev. A dated 19 June 2014), is attached at Appendix 3. This includes professional fees, (which appear to be omitted from HAL's published estimate), and an allowance for phasing the works, to provide new runway and stand capacity at the earliest possible date.

We suggest that emerging technologies may allow more efficient use of existing processing facilities, delaying the need for new terminal capacity. We also suggest that Phase 2 of T2's development could be optimised to maximise capacity, with a view to similarly delaying the date when it is necessary to construct an additional terminal. This would of course reduce user charges. However, our cost estimate assumes that a new terminal is delivered in line with current terminal capacity forecasts.

Our airport masterplan is intended to be directly comparable with HAL's published proposals and a revised comparison with HAL's capital cost estimate is attached at Appendix 4.

We have assessed the impact of our capital cost estimate on Heathrow's regulated user charges.

HAL's current tariff loads the charge on departing passengers only, with the addition of landing and parking fees per aircraft. However, the price cap set by CAA is based on average yield across all passengers, with the structure of charges at HAL's discretion so that, on average, their yield per pax is within the cap.

Based on the CAA's standard 'building block' methodology and assumptions adopted for HAL in the Q6 regulatory period, including depreciation of the Regulated Asset Base and a return on capital at 5.35% pre-tax real, and assuming that our development is phased to incur 75% of capex by 2023 and the remaining 25% by 2028, we estimate that our proposals would result in a user charge of £23 per passenger.

This is a provisional estimate and may alter slightly as we update our estimates of costs and revenues and refine our airport charge model further. However, this level of charges represents a very small increase from the average per passenger yield of £20.65 that the CAA has determined for Q6 from 1st April 2014.

We have assumed the current basket of regulated charges, and have not taken into account additional revenues that might result from, for example, cordon charging, additional rail revenues, ancillary commercial development or the sale of properties, previously acquired by BAA in Sipson, and not now required for airport expansion. Their inclusion could significantly reduce our user charge estimate.

Whilst our capital costs have increased by around £1.3bn since our previous estimate, we now provide all of the taxiway infrastructure that would be required for an extension to the southern runway, therefore substantially reducing the incremental cost of developing any future additional runway capacity.

We recognise that the Commission is considering only one net new runway by 2030. However, we suggest that the cost and feasibility of providing additional runway capacity to meet demand by 2050 or, in some scenarios, earlier is relevant to the Commission's assessment of options at this stage.

3 HEATHROW HUB INTERCHANGE AND SURFACE ACCESS STRATEGY

As noted in our submission of 18 June 2014, our proposals for the Heathrow Hub interchange and wider surface access strategy are compatible with both our and HAL's airport masterplans.

We suggest that the capital cost of the interchange itself could either be added to the airport's RAB, or funded using the model adopted by recent privately funded railway stations on the UK network.

Our wider package of rail enhancement proposals, which has been agreed in principle with Network Rail and TfL, is intended to be largely cost neutral, by redirecting funding for other committed or planned developments on the network. We believe our proposals provide far greater benefits to both airport and other passengers, and increase rail revenues, whilst delivering the step change in rail connectivity, and public transport mode share, that is necessary to justify Heathrow's expansion.

We have not carried out any environmental assessment of our surface access proposals beyond the immediate site of the scheme.

4 CO-ORDINATION OF AIRPORT MASTERPLAN AND SURFACE ACCESS

We have provided discrete and separate proposals for airport expansion and surface access as previously agreed with the Commission.

Our submissions assume that all terminal (passenger processing) facilities are on-airport, and that processing technology and spatial requirements follow current practice.

Our onward development of an overall integrated airport and surface access masterplan will consider options for the location and balanced capacity of passenger and baggage processing to identify the optimum operational efficiency and development value.

This will be driven, on cost vs. benefit analysis principles, to ensure best use of the available space combined with adoption of latest technology. Within the development timescales we are working to, the opportunities for consolidation of infrastructure at the Hub interchange are clear, with the potential to provide benefits in capacity, passenger experience and operational resilience for the airport.

We believe that this coordinated approach is also likely to reduce the total capital cost of our overall proposals compared to the current separate cost estimates for the individual components.

5 RESPONSE TO COMMISSION'S QUESTIONS

Our response to the Commission's questions, issued by email on 5 June 2014 are attached at Appendix 5.