
# Strategic Capital Business Plan

May 2015

Heathrow
Making every journey better

# Contents

## 1 Foreword

Heathrow ended 2014 with our highest ever ASQ (Airport Service Quality) score of 4.04 which achieves our previous vision of being Europe's Hub of Choice. We have therefore set out a new vision: "to give passengers the best airport service in the world" and we will continue working with our airlines and business partners to transform passenger service and achieve this vision.

Safety is Heathrow's first priority and at the heart of everything we do. Safety performance targets on our Development building sites have been exceeded for 2014.

The award winning Terminal 2 has been a flagship project, completed on time and on budget. During 2014, we completed the commissioning, operational readiness and start-up phase, with 26 airlines successfully moved into the new terminal by the end of October. T2 has received some of the highest passenger satisfaction scores in Europe, which is a testimony to the collaborative working across the Heathrow community. The approach to common check-in which was pioneered in T2 is being seen as a model for other airports around the world.

Heathrow's investments have resulted in many other improvements in operational performance, airport resilience and passenger experience. We have celebrated the opening of the new Airport Operations Centre (APOC) and Airside Operations Building, and we have handed over the new code F stand for T4 ahead of schedule. We opened new shops in T5 prior to Christmas as well as two new security lanes and introduced new fast track facilities in T3.

I look forward to building upon our joint successes to ensure continued safe and efficient delivery of our Q6 Capital Portfolio, working together to give our passengers the best airport service in the world.

John Holland-Kaye

CEO, Heathrow Airport

# 2 Introduction and context

## 2.1 Purpose

Heathrow Airport's Strategic Capital Business Plan (SCBP) is delivered annually in accordance with the Capital Investment Protocol.

The SCBP will look at the Quinquennium 6 (hereafter known as Q6) regulatory period April 2014 to December 2018, to inform the Airport Community of Heathrow's Capital Investment Plan and to facilitate consultation and engagement.

This report covers the first nine months of Q6 up until 31st December 2014.

The content of the SCBP is as set out in the Capital Investment Protocol agreed with the Airline Community and published on the 30th September 2014.

Where airlines require further information to understand proposed investments, Heathrow will respond to these requests.

The SCBP 2015 is a document for consultation; therefore Heathrow encourages the Airline Community and other stakeholders to submit their views on the SCBP by 01st July 2015 to Laureline_Arqueros@Heathrow.com.

Heathrow would like to thank the Airline Community for their responses to the SCBP 2014, which we have considered in developing this document.

# 3 Strategy and vision

## 3.1 Heathrow's vision, priorities and service propositions

Our Q6 plans were developed in line with the joint airline and Heathrow vision to be 'The UK's direct connection to the world and Europe's Hub of choice by making every journey better'.

Heathrow and the Airline Community developed four specific joint priorities for Q6, Passenger Experience, Hub Capacity and Resilience, Efficient Airline operations and a competitive cost of operation, through Constructive Engagement. These continue to shape and guide our thinking.

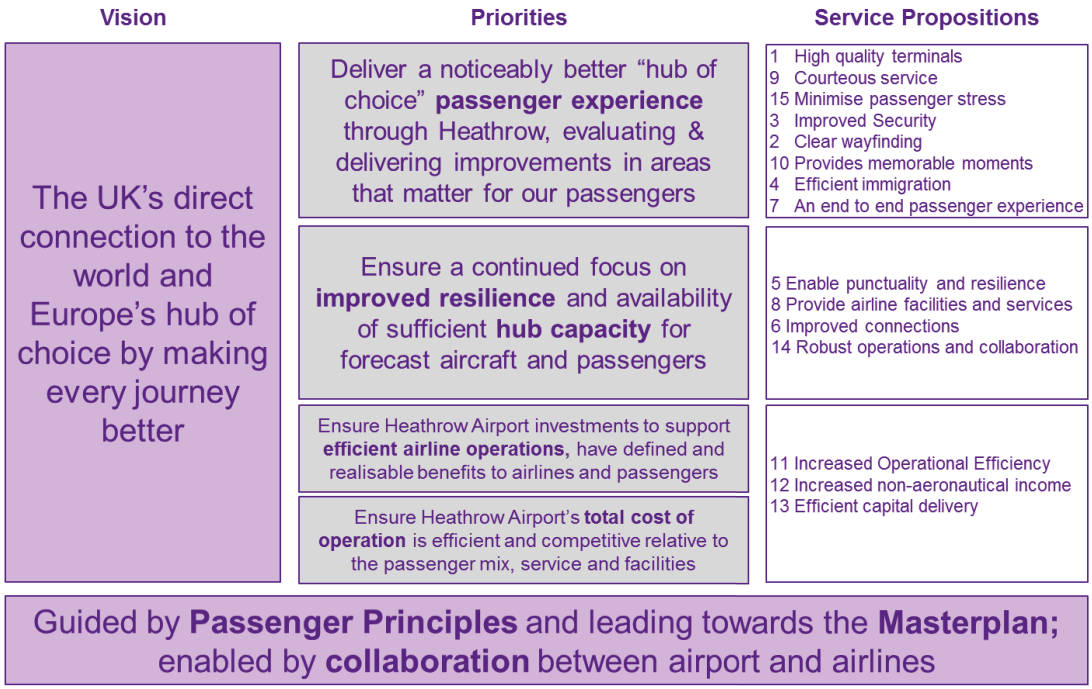


**Figure 3 1 Heathrow's joint Vision, Priorities and Service Propositions**

Heathrow recognises that in an industry now dominated by global airline groups and alliances, we are in competition for passengers' business with airports all around the world. Consequently we have expanded Heathrow's long term ambition, and have revised our vision, which is now:

**"To give passengers the best airport service in the World"**

Our new vision places the passenger at the heart of what we do and reflects our heightened ambition to deliver a level of service competitive with the best hubs in the world. However, it does not represent a fundamental change in direction for Q6. Our Q6 plans prioritise passenger experience and resilience and thus deliver improvements which are critical in our journey towards the best airport service in the world.

As part of the Portfolio approach we continue to refine and develop the Q6 Capital plan as described in this document. The new vision will inform our long-term plans over time but is not expected to have a material impact on the Q6 Portfolio given the consistent focus on passenger experience.

## 3.2 ASQ results and awards

Since 2003 Heathrow has invested £11 billion across the Heathrow campus to transform the service we provide passengers, enhance resilience, provide additional capacity, and to improve airport efficiencies. This investment has comprised a number of significant infrastructure projects, and has contributed to increasing our passenger satisfaction scores.

Heathrow has continued to achieve strong recognition from the travelling public for service performance. In the independent Airport Service Quality (ASQ) survey directed by Airports Council International (ACI), 78% of passengers surveyed in 2014 rated their experience as 'Excellent' or 'Very Good'. Heathrow achieved its highest ever overall passenger satisfaction in the ASQ survey, averaging 4.04 out of 5.00 (Q1: 4.06, Q2: 4.02, Q3: 4.04, and Q4: 4.04). The score reflects strong overall operational performance, record levels of punctuality and strong levels of satisfaction across all key passenger service attributes.

We ended 2014 with ratings now ahead of the top quartile of our European comparator group:

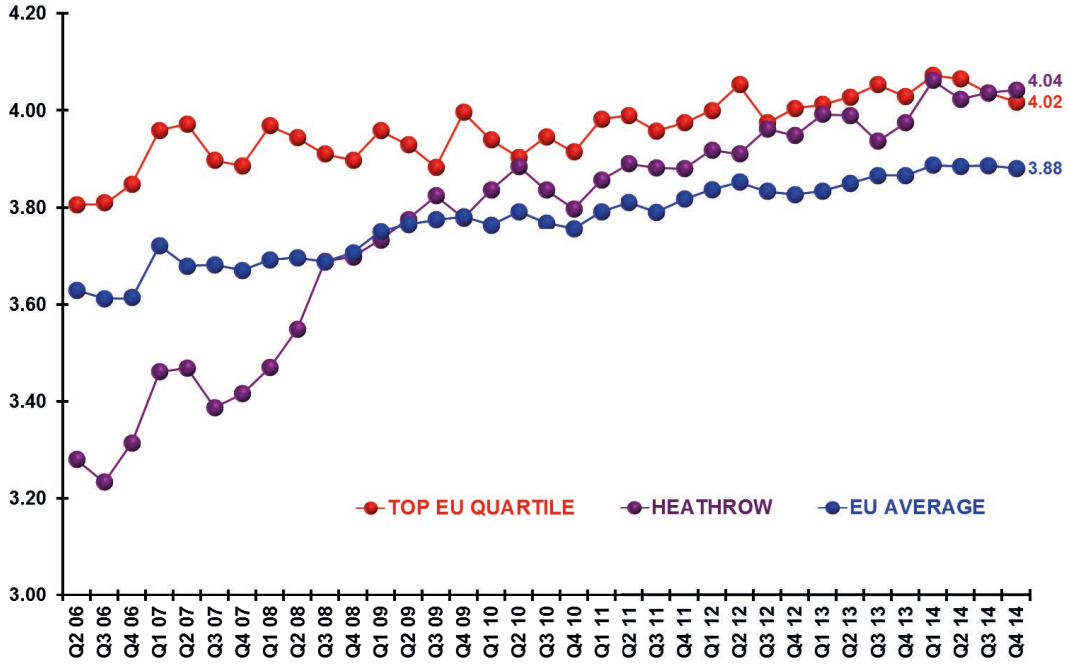


**Figure 3 2 Overall satisfaction with Heathrow – ASQ trend Q2 2006 - Q4 2014**

Heathrow's quality of service and facilities continue to receive strong endorsement. Heathrow has been recognised for the first time as the 'Best Airport in Western Europe' at this year's Skytrax World Airport Awards.

When Terminal 2 opened last year, we became the first airport in the world to have its own personal shopping lounge and two restaurants created by Michelin starred chefs. As well as the new Best Airport award, Heathrow has once again been praised for the quality of the shops, restaurants and terminals and been named 'Best Airport for Shopping' for a sixth consecutive year.

Also, at the 2015 Skytrax World Airport Awards, Terminal 5 was named the world's 'Best Airport Terminal' for the fourth year in a row. These Awards are independent of any airport input and assess customer service and facilities across 388 airports providing an impartial benchmark of airport excellence and quality.

These are the latest of many recent awards. Terminal 2 and Star Alliance have won the 'World's Airport of the Year' award at Air Transport World's 41st Annual Airline Industry Achievement Awards and we've been recognised for our achievements last year winning the best new car park award for Terminal 2's Multi-Storey Car Park.

# 4 Heathrow short-term plan

## 4.1 Continuing the transformation into Q6

2014 has built on the successful transformation that occurred in Q4 and Q5.

There were a number of projects delivered successfully in 2014. First and foremost T2 opened in June and one of the cornerstones of the Q6 plan was met when the final Star Alliance carriers moved into T2 in October. In total 26 airlines moved into T2 over six months continuing our proven track record in airline moves.

The move sequence for the remaining T1 airlines has been developed, resulting in the closure date being brought forward from 15th October 2015 to 29th June 2015.

Construction works in Terminal 3 are well underway to deliver the temporary Transfers Security Facility by June 2015. This will then enable the construction of the permanent facility. Works are also on-going in the check-in area to provide connectivity into the new T3IB facility. Security capability has also been changed by the introduction of 3 new permanent Fast Track lanes.

New capability was delivered when the Airside Operations Building went live enabling centralised airside activities and improved resilience. On the airfield, the Northern runway was successfully resurfaced during the summer months.

In Terminal 4, Stand 410 was successfully upgraded to Code F capability in advance of new A380 services from both Qatar and Etihad.

The resurfacing of the northern Runway and the upgrade of stand 410 project were two highly complex logistical projects and the first Q6 triggered projects to be successfully completed in 2014.

Three other projects have triggers set against them for delivery in future years - T3IB, CTA Tunnel refurbishment, and Northern CTA taxiways upgrade. Trigger projects are those that have key milestones incentivised in the regulatory settlement under which Heathrow incurs penalty charges if these are not delivered on time.

The works in T5 included an increase in Common Travel Area (CTA) and Domestic capability as required by the movement of flights from T1. Two years of work on the track transit system have concluded with the bringing into use of a new track transit vehicle and north platform in T5C. This allows for additional shuttle services for Terminal 5 passengers, and enables greater flexibility in the operation. It also improves the capability for maintenance, ensuring the availability of the system for operations.

Following trials of the new 'Parallel Loading' security processing concept, new lanes were delivered prior to Christmas. These lanes provide capacity uplifts of over 20%.

The first outputs from the reconfiguration of the T5 IDL have been delivered and include two airport exclusives - a Fortnum & Mason champagne bar and the first Louis Vuitton store within a European airport. A number of the existing stores have also been refurbished.

A milestone which touched all aspects of the operation was the completion of the Airport Operations Centre (APOC). APOC and its new capabilities will oversee the Airport Operating Plan, predicting and managing the flow of aircraft, passengers and baggage, helping to reduce delays and delivering better punctuality and passenger experience.

A Capital Protocol was developed and agreed with the airline community and published on 30 September. It replaced Annex G as the means by which capital projects are progressed. At this point the Capital Transition Group was renamed as Capital Portfolio Board (CPB). The overall governance arrangements are shown below:

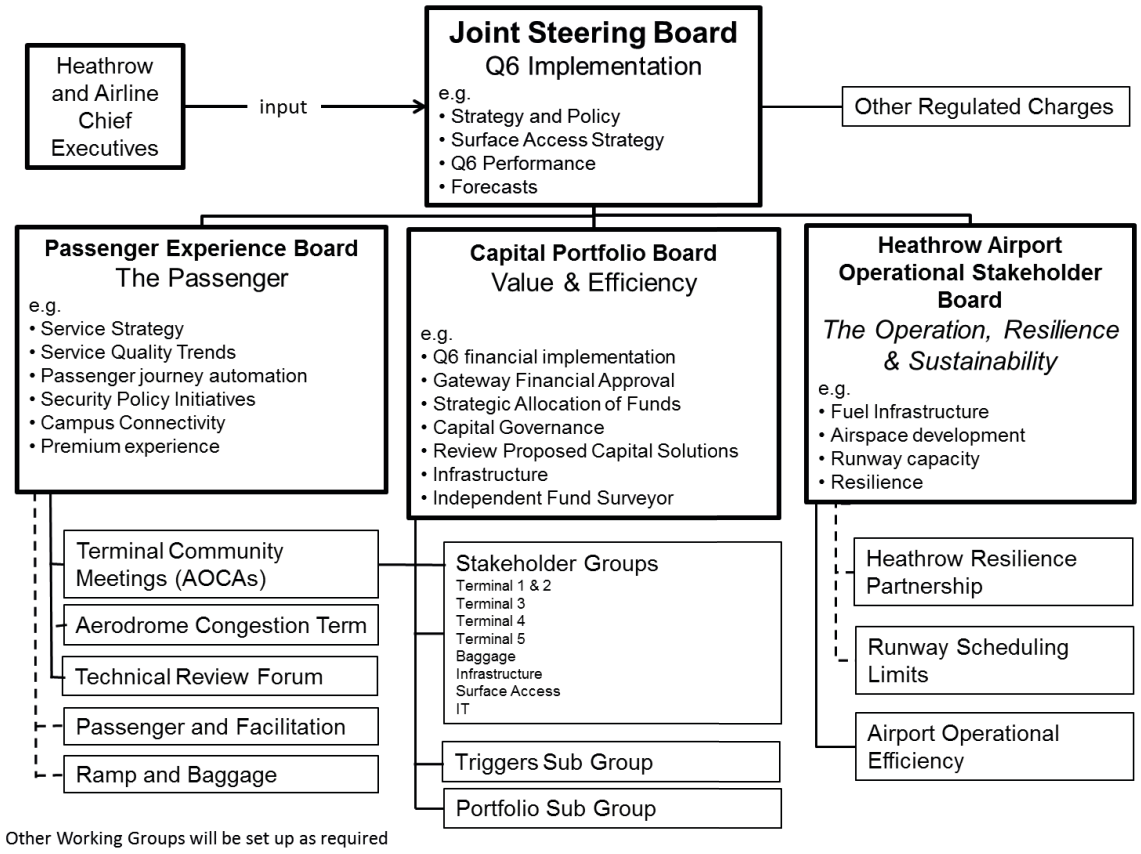


**Figure 4 1 Heathrow and Airline Community Governance Framework**

## 4.2 Q6 portfolio, programme and project process

An output of Constructive Engagement work in the build up to Q6 is the flexible approach of the Portfolio, recognising the dynamic environment of the Airport, to develop the Capital Investment Plan.

This methodology recognises that the Portfolio is a balance between strategic benefits, the resources invested, and the business risks. The objectives of the Portfolio are fully aligned to the four priorities for Q6 – passenger experience; Hub capacity and resilience; and efficient airline operations and total cost of operation.

While the emphasis has switched in 2014 from Portfolio Definition to Portfolio Delivery, the Portfolio is still reviewed on a regular basis, to ensure the Portfolio is optimised. New ideas and concepts can be introduced in this manner, as well as capturing changes in the existing base plan.

The Q6 portfolio comprises of business cases aligned to the strategic objectives of improving passenger experience, hub capacity & resilience and cost of operating. These have been allocated to Heathrow's Strategic Programmes. The Strategic Programmes approach has continued into Q6 via four main programmes:

- Passenger Experience
- Airport Resilience
- Asset Management
- Baggage

The current Terminal 2 Programme closed down during 2014, and Q6 Realisation governs a few smaller business cases.

Programmes provide the structural framework to ensure that the business cases are delivered within defined time, cost and quality parameters. Also they should deliver the outputs required to enable the Programme to deliver its agreed outcome and benefits for passengers and airlines.

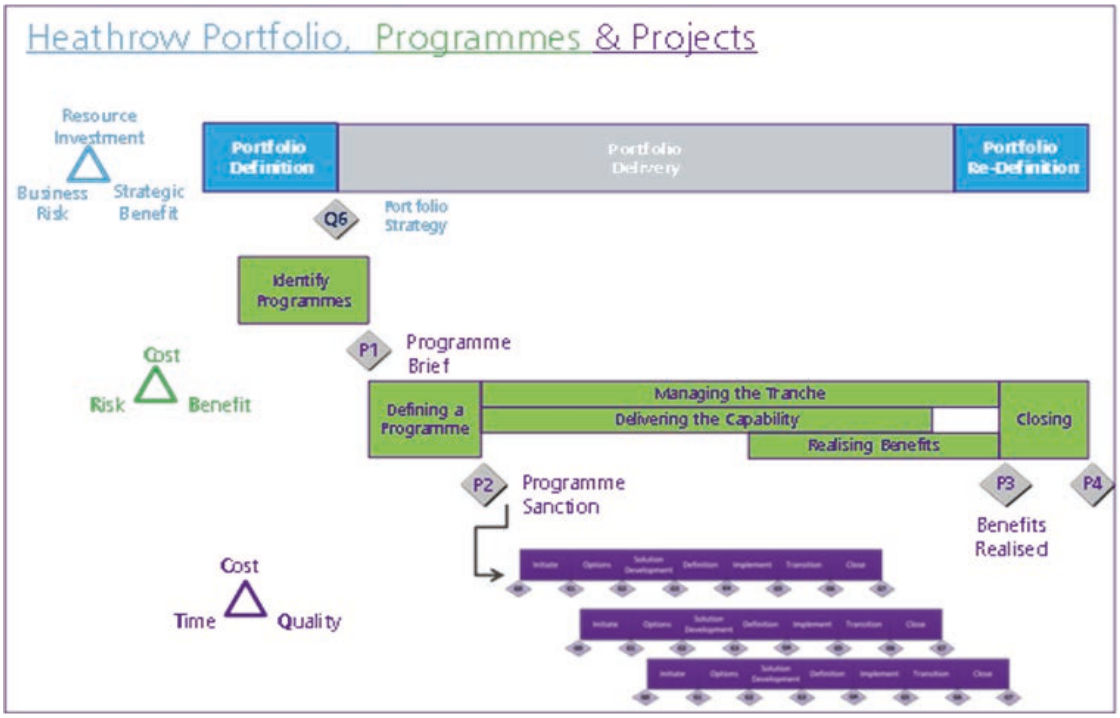


**Figure 4 2 Heathrow Portfolio, Programme & Project Process**

# Heathrow short-term plan

It is intended that all business cases and projects within should progress at the appropriate pace through the Gateway Lifecycle process.

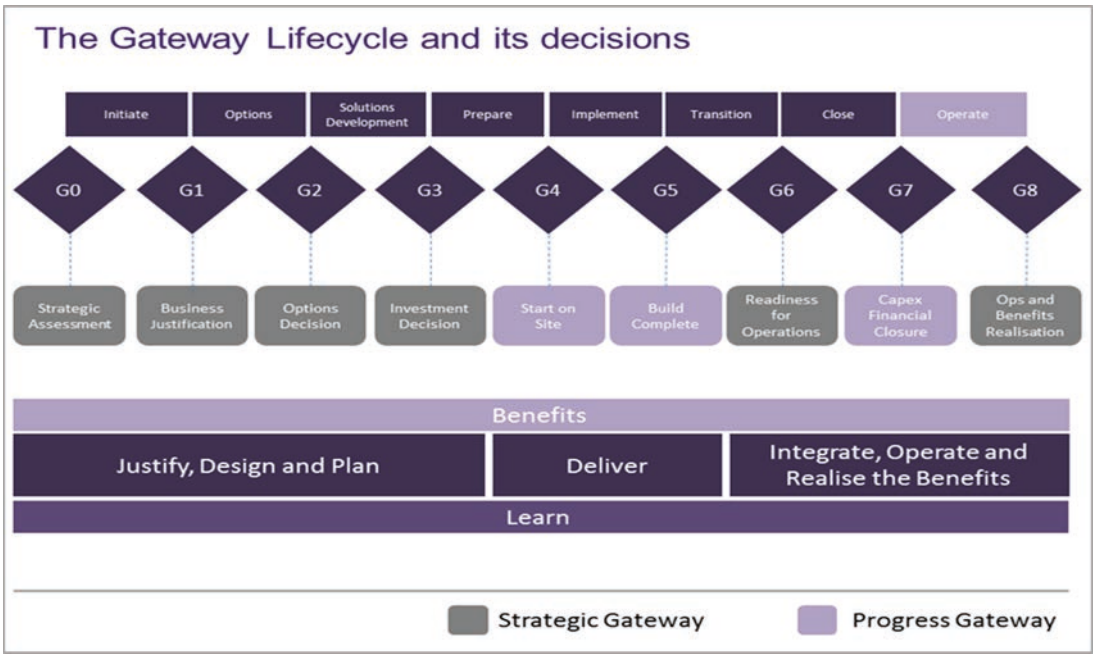


**Figure 4 3 Heathrow Gateway Lifecycle**

Gateway 0 to Gateway 3 is known as the Development Stage. Development Capital Expenditure (Capex) projects will have a lower definition of scope, schedule, risk and cost than Core Capex projects (post Gateway 3), and may not necessarily have a clearly understood method of delivery.

Gateway 3 is the critical investment decision point, as at this point in the lifecycle, it may be jointly agreed between Heathrow and the Airline Community for the Business Case not to go ahead, as there may not be a requirement for the investment any more. In this scenario, any investment money not spent may either be given back to the Airline Community via a rebate, or, the money may be spent on a new Business Case.

In addition;

- It is the transition point at which Capex passes from Development to Core, via the Capital Portfolio Board
- It is the point of transition where the Business Case goes from the Programme, into Delivery. For this to take place there should be confidence in the schedule, cost and risks prior to awarding a contract to the Delivery Integrator
- It is the point at which Regulatory Triggers are set (if required). One new trigger set in this way during Q6 was relating to the Alpha and Bravo taxiways works in B111 enabling new generation of wide body aircraft.

Planned Capital Investment for the Q6 Regulatory period is currently forecast to be £2.6 billion (outturn). In line with the Regulatory Settlement, the Capital Investment Plan may increase to up to £3.3 billion, but this is subject to further scoping of the remaining individual projects and corresponding approval of the Business Cases.

## 4.3 Independent Fund Surveyor update

The objective of the Independent Fund Surveyor (IFS) is to provide an on-going assessment of the reasonableness of all key decisions made on key projects and to ensure that capital is being used effectively to deliver the outcomes determined by the Business Case. The IFS is not a responsible party in the delivery of the projects.

In 2013, Heathrow and the Airline Community agreed the terms of IFS appointment as a joint appointment by Heathrow AOC Limited and Heathrow Airport Limited (HAL).

Gardiner & Theobald (G&T) have been appointed to provide the IFS services.

The IFS are reporting at Gateways and on a monthly basis during the development and delivery phases of the project. They present a summary of their monthly reports at the Capital Portfolio Board (CPB).

The key benefits of the IFS are to:

- Focus on the processes being followed, the assumptions being made and the overall appreciation of the risks being managed
- Enhance the current system by providing real time reviews / reporting through the gateway lifecycle process
- Add value to the delivery of the Q6 portfolio by providing an increased level of confidence to all parties
- Significantly simplify regulatory capex efficiency reviews.

The IFS has so far been deployed to monitor 15 key projects and will be deployed on additional projects, throughout the remainder of Q6.

## 4.4 Updated list of key projects, triggers and IFS deployment

The list of projects which are either key, triggered or monitored by the IFS is below. This list will be updated during Q6 following consultation with the Airline Community.

| Key Projects / Business Cases | Trigger(s) | Trigger Scope | IFS | IFS Scope |
|---|---|---|---|---|
| B101 Engineering Asset Replacement | | | | |
| • Airbridges, FEGP, PCA | 1 | T3 Airbridge Replacement - to be reviewed | Y | T3 Airbridge Replacement |
| • Electrical Power Infrastructure | 1 | T4 LV Electrical Infrastructure - to be reviewed | Y | T4 LV Electrical Infrastructure |
| • Life Safety systems | 2 | Fire main replacement/ pressure reduction - to be reviewed | Y | Fire main replacement/ pressure reduction<br>T3 Life Safety Systems |
| B216 Combined Baggage Standard 3 and Asset Replacement | 4 | 4 x Std3 HBS (T1/2/4/5). T4 trigger post 2018 | Y | 4 x Std3 HBS & Asset Replacement scope related to Std3 HBS |
| B006 Improved baggage capacity and resilience | 1 | T5 Early Bag Store | Y | T5 Early Bag Store |
| B111 Enabling New Generation of Wide Body Aircraft - Airfield | 1 | Bravo North taxiway | Y | Bravo and Sierra taxiways |
| B311 Enabling New Generation of Wide Body Aircraft - RAT, RETs, Remote Stands and FEGP | 1 | CTA Remote Stands | Y | CTA Remote Stands |
| B112 Airfield Efficiency and Resilience | 1 | To be defined | Y | To be defined |
| B312 Airfield Efficiency and Resilience | | | | |
| B116 T3 Security Capacity | 1 | T3 Security Capacity | Y | T3 Security Capacity |

# Heathrow short-term plan

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|---|---|---|---|---|
| B316 - T3 Refurbishment and Enhancement - Facades, IDL, and Arrivals Concourse | | | | |
| B117 T4 Infrastructure Improvement | 1 | Q6 rollover trigger complete (stand 410). | Y | T4 Code F Stands (410, 411, 412) |
| B317 T4 Infrastructure Improvement - HV and Arrivals | 1 | T4 HV | Y | T4 HV |
| B018 T5 Security Capacity | 1 | Transfers security escalator | Y | T5 Transfer Security Capacity |
| B329 Automation of the Passenger Journey | 1 | To be defined | Y | Scope to be defined |
| B030 T1 Closure | | | | |
| B031 CTA & Cargo Tunnels | 1 | Q6 rollover trigger agreed (Main tunnel) | Y | Main and Cargo Tunnel |
| B033 Additional Fuel Infrastructure | 1 | To be defined | Y | To be defined |
| B035 Aircraft De-Icing Infrastructure & Process | 1 | To be defined | | |
| B037 Airline Moves | | | Y | Review of El Al T4 move G3 cost only |
| B051 T3IB Q5 Rollover | 1 | Q6 rollover trigger agreed (Cut-ins complete and system operational) | Y | T3IB Rollover spend |
| B154 T2A Phase 2 and T2C - planning | 1 | To be reviewed at the end of 2015 | Y | To be reviewed at the end of 2015 |
| B354 T2A Phase 2 and T2C - enabling | 1 | | | |
| B098 Kilo taxilane and stands 234/5 | 1 | To be defined | Y | To be defined |
| B150 Terminal 2 Phase 1 Completion | | | | |
| B207 Asset Management Programme Rollover | 1 | Q6 rollover trigger complete (Northern runway) | Y | Northern Runway |

## 4.5 Annual status of business cases by programme

### 4.5.1 Passenger Experience

The Passenger Experience Programme's objectives are to 'Improve passenger experience, grow commercial revenue and realise operational cost efficiencies'. Passenger Experience outcomes will be tracked and measured through aligned business KPIs and indicators.

| Business Case | Description | Settlement Baseline (£m) | Dec Baseline (£m) | Dec 14 EAC (£m) |
|---|---|---|---|---|
| B008 Crossrail | Allowance - Heathrow must ensure that Crossrail services are able to operate on Heathrow infrastructure from May 2018. | 5.5 | 5.5 | 5.5 |
| B009 Northern Perimeter | Estimate - Increased capacity to the car parking estate to satisfy passenger demand. Solutions are focused on opportunities to improve the T5 campus and create opportunity for incremental growth in car parking revenue. Half of the project has been delivered. | 9.7 | 9.5 | 11.6 |
| B010 CTA Redevelopment | Allowance - for Phase 1 of the CTA Masterplan targeted at enhancing the experience of passengers using the CTA and to complement the quality of the new Terminal 2. | 14.2 | 14.2 | 14.2 |
| B014 Wayfinding | Allowance - investment to allow Heathrow to keep pace with competitor airports and rising passenger expectations for dynamic and real time information. Builds on improvements to Wayfinding in Q5. | 10.7 | 10.7 | 10.7 |
| B018 T5 Security Capacity | Estimate - to provide a new route via escalator to south security, and additional lanes. | 23.5 | 23.5 | 23.6 |
| B020 Commercial IT and Telecoms | Allowance - Targeted investment in income generating Commercial IT & Telecoms to enable the continued development of products that keep pace with technology advancements, and the needs of the Airport community and passengers. | 15.0 | 15.0 | 15.0 |
| B023 Ebusiness Development for Heathrow | Allowance - Scope includes a number of initiatives that build on Q5 success to launch and develop a multi-channel communication strategy. Digital channels enable greater personalised service making it easier for passengers to use Heathrow and generating additional revenue through new ways of marketing Heathrow's commercial offering. | 8.3 | 8.3 | 8.3 |
| B024 Commercial Advertising and Sponsorship | Estimate - Refresh and enhance the media estate in Q6. Scope is a mix of asset enhancements, end of life replacements, and new infrastructure to protect income and drive incremental revenue from direct advertising & sponsorship of 'assets'. | 34.3 | 34.3 | 34.3 |
| B025 Premium Passenger Products & Services | Allowance - Differential investment in support of lead passenger segments (Premium & UK Business). The objective is to identify and generate incremental revenue streams which also enhance the premium passenger experience. | 6.6 | 6.6 | 6.6 |
| B026 Security Fixed Post Modernisation | Estimate - Targeted initiatives that maximise the efficiency of the security operation through deployed technology. Capital investment is necessary to reduce the reliance on fixed post security officers to protect passenger routes and boundaries and deliver cost savings. | 10.2 | 10.2 | 10.9 |
| B030 T1 Closure | Estimate - Phased closure of Terminal 1 (excluding the baggage system which is required to support | 8.4 | 8.4 | 8.4 |

| | | | | |
|---|---|---|---|---|
| | T2). Terminal 1 will be closed for passenger operations at the earliest possible date. | | | |
| B037 Airline Moves | Estimate - Terminal 1's airlines will be relocated to other Terminals per the agreed move sequence. | 23.7 | 23.7 | 23.7 |
| B038 Ops Efficiency and Continuous Improvement | Allowance - Set of workforce initiatives focused on continuous improvement and reducing the operational cost base. | 6.0 | 6.0 | 6.0 |
| B041 Commercial BAU fund | Allowance - High volume, low value (capex) investments, invested tactically over the Q as opportunity or need arises. Supports Retail, Commercial Passenger Services and Property teams. | 32.8 | 32.8 | 32.8 |
| B044 Commercial Systems Replacement and Upgrades | Estimate - Investment in retail concessions systems providing real time sales data. The solution facilitates improved decision-making and the accuracy of concession fee payments through the transition to automatic sales reporting. The system has been installed in Terminal 2. This investment extends the system to all retailers in Terminals 3, 4 and 5. | 2.8 | 2.8 | 2.8 |
| B045 Enhanced Terminal Facilities for Passengers | Allowance - Investment in hosting facilities to meet the growing expectations of passengers (in particular connections) that do not have access to airline lounges. | 20.6 | 20.6 | 20.6 |
| B059 Visitor Centre | Estimate - Provision of a public facility for visitors to encourage active interest in the history and operation of the airport. Intended to promote key messages for growth. | 0.2 | 0.2 | 0.2 |
| B068 Security SQR Harmonisation | Estimate - The CAA License Condition includes a harmonised security waiting time standard for direct and transfer passengers of 99% of passengers waiting less than 10 minutes. The technology to enable per passenger queue measurement will be implemented in all Heathrow terminals with the exception of Terminal 1 (due to its planned closure in Q6). | 3.8 | 3.8 | 3.8 |
| B081 T4 IDL Masterplan Phase 4 and Enhancements | Estimate - Final element of the redevelopment of the T4 Independent Departure Lounge solution commenced in 2012. Drives commercial income through the creation of additional retail space and new merchandising opportunities. | 8.2 | 8.2 | 8.2 |
| B082 T5 CIP Expansion | Allowance - The capacity of existing CIP Lounge space in T5A is at capacity at peak. Facilities are not well placed to support British Airways' growth and lounge product strategy in their current configuration. | 5.4 | 5.4 | 5.4 |
| B092 UKBF Accommodation | Estimate - Investment is required to bring holding rooms up to a consistent standard in line with UKBF's national standards. To be implemented in all Terminals, less Terminal 1 (due to its planned closure in Q6). | 5.2 | 5.2 | 5.2 |
| B094 Crossrail Contribution | Allowance - Heathrow's contribution to Crossrail is as determined by the CAA. | 86.7 | 86.7 | 86.7 |
| B116 T3 Security Capacity | Estimate - expansion of transfer security capacity. | 39.9 | 39.9 | 57.0 |
| B129 Automation of the Passenger Journey | Estimate - replacement of CUSS Kiosks. | 9.7 | 9.7 | 9.7 |
| B156 Surface Access Development Fund | Allowance - to protect Heathrow's interests during the consultation and planning for Southern Rail access and development of other Surface Access | 2.0 | 2.0 | 2.0 |

| | | | | |
|---|---|---|---|---|
| | initiatives. | | | |
| B204 Passenger Experience Programme Rollover | Rollover - items include T3 CIP Lounge, T3 Refurbishment, Premium security Fast Track, T4 Independent Departures Lounge and T5 Gate Luxury & T5 concessions. | 23.2 | 24.3 | 36.5 |
| B210 T4 CSA Expansion (now B400) | Estimate – expansion of security capacity | - | - | 2.3 |
| B316 T3 Refurbishment and Enhancement | Estimate - scope includes improvements to Zones B-G, T3 Façade, International Departure Lounge, Premium drop off and arrivals concourse. | 47.0 | 47.0 | 47.0 |
| B329 Automation of the Passenger Journey | Allowance - Aligned to aviation industry led initiatives to deliver a simplified and streamlined end-to-end journey. Automated solutions being considered are self-service bag drop and self-boarding. | 58.3 | 58.3 | 58.3 |
| B356 Western Rail Access & High Speed 2 Interface & Assurance | Allowance - to protect Heathrow's interests during the consultation and planning for Southern Rail access and development of other Surface Access initiatives. | 6.6 | 6.6 | 6.6 |

## Key activities in 2015

- New T5 passenger car park - Opens in February 2015, providing an additional 790 business spaces on the site of the previous N2 staff car park.
- Improvements to security processing - This is to continue with the rollout of parallel loading in T5, as well as the additional four lanes (11 – 14) in T5 South. In T3, the temporary Flight Connections Centre (FCC) transfers facility will come into operation before the summer peak, as will the additional lanes in T4.
- A number of airline moves from T1 - These are required to facilitate the terminal closure on 1st July. Icelandair moves to T2 in March, El Al to T4 in April, and TAM to T3 in May. The final moves, of BA to both T3 and T5, take place in June.
- The replacement of the seven advertising screens known as the T5 Towers - The installation of larger HD screens will be complete by April. We will also replace the advertising boards on the entrance to the CTA (site 8) with digital screens by September.
- Passenger journey automation - In terms of business cases in the development phase, work will continue on this with a G2 planned later this year.
- T3 further development with the airline community - This is on-going, including matters within B316 such as the relationship between the VAT reclaim and the new Zone B-G façade.
- On-going discussions with relevant parties to develop hotels across the campus - up to three in the CTA and one in T4 are being considered, all at varying stages of the process.
- The fourth phase of the IDL Masterplan in T4 - this business case has been re-scoped since the start of Q6, but still aims to increase and improve retail space by realigning retail unit fronts and delivering a new merchandise plan.

### 4.5.2 Airport resilience

The Programme vision is to provide 'A resilient airport with capability to meet demand and recover quickly'.

This Programme will achieve its vision through a series of objectives. The cumulative effect of meeting these will provide more headroom for the operation. The objectives are as follows:

- Create headroom with efficient use of technology, enhanced processes and airport infrastructure
- Accommodate future demand for new generation wide bodied aircraft
- Build resilience to adverse weather and other events, enabling a quick & safe recovery of the operation
- Drive resilience, safety and efficiency improvements in the operation (facilities and processes), whilst maintaining a safe airport.

The Airport Resilience Programme is made up of the Business Cases shown in the table below:

| Business Case | Description | Settlement Baseline (£m) | Dec 14 Baseline (£m) | Dec 14 EAC (£m) |
|---|---|---|---|---|
| B015 Operational Systems Critical Asset Replacement | Estimate - To rationalise, update and optimize the IT estate. Protect the operational use and functions of the seven critical IT systems utilised by HAL and the airport community eg IDAHO. | 22.6 | 22.6 | 22.6 |
| B033 Additional Fuel Infrastructure | Allowance - the CAA determination of Capex. To increase fuel resilience at Heathrow. | 160.3 | 160.3 | 160.3 |
| B035 Aircraft De-Icing Infrastructure & Process | Allowance - for enhancing deicing capabilities. | 54.9 | 54.9 | 54.9 |
| B039 Noise Compliance | Estimate - To provide an improved and automated system for the management of aircraft noise data, which will enable automatic aircraft noise reporting, an increased horizon, near live data (15mins vs. 24 hrs.), ground movement monitoring, monitor/analyse Time Based Separation, and directly supports airspace changes. | 2.5 | 2.5 | 2.5 |
| B043 APOC | Rollover - for completion of APOC. | 10.0 | 10.0 | 9.3 |
| B062 Cargo Centre Southside | Estimate - Support the cargo community with improved access to the airfield and cargo facilities, by redesigning the control post infrastructure and operational controls in the cargo area. | 16.1 | 16.1 | 16.1 |
| B073 Air Quality - Vehicle Charging | Allowance - Provision of vehicle charging infrastructure enabling HAL and 3rd parties to utilise alternative fuels. | 5.3 | 5.3 | 5.3 |
| B098 Kilo Taxilane and Stands 234/5 | Estimate - Removal of Europier and existing stands, construct the kilo taxilane and stands 234/5 along with safeguarded tunnels infrastructure below. | 113.3 | 113.3 | 113.3 |
| B111 Enabling New Generation of Wide Body Aircraft - Airfield | Estimate - Stand 255, Northern CTA taxiways, Sierra A and Sierra C. | 85.0 | 85.7 | 101.4 |
| B112 Airfield Efficiency and Resilience | Allowance - To enable consistent and cost effective delivery of the forecast aircraft schedule (including next generation aircraft) by operating to plan, increased precision of arrivals and maintaining departures punctuality. Work includes: Time Based Separation, airspace changes, independent arrivals, and new approach aids. | 32.0 | 32.0 | 32.0 |
| B117 T4 Infrastructure Improvement | Estimate - provision of additional Code F stands, and joining of reclaim belts 6 & 7. | 26.7 | 26.7 | 26.4 |
| B134 PCA Additional | Allowance - provision and installation of pre-conditioned air units for long haul stands that do | 2.1 | 2.1 | 2.1 |

| | | | | |
|---|---|---|---|---|
| Infrastructure | not currently have the facility. | | | |
| B206 Airport Resilience Programme Rollover | Rollover - includes T4 baggage reclaim hall, T5 TTS Enhancement, T3 and T4 loading Bay, and Airside Operations Facility. | 28.1 | 29.0 | 46.4 |
| B211 Ground Movement Control System | Estimate - replacement of airfield lighting control system (Transfer from Asset Management). | - | 52.2 | 52.2 |
| B228 A320 Sharklet Strategy | Allowance - modification to stand infrastructure to accommodate larger wingspans (New scope). | - | 0.2 | 0.2 |
| B311 Enabling New Generation of Wide Body Aircraft - Airfield | Estimate - Removal of Cranford (RAT, Noise wall), 4 additional RETS, CTA remote stands, FEGP provision for new aircraft types. | 111.4 | 111.4 | 111.4 |
| B312 Airfield Efficiency and Resilience | Allowance - in addition to B112. | 19.4 | 19.4 | 19.4 |
| B317 T4 Infrastructure Improvement | Allowance - Provision and installation of new high voltage electrical infrastructure in T4. This also includes improvements to T4 arrivals forecourt. | 20.0 | 20.0 | 20.0 |
| B334 PCA Additional Infrastructure | Allowance - provision and installation of pre-conditioned air units for long haul stands that do not currently have the facility. | 3.2 | 3.2 | 3.2 |

## Key activities in 2015

- Additional code F taxiway routes are under construction. Crossing of the southern runway will be reduced from May when Sierra C becomes available in normal weather conditions, with full capability by October. To the north of the CTA, a Code F route along Alpha will become operational by the end of the year.
- Code F stand capacity is increasing - Stand 411 is due to return to the operations in March 2015.
- The T4 baggage reclaim hall, including belt 0, is being expanded. This is due to be completed at the end of April 2015.
- De-icing capabilities are being enhanced - Works on the airfield trialled new remote de-icing positions in February, with permanent infrastructure scheduled to be complete by October.
- Notable pre-G3 activities trialled will centre on the eastern end of the airfield - Development works here are on-going to complete the Kilo taxi-lane between T2A and T2B. When complete it will also provide two new, pier-served stands – 234 and 235.
- Consideration is being given to reconfiguring the apron around Piers 3 and 4. This would provide five remote parking stands. We intend these to support the T3 operation, freeing up stands on the western apron for use by T5.
- Pursuing a planning appeal against LB Hillingdon's refusal of permission for the airfield works required to enable 09L easterly departures linked to the end of the Cranford Agreement. The planning inquiry is scheduled to start in June with the Secretary of State decision expected up to 6 months following the close of the Inquiry.
- Significant work to Heathrow's Air Traffic Management capability is in progress. Building on the success of the world's first implementation of 'Time Based Separation' for arriving aircraft (which delivers benefits during periods of high winds), work will commence on installing enhanced navigational aids to provide more capacity for the airport during low visibility. Building on our world leading Airport Collaborative Decision Making (A-CDM) system, we'll enhance our ability to predict and control the flow of arriving and departing aircraft during 2015 through a suite of projects that will be delivered into APOC. Over the longer term, the airport will continue to work to enhance the capacity of the surrounding airspace as a key player in the London Airspace Management Programme (LAMP).

### 4.5.3 Asset management

The objective of the Programme is to deliver assets at the lowest possible cost whilst optimising risk and performance. This will be done for each of the Engineering, IT and Rail parts of our business.

The objectives include:

- Meet 100% of our licensing and legislative requirements
- Reduce total expenditure (Opex, Capex) over the long term by optimising cost, risk and performance, working towards the 'Asset Management Blueprint'
- Enable the flight schedule to be fully complete every day
- Understand and manage asset-related risks so that we continuously improve operational resilience
- Understand, define and meet the performance that our customers (colleagues, passengers and airlines) want from our assets, making sure there are no surprises.

The Asset Management Programme is made up of the Business Cases shown in the table below:

| Business Case | Description | Settlement Baseline (£m) | Dec 14 Baseline (£m) | Dec 14 EAC (£m) |
|---|---|---|---|---|
| B028 Metering & Energy Demand Management | Allowance - Provide improved energy consumption analytics for HAL Engineering to reduce costs and achieve the target set for carbon emissions reduction. This will be enabled through automatic meter reading technology installation across Heathrow. Delivery of a range of projects to reduce energy consumption through introduction of new technology, on-demand assets and optimisation of set point controls. | 14.0 | 14.0 | 14.9 |
| B036 VIP Strategy - Commercial and Facility | Estimate - Maintaining the existing suites. | 7.4 | 7.4 | 7.4 |
| B047 Consolidated HAL landside Ops/Eng facility | Estimate - to consolidate multiple buildings to enable the full benefits of the engineering change programme. | 5.5 | 5.5 | 5.5 |
| B066 Energy and Utilities Management - Supply | Estimate - to provide new heating assets including additional boilers at the Heathrow Energy Centre, header building and district heating pipework, and conversion of heat exchangers from High Temperature Hot Water to Low Temperature Hot Water. | 21.6 | 21.6 | 21.6 |
| B090 Lakeside | Estimate - Installation of connecting infrastructure from Heathrow's Power distribution systems to the Lakeside facility enabling power to be imported from the energy from waste facility. This delivers sustainability, resilience, and efficiency targets. | 5.3 | 5.3 | 6.7 |
| B101 Engineering Asset Replacement | Estimate - Asset replacement or refurbishment aligned to the principal Asset Management objectives to reduce opex and optimise for risk and performance. | 595.0 | 543.5 | 543.5 |
| B102 Rail Asset Replacement | Estimate - Refurbish and replace key rail operating and infrastructure assets. This will be done to sustain current operational performance levels, to deliver Heathrow Express service throughout Q6 and ensure assets are fit for purpose when Crossrail commences. | 52.8 | 52.8 | 53.9 |
| B103 IT Asset Replacement | Estimate - Provide Heathrow with a reliable and performing IT estate that will continue to efficiently support, at minimum operating cost, the operations | 81.3 | 81.3 | 107.1 |

| | | | | |
|---|---|---|---|---|
| | of the airlines and the wider airport community. | | | |
| B127 Surface Water Management Infrastructure | Estimate - Improve the performance of the surface water pollution control system across the Eastern catchment. | 16.1 | 16.1 | 16.1 |
| B131 CTA & Cargo Tunnels | Rollover - Tunnels compliant with appropriate legislation and best practice, this includes: refurbishing and replacing the main tunnel systems; ventilation system; fixed fire suppression; structural fire protection; lighting; electrical and water systems; and, emergency sign and closure systems. | 117.3 | 117.4 | 118.5 |
| B165 Waste Management Infrastructure | Allowance - Provide compliant waste management processes and infrastructure for HAL Operations and 3rd parties to enable the effective segregation and recycling for cost recovery from the waste stream. | 5.5 | 5.5 | 5.5 |
| B169 Asset Management Programme | Estimate - To embed good practice asset management capability throughout our business, by introducing a management system for the asset base built on industry best practice; process changes; and, organisational change. | 12.1 | 12.1 | 12.1 |
| B207 Asset Management Programme Rollover | Rollover - main items include runway rehabilitation, core electrical distribution upgrades, sweeper tip, T3 roof works, and replacement of HV intake cables. | 36.5 | 31.1 | 44.9 |
| B212 Rapid Goods Screening Relocation (now B401) | Estimate - relocation of RGS from southside to Colnbrook Logistics Centre. | - | 2.8 | 2.8 |
| B301 Engineering Asset Replacement | Allowance - for further asset replacement. | 39.5 | 39.5 | 39.5 |
| B303 IT Asset Replacement | Allowance - Provide Heathrow with a reliable and performing IT estate that will continue to efficiently support, at minimum operating cost, the operations of the airlines and the wider airport community. | 25.9 | 25.9 | 25.9 |
| B327 Surface Water Management Infrastructure | Estimate - Improve the performance of the surface water pollution control system across the Southern catchment. | 7.8 | 7.8 | 7.8 |

## Key activities in 2015

- Night time possessions of the main CTA and cargo tunnels will continue throughout the year.
- Options are currently being considered to develop an electrical link to the Lakeside Energy from Waste plant. If implemented this will reduce utility costs, as well as contribute to sustainability targets.
- Work continues on replacing the boiler house in the Central Terminal Area. As well as financial and environmental benefits, moving to Low Temperature Hot Water (LTHW) from High Temperature Hot Water (HTHW) will deliver safety improvements.
- Three of the four key projects in B101 Engineering Asset Replacement (T3 life safety system, Fire Main and T3 air-bridges) are forecast to reach G3 this year.

### 4.5.4 Baggage

The vision for the Baggage Programme is, 'to deliver leading end-to-end baggage performance amongst European Hubs, at a competitive cost, by working safely together as a community'.

The Baggage Programme's objectives are:

- To comply with Department for Transport hold baggage screening requirements
- To reduce the baggage misconnect rate
- To simplify and consolidate systems to deliver efficiencies
- To reduce the rate of injuries associated with baggage operations
- To enable growth in passenger numbers.

The Baggage Programme is made up of the Business Cases shown in the table below:

| Business Case | Description | Settlement Baseline (£m) | Dec 14 Baseline (£m) | Dec 14 EAC (£m) |
|---|---|---|---|---|
| B006 Improved Baggage Capacity and Resilience | Estimate - A number of elements are being considered, including: T5 Early Bag Store; T5C ULD storage (power); T5 dual off load; T5 sorter to/from reclaim; and T5 bag check units. | 38.9 | 38.9 | 38.9 |
| B051 T3IB Rollover | Rollover - for completion of T3IB. | 92.3 | 92.3 | 136.2 |
| B097 T1 Baggage Resilience | Allowance - to provide a transfer break and pre-sort facility close to the T1 baggage system with sufficient capacity to handle the T1&T2 inbound transfer traffic during contingency. | 11.8 | 11.8 | 11.8 |
| B099 T3 Baggage Enhancements | Estimate - addition loop will provide resilience to baggage operations. The arrivals road will also be upgraded to current standards. | 9.1 | 9.1 | 9.1 |
| B205 Baggage Programme Rollover | Rollover - includes T5WBU and HIBS. | 17.3 | 16.7 | 26.2 |
| B216 Combined Baggage Standard 3 and Asset Replacement | Estimate - targeted asset replacement or refurbishment aligned to the principal Asset Management objectives and installation of new standard 3 HBS machines. | 508.4 | 507.4 | 491.1 |

## Key activities in 2015

The main focus is bringing T3IB into operational use. This will go live with the first bags on 3rd March. More handlers and airlines will then move into the facility sequentially through the rest of the year and into early 2016.

Another key element of work is moving the standard 3 screening machines/asset replacements business case (B216) towards G3 Investment Decision.

Following conclusion of the Baggage Resilience review at the end of 2014, work will continue to develop our response to the recommendations and to understand the implications for the Baggage Programme. We expect this to be defined over the first half of 2015.

### 4.5.5 Terminal 2

The objective of this programme is to complete the works commenced in Q5 on Terminal 2. The opening of T2 has enabled us to improve the overall Heathrow passenger experience.

An allowance has been made to start with the planning application and enabling works for the expansion of Terminal 2 in future quinquennia.

The Terminal 2 Programme is made up of the Business Cases shown in the table below:

| Business Case | Description | Settlement Baseline (£m) | Dec 14 Baseline (£m) | Dec 14 EAC (£m) |
|---|---|---|---|---|
| B150 Terminal 2 Phase 1 Completion | Rollover - for completion of T2 phase 1 and moving in of airlines. | 64.9 | 63.1 | 56.6 |
| B154 T2A Phase 2 and T2C | Allowance for design and enabling works for the extension of T2A and the construction of T2C. | 4.8 | 4.8 | 4.8 |
| B354 T2A Phase 2 and T2C | Allowance for design and enabling works for the extension of T2A and the construction of T2C. | 180.0 | 180.0 | 180.0 |

### Key activities in 2015

A key impact on the pace and scale of the next development phase of T2 will be the publication of the Airports Commission report in the summer, and a subsequent government decision. Once this is known the future direction of the masterplan development will be determined.

### 4.5.6 Q6 Realisation Programme

The Objective of the Programme is to 'Integrate and optimise Heathrow's plan to deliver the settlement and our vision'.

The programme seeks to achieve this objective through continuously aligning our strategy with our portfolio, to achieve our vision.

The Q6 Realisation Programme is made up of the Business Cases shown in the table below:

| Business Case | Description | Settlement Baseline (£m) | Dec 14 Baseline (£m) | Dec 14 EAC (£m) |
|---|---|---|---|---|
| B058 Innovation, Research and Trials | Allowance - This business case will be used to fund new ideas and very early concept work, as the Portfolio evolves during the Quinquennium. | 5.3 | 5.3 | 5.3 |
| B077 Hillingdon Community Trust | Estimate - This reflects commitments made as part of the planning processes for T5 and T2. | 2.8 | 2.8 | 2.8 |
| B078 LACC Project Manager | Provision of Project Management services to aid with airline community engagement and consultation. | 0.6 | 0.6 | 0.6 |
| B164 Back Office IT | Estimate - Provide Heathrow with a reliable and performing IT estate that will continue to efficiently support, at minimum operating cost, the operations of the airlines and the wider airport community. In addition, as a result of the refresh activity, the IT estate will have been further rationalised, optimised and updated. | 31.8 | 31.8 | 31.8 |
| B176 Funds for Independent Funds Surveyor | Allowance - This business case will facilitate the implementation of Gardiner and Theobald as the IFS. | 3.2 | 3.5 | 3.5 |
| B208 Q6 Realisation Programme Rollover | Rollover - includes CCTV work; document management; and, treasury accounting. | 3.4 | 3.4 | 4.5 |
| B376 Funds for Independent Funds Surveyor | Allowance - This business case will facilitate the implementation of Gardiner and Theobald as the IFS. | 3.5 | 3.2 | 3.2 |

## Key activities in 2015

Work continues to develop the business cases in this programme, in particular the elements within B164 Back Office IT.

## 4.6 Portfolio concept list

A number of new ideas have been identified since the start of the Q, for consideration by the Capital Portfolio Board. One of these – B212 Rapid Goods Screening Relocation has been completed.

During the early period of 2015 a revised numbering system was adopted to easily identify all new scope in business cases that have been added since the start of the Q. These business case ID numbers will start with a 4xx e.g. B212 Rapid Goods Screening will now be referenced as B401. While this document captures the status as at the end of the Regulatory year (Dec 14) these new reference numbers have been added to aid understanding and continuity during the Q.

| Title | High level indication of capital cost (£m) | Comment | Status |
|---|---|---|---|
| B210 T4 CSA Expansion (now B400) | 1 - 10 | Post G3. Will remove from future versions of the list, as already part of baseline plan | In gateway process - post G3 |
| B212 Rapid Goods Screening Relocation (now B401) | 1 - 10 | Complete. Funded from B101. Now in baseline plan. Will remove from future versions of the List. | Complete |
| B213 A350 Accommodation Strategy (now B402) | 1 - 10 | - | Information awaited to allow assessment |
| B214 B787-1000 Accommodation Strategy (now B403) | 1 - 10 | - | Information awaited to allow assessment |
| B215 - T3 - Removal of Hammerheads (HH) service desks (Zone C2 - F1) and replace with Zone F/G CUSS kiosk wall configuration (now B404) | 1- 10 | Now being considered as part of B316 | In gateway process - pre G3 |
| B217 ID Centre Consolidation (now B405) | | Update to ISG on 11th Feb. Confirmed as being funded from within Asset Management Programme | In gateway process - Pre G3 |
| B218 T5D Remotes (now B406) | > 10 | Deleted. Request for ID number withdrawn. | N/A |
| B219 Pier serving remotes in T5B/C (now B407) | > 10 | - | Information awaited to allow assessment |
| B221 Designated fasttrack provision in Temp T3 FCC (now B408) | 1 - 10 | No infrastructure change being considered. Any provision will need to be an operational solution. | Rejected |
| B222 T4 MSCP (now B409) | < 1<br><br>1- 10 | Exploratory work has identified two solutions to immediate issues - the addition of an entry splitter, and the creation of a controlled crossing. Proposal is to run a combined G1/G2 in April.<br>A longer term view of capacity is been assessed against the forecast. | In gateway process - pre G3<br><br>Information awaited |

| | | | |
|---|---|---|---|
| B223 T3 permanent FCC segregated fast track (now B410) | 1 - 10 | Contingency space identified within design of new facility. Not currently being progressed for fasttrack as potential operational solutions to be explored and review of overall demands on B025 Premium Products business case required. | Review again at future point |
| B224 T5A South Direct Access into BA South Galleries Lounge complex (now B411) | 1 - 10 | Being considered as part of B025 Premium Products | In gateway process - pre G3 |
| B225 T5 to T3 Domestic Clean Coaching (now B412) | 1 - 10 | Being reviewed at Connections Working Group | Being considered |
| B226 T2 Call Forward Zone B (now B413) | <1 | Was originally Zone B only. Considering whether should be widened to all of T2 (or Heathrow wide). | Being considered |
| B227 T2 Baggage Reclaim (now B414) | 1 - 10 | Arose from initial issues in T2. | Information awaited to allow assessment |
| B228 A320 sharklet strategy (now B415) | < 1 | Came to CPB in Sept 14. £150k approved for works to G3. Funded from B058 Innovation research & Trials. G3 due in March 15 | In gateway process - pre G3 |
| B229 T5 Forecourt (now B416) | 1 - 10 | Ops have trialled potential solution. | Being considered |
| B230 Upgrade of Sierra S6Y - S11 taxiway to Code F (now B417) | > 10 | For Q7 | For Q7 |
| B231 Stillage in Cargo Area Southside (Z cul de sac) (now B418) | < 1 | Install triple-decked stillage in the Zulu CDS in the vicinity of Stand 614. | Information awaited to allow assessment |

## 4.7 Development and core Capex, and relationship to airport charges

Airport charges set for the nine months (April – Dec) of 2014 recovered the return on the settlement capex value for the period (£491.7m). This value has been uplifted according to the indexation set by the CAA for the purpose of airport charges.

The Development and Core value at the end of 2014 was £363.4m (this is built up of actual spend for Development capex plus the value recorded at G3 for Core). The overall value of Core capex approved for 2014 and subsequent years was £640m.

This differential of £128m for the first nine months equates to an average RAB difference of £64m. This converts into a rebate of ~ £3.4m (or 6p/passenger) which will be incorporated into the charges consultation for 2016.

The Actual spend was £392m. This is different from the Development and Core spend as while the Development spend is based on actual spend, the Core spend is based on the value as forecast at the time of the Gateway 3 decision.

# 5 Heathrow medium -term plan

## 5.1 Q7 Portfolio

As at the end of December 2014 no decisions have occurred as to potential business cases for Q7, however the change in implementation date for the baggage screening in T4 makes it likely that some elements of B216 Combined Baggage Standard 3/Asset replacement will 'rollover' into Q7.

Similarly, the development of additional Aviation Fuel Storage (B033) could span the quinquennia.

## 5.2 Heathrow's traffic forecast

Ensuring an accurate forecast is hugely important and benefits the whole Heathrow community, enabling businesses to plan their activities and tailor their resources in accordance with the expected demand.

### 5.2.1 Settlement traffic forecast

The table below shows the CAA's Q6 forecast of 347.7 million passengers, using the econometric model.

| Reg. Year | Total (Millions) | Short Haul (Millions) | Long Haul (Millions) | Q6 Total (Millions) |
|---|---|---|---|---|
| 2014 (Apr - Dec) | 55.4 | 27.0 | 28.4 | |
| 2015 | 72.0 | 34.9 | 37.1 | |
| 2016 | 72.7 | 34.9 | 37.8 | 347.7 |
| 2017 | 73.4 | 35.0 | 38.4 | |
| 2018 | 74.2 | 35.1 | 39.1 | |

**Table 1 Passenger forecast (millions) based on CAA's Q6 Settlement**

### Heathrow's current traffic Forecast

The table below shows Heathrow's current traffic forecast, where 2014 is the actual outturn.

| Reg. Year | Total (Millions) | Short Haul (Millions) | Long Haul (Millions) | Q6 Total (Millions) |
|---|---|---|---|---|
| 2014 (Apr - Dec) | 57.3 | 28.1 | 29.2 | |
| 2015 | 73.9 | 36.9 | 37.0 | |
| 2016 | 73.0 | 36.2 | 36.8 | 351.2 |
| 2017 | 73.3 | 36.3 | 37.0 | |
| 2018 | 73.7 | 36.4 | 37.3 | |

***2014 is actuals, 2015 is unshocked, 2016 onwards shocked**

**Table 2 Heathrow's current passenger forecast (millions)**

The outturn for the Regulatory year 1st April 2014 - 31st December 2014 was 57.3 million passengers, an increase of 3.5% on the settlement forecast. The passenger traffic forecast for the Regulatory year 1st January 2015 - 31st December 2015 is approximately 73.9 million passengers.

The 2015 forecast does not include any allowance for potential disruptions or shocks. This is consistent with Heathrow's approach to traffic forecasting, where a forecast that does not reflect shocks, is required for short-term planning. Medium or long-term forecasts, in this case 2016 onwards, make an allowance for potential shocks given that historically they have impacted Heathrow's traffic by an average of close to 1.3%.

### 5.2.2 Risks and assumptions

#### Risks

Our forecast values come with some risks; aviation is a cyclical industry, exposed to both the overall business cycle and aviation-specific events. The key assets, namely aircraft, are mobile and deployed in a global context for Heathrow's airlines.

We have reflected this uncertainty in the numbers discussed above. However, this does not account for dramatic changes to core assumptions. These might include:

- Economic crises – our forecasts are occurring at a time of great uncertainty in the world economy. Growth assumptions and the stability of growth cannot be assumed, with impacts on demand and airline investment decisions;
- Fares - oil price and carbon impacts on fares have the potential to diverge dramatically from what currently appears to be a reasonable range. This can be seen in historical upward volatility and the recent falls in the oil price; and,
- Security - forecasts are at risk from major changes in the overall level of security in global aviation and security screening rules.

#### Assumptions

#### Airport capacity constraints

This plan assumes that the annual cap of 480,000 ATMs at Heathrow will continue throughout Q6 and that any use of tactical measures will not lead to an increase in capacity, but rather improves resilience of the airport.

This plan is based on a two runway airport. Any decision to increase runway capacity at Heathrow is assumed to result in a revision to the Regulatory Settlement and thus has not been included within this plan.

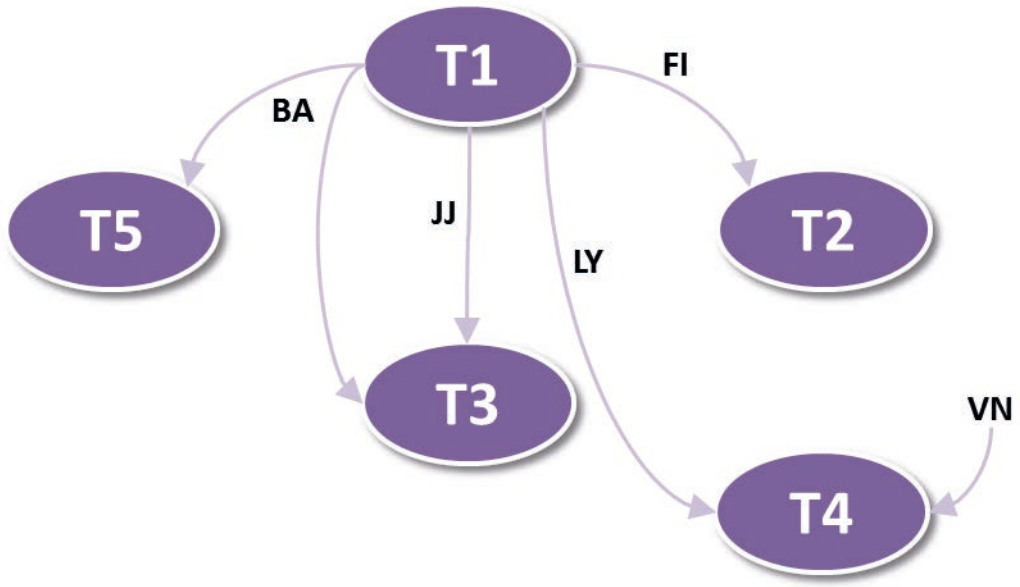
#### Terminal occupancy assumptions

In 2012, Heathrow Airport undertook a review of terminal occupancy across the entire campus, in consultation with the airline community, to determine airline occupancy of each terminal once the new T2 had opened in mid-2014. The occupancy review followed the sale of bmi to IAG, the owner of British Airways.

Terminal 2 is now home to 23 STAR Alliance airlines together with Aer Lingus, Germanwings and Virgin Atlantic's domestic service. Air India's anticipated move to T2 will bring all the STAR Alliance airlines at Heathrow together under one roof.

An important piece of work remains, the closure of T1, and Figure 5.1 shows the current programme of airline moves that will enable a number of key projects to progress.

# Heathrow medium-term plan




| Date | Airline Move | IATA Code |
|---|---|---|
| 25th March 2015 | Icelandair (T1-T2) | FI |
| 31st March 2015 | Vietnam Airlines (LGW-T4) - New Entrant | VN |
| 25th April 2015 | El Al (T1-T4) | LY |
| 27th May 2015 | TAM Airlines (T1-T3) | JJ |
| 29th June 2015 | British Airways (T1-T3&5) | BA |

**Figure 5 1 Heathrow's Airline Move Programme**

## 5.3 Hotel projects

As highlighted in the 2014 SCBP, an area Heathrow is focussing on is the provision of hotel rooms with direct access to terminals. The 2014 SCBP mentioned opportunities at T4. Through the masterplanning process we have identified two further opportunities adjacent to Terminal 2 and next to Terminal 3 (the Boiler House site) where construction could start during Q6. The proposed commercial structure for all 3 hotels is along similar lines with Heathrow granting a long ground lease of up to 150 years to a third party developer or operator, who would fund and operate the hotels. The proposed ground leases would be structured to provide for annual ground rent payments to Heathrow, channelled through the single till. These payments would be partly linked to hotel performance.

On the Terminal 4 hotel consultation with the Airline Community has been completed. On the additional hotel sites, this consultation will take place once the scope and commercials of these projects is more defined.

On the T4 hotel, we have selected our developer/operator and are close to completing contracts. The intent is now to have 2 hotels within the same structure, with the proposed brands being Holiday Inn Express and Crowne Plaza. The hotels are targeted to open in 2017. On this project, the Heathrow enabling works (site clearance and service provision) are being undertaken at the developers cost, as is the reprovision of staff car parking.

The T2 and Boiler House sites are much earlier in their project lives with developer selection, planning consent and airline consultation still to be achieved. The T2 initiative should be the next in line with potential to open in 2017. The Boiler House initiative is longer term being reliant on closure and demolition of the existing boiler house. Construction could however start in Q6 but opening is likely to be early Q7. On both the T2 and Boiler House sites our intent is for Heathrow to undertake the service diversions due to the criticality of the CTA. The sites will then be handed over to the developer to construct the hotels.


**Figure 5 2 Computer generated image of the proposed Terminal 4 hotel**

## 5.4 Responsible Heathrow

Achieving Heathrow's vision to "give passengers the best airport service in the world" relies on running the airport responsibly. Responsible Heathrow 2020 is our commitment to supporting economic growth and investing in our local communities, managing our environmental responsibilities and looking after passengers and our people. It is helping us achieve our ambition to be one of the most responsible airports in the world. From designing efficiencies into our development projects and developing the talent to help us deliver the business strategy; to minimising risk through our supply chain, Responsible Heathrow is built into every element of our business plan.


**Figure 5 3 Responsible Heathrow – our 2020 goals**

Responsible Heathrow sets out our top 10 sustainability goals, supported by further commitments that bring together the big issues affecting Heathrow, our community and our stakeholders. Our detailed strategies and action plans, including the Noise Action Plan, Air Quality, Waste, Energy and Water Strategies and Sustainable Transport Plan[1] , sit behind Responsible Heathrow to ensure its delivery.

[1] All available at http://www.heathrow.com/responsibleheathrow

# Heathrow medium-term plan

Our plans for Q6 to support the delivery of Responsible Heathrow include:

- Safeguarding the wellbeing of our people, partners, passengers and members of the public through the Heathrow Safety Roadmap Safety Charter
- A noise programme that complies with Heathrow's noise abatement procedures and planning conditions, which aims to demonstrate that we are doing all that is reasonably practicable to manage aircraft noise impacts. In 2015 we will focus on delivering the steps outlined in our "blueprint for noise reduction"
- Improved aircraft ground movement efficiencies, leading to reduced delays and congestion that cut fuel, costs and reduce emissions
- Reduce air quality emissions in line with our objective to play our part in meeting local EU air quality regulations, including facilities for zero and low emission airside vehicles and ground support equipment and considering further investment in pre-conditioned air
- Dramatically improving energy efficiency to significantly reduce Heathrow's energy consumption through energy demand management and asset replacement
- Creation of a low carbon, energy and cost efficient heat network that links T2, T3 and T5 with the airport's energy centres, including the new biomass boiler completed in 2014
- Improvements to the surface water pollution control system across the airport to cope with current and future demand, and meet regulatory requirements
- Investment in waste management infrastructure that will limit waste, and increase recycling, whilst cutting costs
- Continuing to contribute to Crossrail to facilitate sustainable passenger and staff travel
- Using the Employer's Requirements for Sustainability to encourage sustainability innovation and performance tracking with the support of the Heathrow SMARTER software tool linked to supplier evaluation
- An economic and community programme that includes supporting local people into work through the Heathrow Academy which celebrated its 10 year anniversary in 2014 and the Heathrow Jobs and Careers Fair. The Heathrow Business Summit help local businesses to engage with Heathrow's supply chain.

# 6 Heathrow long-term plan

## 6.1 Masterplan and land use plan

### 6.1.1 Heathrow airport development – 2 runways

The Heathrow Masterplan is a long-term vision illustrating the development of Heathrow over a period of time. It provides the basis for the long term vision of transforming the airport layout to improve passenger experience, drive out operational inefficiencies, and enable growth in capacity and enhancing hub operations at the airport.

In May 2013 Heathrow updated the 2 Runway Masterplan Vision, following consultation with the Airline Community to reflect the impact of IAG acquiring bmi. The Masterplan now rationalises passenger processing capacity into two buildings between the runways. It also removes current cul-de-sacs to provide a flow-through taxiway system, more stand frontage and a greater number of stands suitable for accommodating Code F aircraft. This approach brings the following benefits:

- Improved passenger experience, fuel costs and CO2 emissions by reducing taxi time
- Improved passenger experience by removing time-expired passenger processing facilities and replacing them with newer, efficient and attractive buildings
- Increased revenues by increasing passenger throughput as a result of enabling larger aircraft to be used at Heathrow and
- Improved ability to compete as an international Hub airport by reducing transfer times as a result of consolidating alliance partners.

Our long term plans now reflect this revised Masterplan phasing approach. During Q6 we will:

- Deliver a full closure of T1 for passenger operations as demand is moved to other facilities, enabling a partial demolition of some parts of the terminal infrastructure and a partial reconfiguration of airside apron areas to support T2's operation and
- Reconfigure the northern section of the Alpha and Bravo taxiways to accept code F aircraft and improve taxiing patterns for these aircraft types.

Our view is that the next major step towards delivering the Masterplan should be the second phase of the T2 development, as this provides the:

- Potential to close T3 and process more passengers through newer terminals
- Replacement of T1/T2 baggage system
- Reduction in airline operating costs earlier by balancing out demand across the aprons and
- Minimal amount of operational disruption compared to other options.

We will continue to review the phasing strategy as airline demand evolves (e.g. airlines merges and acquisitions) and we will consult with the Airline Community accordingly.

# Heathrow long-term plan

**Figure 6 1 Heathrow in 2013**

**Figure 6 2 May 2013 Master plan: Heathrow in 2012+ approximately 20 years**

### 6.1.2 Cargo

Heathrow's role in the cargo operation is to provide infrastructure that enables airlines and cargo handling companies to operate efficiently and competitively. Transit sheds and other cargo warehouses are not owned by Heathrow.

We recognise the growth in off airport cargo facilities, and therefore our focus is to ensure that different zones are managed securely, and both the control posts and road system are fit for purpose and support the required levels of service. Business Case 062, which sits in the Airport Resilience Programme, remains an opportunity to bring the Other Airside Area (OAA) into the Critical Part Security Restricted Area (CPSRA).

Heathrow has completed preliminary work to understand the cargo industry requirements and will engage in further consultations around specific priorities and options that will have a positive impact for all stakeholders. The cargo community have been very supportive in the process to date and Heathrow have identified five factors that are most important to our stakeholders: quality of handling, efficient clearing process, ground infrastructure, cargo manager and freighter slots. The value of cargo to our stakeholders is abundantly clear and Heathrow will now engage with cargo operators and the airline community to develop plans that address their needs.

### 6.1.3 Planning policy

The National Airports Policy is contained within the 2013 Aviation Policy Framework. This generally supports operational improvements that make best use of existing capacity, and looks to improve surface access to airports, particularly by rail. It notes the establishment of the Airports Commission in 2012 to consider the UK's long term airport capacity needs.

The Airports Commission is currently considering the case for an additional runway at either Heathrow or Gatwick following extensive consideration and consultation on the need for and location of additional capacity. It will report its final recommendation to Government in summer 2015.

At the regional level, the London Plan provides the relevant planning policy framework for London and must be in general conformity with national policy. At the local level, planning policies for Heathrow are contained within the London Borough of Hillingdon Local Plan Part 1 and the Hillingdon Unitary Development Plan, which must also conform to the higher tier regional and national policies.

Local and regional planning policy specific to Heathrow is generally supportive of development which is contained within the limits of growth set down by Government in its decision to permit Terminal 5, and within the defined airport boundary.

The Hillingdon Local Plan Part 1 is supportive of the sustainable operation of the airport within its existing boundaries and the renewal of facilities to improve passenger experience. Hillingdon Council are currently in the process of preparing Part 2 of the Hillingdon Local Plan which will replace the Unitary Development Plan and provide new detailed policies for guiding development proposals. Further consultation on these policies will take place during 2015.

### 6.1.4 Airspace

The success of Heathrow's operation depends on the airport's resilience and capacity. This applies across all parts of the passenger journey, from the terminals, over the airfield, and into the airspace. To this end the airport is working with its industry partners (NATS, the Airline Community, CAA, and Eurocontrol) on major UK wide projects such as the Future Airspace Strategy (FAS) and the London Airspace Management Project (LAMP). These projects are working to ensure the airport has sufficient airspace capacity to enable the airport to cope with future demand as well as crisis events while also improving the punctuality of our arriving and departing flights. These projects will draw on the work being carried out in the Single European Sky ATM Research programme (SESAR) and look to deploy the projects being validated in this Europe-wide project.

The aims of the airspace modernisation project are to:

- Improve capability and resilience by increasing operational 'headroom'
- Seek to reduce the environmental impact of Heathrow's operation
- Improve performance (throughout Q6 we will work to improve punctuality, with 80% of flights arriving or departing within 15 minutes of their scheduled time).

These aims will serve to support Heathrow's role as the UK's Hub and its function as a critical lynchpin of the entire Air Traffic Management (ATM) network. Heathrow's performance has a material and significant impact on network performance, for example, the implementation of A-CDM here was widely recognised as fundamental to the ATM performance at a pan-European level.

Progress in these areas will be accomplished in collaboration with NATS, the CAA, and the Airline Community through advances in both policy and technology to ensure better tactical decisions are made and resources are used more efficiently. This includes:

- The real-time measurement and collaborative management of performance
- Addressing the lack of flexibility in the runway infrastructure
- Improving out-dated arrival and departure procedures through airspace change processes and new technology (e.g. LAMP and independent parallel approaches).

Through such measures we aim to reduce the level of Air Traffic Flow Management (ATFM) delay at Heathrow usually attributable to weather disruption such as strong winds or low visibility. For example, one of key projects out of SESAR, being delivered in Q6 is Time Based Separations (TBS).

This work is vital to support the airport's vision to be 'a resilient airport with the capability to meet demand and recover quickly' while maintaining Heathrow's high levels of operational intensity and decreasing susceptibility to mass disruption or 'red days'. In particular the work will ensure that the increase in wide-bodied aircraft, expected at Heathrow during Q6, can be accommodated at the airport and that the short-medium term recommendations of the Airport's Commission on Airport Capacity are implemented. You can see the list of Business Cases supporting this vision in the Airport Resilience Programme, in Section 4.5.2.

These airspace improvements aim to improve Heathrow's operation and will therefore serve to improve the passenger experience by reducing delays as well as by reducing the 'buffers' airlines place in the schedules to compensate for anticipated delays.

## 6.2 Heathrow expansion

Only Heathrow can keep Britain at the heart of the global economy. International competition for jobs and trade has never been more intense. A country's success in this global race depends on the strength of its links with existing and potential markets in Asia, Africa and the Americas.

Heathrow is a national asset and gives Britain a huge competitive advantage to reach these far-off markets with frequent and direct flights. As the UK's only hub airport, Heathrow is within range of a direct flight to 95% of the global economy.

Heathrow is the country's biggest port for both passengers and freight. It handles twice as much cargo in value as the UK's two busiest shipping container ports combined. Its role is complementary to the role of all other UK airports. Like its direct competitors in Paris, Frankfurt and Amsterdam, it serves markets that cannot be served by point-to-point airports.

But Heathrow has been full for ten years. In that time, airlines have swapped their domestic connections for more lucrative long haul ones, creating a lost decade of connectivity for British business of all sizes from all corners of the country.

The Airports Commission review is the last and best opportunity to connect all of Britain to global growth. Further delay will put at serious risk the UK's long-term growth and prosperity as we fall behind our global competitors. And unless the new capacity serves and connects all of the UK, the danger is our economy will remain unbalanced and we will fall behind our European competitors.

**Figure 6 3 Our vision for an expanded Heathrow**

Only Heathrow, the UK's best connected transport hub, will secure the UK's place in the world as a global aviation hub for the next generation. The Commission's analysis shows the prize for Britain if Heathrow expands is up to £211billion for the economy and up to 180,000 new jobs.

By expanding Heathrow, we can create a hub airport at the heart of an integrated transport system with new rail and air connections to every part of the UK. We will help to rebalance the economy beyond London and the South East, making it easier for people to get to Heathrow. And expansion will lead to lower fares thanks to increased airline competition.

# Heathrow long-term plan

Importantly, expansion at Heathrow will only be delivered within the UK's carbon targets and air quality limits. Our new plans also mean that fewer people will be affected by noise than today, and there will be no more cars on the road.

We've developed our new approach because we've listened to local communities and those across the country who depend on a truly national hub airport. And it's because of this new approach that the landscape around Heathrow has changed. Today Heathrow expansion is supported by a majority across our local communities and 80,000 people have signed up to support grassroots campaign Back Heathrow.

If we are ambitious as a nation, we need to get back in the race and keep Britain at the heart of the global economy – by expanding Heathrow.

# 7 Appendix – Equitable treatment metrics

| | Measurement | | Definition | Terminal 1 | Terminal 2 | Terminal 3 | Terminal 4 | Terminal 5 | Notes |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Current | Current | Current | Current | Current | |
| **1.0 Traffic** | 1.1 | MPPA | Million Passengers Per Annum (MPPA) - defined as quantum of total passengers served in each terminal per annum. Calculation based on an annual terminal throughput for last calendar year | 9.8 | 6.2 | 16.6 | 9.2 | 31.6 | Data from BOSS 2014. *General Aviation excluded (Flight types 1,3 used)* |
| | 1.2 | ATMPA | Air Traffic Movements (ATMs) per annum - defined as quantum of aircraft movements in each terminal per annum. Calculation based on air traffic movements in each terminal for last calendar year | 81,669 | 41,473 | 82,798 | 54,559 | 207,850 | Data from BOSS 2014 - *General Aviation excluded (Flight types 1,3 used.)* |
| | 1.3 | Peak hour departing flow - all pax | Peak Hour Passengers - number of passengers (including transfer passengers) served in each terminal counted as 30th peak hour (clock hour) of the last calendar year | 1,857 (ATD)<br>1,762 (STD) | 2,276 (ATD)<br>2,031 (STD) | 3,084 (ATD)<br>3,069 (STD) | 2,203 (ATD)<br>1,950 (STD) | 4,649 (ATD)<br>4,242 (STD) | Data from BOSS 2014, *General Aviation excluded. Stand On/Off time used as ATD.* |
| **2.0 Terminal area total** | 2.1 | Terminal, campus GFA (sqm) | Terminal, campus GFA (Gross Flow Area) - floor area inside the building envelope, including the external walls, and excluding the roof. For terminal or campus it is calculated as a sum of GFAs for all levels and all piers and satellites. In case, there is an external building which process either passengers or baggage for particular terminal, but it is not a part of main terminal or satellite structure, then area of this building should be added to main terminal / campus area. | 199,250 | 297,900 | 223,100 | 132,400 | 526,000 | Rounded to nearest 100m2. Terminal 1 excludes T2B, T2 includes T2A & T2B (walkway included), T5 includes T5A, B & C. |

# Appendix

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|---|---|---|---|---|---|---|---|---|---|
| **3.0 Passenger Infrastructure** | 3.1 | Number of check-in desks & bagdrops | For each terminal sum of all check-in desks and bagdrops which have connection to baggage system. | 113 | 116 | 218 | 129 | 150 | Due to T3IB project, T3 currently has 73 of the 218 desks out of commission. From 29Mar-14Apr there will be 43 desks out of commission and from 15Apr to summer 16 there will be 55 desks out of commission. |
| | 3.2 | Number of self service kiosks | For each terminal sum of all self service units (either check-in or transfer) | 78 | 81 | 94 | 49 | 74 | Active kiosks only. |
| | 3.3 | Number of security lanes (machines) | For each terminal sum of all security lanes (departure and transfer) which are used for passengers processing. Security machines dedicated for staff processing are not included. | 22 | 31 | 27 | 19 | 31 | T1 correct as of Feb15 but will reduce as airlines move out. T2 inc T2B. |
| | 3.4 | Number of ticket desks (total existing) | | 48 | 44 | 71 | 60 | 26 | T1 only 14 of the 48 are currently 'live' and this will reduce as airlines move out.<br>Excludes 'Check in desks' that are being used as 'Ticketing/Assistance/Upgrade desks'. |
| | 3.5 | Number of immigration lanes + ACS | For each terminal sum of all immigration lanes and eGates (arrivals and transfer) which are used for passenger processing. | 38 | 45 | 52 | 44 | 45 | |
| | 3.6 | Published intra-terminal MCT | Published intra-terminal MCT for each terminal. If there is a different MCT for different flows, then separate MCTs should be indicated for each flow. | 60mins | 60mins | 70mins | 60mins | 60mins | MCT reflects both passenger and baggage processes. Note the T3 MCT will change to 60min once T3IB is fully operational. |
| | 3.7 | Distance to walk unaided from IDL to furthest aircraft gate (m) | Unaided walking distance measured from central security search exit to the furthest aircraft gate either in terminal building or satellite.<br>All aids such as sidewalks, elevators, escalators, people mover systems are excluded. Distance for each terminal should be presented on drawings. | 650 | 915 | 855 | 730 | 450 | Rounded to nearest 5m, T1 does not include T2B gates. T5 includes TTS in calculation. |
| | 3.8 | Number of CIP Lounges available (total) | | 2 | 8 | 10 | 6 | 4 | T1 figure as is. EL AI and BA lounges will close when they move out (25/04 and 29/06 resp.) |
| | 3.9 | Number of CIP Lounges requested | | 0 | 0 | 3 | 2 | 3 | Does not include Lounge expansion requests |

# Appendix

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|---|---|---|---|---|---|---|---|---|---|
| **4.0 Baggage Infrastructure** | 4.1 | Length of reclaim belts | For each terminal sum of re-claim belts' length (in meters) which is presentable to passengers; length of feeds to the belts is excluded; both domestic and international. | 297 | 686 | 699 | 561 | 718 | |
| | 4.2 | Number of MUPs | Number of MUPs (make-up) positions in each baggage hall (both departures and transfer) | 204 (used by T1 & T2) | 204 (used by T1 & T2) | 201 (Once T3IB is in place: 135) | 162 | 345 | Only currently usable MUPs have been included, T2 uses T1 facilities |
| | 4.3 | ADP (avg time to input belt - arrivals) | Arrivals Delivery Performance for departure baggage - measured as average for last bag (LB) and % in target (25,35,45mins) | LB ADP 65% | LB ADP 70% | LB ADP 72% | LB ADP 62% | LB ADP 58% | Figures are 2014 actual performance metrics. |
| | 4.4 | ADP (avg time to input belt - transfers) | Arrivals Delivery Performance for transfer baggage - measured as average for transfer bags and % in target | 68% in 25mins | 58% in 25mins | 64% in 25mins | 72% in 25mins | 50% in 25mins | Figures are 2014 actual performance metrics. |
| **5.0 Aircraft Infrastructure** | 5.1 | Number of aircraft stands (centrelines) | For each terminal / campus sum of aircraft stands (both contact and remote) which are adjacent to terminal / campus area. MARS'ed (Multi Aircraft Ramp System) stands should be counted as one large stand | 10 | 36 | 44 | 34 | 60 | Declared physical stand supply for Summer 2015 |
| | 5.2 | Number of pier served aircraft stands (centrelines) | For each terminal / pier / satellite sum of aircraft stands which are contact / pier served. MARS'ed (Multi Aircraft Ramp System) stands should be counted as one large stand. | 10 | 28 | 28 | 21 | 45 | Physical stand supply, |
| **6.0 Terminal access** | 6.1 | Number of car park spaces | Number of car park spaces in a car park which is adjacent and linked to each terminal. | MSCP1: 585 MSCP1a: 1,670 | Phase 1A: 1,524 | 1,540 | 898 | 3,654 | T1 MSCP1 will be closing on 30/06/15. |
| | 6.2 | Walking distance (m) to check-in area from underground | For each terminal unaided walking distance from the platform to the closest entrance to the terminal building. All aids such as sidewalks, elevators, escalators, people mover systems are excluded. Distance for each terminal should be presented on drawings. | 295 | 565 | 405 | 45 | 140 | Rounded to nearest 5m |
| | 6.3 | Walking distance (m) to check-in area from HEX | For each terminal unaided walking distance from the platform to the closest entrance to the terminal building. All aids such as sidewalks, elevators, escalators, people mover systems are excluded. Distance for each terminal should be presented on drawings | 105 | 310 | 185 | 120 | 80 | Rounded to nearest 5m |
| | 6.4 | Walking distance (m) to check-in area from public bus | For each terminal unaided walking distance from the a bus stop to the closest entrance to the terminal building. All aids such as sidewalks, elevators, escalators, people mover systems are excluded. Distance for each terminal should be presented on drawings. | 310 | 370 | 500 | 125 | 165 | Rounded to nearest 5m |

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