



International Arrivals

Heathrow

Heathrow

Strategic Capital Business Plan

April 2017

Heathrow
Making every journey better

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Introduction and context

1 Foreword

Heathrow saw excellent progress in 2016 towards its vision to give passengers the best airport service in the world. There was significant momentum in all four of our priorities: making Heathrow a great place to work, transforming the service to passengers and airlines, beating the business plan over the current regulatory period and winning support for expansion. These priorities are underpinned by a simple business logic that engaged people deliver great service which in turn delivers financial returns and Heathrow's licence to grow.

Safety and wellbeing is at the heart of everything we do. Our aim is that everyone goes home or gets to their destination safe and well every day. We continued our great safety record on site.

Heathrow is serving passengers better. Heathrow's people delivered the best ever result in the global Airport Service Quality survey of 4.19 in Q4 2016. This was supported by record baggage performance with 986 bags for every thousand passengers travelling as intended. Punctuality of flights also improved supported by airfield improvements, close work with airlines and innovative air traffic control. Skytrax's survey of over 16 million passengers yet again rated Heathrow the best airport in Western Europe and Terminal 5 the best airport terminal in the world.

The government supported expansion of Heathrow in October 2016. Expansion will connect all of Britain to the world, bringing up to 180,000 new jobs and £211 billion of economic growth across the UK. The decision was supported by a wide coalition built up over years. A new runway will be built to the northwest of the existing airport which will allow 260,000 more flights at Heathrow by 2030. Heathrow will also consult on adding 25,000 extra flights from 2021 on the existing runways, while reducing noise for local people, to give Britain a 'Brexit Boost' of jobs and growth as soon as possible. Heathrow is now working toward planning approval by 2020. Heathrow intends to deliver a world leading and ambitious airport that is affordable and financeable. It must also balance national and local economic gain with environmental impacts. Heathrow is seeking to deliver sustainable growth that ensures the careers of even more people, the growth of local communities and continued business success.

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

Introduction and context

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 period from January 2016 to December 2016 with a look ahead to 2017.

Towards the end of 2016, the CAA extended Q6 by one year so the regulatory period will end in December 2019. This Plan reflects the previous position of the Capital portfolio which ended in December 2018. There is currently ongoing work and formal engagement with the Airline Community to ascertain the quantum and contents of the Portfolio for 2019.

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

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

The SCBP 2017 is a document for consultation; therefore Heathrow encourages the Airline Community and other stakeholders to submit their views on the Strategic Capital Business Plan by 30th June 2017 to Development development@heathrow.com

Heathrow would like to thank the Airline Community for their responses to the SCBP 2016, which we have considered in developing this document.

Heathrow short-term plan

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.

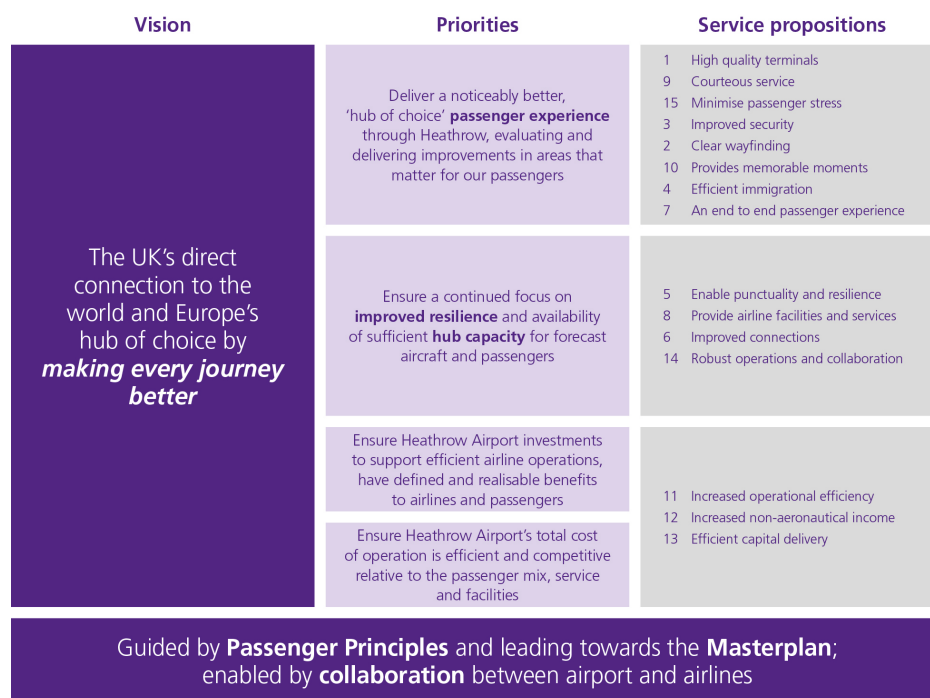


Figure 3.1 Heathrow’s joint Vision, Priorities and Service Propositions

3.1.1 Heathrow’s Vision

Heathrow recognises that, in an industry dominated by global airline groups and alliances, Heathrow can compete for passengers’ business with airports globally by giving the best airport service in the world. Consequently we expanded Heathrow’s long term ambition, and in 2014 revised our corporate vision:

“To give passengers the best airport service in the world”

Our 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.

3.1.2 Vision, Priorities and Service Propositions for Q6

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 shape and guide our thinking on Q6, including the capital plan.

Heathrow short-term plan

4 Heathrow short-term plan

4.1 Transforming Customer Service

Heathrow delivered its best ever passenger service in 2016 with a record 84% of passengers surveyed rating their overall experience as 'Excellent' or 'Very Good' (2015: 81%). Heathrow has now achieved a score above 4.00 in the Airport Service Quality ('ASQ') survey directed by Airports Council International ('ACI') for twelve successive quarters culminating in its highest ever quarterly score of 4.19 in the fourth quarter of 2016. Heathrow has been ranked first among major European hub airports for service quality in this survey for ten successive quarters.

The high service standards have resulted in Heathrow being named 'Best Airport in Western Europe' for the second consecutive year at the Skytrax World Airport Awards. The award, voted for globally by passengers, came in addition to Terminal 5 being named the world's 'Best Airport Terminal' and Heathrow 'Best Airport for Shopping' for the fifth and seventh consecutive years respectively. In addition, the new Plaza Premium Lounge in Terminal 2 was voted the world's best independent airport lounge in the same awards. For the first time, Heathrow received the prestigious accolade of 'Europe's Best Airport' (with over 40 million passengers) in the 2016 ASQ awards. Heathrow also received ACI Europe's Best Airport Award (with over 25 million passengers) for the third time. Heathrow's success was also recognised at the latest Frontier Awards where the airport won the categories of 'Operator of the Year' and 'Marketing Campaign of the Year by an Airport'.

Improvements to passengers' journeys through the airport continue. An additional escalator was opened in Terminal 5, improving service, operational flexibility and resilience. Passengers continue to enjoy efficient queuing to pass through security, passing through central security within the five minute period prescribed under the Service Quality Rebate scheme 97.0% of the time (2015: 97.4%) compared with a 95% service standard. The service quality regime penalty threshold was not triggered in 2016 in respect of any performance standard.

As part of the focus on increasing the resilience of operations, the final two of four new enhanced Instrument Landing Systems (eILS) were implemented at Heathrow. The eILS is based on new navigation technology and provides Heathrow with the capability to increase the number of aircraft that can land in low visibility giving improved safety, resilience and punctuality to airfield operations.

Heathrow had its busiest days ever in 2016 and achieved strong levels of service, with departure punctuality (the proportion of aircraft departing within 15 minutes of schedule) improving to 78.8% (2015: 78.1%). This reflects investments to improve operational resilience, including introducing time-based separation of aircraft on windy days in 2015. Further work on widening taxiways during 2016 to support increasing A380 operations also enabled more efficient use of the airfield. Baggage performance also improved significantly with the misconnect rate down to 14 bags per 1,000 passengers (2015: 17). The best ever monthly misconnect performance of 9 bags per 1,000 passengers was achieved in October 2016.

Heathrow short-term plan

4.2 Status of Capital Portfolio

In last year's Strategic Capital Business Plan the planned Q6 capital investment was forecast to be £2.9bn, and it was noted that this could increase up to £3.3bn, subject to further scoping of remaining projects and corresponding approvals of the business cases. Now that we are further through Q6, there is greater certainty about the plans and the planned investment is currently forecast to be £3.0bn.

The portfolio will continue to evolve over Q6 to meet the needs of passengers and airlines. Heathrow may invest above £3.0bn in Q6 where strong business cases exist including essential asset replacement, resilience projects, capacity projects and projects which deliver good returns. We will continue to work with all the relevant parties to achieve successful outcomes.

This spend of £3.0bn excludes capital related to Expansion.



Heathrow short-term plan

4.3 Annual status of business cases by programme

4.3.1 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.

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

Business Case	Description	Settlement Baseline (£m)	Dec 16 Baseline (£m)	Dec 16 EAC (£m)
B008 Crossrail	Allowance - Heathrow must ensure that Crossrail services are able to operate on Heathrow infrastructure.	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	3.1	5.0
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	1.4	1.4
B018 T5 Connections Security Capacity	Estimate - to provide a new route via escalator to south security, and additional lanes.	23.5	38.9	37.5
B020 Commercial IT & 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 passenger.	15.0	14.1	14.1
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	12.0	12.0
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'.	34.2	30.5	29.7
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	3.2	3.0
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	10.3	10.7
B030 T1 Closure	Estimate - Phased closure of Terminal 1 (excluding the baggage system which is required to support T2).	8.4	6.5	6.0

Heathrow short-term plan

Business Case	Description	Settlement Baseline (£m)	Dec 16 Baseline (£m)	Dec 16 EAC (£m)
B036 VIP Strategy - Commercial and Facility	Estimate - To maintain the existing suites.	7.4	2.0	2.0
B037 Airline Moves	Estimate - Terminal 1's airlines will be relocated to other Terminals per the agreed move sequence.	23.6	19.8	19.4
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	6.1
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	37.5	36.8
B044 Commercial Systems Replacements 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	2.7
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	33.6	35.0
B068 Security SQR Harmonisation	Estimate - The CAA Licence 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.	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	7.5	7.5
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.	5.2	8.6	8.2
B094 Crossrail Contribution	Allowance - Heathrow's contribution to Crossrail is as determined by the CAA.	86.7	86.7	86.7
B116 T3 Connections Security Capacity	Estimate - expansion of Transfers security capacity.	39.9	74.1	77.3
B129 Automation of the Passenger Journey	Estimate - replacement of CUSS Kiosks.	9.7	2.0	2.0

Heathrow short-term plan

Business Case	Description	Settlement Baseline (£m)	Dec 16 Baseline (£m)	Dec 16 EAC (£m)
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 initiatives.	2.0	2.0	2.0
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	36.9	35.5
B316 T3 Refurbishment and Enhancement	Estimate - scope include improvements to Zones B-G, T3 Façade, International Departure Lounge, HEX tunnel.	47.0	47.8	49.5
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
B400 T4 CSA Expansion	Estimate - expansion of security capacity.	0.0	5.8	5.9
B411 T5 Additional Fast Track Capacity	Estimate - two additional lanes and a new route for premium passengers.	0.0	15.6	15.6
B416 Road Access Congestion	Allowance - to improve flow on the roads and resolve congestion areas.	0.0	0.5	0.5
B427 Security Scanner & ETD Regulation Changes	Estimate - additional security equipment to meet new requirements.	0.0	14.6	14.3
B429 E-Gates	Estimate - installation of additional e-gate in T3, T4 and T5.	0.0	8.4	7.7
B434 T5 Connections	Allowance - to reduce queuing and congestion, and introduce automatic ticket presentation gates.	0.0	10.1	10.1
B451 4G Cellular Estate	Estimate - to upgrade the cellular infrastructure deploying common infrastructure in T3 & T4, as well as replacing life expired assets.	0.0	21.0	21.0
B455 T2 Check-in Enhancements	T2 Check-in Enhancements.	0.0	5.0	5.0

Heathrow short-term plan

Key activities in 2017

- **Improvements to security**
The work involved in rolling out the further body scanners to support the additional DfT requirements is expected to conclude in the spring. Construction of the new T3 Flight Connections Centre has commenced following the demolition of the old facility. This construction and fit out is due to complete in 2018.
 - **Improvements to T5 Connections**
Following the successful completion of the new escalator and security equipment for the connecting passengers in T5, the main airline service desk area including Border Force Control will be reconfigured and refurbished in 2017.
 - **Commercial advertising and sponsorship**
Upgrades and enhancements to a number of media sites across the campus will be undertaken during 2017, including the media estate in the CTA Rail Station.
 - **Passenger journey automation**
We plan to begin deploying further self-boarding gates in T2 and for the domestic operation in T5 in 2017. It is anticipated that an initial deployment of self bag drop units will be introduced in T2 or T3.
 - **T3 Refurbishment and Modernisation**
Work will continue upgrading the T3 IDL, creating new seating and retail space.
 - **Hotel development across the campus**
Third-party developers are constructing a new hotel adjacent to T4, and will be commencing a new hotel development adjacent to the T2 multi storey car park in 2017. Following handover of the space, a developer will be fitting out a new hotel in the East Wing of T3.
- Key commercial projects**
There are a wide variety of commercial projects being delivered across the airport to drive incremental revenue. These include new passenger catering facilities within T3, the introduction of further airline and independent lounge facilities across the terminals, and a number of new shops.



Heathrow short-term plan

4.3.2 Airport Resilience

The Programme vision is to provide 'A resilient airport with capability to meet demand and recover quickly', enabling Heathrow to meet the challenge of delivering higher service standards and lower costs.

This programme will achieve its vision through objectives that include:

- Creating 'headroom' through the efficient use of technology, enhanced processes and airport infrastructure
- Accommodating future demand for a new generation of wide-bodied aircraft
- Building greater resilience to adverse weather and other events, enabling a quick and safe recovery of the airport operation
- Driving resilience and efficiency improvements in our operational facilities and processes, while maintaining the highest safety standards.

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

Business Case	Description	Settlement Baseline (£m)	Dec 16 Baseline (£m)	Dec 16 EAC (£m)
B015 OSCAR	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 e.g. IDAHO.	22.6	25.9	25.5
B033 Additional Fuel Infrastructure	Allowance - the CAA determination of capex. To increase fuel resilience at Heathrow.	160.3	37.3	37.3
B035 Aircraft De-Icing Infrastructure & Process	Allowance - for enhancing de-icing capabilities.	54.9	15.0	17.4
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, ground movement monitoring, monitor/analyse Time Based Separation, and directly supports airspace changes.	2.5	5.3	5.3
B043 APOC	Rollover - for completion of APOC.	10.0	10.8	10.2
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	8.0	8.0
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	58.5	58.5
B111 Enabling New Generation of Wide Body Aircraft - Airfield	Estimate - Stand 255, Northern CTA taxiways, Sierra A and Sierra C taxiways.	85.0	121.2	125.1
B112 Airfield Efficiency & 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

Heathrow short-term plan

Business Case	Description	Settlement Baseline (£m)	Dec 16 Baseline (£m)	Dec 16 EAC (£m)
B117 T4 Infrastructure Improvement	Estimate - provision of additional Code F stands, and joining of reclaim belts 7A and 7B.	26.7	25.9	24.2
B134 PCA Additional Infrastructure	Allowance - provision and installation of pre-conditioned air units for long haul stands that do not currently have it. Scope has been consolidated here from B334 and B317.	2.1	13.8	12.7
B206 Airport Resilience Programme Rollover (COp)	Rollover - includes T4 baggage reclaim hall, T5 TTS Enhancement, T3 and T4 loading Bay, and Airside Operations Facility.	28.1	47.4	47.1
B211 AGL Control System & Primary Cabling	Estimate - replacement of airfield lighting control system.	0.0	48.8	48.8
B243 Kilo Apron Development	Estimate - consolidation of T1 Opportunity Stands and Kilo Taxiway works.	0.0	110.2	110.2
B311 Enabling New Generation... - RAT, RETs Remote Stands and FEGP	Estimate - Removal of Cranford (RAT, Noise wall), 4 additional RETS, CTA remote stands, FEGP provision for new aircraft types.	111.4	15.0	15.0
B312 Airfield Efficiency and Resilience	Allowance - in addition to B112.	19.4	12.0	12.0
B317 T4 Infrastructure Improvement - HV and Arrivals	Allowance - Provision and installation of new high voltage electrical infrastructure in T4. This also includes improvements to T4 arrivals forecourt.	20.0	4.5	4.5
B409 MSCP 4	Estimate - to alleviate short term congestion issues.	0.0	0.3	0.4
B415 A320 Sharklet Strategy	Allowance - modification to stand infrastructure to accommodate larger wingspans.	0.1	0.1	0.1
B421 Airport Efficiency and Performance	Estimate - further works in APOC to improve operational performance.	0.0	8.1	8.6
B428 EASA Clearance Opportunities	Estimate - to utilise the revised EASA clearance to improve the performance of the airfield.	0.0	0.4	0.4
B433 T2 DtS Option 7	Estimate - change priority from domestic to international operations.	0.0	0.8	0.9

Heathrow short-term plan

Key activities in 2017

- **Additional code F taxiway routes are under construction**
To the north of the CTA, work continues on the permanent Code F route along Bravo which will become operational in 2017. Enabling works have started on connecting the two Kilo cul-de-sacs to create a through Taxilane.
- **Code F stand capacity is increasing**
The demolition of Pier 3 and Pier 4 will be completed to allow the creation of four code F and one code E stands on the site of the current T1 stands. The first two stands will be delivered in 2017.
- **Airfield Ground Lighting (AGL)**
The second tranche of AGL cabling will be undertaken, as well as the development of an upgraded AGL control system.
- **More sustainability measures will be adopted**
Electric Vehicle charging points will be installed throughout the year to encourage Airside Operations and Engineering to adopt zero emission vehicles and ramp equipment. Improved Pre Conditioned Air (PCA) delivery units will be trialled in 2017 with an intent to roll out in 2017 and 2018.
- **Resilience of the airfield operation will improve (09L)**
The final new enhanced instrument landing systems installed in 2015 will be commissioned and brought on line, increasing the aircraft landing rate in low visibility conditions. The demand capacity balancing tool will go on line in 2017 to improve punctuality and reduce stack times. Further punctuality improvements will be delivered incrementally through our "Strive for 5" initiative.
- **Aviation fuel resilience will increase**
Completion of the work to remove the aviation fuel single points of failure will be delivered in 2017.
- **Airspace Management**
Key airspace management systems will continue to be reviewed as part of an asset replacement activity.



Heathrow short-term plan

4.3.3 Asset Management

The Asset Management Programme will deliver assets at the best whole life value, while reducing risk and optimising performance. This will be carried out for each of the Engineering, IT and Rail parts of our business.

The Programme will deliver its vision through objectives that include:

- Harm no-one that builds, maintains, operates or uses our assets
- Meet 100% of our licencing and legislative requirements
- Reduce total expenditure (Opex and Capex) over the long term by optimising cost, risk and performance and 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 (including colleagues, passengers and airlines) want from our assets, making sure there are no surprises
- Deliver the Masterplan as efficiently as possible and provide capacity just ahead of planned demand
- Meet our environmental and sustainability targets
- Ensure our assets are adaptable and can efficiently meet our customers' future needs

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

Business Case	Description	Settlement Baseline (£m)	Dec 16 Baseline (£m)	Dec 16 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	25.0	25.5
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 convert the CTA heat exchangers from High Temperature Hot Water to Low Temperature Hot Water, and associated work to the district heating pipework.	21.6	48.3	48.3
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	491.3	489.7
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	52.8
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 of the airlines and the wider airport community.	81.3	97.2	104.7
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

Heathrow short-term plan

Business Case	Description	Settlement Baseline (£m)	Dec 16 Baseline (£m)	Dec 16 EAC (£m)
B131 CTA and Cargo Tunnels	Rollover - Tunnels compliant with appropriate legislation and best practice, this includes: Refurbishing and replacing the tunnel asset systems; ventilation system; fixed fire suppression; structural fire protection; lighting; electrical and water systems; and, emergency sign and closure systems.	117.3	131.0	171.3
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	12.3	12.3
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	46.8	46.5
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	16.9	16.9
B327 Surface Water Management Infrastructure - southern	Estimate - Improve the performance of the surface water pollution control system across the Southern catchment.	7.8	2.8	2.8
B401 Rapid Goods Screening Relocation (formerly B212)	Estimate - relocation of RGS from Southside to Colnbrook Logistics Centre.	0.0	2.8	2.8
B439 - Perimeter Fence	Estimate - upgrade of perimeter fence.	0.0	4.2	4.2

Heathrow short-term plan

Key activities in 2017

- **CTA and Cargo Tunnels**
The main tunnel works will be completed by BAM Nuttall. Following completion of the main tunnel, focus will turn to the works on the cargo tunnel.
- **Engineering Asset Replacement**
T3 life safety system, T3 air-bridges and T4 low voltage are in delivery stage during 2017. The remaining Firemain elements will move into Delivery Phase in Spring 2017. The current phases of the T3 roof replacement and mechanical plant renewal will complete in 2017, as well as a further phase reaching investment decision in the summer. There will be continued focus to deliver refurbished taxiways and roads, both airside and landside.
- **Energy Supply Management**
Having modified the CTA boilers in 2015, work will continue to convert the T3 equipment and repair and replace the Service Subways and the equipment they contain.
- **Energy Demand Management**
This project will develop and deliver scope to further reduce energy consumption and carbon levels.
- **Rail Asset Replacement**
The statutory mechanical overhaul of the Heathrow Express Class 332 rolling stock motor bogies will complete this year. The overhaul of the Class 332 trailer bogies and Heathrow Connect Class 360\1 motor bogies will commence in 2017.
- **IT Asset Replacement**
Data Centre Network Enhancement will be delivered throughout 2017.
- **Surface Water Management**
The in pond works will complete in 2017 and the remainder of the business case will proceed to Delivery Stage



Heathrow short-term plan

4.3.4 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.

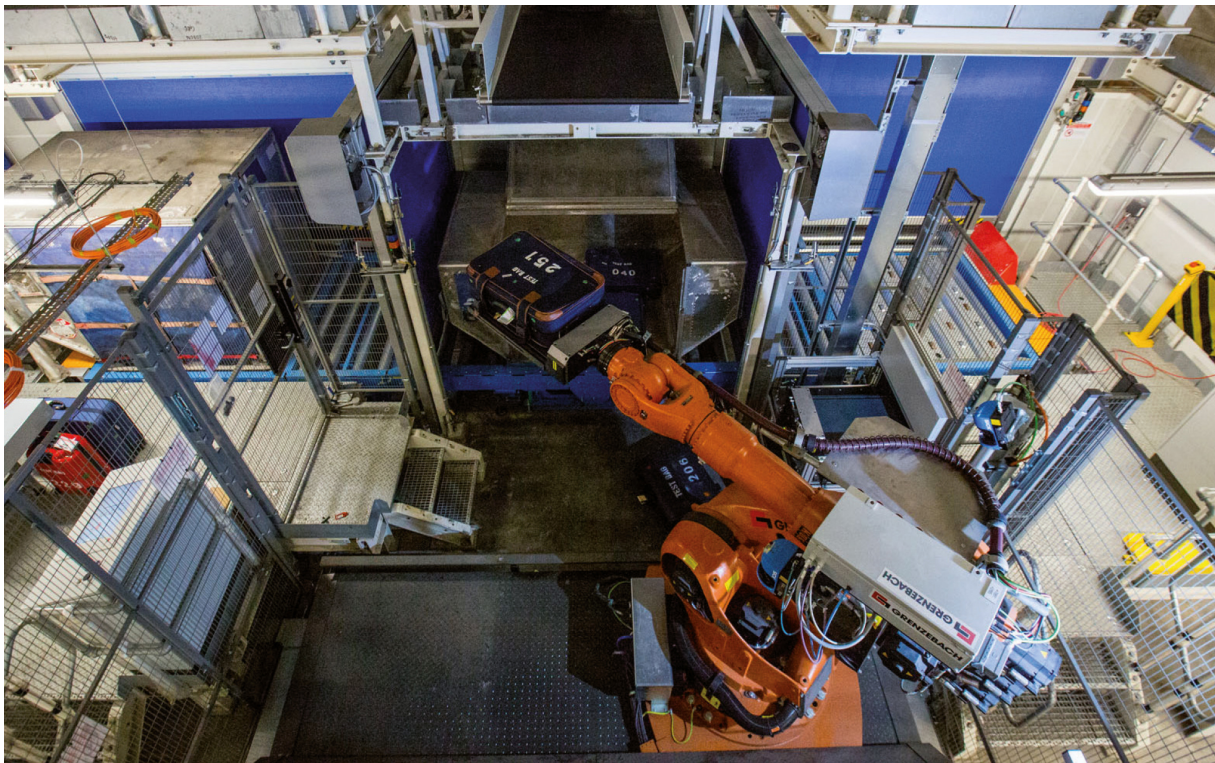
The Baggage Programme is made up of the Business Cases shown in the table below:

Business Case	Description	Settlement Baseline (£m)	Dec 16 Baseline (£m)	Dec 16 EAC (£m)
B006 Improved Baggage Capacity & 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.	38.9	38.9	38.9
B051 T3IB Rollover	Rollover - for completion of T3IB.	92.3	87.5	128.0
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	21.8	21.8
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	8.7	9.4
B205 Baggage Programme Rollover	Rollover - includes HIBS (T5WBW moved to B238).	17.3	19.9	17.9
B216 HBS 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	456.0	467.9
B238 Western Baggage Upgrade	Estimate - replacement high level control.	0.0	20.7	26.2
B423 Baggage Resilience	Allowance - to respond to the finding of the baggage review and to improve resilience.	0.0	29.6	29.6
B442 T4 Baggage Out of Gauge Reclaim	Allowance - to improve the Out of Gauge facilities in T4.	0.0	0.3	0.2

Heathrow short-term plan

Key activities in 2017

- **HBS Standard 3 & Asset Replacement**
The major focus is on the installation of the Standard 3 Screening machines across the Heathrow campus
- **T5 Early Bag Store**
The Baggage Programme will work with stakeholders to further enhance the scope and phasing of the amendments to the Early Bag Store to enable the earliest possible start on site from Summer 2017. The project is focused on introducing increased capacity to enable more efficient working and an improved passenger experience.
- **Baggage Resilience**
The Baggage Programme will work with stakeholders to identify key initiatives and required facilities.



Heathrow short-term plan

4.3.5 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 regulatory periods.

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

Business Case	Description	Settlement Baseline (£m)	Dec 16 Baseline (£m)	Dec 16 EAC (£m)
B150 T2 Phase 1 completion	Rollover - for completion of T2 A phase 1 and moving in of airlines.	58.9	93.4	97.8
B154 T2A Phase 2 and T2C	Allowance for design and enabling works for the extension of T2A and the construction of T2C.	184.8	184.8	184.8



Heathrow short-term plan

4.3.6 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 16 Baseline (£m)	Dec 16 EAC (£m)
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	Estimate - 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	3.2	3.2
B208 Q6 Realisation Rollover (Q6 Realisation)	Rollover - includes CCTV work; document management; and, treasury accounting.	3.4	4.6	3.8
B241 Portfolio Balance	Allowance - holding business case.	0.0	54.5	54.5
B376 Funds for Independent Funds Surveyor	Allowance - This business case will facilitate additional implementation of Gardiner and Theobald as the IFS.	3.5	3.5	3.5

Key activities in 2017

Further work is planned to progress back office IT.

Heathrow short-term plan

4.4 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.

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 projects. 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 22 key projects and will be engaged on additional projects, throughout the remainder of Q6.

Heathrow short-term plan

4.5 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 has been updated during 2016 following consultation with the Airline Community.

Key Projects / Business Cases	Trigger(s)	Trigger Scope	IFS	IFS Scope
B117 T4 Infrastructure Improvement	1 - Trigger complete	Q6 rollover trigger complete (stand 410).	Y	T4 Code F Stands (410, 411, 412) - Completed
B207 Asset Management Programme Rollover	1 - Trigger complete	Q6 rollover trigger complete (Northern runway)	Y	Northern Runway Completed
B018 T5 Connections Security Capacity	1 - Trigger complete	Transfers security escalator	Y	T5 Transfer Security Capacity Completed
B051 T3IB Q5 Rollover	1 - Trigger complete	Q6 rollover trigger agreed (Cut-ins complete and system operational)	Y	T3IB Rollover spend
B101 Engineering Asset Replacement - T3 Pier 7 Roof, HVAC, Chillers and Boilers	1 -Trigger defined - project on site	T3 Pier 7 roof - permanent M&E services to be fully operational and temporary plant removed (Roof triggered instead of T3 Life Safety System)	Y	T3 Life Safety Systems
B101 Engineering Asset Replacement - Airbridges, FEGP, PCA	1 -Trigger defined - project on site	T3 Airbridge Replacement (including modifications to foundations)	Y	T3 Airbridge Replacement
B101 Engineering Asset Replacement Electrical Power Infrastructure	1 -Trigger defined - project on site	T4 LV Electrical Infrastructure - power on to the replaced final Switchboard	Y	T4 LV Electrical Infrastructure
B111 Enabling New Generation of Wide Body Aircraft - Airfield	1 -Trigger defined - project on site	Bravo Taxiway Open for Code F Operations	Y	Alpha Bravo taxiways
				Sierra C taxiway Completed
				Sierra A taxiway
B116 T3 Connections Security Capacity	1 -Trigger defined - project on site	To deliver a new Permanent Flight Connections Centre to T3 and demolish the Interim Facility on Stand 323	Y	T3 Connections Security Capacity
B131 CTA & Cargo Tunnels	1 -Trigger defined - project on site	Main Tunnel Life Safety Systems	Y	Main and Cargo Tunnel
B216 Combined Baggage Standard 3 and Asset Replacement	2 -Triggers defined - projects on site	HBS Std 3 machines installed in T2; Proposed % of HBS Std 3 machines installed and in use in T5. Note T4 completion outside of Q6	Y	HBS & Asset Replacement in T1/2/4; HBS & Asset Replacement in T5

Heathrow short-term plan

Key Projects / Business Cases	Trigger(s)	Trigger Scope	IFS	IFS Scope
B243 Kilo Apron Development	2 Triggers: 1 defined - project on site; 1 - project pre G3	Delivery of Stands 211, 212 and 213 into operational use; Completion of the project - delivery of the final stand (of 4) into operational use	Y	Formerly B098 Kilo taxi lane and stands 234/5; B311 Enabling New Generation of Wide Body Aircraft - T1 Opportunity Stands
B411 T5 Additional Fast Track Capacity	1 -Trigger defined - project on site	New fast track facility ready for operational readiness	N	-
B451 Commercial Telecon - Cellular 4G Estate	1 -Trigger defined - project on site	New Cellular platform available for MNO connection (G5)	N	-
B006 Improved Baggage Capacity and Resilience	1 - project pre G3	T5 Early Bag Store	Y	T5 Early Bag Store
B033 Additional Fuel Infrastructure	1 - project pre G3	To be defined	Y	To be defined
B035 Aircraft De-Icing Infrastructure & Process	1 - project pre G3	To be defined	N	-
B097 T1 Baggage Resilience	1 - project pre G3	Out of Gauge and Resilience Recovery	Y	Out of Gauge and Resilience Recovery
B112 Airfield Efficiency and Resilience	1 - project pre G3	To be defined	Y	To be defined
B154 T2A Phase 2 and T2C	1 - project pre G3	To be defined	Y	To be defined
B317 T4 Infrastructure Improvement - HV and Arrivals	1 - project pre G3	T4 HV	Y	T4 HV
B329 Automation of the Passenger Journey	1 - project pre G3	To be defined	Y	T2 and T5 Self Boarding Gates; Self Bag Drop
B037 Airline Moves	N/A	-	Y	Review of El Al T4 move G3 cost only - Completed
B101 Engineering Asset Replacement - Life Safety Systems	N/A	-	Y	Firemain Replacement
B103 IT Asset Replacement	N/A	-	Y	Data Centre; Radio Network
B238 Western Baggage Upgrade	N/A	-	Y	WBU
B030 T1 Closure	N/A	-	N	-
B150 Terminal 2 Phase 1 Completion	N/A	-	N	-
B312 Airfield Efficiency and Resilience	N/A	-	N	-
B316 - T3 Refurbishment and Enhancement - Facades, IDL, and Arrivals Concourse	N/A	-	N	-

Heathrow short-term plan

4.6 Portfolio concept list

A number of new ideas have been identified since the start of Q6 for consideration by the Capital Portfolio Board and new business cases have been introduced into the plan during 2016 based on the benefits they would deliver. These include:

- B411 T5 Additional Fast Track Capacity
- B434 T5 Connections
- B451 4G Cellular Estate

As part of the preparation for the extension to Q6, and also for H7, an extensive list of projects has been created and this will be developed further with the Airline Community.



4.7 Development and Core Capex, and relationship to airport charges

The CAA's settlement for 2016 included an allowance for capex of £757m (2017 prices). At the time of setting 2017 Aeronautical charges Heathrow anticipated a value of £631m development and core capex for 2016, which was less than the settlement. The difference was adjusted through 2017 Aeronautical charges. The actual development and core capex value for 2016 was £683m. The difference will be incorporated in the Aeronautical charges for 2018.

The cumulative value of Core capital approved by the Capital Portfolio Board by the end of 2016 was £2.18bn.

Heathrow short-term plan

4.8 Q6 portfolio, programme and project process

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; efficient airline operations and total cost of operation.

While the emphasis has switched in 2016 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 four priorities. 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

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

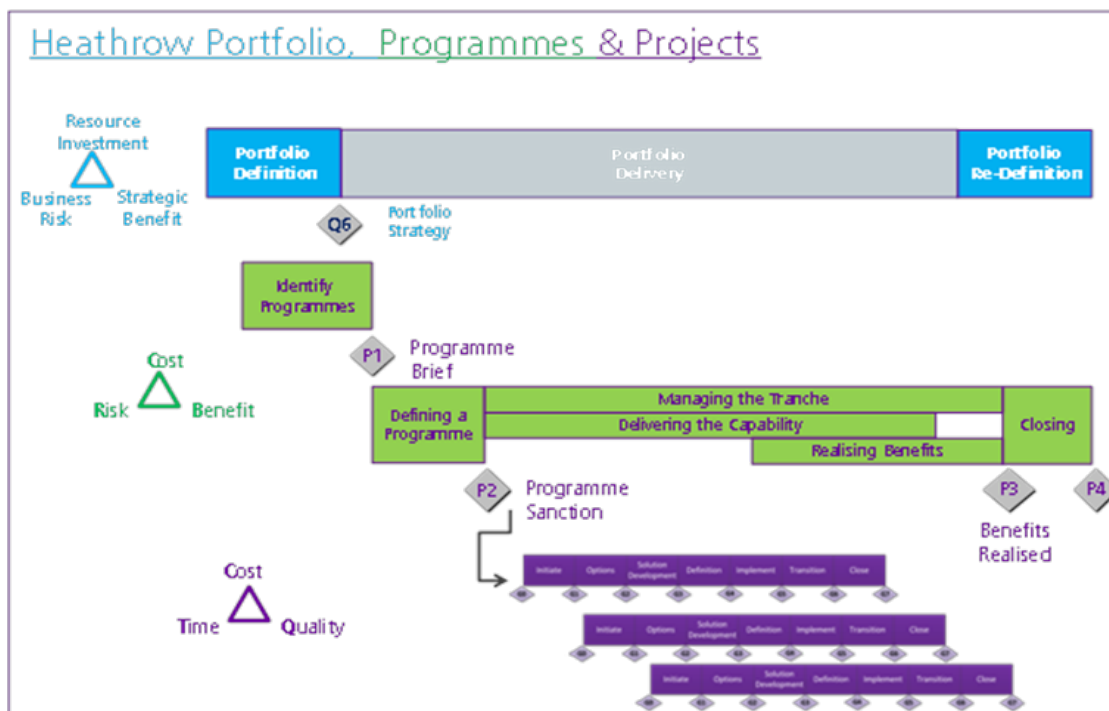


Figure 4.1 Heathrow Portfolio, Programme & Project Process

It is intended that all business cases and projects within should progress at the appropriate pace through the Gateway Lifecycle process. We are reviewing and revising the early stages of the process following learning to date and in readiness for the second half of Q6.

Heathrow short-term plan

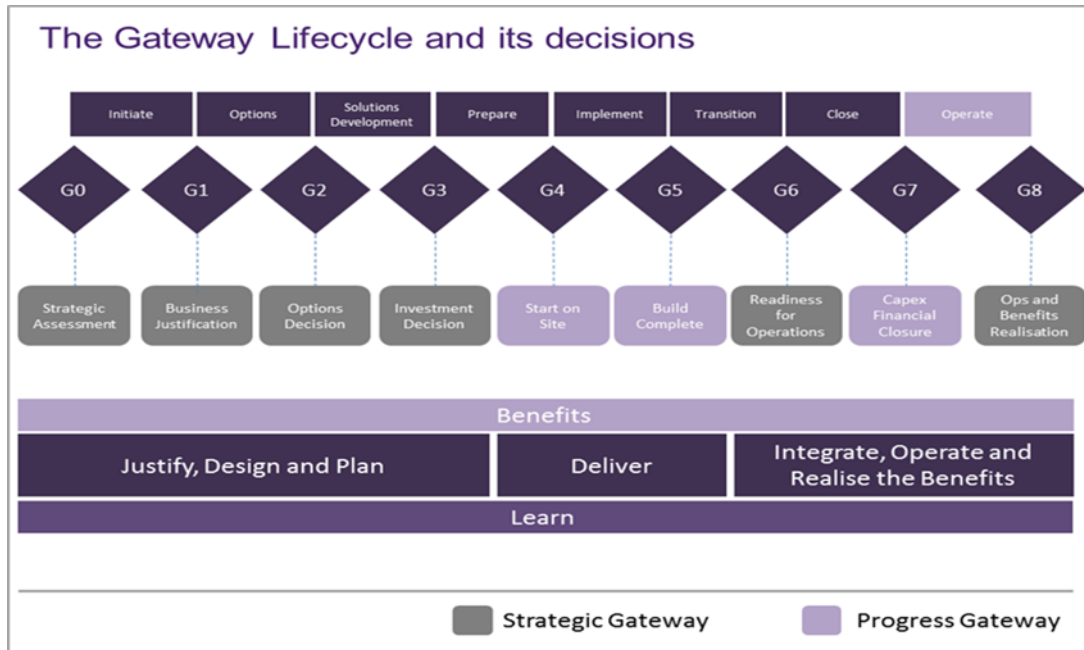


Figure 4.2 Heathrow Gateway Lifecycle

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 now may not be a requirement for the investment. 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).

Heathrow medium-term plan

5 Heathrow medium-term plan

5.1 H7 Portfolio

Using current CAA timelines, the initial H7 Plan will be submitted at the end of 2017. Constructive engagement will then follow.

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	347.7
2015	72.0	34.9	37.1	
2016	72.7	34.9	37.8	
2017	73.4	35.0	38.4	
2018	74.2	35.1	39.1	

Table: 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, 2015 and 2016 are the actual outturn.

Reg. Year	Total (Millions)	Q6 Total (Millions)
2014 (Apr - Dec)	57.3	358.2
2015	75.0	
2016	75.7	
2017	75.0	
2018	75.2	

*2014, 2015 and 2016 are actuals, 2018 is a shocked forecasts

Table: Heathrow's current passenger forecast (millions)

The passenger traffic for the Regulatory year 1st January 2016 - 31st December 2016 was 75.7 million passengers, an increase of 4.1% on the settlement forecast.

For short-term planning, forecasts do not include shock events, which is consistent with Heathrow's approach to traffic forecasting. Medium or long-term forecasts, in this case 2018 onwards, make an allowance for potential shocks given that historically they have impacted Heathrow's traffic by an average of close to 1.2%.

Heathrow medium-term plan

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:

- Fleet upgrade plans - most of the growth for Q6 comes from airline fleet upgrades. Therefore, there are risks – for example that A380 fleet upgrades could be delayed.
- Economic crises – our forecasts are occurring at a time of great uncertainty in the world economy, and the potential impact of Brexit is still unknown. 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 in the oil price.
- 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.



Heathrow medium-term plan

5.3 Asset Disposals

The Capital Investment Protocol requires that any asset disposals in the current regulatory period are included in the Strategic Capital Business Plan.

No such asset disposals are currently planned. However, long term leases are being utilised for the development of hotels. The commercial structure for these deals is typically that Heathrow grants a long ground lease of up to 150 years to a third party developer or operator, who funds and operates the hotel. The ground leases would be structured to provide for annual ground rent payments to Heathrow, channelled through the single till.

We have completed such contracts on sites at T2 & T4 with the Arora Group. They plan to operate both hotels – with T4 offering c750 rooms and T2 offering 300+ rooms. Both hotels are targeted to open in 2018 and on both projects, the Heathrow enabling works (site clearance and service provision) are being undertaken at the developer's cost. Due to the sensitivity of the CTA, the lease granted to Arora on the T2 hotel contains an option to break in HAL's favour should the site be needed after year 30 for operational purposes

The T3 (Boiler House) hotel site is much earlier in its project life. We have partnered with the Arora Group to work on the feasibility assessment but work has not yet started on this or planning consent and airline consultation.



Figure 5.3.1 T4 Hotel



Figure 5.3.2 T2 Hotel

Heathrow medium-term plan

5.4 Responsible Heathrow

A new approach (Heathrow 2.0) was launched in February 2017. This is not reflected here and further information is available at www.heathrow.com. For record purposes, the following information reflects the previous position as at the end of December 2016.

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 at the earliest stage and developing the talent to help us deliver the business strategy, to minimising risk and harnessing opportunities through our supply chain, Responsible Heathrow is built into every element of our business plan.

Several sustainability awards have been won and show our commitment to the environment:

- We have been awarded the Eco-innovation award at the ACI EUROPE Awards. This award is given to the airport that has demonstrated outstanding environmental performance and in particular, an innovative approach to environmental management
- We have won the Biodiversity benchmark award at the Wildlife Trust Awards. It is the first recognised scheme to award continual biodiversity improvement of land.
- We have also won the Private sector fleet of the year award at Green Fleet Awards. This is awarded to the UK private sector organisation with a fleet of more than 250 vehicles that can demonstrate a reduction in CO2 and other pollutants through fuel efficiency programmes, green fleet management and driver awareness training.

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. In 2016 we will be looking to agree and publish more ambitious goals. Our detailed strategies and action plans, including the Noise Action Plan, Air Quality, Waste, Energy and Water Strategies and Sustainable Transport Plan¹, sit behind Responsible Heathrow to ensure its delivery.

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 2016 we will focus on delivering the steps outlined in our "blueprint for noise reduction"
- Improve the efficiency of aircraft ground movements, leading to reduced delay and congestion that cut fuel costs and lower emissions
- Reduce air emissions in line with our objective to play our part in meeting EU limits set out in air quality regulations, and including facilities for zero and low emission vehicles, ground support equipment airside and continued investment in pre-conditioned air
- Reduce Heathrow's total electricity use by investing in energy demand management improvements and closing old and inefficient infrastructure, whilst curbing any additional growth in demand from new infrastructure by driving energy efficiency in all Q6 projects
- Creation of a fit for purpose, efficient and low carbon energy supply and heat network that is linked to Heathrow's long term energy supply strategy.
- Improvements to the surface water pollution control system across the airport to cope with current and future demand, and meet regulatory requirements

¹ All available at <http://www.heathrow.com/responsibleheathrow>

Heathrow medium-term plan

- 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
- An economic and community programme that includes supporting local people into work through the Heathrow Academy and the Heathrow Jobs and Careers Fair, and providing opportunities for local businesses to engage with Heathrow's supply chain through the Heathrow Business Summit.
- Delivering the 27 commitments set out in the recently published Surface Access blueprint titled: "Reducing traffic: a new plan for public transport". This is our five point plan to improve public transport in 2015/16.

Heathrow long-term plan

6 Heathrow long-term plan

6.1 Heathrow Expansion

On 25 October 2016, Heathrow welcomed Government's decision to support its expansion and confirmed it will begin work to deliver the new runway that will connect all of Britain to the world, bringing new jobs and economic growth to every nation and region of the UK. A new third runway to the north west of Heathrow would deliver a world leading, ambitious and affordable plan which balances the huge national and local economic gain from expansion with the environmental impacts.

The Government's decision follows the unanimous and unambiguous recommendation of the Airports Commission in July 2015 after a two and half year, £20m study. A third runway will bring huge benefits to everyone in Britain, creating up to 180,000 jobs and £211 billion of growth across the country. As the UK charts a new course outside the EU, it will enable up to 40 new long-haul trading routes and support Britain's exporters to reach the fastest growing markets in the world. To give Britain a 'Brexit Boost' and unlock jobs and growth across the country sooner, Heathrow will consult on plans to bring in 25,000 extra flights per year from 2021.



Heathrow long-term plan

6.2 Cargo

Heathrow's role in the cargo operation is to provide infrastructure that enables airlines and cargo handling companies to operate efficiently and competitively. Cargo facilities such as the Customs' approved Transit Sheds and other cargo warehouses are not owned by Heathrow.

In 2015 Heathrow launched its cargo strategy which sets the 2030 ambition of being Europe's leading large airport for cargo. The strategy was developed over a 12-month period and involved extensive engagement with the cargo industry locally, nationally and internationally. All stakeholders wanted Heathrow to be the best it could be and identified a range of measures and improvements they wanted in order to grow their business and improve their service. Through a number of focus groups, these measures and improvements were prioritised by industry and Heathrow commenced work on the high/medium priorities as part of Q6 Business Case 062 which sits in the Airport Resilience Programme.

Previously Heathrow reported the business case was an opportunity to bring the Other Airside Area (OAA) into the Critical Part of the Security Restricted Area (CPSRA) however following the industry input and coupled with the practicalities of delivering it with the existing site, this is now less of a priority and similar benefits can be achieved with lower capital outlay.

We recognise the importance of cargo to our airlines and will work closely with our business partners – in particular the cargo forwarders and handlers – to make Heathrow a credible airport for cargo again. We take responsibility for our airport and whilst we're neither landlord of the Heathrow Cargo Centre nor provide (or contract for) cargo services, we will play our part.

The volume of cargo moving through Heathrow will continue to grow and we need to ensure there are sufficient facilities to handle that growth so will engage Airport Property Partnership (APP) alongside off-airport commercial property companies to ensure the airport has the capacity it needs.

Heathrow's cargo community have been very supportive during the strategy development and helped to determine the factors that are most important to our stakeholders. The value of cargo to our stakeholders is abundantly clear and Heathrow will continue to engage with the cargo and airline communities to refine plans to address their needs.



Heathrow long-term plan

6.3 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.

The Airports Commission was established in 2012 to consider the case for an additional runway in the South East. Following extensive consideration and consultation the Commission issued a final recommendation to Government in July 2015 that an additional runway should be located at Heathrow. The Government made its decision on Heathrow in October 2016 and has now commenced with the preparation of a National Policy Statement to provide the decision-making framework for a planning application to deliver the expansion.

At the regional level, the London Plan provides the relevant planning policy framework for London and must be in general conformity with national policy. The consultation on the new London Plan is expected to take place in Autumn 2017.

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. Hillingdon's policies are expected to undergo Examination in the Summer of 2017.

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.



Heathrow long-term plan

6.4 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). 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 flights and reducing emissions and noise. 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 (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. 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 the key projects out of SESAR that has already been delivered is Time Based Separations (TBS). The Enhanced Instrument Landing System (eILS) project is another example of where Heathrow is seeking to reduce delay related to weather.

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, 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 4.3.2.

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.

Appendix

7 Appendix – Equitable treatment metrics

Comparison of facilities by terminal

The table below sets out metrics related to facilities to allow airlines to make comparisons. Any potential investment decision to make facilities more equitable must also be subject to the usual business case test; including business benefits, financial appraisal, asset life, masterplan progress, cash constraints and agreed investment profiles.

		Measurement	Definition	T2	T3	T4	T5	Notes	
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	16.5	17.7	9.5	31.9	Data from BOSS 2016. <i>General Aviation excluded (Flight types 1,3 used)</i>
		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	111,604	89,014	53,269	216,856	Data from BOSS 2016 - <i>General Aviation excluded (Flight types 1,3 used)</i>
		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	2,672 (ATD) 2,370 (STD)	3,141 (ATD) 2,999 (STD)	2,269 (ATD) 2,254 (STD)	4,567 (ATD) 4,559 (STD)	Data from BOSS 2016 - Clock Hour ATD and STD figures used for 2016, <i>General Aviation excluded. Stand On/Off time used as ATD.</i>

Appendix

		Measurement	Definition	T2	T3	T4	T5	Notes
2.0	Terminal area - total	2.1	Terminal, campus GFA (sqm)	297,900	222,760	132,400	526,000	T3: GFA reduced due to closure of Connections facility & surrounding footprint Rounded to nearest 100m2. T2 includes T2A & T2B (walkway included)
3.0	Passenger Infrastructure	3.1	Number of check-in desks & bagdrops	116	213	129	150	
		3.2	Number of self service kiosks	91	100	56	74	T4 figure includes 4 self-service kiosks which are not in operation.
		3.3	Number of security lanes (machines)	31	29	22	35	

Appendix

		Measurement	Definition	T2	T3	T4	T5	Notes	
3.0	Passenger Infrastructure	3.4	Number of ticket desks (total existing)	41	60	64	26	Data from Property Portfolio Managers, excludes 'Check in desks' that are being used as 'Ticketing/Assistance/ Upgrade desks'. Counts individual serving positions (landside only). T4 includes untenanted ticket desks	
		3.5	Number of immigration lanes + ACS	59	57	48	53	T5 Connections area is under construction during 2017 therefore immigration desks/eGates will vary throughout the year. Additional eGates in the main area are also being installed.	
		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	60mins	60mins	MCT reflects both passenger and baggage processes. Note the T3 MCT changed to 60min since T3IB became functional
		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. All aids such as sidewalks, elevators, escalators, people mover systems are excluded. Distance for each terminal should be presented on drawings.	915	855	730	450	Rounded to nearest 5m. T5 includes TTS in calculation.
		3.8	Number of CIP Lounges available (total)		8	9	8	5	
		3.9	Number of CIP Lounges requested		1	3	0	1	Includes lounge expansion requests, some of which are under construction and will open at various stages of 2017.

Appendix

		Measurement	Definition	T2	T3	T4	T5	Notes	
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.	686	699	712	718	
		4.2	Number of MUPs	Number of MUPs (make-up) positions in each baggage hall (both departures and transfer)	204	139	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 local baggage - measured as average for last bag (LB) and % in target (35,45,50mins)	LB ADP 91%	LB ADP 85%	LB ADP 85%	LB ADP 82%	Figures are 2016 actual performance metrics. Source: Merlin performance metrics for 2016
		4.4	ADP (avg time to input belt - transfers)	Arrivals Delivery Performance for transfer baggage - measured as average for transfer bags and % in target	84% in 25mins	53% in 25mins	80% in 25mins	63% in 25mins	Figures are 2016 actual performance metrics. Source: Merlin performance metrics for 2016
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	34	43	34	60	Declared physical stand supply for Summer 2017
		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.	26	28	21	45	Physical stand supply for Summer 2017

Appendix

		Measurement	Definition	T2	T3	T4	T5	Notes	
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.	1,468	1,563	901	3,493	MSCP1A has 1599 spaces
		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.	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	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 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.	370	500	125	165	Rounded to nearest 5m

