Strategic Capital Business Plan

April 2019

Heathrow
Making every journey better

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Heathrow delivered its eighth consecutive year of growth in 2018, welcoming a record 80 million passengers, up 2.7% on 2017. We are one of just seven airports in the world to achieve this milestone.

Heathrow also delivered outstanding service to our passengers, with nearly 82% saying they had an "Excellent" or "Very Good" experience. We averaged an excellent 4.16 out of 5.0 score in the global Airport Service Quality survey, maintaining our high levels of baggage connections and departures punctuality. We were named 'Best Airport in Western Europe' for the fourth year running, and 'Best Airport for Shopping' for the ninth year in the most recent Skytrax World Airport Awards.

Heathrow remains a well-run business in strong financial health, with revenues climbing 3% to nearly £3 billion on the back of strong retail spend and increased demand to fly. This supported an additional £666 million of investment into the airport on a variety of programmes to improve the passenger experience, airport resilience and work through a broad asset replacement programme on efficiency resulted in operating costs per passenger falling 2% in 2018 (2017: £618 million).

2018 saw our expansion plans move into delivery phase following the U.K. Parliament passing the airports National Policy Statement in June by an overwhelming majority. Heathrow's preferred masterplan is now beginning to take shape. We remain on-track to submit a planning application in 2020 and for the first flights to use the new runway in 2026. We continue engaging with our regulator and airline stakeholders to define the regulatory framework that will enable expansion that is affordable, sustainable and financeable.
Following the launch of initial planning consultation in January 2018, we also launched a consultation of airspace and future operations in January 2019 and are making final preparations for the statutory consultation on our masterplan for expansion in mid-2019. These consultations provide an opportunity for our local community and the broader stakeholders to help us shape Heathrow's future.

As Heathrow gears up for growth we are developing new routes to boost Britain's trading opportunities. Heathrow achieved strong growth in routes to North America, and doubled its Chinese connections in 2018, adding six new cities including Europe's only flight to Shenzhen, Asia's Silicon Valley. These new services helped to pushed global trade flowing through Heathrow to 1.7 million tonnes.

At the same time Heathrow's domestic connections are set to grow to nine as new services to Newquay begin in April. Following the re-launch of the Inverness services, the UK's two furthest mainland airports will now be connected to the nation's hub boosting trade and travel opportunities.

We made good progress on our four strategic priorities underpinning our vision: making Heathrow a great place to work, transforming our service to passengers and airlines, beating the business plan over the current regulatory period and operating and growing Heathrow sustainably today and in the future.
The success of our vision is bound to attracting, retaining and developing high quality talent. In 2018 an outstanding 472 colleagues were promoted and 755 colleagues attended training to advance their managerial skills.

As part of our Heathrow 2.0 plan for sustainable growth, in November 2018 we released our Carbon Neutral Growth Roadmap, setting out a comprehensive set of measures that will become our plan for how, over the next decade, we will achieve our aspiration of making growth from our new runway carbon neutral.
In November we launched our Living Wage Roadmap, which shows how we will ensure that direct and existing suppliers guarantee their employees the Living Wage by the end of 2020.

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

John Holland-Kaye CEO, Heathrow Airport

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2.1 Purpose

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

The SCBP originally looked 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.

Towards the end of 2016, the CAA extended Q6 by one year so the regulatory period will end in December 2019 (Q6+1). This Plan reflects the ongoing work and formal engagement with the Airline Community to agree the quantum and contents of the Portfolio for 2019. The CAA has subsequently implemented a further two year extension to the Q6 price control to 31 December 2021 and called this further extension the "interim H7" (or "iH7") price control.

This report covers the period from January 2018 to December 2018 with a look ahead to 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 2019 is a document for consultation. Heathrow encourages the Airline Community and other stakeholders to submit their views on the Strategic Capital Business Plan by 15th August 2019 to soraya.seebooa@heathrow.com

Heathrow would like to thank the Airline Community for their responses to the SCBP 2018, which we have considered in developing this document.

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3 Strategy and vision

3.1 Heathrow's vision and priorities

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.

3.1.1 Heathrow's Vision, Purpose, Priorities and Values

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.

Figure 3.1 Heathrow's Vision, Purpose, Priorities and Values

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4.1 Transforming Customer Service

In 2018, we continued to deliver strong levels of service across the end to end journey. Over the period, our service standards remained high, with limited or no disruption to our operations, despite passenger growth putting pressure on some key processes such as check in, security, immigration and baggage.

Evidenced by customer feedback as well as a series of industry awards that we received in 2018, over the years we have transformed customer experience at the airport. As part of our drive to provide the best airport service in the world, in 2018 we introduced our Service Signatures programme to help all our colleagues deliver an even better service.

We achieved a score of 4.15 out of 5.00 compared to 4.16 last year and just 3.97 five years ago. In addition, 81.9% of passengers surveyed rated their Heathrow experience 'Excellent' or 'Very good' (2017: 82.5%) illustrating the strength and resilience of our operations.

Service standards [1]	2017	2018
ASQ	4.16	4.15
Baggage connection	99.0%	98.8%
Departure punctuality	80.2%	77.6%
Security queuing	97.3%	96.8%

[1]   For the twelve months ended 31 December 2018

We invested £666 million in 2018 (2017: £618 million) on a variety of programmes to improve the passenger experience, airport resilience and work through a broad asset replacement programme. We also continue to develop our plans for expanding Heathrow for which investments amounted to around £127 million in the year.

2018 has proven to be a highly successful year for the Development team in terms of safety, with the best ever performance on Safe Days (no. of days without a lost-time incident), peaking at 147.

During 2018, Heathrow welcomed almost 1.4 million passengers with reduced mobility – the most of any airport in Europe – as well as many passengers with hidden disabilities. Heathrow is taking proactive steps to transform its service for their most vulnerable passengers, backed by an investment of £23 million in a revamped, upgraded contract with its special assistance partner, OmniServ.

As part of this improved contract, Heathrow is introducing new equipment to its operation, ensuring greater provision of information to prepare passengers for their journey, and providing accredited disability awareness training to airport staff. Heathrow's significant progress has been recognised by the Civil Aviation Authority, which recently upgraded the airport's accessibility performance rating to 'good'.

The next stage of Passenger Flow Monitoring went live, continuing the focus on passenger experience improvements by introducing crowd-monitoring cameras in key passenger areas across the airport. This capability enables the Airport Operations Centre to monitor passenger numbers and predict congestion in key areas within terminals. The roll out of Self-Service Bag Drops (SSBD) maintains its momentum with 48 units going live in Terminals 5's Zones B, F and G. SSBD has been operating successfully in T2's Zone C since June 2018.

In addition, T3's new Flight Connection Centre opened in the year which will help with our vision to give passengers the best airport service in the world through reduced walking times, access to more facilities and an improved connections journey.

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The Oyster Project has received all relevant approval from Network Rail – works to install the gatelines at Paddington started in September and has been completed, bringing contactless and Oyster to Heathrow Express customers. These new ways to pay for travel with Heathrow Express help customers get on-board quicker simply by touching in and out with a contactless card, contactless device or Oyster card.

The Hold Baggage Screening (HBS) upgrade works have progressed well in 2018, with T2 being certified as Standard 3 DfT compliant and in T5 the DfT target of 83% screened at Standard 3 by September 2018 was successfully met. The T5 programme achieved its target of 100% screening at Standard 3 in March 2019.

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4.2 Status of Capital Portfolio

In last year's Strategic Capital Business Plan, it was noted that the forecast Q6 outturn (to December 2018) being worked through the Capital Portfolio Board was estimated at £3.0bn. It was also noted that the value of the overall portfolio had been increased to a value of up to £3.95bn to include the Q6 extension year to December 2019 (Q6+1). The overall value of the capital portfolio will be increased in early 2019 to a value of up to c£6bn covering the period 1st April 2014 to 31st December 2021 (to include the 2020/21 iH7 period 2020/21), as per the proposed levels of capital expenditure set out in the iH7 initial submission October 2018.

We will continue to work with all the relevant parties to achieve successful outcomes from the enlarged portfolio.

At the time of writing, the CAA are consulting on the proposed economic regulation proposals from Jan 2020 (CAP 1769).
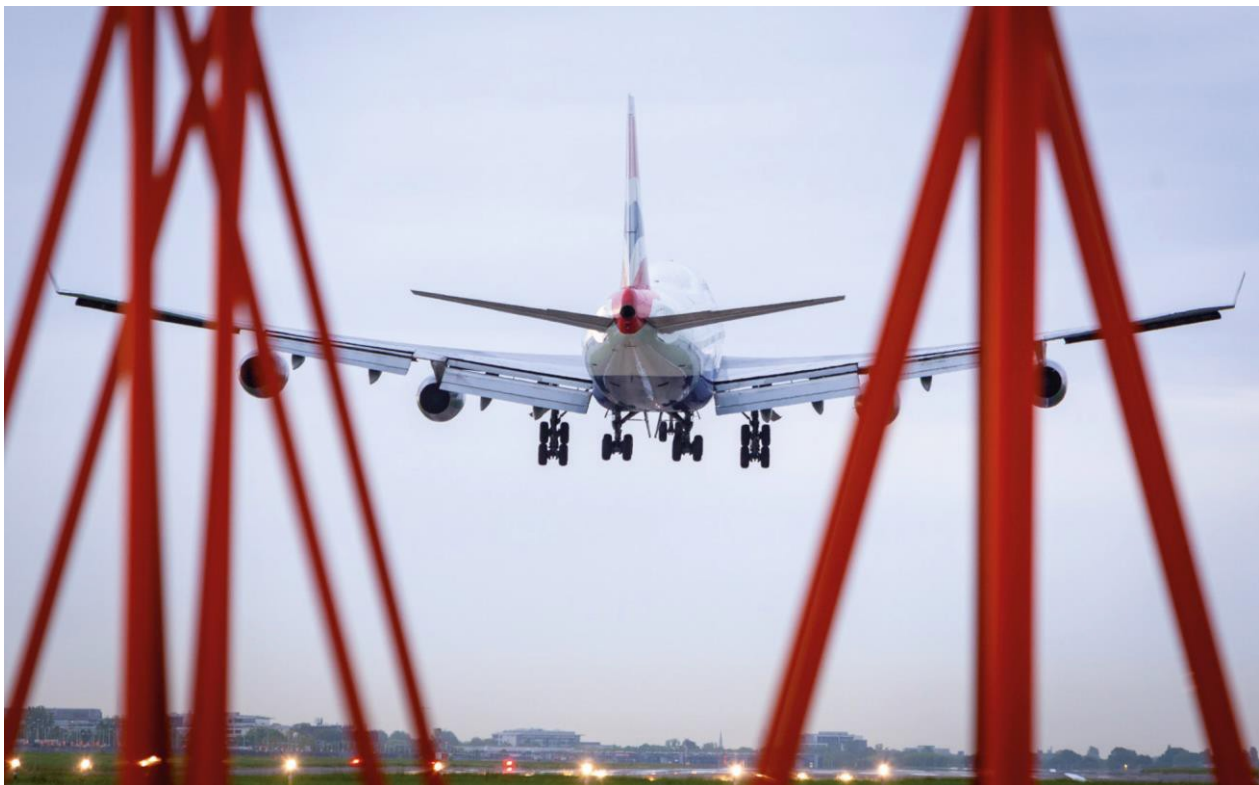
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4.3 Annual status of business cases by programme

4.3.1 Passenger Experience

The Passenger Experience Programme's objective is to use customer insight to ensure that everyone who travels through Heathrow will experience the best that modern Britain has to offer; seamless operations that make travelling more effortless and stress-free, with enticing and inspirational experiences that grow commercial revenue and realise operational cost efficiencies. Focus areas include the ongoing evolution of the on-airport proposition, increasingly intertwined with realising the opportunities presented by technology. 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 – note the December 2018 columns now include Q6+1 values below. Note that business cases listed B6XXX are new in the extended Q6+1 portfolio and hence have no Q6 settlement baseline value. The portfolio is progressively being developed so the detail below is a snapshot as at Dec 18;

Business Case	Settlement Description (where relevant)	Settlement Baseline (£m)	Dec 18 Baseline (£m)	Dec 18 EAC (£m)
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	0.9	0.9
B018 T5 Connections Security Capacity	Estimate - to provide a new route via escalator to south security, and additional lanes.	23.5	38.9	37.9
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	17.1	18.7
B023 E-Business 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	12.4	12.4
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	23.1	20.6
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	3.2
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	17.1	17.4

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Business Case	Settlement Description (where relevant)	Settlement Baseline (£m)	Dec 18 Baseline (£m)	Dec 18 EAC (£m)
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
B036 VIP Strategy - Commercial and Facility	Estimate - To maintain the existing suites.	7.4	0.0	0.0
B037 Airline Moves	Estimate - Terminal 1's airlines will be relocated to other Terminals per the agreed move sequence.	23.6	17.0	16.5
B038 Ops Efficiency and Continuous Improvement	Allowance - Set of workforce initiatives focused on continuous improvement and reducing the operational cost base.	6.0	7.0	6.8
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	41.2	39.2
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	34.4	35.8
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	5.8	5.6
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	7.4
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	0.0	0.0
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	7.6
B094 Crossrail Contribution	Allowance - Heathrow's contribution to Crossrail is as determined by the CAA.	86.7	86.7	76.7

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Business Case	Settlement Description (where relevant)	Settlement Baseline (£m)	Dec 18 Baseline (£m)	Dec 18 EAC (£m)
B116 T3 Connections Security Capacity	Estimate - expansion of transfers security capacity.	39.9	85.2	95.8
B129 Automation of the Passenger Journey	Estimate - replacement of CUSS Kiosks.	9.7	0.5	0.5
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	0.08	0.08
B204 Passenger Experience Programme Rollover (TR+M)	Rollover - items include T3 CIP Lounge, T3 Refurbishment, Premium security Fast Track, T4 Independent Departures Lounge and T5 Gate Luxury & T5 concessions.	20.2	36.9	36.0
B316 T3 Refurbishment and Enhancement	Estimate - scope include improvements to Zones B-G, T3 Façade, International Departure Lounge, HEX tunnel.	47.0	42.7	40.3
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	58.1	55.7
B400 T4 CSA Expansion (formerly B210)	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	14.1
B416 Road Access Congestion	Allowance - to improve flow on the roads and resolve congestion areas.	0.0	0.5	0.4
B427 Security Scanner & ETD Regulation Changes	Estimate - additional security equipment to meet new requirements.	0.0	14.6	12.4
B429 E-Gates	Estimate - installation of additional e-gate in T3, T4 and T5.	0.0	8.4	7.2
B434 T5 Connections	Allowance - to reduce queueing and congestion and introduce automatic ticket presentation gates.	0.0	8.9	8.0
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	20.3
B455 T2 Check-in Enhancements	T2 Check-in Enhancements.	0.0	0.9	0.6

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Business Case	Settlement Description (where relevant)	Settlement Baseline (£m)	Dec 18 Baseline (£m)	Dec 18 EAC (£m)
B6611 Customer Channels. eBusiness and Systems	Improving a number of IT systems such as Retail Futures and contact management systems, as well as customer facing websites such as heathrow.com and the Heathrow Rewards website.	0.0	4.7	4.7
B6612 Retail Compliance and Capacity	The upgrade and provision of retail storage and stock areas on and off campus.	0.0	4.3	4.3
B6613 Retail and Property Shell and Core	Ensuring the retail and property proposition at Heathrow is optimised and meets the demand and expectation of passengers.	0.0	4.6	4.7
B6614 Retail Optimisation	Retail optimisation in Terminal 2 in order to improve the passenger experience.	0.0	2.7	1.8
B6618 Travel Services	Consolidating and optimising of the colleague and passenger car parking at Heathrow.	0.0	1.2	1.2
6641 Care	Improving facilities for passengers with reduced mobility, visible and invisible disabilities across Heathrow.	0.0	8.6	1.4
B6642 Connections Improvements	Improving the Connections product in all terminals in order to improve passenger experience.	0.0	0.9	0.9
B6643 Onward Travel	Improving access in and out of the airport focusing on traffic management, taxi and coach operations.	0.0	2.1	1.6
B6644 Arrival Border Facilities	Improving the arrivals UKBF facilities.	0.0	0.3	0.3
B6646 Passenger Experience Enhancements	Agile delivery of initiatives that will improve the passenger experience in all terminals.	0.0	1.1	1.1
B6648 Charging Points and Powered Seating	Providing additional charging points and powered seating in order to meet arriving and departing passenger demand in all terminals.	0.0	0.3	0.0
B6651 Safety and Resilience	Implementing solutions to improve the safety of passengers and colleagues travelling to and from and working at Heathrow.	0.0	1.4	1.3
B6652 Automated Gate Announcements	Providing an automated gate announcement system in T2 and T5 in order to improve and speed up the boarding operation as well as improving the passenger experience.	0.0	2.0	2.0
B6653 T3 Luggage Trolley Circulation	Improving availability of baggage trolleys in the baggage hall of T3 and improving the efficiency of airside/landside trolley circulation.	0.0	0.3	0.3

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Business Case	Settlement Description (where relevant)	Settlement Baseline (£m)	Dec 18 Baseline (£m)	Dec 18 EAC (£m)
B6671 Terminal Protection	Ensuring security standards throughout the terminals for Heathrow passengers, staff and visitors.	0.0	4.1	4.0
B6672 Landside Protection	Providing security solutions that enhance the landside security within terminals.	0.0	4.0	1.3
B6673 Perimeter Protection	The protection of the Heathrow perimeter addressing CCTV, fencing and cargo access control.	0.0	8.6	4.3
B6674 Security Agile Initiatives	Agile delivery of initiatives that will address rapidly changing regulation or increases in the threat levels.	0.0	6.0	6.0
B6675 Cabin Baggage Explosive Detection System	Consolidating and optimising of the colleague and passenger car parking at Heathrow.	0.0	0.1	0.1
B6676 Access Control	Installing access control gates at all ATP gates in order to prevent unlawful airside access through exception desks or tailgating.	0.0	2.2	2.2

Key activities in 2019

- **Improvements to security**

  Trials of new Security Screening equipment continue across the airport. This is in order to allow installation of new machines and technology to meet DfT regulatory compliance deadlines though 2020-2023. Also there are hardening, upgrades and new installation of physical/technological protective measures and detection technologies in and around the airport; upgrades of Control Posts and Staff Search areas around the airport; and Minor Works throughout the Security infrastructure to allow more efficient operation and working conditions for Staff.

- **Colleague and passenger safety**

  Numerous cross-Campus investments to improve colleague and passenger safety are being sponsored by the CRS landside team. Examples include refurbishing and enhancing safe walking routes, pedestrian crossing installations, bicycle theft protection and escalator safety.

- **Commercial advertising and sponsorship**

  Delivery of upgrades and enhancements to a number of media sites across the campus will be undertaken during 2019, including digitisation/upgrade of media assets in the Fast Track demises, all Terminals.

- **Hotel development across the campus**

  Early concepts being explored for the provision of new Hotel(s) development in alignment with Expansion project requirements in addition to other locations across the campus.

- **Lounges**

  The shell and core delivery of additional airline Lounges is likely, ready for third party fit-out.

- **Key commercial projects**

  There are a wide variety of commercial projects being delivered across the airport to drive incremental revenue. These include the introduction of number of new shops, pop ups and general shell and core turnover to enable Lease changes. Optimisation of the T2 IDL is planned. Optimisation and development of a number Car Parking facilities is planned. Heathrow eBusiness Systems and Customer Channels (including Heathrow.com website) are being modernised, designed and developed. The Heathrow Express New Fleet provision is being fitted out to align with Heathrow Express Brand. Ongoing Telecoms provision across the campus is planned and business as usual.

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- **Automating the Passenger Journey**

  Self-Boarding Gates are being deployed in T3 & T4 and installations already underway across all gaterooms at T2 and T5 in are being completed 2019. Self-Bag Drops have been introduced at T2, T3 and T5 in 2018 and deployments will continue throughout 2019 at T2, T3 and T4 to over 230 units. Works to deliver improvements to the Self Service Bag Drop functionality will continue with a focus on developing a Common Use Payment solution. A Strategic Review of CUSS kiosks will commence with a plan to award a contract for the next generation of kiosks by the end of 2019. Plans are on track to commence the installation of the Automated Identification capability at Heathrow with a G3 planned for Q2 2019.

- **Passenger CARE**

  CRS led initiatives include improving the service offering to customers having additional needs or disabilities. Notably, a project to improve the arriving PRM journey from pier 7 in terminal 3, as well as Host areas, and a pan-airport Assistance signage refresh.

- **Immigration.**

  EU-exit in March 19 and expected changes to passport e-gate eligibility drives an urgent project to assess capacity in immigration halls and to protect the resulting service offering to our customers. Enabling systems are also being provided to support with information provision, flow through these areas, signage and queueing.

- **T3 FCC.**

  Following the 2018 new facility opening, the initial construction project close out will be followed by an enhancement to customer toilet capacity being added during 2019, following customer and colleague feedback, post-opening.

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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	Settlement Description (where relevant)	Settlement Baseline (£m)	Dec 18 Baseline (£m)	Dec 18 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	26.1	26.1
B033 Additional Fuel Infrastructure	Allowance - the CAA determination of capex. To increase fuel resilience at Heathrow.	160.3	4.5	4.5
B035 Aircraft De-Icing Infrastructure & Process	Allowance - for enhancing de-icing capabilities.	54.9	15.3	15.1
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	4.1	3.9
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	1.2	0.3

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Business Case	Settlement Description (where relevant)	Settlement Baseline (£m)	Dec 18 Baseline (£m)	Dec 18 EAC (£m)
B073 Air Quality - Vehicle Charging	Allowance - Provision of vehicle charging infrastructure enabling HAL and 3rd parties to utilise alternative fuels.	5.3	7.0	6.8
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	0.0	1.2
B111 Enabling New Generation of Wide Body Aircraft - Airfield	Estimate - Stand 255, Northern CTA taxiways, Sierra A and Sierra C taxiways.	85.0	120.3	123.3
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	37.1	35.3
B117 T4 Infrastructure Improvement	Estimate - provision of additional Code F stands and joining of reclaim belts 7A and 7B.	26.7	17.5	17.0
B134 PCA Additional Infrastructure	Allowance - provision and installation of pre-conditioned air units for long haul stands that do not currently have the Scope has been consolidated here from B334 and B317.	2.1	12.7	1.8
B206 Airport Resilience Programme Rollover (COp)	Rollover - includes T4 baggage reclaim hall, T5 TTS Enhancement, T3 and T4 loading Bay, and Airside Operations Facility.	25.1	47.4	47.1
B211 AGL Control System & Primary Cabling	Estimate - replacement of airfield lighting control system.	0.0	44.4	39.3
B243 Kilo Apron Development	Estimate - consolidation of T1 Opportunity Stands and Kilo Taxiway works.	0.0	178.3	185.3
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	1.4	1.4
B312 Airfield Efficiency and Resilience	Allowance - in addition to B112.	19.4	12.5	14.0
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	1.0	0.1
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	17.1	17.1

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Business Case	Settlement Description (where relevant)	Settlement Baseline (£m)	Dec 18 Baseline (£m)	Dec 18 EAC (£m)
B428 EASA Clearance Opportunities	Estimate - to utilise the revised EASA clearance to improve the performance of the airfield.	0.0	0.2	0.2
B433 T2 DtS Option 7	Estimate - change priority from domestic to international operations.	0.0	0.8	0.9
B6111 Airport Safety and Sustainability	Ensuring the safety of airside operations through sustainable projects	0.0	0.4	0.4
B6112 Airfield Radar Safety and Security	Improving the capability and resilience of the FOD radar.	0.0	0.3	0.3
B6113 Airside Compliance and Response	Agile delivery of initiatives that will address rapidly changing EASA, CAA and other regulation changes.	0.0	4.7	3.7
B6115 Airside Asset and Facilities	Various facility and asset improvements to support Airside Operations.	0.0	0.6	0.6
B6116 Airside Vehicle Renewal	Renewing life expired and non-compliant airside vehicles.	0.0	1.9	1.8
B6117 Airside Vehicle Renewal	Improving airside operational facilities and tools.	0.0	0.8	0.8
B6118 Stand Capacity and Efficiency	Reconfiguring Stands 323 and 325.	0.0	0.0	0.0
B6119 Tower Transformation	Replacing the existing contingency tower facility and upgrading the existing operational ATC tower.	0.0	0.1	1.7
B6120 De-Icing and Winter Operations	Providing the necessary winter operations equipment and de-icing resources.	0.0	1.9	1.7
B6121 ATM and Ground Floor Efficiency	Ensuring efficient air traffic movement and ground flow at Heathrow.	0.0	0.5	0.5
B6161 Resource Management and Allocation	Enabling motivated colleagues through effectively managing resources by deploying an RMS tool.	0.0	0.1	0.1
B6163 Operating to Plan Phase 2	Enabling resource planning in advance and optimising the daily operation.	0.0	0.3	0.3
B6164 Passenger Flow Monitoring Phase 2	The second phase of passenger flow monitoring	0.0	0.3	0.3
B6166 Incident Communications and Management	Enabling community wide communication of the daily operation and incident updates.	0.0	0.5	0.5
B6167 Control Room Automation	The automation of a number of systems in APOC.	0.0	0.3	0.3
B6169 OSCAR Phase 2	Rationalising, updating and optimising the IT estate.	0.0	3.0	3.0
B6211 EV Charging Infrastructure		0.0	0.3	0.3
B6619 Cargo Improvements	Improving cargo facilities focusing on insight and forecasting tools, stillage.	0.0	8.1	8.6

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Key activities in 2019

- **Kilo Cul-de-Sac Apron Development including additional stand capacity**
  Completion of a further 3 fully serviced remote stands on Kilo (211, 212 and 213), including all services and safeguarding for future pier service and Head of Stand roads. Completion of a new remote coaching gate for T2B. Commencement of fitout of new vertical circulation cores (VCC) to support the 2 new pier-served stands that will be provided at the end of the Kilo development project (due to open in 2022). Completion of excavation for a new substructure beneath Kilo to house future baggage and Track Transit System.

- **Airfield Ground Lighting (AGL)**
  Completion of the replacement of primary cabling serving the Aerodrome Ground Lighting (AGL) system including airfield signage. Development of solutions for the reinforcement of the AGL control system.

- **Sustainability Initiatives**
  Electric Vehicle charging points will continue to be installed throughout 2019 to enable HAL and third parties (airlines, handlers and suppliers) to adopt zero emission road and ramp vehicles; this will include the completion of a first airside charging hub, a fuel station for rapid charging of electric road vehicles in the Central Terminal Area. A revamped programme plan is under development for the improvement of existing Pre-Conditioned Air (PCA) infrastructure and the introduction of improved delivery systems. Trial installation will be planned in 2019 to prove concepts with a view to rolling out the improvements from summer 2019.

- **Resilience improvements to the air traffic management (ATM) operation in the air and on the ground**
  The second phase of the demand capacity balancing (DCB) tool will go live in early 2019 along with cloud-hosting of the Airport Operating Plan (AOP). These tools will enable better capacity planning and will contribute to punctuality and resilience in the air traffic management operation. Development will continue with NATS throughout 2019 of the solution to enable Independent Parallel Approaches (IPA). This capability is planned to be delivered in 2022 (investment decision in mid-2019). Further punctuality improvements will be delivered incrementally through continuation of our "Strive for 5" initiative, in which we work in partnership with NATS.

- **Airfield infrastructure resilience & efficiency Improvements**
  A decision was taken in early 2018 that pre Expansion there is no business case for the construction of any rapid exit taxiways (RETs), so this business case has been deferred. However, improvements are planned to other airfield infrastructure in 2019 including introduction of automated taxiway crossing controls and consolidation of runway hold points. Works are also planned across a number of airside operations activities to enhance efficiency (for example: replacing operational vehicles; improving the systems for managing inspections of airfield infrastructure; improving the FOD Radar system; consolidating and improving winter operations facilities and equipment; investigating options for automation of equipment on aircraft stands). Options will also be developed for the expansion of the Perry Oaks Fuel farm to enable on-airport fuel storage capacity to be increased (and therefore Heathrow's resilience in the event of fuel supply disruption to be improved).

- **Tower Transformation.**
  Development of options for replacement of the existing back-up air traffic control tower (known as the "Virtual Contingency Facility") with a new facility capable of replicating 100% of the visual control room (VCR) functionality and also safeguarded for Expansion. The new facility will be planned to open in 2021/22. In 2019 the project will also develop options for enhancing the existing VCR to enable digitisation and efficiency improvements in processes. This work will be closely aligned with the AGL control system reinforcement works detailed above and the Nav Aids Asset Replacement works listed under Asset Management.

- **Improved Airport Operations Planning and Management Tools**
  Development of additional tools and enhancements to existing tools that enable improvements and/or increased resilience in planning, management-on-the-day and reporting/reviewing across all functions of the Airport Operations Centre (APOC).

- **Cargo Centre Southside Developments**
  Construction of a new HGV parking and call-forward area to the south east of the airport to serve the cargo centre (facility will open in 2020). Construction of a new stillage facility for empty cans (ULDs) in the cargo centre (due completion by mid-2020). Development of options for a consolidated examination facility for HMG which will bring together Border Force cargo operations, the Animal Reception Centre and Food import inspection activities. This facility would not be expected to open until 2022.

Heathrow short-term plan

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	Settlement Description (where relevant)	Settlement Baseline (£m)	Dec 18 Baseline (£m)	Dec 18 EAC (£m)
B008 Crossrail	Heathrow must ensure that Crossrail services are able to operate on Heathrow infrastructure.	0.0	5.4	5.3
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	40.0	39.6
B047 Consolidated HAL landside Ops/Eng facility	Estimate - to consolidate multiple buildings to enable the full benefits of the engineering Change programme.	5.5	0.0	0.0
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.	1.6	51.1	48.7
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.	595.1	491.2	476.9

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Business Case	Settlement Description (where relevant)	Settlement Baseline (£m)	Dec 18 Baseline (£m)	Dec 18 EAC (£m)
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	65.8	67.9
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 of the airlines and the wider airport community.	81.3	102.2	101.9
B127 Surface Water Management Infrastructure	Estimate - Improve the performance of the surface water pollution control system across the Eastern catchment.	16.1	21.7	29.3
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	160.7
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.	12.3	17.5	17.4
B207 Asset Management Programme Rollover (POP)	Rollover - main items include runway rehabilitation, core electrical distribution upgrades, sweeper tip, T3 roof works, and replacement of HV intake cables.	33.5	47.3	46.7
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	17.9	17.9
B327 Surface Water Management Infrastructure - southern	Estimate - Improve the performance of the surface water pollution control system across the Southern catchment.	7.8	0.0	0.0
B401 Rapid Goods Screening Relocation (formerly B212)	Estimate - relocation of RGS from southside to Colnbrook Logistics Centre.	0.0	2.8	2.7
B439 - Perimeter Fence	Estimate - upgrade of perimeter fence.	0.0	4.2	4.1
B6201 – Asset Legal and Compliance	Improving and replacing life expired life safety systems	0.0	10.0	8.5
B6202 – Pavement Safety and Resilience	Renewing landside roads, lighting and traffic signals	0.0	4.3	4.3

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Business Case	Settlement Description (where relevant)	Settlement Baseline (£m)	Dec 18 Baseline (£m)	Dec 18 EAC (£m)
B6203 Passenger Experience Improvements	Improving the passenger experience by upgrading or replacing life expired facilities such as toilets, lifts and airbridges.	0.0	26.0	24.5
B6204 Water Quality Improvements	Improving water quality by upgrading a number of life expired water systems across Heathrow.	0.0	4.3	4.3
B6205 Operational Improvements	Improving and replacing life expired operational systems.	0.0	19.8	18.7
B6206 Rail Asset Management	Upgrading and replacement of life expired rail assets such as lifts, heavy rail assets, HVAC and TTS handrails.	0.0	3.6	3.3
B6207 Rail Fleet Management	Managing, maintenance and replacement of the rail fleet.	0.0	4.1	3.9
B6209 Landside Cark Park Renewal	Renewing PEX and T2/3 long term car park surfaces.	0.0	3.9	3.9
B6210 Airfield Pavement Renewal	Renewing of airfield pavement including taxiways and Southern Runway Phase 2.	0.0	4.3	4.3
B6213 Engineering Agile Delivery		0.0	0.5	0.5
B6501 CYBER Security Programme	Increasing resilience and protecting the IT infrastructure to a sufficient level in order to prevent cyber attacks.	0.0	16.3	16.5
B6502 Networks	The upgrade of Heathrow T5 fire alarm network, campus telephony system and key network switches, as well as a design of the next set of wireless access points to be upgraded and the full decommission of the analogues radio platform.	0.0	5.8	5.8
B6503 Infrastructure and Platforms	Maintaining the IT infrastructure and platforms supporting critical systems in order to increase resilience against cyber attacks and improve recovery times during disruption.	0.0	15.8	16.0
B6504 Oracle eBusiness Suite Upgrade	Relocation of HAL data from US servers to servers in the EU using cloud-based services.	0.0	3.0	3.0

Heathrow short-term plan

Key activities in 2019

- **CTA and Cargo Tunnels**

  BAM Nuttall will continue the main tunnel works for the remainder of 2019. Morgan Sindall will be refurbishing the cargo tunnel for the duration of 2019 on a prioritisation basis currently being developed by the team.

- **Engineering Asset Replacement**

  The main scope for delivery in 2019 includes the following projects: Replacement of ETD security screening equipment across all Terminals to meet new DfT requirements by 2020. Airbridge replacement and new configuration on Stands 323 and 325. Improvements to T3 BMS system. Continuation of T4 life safety systems improvement work. Southern Runway Surface rehabilitation. PEX car park bus lane and surfacing rehabilitation. Replacement of rail track infrastructure and rolling stock bogey overhaul works, a fixtures and systems overhaul of the T5 and CTA stations and a new additional lift in the CTA. Various works on Water systems including drainage lining, firemain valve replacement, potable network improvements.

- **Energy Supply Management**

  B066 Package 7 Life Safety - this phase of works to ensure that the T3 service tunnel provides a safe and compliant environment with a fully implemented fire strategy and critical asset protection system will be completed by mid 2019. The scope includes: fire detection, protection, compartmentalisation, means of escape, access, fire strategy, emergency signage, water ingress, sump pumps, emergency lighting and controls.

- **Energy Demand Management**

  This project will develop and deliver scope to further reduce energy consumption and carbon levels on a range of assets across the Estate.

- **IT Asset Replacement**

  The Radio Upgrade Coverage Programme will be delivered in 2019, together with an increased focus on Cyber Security. The Common Data Environment Programme will gather pace in 2019 with an early platform to be made available before the end of the year.

- **Surface Water Management**

  Stage 2 Wastewater Treatment Plant construction commenced January 2018 and completion is due July 2019.

- **Nav Aids Asset Replacement**

  Continuation of the programme run through Q6 to replace navigational aids (systems and equipment) as they become life expired, aligned to the airfield resilience and tower transformation programmes under Airport Resilience.

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	Settlement Description (where relevant)	Settlement Baseline (£m)	Dec 18 Baseline (£m)	Dec 18 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; and T5 bag check units.	38.9	44.5	32.0
B051 T3IB Rollover	Rollover - for completion of T3IB.	90.3	89.2	129.7
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	31.4	31.4
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 (Baggage)	Rollover - includes HIBS (T5WBU moved to B238).	15.3	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	478.6	542.0
B238 Western Baggage Upgrade	Estimate - replacement high level control.	0.0	20.7	25.9
B423 Baggage Resilience	Allowance - to respond to the finding of the baggage review and to improve resilience.	0.0	22.4	23.7
B442 T4 Baggage Out of Gauge Reclaim	Allowance - to improve the Out of Gauge facilities in T4.	0.0	8.7	6.9
B464 Baggage Improvements	Improvements to various baggage systems and processes.	0.0	15.1	15.1

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Business Case	Settlement Description (where relevant)	Settlement Baseline (£m)	Dec 18 Baseline (£m)	Dec 18 EAC (£m)
B465 Baggage IT Resilience	Improvements to baggage IT systems to maintain or increase resilience.	0.0	18.5	18.2
B466 T5 Fast Track	Improvements to T5 baggage system.	0.0	14.7	10.0
B477 Baggage environmental controls	Improvements to the environment of baggage areas for safety, welfare and optimal operations.	0.0	6.0	6.0
B6311 Western Campus Baggage Product Resilience	Providing additional resilience and recovery capability in the T3 baggage areas.	0.0	7.0	7.0
B6312 Eastern Campus Baggage Product Resilience	Providing additional resilience and recovery capability in the T1 and T4 baggage areas and the baggage tunnel between T1 and T4.	0.0	3.0	3.0
B6313 Baggage Asset end of Life Management	Replacing key baggage assets that are or will be obsolete in 2019.	0.0	23.0	23.0
B6314 Safe Manual Handling	Providing manual handling aids in baggage areas across Heathrow.	0.0	7.0	7.0
B6315 Baggage Safety and Welfare	Improving the work and comfort facilities for colleagues in baggage areas across Heathrow.	0.0	2.0	2.0
B6316 Baggage Capacity Enhancements	Increasing baggage capacity in T2 and T3 at current peak periods and supporting capacity increase at Heathrow.	0.0	3.0	3.0
B6318 Baggage Automation	Introduction of automated baggage solutions at Heathrow.	0.0	2.5	2.5
B6319 Improve Baggage Performance	Improving processes, systems and infrastructure to increase the number of passengers travelling with their bags.	0.0	1.0	1.0
B6361 Baggage IT Obsolescence	Addressing baggage IT obsolescence across Eastern and Western campus.	0.0	0.5	0.5
B6362 Baggage IT Resilience	Baggage demand and capacity management.	0.0	0.1	0.1
B6363 Baggage IT Security Compliance	To maintain baggage IT compliance with HAL information security policy, fast recovery in case of a cyber attack, fast detection and recovery of compromised components within the baggage system and maintain and improve the standards of compliance with IT infrastructure and platforms.	0.0	14.0	14.0
B6364 Maintain Baggage Performance	Capturing and using real time data to help maintain and improve the baggage system performance.	0.0	6.2	5.9
B6365 Baggage Western Campus Optimisation	Optimisation of baggage systems across T3 and T5.	0.0	6.4	6.4
B6402 T2 Future Baggage	To explore long term solutions to provide an improved or new baggage system for T2.	0.0	6.2	6.2

Heathrow short-term plan

Key activities in 2019

- **HBS Standard 3 & Asset Replacement**
  The major focus remains on the installation of the Standard 3 Screening machines across the Heathrow campus and associated changes to the physical system infrastructure and software taking place immediately adjacent to the live operational areas. This breaks down to:
  T1/2 – consolidate system performance and complete removal of Standard 2 HBS machines
  T4 – continue project delivery aiming for compliance by September 2020
  T5 – complete project delivery for compliance by April 2019

- **T5 Early Bag Store**
  The project is focused on introducing increased capacity to enable more efficient working and an improved passenger experience. The project is due to complete by Easter 2019.

- **T1 Central Out of Gauge and Baggage Recovery Capability**
  The project will deliver a facility providing dual functionality. Works are due to go live before the summer peak and complete in October 2019.

- **Baggage Resilience**
  The Baggage Programme will continue to work with stakeholders to identify key initiatives and required facilities delivering the first tranche of the rolling Asset Replacement programme commencing on site in all terminals through 2019.

- **Heathrow Additional Capacity Programme**
  The Baggage Programme will continue to work closely with the Heathrow Additional Capacity Programme to develop appropriate solutions that deliver the additional capacity required in line with the Baggage Product Roadmap being developed by the Baggage Operations team

- **Baggage Innovation**
  The Baggage Programme will bring live the Baggage Innovation Test Centre at the end of Q1 2019, with trials of some technologies following on. This will enable HAL to closely study new automation systems and gain real world understanding of how these products perform in the live environment.

- **T2 Future Baggage**
  T2 Future Baggage is a programme of works looking to replace the ageing baggage system for T2 that is currently housed within the old T1 building. The old system is over 85% life expired and needs replacing but doing it situ is not a viable option due to space, time and cost constraints, as well as the operational risk involved. The programme is working to design a system, as well as the minimum infrastructure required to replace the old system whilst being sympathetic to the future expansions plans for T2.

  The programme is working with its lead design consultant to develop options that enable the business requirements while maintaining future expansion capability.

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4.3.5 Terminal 2 – Programme closed

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 Case shown in the table below:

Business Case	Settlement Description (where relevant)	Settlement Baseline (£m)	Dec 18 Baseline (£m)	Dec 18 EAC (£m)
B150 T2 Phase 1 completion	Rollover - for completion of T2 A phase 1 and moving in of airlines.	58.9	93.4	97.6

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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	Settlement Description (where relevant)	Settlement Baseline (£m)	Dec 18 Baseline (£m)	Dec 18 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	0.5
B078 LACC Project Manager	Estimate - provision of Project Management services to aid with airline community engagement and consultation.	0.6	0.6	0.6
B154 T2A Phase 2 and T2C*	Allowance for design and enabling works for the extension of T2A and the construction of T2C. As at December 2017, the proposal is to use the Baseline in 2018 to progress the commencement of T5+, T1/T2 baggage system, and other Heathrow additional capacity scope to be developed throughout 2018.	4.8	11.8	0.3
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	30.6	32.2
B176 Funds for Independent Funds Surveyor	Allowance - This business case will facilitate the implementation of Gardiner and Theobald as the IFS.	3.2	5.5	5.5
B208 Q6 Realisation Rollover (Q6 Realisation)	Rollover - includes CCTV work; document management; and, treasury accounting.	3.4	4.6	4.4
B241 Portfolio Balance	Allowance - This was a holding business case for the original Q6 period 2014-2018 – budget to be removed via change control following airline consultation	0.0	246.5	246.5
B376 Funds for Independent Funds Surveyor**	Allowance - This business case to facilitate additional implementation of Gardiner and Theobald as the IFS.	3.5	0.0	0.0
B900 Q6 + 1 Balance	Allowance - holding business case for development of Q6+1 scope.	0.0	174.8	174.8

Note:
* Renamed in 2017 to 'Heathrow Additional Capacity'
** Now closed – combined with B176

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4.3.7 Additional Capacity – T5 & T3 Plus and T2 Future Baggage

By 2023 Heathrow capacity is likely to be fully utilised, prior to completion of 3R Expansion. Consequently, additional capacity needs to be delivered in H7, to enable the predicted growth in passengers generated by the airline and airport business plans. T5+/ T3+ is the first step in delivering H7 capacity.

The objective of T3+ and T5+ programme is to provide a value for money solution to deliver additional capacity within these two terminals and across the airfield to allow growth opportunities for all airlines operating at Heathrow. This will require a rebalancing of flights and airlines between terminals. The programme will enable an additional 10mppa in the western apron. Existing growth indications show that this capacity is required for the summer season in 2022. The programme also has a number of secondary objectives to support the strategic objective:

- Enable Terminal 5 to be multi-user

- Reduce Opex per passenger

- Decongest T3 security operations

- Maintain / improve passenger service

This additional capacity will deliver greater utilisation of the airport assets, however additional passengers will only choose Heathrow if we deliver a quality product that maintains the current service levels whilst managing a safe, efficient and resilient operation to provide an affordable airport for our airline partners.

As this business case is a prelude to Expansion, any reconfiguration of the existing facilities must safeguard and support the Masterplan assemblies.

Maintaining the current quality of the passenger experience is a given however, the additional capacity in T3 / T5 allows the airport to address some of our existing passenger pain points. Alternative occupancy scenarios could facilitate the co-location of flight pairs that traditionally have a high volume of connecting passengers and bags. This in turn will drive a higher percentage of intra-terminal rather than inter-terminal connections, thereby reducing the risk of misconnects. Currently 60% of Heathrow's inter-terminal traffic is between T3 and T5.

The densification of our processing operations in T5A to accommodate the additional passengers will challenge our existing ways of working, creating a catalyst for greater efficiency. For example, the introduction of new security equipment and layouts will increase passenger flow rates per lane and passengers processed per security officer. Depending on the options selected in T3, there could be a significant improvement in passenger flow from check-in to security, removing the level changes and direction changes associated with the current layout.

The creation of expanded retail areas to support the additional passengers will allow for a broader offer to the passengers. These could include a 'Connections village' for long dwell passengers, the introduction of new categories such as healthcare and well-being, which in turn could be linked to experiential offers, and a better 'mid-market' proposition.

Initiated in 2018, the focus for the programme in 2019 is to:

- Conclude the feasibility of adding capacity to each terminal and identify high level options for delivering this capacity

- Develop and agree a lead design option

- Develop key projects through scheme design and into delivery

- Identify, define and trial key process changes required to deliver the capacity.

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

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Business Case	Settlement Description (where relevant)	Settlement Baseline (£m)	Dec 18 Baseline (£m)	Dec 18 EAC (£m)
B6401 T5 Plus	Delivering additional capacity and revenue in T5.	0.0	79.5	79.5
B6404 T3 Plus	Delivering additional capacity and revenue in T3.	0.0	7.5	7.5

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 in Q6.

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 selection of their monthly reports at the Capital Portfolio Board (CPB), as agreed with the airline community at the IFS Working Group

The key activities and 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 were deployed to monitor 32 projects in Q6 of which 14 have carried on in to Q6+1. We engaged and continue to engage with the community regarding the scope of IFS deployment on the Q6+1 portfolio.

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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 2018 following consultation with the Airline Community.

Key Projects / Business Cases	Trigger(s)	Trigger Scope	IFS	IFS Scope
B051 T3IB Q5 Rollover	1 - Trigger complete	Q6 rollover trigger agreed (Cut-ins complete and system operational)	Y	T3IB Rollover spend IFS review complete
B117 T4 Infrastructure Improvement	1 - Trigger complete	Q6 rollover trigger complete (stand 410)	Y	T4 Code F Stands (410, 411, 412) IFS review complete
B207 Asset Management Programme Rollover	1 - Trigger complete	Q6 rollover trigger complete (Northern runway)	Y	Northern Runway IFS review complete
B018 T5 Connections Security Capacity	1 - Trigger complete	Transfers security escalator	Y	T5 Transfer Security Capacity IFS review complete
B101 Engineering Asset Replacement - T3 Pier 7 Roof, HVAC, Chillers and Boilers	1 - Trigger complete	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 – IFS review complete
B101 Engineering Asset Replacement - Airbridges, FEGP, PCA	1 - Trigger complete	T3 Airbridge Replacement (including modifications to foundations)	Y	T3 Airbridge Replacement – IFS review complete
B111 Enabling New Generation of Wide Body Aircraft - Airfield	1 - Trigger complete	Bravo Taxiway Open for Code F Operations	Y	Alpha Bravo taxiways – IFS review complete / Sierra C taxiway IFS review complete / Sierra A taxiway IFS review complete
B411 T5 Additional Fast Track Capacity	1 - Trigger complete	New fast track facility ready for operational readiness	N	-
B451 Commercial Telecon - Cellular 4G Estate	1 -Trigger complete	New Cellular platform available for MNO connection (G5)	N	-
B006 Improved Baggage Capacity and Resilience	1 -Trigger defined - project on site	Completion of the conversion of 4 racks to 6 racks in the existing T5 bag store	Y	T5 Early Bag Store
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
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

Heathrow short-term plan

Key Projects / Business Cases	Trigger(s)	Trigger Scope	IFS	IFS Scope
B131 CTA & Cargo Tunnels	1 - Trigger defined - project on site	Main Tunnel Life Safety Systems	Y	Main and Cargo Tunnels
B216 Combined Baggage Standard 3 and Asset Replacement	3 - Triggers defined - projects on site	HBS Std 3 machines installed in T2; Proposed % of HBS Std 3 machines installed and in use in T5; HBS Std 3 machines & asset replacement works in T4	Y	HBS & Asset Replacement in T1/2/4; HBS & Asset Replacement in T5
B243 Kilo Apron Development	2 Triggers: 2 defined - projects on site	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 taxilane and stands 234/5; B311 Enabling New Generation of Wide Body Aircraft - T1 Opportunity Stands
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 - Trigger defined - project on site	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
B317 T4 Infrastructure Improvement - HV and Arrivals	1 - project pre G3	To be defined	Y	T4 HV
B329 Automation of the Passenger Journey	1 - project pre G3	To be defined	Y	T2 and T5 Self Boarding Gates; T2, T3 and T5 Self Bag Drop
B037 Airline Moves	N/A	-	Y	Review of EI AI 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 IFS Review complete
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	-

* B154 has been removed as the BC has been renamed during Q6 to provide initial budget for the new Heathrow additional capacity programme.

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. This process has now been extended to include the progressive development of the enlarged portfolio to include the 2019-21 period. A number of new business cases have been introduced into the plan during 2018 based on the benefits they would deliver. These are listed in the previous chapters with new investments for the 2019-21 period listed with B6XXX numbers. The future portfolio pipeline has also been further developed with the airline community as we start to develop the H7 portfolio.

4.7 Development and Core Capex, and relationship to airport charges

The CAA's settlement for 2018 included an allowance for capex of £648m (2018 prices). At the time of setting 2019 Aeronautical charges Heathrow anticipated a value of £707m development and core capex for 2018, which was more than the settlement. The difference was adjusted through 2019 Aeronautical charges. The actual development and core capex value for 2018 was £626m. The difference will be incorporated in the Aeronautical charges for 2020.

The cumulative value of Core capital approved by the Capital Portfolio Board by the end of 2018 was £2.84bn.

Heathrow short-term plan

4.8 Q6+1 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 Heathrow's four priorities – 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+1 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+1 via five main Programmes (which includes a new Programme in 2019):

- Passenger Experience
- Airport Resilience
- Asset Management
- Baggage
- Additional Capacity – T5 & T3 Plus

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.
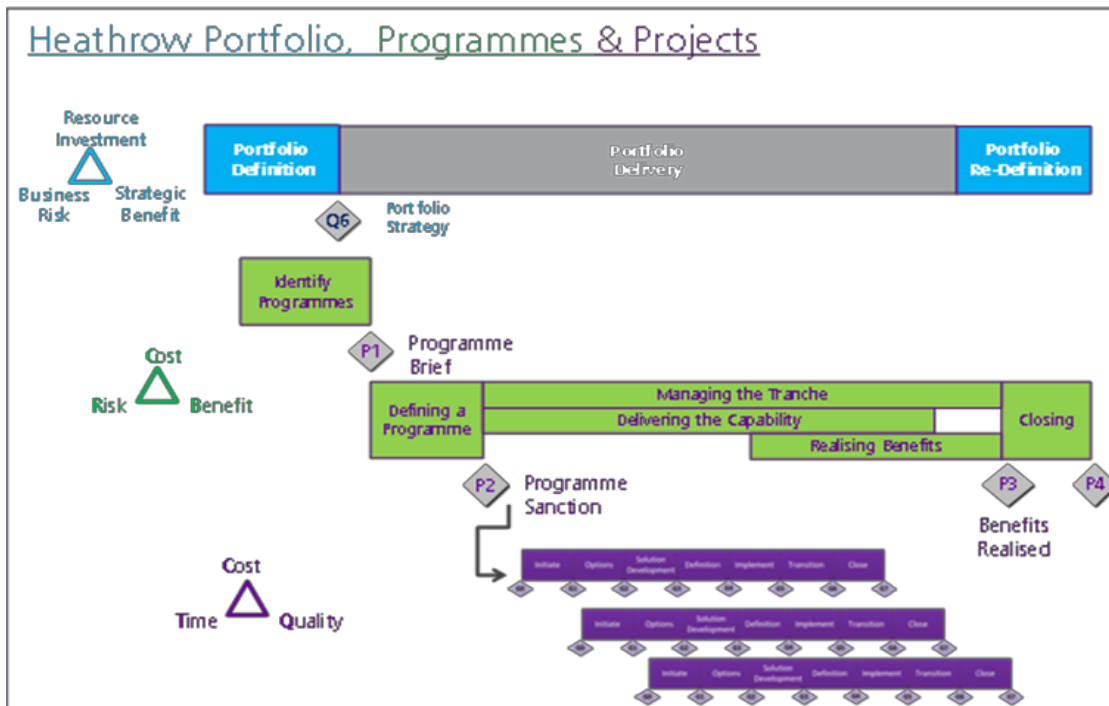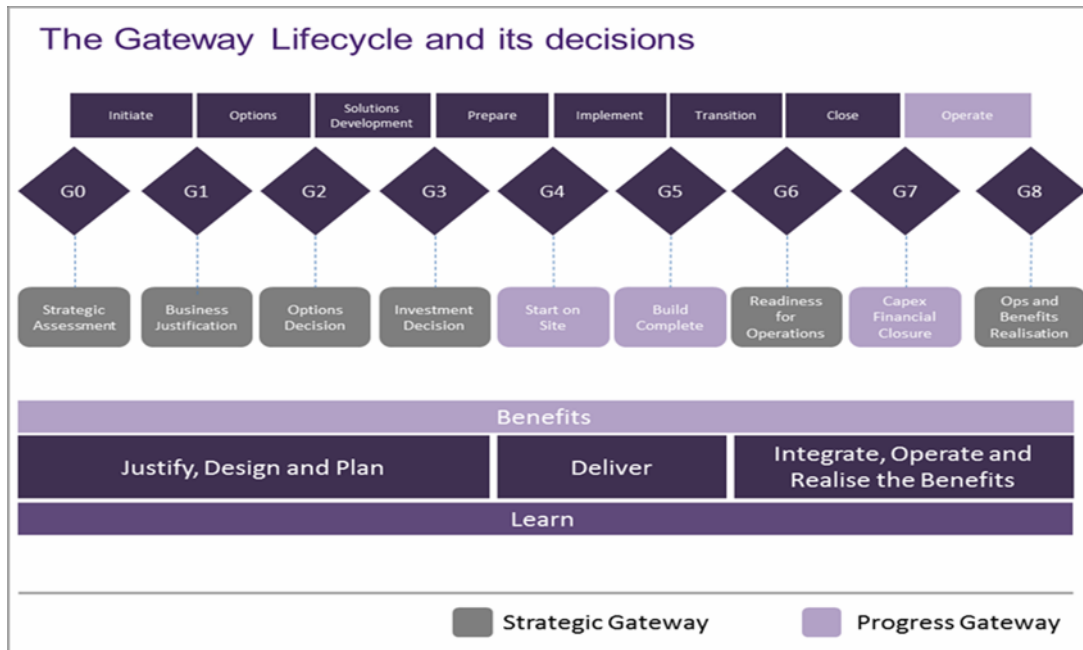

Figure 4.1 Heathrow Portfolio, Programme & Project Process

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 iH7.

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 Business Plan (IBP) for the 2022-2026 period will be submitted at the end of 2019.

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: Passenger forecast (millions) based on CAA's Q6 Settlement

Heathrow's current traffic forecast

The table below shows Heathrow's current traffic forecast to 2019, where 2014 to 2018 are the actual outturn and 2019 is the forecast for the additional year of Q6+1.

Reg. Year	Total (Millions)	Q6 + 2019 Extension Year (Millions)
2014 (Apr - Dec)	57.3	
2015	75.0	
2016	75.7	
2017	78.0	446.6
2018	80.1	
2019	80.6	

*2014, 2015, 2016, 2017 and 2018 are actuals, 2019 is an unshocked forecast

Table: Heathrow's current passenger forecast (millions)

The passenger traffic for the Regulatory year 1st January 2018 - 31st December 2018 was 80.1 million passengers. The actual passenger traffic for the original Q6 period was 366.1 million, 18.4 million higher than 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 2020 onwards, make an allowance for potential shocks given that historically they have impacted Heathrow's traffic by an average of 1.07%.

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 beyond, 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 operate both hotels – with T4 offering c750 rooms (split between Holiday Inn Express and Crowne Plaza brands) and T2 offering 360 rooms (under Hilton Garden Inn brand). The T4 hotel opened in October 2018 and the T2 Hotel is planned to open in Q2 2019. On both projects, the Heathrow enabling works (site clearance and service provision) are being undertaken at the developer's cost.

Figure 5.3.1 T4 Hotel

Figure 5.3.2 T2 Hotel

Heathrow medium-term plan

5.4　Heathrow 2.0 – Our plan for sustainable growth

A new approach (Heathrow 2.0) was launched in February 2017. Heathrow 2.0 is our strategy for sustainability leadership that takes us beyond simply reducing negative impacts to delivering positive impact in a way that enables others to thrive as we grow. It sets out a series of goals that will guide the future of our business as an expanded Heathrow and will also guide us in the years before we plan to open a new northwest runway. Some of our ambitions for the future are only possible because of the extra revenue and opportunity that expansion creates. For example, many of the goals that are linked to the period after 2025 can only be delivered in the context of our new runway. Of course, we will continue to engage our stakeholders as we roll out Heathrow 2.0, evolving our strategy as we will gain more input and better insight into solving our challenges.

We've structured Heathrow 2.0 around four key outcomes and stakeholder groups:

- A Great Place to Work is about helping our people fulfil their potential
- A Great Place to Live is about working better with our neighbours to improve their quality of life
- A Thriving Sustainable Economy focuses on creating opportunities for business (including SMEs and sustainable business) to deliver a stronger future for the UK
- A World Worth Travelling is all about working with our industry and regulator to deliver fair and sustainable air travel for future generations to enjoy.

There is a convincing practical and financial business case for sustainability at Heathrow. Our strategy directly supports more efficient operation, the growth of the airport, and the development of our people, which will benefit both the airlines and the passengers we serve. To take advantage of this opportunity – for our passengers and stakeholders as well as our business - we must implement our strategy as efficiently and cost-effectively as possible.

Operational expenditure to support this plan before 2019 has been absorbed within our existing business plan. We will talk to airlines through the appropriate engagement forums regarding affordability and any capital expenditure to support this plan. Over the next few years, we will build in gradual change as we replace assets and renew contracts. On top of this, following extensive stakeholder consultation, we have created a prioritised list of goals and strategies that will bring maximum value as soon as possible.

Looking further ahead, as we develop our business plan for the next regulatory cycle which starts in 2020, we will factor in our sustainability ambitions, and engage the airlines and CAA on those. Last year we developed our 'Sustainability Investment Appraisal Tool' that is starting to help us better quantify the non-financial benefits of investment in sustainability and develop a more sophisticated approach to evaluating how and where we can best spend our money.

Sustainability is a big opportunity for Heathrow, and we're already taking steps to fulfil our potential. Heathrow 2.0 explicitly states that we will take a lead on climate change, with an aspiration to make growth from our new runway carbon neutral and we published our initial plans for this at the end of 2018. We will push forward and work with airlines to reduce noise and we'll work to tackle air pollution, in part by working to increase the number of people travelling by public and sustainable transport. We'll partner with the other businesses that operate here to deliver a best-in-class, responsible and low-carbon supply chain. We'll help thousands of people begin and build their careers – near Heathrow and across the country. And we'll ensure that as we grow, we create opportunities for sustainable businesses to deliver a stronger future for the UK.

Heathrow long-term plan

6 Heathrow long-term plan

6.1 Heathrow Expansion

We continue to make significant progress in expanding the airport following June's overwhelming vote in Parliament in favour of the Airport's National Policy Statement ('NPS'). Initial ground surveys at 650 sites across the land required for the project are already underway and the airport is moving towards confirming its preferred masterplan.

We have incorporated feedback from a successful initial public consultation earlier this year and will hold two consultations in 2019 to seek further views on our plans. Our Airspace and Future Operations consultation will be held in early 2019, as the UK government addresses airspace congestion and progresses the redesign of UK and European airspace for the 21st century. This will be followed by a consultation in mid-2019 where we will seek feedback on our preferred masterplan and how we will manage and mitigate the effects of our growth.

After reviewing and assessing feedback from next year's consultations, we will prepare a final masterplan and submit a development consent order application to the Planning Inspectorate in 2020, kick-starting an approval process which will take 18 months. Once development consent is granted, the new runway is expected to open in 2026.

On 26 November 2018, we launched our prequalification process to determine which of the 65 longlisted Logistics Hub sites will be shortlisted for the final procurement process to select the final four sites next year. Each of the 65 sites offer their own unique elements to the project, from their location, transport links, local skills and supply chain, size, regional expertise and business plans. Heathrow will be the first major infrastructure project in the UK to pioneer the large-scale use of Logistics Hubs – aiming to build as much of the project offsite as possible. The hubs will work by pre-assembling components offsite before transporting them to Heathrow just as they are needed. This method will boost the project's efficiency and cut emissions by transporting components to site in consolidated loads, which will minimise the number of journeys required.

At the same time, we are currently receiving business cases from the 37 shortlisted innovation partners and will shortly be commencing our evaluation process.

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 best large airport for delivering a timely, predictable and easy cargo service. The strategy was developed after 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. These were further examined and subsequently re-affirmed by a senior steering group in 2018. The current capital investment programme is the Q6 Business Case 6619 which sits in the Airport Resilience Programme.

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. Our expansion plans include provision for future cargo requirements.

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 policy position on airports and aviation is found in two key documents. The first is the 2013 Aviation Policy Framework (APF) which is the adopted Government position on aviation development. This is focused on operational improvements that make best use of existing capacity, and looks to improve surface access to airports, particularly by rail. The Government is currently consulting on a green paper for a new aviation strategy which will set the Government's policy position on aviation to 2050. Once adopted, the new aviation strategy will supersede the APF.

The second key national document is the Airports National Policy Statement (ANPS) which sets the decision-making framework for the expansion of Heathrow. The ANPS follows the Government's endorsement of the Airports Commission recommendation in favour of additional runway capacity in the south east of England being located at Heathrow.

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 new London Plan will have been through consultation and will undergo an Examination in Public in early 2019.

At the local level, planning policies for Heathrow are contained within the London Borough of Hillingdon Local Plan, which must also conform to the higher tier regional and national policies.

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	Terminal 2	Terminal 3	Terminal 4	Terminal 5	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	18.5	19.5	9.4	32.8	Data from HDS 2018 - General Aviation excluded (Flight types 1,3 used), rounded to 0.1m
		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	118,335	94,018	49,660	210,720	Data from HDS 2018 - 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	2,920 (ATD) 2,677 (STD)	3,345 (ATD) 3,365 (STD)	2,256 (ATD) 1,959 (STD)	4,906 (ATD) 4,844 (STD)	Data from HDS 2018 - General Aviation excluded (Flight types 1,3 used). Stand On/Off time used as ATD.

Appendix

			Measurement	Definition	Terminal 2	Terminal 3	Terminal 4	Terminal 5	Notes
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.	297,900	225,780	132,400	526,000	Rounded to nearest 100m2. T2A & T2B (walkway included). T5 includes T5A, B & C (T5 inclusive of escalator area under redevelopment)
3.0	**Passenger Infrastructure**	3.1	Number of check-in desks & bag drops	For each terminal sum of all check-in desks and bag drops which have connection to baggage system.	116	194	129	146	Based on S19 check in desk declared capacity for T2, T3 and T4. T4 includes x2 out of gauge desks. Note T3 desks will vary throughout the year due to Self-Service Bag Drop installations
		3.2	Number of self-service kiosks	For each terminal sum of all self-service units (either check-in or transfer)	91	134	59	92	T3 will vary throughout the year due to installation of self-service bag drops and zonal moves
		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.	31	29	19	37	
		3.4	Number of ticket desks (total existing)		44	58	64	26	Excludes 'Check in desks' that are being used as 'Ticketing/Assistance/Upgrade desks'. Counts individual serving positions (landside only). T4 includes untenanted ticket desks. Note T4 desks will reduce during the year once Pod 1 is decommissioned.

Appendix

			Measurement	Definition	Terminal 2	Terminal 3	Terminal 4	Terminal 5	Notes
3.0	**Passenger Infrastructure**	3.5	Number of immigration lanes + + eGates	For each terminal sum of all immigration lanes and e-Gates (arrivals and transfer) which are used for passenger processing.	59	57	48	68	Potential changes to T3 when additional eGates arrive later in the spring
		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.
		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	11	7	6	These numbers include the actuals / demand for both airline and independent lounges in departures and arrivals. The lounges in demand numbers include lounges that are currently under construction but have yet to open.
		3.9	Number of CIP Lounges requested		2	2	0	1	

Appendix

			Measurement	Definition	Terminal 2	Terminal 3	Terminal 4	Terminal 5	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	792	
		4.2	Number of MUPs	Number of MUPs (make-up) positions in each baggage hall (both departures and transfer)	214	142	129	345	Only currently usable MUPs have been included, T2 uses T1 facilities and excludes T2B
		4.3	ADP (avg time to input belt - arrivals)	Arrivals Delivery Performance for local baggage - percentage of flights delivered from chocks to docks within: 35 mins for small-size aircrafts, 45 mins for medium and 50 mins for large & A380s	LB ADP 85%	LB ADP 87%	LB ADP 79%	LB ADP 73%	Figures are 2018 actual performance metrics. Source: Merlin performance metrics for 2018 - Sarah Charsley
		4.4	ADP (avg time to input belt - transfers)	Arrivals Delivery Performance for Short Connect Transfer baggage – percentage of bags with 2 hours or less to connect delivered within 25mins chocks to docks	79% in 25mins	69% in 25mins	67% in 25mins	53% in 25mins	Figures are 2018 actual performance metrics. Source: Merlin performance metrics for 2018 - Sarah Charsley
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	39	44	34	60	Declared physical stand supply for Summer 2019
		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.	28	29	21	45	Physical stand supply for Summer 2019

Appendix

			Measurement	Definition	Terminal 2	Terminal 3	Terminal 4	Terminal 5	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.	1,481	1,564	885	3,469	Car park capacities 2018 - Short stay Terminal 4/ Short Stay 4 is frequently reduced by c.75-100 spaces due to the on-going development works throughout 2018/19+
		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 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.	370	500	125	165	Rounded to nearest 5m