

Capital Investment Plan 2010

(CIP 2010)

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1 Introduction

This document is Heathrow Airport Limited's (HAL's) Capital Investment Programme (CIP) for 2010, and is known as "CIP 2010".

The document sets out the capital investment projects currently being proposed by HAL for the ten year period commencing April 2010, and its purpose is to facilitate consultation with airlines regarding capital investment at Heathrow.

CIP 2010 is focused largely on the investment that HAL intends to carry out during the remainder of Q5. The airport's investment plans for this period were the subject of detailed and intensive engagement between HAL and the airline community through the Integrated Baseline Review 6 (IBR6) process between July and December 2009.

The IBR6 process resulted in a reprioritised investment plan for the remainder of Q5, and it also identified capital investment requirements in the initial years of Q6. CIP 2010 reflects the outputs agreed with the airline community through this process. As such, the capital investment programme covered by the IBR6 process, and set out in this document, has already been the subject of recent consultation with airlines.

In line with the provisions of the information and consultation protocol set out in Annex G¹, HAL is providing airlines with detailed project-level information concerning the agreed capital programme for Q5 and for the projects that have already been identified for Q6. However, if airlines require further information to understand fully the proposed investments in CIP 2010 then HAL will endeavour to respond to these requests.

HAL will be working with airlines and other stakeholders during 2010 and 2011 to develop a new Heathrow masterplan which will set out how HAL intends to develop the airport over the period to 2030. This masterplanning work will need to progress to an appropriate stage to enable HAL to set out its proposals for a complete investment programme for the ten-year period normally covered by the CIP.

HAL expects to be in a position to consult airlines through the publication of the CIP in 2011 on its proposals for a complete ten-year investment programme. To facilitate this, HAL intends to consult airlines later this year on key strategic issues that will influence the overall size and shape of the ten-year investment programme.

HAL would encourage airlines to submit views on the projects and issues set out in CIP 2010 by the end of July 2010, so that they be taken into account in the development of the airports future capital investment plans.

Airline views would be particularly welcome on the following issues:

1. Heathrow Strategy and Vision - do airlines have any views on the strategy and vision set out in CIP 2010 (Section 2)?
2. Heathrow Traffic Forecasts - do airlines agree that the ten-year traffic forecasts set out in CIP 2010 are an appropriate basis on which to consider Heathrow's capital plan (Section 2.2)?

¹ Annex G of the Economic Regulation of Heathrow and Gatwick Airports 2008 to 2013, CAA, March 2008.

3. Asset replacement - do airlines have any views on scale of asset replacement set out in CIP 2010 (Appendix S)?
4. Overall capital investment - do airlines agree that the level of capital investment shown in CIP 2010 for Q5 is appropriate (Section 5.4)?
5. Investment priorities for Q6 and Q7 - do airlines have preliminary views on the investment priorities at Heathrow in the Q6 and Q7 period covered by the CIP (Section 2.5)?

Consultation responses should be sent to:

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HAL intends to review responses from the airline community, considering the views submitted in the development of the airport's ten-year capital investment programme.

1.1 Regulatory years

CIP 2010 covers the ten-year period commencing April 2010, spanning three regulatory periods (quinquennia):

- Q5: 2010/11 – 2012/13
- Q6: 2013/14 – 2017/18
- Q7: 2018/19 – 2019/20

As stated above, CIP 2010 is focused on HAL's proposed investment programme in Q5 and on selected investment projects in the initial years of Q6. HAL intends to use the CIP in 2011 to set out its proposals for a complete ten-year programme, based on masterplanning work to be carried out in 2010 and 2011.

1.2 CIP 2009 to CIP 2010

Compared with the CIP published in 2009, CIP 2010 provides additional information on projects that HAL has identified in the initial years of Q6. As agreed with Heathrow airlines at the CIP Working Group on 25th February 2010, the cost information for Q6 includes:

- Q5 projects rolled over into Q6
- Rail projects
- Asset Renewal/Clean Working and Friendly projects
- IT projects

High level cost estimates for projects identified for Q6 are outlined in Appendix S.

To enable airlines to compare the investment proposed in CIP 2010 with that contained in the CIP 2009 and the CIP 2008, a summary table is provided in Appendix Q (Tracker CIP 2008 to CIP 2010). Sections 5.4 and 5.6 provide information on inflation and change control respectively.

2 Strategy and Vision

Heathrow Airport is the United Kingdom's only international hub airport and a vital piece of national infrastructure.

Flying is of great value to the United Kingdom, for the economy, for society and for consumers. It fosters investment, trade and links multicultural Britain to an increasingly globalised world. What matters most to travellers is access to destinations and HAL believes Heathrow's position as a hub airport results from the way it supports a strong network model of short-haul and long-haul traffic. HAL's airline customers consolidate traffic at Heathrow to enable them to serve more destinations, at higher frequency with bigger planes, which in turn benefits London and the UK. HAL's vision is to continue to work with airlines to strengthen Heathrow as a hub airport, and HAL will seek to support airline and alliance growth at Heathrow.

Heathrow competes for customers with other hubs across Europe. The shared vision of HAL and airlines is to make Heathrow the 'hub of choice'. HAL believes the simplest way to attract more passengers is to continuously improve the passenger experience. Over the long term this means investing in the infrastructure and airport capacity. HAL believes that the relationship between vision, strategy and the physical planning of the airport is of paramount importance.

CIP 2010 presents Heathrow's proposals for the development of the airport during Q5 and Q6 to support the delivery of the shared vision.

2.1 Vision for Heathrow Airport

At the point of publication of CIP 2009, there was a process underway for refreshing an agreed vision for Heathrow between HAL and the airline community.

During 2009 HAL consulted with the airline community and agreed a common vision statement. This is now being presented here within CIP 2010.

The shared vision for a future Heathrow is:

***"A world-class airport – to be Europe's hub of choice
by making every journey better"***

The importance of Heathrow to the economy of UK and air passengers is such that its hub status must be maintained and improved to a level where it is rated by its customers as 'the hub of choice' amongst its European competitors. Heathrow should be a world-class facility and should be striving to continuously improve, making every journey better for its customers. Heathrow will become 'Europe's hub of choice' by delivering an excellent passenger experience, partly driven by improving and delivering flexible infrastructure and an expanded capacity that allows the hub to grow as airlines grow.

Through consultation HAL has agreed a number of strategic statements with the airline community which help to describe the vision for a future Heathrow. These are statements of 'strategic intent' and they set out, for each area of HAL's strategy framework, how the vision statement might be achieved.

HAL's strategic intents for a future Heathrow are to:

- Deliver an airport experience that is the preferred choice for passengers
- Deliver a hub airport supported by the airline community
- Run an operation that is reliable, resilient and efficient
- Deliver an airport outcome that is successful in financial terms
- Enable a positive employee experience that is focused on increased productivity and efficiency
- Design and deliver quality, predictable, value for money infrastructure
- Deliver an airport which is sustainable
- Be responsive to the needs of stakeholders

These statements of intent have informed CIP 2010 and continue to inform work that is underway to develop a full masterplan. A full masterplan will be published in CIP 2011.

2.2 Heathrow Airport Strategic Overview

2.2.1 Heathrow Traffic Forecasts for Q5, Q6 and Q7

2.2.1.1 Introduction

The latest HAL forecasts of traffic at Heathrow were prepared in early March 2010 and cover the period to 2019/20. As well as providing the passenger and ATM forecasts over this period, this section describes the industry context in which they have been produced, the approach used and key assumptions adopted.

2.2.1.2 Background

The economic recession which has affected most of the developed world since mid 2008, and from which only a gradual recovery in its early stages is visible, has produced a decline in air traffic activity very similar in scale to the contraction in GDP.

In 2009 BAA's UK airports recorded a 4.5% drop in passengers. Over the same period UK GDP fell by 4.8%. A very gradual recovery in the economy which began in the 4th Quarter of 2009 was matched by a similarly shallow improvement in traffic results in the second half of the year, continuing into the first two months of 2010. Table A below shows annual passengers and passenger air transport movements for 2009.

	2009 (A)	Change year on year
Pax	65.9	-1.5%
ATM	457	-2.7%

Passenger values in millions and ATMs in thousands

Table A: Passenger and ATMs 2009

Although Heathrow volumes are significantly below the forecasts used by the CAA in the Q5 settlement, one of the notable features of 2009 in terms of traffic volumes was the extent to which Heathrow suffered less than most other UK airports and its major European competitors. HAL attributes this resilience to three main factors.

First, compared with other UK airports, Heathrow has, by some margin, the highest proportion (57%) of foreign residents in its passenger mix. This proved beneficial in 2009 because the UK economy was affected more than most by the recession.

Second, the contraction in thinner European - North American services prompted by the fall in traffic will have led to a greater concentration of connecting traffic at the major hubs, as happened following 9/11. Among the major hubs Heathrow (and British Airways in particular) will have gained share as a result of the weakness of sterling against both the euro and the dollar.

Finally, Heathrow benefited in both its origin or destination and connecting traffic from the further concentration of US services following open skies and from the fact that 2009 was the first full year since Heathrow was opened up.

Passengers volumes during the early months of 2010 have been adversely impacted by a series of abnormal events; the Icelandic volcanic ash cloud, BA cabin crew strikes and snow at the beginning of the year.

2.2.1.3 Heathrow's Approach to Traffic Forecasting

Forecasts have been the product of both top down and bottom up methods. The first 2-3 years have been prepared using a combination of market intelligence and advance scheduling information via Airport Coordination Limited (ACL) to establish aircraft movement and seat capacity trends. Based on these shifts, and having regard to expected market and general economic conditions, assumptions about load factors are made at an individual airline or airline type level. The passenger volume and aircraft movement forecasts fall out of this process.

Over the whole length of the forecast period HAL has produced annual passenger demand forecasts using a long established econometric model, adjusted to reflect a new base and updated economic assumptions. Given the importance of slot constraints at Heathrow it is clear that by the end of the period covered by the approach outlined above the level of demand is increasingly likely to exceed available capacity. It is therefore essential to reflect the overriding slot constraint posed by the statutory 480,000 ATM (air transport movement) limit and take a view on the extent to which airlines will collectively respond by increasing aircraft size and load factors or by raising fares.

The forecasts assume that each of these will come into play. While there is some scope to increase passenger air transport movements (by about 5% from current levels) there is also assumed to be a 1.1% p.a. increase in the number of seats per aircraft over the 10 years to 2017/18 and a 3 point increase in load factor to an annual average of 76.5% in the same year.

Passenger numbers at Heathrow currently breakdown equally between short haul and long haul. Over the next 10 years, reflecting the overriding slot constraint, the proportion of long haul passengers is expected to increase gradually towards around 55% of all passengers and the proportion of short haul to fall gradually towards around 45%.

2.2.1.4 Heathrow Traffic Forecasts (2010/11 – 2019/20)

Table B below details the latest forecast of annual passengers and passenger air transport movements. The current forecast assumes a level of growth in runway use,

load factors and aircraft size that has not been achieved in recent years and may need to be revised. Average passengers per aircraft are forecast to increase from 141 in 2008/09 to 175 in 2019/20

Forecast	2007/08 (A)	2008/09 (A)	2009/10	2010/11	2011/12	2012/13	2013/14
Pax	68.0	65.9	66.2	68.0	70.3	72.2	74.0
ATM	478	467	454	466	469	472	475

Forecast	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Pax	75.6	77.1	78.6	80.0	81.7	83.5
ATM	477	478	478	478	478	478

Passenger values in millions and ATMs in thousands

Table B: Passenger and ATM Forecasts

Traffic forecasts will be reviewed annually in October. The review will need to take account of UK and global economic trends, airline plans and impact of constraints, on long term forecasts. HAL will be asking airlines to provide their views on demand forecasts and fleet plans.

2.3 Heathrow's Masterplan

2.3.1 Existing Masterplan

The airport masterplan provides the basis for consultation on the long term vision for the capital development of the airport over an extended time frame. Given the scale of masterplanning work and the long term nature of the content they should be reviewed approximately every five years, or as required given the broader context within which the specific airport is operating.

In 2005 HAL published its interim masterplan taking into account the Government's 2003 Air Transport White Paper and the Department for Transport's guidance on airport masterplans. The interim masterplan set out the long term proposals for a two runway airport and updated the position at that time in respect of the third runway.

The 2005 masterplan was prefixed by the term "interim" to reflect the ongoing nature of the policy consultation and the resultant fact that any Heathrow masterplan produced at that time, for either a two or three runway layout, could not be definitive given the range of potential outcomes from the policy process.

2.3.2 Masterplan Development

The 2005 Masterplan set the framework for Heathrow's development strategy. The development for Heathrow entailed making best use of the airport facilities and satisfying alliance aspirations by co-locating airline alliances in different parts of the airport.

In 2005 the Masterplan (Heathrow Airport Interim Masterplan June 2005) set out that:

- British Airways would move to Terminal 5 alongside Qantas

- Star Alliance airlines would co-locate in Terminal 1/Eastern Apron in a phased manner
- One World airlines would locate in Terminal 3/Western Apron in a phased manner
- Skyteam airlines would locate in Terminal 4 as soon as is practicable
- Virgin Atlantic would remain in Terminal 3
- Other independent or non-aligned airlines would locate on a "dovetail" basis. Some of the airlines that were planning to operate the A380 or other large aircraft may be better suited to Terminal 4 where there is likely to be more apron and terminal space.

This strategy had the following main features:

- Eastern Apron remodelled to: accommodate more larger aircraft including the A380; improve congestion associated with aircraft ground movements; achieve physical solutions for the segregation of passengers; and significantly enhance the ambience of piers (through a combination of the construction of new piers and the refurbishment of existing piers.)
- Terminal 1 remodelled and refreshed to deliver a competitive product for Star Alliance airlines
- Western apron developed to support more A380 and short haul flights
- Terminal 3 refreshed to deliver a competitive product for One World airlines and Virgin Atlantic
- Southern Apron reconfigured to accommodate more A380 operations
- Terminal 4 refreshed to deliver competitive product for Skyteam airlines

Reflecting the dynamic nature of the airport operating environment and the fact that not all issues will be resolved at the time of masterplan production the document also contained the following on Terminals 1 and 2:

"Options to cater for growth beyond 2011/12 are currently being studied. This will examine how to maximise the utilisation of the terminal and forecourt facilities on the eastern side of the CTA."

The statements made in the 2005 interim masterplan underpinning the proposals being implemented during Q5 are still broadly valid.

Since the publication of the 2005 document HAL has progressed elements of its development proposals as necessary within the broad parameters set by the formal masterplan publication. The outputs from this progression, while not in themselves full masterplan updates, are presented in the Capital Investment Plans for 2006 to 2009.

CIP 2007 is significant as, following airline consultation, it included conclusions of a number of options that had been held open from the 2005 interim masterplan including terminal provision on the Eastern Apron (with the inclusion of Heathrow East Terminal) and reference to inter-terminal baggage connectivity. In addition, following prolonged and detailed consultation from September 2006, the CIP included the impacts of a revised series of airline relocations endorsed by the airline community.

CIP 2008 was prepared to inform the CAA's Q5 price control review for Heathrow. It consolidated the final list of projects for Q5 to create the initial baseline for delivery within the quinquennium. CIP 2009 provided an update on the delivery of capital projects within Q5.

CIP 2010 provides details of the reprioritised Q5 investment plans following the IBR6 process. The development strategy has the following main features:

- Facilitate competitive equivalence across all Heathrow Campuses/Terminals
- Make best use of airport facilities and satisfy alliance aspirations co-locating airline alliances: Star Alliance airlines co-locating to Eastern Campus, One World airlines co-locating to Terminal 3, Skyteam airlines co-locating to Terminal 4 and independent or non-aligned airlines relocating on a dovetail basis

Key components include:

- Eastern Campus
 - construction of Terminal T2A
 - construction of satellite pier T2B
- Western Campus
 - renovation of Terminal 3
 - renovation of Terminal 4
 - construction of T5C
- Baggage
 - Transfer Baggage system T5 to T3
 - T3 Integrated baggage system
- Infrastructure
 - Upgrade and realignment of taxiways and aprons

In preparing its investment and masterplans for Heathrow, HAL continually flexes the outputs to take on board the:

- dynamic nature and aviation business
- the need to dovetail the layers (masterplan, CIP, project plans) as plans evolve over time.

This proactive evolving response has allowed the works being carried out in Q5 to have a high degree of directional consistency with the masterplan proposals set out in 2005.

Since the launch of the 2003 Air Transport White Paper, HAL has considered the potential impact of investment decisions in both two and three runway end state scenarios and reflected the initial work in the 2005 masterplan document. Despite the significant resolution of a number of issues by 2007, publication of a further interim masterplan was felt to be inappropriate as the discussions at that time were focused on consulting with airlines on shorter term capital developments in advance of the Q5 settlement.

During Q5 HAL has commenced a full review of its two and three runway masterplan options. Prior to the Government announcement on Adding Capacity at Heathrow in January 2009 the work focused on the progression of a two runway airport. Since that announcement, work has focused on a three runway development with a safeguarding view taken against possible two runway scenarios.

Following the new Coalition Government's clear indication that policy support for a third runway will be withdrawn, and HAL's subsequent announcement that it will stop work on the planning application, the current work to develop 2030 three and two runway masterplans will be distilled into proposals for a two runway 10 year masterplan(s) which can be published in CIP 2011. HAL considered that publication of

proposals (even if short of a full masterplan) in CIP 2010 would have prejudiced future legal processes associated with a possible planning permission for a third runway.

2.4 CIP 2010 Evolution

Over the latter half of 2008 HAL received representation from the airline community at a Terminal and Alliance level to add scope to the previously agreed Q5 CIP principally to achieve, in their view, competitive equivalence with Terminal 5 and to meet the spirit of the Memoranda of Understanding (MOU) that had been agreed with HAL.

Throughout the first half of 2009 there had also been significant changes to elements of scheme design for the Eastern Campus and Baggage programmes of work driven by improved passenger experience and operational effectiveness business drivers. These changing demands were being discussed with the airline community on a campus by campus basis and tracked centrally.

At the same time as these changing demands were evolving, a number of design development issues were also being reported internally of a scale that could not be met by the existing budget for a number of the Programmes.

By June 2009, the combination of new scope and cost challenges was recognised as sufficiently material to require an integrated exercise to review all of the principal changes of scope and increases in cost pressure. In July the JST agreed to undertake a joint review of the Q5 CIP in order to prioritise future spend, and assess the opportunities to ensure total expenditure in Q5 did not exceed the original CAA settlement. Proposals were considered on deferral scenarios, the feasibility of reducing budgets for Rail and IT programmes of work and improved cost efficiency from the construction market in the face of economic pressures and increased competition.

The joint review of the Q5 CIP was concluded in November 2009 with a consensus reached on the re-prioritised Q5 plan. This included the agreed list of projects and the preferred deferral scenario. As part of this exercise HAL undertook a more detailed assessment of project cost and a rigorous review of risk and opportunity provisions. This included an exercise to produce estimates using a 50% probability of risk and opportunity (P50) for all projects (current CIP and new scope projects). [Refer to risk section for definition.](#)

The output from the re-prioritisation process was used as the input to the IBR6 process where the integrated schedule was re-worked and the P50 forecasts time phased in accordance with this schedule. Following HAL internal reviews during December 2009, the results of the IBR6 process were presented to the JST in January 2010. This resulted in re-setting the Performance Baseline for Q5 for the purposes of monitoring expenditure and delivery. The baseline includes work for the T2B TTS Station box to be funded from PSDH.

The comparative results of the re-prioritisation process can be seen in tables C and D in section 4.1.1. The performance baseline established at IBR6 for Capital Projects is net of a 7% challenge of Capital Projects Q5 spend in order to achieve this revised budget. HAL believes this revised programme of works can be delivered within the original CAA outturn Q5 forecast due to the expectation of significant savings resulting from the close monitoring of construction inflation levels in comparison to the initial CAA provision ([See Inflation section 5.4 for further details](#)), and the 7% challenge embedded in the budget.

When deflated to the price base of the original CAA decision (07/08) the Heathrow Q5 expenditure (including Rail, IT and PSDH) has increased by £194m. However, HAL does not believe that the overall Heathrow Q5 Capital expenditure (outturn prices) will exceed the CAA's outturn Q5 Capital expenditure forecast.

2.5 Development Workstreams for Q5, Q6 and Beyond

The following sub-sections should be read in the context that HAL is currently in the process of developing new masterplans that will define the overall direction of development for the airport over the next quinquennia. As such, while the following individual sections reflect HAL's current views on future development themes, they are not firm proposals and will be subject to further consultation.

2.5.1 Terminals including Piers / Satellites

With the introduction of T5 in 2008, a programme of Q5 works has been undertaken to co-locate airline alliances, terminal refurbishment / replacement and importantly the need to work towards competitive equivalence across all Heathrow campuses / terminals.

HAL's proposed objective is to maximise the efficient use of land (including operationally efficient taxiway and runway hold processes) on the existing airport. To achieve this HAL proposes to continue the principle of main terminal buildings and satellites being perpendicular to the runways.

This "toast rack" arrangement, commenced by the Terminal 5 development, will continue initially in Terminal 2A (formerly known as Heathrow East Terminal) and its associated satellites. Consideration will be given to continuing this onto the Terminal 3 areas of the Western apron (i.e. the land between Terminal 3 and Terminal 5).

Q6 investment plans need to consider the continued development of the infrastructure along those key themes:

- On the Eastern campus, the completion of T2A and T2B will enable the majority of STAR airlines to "Move Under One Roof" and develop the STAR product offer at Heathrow. It will then enable the commencement of the Phase 2 development which will result in an extension of T2A to handle 30mppa and a new baggage system, possibly complemented by a second satellite (T2C). Works will seek to create sufficient capacity to complete the co-location of STAR airlines at Heathrow and provide equivalence to Terminal 5 (connections, terminal, baggage, airfield).
- On the Western Campus, plans should consider British Airways' desire to have an integrated hub operation (a single connected campus including bringing the Terminal 3 building to Terminal 5 standards.)
- Development options on both campuses are still being considered in terms of the need to balance demand across the airport in an affordable manner.

There are no proposals to significantly change the nature of Terminal 4 during the period of this CIP.

2.5.2 Baggage

The development of baggage functionality for Heathrow is a key element to the robust operation of the airport in general, and the hub / transfer process in particular. The production of infrastructure solutions for Q6 and beyond will need to ensure that the baggage product can support Minimum Connect Times for transferring passengers that are at least comparable with other global hubs.

Such functionality shall need to address the needs of intra (within) and inter (between) terminal / campus connections with a view towards a consistent airport-wide standard. Works will also need to take account of any ongoing compliance changes arising from regulatory authority requirements in terms of security (e.g. DfT or TSA) or safety (e.g. HSE).

Future development of the departure and arrivals baggage systems will need to focus on joint end-to-end process improvement between HAL and the airline / ground handling communities in order to improve key performance metrics such as; missed bags per thousand passengers, and arrivals delivery.

2.5.3 Airfield

Other than general modifications to the stand and taxiway arrangements to suit the “toast rack” principle, there are no significant changes proposed during this CIP period. Early work on the positioning, number and nature of “toast rack” satellites has highlighted a critical need for the number and configuration (dual versus single) taxiways in both the western and eastern airfield campuses. The following principles for development of the airfield have been agreed with the airline community:

- Balancing processor and apron capacity (minimise inter campus towing)
- Balancing demand across the aprons
- Efficient taxiway and hold operation
- Increasing redundancy and flexibility
- Minimising towing
- Minimise runway crossings
- Higher pier service levels (>95%) without need for tactical intervention

2.5.4 Connections

Approximately a third of all passengers at Heathrow are transferring from one flight to another. Transfer traffic is important because it enables airlines to maintain the viability of routes through seasonal peaks / troughs as well as supporting a high frequency / many destinations route network. Heathrow is also unique in Europe as the developments being pursued will enable it to allow all three airline alliances to offer co-located transfer products.

Strategic objectives for connections should consider the following:

- Offer a world class product, equivalent or better to Heathrow’s European airport hub competitors and comparable to airport hubs worldwide;
- Provides ease of transfer through low connection times and reducing hassle / mode changes that will enable airlines to offer competitive minimum connection times.
- Supporting the forecasted growth in transfer volumes;

A major proposal for Q6 and beyond investment plans could be to introduce a new passenger transfer product based on Track Transit / Automated People Mover (APM)

technology. HAL understands that the current airline aspiration is to have one single integrated APM system linking all Terminals and Satellites that enables both Originating / Destination passengers as well as connecting passengers a fast, reliable and efficient method of moving around the Heathrow campus.

To enable this, core Q6 investment could focus on, as a minimum:

- Western Campus – extending the existing T5 Tracked Transit System to T3 to create an integrated hub for BA / One World
- Eastern Campus – introducing a new Tracked Transit System that links T2A to satellites B and C

The aspiration extends to linking both campuses via a sub-surface route across the Central Terminal Area, with possible extensions to Terminal 4, and eventually full integration of any new 6th terminal, subject to business case and affordability.

2.5.5 Sustainability

Heathrow provides valuable economic and social benefits. The airport also has impacts on the local communities and environment around the airport. As a responsible business, HAL needs to find the right balance between economic, social and environmental objectives: enhancing the positive impacts that Heathrow brings, while minimising the negative impacts and meeting agreed environmental limits.

Delivering an airport which is sustainable is one of the strategic intents that underpins HAL's vision for Heathrow to be 'Europe's hub of choice'. This means creating a future Heathrow which:

- is safe and secure for staff, passengers and the airport community
- enables the achievement of positive social and economic effects
- seeks to prevent, reduce or offset significant effects on communities and the environment
- has surface access which limits congestion and other local effects

HAL has set long-term goals on key environmental issues, with accompanying strategies to deliver them. The goals include:

- Climate change: by 2020 reducing carbon emissions from energy use in fixed assets at the airport by 34% compared to 1990 levels
- Noise: limit and where possible, reduce the impacts of noise at the airport
- Air quality: play our role in driving full compliance with EU air quality limits
- Waste: by 2020 recycling 70% of airport waste

HAL sets annual performance targets on these and other issues, and regularly reviews and updates its goals and strategies.

2.5.6 Surface Access

HAL has maintained a clear, consistent and evolving Surface Access Strategy for Heathrow since the first consultation document was launched in 1996. The latest version of which was published in October 2008 called "Sustaining the Transport Vision: 2008-2012". Core policy statements covering the whole BAA Group were then agreed, with the first Strategy document for Heathrow being issued in 1999. This set out a

rolling five year framework within which improvements to the airport's surface access could be identified and taken forward. It also set 19 targets and objectives, including the goal of maintaining at least a 40% mode share to public transport for air passengers. The strategy has been reviewed and updated at regular intervals, with the targets and objectives being assessed for progress and, where appropriate, modified and new ones added.

The strategic nature of Heathrow Airport and its ability to act as an interchange and 'hub' for bus, coach and rail routes is increasingly being recognised by key stakeholders, including Transport for London and the South East England Regional Assembly through its South East Plan. HAL has been instrumental in helping to strengthen public transport services in the South East region and we are keen to see the development of even stronger public transport links as part of airport development.

The strategy for developing Heathrow's Surface Access takes place against a background of continuing public debate about the nature of transport provision in the UK, coupled with an increasing awareness of the impact on the environment. If Heathrow is to be able to develop successfully into the future, then HAL is in no doubt of the need to address the accessibility needs of both air passengers and staff as part of the airport's sustainable development.

Investment plans for Q6 and beyond are proposed to focus on Airtrack, linking Heathrow to the south western rail network, and Crossrail.

2.5.7 High Speed Rail

In January 2009, the Government established High Speed Two Ltd (HS2 Ltd) to consider options for a new high speed rail network in Britain. The HS2 report was published alongside the DfT Command Paper in March 2010. The report concludes that high speed rail is the most effective way to achieve the required step-change in transport, offering a balance of capacity, connectivity and sustainability benefits. The Government considers that Britain's initial core high speed network should comprise a 'Y' shaped network linking London to Birmingham, Manchester, the East Midlands, Sheffield and Leeds, delivering significantly reduced journey times. There is a strong business case for HS2 Ltd's recommended route for the initial London-Birmingham high speed line from a rebuilt London Euston station to a new Birmingham City Centre station at Curzon/Fazeley Street. Further work is to be undertaken to assess a second interchange station to the south east of Birmingham and access to Heathrow Airport.

The Government proposes to begin formal public consultation in the autumn. HS2 Ltd is scheduled to begin detailed planning work on the routes from Birmingham to Manchester and to Leeds, to be completed in summer 2011, with a view to consulting with the public early in 2012.

It is the shared view of HAL and the airline community that there is a compelling case to seize the opportunity presented by high speed rail, to create an integrated transport solution that enables air/rail substitution and provides passenger experience, environmental and economic benefits and that further work is required to identify the optimum solution.

HAL is working with the airline community to ensure that a substantive case for high speed rail access to Heathrow, is made to the Lord Mawhinney review. The work will build upon the line of reasoning established in HAL's evidence submitted to Lord Mawhinney that high speed rail presents an opportunity to create an integrated transport solution, that links rail serving domestic destinations, with aviation serving

international destinations and through air/rail substitution delivers carbon optimised travel, while stimulating economic growth and protecting the standing of the UK's only national hub airport.

2.5.8 Cargo and Maintenance Areas

Heathrow handles significant quantities of cargo for the UK economy. HAL is proposing to conduct a review of the cargo operational areas in order to inform the future masterplan options for the areas. This review and input into the masterplanning work will be subject to airline consultation.

In Q6 and beyond HAL expects there to be a need to modify the manner in which the current maintenance areas on the eastern side of the airport are configured in order to maximise the potential of Heathrow. Proposals on this are already being discussed with the airline community and shall continue to be developed.

2.5.9 Ancillary Areas and Others

As part of the Q6 prioritisation it will be necessary to investigate whether to invest significant sums in the heavy refurbishment of critical airport infrastructure such as the main access tunnel, airport utilities cargo tunnel and airport utilities. One of the utilities investments being considered is the expansion of, and improvement of our water pollution control and flood prevention infrastructure. Proposals will be developed which redevelop the CTA and enlarge and enhance the Public Transport Interchange (PTI) In addition HAL will bring forward proposals for investments to enable climate change (CO²) and other environmental targets to be met.

2.5.10 Risk and Assumptions

In response to requests raised by the airline community, HAL has agreed to record the risk and assumptions that underpin the long term development plans. It is intended that such records shall be one of the main cornerstones of the plan and how they might be implemented/impact on the airport with any points being clearly linked back to the masterplanning aspirations.

As work is currently ongoing during 2010/11 to develop a new masterplan, in which the airline community is fully engaged, at this time pending progression of the consultation on this work, no record of risks and assumptions is included in CIP 2010. A record of risks and assumptions which underpin the long term development plans will be included in CIP 2011.

3 Regulatory and Legislative Context

Capital development at Heathrow, as outlined in this document, takes place within a framework of regulatory and legislative policy. This section provides an overview of the current issues that have an influence on capital investment at Heathrow.

3.1 Aviation and Airport Policy

Since 2003 the Air Transport White Paper provided the Government policy context for the development of the third runway and associated infrastructure at Heathrow. In May 2010 the new Coalition Government made clear through its joint policy document 'The Coalition: Our Programme for Government' that the previous policy support for a third runway would be withdrawn.

In response to the Coalition Government's clear indication that policy support would be withdrawn HAL announced that it will stop work on the planning application for a third runway.

In the Queen's Speech in May 2010 the new Government made clear that, having ruled out new runways in the South East, it would engage with all stakeholders in the sector to develop a new vision for a competitive aviation industry to support UK economic growth and designed within the constraints of the existing runway infrastructure. HAL will engage with Government and other stakeholders to ensure the needs of Heathrow's passengers and airlines are fully represented in this process.

3.2 Economic Regulation

3.2.1 Current Regulation

The 1986 Airports Act established a system of economic regulation for those airports with an annual turnover in excess of £1 million (in at least two of the three previous financial years). Under the terms of the Act, such airports must have permission, granted by the Civil Aviation Authority (CAA), in order to levy airport charges.

In addition, the act also allows for the designation of airports, by the Secretary of State, for price cap regulation. Heathrow airport is currently a designated airport and is therefore subject to economic regulation by the CAA. The CAA conducts a regulatory review every five years (Quinquennium). The latest regulatory review took place in 2007/08 (i.e. price control review), where the regulator set the price cap for airport charges effective 1st April 2008 to 31st March 2013.

Section 39 of the Airports Act imposes four duties on the CAA in determining the price formula, namely:

- To further the reasonable interests of users of airports within the United Kingdom;
- To promote efficient, economic and profitable operation of such airports;
- To encourage investment in new facilities at airports in time to satisfy anticipated demand by the users of such airports; and
- To impose the minimum restrictions that are consistent with the performance by the CAA of its functions under those sections.

It should be noted that under the third duty above, anticipated demands for airport users includes future users as well as current users. The definition of users (in Section

82 of the Airports Act 1986) includes both airlines and passengers, and no priority is specified between these two groups.

The March 2008 CAA Decision² sets out the relevant regulatory parameters for Q5 which include the planned capital expenditure totals for Q5. CIP 2010 relies on the capital expenditure allowances set forth in the decision document.

3.2.2 Future Regulation

In April 2008, the Secretary of State announced a review of the regulatory framework for UK airports. The regulatory system for airports is one of the oldest systems having been in place since the Airports Act of 1986.

There were three objectives set for the future development of the regulatory framework which reflected the Government's policy objectives:

- Improving the passenger experience;
- Encouraging appropriate and timely investment in additional capacity to help deliver economic growth in line with wider Government policy; and
- Addressing the wider environmental impacts of aviation on airport development.

The Government published its decision on the framework for the economic regulation of Airports in December 2009.

The Queen's Speech in May 2010 set out the new Coalition Government's intended legislative programme for 2010 and 2011. The Government has stated its intention to bring forward an Airport Economic Regulation Bill during this period to replace the current framework for airport regulation contained in the Airports Act 1986. The Government has stated that Ministers will consider the content of these reforms and provide further detail in due course.

The possible impact on HAL with regard to the investment plan stated in this document for Q6 and beyond are made without prejudice to the above review and any legislative or regulatory amendments that may have to be made as a result.

3.3 Other Relevant Issues

3.3.1 The Town and Country Planning System

3.3.1.1 Airport Development

All development is regulated by primary legislation set out in the 1990 Town and Country Planning Act. Secondary legislation, such as the General Permitted Development Order (GPDO) 1995, further defines what types of development may require planning permission, including aviation development.

The GPDO defines what types of development at an airport can be regarded as 'permitted development', i.e. development not requiring planning permission. Generally, this is defined as development, undertaken by the airport operator, on operational land, required in connection with the operation of the airport. This covers most forms of

² Economic Regulation of Heathrow and Gatwick Airport 2008 - 2013, CAA Decision, March 2008.

airport related development, such as new aircraft hangars, industrial and cargo buildings, multi-storey car parks, office buildings, aircraft stands, piers and satellites etc.

Although 'permitted development' does not require planning permission, there is a requirement to consult the planning authority, which means following a similar process as that for a planning application, albeit that the planning authority cannot refuse approval for the development. This does not however prevent the planning authority from either applying considerations for HAL to take into account (similar to planning conditions), objecting to a specific development, or in extreme cases, the planning authority could request the Secretary of State to remove HAL's permitted development rights. There is also the possibility that any permitted development over 1ha in site area, and likely to cause a significant environmental impact, could also be subject to the Environmental Impact Assessment (EIA) process, in which case permitted development rights would be lost and the normal planning application process would need to be followed.

Generally, any development at Heathrow involving the extension of a runway or terminal, the provision of a new terminal, or a non-operational building (i.e. not connected to the operation or function of the airport) will require planning permission with an application made to the local planning authority.

Any development requiring planning permission, and likely to cause a significant environmental impact, could also be subject to the EIA process, whereby the planning application would need to be accompanied by an Environmental Statement (ES) setting out all likely significant environmental impacts arising from the development. The requirements for EIA are also set out in secondary legislation but in respect of Heathrow only usually apply to major projects, such as substantial new stand capacity or new terminal buildings.

3.3.1.2 Planning Policy

In determining whether development at an airport is acceptable or not, the Planning Act (2004) sets out the hierarchy and format of the development plan process which forms the basis on which decisions are made and controls the amount and type of development at the national, regional and local levels.

At the national level, aviation policy is set by the Department for Transport with airport development guided by the Air Transport White Paper, (2003) (ATWP) and subsequent updates such as the Air Transport Progress Report (2006) and Adding Capacity at Heathrow - Decisions Following Consultation (January 2009). In May 2010 the new Coalition Government gave a clear indication that policy support for a third runway will be withdrawn.

At the regional level for Heathrow, the London Plan (consolidated with alterations since 2004) provides the relevant planning policy framework for London and must be in general conformity with national policy. At the local level, planning policies for the Heathrow area are contained within the Hillingdon Unitary Development Plan, which must also conform to the higher tier regional and national policies.

Local and regional planning policy specific to Heathrow is generally supportive of development that consolidates Heathrow's growth with five terminals and within the defined airport boundary. The London Plan also supports the conclusions of the ATWP that any proposal for additional runway capacity at Heathrow should not be progressed

unless the adverse impacts on air quality and noise can be sufficiently mitigated, and public transport access improved.

In October 2009, the Mayor published his proposals for a new London Plan – Consultation Draft Replacement Plan. This document sets out the Mayor's opposition to a third runway at Heathrow.

At the local level, Hillingdon Borough Council are currently preparing their Core Strategy for the Borough, including land in and around Heathrow, with the first phase of consultation expected in spring / summer 2010.

3.3.1.3 The Planning Act (2008)

The Planning Act (2008) provides a new procedure for dealing with Nationally Significant Infrastructure Projects (NSIP's), through the establishment of National Policy Statements (NPS's) and an Infrastructure Planning Commission (IPC). The Act focuses on the delivery mechanism for any NSIP and aims to overcome the perceived deficiencies and delay inherent in the previous planning inquiry process. The need for such major infrastructure projects is being addressed in 12 sector based NPS's (e.g. Energy, Waste, Water, Rail & Highways) produced by the relevant Government Department, and providing the strategic planning policy framework for each type of major infrastructure. In the future, any airport developments that result in new buildings or runways that would generate in excess of 10mppa or 10,000 cargo air traffic movements would be subject to the new procedure.

NPS's will be designed to integrate socio economic, environmental and planning considerations and are programmed to be rolled out from 2009 through to 2011. The NPS for airports is expected to be one of the last NPS's, with a draft expected in spring 2011 and adopted later that year.

The 2008 Act has also introduced the creation of an Infrastructure Planning Commission (IPC). The IPC will start receiving applications in March 2010 and is an independent decision making authority responsible for examining applications made for a development consent order for a NSIP. The Act has permitted that only under very limited and specific circumstances may a planning decision for a major infrastructure project be determined by the Secretary of State. The examination process and the issuing of a decision are subject to various time limits and hence once an application for development consent has been submitted then the process should, at least in theory, last a total of nine months. However, the Commission has the ability to vary the time limits if required.

The Act has also driven the need for greater participation and engagement requiring pre-application consultation opportunities, extensive consultation of the draft NPS's and the ability for interested parties to request the examination process hold an 'open floor' public hearing.

The Planning Act also brings the introduction of a Community Infrastructure Levy (CIL). This is a new charge which Local Authorities will be empowered to collect on most forms of development in their area. CIL will be based on a formula which relates to the size and character of the development it is being charged against. The levy will be used by the Local Authorities to fund new local and sub regional infrastructure.

3.3.2 Climate Change Policy

Under the UK Climate Change Act 2008 the UK Government has set itself a legally binding national climate change target to reduce climate change emissions across the economy, including domestic aviation, by 80 per cent by 2050 on 1990 levels, and by 34% by 2020.

UK Government policy is that the price of air travel should, over time, reflect its environmental and social impacts. The DfT's 2008 Aviation Cost Assessment Study concluded that aviation was covering its external carbon emissions costs.

In 2008 the European Commission adopted a Directive to include aviation in the EU ETS from 2012. The UK has translated this directive into UK legislation and identified the Environmental Agency as the UK's enforcement agency.

The UK Government is also working towards international agreement on a way to bring international aviation emissions within the wider post-Kyoto 2012 framework. BAA supports this work and views action at a European level as an interim step towards a global aviation climate policy framework. BAA is a founding member of the Aviation Global Deal group which supports a global sectoral approach for aviation.

The UK has set an aviation sector target to limit emissions from all departing flights to 2005 levels by 2050. The Committee on Climate Change concluded in its December 2009 report that UK aviation passengers could grow by up to 60% and still meet this target and that this level of growth was consistent with the DfT's Aviation White Paper 2003.

BAA currently has a target to reduce CO2 emissions from its energy use in fixed assets by 30% below 1990 levels by 2020. BAA's airports are subject to the UK's Carbon Reduction Commitment on Energy Efficiency starting April 2010.

3.3.3 New EU Air Quality Directive

In April 2008, the EU published a new directive (2008/50/EC) allowing member states to apply for a time extension to meet the EU air quality limit values. For nitrogen dioxide, a maximum time extension of 5 extra years is allowed, meaning that concentration limits would have to be met in 2015. BAA's understanding is that DEFRA will apply to the EU and request this time extension for the UK, where it will lay out the measures to be taken to meet the target by the new date.

BAA is committed to playing a role in tackling air quality and has a number of projects underway under the current Heathrow Air Quality Action Plan. These projects include tackling emissions from aircraft (e.g. through reducing use of auxiliary power units) and by encouraging the use of low-emission vehicles in landside and airside locations.

3.3.4 Noise

There are three main tiers of regulation which govern aircraft noise at Heathrow: International; European and national.

At an international level ICAO requires Member States to adopt a "balanced approach" to noise management. It also sets progressively tighter certification standards for noise emissions from civil aircraft. Aircraft operating in member states must conform to these standards, which are known as Chapters.

The EU has issued various directives relating to the management and control of environmental issues and is increasingly assuming responsibility for the regulation of aircraft noise standards. Member States are obliged to comply with the requirements of the directives and incorporate them into national legislation.

The directives of most relevance to aircraft noise are:

EC Directive 2002/30 which has various elements, including:

- introducing discretionary powers to restrict the operation of marginally compliant Chapter 3 aircraft, where circumstances support this measure;
- requiring the publication of environmental noise objectives for the airport;
- requiring the adoption of a balanced approach to noise management, including the four elements agreed by ICAO (see above).

EC Directive 2002/49 (“Environment Noise Directive”) requires Member States to create noise maps from all transport sources in urban areas by 2007 and to adopt action plans to manage noise by 2008. The directive also aims to harmonise methods for measuring noise across the EU.

In accordance with the Environmental Noise Directive (2002/49/EC), HAL has prepared a draft noise action plan which is awaiting Government adoption in 2010 following public consultation in 2009. This follows publication of noise Lden contours UK airports in 2006. HAL will publish the noise action plan within 28 days of adoption notification.

The UK government has an important role in setting and developing the policy framework for aircraft noise control at UK airports.

Pursuant to its powers under the Civil Aviation Acts, the Department for Transport (DfT) has direct control over noise at Heathrow, Gatwick and Stansted airports. The DfT has implemented the following specific noise abatement objectives for the course of the current night flight regime which runs from 2006 to 2012:

- Minimise sleep disturbance resulting from overflight of the noisiest types of aircraft;
- Mitigate the effects of noise, in particular sleep disturbance. This will be done by encouraging the airport to adopt night noise related criteria in order to determine which residents of domestic or noise sensitive premises should be offered insulation schemes;
- Limit the 6.5 hour, 48 dB(A) Leq contour (for the winter and summer seasons combined) to 55km² by 2011 – 2012.

The Secretary of State has also published long term statutory environmental noise objectives for Heathrow airport. These are:

- Progressively to encourage the use of quieter aircraft by day and by night;
- To avoid allowing the overall noise from aircraft during the night quota period to increase above what was permitted in 2002-2003;
- To support the principal daytime noise abatement objective as set out in the *The Future of Air Transport* White Paper, namely that if a third runway is built, the 57dBA daytime noise contour should not exceed its area in 2002 (127km²); and
- To meet noise-abatement objectives as adopted from time to time.

Finally there are a number of limit values in place at Heathrow. These include:

- Under Terminal 5 Planning Condition A4, the number of air transport movements at Heathrow Airport shall be limited to 480,000 each year.
- With effect from the 1 January 2016, the area enclosed by the 57dBA Leq 16hr (07:00-23:00) contour shall not exceed 145km²
- The 6.5hr 47dBA Leq night quota period contour (for winter and summer seasons combined) is limited to 55km².
- There are also limits on the number and type of aircraft permitted to operate at night between 2330 and 0600.

3.3.5 Airspace Issues

The December 2006 Air Transport White Paper Progress Report stated that the current air traffic arrangements for some UK airports are already nearing capacity (especially in the South East), and the related airspace is among the most congested in the world. The White Paper recognised the need for a structured programme for the redesign of UK airspace that would help protect safety standards, relieve current constraints, reduce delays, take account of environmental impacts and accommodate the forecast increase in air transport movements where additional capacity was supported in the White Paper.

As a result the DfT, National Air Traffic Services (NATS) and CAA (Directorate of Airspace Policy) have convened a group looking at Future Airspace Strategy (FAS). NATS have begun work on a two year scoping study for FAS.

BAA is two years into a five year contract with NATS for the provision of aerodrome control and certain approach services at each of the six UK airports. With the end to "direct charging" these services are now paid for by the airports and recovered from airlines at a rate per landing capped by the regulator. The traffic volume risk is borne by NATS initially but then transfers to BAA beyond agreed limits. The contract sets out governance structures, services included, tariffs, procedures for capital projects and exit management provisions for each airport.

NATS have consulted on a proposed piece of airspace change for TC North (a wide area covering North London and parts of East Anglia). This proposes changes to holding patterns and arrival and departure routes for BAA and non BAA airports in the area, in particular to take account of precision navigation (PR-NAV), the need to reduce holding and distance flown, maintain safety and allow for traffic growth. There are implications for noise profiles on the ground. Consultation closed in June 2008, however the proposals were rejected and NATS are now reviewing this in light of the feedback received before submitting fresh information.

Any possible impacts on HAL's investment plans arising from this process are currently excluded from the plans detailed in this document.

3.3.6 Public Safety Zones Review

Public Safety Zones (PSZ's) are areas of land, at the end of runways at the busiest UK airports, within which development is restricted in order to control the number of people on the ground, at risk of death or injury, in the event of an aircraft accident on take off or landing. The runways at Heathrow have PSZ's associated with them. Guidance on the policy and administration of Airport Public Safety Zones in England and Wales is published by the Department for Transport (DfT).

The PSZ's currently published for BAA airports are based on risk contours modelled for 2015. PSZ policy stipulates the circumstances when PSZ's should be remodelled. This can be required due to:

- a significant expansion of an airport (The DfT has indicated the broad objectives of PSZ policy as applicable to existing runways should be applied where possible to proposed future runways),
- a change to an existing runway's configuration,
- the requirement for a general update. (It is a requirement of PSZ policy that PSZ's should undergo a general review approximately every 7 years.)

Initial work has begun to develop the programme for reviewing Public Safety Zones. HAL will work with DfT as appropriate to progress this work.

Pending progression of this work, any capital expenditure associated with complying with any revision to the PSZ's at Heathrow is currently excluded from the investment plans.

4 Q5 Delivery

4.1 Q5 Programme Delivery

At the current mid-point in the Q5 period HAL's emphasis is shifting from planning Q5 investment to delivery. To enable efficient delivery of the capital investment detailed in this CIP, HAL has divided the overall plan into programmes for project management.

These programmes are distinct from the workstreams described above, as they split the broader development needs into their relevant delivery groups. While the programme splits were originally envisaged for Q5 delivery, the programmes for the main Capital Projects investment works are:

- Eastern Campus [which covers the facilities in the geographic areas of T1 and T2 including all land to the eastern edge of the operational airport.]
- Western Campus [which covers the geographic areas of Terminals 3,4, and 5.]
- Baggage [which covers pan-airport and local terminal baggage systems.]
- Infrastructure [which covers all airfield areas not explicitly included in Eastern or Western Campuses together with landside facilities.]
- Airline Relocations [which covers the relocation activities for airlines moving between terminals.]

In addition to the Capital Projects investment programmes outlined above, the following other programmes are included in the HAL CIP:

- Information Technology (IT) / Systems [which covers stand alone IT / Systems investment not delivered as part of a main capital investment works.]
- Rail [which covers Heathrow Express and other rail led investments.]
- Project for the Sustainable Development of Heathrow (PSDH) Programme [which covers the third runway and sixth terminal development.]

4.1.1 Q5 Capital Expenditure Programme

Table C sets out HAL's current proposed Q5 Capital Expenditure Plan in 2007/08 prices. Table D sets out the capital expenditure included in the CAA's regulatory settlement for Q5.

<u>CIP 2010*</u>	<i>Cost base: 07/08 Equivalent</i>					
	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Capital Projects**	653	731	854	892	690	3821
Rail	12	14	34	35	62	157
IT	10	36	39	29	6	121
PSDH	0	24	114	276	222	637
Adjustments	28	(28)				
						4736

All values in £ millions.

* CIP2010 values deflated using inflation rates of 5.00% (Year 1 as confirmed CIP09) and 0% (Year 2 refer inflation section 5.4)

** Capital Projects includes payments relating to land purchased for the construction of Terminal 5.

Table C: Total CIP Values - CIP 2010

CAA Q5 Decision

Cost base: 07/08 Real

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Capital Projects	831	1004	840	641	298	3614
Thames Water	3	4	6	6	6	25
Rail	28	35	33	29	26	151
IT	24	23	23	21	20	112
PSDH	163	80	97	123	177	640
						4542

All values in £ millions.

*Table D: Total CIP Values - Q5 Decision
(Refer Table 8.3 CAA's Determination)*

4.2 Eastern Campus Programme

4.2.1 Overview

The principal elements of the programme are the construction of Phase One of the new terminal building itself (T2A), the satellite pier (T2B) and MSCP East and associated landside works. Enablement for these works includes the demolition of T2, Queen's Building and MSCP2. Further, the Eastern Campus Programme has been responsible for various projects to enable the relocation of STAR airlines into Terminal One.

4.2.2 List of Projects

BCT Number and Project Name as shown in Schedules

3814 : New Build MSCP East
4201 : T2B Centre Stands and Pax Connectivity
7720 : HET Phase 2
8807 : T2A Phase 1 Stands
8828 : Eastern Campus EIS
8888 : Control Tower Demolition
9181 : T1 Additional Projects
9723 : Eastern Campus Accommodation Equipment and Ancillary Facilities
Various : T2A Buildings Project

4.3 Western Campus Programme

4.3.1 Overview

Refurbishment of Terminals 3 and 4 allow for general improvement of the facilities in line with the competitive equivalence and alliance co-location principles. For Terminal 5 the investment centres on the T5C facility.

4.3.2 List of Projects

BCT Number and Project Name as shown in Schedules

T3

8510 : Landside Departures
8563 : T3 Immigration Hall Refurbishment
9222 : Security Standardisation T3 CSA
9223 : Security Standardisation T3 FCC
9310 : T3 Pier 6 Additional Jetties
9508 : T3 Pier5 A380 Stands
9653 : Terminal 3 IDL Transformation

T4

9643 : T4 Landside Arrivals Concourse and Mezzanine Corridors
9644 : T4 Departures - IDL, piers and gates
9645 : T4 Baggage Reclaim Hall Refurbishment
9647 : T4 A380 belts

T5

5221 : Heathrow Terminal T5C
9657: Terminal 5 C Weather Proof BA Baggage Docks

4.4 Baggage Programme

4.4.1 Overview

The purpose of the Baggage Programme is to undertake the transformation of the Heathrow baggage operation through a change programme involving people, processes, systems and infrastructure.

The scope of the baggage programme is determined by the need to deliver:

- Reduction in the direct and transfer mis-handled bag rates
- Reduced operating costs for airlines and handlers
- Improvements in the baggage operational safety environment
- Response to strategic and operational requirements
- Efficient use of capital expenditure

The programme covers the development and delivery of all baggage projects across the airport and the formulation of a future baggage strategy for Heathrow.

4.4.2 List of Projects

BCT Number and Project Name as shown in Schedules

1851 : Post T5 Transfer Baggage System
3801 : T3 Integrated Baggage System
7664 : T2A (HET) Phase 2 Baggage System
8747 : Baggage Integration
8818 : Baggage Product Improvement Project
9351 : T1 Baggage Prolongation Programme
9355 : T1 Hold Baggage Screening
9399 : T4 Airline Moves - T407
9516 : T4 Integrated Baggage

4.5 Infrastructure Programme

4.5.1 Overview

The Infrastructure programme is made up of four sub-programmes, each have differing objectives. These are:

- Airside sub-programme. The objectives of this sub-programme are:
 - asset replacement of airfield infrastructure to maintain the safe and efficient operation of HAL; and
 - future development relocating taxiways, and creating new stands to allow for expansion
- Landside sub-programme. The main objectives are to:
 - develop efficient energy infrastructure to support changing HAL needs and CO2 reduction targets; and
 - enhance safety & environmentally critical assets. (e.g. tunnels, storm water management assets)
- Security sub-programme. The main objective is to provide a safe, secure and compliant airport which enables effective and efficient process in a changing security environment; and
- Minor projects sub-programme which has an objective to replace and enhance existing assets across Heathrow to support today's operation.

4.5.2 List of Projects

BCT Number and Project Name as shown in Schedules

2809 : A380 Taxiways around pier 1
3353 : Major Fire Appliance Replacement
3428 : CO2 Strategy
3817 : South East Taxiways
3841 : Western Campus A380 Stands
4185 : Cargo Area RZ Road
4202 : E/A A/side Rd and Taxilane U/Pass
4242 : Self Service Border Control
5056 : Physical Perimeter Security
6527 : HAL Minor Projects (incl Retail and Property)
6793 : Heathrow Storm Water System
7049 : JCD Media Sites
7205 : T2B NW Stands & Taxilanes
7209 : T2B SE Stands & Taxilane
7666 : Energy Infrastructure
7718 : Eastern Maintenance Base Redevelopment
8452 : Control Post Programme
8735 : T5 Phase 2 Airfield Works (Q5)
8857 : Taxiway and CDS Rebuilds (Q5)
9105 : Next Generation Autotray System
9213 : Security Projects
9301 : Infrastructure Safety Critical Project
9382 : PiccEx Station Works
9575: T5 Transfers Add Security Lanes
9640 : Refurbish and Relife MSCP4
9721 : Landside Road Safety Compliance

4.6 Airline Relocation Programme

4.6.1 Overview

The Airline Relocation Programme continues with the latest Sequence 4.1. In 2010, Royal Brunei, Bangladesh and Kuwait have already moved to T4 - Step 9.1. Qatar, Saudi and Air Mauritius are planned to move from T3 to T4 on 24 November 2010 - Step 9.2. The last airline relocation of Air India to T4 will be in Spring 2011. Governance continues to be via the Airline Relocation Working Group, and JST.

The sequence 4.1 is shown below:

Step Name	Move Description	Date of 1st Op. in New Term.	Notes / ✓ = Completed
Switch 1	BA T1 exc 757, T4 short haul, & T3 MIA from T1, T3 & T4 to T5	27/03/2008	✓
Switch 2	BA T4 long haul exc JSA via SIN/BKK from T4 to T5 (Now delivered in 3 sub-switches)	2.1 - 05/06/08 2.2 - 17/09/08 2.3 - 22/10/08	✓ ✓
Step 3	STAR Phase 1 (UA & NZ) from T3 to T1	04/07/2008	✓
Step 4.1	oneworld T1 (AY)	27/01/2009	✓
Step 4.2	BA T1 757 Ops, oneworld T2 (IB and XG) from T1 & T2 to T3	25/02/2009	✓
	Complete closure of Queen's Building	09/06/2009	✓
Step 4a	STAR Ph2 (LH, LX, OS, OU, TP) from T2 to T1	11/06/2009 - 16/06/2009	✓
	Early Closure of T2 Stands key to T2A delivery	01/07/2009	✓
Step 5.1	T3 Non-aligned (EY) from T3 to T4	30/09/2009	✓
Step 5.2	T3 Non Aligned (9W, MU) from T3 to T4	14/10/2009	✓
Step 5.3	QF & BA JSA via SIN/BKK from T4 to T3	29/10/2009	✓
Step 5.4	T3 Non-aligned (GF, MH) from T3 to T4	29/10/2009	✓
Step 6 / 7a	Alitalia : AZ, B3, FB, HY, JU, J2, OA, RO from T2 to T4. KE from T3 to T4	10/11/2009	✓
Step 6 / 7b	Servisair : AH, AT, KC, SU, W3 from T2 to T4.	17/11/2009	✓
Step 6 / 7c	Cobalt : AF, FV, HM, IY, LN, OK, RB, TS, TU from T2 to T4	24/11/2009	✓
	Operational closure of Terminal 2, Stands and related Infrastructure	01/12/2009	✓
Step 9.1a	T3 Non-aligned (BG, BI) from T3 to T4	09/03/2010	✓
Step 9.1b	T3 Non-aligned (KU) from T3 to T4	14/04/2010	✓
Step 9.2	T3 Non-aligned (MK, QR, SV) from T3 to T4	24/11/2010	
Step 9.3	T3 Non-aligned (AI) from T3 to T4	24/05/2011	
Step 10	Balance BA Ops (on opening of T5C) between T3 and T5	Apr-11	
Steps 11 / 12	STAR Phase 3 from T1 & T3 to T2A	Balance BA Ops (best use of T3) between T3 and T5	Dec-13

4.6.2 List of Projects

BCT Number and Project Name as shown in Schedules

7702 : Relocation of Airlines IT Operations

7966 : Operational Readiness

4.7 IT / Systems Programme

4.7.1 Overview

The strategic operating plan for IT was developed during 2009 to support the strategic intents for Heathrow by improving IT service, reducing operating costs and implementing technology which delivers improved value to our business, airline and passenger stakeholders.

The IT Programme is organised into projects that are included in the CIP under IT plus projects with an IT component that are included under Capital Projects. The key strategic IT sub programmes for delivery in Q5 are as follows :

- Deliver a Real Time Airport integrated management system for Heathrow; generating a more cost effective, service differentiating capability for the airport by maximising the flow of information for operations, management and security.
- Vanilla implementation of Oracle E-Business Suite which will drive business change by the adoption of best practice process and supports the programme to simplify the business, raise professional standards and personal accountability and reduce costs.
- Simplification and cost reduction of the current technology architecture and infrastructure which will reduce customisation, the number of vendors and duplication of technology whilst providing an improved, more reliable IT toolset and user experience.
- Delivery of the IT Baggage Programme which is a critical enabler to support the replacement baggage systems across Heathrow, the provision of a new system for the new Terminal 2 and the interconnection of these with dedicated automatic baggage tunnels for transfer bags.
- Deliver innovation and reliable technology to support Capital construction programmes

4.7.2 List of Projects

BCT Number and Project Name as shown in Schedules

IT01 : Airport Operational Systems

IT02 : IT Infrastructure Renewal

IT03 : Business Planning & Support IT Solutions

4.7.3 Additional Explanatory Notes

IT01, IT02 and IT03 are temporary BCT numbers for the purpose of publishing CIP 2010 only.

4.8 Rail

4.8.1 Overview

Rail investments are led by Heathrow Express. The programme is designed with the following objectives:

- Continue the mode shift from car to rail, for both passengers and employees
 - Reducing emissions and carbon reduction
 - Reducing the impact of road congestion
- Enhance passenger experience by reducing the journey anxiety, through
 - Integrating with aviation
 - Providing frequency, certainty, reliability
 - Quality service

The Programme comprises around 80 projects, the projects have been rolled up into key categories according to type. In addition, Heathrow Connect 4tph is planned to enhance the current inter-terminal transfer service between CTA and Terminal 4. Airtrack will improve surface access to Heathrow from the South West Rail network.

4.8.2 List of Projects

BCT Number and Project Name as shown in Schedules

Heathrow Express

R001 : Hex Growth Projects

R002 : Hex Renewal Projects

Other Rail

4133 : Connect 4tph

7067 : Airtrack

4.8.3 Additional Explanatory Notes

R001 and R002 are temporary BCT numbers for the purpose of publishing CIP 2010 only.

4.9 Q5 PSDH

4.9.1 Overview

The Q5 regulatory settlement allowed for £639m (2007/08 prices) of capital investment for PSDH.

HAL and the airline community agreed that the £639m (inflated to £672m at 2008/09 prices in CIP 2009) should be split between different categories of expenditure. These were:

- £440m for third runway and master-planning activity.
- £62m for runway resilience work, including the ending of the Cranford Agreement.
- £170m for other capacity increasing projects.

This split being broadly equivalent to the manner in which the possible sums for PSDH were outlined by HAL in the period leading up to the Q5 settlement and forming the basis of the £639m.

This split was agreed by the airline community in June 2009 and formally recorded, with the full project control and ex post arrangements, in November 2009.

PSDH monies have been included in the CIP 2010 in real 2010/11 prices at £668m (£672m less transfers to Capital for runway resilience and other capacity increasing projects, £3.5m.)

PSDH Regulatory Settlement <i>2007/08 prices</i>	£639m
PSDH CIP 2008 <i>2007/08 prices</i>	£639m
PSDH CIP 2009 <i>2008/09 prices</i>	£672m
PSDH CIP 2010 <i>2010/11 prices</i>	£672m LESS Transfers to Capital £4m £668m

Table E: PSDH Monies

4.9.2 List of Projects

BCT Number and Project Name as shown in Schedules

PSDH Q5

4.9.3 Additional Explanatory Notes

The PSDH funding is broken into various BCT numbers.

4.10 Trigger Milestones

4.10.1 Overview

A feature of the CAA price control at Heathrow is a series of projects (so called 'capital investment trigger projects') where a deferral in project delivery would lead to an adjustment to aeronautical charges that can be levied on HAL. These adjustments are intended to ensure that HAL only starts to earn a return on investment once the relevant project is delivered.

There are a total of 24 such projects that cover approximately 60% of HAL's original Q5 capital investment programme. The CAA regulatory settlement for Q5 at Heathrow provided that if none of these projects were delivered at all during Q5, a maximum cumulative reduction to aeronautical charges of £278 million would occur. Forecast total aeronautical charges over Q5 in the CAA's price control document are £5,531 million meaning that the maximum potential reduction is about 5% of total aeronautical income. Note: All figures in this section are in 2007/08 prices. Table 13-2 of the CAA March 2008 publication "Economic Regulation of Heathrow and Gatwick Airports" provides further details.

The specifications of those capital triggers were set out in broad terms and the relevant dates and rebates determined in the CAA decision. They were, however, not defined to

a working level. In March 2009, following a period of joint working between HAL and the airline community and formal consultation by the CAA, the CAA published the final definitions of the trigger projects.

4.10.2 Trigger Completion

4.10.2.1 Process

The CAA has set out that the process for testing whether a trigger has been met will be as follows:

- the airport will send certification of completed works to the CAA for confirmation of successful performance against the triggered project milestone(s); and
- the CAA will then consult the airline community (by means of a letter to the AOC) and investigate if any concerns are raised.

In practice the detailed process as implemented by HAL and the airline community is as follows:

- HAL and relevant airline community representatives meet on site and formally record the completion of the project / project element including any agreed outstanding items.
- HAL writes to the CAA providing copies of the relevant documentation from the site meeting. (Point 1 above)
- The CAA then writes to the Heathrow AOC to request comment on the completion, or otherwise, of the trigger. (Point 2 above)
- The AOC writes to the CAA to comment on the completion.

4.10.2.2 Trigger Status

The current status of the capital investment trigger projects is that 5 projects have been delivered on time and endorsed by the CAA. These are the:

- T1 - Completion of BMI Nose Building Facility
- T3 - Completion of pier 5 refurbishment
- T4 - New CIP (stand 407) Lounge Access for Fit-out
- T4 - Completion of 3rd jetties on each 2 A380 stands
- T4 - Completion of North East bank of Check in desks

A further 3 Projects have been delivered incurring a rebate and endorsed by the CAA. These are:

- Completion of T4-T1 baggage tunnel refurbishment - Rebate incurred £0.2m
- T4 - Completion of Baggage Sorter (Replacement) - Rebate incurred £0.6m
- T3 pier 7 Refurbishment Complete - Rebate incurred £0.2m

A further 2 are complete but yet to be endorsed by the CAA which are:

- Completion of T2B Phase 1 Stage 1 for Operational Readiness
- T4 Check-in Phase completion of South West bank of check in desks

Details of the status of all the capital investment trigger projects, as at February 2010 month end, is set out in Appendix T: Time Schedules.

4.10.2.3 Change Control

The CAA's change control process is outlined in Appendix A. HAL and the airline community are developing a working level process to define how they will work together to bring any proposed changes to triggers before the CAA after a period of consultation. Consultation on any changes to scope or date of triggers is progressed through the CIPWG with final ratification by the JST.

5 Technical Notes

5.1 Project Definition Sheets

The purpose of a Project Definition Sheet (PDS) is to provide an overview of each individual project. The key content / process in the PDS are:

- PDS completed for all projects with a budget greater than £3m.
- Information on HAL and airline higher level objectives for the project.
- Information on scope, delivery and operational assumptions underpinning the project.
- A section to capture Operational Costs related to the completed investment. e.g. Additional security resource.
- A section to capture Revenue Impact related to the completed investment. e.g. Incremental additional revenue.
- A section on capital financial information, with Estimated At Completion (Outturn) being shown in the main body of the PDS.
- Key context drawings or images in an appendix.

PDS's will not be provided for projects that are due to complete in the regulatory year preceding CIP publication. i.e. for CIP 2010 any projects substantially complete by March 2010 will not have a PDS. Initial information only has been provided in CIP 2010 for Operational Costs and Revenue.

The EAC information will vary. For projects starting in Q5 the EAC will be provided from "live" February month end information. For projects starting in Q6 and beyond the information will be in the form of a high level PDS. However for the reasons outlined in sections 2.1, 2.2, and 2.3 limited cost data for Q6 and beyond is provided in CIP 2010.

5.2 User Charge Impact

The user impact of projects is variable for each project and is dependant on a number of factors, namely: start date, profile of spend, asset life, any commercial revenue and or operating costs generated by that project. Considering this complexity in predicting impacts of projects on user charges, this information is not disclosed in this document for individual projects. However, this information will be shown for projects/options through the consultation forum, where possible.

For illustration purposes the indicative impact of a £100 million project on user charges is in the region of 10 pence per passenger.

The impact shown above is an average over ten years from when the project commences construction with an average asset life of 25 years, providing a regulatory return of 6.2%, and on the profile of passengers shown in this document. This includes the impact of depreciation, but does not show the impact any commercial revenues or operating costs inherent within projects.

5.2.1 User Charges Q5

The CAA's decision as to the maximum allowed airport charge revenues per passenger at Heathrow for Q5 are summarised in Table F.

	2008/09	2009/10	2010/11	2011/12	2012/13
Yield per Passenger 2007/08 prices	£12.80	£13.72	£14.76	£15.84	£16.99

*Table F: Maximum Level of Airport Charges per Passenger in Q5
(Refer Table 15.6 CAA's Determination)*

5.2.2 User Charge Impact Q6

Analysis has been carried out to calculate the overall User Charges Impact for the Q6 Capital Expenditure identified in Appendix S, assuming Heathrow is regulated in the same way as it has been in Q5.

Based on Capital Expenditure of £1.5bn, and the same assumptions as above for asset life, regulatory return and passenger profile, the marginal impact would be in the region of £1.50 per passenger over and above what it otherwise would have been without the Q6 expenditure.

5.3 Time Schedule Data

The integrated schedule agreed at IBR6 for the remainder of Q5 represents all the project scope agreed as part of the CIP re-prioritisation process (see CIP Evolution section 2.4) for Capital Projects only. All schedule data provided is as at February 2010.

The schedules have been divided into the Capital Programme categories of:

- Capital Projects
 - Eastern Campus (T1 & T2)
 - Western Campus (T3, T4 & T5C)
 - Infrastructure (Airfield and projects crossing or outside campus areas)
 - Baggage (Baggage projects excluding work associated with T2A and T2B).
- PSDH work is allocated to the appropriate programmes as listed above.
- IT work by its nature is a steady stream of work and has not been shown on any schedule
- Future rail project work for Q5 is largely related to Airtrack and the programme will depend on the outcome of a Public Inquiry. As a result of delays to the commencement of the Public Inquiry, it is now considered unlikely that there could be significant construction work in Q5, with the earliest date that TWA powers may be granted being mid 2011.

Work for Q6 can be divided into 2 categories for scheduling purposes:

- Work on Q5 projects which spills over into Q6 or work commencing at the start of Q6 which is integral to completion of projects which started in Q5
- A compilation of other work proposed for Q6 which has not been fully defined, ranked and resource and cost levelled.

It is considered inappropriate to produce a schedule for the second category at this time but a schedule for those projects in the first category is attached. Work in the latter category will be developed for inclusion in CIP 2011.

5.4 Inflation

As anticipated in CIP 2009, construction inflation has tracked at around the 0% mark for the year. The 0% anticipated addition to the CIP 2009 baseline is now confirmed (with a commensurate RPI Year on Year also of 0%) and there is, hence, no direct change to the CIP 2009 data attributable to inflation.

HAL has continued to maintain its Heathrow-specific Blended Index, "HBI" which tracks actual material and labour prices in volumes and at rates appropriate to Heathrow, recognising the management position taken by HAL on, for example, wage agreements.

CIP 2010 utilises the revised spend profile agreed at IBR6 and baselines it to a 2010/11 price base. HAL has elected to maintain its position in line with the HBI predictions that construction inflation can be managed to 0% for the year and no uplift is therefore incorporated for the year (in comparison to a currently anticipated 1.5% year on year RPI forecast).

The decision to recognise construction inflation for two years tracking at 0%, significantly below the Regulatory agreed position of RPI+2% (5.7% compound) demonstrates a notable efficiency gain. On the CIP 2009 baseline, this offsets £182m of increased cost which would be attributable.

In December 2009, as part of the IBR6 planning and acknowledging that construction inflation was indeed tracking as anticipated in CIP 2009, the central inflation provision ("I2") noted in CIP 2009 was eliminated. All projects, as part of the P50 re-baselining exercise, were instructed to assess future inflation requirements in accordance with the HBI assessment apart from a few exceptions where inflation had been 'bought out' – for cost certainty – within tender prices. As noted above any risk that actual inflation is higher than current estimates is not allowed for.

5.4.1 Work Breakdown Structure and Price Base

5.4.1.1 Work Breakdown Structure

The Work Breakdown Structure for the programme is that confirmed at IBR6 and is current at the report date of February 2010.

The capital Expenditure Lines are:

- Capital Projects
- IT
- Rail
- PSDH

Appendix Q provides a 'tracker' showing how the current WBS relates to the original Settlement (where practical) and notable changes between CIP 2009 and CIP 2010 (the developments between CIP 2008 and CIP 2009 where provided in CIP 2009). The tracker also cross-references to the PDS sheets provided in the body of the document and summarises the budget transfers between CIP lines.

5.4.1.2 Price Base

The Q5 regulatory Settlement in March 2008 was published in real 2007/08 prices. The following tables (Tables G to J) provide a comparison of the total capital investment plan for Heathrow between the CAA 2008 Settlement in the 2007/8 Price Base, and the CIP 2010 (Outturn prices, 2010/11 Price Base and 2007/08 Price base).

The 2010/11 Price Base represents real prices to February 2010 and an estimate for inflation for 2010/11 at September 2010.

CAA Q5 Decision

Cost base: 07/08 Real

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Capital Projects	831	1004	840	641	298	3614
Thames Water	3	4	6	6	6	25
Rail	28	35	33	29	26	151
IT	24	23	23	21	20	112
PSDH	163	80	97	123	177	640
						4542

All values in £ millions.

*Table G: Total CIP Values - Q5 Decision
(Refer Table 8.3 CAA's Determination)*

CIP 2010*

Cost base: Projected Outturn

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Capital Projects **	686	768	897	956	775	4082
Rail	13	14	35	38	70	170
IT	11	38	41	32	7	128
PSDH	0	25	120	296	250	691
Adjustments	29	(29)				
						5072

All values in £ millions.

Inflation (assumptions)

5.0% 0% 0% 2% 5%

* Projected outturn uses HAL's assessment for construction inflation "HBI" (refer inflation section 5.4)

** Capital Projects includes payments relating to land purchased for the construction of Terminal 5.

Table H: Total CIP Values - CIP 2010

CIP 2010

Cost base: 10/11 Equivalent

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Capital Projects *	686	768	897	937	724	4012
Rail	13	14	35	37	65	165
IT	11	38	41	31	6	127
PSDH	0	25	120	290	233	668
Adjustments	29	(29)				
						4973

All values in £ millions.

* Capital Projects includes payments relating to land purchased for the construction of Terminal 5.

Table I: Total CIP Values - CIP 2010

CIP 2010**Cost base: 07/08 Equivalent*

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Capital Projects **	653	731	854	892	690	3821
Rail	12	14	34	35	62	157
IT	10	36	39	29	6	121
PSDH	0	24	114	276	222	637
Adjustments	28	(28)				
						4736

All values in £ millions.

* CIP2010 values deflated using inflation rates of 5.00% (Year 1 as confirmed CIP09) and 0% (Year 2 refer inflation section 5.4)

** Capital Projects includes payments relating to land purchased for the construction of Terminal 5.

Table J: Total CIP Values - CIP 2010

Table H shows total Heathrow Q5 Capital expenditure (outturn prices) of £5,072m. This compares to the CAA's outturn Q5 Capital expenditure forecast of £5,137m. Therefore HAL believes the programme of works can be delivered within the original CAA outturn Q5 forecast.

When deflated to the price base of the original CAA decision (07/08) the Heathrow Q5 expenditure has increased by £194m. Section 5.4 describes the inflation assumptions that resulted in the increase.

5.5 Risk

5.5.1 Development of Portfolio Risk Provision

The portfolio level risk reserve (R2) which 'centralised' circa 50% of project held risk as was explained in CIP 2009 proved successful in enhancing the focus on proactive risk management. By September 2009, an underspend against forecast risk impact of approximately £25 Million was evident.

As projects were reviewed in preparation for IBR6 it was concluded that:

- Projects had evolved in scope and schedule from the point at which the original R2 assessment had been made;
- Many projects had successfully managed risk to the point where the original R2 provision would not be required; and
- It was increasingly difficult to reconcile actual risk requirements to the centralised amount.

As part of IBR6 a major risk review was held across all projects to ascertain potential risk requirements, incorporating the potential for upsides (opportunities) to be realised. In all projects where there was reasonable definition of requirements the review was undertaken "bottom up", i.e. assessing specific risks and opportunities relevant to the project. In early stage projects, generic risk profiles, based on historic performance were utilised. This assessment was fed into a "Monte Carlo" simulation to generate a full range of probabilistic output per project, per programme and for the entire portfolio. At IBR6 all projects were re-baselined to a "most likely" or "P50" outturn cost (EAC) from

the model and sanctioned to proceed with this expectation as the IBR6 Performance Baseline. The central "R2" risk reserve was thus eliminated.

Portfolio level risks, i.e. those with low probability of occurrence which are impractical to carry at project level such as catastrophic asset failure, major safety concerns or operational crises and portfolio uncertainties such as inflation fluctuating from expectations and gaps at project interfaces were also considered in the model. HAL elected to exclude the potential financial impact of these risks in order to minimise any latent money in the baseline. The baseline is thus fully deployed in actual work.

With the baseline set at an aggregate P50 (exclusive of portfolio risk), the theory is that 50% of projects will deliver below the P50 which will offset the 50% which cannot. If portfolio risks occur the ability to maintain planned projects would be assessed.

The JST was consulted over this action in September 2009 and agreed to the proposals. As a result the P50 methodology has been applied to all project risk provisions from December 2009 onwards.

These changes have resulted in more accurate and up to date project EACs whilst maintaining the commercial pressure to effectively manage risks and realise opportunities. At December 2009, the overall percentage held for risk within the portfolio had dropped from 18% at the commencement of the quinquennium to around 7% as illustrated below.

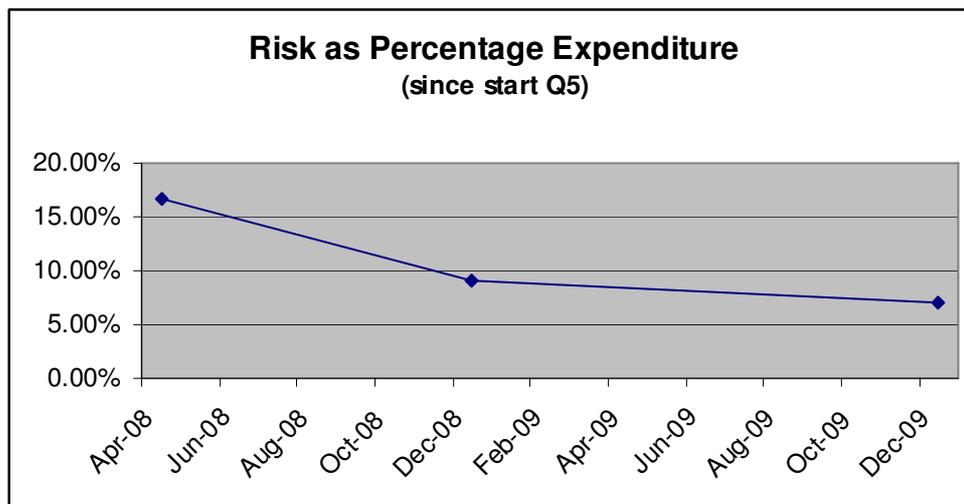


Figure 1: Percentage of total risk provision in Q5

At Decision Gateways, the amount held by projects for risk (offset by potential opportunities) is assured and compared with generic expectations as evidenced by similar, completed, projects. A review of these generic expectations is planned for 2010/2011 to incorporate the effect of the enhanced risk management implemented.

5.5.2 Revision of Risk Management Process

Through 2009/10, the Project Issues, Risk and Opportunity (PIRO) process continued to be enhanced to reflect requirements and expectations for the management of projects and programmes. In March 2010, revised procedures were drafted to reflect the new P50 process and incorporate further recommendations.

A Risk Management Maturity model was introduced in 2009 to measure not only compliance with the procedures but also extra-over measures implemented by teams to enhance their management of risk and delivery of opportunities.

By December 2009 all programmes were reported to be at Level 3 “Mature” Maturity rating as illustrated below.

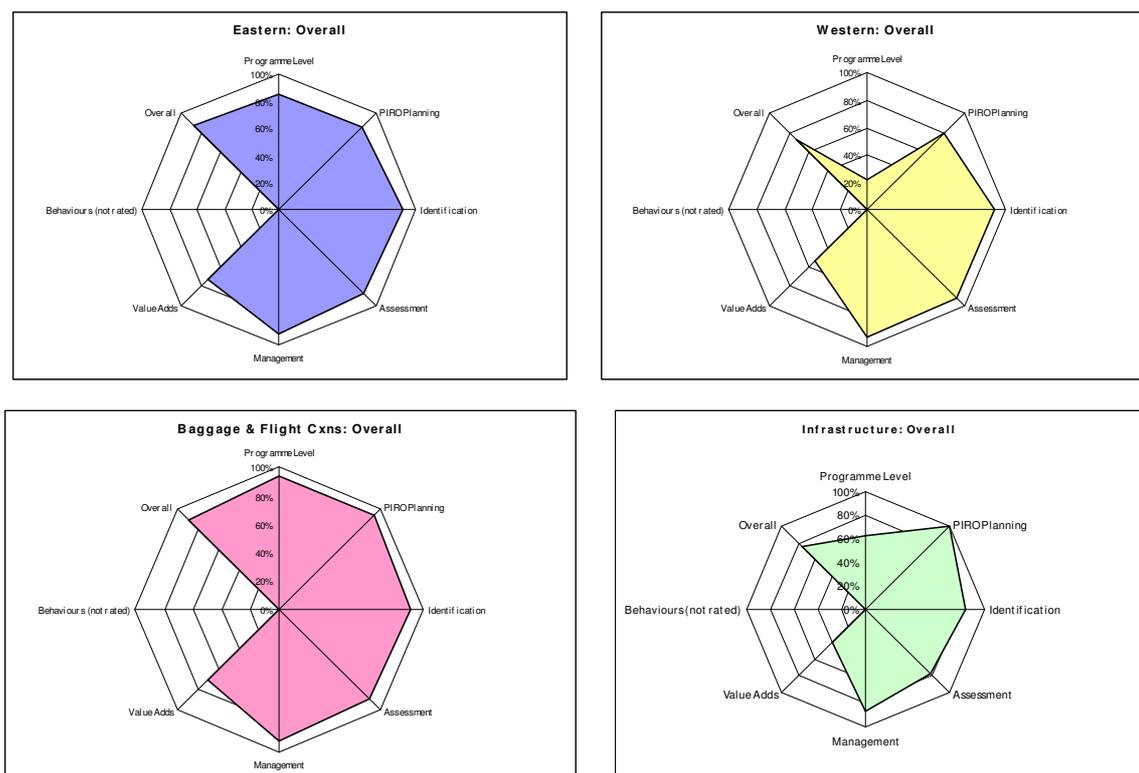


Figure 2: Maturity Assessment December 2009³

Following the revision to the processes in March 2010, the Maturity model has now been overhauled to audit programmes compliance and further ‘behavioural’ characteristics have also been introduced.

5.6 Change Control

HAL introduced a comprehensive new change control process in June 2008 to capture all changes to projects arising from baseline reviews, budget or scope change. This process is called Client Change Control and ensures that all changes are assessed, consulted upon with airlines and approved for implementation.

³ IBR6 PER06 Maturity Assessment

Under the Client Change Process airlines are invited to raise requests for scope or schedule change via Issue Request Forms (IRF). Confirmed change requirements are then captured by HAL on Change Control Record Sheets (CCRS).

CIP Working Group has been used as a final consultation on behalf of the JST. In addition the CIP Working Group has agreed the categories of client change on which consultation should be conducted, the forum (Stakeholder Programme Boards or CIP Working Group) that should consider each category of change and the airline representatives who have the authority to endorse changes on behalf of the community.

Impacts and status of all change requests are captured on a central Client Change Register. This information is shared with airlines each month via Stakeholder Boards and the CIP Working Group. A dashboard report is also produced for the CIP Working Group each month that is designed to illustrate the volume and status of client changes across the CIP and give an indication of how successfully consultation is being concluded in relation to the implementation of change.

Figure 3 shows a high level summary of the client change process.

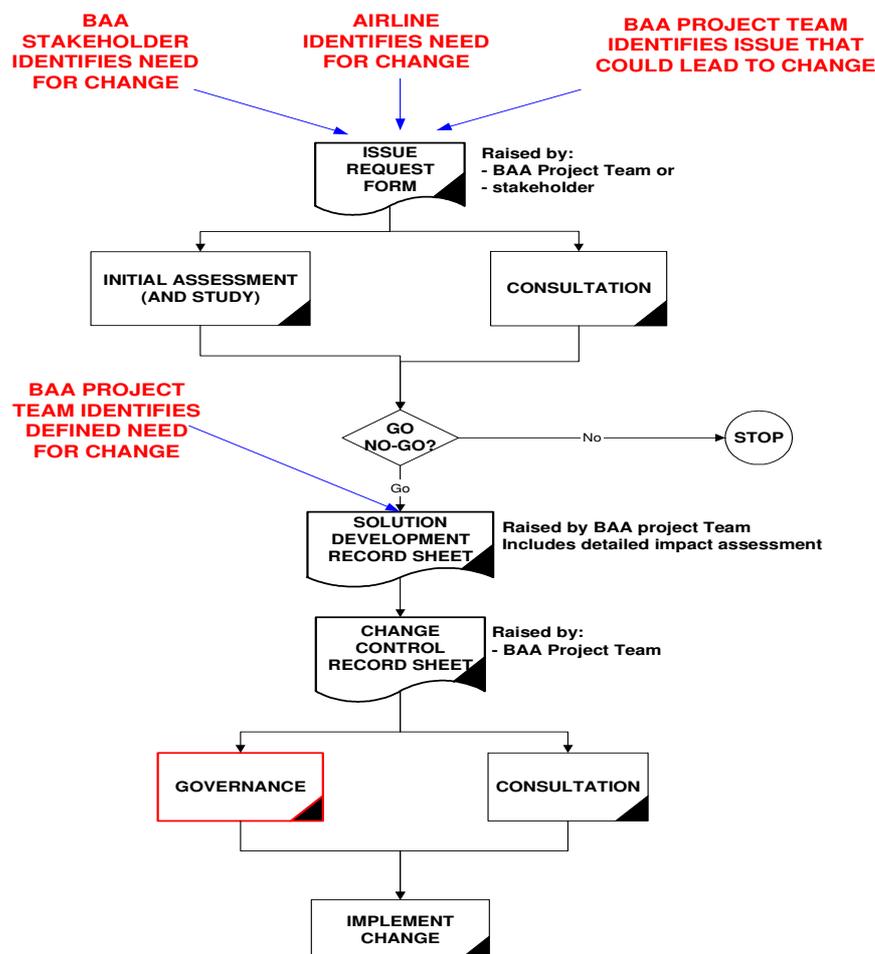


Figure 3: Client Change Process

5.6.1 Client Change Status - February 2010

The current client change dashboard indicates that 81% of the 753 client changes that have been implemented since June 2008 have been formally endorsed by airlines. It should be noted that this is not an indication that consultation has yet to take place on the remaining 19%; merely that it has not yet concluded in a signature on the change record. In fact a significant percentage of the change requests that are unsigned as at February 2010 relate to the setting of the IBR6 Performance Baseline, which the JST has already endorsed but that require signatures from Stakeholder Programme Board airline representatives on the individual change records.

Work is nearing completion on the introduction of a more sophisticated tool to compile and produce reports on the impact of client change across the CIP both for internal HAL decision-support and to inform consultation. This is one aspect of the continued refinements being applied to the change management process as it matures and as experience grows.

6 Consultation

6.1 Delivery of Annex G commitments in Q5

6.1.1 Consultation on Capital Projects including Stakeholder Programme Boards

A comprehensive structure has been established to consult the airline community on the Q5 programme and beyond. The Joint Steering Team (JST) provides a forum for cross campus consultation and is attended by representatives from the home based carriers, the alliances, IATA and the AOC.

6.1.1.1 Stakeholder Programme Boards

Stakeholder Programme Boards (SPBs) are operating within each of the four Heathrow programmes with the Western Campus divided into 3 respective subsets due to the specific needs of each terminal (Terminals 3, 4 and 5). The SPBs, which meet on a monthly basis are chaired by the Programme Directors who have full accountability for all aspects of the programme. The SPBs provide a forum for individual project consultation including change and progress reporting. Membership includes representatives of airlines, alliances, IATA and the AOC.

6.1.1.2 Consultation at Gateways

Recognising that full consultation on all projects would not be appropriate, the airline community were asked to nominate which of the Q5 projects should be treated as 'key projects' for the purposes of consultation. For 'key projects', gateway consultation events are held in line with HAL's project management process at Brief, Option and Construction Decision gateway stages. For the largest projects, consultation has been undertaken through dedicated working groups. For other 'key projects', the airline community have deemed it appropriate to consult through the SPBs. The wider airline community are provided with updates on the outcomes of all gateway consultation events through the JST.

6.1.1.3 Change Control

A Change Control process (known as the CCRS process as outlined in 5.6) is now firmly established. The process is built around the principle of consultation at the earliest stage possible and HAL consults the airline community extensively on changes to cost or scope in the CIP. The status of outstanding change issues is reviewed and reported regularly and a pan airport view of significant items is provided to the CIP Working Group which considers cross campus issues, change that effects more than one sub programme or trigger projects.

It has been recognised that consulting on change effectively with large airline groups is challenging and two Airline Leads have been appointed for each SPB. There are agreed terms of reference for this role the Airline Lead reviews each item of change and confirms that consultation has taken place. The SPBs retain visibility of all significant change issues.

6.1.1.4 Consultation on Risk Allowances

The SPBs and CIP Working Group receive monthly reports on the use of risk allowances with Airline Leads consulted on the significant use of risk monies. As part of the baseline review of December 2009 (IBR6), all projects were re-baselined to a 'most likely' or 'P50' outturn cost eliminating the central risk reserve.

6.1.2 Rail Stakeholder Programme Board

Rail Stakeholder Programme Board was formed in November 2009, the programme Board meets on a quarterly basis and is chaired by the Heathrow Rail Project Manager.

The purpose is to:

- ensure airlines and key stakeholders are engaged with the Programme objectives and delivery, so that the objectives are achieved
- provide stakeholders with an overview of all solutions in the Programme to assure alignment
- Demonstrate compliance with the CAA Q5 CIP Settlement Annex G

Membership includes HEX, AOC, IATA and representatives of airlines and alliances.

6.1.3 Information Technology (IT) / Systems

This CIP publication, for the first time expands the investments in IT / Systems into greater detail. In previous years IT/Systems has been covered through three headings:

- BAA IT (A single line not defined in any further detail)
- Specific major IT investments (one or two lines detailing any major works. e.g.: Network Upgrade.)
- IT content within main capital projects (not listed against IT, but content detailed on Cost Advice sheets for projects with an IT/Systems element.)

This year the same scope covered by the first bullet will be detailed over three separate portfolios; Airport Operational Systems, Infrastructure Renewal and Business Planning and Support Solutions

In support of Annex G commitments, an Airline Consultation Process has been established for IT; the IT Stakeholder Board is a quarterly meeting which is focussed on high level strategic plans for the future of technology at Heathrow and is attended by Chief Information Officer level representation from British Airways (also representing One World), Virgin Atlantic, Emirates, British Midland, KLM, Star Alliance and the AOC⁴. The IT Stakeholder Board is supported by the IT Working Group which is a monthly meeting attended by IT Senior Managers from the Airlines and alliances referenced above, with individual representatives nominated by each IT Stakeholder Board member. The IT Working Group is responsible for reviewing and endorsing the IT CIP portfolio and carrying out detailed consultation on key IT projects.

6.1.4 Project for the Sustainable Development of Heathrow (PSDH)

The agreed governance for the 3RR3 programme with the airline community is through the 3RR3 Airline Working Group (formally the PSDH Working Group). The Working

⁴ Heathrow Airline Operations Committee

Group reports to the Joint Steering Team (JST) and the London Airline Consultative Committee (LACC).

The core members of the 3RR3 Airline Working Group are:

- Heathrow Airline Operators Committee (AOC)
- International Air Transport Association (IATA)
- British Airways (also represents One World)
- Virgin Atlantic
- British Midland
- Star Alliance

6.1.5 CIP Working Group

In addition to the Stakeholder Programme Boards, HAL consults with the airline community and the overall delivery and development of the CIP through a monthly CIP Working Group (a sub committee of the JST) These meetings review the high level progress of Q5 delivery together with monitoring of capital efficiency, Annex G compliance and overreaching financial issues for current and future quinquennia.

6.2 Information Provision

HAL has provided the detailed information on Q5 and some Q6 projects to enable effective consultation, through projects, programme boards, and through the CIP. If further information is required by the airline community to enable them to better understand the proposed investment then HAL will endeavour to provide this.

HAL believes that the comprehensive structure established to consult with the airline community and the provision of information meets the requirements contained within Annex G.

6.3 Airline Engagement Status Marker

The airline engagement status marker is a snapshot marker of airline community engagement with particular projects.

Figure 4: Airline Engagement Marker shows how this classification (Red, Amber or Green) is determined between HAL and the airline community. The status of each project is shown on the relevant PDS.

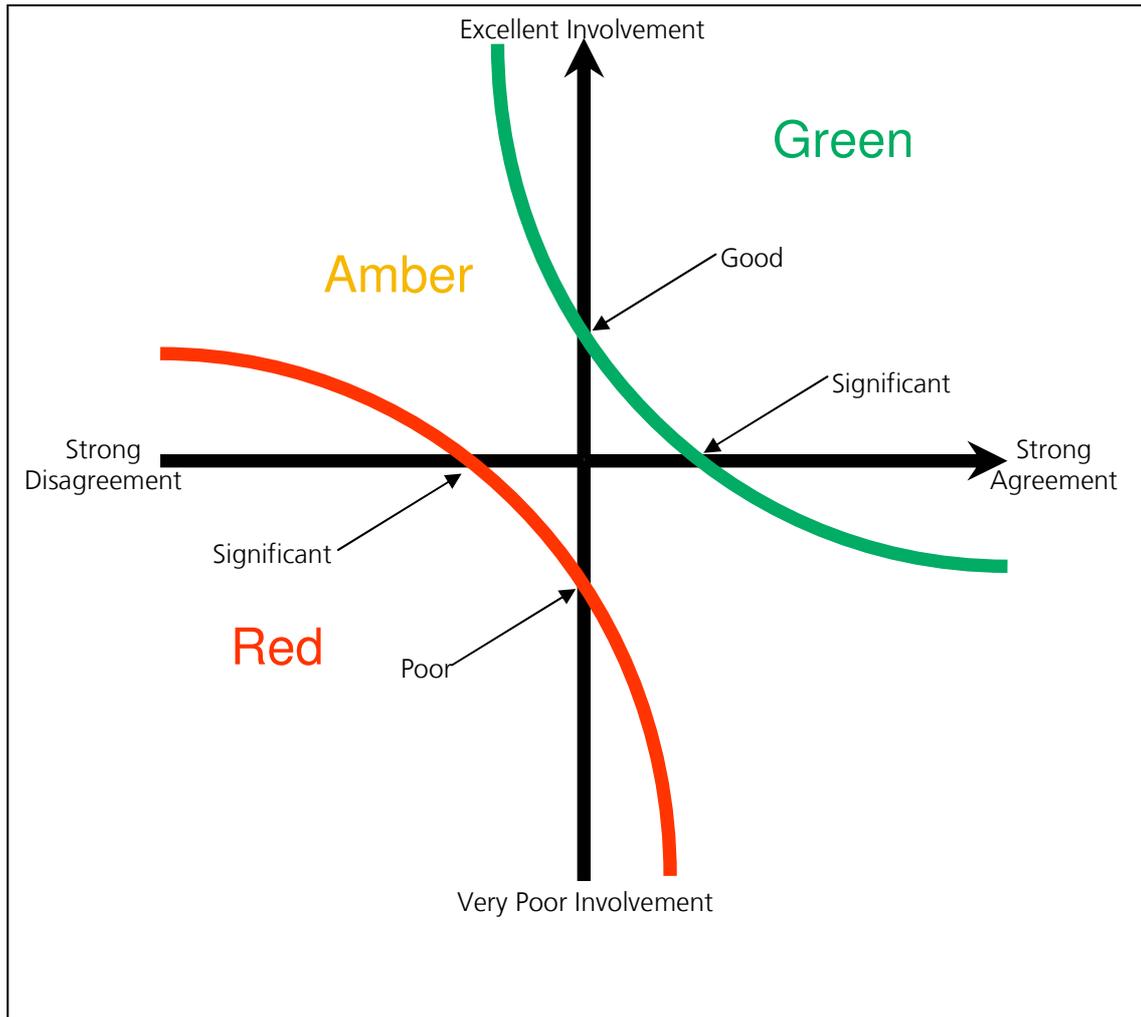


Figure 4: Airline Engagement Marker

HAL has allocated the status markers. On any occasion where the marker is not agreed with the airline community this would be stated in the "Areas of Disagreement" section of the relevant Project Definition Sheet.

It should be noted that, in general, possible projects for Q6 have been allocated a "red" status. HAL has done this recognising that, for this edition of CIP, such individual possible projects have, to date, not been consulted upon for the reasons outlined throughout this document. Therefore HAL has stated that these projects have had below "poor" level of airline involvement, which is not strictly the case as the airline community have agreed to the manner in which Q6 and beyond have been presented in this document. No assessment of airline support has been included in these future projects. This decision on status markers was made in the light of the issues regarding Q6 and beyond detailed expansively in this document and specifically in section 2. Such "red" status reflects HAL's desire to be open about the status of consultation and agreement.

7 CIP 2010 Consultation

HAL would encourage airlines to submit views on the projects and issues set out in CIP 2010 by the end of July 2010, so that they be taken into account in the development of the airports future capital investment plans.

Airline views would be particularly welcome on the following issues:

1. Heathrow Strategy and Vision - do airlines have any views on the strategy and vision set out in CIP 2010 (Section 2)?
2. Heathrow Traffic Forecasts - do airlines agree that the ten-year traffic forecasts set out in CIP 2010 are an appropriate basis on which to consider Heathrow's capital plan (Section 2.2)?
3. Asset replacement - do airlines have any views on scale of asset replacement set out in CIP 2010 (Appendix S)?
4. Overall capital investment - do airlines agree that the level of capital investment shown in CIP 2010 for Q5 is appropriate (Section 5.4)?
5. Investment priorities for Q6 and Q7 - do airlines have preliminary views on the investment priorities at Heathrow in the Q6 and Q7 period covered by the CIP (Section 2.5)?

Consultation responses should be sent to:

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8 Appendices