



# Independent planning cost review

**Heathrow Expansion Programme covering  
the period of 2018**

Report dated April 2020



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# Executive summary

## Background and context

In October 2016 the UK Government announced its decision to support a third runway at Heathrow Airport to expand the UK's air capacity. As the UK's specialist aviation regulator, the Civil Aviation Authority (CAA) has a role in overseeing the third runway's timely and cost efficient delivery, including the planning process which is currently underway. In support of the CAA's oversight role, Heathrow Airport Limited (HAL) is required to provide an annual statement (the 'Statement') in accordance with CAA policy documents CAP1513 and CAP1651. The Statement sets out the Category B costs (planning costs) HAL has incurred in the prior years with sufficient detail to allow for effective scrutiny.

CAA guidance CAP1651 includes the identification and definition of cost categories, which are set out in Table 1 and used throughout this report.

Table 1: Categorisation of costs

Category A costs	Category B costs	Category C costs
These costs are costs which were incurred by HAL during the Airports Commission process, or before Heathrow was named as the preferred location for new runway capacity on 25 October 2016. These costs are not generally recoverable.	Capacity expansion costs that are, in general, incurred by HAL after the Government policy announcement on its preferred location for new capacity on 25 October 2016 and are associated solely with seeking planning permission for the delivery of new runway capacity at Heathrow, as defined in CAP1513.	Those costs incurred by HAL in connection with implementation and construction of new capacity, up to entry-into-operation. The majority of these costs will typically be incurred after planning permission is granted.

## Scope and purpose

PwC was engaged by the CAA under an Order Form dated 17 January 2019. The scope of this commission was to independently review the 2018 statement (the 'Statement') and assess the extent to which Category B costs were correctly incurred and apportioned in accordance with CAA guidance. In order to address this, the following two areas were assessed:

1. Are the costs presented in the Statement supported by appropriate evidence and correctly categorised as Category B?
2. Is there evidence to indicate that costs included within the Statement have been incurred in an efficient manner?

## The statement

HAL provided the Statement on the 02 May 2019 and is included as Table 2 for reference:

Table 2: The Statement including comparison against 2018 budget

Functions	a	b	c = a - b	d = (c/a)*100
	Budget (£m)	Actual (£m)	Variance (£m)	Variance as a %age of the Budget
Colleague costs	19.400	19.272	0.128	1%
Programme Leadership	8.367	5.634	2.733	33%
Future Heathrow	5.987	5.763	0.224	4%
Airline Strategy	4.629	2.933	1.696	37%
Consents	12.505	11.437	1.067	9%
Future Heathrow – IT	3.721	1.025	2.696	72%
IDT	39.825	52.618	(12.793)	(32%)
Community and stakeholder	1.070	1.021	0.049	5%
Programme IT	5.661	1.781	3.88	68%
Ground Investigation	23.267	10.706	12.561	54%
Exec	1.645	1.244	0.401	24%
HR	0.270	-	0.270	100%
Finance	4.900	0.719	4.181	85%
Property – Land Referencing	-	2.256	(2.256)	-
<b>Total CAPEX</b>	<b>131.247</b>	<b>116.410</b>	<b>14.837</b>	<b>11%</b>
OPEX costs	-	2.162	-	-
<b>Total</b>	<b>131.247</b>	<b>118.195</b>	<b>13.052</b>	<b>10%</b>

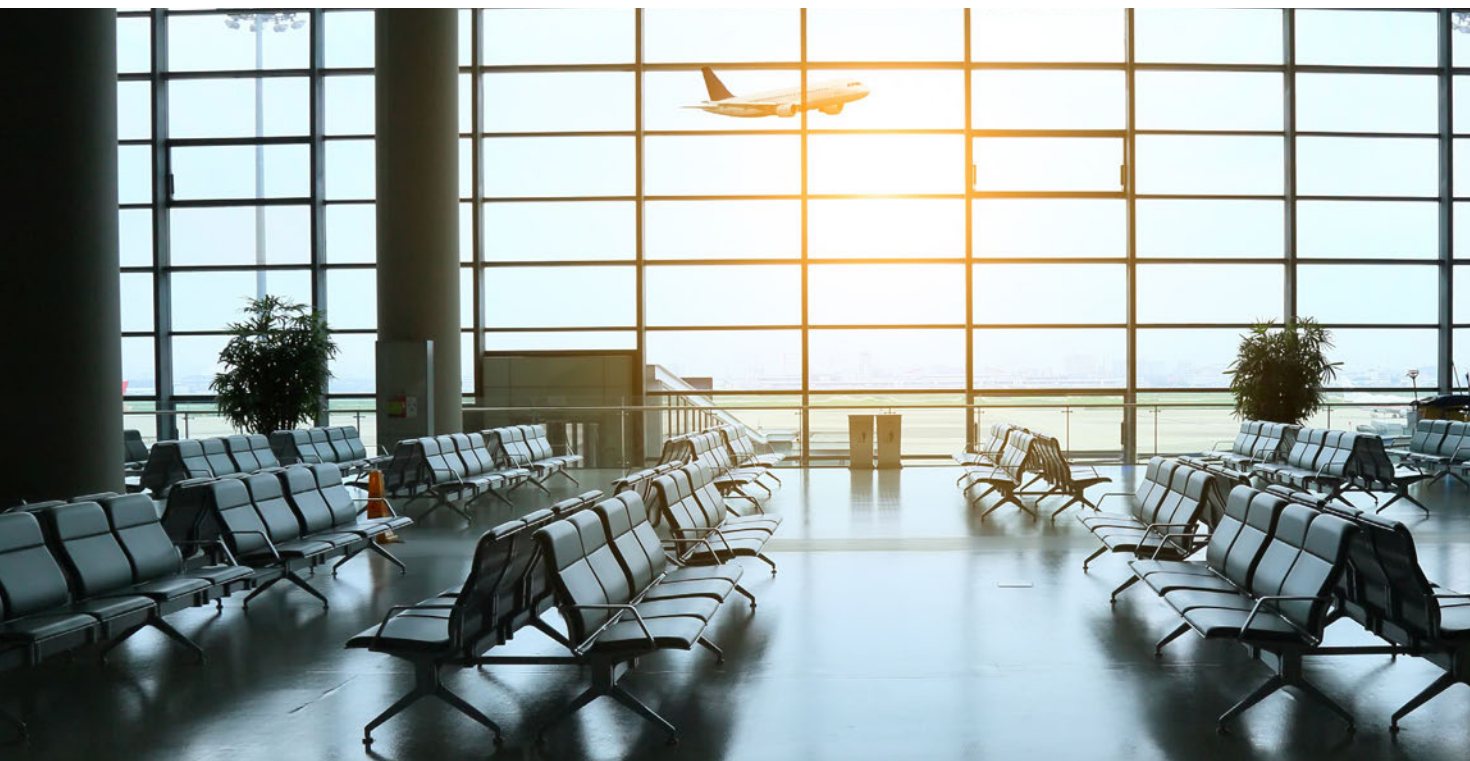
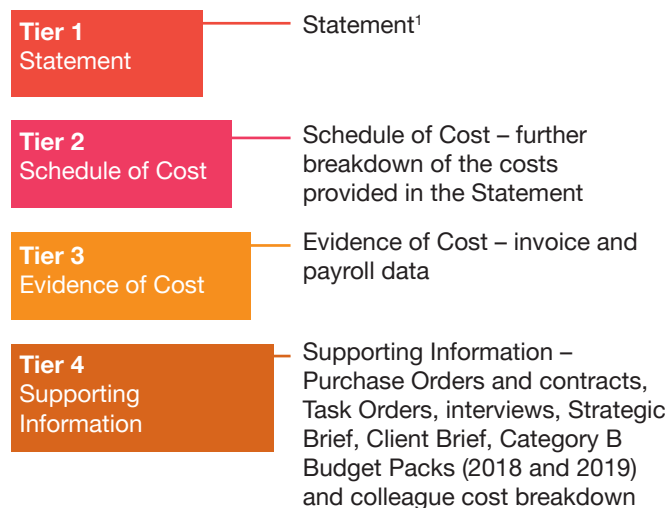
# Approach

Our approach was to establish an overview of the Expansion Programme through a review of the Statement and the supporting schedule which details all invoices and accruals, referred to as Schedule of Cost, and through initial interviews with individuals from various functions within the Expansion Programme. The Schedule of Cost provided a comprehensive and fully detailed set of supporting information that reconciled to the Statement and enabled six areas of cost to be selected and agreed with the CAA as key areas for further investigation. The areas agreed with the CAA were based on their materiality to the Statement, variance from the 2018 budget and prior knowledge of the functional areas; these included:

- 1. Colleague costs
- 2. IDT
- 3. Programme Leadership
- 4. Future Heathrow
- 5. Information Technology (IT)
- 6. Ground Investigations.

For the detailed analysis phase additional documentation was requested including a sample of invoices, and payroll data, referred to as Evidence of Cost. Further Supporting Information was requested which included Purchase Orders, Contracts, Task Orders, interviews, documents that define Expansion Programme requirements and other relevant breakdowns of information. Figure 1 sets out the document hierarchy and tiers of information provided and referenced throughout this report.

Figure 1: Document hierarchy and tiers of information



1 [Redacted]

## Key findings

Our key findings for the two areas of focus of our review are provided below.

### Are the costs presented in the Statement supported by appropriate evidence and correctly categorised as Category B?

#### Reconciliation of the Statement to Schedule of Cost

HAL provided a Schedule of Cost which reconciled for all functions. This included:

- an anonymised and itemised list of direct employee costs including bonuses
- an itemised breakdown of all invoices for suppliers split according to functions.

#### Reconciliation of the Schedule of Cost to Evidence of Cost

The Schedule of Cost reconciled with the Evidence of Cost for the sample reviewed, which represented 12% of total costs incurred during 2018. In total we reviewed a sample of 111 invoices, 13 payslips and 6 bonuses and did not note any exceptions.

## Review of Supporting Information

In total we requested a sample of 55 Purchase Orders to enable a review of the supporting information for the total Statement costs. HAL advised that the selected Purchase Orders included a very limited scope description, and instead provided the corresponding contracts and Task Orders linked to the Purchase Orders which HAL advised included a more comprehensive scope description. This sample accounted for 57% of the total Statement costs as referenced in Table 3.

From the sample of Supporting Information reviewed the majority of documents included clear references to Expansion Programme scope. By exception we noted:

1. six examples where the sampled contracts and Task Orders included references to scope for Heathrow Regulatory Period 7 (H7). HAL has subsequently advised that any references to non-Expansion Programme scope have been de-scoped or the work was not carried out. Examples are included in Section 2 of this Report.
2. nine examples where the sampled contracts and Task Orders included references to scope where it was initially unclear whether the scope and costs were Category B or Category C. HAL has subsequently clarified the rationale for scope and the associated costs being classified as Category B. Examples are included in Section 2 of this Report.

Table 3: Summary of Evidence of Cost and Supporting Information sample reviewed per function

Function Name	2018 Total Spend (£m)	No. of invoices/ payslips (Evidence of Cost) sampled	% of 2018 spend sampled	No. of Contracts/ Task Orders Sampled <sup>2</sup>	% of 2018 spend sampled through contracts/Task Orders
Colleague Costs	19.272	19 <sup>3</sup>	4%	N/A	N/A
IDT	52.618	20	11%	16	98%
Non- IDT					
Programme Leadership	5.634	16	15%	9	71%
Future Heathrow	5.763	12	15%	6	37%
IT	2.806	21	23%	9	40%
Ground Investigation	10.706	19	12%	7	48%
Other: (Consents, Community and Stakeholder, Regulation Strategy, Property and Finance)	19.611	23	21%	8	11%
<b>Total</b>	<b>116.408</b>	<b>130</b>	<b>12%</b>	<b>55</b>	<b>57%</b>

2 HAL provided contracts and Task Orders to evidence the scope of the Purchase Orders. Where the contracts provided did not reference the PO number, HAL provided a spreadsheet that linked the POs with the contract numbers.

3 including 13 payslips and 6 bonuses

## Opportunities as the Expansion Programme matures

The Expansion Programme was rapidly mobilised in October 2016 following the government announcement. 2018 was the second full year for the Expansion Programme since the government announcement and as it matures there are opportunities to further clarify cost categorisation in accordance with CAA guidance.

1. HAL could implement a timesheet system to clarify time spent on the Expansion Programme and whether costs are Category B or Category C.
2. Some Purchase Orders, contracts and Task Orders may exist as a legacy from when the Expansion Programme had to rapidly mobilise, and as a consequence cover scope for both the Expansion Programme and other HAL activities. How HAL delineates the scope of work required for the Expansion Programme and other 'business as usual' activities is not documented in a comprehensive integrated baseline, as further detailed in Section 3 of this report.

## Is there evidence to indicate that costs included within the Statement have been incurred in an efficient manner?

From our previous review that covered the period 2016 and 2017, we identified a number of thematic opportunities for HAL to operate in a more efficient manner. Following our review covering the period of 2018, a number of these thematic issues remain.

Some major milestones were achieved during 2018, such as completion of extensive stakeholder consultation following the National Policy Statement designation in June 2018, to develop a single emerging Masterplan to be taken for public consultation<sup>4</sup>. Following achievement of these milestones the Expansion Programme has reached the point where it can clearly establish the foundations for operating in an efficient manner. The key issues relating to efficiency from our review covering the period of 2018 are set out below.

**Establishing a single baseline:** Our review last year identified that HAL did not have a clear and singular integrated baseline plan through to approval of the DCO that aligns requirements and scope with the associated time, cost and risk. This remains the situation from our review of 2018: HAL has provided evidence of some isolated examples of integrating scope, schedule and/ or cost, but nothing that provides a singular baseline plan through to DCO that aligns all components.

Whilst HAL does have multiple documents that relate to scope, time, cost and risk, the alignment and dependencies between these documents remains unclear and they do not establish a robust

baseline position from which to measure and manage performance and control delivery. Further areas for development remain for the following baseline components:

- **Deliverables to DCO approval:** HAL has not provided evidence which definitively sets out the baseline scope and deliverables required for 2018 or up to DCO approval. Whilst HAL has provided a number of documents containing varying levels of scope detail, these do not establish a robust baseline of scope from which to direct and manage the delivery of the programme.
- **Integrated schedule:** HAL has developed a number of schedule documents to record and monitor activities, from Level 0 (high level programme) to a detailed P6 Schedule (~3000 activities). The various schedules are not systematically linked, and it remains unclear how high level management information is updated to reflect appropriate changes in lower level schedules. HAL has advised that a baseline schedule was established in September 2018 for activities through to DCO approval, which is consistently reported in the Monthly Status Reports dated September 2018 through to December 2018. As HAL develops their schedule management process there is an opportunity to improve systems and processes, which in turn will support efficiency.

HAL has advised that a singular and integrated baseline has been developed during 2019 for the Expansion Programme, now that the NPS designation has been achieved and the masterplan has reached Milestone M3c<sup>5</sup> (completion of extensive stakeholder consultation following NPS designation), although for clarity, given this relates to activities completed during 2019 this did not form part of our review.

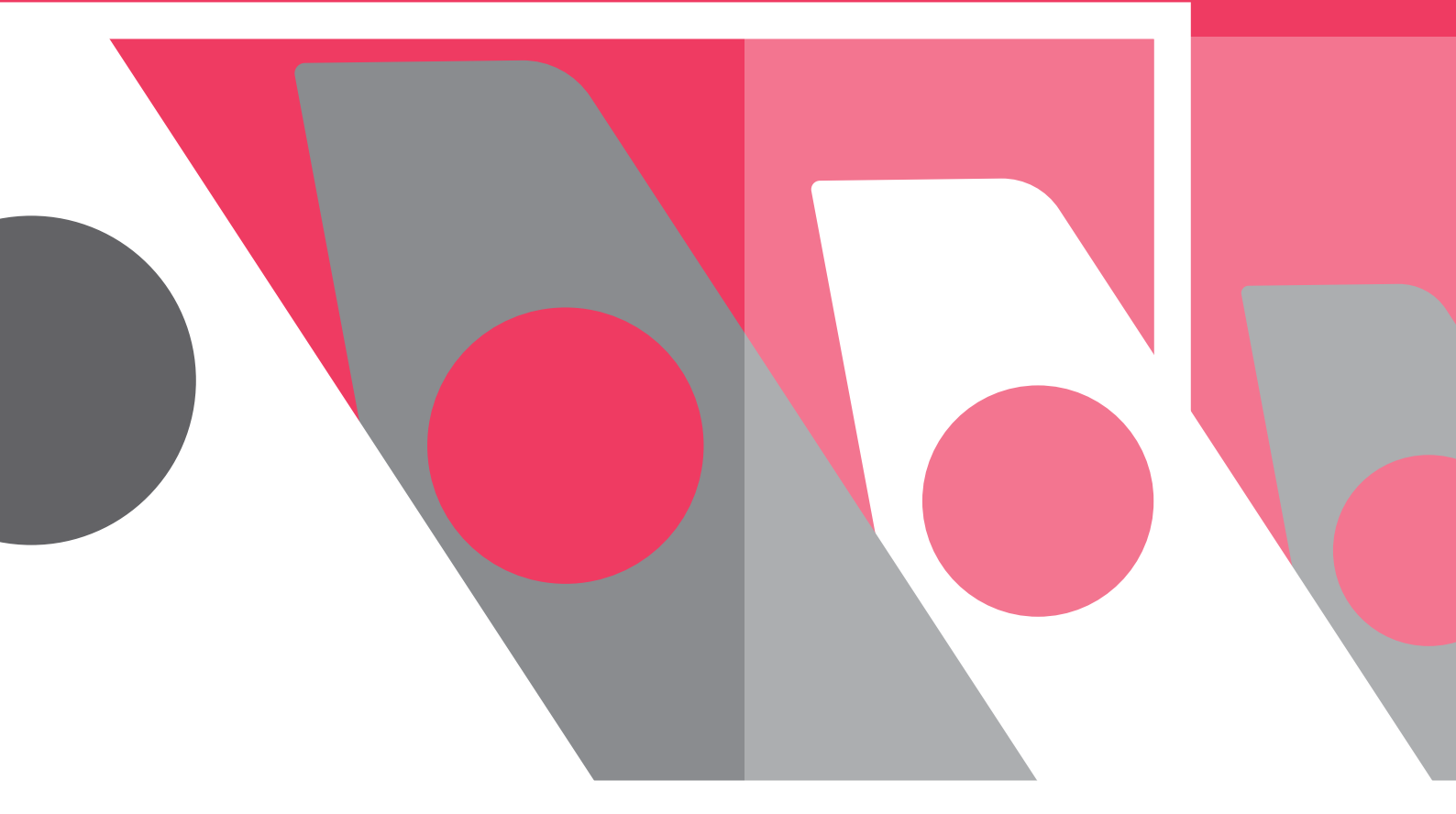
**Core controls:** During our review of cost we identified a number of core programme controls processes that were not in place, and are consistent with our review findings of the prior year, including:

- **Change control:** HAL did not operate a programme level change process for the Expansion Programme to manage the baseline scope, cost, schedule and risk in 2018. HAL has subsequently advised that a Programme level change control process has been introduced in 2019 to manage changes to the baseline, although for clarity this could not be validated as part of our review of 2018 costs.
- **Timesheet system:** HAL did not have a timesheet system that records internal staff time on the Expansion Programme. Whilst this system will support the overall allocation of time to the programme, it will also enable analysis of planned time versus actual time to indicate deliverability of key activities. HAL has advised that a timesheet system was considered for the Expansion Programme during 2019, but for clarity this could not be validated as part of our review of 2018 costs.

4 Milestone M3c

5





# Section 1

Introduction, context and approach



## 1.1 Introduction

The purpose of this section is to provide an introduction and context to the review. It will provide an overview of the Statement and describe the approach adopted and outline the subsequent sections of the report.

## 1.2 Background and context

In October 2016 the UK Government announced its decision to support a third runway at Heathrow Airport to expand the UK’s air capacity. As the UK’s specialist aviation regulator, the Civil Aviation Authority (CAA) has a role in overseeing the third runway’s timely and cost efficient delivery, including the planning process which is currently underway. In support of the CAA’s oversight role, Heathrow Airport Limited (HAL) is required to provide an annual statement (the “Statement”) in accordance with CAA policy documents CAP1513 and CAP1651. The Statement sets out the Category B costs (planning costs) HAL has incurred in the prior years with sufficient detail to allow for effective scrutiny.

CAA guidance CAP 1651 includes the identification and definition of cost categories, which are set out in Table 4 and used throughout this report.

Table 4: Categorisation of costs

Category A costs	Category B costs	Category C costs
<p>These costs are costs which were incurred by HAL during the Airports Commission process, or before Heathrow was named as the preferred location for new runway capacity on 25 October 2016. These costs are not generally recoverable.</p>	<p>Capacity expansion costs that are, in general, incurred by HAL after the Government policy announcement on its preferred location for new capacity on 25 October 2016 and are associated solely with seeking planning permission for the delivery of new runway capacity at Heathrow, as defined in CAP1513.</p>	<p>Those costs incurred by HAL in connection with implementation and construction of new capacity, up to entry-into-operation. The majority of these costs will typically be incurred after planning permission is granted.</p>

## 1.3 Scope and purpose

PwC was engaged by the CAA under an Order Form dated 17 January 2019. The scope of this commission was to independently review the 2018 statement (the “Statement”) and assess the extent to which Category B costs were correctly incurred and apportioned in accordance with CAA guidance. In order to address this, the following two areas were assessed:

1. Are the costs presented in the Statement supported by appropriate evidence and correctly categorised as Category B?
2. Is there evidence to indicate that costs included within the Statement have been incurred in an efficient manner?

## 1.4 Information provided

### The Statement

HAL provided the total Category B costs incurred up to and including 2018, and the forecast costs through to approval of the Development Consent Order (DCO) in 2021, which is included in Table 5 for reference<sup>6</sup>.

Table 5: Total Category B cost estimate

Year	Spend type	a	b	c	d	e = (a/c)*100	f	g = (f/c)*100
		In year total spend (£m)	Cumulative spend (£m)	Projected outturn costs (£m)	In Year spend as a %age of outturn costs	Cumulative spend %age of outturn costs	Remaining costs to go (£m)	Remaining spend as a %age of outturn costs
2016	Actual	11	11	£529 <sup>7</sup>	2%	2%	287	96%
2017	Actual	78	89		15%	17%	328	81%
2018	Actual	118	207		22%	39%	322	61%
2019 <sup>8</sup>	Projected	198	405		38%	77%	124	23%
2020	Projected	80	485		15%	92%	44	8%
2021	Projected	39	524 <sup>9</sup>		7%	99%	6	1%

HAL provided the Statement on the 02 May 2019 including a comprehensive supporting schedule of costs and associated invoices and an overview of the scope delivered in 2018 and comparison to budget<sup>10</sup>. This was in contrast to the review<sup>11</sup> conducted during 2018 (which reviewed costs incurred in 2016 and 2017) where key supporting documents were not available.

The Statement does not include any separate contingency or risk allowance for Category B costs. HAL has advised that a separate allowance for risk and contingency does exist, but that the allowance is for the entire Expansion Programme and is maintained separately. For clarity this did not form part of our review.

6 [REDACTED]

7 The current projected outturn position as at the time of budget setting in 2017. We note that the Outturn costs for Category B costs have increased from £298m (at 2014 prices)

8 [REDACTED]

9 The total cumulative spend of £524m referenced in the Statement (column b of Table 5) is based on the projected spend from 2019 onwards and is lower than the overall outturn costs of £529m by £5m. This is because at the time of reporting the Statement, an additional £5m were expected to be actualised in 2018. However, the 2018 actual costs were lower than anticipated by £5m.

10 [REDACTED]

11 Independent Planning Cost Review Heathrow Expansion Programme Covering the period 2016 and 2017 Report dated November 2018

Table 6 shows a breakdown of the Statement provided by HAL including actual costs and a comparison against the 2018 budget.

**Table 6: The Statement including comparison against 2018 budget**

	a	b	c = a - b	d = (c/a)*100
	Budget (£m)	Actual (£m)	Variance (£m)	Variance as % of the budget
Colleague costs	19.400	19.272	0.128	1%
Programme leadership	8.367	5.634	2.733	33%
Future Heathrow	5.987	5.763	0.224	4%
Airline strategy (regulation and strategy)	4.629	2.933	1.696	37%
Consents	12.505	11.437	1.067	9%
Future Heathrow – IT	3.721	1.025	2.696	72%
IDT	39.825	52.618	(12.793)	(32%)
Community and stakeholder	1.070	1.021	0.049	5%
Programme IT	5.661	1.781	3.88	68%
Ground Investigation	23.267	10.706	12.561	54%
Exec	1.645	1.244	0.401	24%
HR	0.270	-	0.270	100%
Finance	4.900	0.719	4.181	85%
Property – Land referencing	-	2.256	(2.256)	-
<b>Total CAPEX</b>	<b>131.247</b>	<b>116.410</b>	<b>14.837</b>	<b>11%</b>
OPEX for 2018	-	2.162	-	-
<b>Total</b>	<b>131.247</b>	<b>118.195</b>	<b>13.052</b>	<b>10%</b>

### Key documents

The key documents provided by HAL are included in Table 7 and are referenced throughout this report.

**Table 7: Key documents provided by HAL**

Document name	Type	Content
[REDACTED]	PDF	Description of scope and costs incurred during 2018
[REDACTED]	Excel	The 2018 Statement provided by HAL
[REDACTED]	Excel	Schedules of source data for 2018 costs
Invoices	PDF	A sample of requested invoices
Purchase Orders (POs) and Contracts	PDF	A sample of Purchase Orders and Contracts
Task Orders	PDF	A selection of requested Task Orders
[REDACTED]	PDF	Narrative of 2018 and 2019 Cat B Budget
[REDACTED]	Excel	Average rates per salary grade bandings
Strategic Brief	PDF	Narrative to explain the experience of future Heathrow for stakeholders and what expansion can enable and facilitate both locally and nationally
Client Brief	PDF	Narrative that defines the client requirements and translates the Strategic Brief into specific strategic business objectives and requirements
Interviews with HAL individuals	N/A	10 individuals from various functions
[REDACTED]	PDF	Organisational charts detailing FTEs for each function

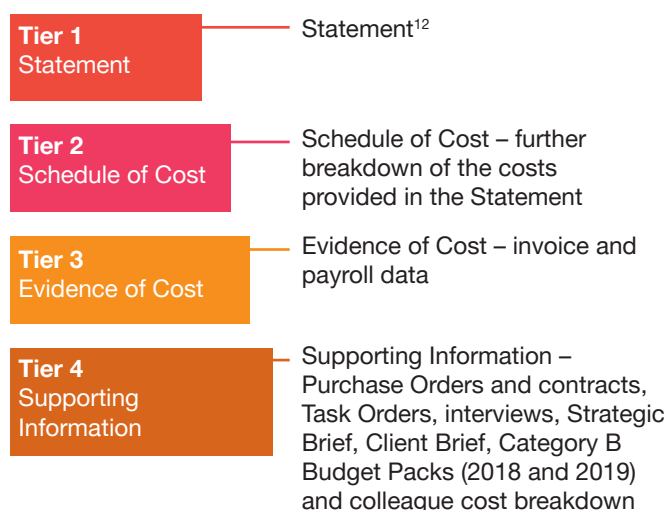
## 1.5 Approach

Our approach was to establish an overview of the Expansion Programme through a review of the Statement and the supporting schedule which details all invoices and accruals, referred to as Schedule of Cost, and through initial interviews with individuals from various functions within the Expansion Programme. The Schedule of Cost provided a comprehensive and fully detailed set of supporting information that reconciled to the Statement and enabled a sample to be selected and agreed with the CAA for further detailed analysis. The functions agreed with the CAA for further detailed analysis were:

1. Colleague costs
2. IDT
3. Programme leadership
4. Future Heathrow
5. Information technology (IT)
6. Ground investigations

For the detailed analysis phase additional documentation was requested including a sample of invoices, and payroll data, referred to as Evidence of Cost. Further supporting information was requested which included Purchase Orders, contracts, Task Orders, interviews, documents that define Expansion Programme requirements and other relevant breakdowns of information. Figure 2 sets out the document hierarchy and tiers of information provided and referenced throughout this report.

Figure 2: Document hierarchy and tiers of information

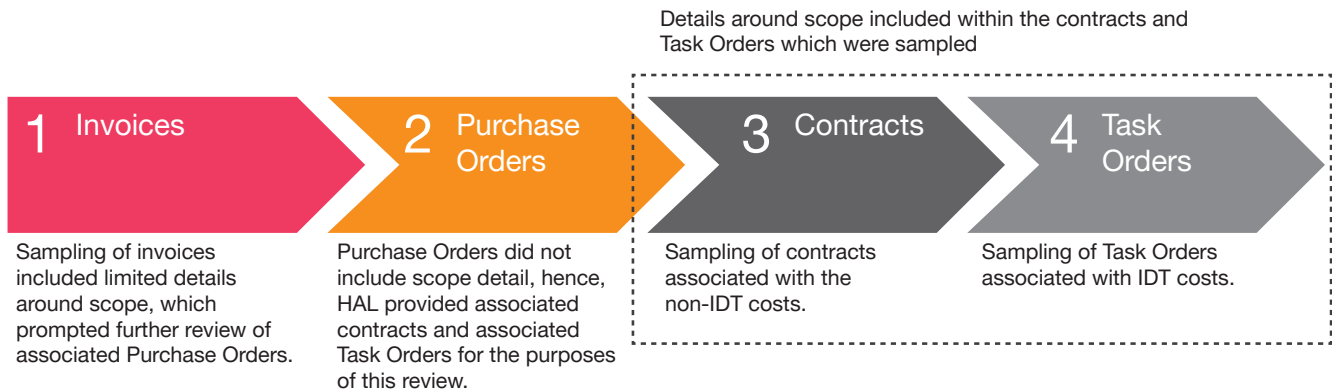


## Are the costs presented in the Statement supported by appropriate evidence and correctly categorised as Category B?

In order to assess whether the costs included in the Statement as Category B were (i) incurred by HAL after the Government announcement on 26 October 2016, and (ii) solely associated with seeking planning permission for the delivery of new runway capacity at Heathrow we:

- Established an overview of the Expansion Programme scope and associated costs through an initial review of documentation provided by HAL and through initial interviews, prior to agreeing areas for detailed analysis with the CAA.
- Sought to reconcile the Statement to a Schedule of Cost, and verify that costs within the Schedule of Cost were supported by appropriate Evidence of Cost by way of invoices and payroll data. In order to do this we agreed six areas for detailed analysis with the CAA. For the six areas we:
  - Requested a sample set of Evidence of Cost (invoices and payroll data) based on the value (£), nature of the scope and when the work was undertaken.
  - Sought to supplement our review of the sampled invoices, given the limited narrative included in the sampled invoices, by reviewing additional Supporting Information. For the Supporting Information provided we identified whether a clear reference to the Expansion Programme was included and that scope and costs were clearly attributed to the Expansion Programme. In order to verify this we.
    - Selected a sample of Purchase Orders which HAL advised included a very limited scope description. Instead HAL provided the corresponding contracts and Task Orders which HAL advised included a more comprehensive scope description. Figure 3 sets out the sequence in which we reviewed the Supporting Information.
    - Interviewed 10 individuals from the Expansion Programme from various functions. The interviews covered, where applicable, the work undertaken in 2018 and how this related to the Statement, the Schedule of Cost and other key documentation provided by HAL.

Figure 3 Approach to sampling



Is there evidence to indicate that costs included within the Statement have been incurred in an efficient manner?

In order to make an assessment as to whether the work undertaken has been delivered in an efficient manner, we reviewed and analysed key documentation, and interviewed relevant individuals relating to the following three areas:

- **Baseline:** Is there a clear and consistent baseline that sets out the scope, cost, schedule and risk up to approval of the Development Consent Order (DCO)?
- **Baseline Governance:** Is there an established and appropriate governance process in place to manage the baseline and/or any changes?
- **Progress and performance:** Is progress and performance clearly and consistently reported, including the consequential impact of delay?

## 1.6 Structure of this report

The remainder of this report is structured as referenced in Table 8:

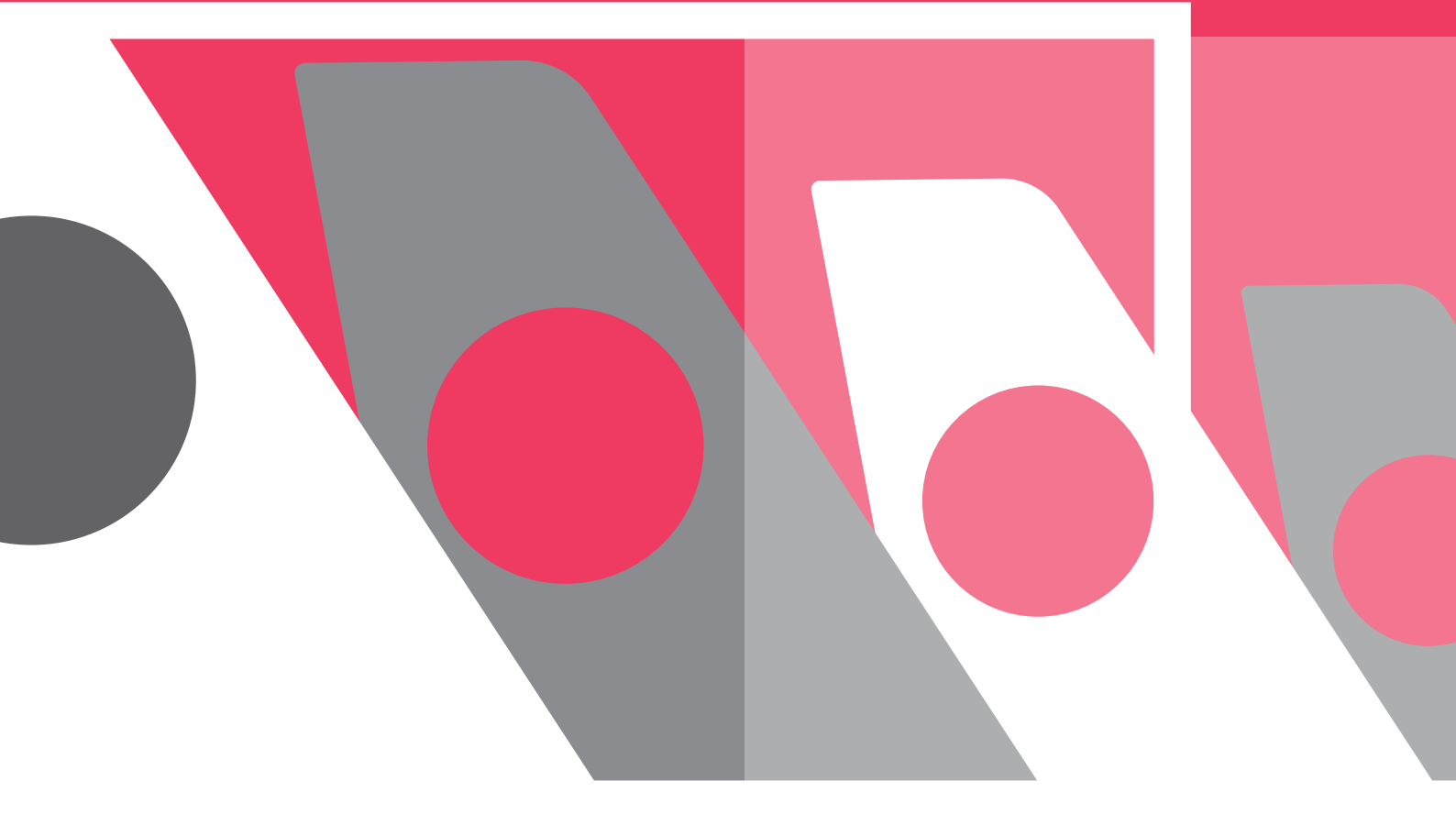
Table 8: Report structure

Section	Area of Focus	Sub-sections
Section 2	Are the costs presented in the Statement supported by appropriate evidence and correctly categorised as Category B?	<ul style="list-style-type: none"> <li>• Colleague Costs</li> <li>• IDT Costs</li> <li>• Non-IDT Supplier Costs</li> <li>• Other</li> </ul>
Section 3	Is there evidence to indicate that costs included within the Statement have been incurred in an efficient manner?	<ul style="list-style-type: none"> <li>• Baseline</li> <li>• Governance</li> <li>• Progress and Performance</li> </ul>

## 1.7 Notes

In this report, where costs or cost types are referred to, they relate to Category B costs unless otherwise stated

- All figures in this report are in £m unless otherwise stated.
- All tables in this report include values to £m to 3 decimal places unless otherwise stated.
- All information within this report was received by us between 02 May 2019 through 02 August 2019. Any information provided subsequent to the 02 August 2019 was reviewed on an exception basis only.



## Section 2

Are the costs presented in the Statement supported by appropriate evidence and correctly categorised as Category B?

## 2.1. Introduction

In this section of the report we set out our findings on whether the costs included within the Statement are supported by appropriate evidence and correctly categorised as Category B. CAA guidance documents CAP 1513 and CAP 1651 set out guidance on the categorisation of cost into three categories as summarised in Section 1.2 of this report.

Section 2 of the report is structured in two parts. The first part is a summary of the approach and key findings. The second part is detailed findings for each of the six agreed functional areas. Table 9 includes the respective sub-sections and a summary of the content.

Table 9: Section 2 structure

Section	Content
2.2 Approach	Overall approach for our review of cost categorisation
2.3 Key findings	Key findings from our review on cost categorisation
Detailed findings for each of the six agreed functional areas structured in terms of:	An overview of the scope and detailed findings for each of the six selected functional areas structured in terms of colleague costs, IDT supplier costs, and non-IDT supplier costs. Where further detail on our approach is required for a functional area it is also included.
2.4 Colleague costs;	
2.5 IDT costs;	
2.6 Non-IDT supplier costs	

## 2.2. Approach

We selected six functional areas out of fourteen in consultation with the CAA, based on their materiality to the Statement, variance from the 2018 budget and prior knowledge of the functional areas. For the six functional areas agreed with the CAA, we selected an Evidence of Cost sample size of 12% of the overall 2018 spend, and a Purchase Order sample size of 57% of the overall 2018 spend.

Table 10 sets out the sample size per functional area for the Evidence of Cost (invoices and payroll data) and Supporting Information (requested Purchase Orders).

Table 10: Sample size per functional area for the Evidence of Cost

Function name	a	b	c	d = (c/a)*100	e	f	g = (f/a)*100
	2018 total spend <sup>13</sup> (£m)	No. of invoices/ payslips (Evidence of Cost) sampled	Evidence of Cost sample (£m)	% of 2018 spend sampled	No. of contracts/ Task Orders <sup>14</sup> sampled	Total 2018 Spend associated with sampled Task Orders/ contracts (£m)	% of 2018 spend sampled through associated contract/ Task Orders
Colleague costs	19.272	19 <sup>15</sup>	0.777	4%	N/A	N/A	N/A
IDT	52.618	20	5.949	11%	16	51.82	98%
Non- IDT							
Programme Leadership	5.634	16	0.835	15%	9	4.004	71%
Future Heathrow	5.763	12	0.844	15%	6	2.137	37%
IT	2.806	21	0.645	23%	9	1.114	40%
Ground Investigation	10.706	19	1.252	12%	7	5.157	48%
Other: (Consents, Community and Stakeholder, Airline/ Regulation and Strategy, Property and Finance)	19.611	23	3.85	21%	8	2.027	11%
<b>Total</b>	<b>116.408</b>	<b>130</b>	<b>14.152</b>	<b>12%</b>	<b>55</b>	<b>66.259</b>	<b>57%</b>

13 [REDACTED]

14 HAL provided contracts and Task Orders to evidence the scope of the Purchase Orders. Where the contracts provided did not reference the PO number, HAL provided a spreadsheet that linked the POs with the contract numbers.

15 For colleague costs, Payslips were provided as Evidence of Cost. Anonymised payroll data and payslips were reviewed in HAL offices.



HAL advised that the Purchase Orders included a very limited scope description. Instead HAL provided the corresponding contracts and Task Orders related to those Purchase Orders, which HAL advised included a more comprehensive scope description.

We reviewed the Evidence of Cost and Supporting Information for each agreed function<sup>16</sup> to confirm the scope and costs were clearly attributed to the Expansion Programme and were solely intended for the purpose of seeking planning permission for the delivery of new runway capacity at Heathrow, and consequently Category B costs, by verifying the following criteria:

- cost incurred in 2018
- invoice number, supplier name, and total sum aligned with the Schedule of Cost
- the value of the sampled payslips were able to be cross-referenced with the Schedule of Cost
- scope noted in the contract and/ or Task Orders related to activities intended for the purpose of seeking planning permission for the delivery of new runway capacity at Heathrow. For example where activities directly related to the Environmental Impact assessment were referenced.

## 2.3. Key findings

### Reconciliation of the Statement to Schedule of Cost

HAL provided a Schedule of Cost which reconciled for all functions. This included:

- an anonymised and itemised list of direct employee costs including bonuses
- an itemised breakdown of all invoices for suppliers split according to functions.

### Reconciliation of the Schedule of Cost to Evidence of Cost

The Schedule of Cost reconciled with the Evidence of Cost for the sample reviewed, which represented 12% of total costs incurred during 2018. In total we reviewed a sample of 111 invoices, 13 payslips and 6 bonuses, we did not identify any exceptions.

### Review of Supporting Information

From the sample of Supporting Information reviewed, the majority of documents included clear references to Expansion Programme scope. By exception we noted:

1. six examples where the sampled contracts and Task Orders included references to scope for Heathrow Regulatory Period 7 (H7). HAL has subsequently advised that any references to non-Expansion Programme scope have been de-scoped or the work was not carried out.
2. nine examples where the sampled contracts and Task Orders included references to scope where it was unclear whether the scope and costs were Category B or Category C. HAL has subsequently clarified the rationale for scope and the associated costs being classified as Category B.

### Opportunities as the Expansion Programme matures

The Expansion Programme was rapidly mobilised in October 2016 following the government announcement. 2018 was the second full year for the Expansion Programme since the announcement and as it matures there are opportunities to further clarify cost categorisation in accordance with CAA guidance.

1. HAL could implement a timesheet system to clarify time spent on the Expansion Programme and whether costs are Category B or Category C.
2. Some Purchase Orders, contracts and Task Orders may exist as a legacy from when the Expansion Programme had to rapidly mobilise, and cover scope for both the Expansion Programme and other HAL activities. How HAL delineates the scope of work required for the Expansion Programme and other 'business as usual' activities is not documented in a comprehensive integrated baseline, as further detailed in Section 3 of this report.

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<sup>16</sup> The term function is used by HAL in the Statement to [REDACTED] to identify the different areas of spend for the Expansion Programme.



We did not request or review Evidence of Cost (invoices) for external suppliers for Colleague costs.

A representative sample of Evidence of Cost was selected based on:

- ensuring that individuals from multiple workstreams were selected
- where unusual variances in monthly payments to individuals were noted.

The review of Evidence of Cost was conducted in HAL's offices on 22 November 2019 and involved a review of payslips and related supporting information to verify whether it matched the itemised costs included in the Schedule of Cost. In total a sample of 13 direct employees and 6 bonus payments were selected. Table 13 summarises details of the selected sample.

Table 13: Evidence of Cost sample details

Function name	a	b	c	d	e	f	g = e + f	h = g/a
	2018 Total spend (£m)	Total no. of colleagues <sup>19</sup>	No. of FTE costs sampled	No. of FTE bonuses sampled	Total 2018 Spend associated with the salary payments sampled (£m)	Total 2018 Spend associated with the Bonuses for the individual sampled (£m)	Total	%age of total
Colleague Costs	19.272	137	13	6	0.682	0.094	0.777	4%

## 2.4.4. Key findings

### Reconciliation between the Statement, Schedule of Cost and Evidence of Cost

HAL provided a Schedule of Cost which reconciled to the Statement and included:

- a full breakdown of all invoices for external suppliers who are fulfilling an Expansion Programme role (PCP and Guidant)
- an anonymised breakdown of all direct employees working on the Expansion Programme split by month. HAL also provided details of staff bonuses for 2018.

For the sample of Evidence of Cost reviewed at HAL's offices, all of the payslips reconciled to the anonymised and itemised Schedule of Cost.

### Review of Supporting Information

Aspects which require addressing as part of the 2019 statement

From our review of the Supporting Information and through querying it with HAL, we have noted two aspects of Colleague costs which HAL has advised will require addressing in the 2019 statement.

#### Reporting of staff bonuses

HAL advised that the 2018 Statement included provisions for bonus payments totalling £1.768m (9% of 2018 Colleague costs) as at December 2018 and provided a breakdown for provisions for staff bonuses per workstream. We reviewed additional Supporting Information provided by HAL<sup>20</sup> which included a total bonus of £1.602m, which represented a delta of £0.166m (9%) when compared to the £1.768m.

HAL has advised that actual bonus payments for individuals are based on the duration that the individual has worked on the Expansion Programme, which may not be for the full 12 months of the year. The process of confirming the Category B component of the actual bonus payments for 2018 will be finalised as part of the 2019 Statement.

#### Capitalisation of redundancy costs

In reviewing the Evidence of Cost and Supporting Information for the agreed sample (13 payslips and 6 bonuses), we noted 2 instances where a total of £0.077m of redundancy costs associated with 2 individuals was incorrectly attributed as Category B costs. HAL has advised that the redundancy cost incurred was not wholly a Category B cost in this situation, due to length of service within the business for these individuals. HAL has subsequently acknowledged the error and has advised that these costs will be adjusted in the 2019 Statement.

<sup>19</sup> Total number of employees as at December 2018

<sup>20</sup> [REDACTED]

## Inconsistencies in the Supporting Information

In addition to the two aspects which will require addressing as part of the 2019 statement we noted some inconsistencies in the Supporting Information which HAL has provided rationale for and are explained in the remainder of this section of the report.

### Breakdown of costs per workstream

We could not reconcile the breakdown of costs per workstream between different documents provided by HAL. Whilst the total cost remains consistent, Table 14 includes a comparison of two documents provided by HAL which include different breakdowns of cost per workstream.

**Table 14: Colleague costs comparison**

Colleague costs 2018 breakdown per work stream	a	b	c = (a - b)
	Additional breakdown provided by HAL <sup>21</sup> (£m)	Supporting breakdown from Statement pack <sup>22</sup> (£m)	Difference (£m)
Consents	3.283	3.017	0.265
Future Heathrow	2.552	3.097	(0.545)
Surface Access	0.398	0.393	0.005
Commercial Strategy	1.304	0.942	0.361
Programme	7.425	7.496	(0.071)
Property	0.002	-	0.002
Finance	0.796	0.850	(0.054)
Exec	1.127	1.125	0.0028
People	1.095	1.098	(0.003)
Academy	-	-	-
Communication and Stakeholder Management	1.286	1.248	0.038
<b>Total</b>	<b>19.272</b>	<b>19.272</b>	<b>-</b>

### Reporting of FTEs working on the Expansion Programme

HAL provided a summary of the FTEs working on the Expansion Programme<sup>23</sup> plus an organisation chart for each quarter of 2018. We compared the summary and organisation chart, both dated December 2018, and found differences in the total number of FTEs. The total number of individuals identified in these data sources does not reconcile with the total number of individuals identified in the Schedule of Cost. Table 15 provides a comparison of the total number of employees included in the three data sources.

**Table 15: Comparison of no. of FTE's as at December 2018**

	Colleague costs 2018 breakdown	Organisation chart Dec 2018	Schedule of costs – Dec 2018 only
Total No. of colleagues	139	145	124

HAL has advised<sup>24</sup> that the organisation charts do not exclusively represent roles working on Category B tasks and may include others who may be working on Category C activities or other business activities outside the Expansion Programme. Table 16 includes a comparison of FTE numbers per workstream where available. In instances where it has not been possible to identify which workstream an individual should be allocated to from the evidence provided, we have included a footnote to confirm the assumption made. Regardless of workstream allocation the comparison results in a total delta of 6 FTEs.

21 [REDACTED]  
 22 [REDACTED]  
 23 [REDACTED]  
 24 [REDACTED]

Table 16: Comparison of no. of FTE's as at December 2018

Workstream	a	b	c	d = (a+b+c)	e	f = (d - e)
	Grades A – B	Grades C – D	Grades E – F	Total <sup>25</sup>	FTE allocation per organisation Chart <sup>26</sup>	Difference
Consents	6	17	1	24	21	3
Future Heathrow	10	9	1	20	32	(12)
Commercial strategy	6	5	1	12	3 <sup>27</sup>	9
IDT	-	-	-	-	14	(14)
Surface access	1	2	-	3	0	3 <sup>28</sup>
Programme	15	17	2	34	15	19
Finance	3	4	-	7	4	3
Exec	-	1	5	6	1	5 <sup>29</sup>
People	3	6	3	12	14	(2)
Communication and stakeholder management	3	12	6	21	19	2
Airline strategy	-	-	-	-	4	(4)
Property	-	-	-	-	5	(5)
PMO	-	-	-	-	7	(7)
Other	-	-	-	-	6	(6)
<b>Total</b>	<b>47</b>	<b>73</b>	<b>19</b>	<b>139</b>	<b>145</b>	<b>(6)</b>

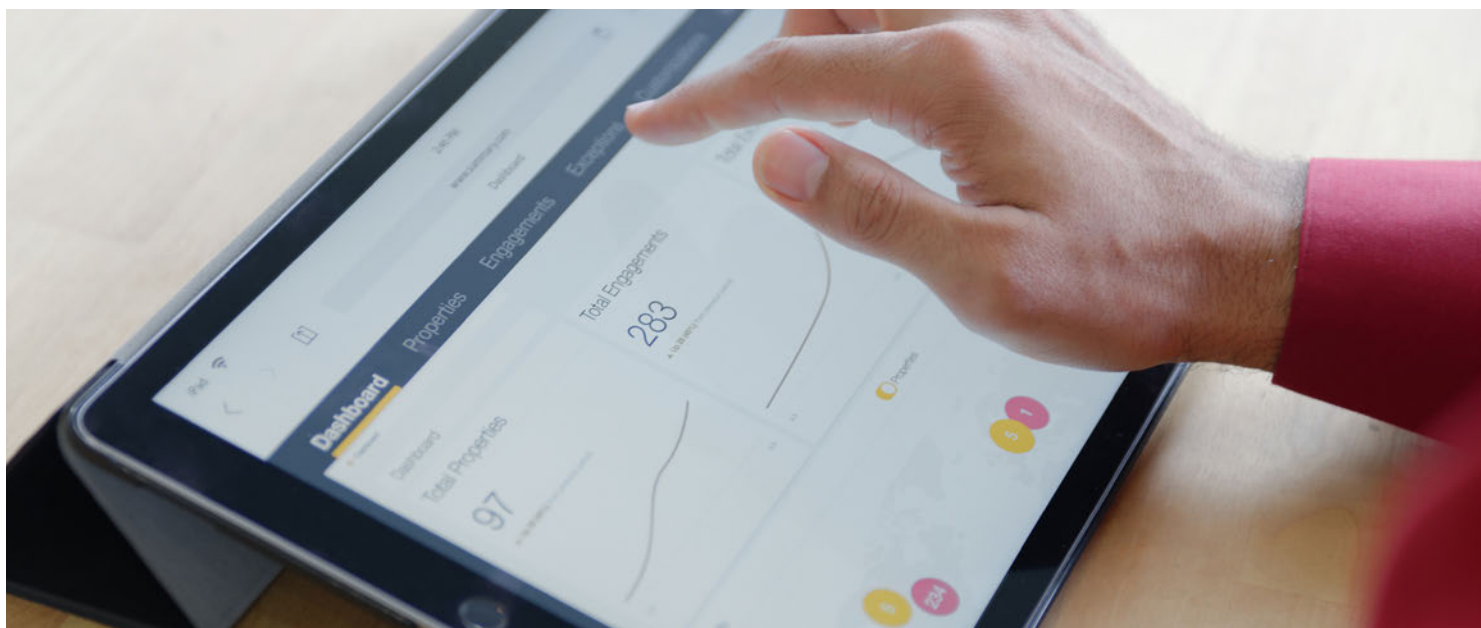
25 [REDACTED]

26 [REDACTED]

27 Commercial Strategy roles are represented under Future Heathrow in the Organisation Chart.

28 The no. of FTEs working on Surface Access are represented under the total no. of FTEs for IDT in the organisation chart.

29 The exact number of Exec level FTEs is not clear from the organisation chart. However, the role of the Executive Director Expansion is the only role which is assumed to be at the relevant Exec grade, remaining FTE no.s remain unclear.





#### Roles attributed to both the Expansion Programme and other HAL activities

HAL advised that 76 out of 137 total individuals (as at December 2018) did not work for the full 12 months of 2018<sup>30</sup> on the Expansion Programme and that the costs included in the Statement are only for those months where the individuals were working on Category B activities.

In the Statement HAL has included reference to 11 direct employees who worked on both the Expansion Programme<sup>31</sup> and other HAL activities not related to the Expansion Programme. HAL has advised that *“There are 11 colleagues who’s costs have been “recharged” from non-expansion business units where colleagues have a specific expertise required for expansion for Category B work.”*

HAL does not use a timesheet system but has provided an explanation for the basis of costs incurred for these individuals and the specific recharges to the Expansion Programme.

The 11 roles and associated cost are included in Table 17 for reference, totalling £0.661m.

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30 The specific requirements could be influenced by issues such as planned commencement of the role in the expansion programme or timing of specific business requirements

31 [REDACTED]

Table 17: List of specific roles attributed to both the Expansion Programme and other HAL activities

Role	Costs (£m)
[REDACTED]	0.063
[REDACTED]	0.043
[REDACTED]	0.059
[REDACTED]	0.097
[REDACTED]	0.048
[REDACTED]	0.027
[REDACTED]	0.081
[REDACTED]	0.062
[REDACTED]	0.087
[REDACTED]	0.081
[REDACTED]	0.013
<b>Total</b>	<b>0.661</b>

## 2.5. IDT Costs

### 2.5.1. Introduction

Integrated Design and DCO Team (“IDT”) costs are those costs that relate to designers, consultants and architects responsible for supporting:

1. Master plan options development (architectural and engineering consultancy services);
2. Surface access options development (strategy and modelling; transportation consultancy services); and
3. Environmental Impact Assessment (environmental and planning consultancy services).

For the IDT HAL has advised that there is a non-contractual alliance<sup>32</sup> between key suppliers (with individual suppliers in separate contracts with HAL) established to deliver the IDT services which includes:

- Grimshaw Architect Limited (“Grimshaw”)
- Quod Limited (“Quod”)
- Amec Foster Wheeler Environment & Infrastructure UK Limited (“Amec Foster Wheeler”)

- Mott MacDonald Limited (“Mott MacDonald”)
- Ove Arup & Partners Limited (“Arup”)
- Atkins Limited (“Atkins”)
- Jacobs UK Limited (“Jacobs”)

HAL has confirmed that each IDT supplier is contracted under their own separate contract. Scope is instructed under Task Orders which can include services provided by multiple suppliers under a single Task Order. Every Task Order that we reviewed is structured to include:

- The Principal Designer (Task Order Lead Organisation);
- Principal Designer; and
- Other sub-consultants.

The IDT includes a leadership team under Task Order TO1.1 and a separate management team under TO1.2. TO1.1 IDT Leadership includes a senior representative from each of the organisations that comprise the IDT and is ultimately accountable for driving the successful operation and outcomes of the IDT including integrated IDT governance, in conjunction with HAL representatives. TO1.2 IDT Management is responsible for the day to day operations and integration of the other Task Orders and wider Expansion Programme activities.

32 [REDACTED]

Table 18 provides a summary of IDT costs incurred during 2018, split according to IDT Task Orders, and in comparison to the budget set at the end of 2017.

Table 18 2018 IDT costs split according to Task Orders<sup>33</sup>

Task Order reference	a	b	c = (a - b)
	Budget (£m)	Actual (£m)	Variance (£m)
██████████	0.732	0.267	0.465
██████████	3.954	1.553	2.401
██████████	1.228	2.847	(1.619)
██████████	3.064	5.662	(2.598)
██████████	1.427	0.532	0.854
██████████	5.955	3.241	2.715
██████████	2.260	4.233	(1.973)
██████████	6.239	10.048	(3.809)
██████████	1.247	1.339	(0.092)
██████████	7.818	12.877	(5.059)
██████████	3.332	2.786	0.546
██████████	1.014	5.630	(4.616)
██████████	-	1.482	(1.482)
██████████	1.337	2.118	(0.781)
██████████	-	0.039	(0.039)
██████████	-	0.047	(0.047)
██████████	-	0.025	(0.025)
<b>Total IDT</b>	<b>39.607</b>	<b>54.771<sup>34</sup></b>	<b>(15.163)</b>

## 2.5.2. Approach

In line with our intended purpose, we sought to validate that the IDT costs included within the Statement were supported by appropriate evidence.

The review is based on the information provided by HAL and the interviews and conversations held with key stakeholders during the course of this review, which for the IDT included the HAL IDT Director, Senior Commercial Manager and Finance representatives.

Table 19 includes a summary of the sample of Evidence of Cost (invoices), and Supporting Information (contracts and Task Orders) reviewed, as percentages of the total IDT costs incurred in 2018. In total we sampled:

- a set of 20 invoices with total costs of £5.949m (11% of total spend on IDT in 2018)
- 15 Task Orders and 1 contract with a total 2018 spend of £51.821m<sup>35</sup> (98% of total spend on IDT in 2018).

<sup>33</sup> ██████████

<sup>34</sup> The difference of £2.154m between £52.618m and £54.771m is due to timing of the reported data and will be reflected in Statement for 2019, please see reference to ██████████

<sup>35</sup> No direct correlation can be seen from the evidence provided which links the spend against Task Orders with the Actual costs incurred apart from IFS Reports. We note a total spend of £51.821m associated with the suppliers mentioned on the Task Orders.



Table 19: Summary of sample sets reviewed

Function name	2018 Total Spend (£m)	No. of invoices sampled	Total 2018 Spend associated with the Invoices (£m)	% of 2018 spend sampled through invoices	No. of TOs/ Contracts Sampled <sup>36</sup>	Total 2018 Spend Associated with Contracts/ TOs (£m)	% of 2018 spend sampled through contracts /TOs
IDT	52.618	20	5.949	11%	16	51.821	98%

### 2.5.3.Key findings

#### Reconciliation between Statement, Schedule of Cost and Evidence of Cost

The itemised Schedule of Cost provided by HAL fully reconciled to the Statement for the IDT function.

For the Evidence of Cost we sampled 20 invoices and all invoices reconciled with the itemised Schedule of Cost.

#### Review of Supporting Information

From the 15 Task Orders and 1 contract reviewed, a majority of the Task Orders included clear reference to Expansion Programme scope. By exception we noted two instances where the Task Orders included references to non-Expansion Programme scope.

Task Orders which include reference to both the Expansion Programme and other non-Expansion Programme scope

The two instances where Task Orders included reference to non-Expansion Programme scope are:

1. [REDACTED] includes references to “Early Works – H7”, which could be referencing any works for the regulatory period H7, as opposed to solely work for the Expansion Programme. In this instance the scope description was for an overall fuel management strategy and governance for fuel supply resilience. There was lack of clarity if this was required to achieve planning permission for the Expansion Programme. HAL has subsequently clarified in their response<sup>37</sup> that reference to early works for H7 including short term fuel resilience and on site improvements to fire water thermal and electrical HV was essential for the DCO submission as failure to include this would have resulted in “.....the development of systems that are not aligned with, and potentially incompatible with existing airport systems.”
2. [REDACTED] includes reference to Automated Guided Vehicles (AGVs), cable cars and passenger experience visualisation. There was lack of clarity if this scope was required to achieve planning permission for the Expansion Programme and whether the associated costs were correctly categorised as Category B. HAL has subsequently clarified in their response<sup>38</sup> that “.....the specific narrative extracted from the Task Order was not pursued and therefore £42,000 does not form part of the 2018 costs and is not included in the statement.”

36 HAL provided contracts and Task Orders to evidence the scope of the Purchase Orders. Where the contracts provided did not reference the PO number, HAL provided a spreadsheet that linked the POs with the contract numbers.

37 [REDACTED]

38 [REDACTED]

## 2.6. Non-IDT Supplier costs

### 2.6.1. Introduction

Non-IDT supplier costs are those costs that relate to services provided by an external supplier but exclude the IDT and Colleague costs. Table 20 includes the total spend from 2018 and a summary of the scope by function for non-IDT suppliers based on HAL's descriptions in the Statement.

Table 20: Total 2018 Spend for non-IDT Suppliers

Function	2018 Total spend (£m)	Scope summary <sup>39</sup>
Programme Leadership	5.634	<ul style="list-style-type: none"> <li>• Estimation</li> <li>• Procurement</li> <li>• Contract Admin</li> <li>• PMO – Schedule management</li> </ul>
Future Heathrow	5.763	<ul style="list-style-type: none"> <li>• Defines the objectives and benefits of the Expansion Programme</li> <li>• Defines the requirements for the design team through the Strategic Brief and development of future operating models</li> </ul>
IT	2.80	<ul style="list-style-type: none"> <li>• Programme IT</li> <li>• Future Heathrow IT</li> </ul>
Ground Investigation	10.706	<ul style="list-style-type: none"> <li>• To gather information to inform DCO or Masterplan</li> <li>• Collection of data to inform the Environmental Impact Assessment.</li> </ul>
Other	19.611	<ul style="list-style-type: none"> <li>• Consents</li> <li>• Community and Stakeholders</li> <li>• Regulation Strategy</li> <li>• Property</li> <li>• Finance</li> <li>• HR</li> </ul>
<b>Total</b>	<b>44.514</b>	

### 2.6.2. Approach

In line with our intended purpose, we sought to validate that the costs for each of the functions included within the Statement were supported by appropriate evidence.

Table 21 includes a summary of the sample of Evidence of Cost (invoices) and Supporting Information (contracts) reviewed, as a percentage of the total non-IDT costs included in the Statement. For the non-IDT functions, in total we sampled:

- 91 invoices with total costs of £7.426m (13% of total non-IDT spend in 2018)
- 39 Purchase Orders contract with a total spend of £14.439m (32% of total non-IDT spend in 2018).

39

Table 21: Summary of sample sets reviewed for Non-IDT costs

Function name	2018 Total spend (£m)	No. of Invoices sampled <sup>40</sup>	Total 2018 spend associated with the invoices (£m)	% of 2018 spend sampled through invoices	No. of contracts <sup>41</sup> sampled	Total 2018 Spend associated with POs (£m)	% of 2018 spend sampled through contracts
Programme Leadership	5.634	16	0.835	15%	9	4.004	71%
Future Heathrow	5.763	12	0.844	15%	6	2.137	37%
Ground Investigation	10.706	19	1.252	12%	7	5.157	48%
IT	2.80	21	0.645	23%	9	1.114	40%
Other: (Consents, Community and Stakeholder, Regulation Strategy, Property)	19.611	23	3.85	21%	8	2.027	11%
<b>Total</b>	<b>44.514</b>	<b>91</b>	<b>7.426</b>	<b>17%</b>	<b>39</b>	<b>14.439</b>	<b>32%</b>

### 2.6.3. Key findings

#### Reconciliation between Statement, Schedule of Cost and Evidence of Cost

The itemised Schedule of Cost provided by HAL for non-IDT suppliers fully reconciled to the Statement.

For the Evidence of Cost we sampled 91 invoices and all invoices reconciled with the itemised Schedule of Cost<sup>42</sup>.

#### Review of Supporting Information

We noted several examples for non-IDT suppliers where:

- the contracts included reference to Expansion Programme scope in addition to non-Expansion Programme scope
- we were initially uncertain whether costs were correctly categorised as Category B or Category C.

The remainder of this section sets out:

- introductions to each of the functions based on the definitions included in the Statement and the Budget Packs provided by HAL
- any exceptions where the provided contracts included
- references to scope other than the Expansion Programme
- scope where we were initially uncertain whether costs were correctly categorised as Category B or Category C and HAL's rationale for inclusion as Category B.

<sup>40</sup> The number of invoices sampled includes only those invoices that were reviewed.

<sup>41</sup> HAL provided contracts to evidence the scope of the Purchase Orders. Where the contracts provided did not reference the PO number, HAL provided a spreadsheet that linked the POs with the contract numbers.

<sup>42</sup> [REDACTED] was noted as \$3,600 on the invoice. Depending on the exchange rate the amount is c. £2,823 as noted on the source detail sheet.

## Programme Leadership

### Introduction

HAL defines<sup>43</sup> Programme Leadership as including costs relating to creation of options for the master plan to deliver the Expansion Programme within the committed time scales. Table 22 provides a summary of costs from the Statement along with a brief summary of each activity.

Table 22: Brief description and cost breakdown of work packages within Programme Leadership<sup>44</sup>

Activity name	Summary	2018 total spend (£m)	% of Programme Leadership spend for 2018
Estimating	“The overarching objective of the Estimating Team is to provide a consistent and analytical approach to cost estimation, through a single database of costs and solutions, with the objective of achieving the required levels of cost certainty to support informed decision-making and development of an affordable masterplan.” <sup>45</sup>	2.517	45%
Procurement	<p>“The overarching objective of the Procurement team is to support the Expansion team in obtaining best value, making informed procurement and purchasing decisions and managing the supply chain. Core activities include:</p> <ul style="list-style-type: none"> <li>• External Stakeholder and Market Engagement</li> <li>• Procurement Strategy</li> <li>• Supplier qualification</li> <li>• Sourcing requirements for the programme</li> <li>• Contract Negotiation</li> <li>• Contract Management</li> <li>• Monitoring supplier performance</li> <li>• Reviewing payment applications and certifying payment</li> <li>• Scrutinising and challenging costs”<sup>46</sup></li> </ul>	0.592	10%
Contract Administration	To manage and monitor performance of contracts, including any agreed changes.	0.229	4%
PMO – Schedule Management	<p>“As a key function within the Programme Management Office (PMO) team the overarching objective of PMO Schedule Management is to “establish and maintain time related controls which provide a ‘single source of truth’ for programme performance”. Core activities of the PMO Schedule Management team include:</p> <ul style="list-style-type: none"> <li>• Drive Programme Team performance to achieve key programme milestones</li> <li>• Facilitate standardised and regularised time related progress performance reporting</li> <li>• Develop the schedule protocols and systems to align to the growing Programme</li> <li>• Engage in Masterplan process by producing cost loaded delivery schedules and evaluate</li> <li>• masterplans against schedule key dates</li> <li>• Progress, review and facilitate management following regular updates of the Integrated</li> <li>• Strategic Schedule</li> <li>• Assess implications of potential change</li> <li>• Manage schedule risk”<sup>47</sup></li> </ul>	2.297	41%

43 [REDACTED]

44 Total Programme Leadership costs included in 2018 and as detailed here are worth £5.634m and excludes costs relating to Executive Director Overheads, Financial Management, HR and Property which account for another £4.219m.

45 [REDACTED]

46 [REDACTED]

47 [REDACTED]



Key findings

Six contracts were reviewed for the Future Heathrow function and a majority included clear reference to Expansion Programme scope and activities required to achieve planning permission. By exception we noted one instance which is detailed below.

Scope where we were initially uncertain whether costs were correctly categorised as Category B or Category C and HAL’s rationale for inclusion as Category B

We noted one instance by exception [redacted] where the contract scope includes references to emerging design works. Given limited design work is required for DCO submission we were uncertain why these costs were classified as Category B. Specifically the scope related to customer experience impact of emerging designs. HAL has subsequently clarified in their response<sup>52</sup> that scope was essential to gain consumer insights and to test the level of integration with business as usual (BAU) activities to support the DCO application.

Ground Investigations

Introduction

HAL has advised that Ground Investigation (GI) works were undertaken in 2018 to gather information to inform DCO deliverables including the EIA or Masterplan development. HAL has advised that the GI data collected during this time was to:

- Validate engineering assumptions
- Establish a baseline
- Perform initial investigations with continued monitoring
- Assess baseline data and develop mitigation measures.

Geographically the focus in 2018 was on landfill sites located underneath the proposed runway or within the Airport Commission scheme boundary. The investigation on the sites included assessment of the composition of the waste materials within the landfills, landfill gas, groundwater quality, and the associated impact of excavating, moving, placing or treating clean or contaminated soil, whether on or off site.

Key findings

Seven contracts and scope quotations linked to the contracts were reviewed for the Future Heathrow function and a majority included clear reference to Expansion Programme scope and activities required to achieve planning permission. We noted two instances where we were initially uncertain whether the included scope was required to achieve planning permission or whether it would be a Category C cost.

We have also included details of where HAL has reclassified a number of Ground Investigations invoices from Category C to Category B during 2018 and the rationale.

Scope where we were initially uncertain whether costs were correctly categorised as Category B or Category C and HAL’s rationale for inclusion as Category B

The scope quotation dated 29 January 2018 for [redacted] includes reference to detailed foundation design. Given the limited requirement for detailed design work to achieve planning permission we were uncertain why the costs were classified as Category B. HAL has subsequently clarified in their response<sup>53</sup> that the design and installation for the foundations were required for the temporary site cabins, offices and welfare facilities, which were “.....required specifically under Construction Design and Management (CDM) regulations as part of the delivery of the GI project.”

[redacted] included reference to “supply of capital works” including pavements, building of ground levels and site drainage improvements. We were unclear how the supply of capital works including pavements, building up of ground levels and site drainage improvement is required solely for the purpose of seeking planning permission. HAL has subsequently clarified in their response<sup>55</sup> that “The GI works in 2018 were necessary to inform the development of our Masterplan for DCO submission. The site compound at Elmdon Road was necessary to enable the GI works, therefore this activity is Category B spend.”

Reclassification of costs from Category C to Category B

HAL confirmed that 41 invoices totalling £1.134m were reclassified from Category C to Category B during 2018, specifically from GI project code 31429 to Category B Project Code 31470<sup>56</sup> .

HAL has advised that these 41 invoices were within work packages that were originally raised as Category C under GI project code 31429. At the time, they were considered to be delivery costs due to an apparent limited understanding of the criteria for the cost categorisation i.e. whether they should be Category B or Category C. HAL has confirmed these costs were re-allocated to Category B Project Code 31470 following an internal review, which concluded that the scope of work is required for the EIA. These cost transfers relate to the following four Purchase Orders:

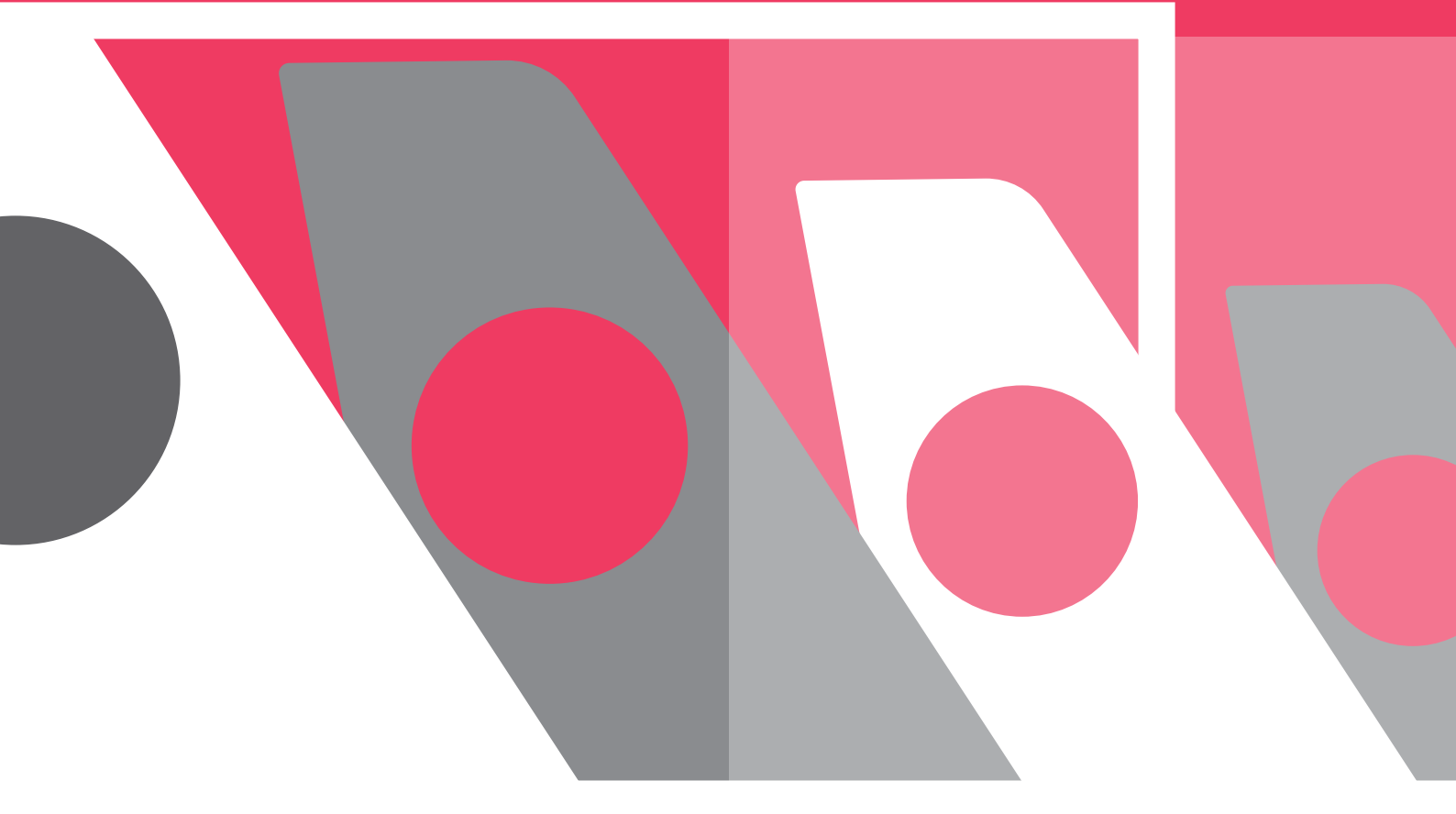
- [redacted]
- [redacted]
- [redacted]
- [redacted]

52 [redacted]  
 53 [redacted]  
 54 [redacted]  
 55 [redacted]  
 56 [redacted]









## Section 3

Is there evidence to indicate that costs included within the Statement have been incurred in an efficient manner?



### 3.1 Introduction

This review is retrospective and covers the period during 2018 when Category B costs for the Expansion Programme were incurred for the second full year following the government announcement in October 2016.

CAA guidance documents CAP 1513 and CAP 1651 note that costs may be considered efficiently incurred when:

- The programme which they are attributable to has been set up to succeed in the early planning stages.
- Performance and progress are meaningfully measured to enable management intervention.
- An environment is created which proactively identifies opportunities to improve.

### 3.2 Approach

In order to provide an assessment on whether the Category B works and associated costs carried out in 2018 were undertaken in an efficient manner, we reviewed key documentation, interviewed relevant individuals and considered the following key areas:

- **Baseline** – Is there a clear and consistent baseline that sets out the scope, cost, schedule and risk up to the approval of DCO (the point at which Category B costs are concluded)
- **Baseline Governance** – Is there an established and appropriate governance process in place to manage the baseline?
- **Progress and performance** – Is the progress and performance clearly and consistently reported, including the consequential impact of delay?

### 3.3 Key findings

From our previous review that covered the period 2016 and 2017, we identified a number of thematic opportunities for HAL to operate in a more efficient manner. Following our review covering the period of 2018, a number of these thematic issues remain.

Some major milestones were achieved during 2018, such as completion of extensive stakeholder consultation following the National Policy Statement designation in June 2018, to develop a single emerging Masterplan to be taken for public consultation<sup>72</sup>. Following achievement of these milestones the Expansion Programme has reached the point where it can clearly establish the foundations for operating in an efficient manner. The key issues relating to efficiency from our review covering the period of 2018 are set out below.

**Establishing a single baseline:** Our review last year identified that HAL did not have a clear and singular integrated baseline plan through to approval of the DCO that aligns requirements and scope with the associated time, cost and risk. This remains the situation from our review of 2018: HAL has provided evidence of some isolated examples of integrating scope, schedule and/ or cost, but nothing that provides a singular baseline plan through to DCO that aligns all components.

HAL has advised that a singular and integrated baseline has been developed during 2019 for the Expansion Programme, now that the NPS designation has been achieved and the masterplan has reached Milestone M3c<sup>73</sup>, although for clarity, given this relates to activities completed during 2019 this did not form part of our review.

From our review of the 2018 Statement, whilst HAL does have multiple documents that relate to scope, time, cost and risk, the alignment and dependencies between these documents remains unclear and they do not establish a robust baseline position from which to measure and manage performance and control delivery. Further areas for development remain for the following baseline components:

- Deliverables to DCO approval: HAL has not provided evidence which definitively sets out the baseline scope and deliverables required for 2018 or up to DCO approval. Whilst HAL has provided a number of documents containing varying levels of scope detail, these do not establish a robust baseline of scope from which to direct and manage the delivery of the programme.
- Integrated schedule: HAL has developed a number of schedule documents to record and monitor activities, from Level 0 (high level programme) to a detailed P6 Schedule (~3000 activities). The various schedules are not systematically linked, and it remains unclear how high level management information is updated to reflect appropriate changes in lower level schedules. HAL has advised that a baseline schedule was established in September 2018 for activities through to DCO approval, which is consistently reported in the Monthly Status Reports dated September 2018 through to December 2018. As HAL develops their schedule management process there is an opportunity to improve systems and processes, which in turn will support efficiency.

**Core controls:** During our review of cost we identified a number of core programme controls processes that were not in place, and are consistent with our findings from our review from last year, including:

- Change control: HAL does not operate a programme level change process for the Expansion Programme to manage the baseline scope, cost, schedule and risk. HAL has subsequently advised that a Programme level change control process has been introduced in 2019 to manage changes to the baseline, although for clarity this could not be validated as part of our review of 2018 costs.
- Timesheet system: HAL does not have a timesheet system that records internal staff time on the Expansion Programme. Whilst this system will support the overall allocation of time to the programme, it will also enable analysis of planned time versus actual time to indicate deliverability of key activities. HAL has advised that a timesheet system has been considered for the Expansion Programme during 2019, but for clarity this could not be validated as part of our review of 2018 costs.

<sup>72</sup> Milestone M3c

<sup>73</sup> [REDACTED]

## 3.4 Detailed findings

### 3.4.1 Introduction

This section of the report provides further detail related to the key findings in relation to:

- Is there a clear and consistent baseline that sets out the scope, cost, schedule and risk up to the approval of DCO?
- Is there an established and appropriate governance process in place to manage the baseline?
- Is the progress and performance clearly and consistently reported, including the consequential impact of delay?

### 3.4.2 Is there a clear and consistent baseline that sets out the scope, cost, schedule and risk up to DCO approval?

#### Baseline integration

There are a number of documents which identify objectives and high level scope descriptions, but nothing that definitively references and integrates schedule, cost and risk. From the evidence reviewed, we noted isolated examples of linkage which are referenced in Table 24.

Table 24: Examples of documents with some level of integration

Document Reference	Content	Aspects which have some level of integration	Comments
Cat B Budget pack for 2018 drafted in December of 2017	<p>The Budget Pack for 2018 includes a summary scope, budget and schedule for each function. For the schedule HAL has included the sequence of activities (such as consultations, proposed reviews and decisions) on a flowchart superimposed over a timeline leading up to DCO approval<sup>74</sup>.</p> <p>For scope HAL has included a deliverable or high level scope description for each activity such as "Environmental Impact Assessment (EIA)". Sub-tasks are then included such as "Scoping Report." It does not identify any further detail or sub-tasks for the Scoping Report or the timeline for each subtask.<sup>75</sup></p>	Scope & Schedule	<p>Scope and schedule are linked at the highest level by identifying scope and/ or deliverables for each activity in the schedule.</p> <p>How the scope and schedule link to other HAL documents is unclear.</p> <p>There is no schedule integration with cost evident.</p> <p>There is no integration with risk evident.</p>
Cat B 2019 Budget Pack drafted in December of 2018	<p>The Budget Pack for 2019 includes a summarised schedule to DCO approval in Dec 2021, with summarised activities and key milestones.</p> <p>For scope HAL has included core activities for each function, the key activities planned to be delivered in 2019 and associated costs.</p> <p>The budget included in this document provides a summary of assumptions and reasons for increase in budget from the original estimate of £298m to £529m.</p>	Scope & Cost	<p>The Budget Pack for 2019 summarises the core activities, the overarching objectives and key deliverables for each function but does not include any further details on scope or integration with the schedule.</p> <p>The Budget Pack sets out the reasons for an increase in the overall budget but does not qualify the associated impact on the delivery schedule or the risks to the achievability of the key milestones</p> <p>There is no integration with risk evident.</p>

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## Scope

There is no document that definitively sets out the baseline scope or deliverables required through to DCO approval. HAL has provided several documents that identify objectives and provide high level scope descriptions, plus other scope documents with varying degrees of granularity. Table 25 sets out the key documents provided by HAL which reference scope plus a summary of their content.

From the evidence provided it is unclear how the requirements identified in the Strategic Brief and Client Brief get translated into detailed contractual scope and activities instructed to HAL's supply chain.

Table 25: Key scope documentation

Document	Content
[REDACTED]	The Strategic Brief identifies what the Expansion Programme can enable and facilitate at both local and national levels. "This document is not a set of outcomes, requirements, or specific measures for a future Heathrow. These are all critical inputs that will feature prominently within business plans and the expansion programme that will be captured and developed separately." The Strategic Brief will, where appropriate, be discussed and shared across key stakeholder groups during the consultation process.
[REDACTED]	The Client Brief defines the requirements to deliver the strategic business objectives for the Expansion Programme
[REDACTED]	Prepared for the purposes of the IPCR review, provides an overview of the scope and costs included in the Statement and reasons for differences between budget and actual costs incurred.
[REDACTED]	These two documents include the Category B budget and a summary of the scope and activities planned. For 2018 this document was created at the end of 2017 to summarise the anticipated expenditure for the year ahead. For 2019 this document was created at the end of 2018 to summarise the anticipated expenditure for the year ahead. The document provided additional detail in comparison to the budget pack from 2018, including linking key activities to key milestones, details for each function and budget forecasts up to and including 2021.
[REDACTED]	The output from AWG 42 and 43.

## Schedule

From the evidence reviewed, there is not a singular baseline against which Expansion Programme progress and performance is being measured.

HAL advised that a baselining exercise was undertaken for the schedule in September 2018 for activities through to DCO approval and agreed and set in December 2018.<sup>76</sup> This schedule baseline is referenced in the MSRs from September through to December 2018 inclusive.

Table 26 references documents provided by HAL where schedule information is included in varying degrees of granularity and detail.

76 [REDACTED]

Table 26: Key schedule documentation

Document	Content
[REDACTED]	<ul style="list-style-type: none"> <li>Schedule to DCO approval with high level progress to date (as at November 2018)</li> <li>Key programme milestones forecast dates</li> <li>High level assumptions</li> </ul>
[REDACTED]	<ul style="list-style-type: none"> <li>Key delivery milestones</li> <li>High level schedule</li> </ul>
[REDACTED]	<ul style="list-style-type: none"> <li>Detailed Gantt chart schedule including key milestones</li> <li>Contractor procurement durations</li> <li>Designer procurement durations</li> <li>Stakeholder engagement durations</li> </ul>
[REDACTED]	<ul style="list-style-type: none"> <li>High level view of interfaces between different functions</li> </ul>
[REDACTED]	<ul style="list-style-type: none"> <li>Programme showing intrusive GI works</li> </ul>

### Cost

The total estimate for Category B costs has increased from £298m (at 2014 prices) to £529m (base date not identified so assumed at 2014 prices) during 2018, which represents an increase of 77%. In summary HAL has identified the following main reasons for the cost increase<sup>78</sup> with further detail and the associated cost per item provided in Table 27:

- Additional stakeholder engagement following consultation processes.
- Additional ground investigations.
- Additional land referencing costs.
- Increased geographical spread.
- Financial impact of an anticipated 12 month delay identified in 2018 to the Expansion Programme.

Table 27: Changes to the Category B cost estimate<sup>79</sup>

Items	Cost increase (£m)	Outturn cost estimate (£m)
Original estimate	n.a	298
Exclusions from previous estimate		
Cat B Opex	16	314
Airspace Design	20	334
IDT consultation feedback responses	20	354
Reclassification from Cat C		
Ground Investigations	21	375
Land referencing	17	392
2017 IDT and colleague reclassification	13	405
New scope	44	449
Programme schedule delay	35	484
Top – down vs bottom up approach	45	529

77 dated June 2019

78 [REDACTED]

79 [REDACTED]

## Risk

HAL did not provide any specific document which detailed risks for the planning and consents process, Category B costs or for the wider Expansion Programme. The only documents provided by HAL which did include reference to risks were the Monthly Status Reports which include the top 5 programme risks for each function. How changes to scope, costs and/ or schedule affected risks were not explicitly identified in the MSRs.

No cost allowance for risk or contingency was identified in the annual budget for 2018 or in the overall Category B cost estimate, previous version (£298m) and revised (£529m). No reference to any risk allowance or contingency was evident in the MSRs, or other documents provided by HAL. HAL has advised that an allowance for risk is maintained separately to the Statement. No reference to quantification or probabilistic assessment of uncertainty was evident in the documents provided by HAL.

### Risk quantification

No evidence has been provided by HAL to demonstrate that risk exposure has been quantified for Category B costs or the wider Expansion Programme in terms of cost and/ or schedule, either in the form of an allowance for optimism bias or a Quantitative Risk Assessment (QRA). As previously stated HAL has advised that there is a separate allowance for risk, specifically a risk provision in the cost estimates that formed part of the M3c milestone. For clarity this was not provided or reviewed as part of the 2018 IPCR review.

The MSR for Future Heathrow dated December 2018 identifies a requirement for Monte Carlo simulation as an action plan under the Top Five Opportunities section, to address “delay or rejection of Development Consent Order Application”<sup>80</sup>

When the Category B cost estimate increased in 2018 from £298m to £529m, the following risks were identified<sup>81</sup> but no separate cost allowance for risk or contingency was identified:

- “Additional consultation(s) required.
- Stakeholders significantly change their requirements or identify additional requirements.
- Legal challenges (including NPS Judicial Reviews) delay the DCO process or require significant change.
- Any changes to government policy (for example carbon, noise, aviation strategy white paper etc) require changes to the DCO submission.
- Impact of external delays to programme.
- Change to scheme design lead to significant rework, including additional environmental impact and surface access modelling.
- Additional planning requirements identified including TCPA.
- Competing DCO application promoted by a 3rd party.
- Tender prices for design packages (due mid Dec) exceed current budget.
- The current budget is at the lower end of the benchmark related to scheme size (2.3%). This may not be appropriate to fully cover the expectations of stakeholders.
- Land referencing scope increases to wider area
- An agreed regulatory mechanism for the recovery of Cat C costs is not yet in place. This regulatory definition may impact our allocations assumed for Cat B.”

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### 3.4.3 Is there an established and appropriate governance process in place to manage the baseline?

There is no singular baseline position from which to establish an appropriate governance process. HAL does not operate a programme level change process for the Expansion Programme to manage the baseline scope, cost, schedule and risk.

The existing governance regime relies on decisions and approvals to be granted at various governance forums. Figure 4 includes the overall governance structure for HAL as defined in document 'Heathrow Airport – Enhanced Engagement & Governance Protocol' [REDACTED]. Table 28 includes other key governance forums referenced in the documentation reviewed and from interviews with Expansion Programme personnel.

Figure 4: Heathrow Airport overall governance structure<sup>82</sup>

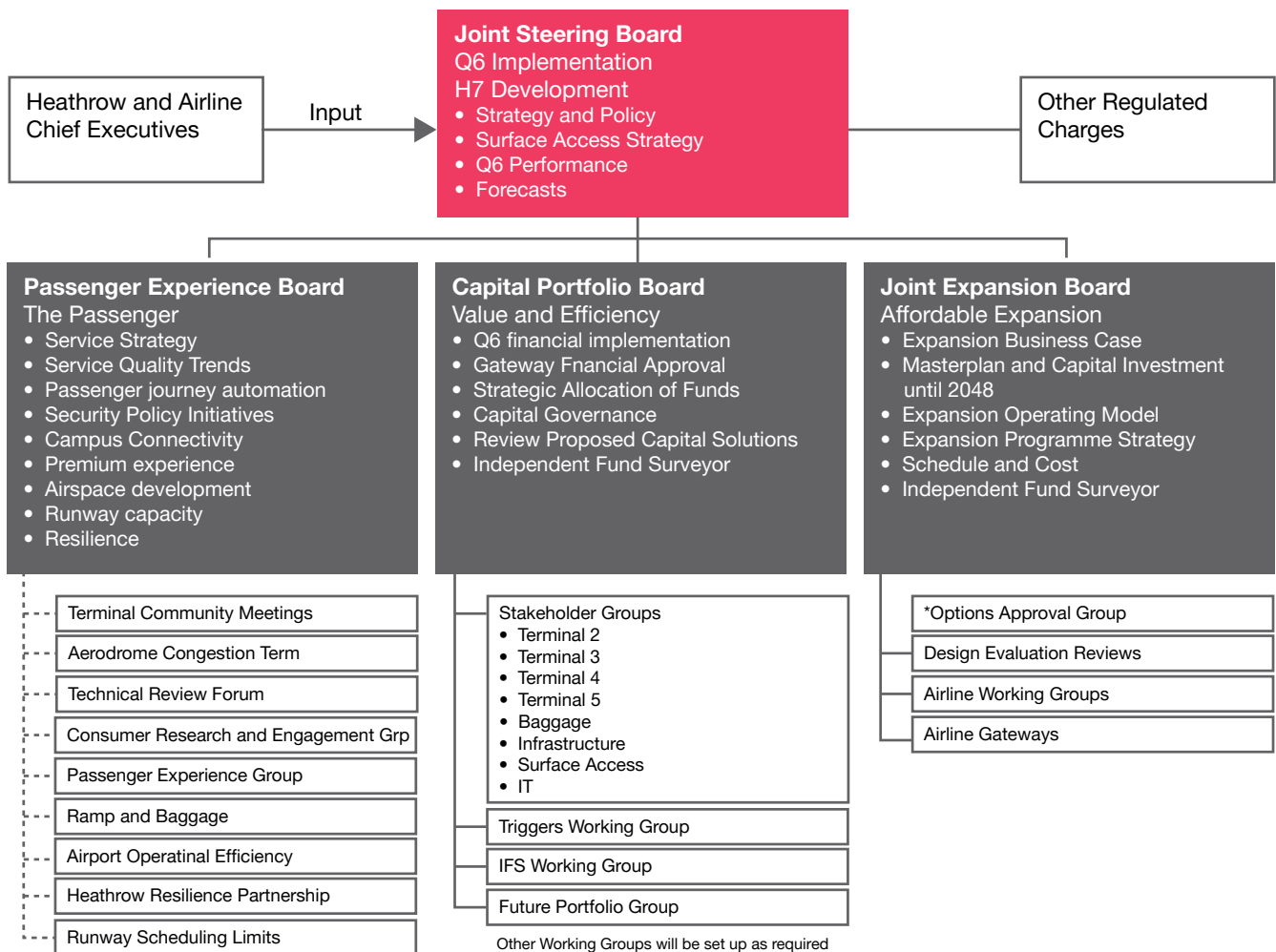




Table 28: Expansion Programme governance forums<sup>83</sup>

Forum	Purpose
Joint Expansion Boards	HAL and airline community forum to govern the decisions and investment choices for strategic content, timing and delivery of the Expansion Programme. The Airline Working Group (AWG) feeds into the Joint Expansion Board to provide proposals for information and endorsement.
Airline Working Group	To support airport-airline engagement for the Expansion Programme.
Cost and Benefit Working Group (CBWG)	To provide a forum to review costs for the Expansion Programme. This group is also where the IFS will engage on assurance, value for money and efficiency.
Options Approval Group	To facilitate coordination between Airline Working Group to Joint Expansion Board.
Integrated Design and DCO Team Leadership (IDTL) Board	Monthly forum for providing governance and guidance for the IDT scope.
Design Validation Meetings (DVM) – previously called the Design & Evaluation Review in 2018	Forum for the leadership team and IDT Task Order leads to challenge the technical solution to confirm priorities, risks and the interfaces between the IDT suppliers and Task Orders.

### IDT leadership and management costs

As referenced in Section 2 of this report there are multiple suppliers that comprise the IDT, which requires appropriate governance, alignment and integration, both from HAL and from the organisations that comprise the IDT. Direct HAL employees are integrated with the IDT team to provide governance in conjunction with leadership and management responsibilities, and who report to a HAL Development Director<sup>84</sup>. The IDT leadership and management provide oversight and governance of the scope delivered under the IDT. HAL advised that dedicated commercial management is established to manage the IDT contracts including changes in scope.

During the course of our review we have noted multiple examples of leadership and management costs included in the IDT Task Orders. From the 15 IDT Task Orders reviewed, we were able to identify a total instructed value for leadership and management costs of £2.615m. Typically this was included in Work Package 01 for each Task Order. Table 29 lists the respective IDT Task Orders and includes a summary of the leadership and management scope and instructed value.

Table 29: Leadership and management costs included in sampled IDT Task Orders

Task Order	Summary	Instructed value for Leadership costs (£m)	Instructed value for Management costs (£m)
IDT TO1.1 Leadership	Provides overall IDT leadership including support on governance, sponsorship, attendance and facilitation of IDTL board meetings and provision of strategic direction for the IDT.	█	█
IDT TO1.2 IDT Management	Provides the framework, governance structure, processes and tools for management to support the delivery and management of the design and DCO requirements; facilitate delivery, inform the Board and perform the assurance and audit roles for Health Safety, Security and Environment (HSSE) plus validation of final IDT deliverables. <sup>85</sup>	█	█
IDT TO1.4 DCO	Work Package (WP) 01 includes costs for Task Order Management. <sup>86</sup> Includes management costs for providing assurance on progress, advice on scheme definition and scheme development, preparation of specific consultation material and coordination between different Task Orders.  Leadership costs are not identified separately.	█	█

83 █  
 84 █  
 85 █  
 86 █

Task Order	Summary	Instructed value for Leadership costs (£m)	Instructed value for Management costs (£m)
IDT TO1.5 Masterplan Development and Integration	Includes management costs for developing and maintaining schedule, budget and deliverables alongside regular meetings to monitor and report progress. Leadership responsibilities are referred to including design leadership, coordination, Task Order prioritisation etc. but the costs are not identified separately.	[REDACTED]	[REDACTED]
IDT TO2.1 Airfield	Costs for leadership and project support are included in Work Package (WP) 01 <sup>87</sup> . The leadership costs identified relate to design management, risk management, health safety and security plus scheduling and reporting.	[REDACTED]	[REDACTED]
IDT TO3.1 Terminals, Satellites & Aprons Forecasting and Capacity Baggage & Connectivity Airside Road Network & Tunnels	Work Package (WP) 01 references management costs. Leadership costs are not identified separately.	[REDACTED]	[REDACTED]
IDT TO4.6 Roads and Junctions	Work Package (WP) 01 includes costs for Leadership and Project Support <sup>88</sup> .	[REDACTED]	[REDACTED]
IDT TO4.7 Surface Access	Includes instructed leadership costs for providing guidance on technical and non-technical issues and accountability for deliverables, risk management, planning, project controls and change management.	[REDACTED]	[REDACTED]
IDT TO5.1 Rivers and Flood Risk	Includes management costs for providing ongoing management support and coordination with other Task Orders within IDT.	[REDACTED]	[REDACTED]
IDT TO5.3 Environment & Sustainability	Work Package (WP) 01 includes leadership costs for technical leadership and management. The scope includes day to day project management and strategic liaison with other IDT Task Orders.	[REDACTED]	[REDACTED]
IDT TO6.0 Land Use	Work Package (WP) 01 includes management costs including responsibilities for regular progress meetings, schedule management and change management.	[REDACTED]	[REDACTED]
IDT TO7.0 Surveys	Work Package (WP) 01 includes costs for management and integration which reference project management, interface management, scheduling and communication across the design teams.	[REDACTED]	[REDACTED]
IDT TO7.3 Earthworks & Platforms	Work package (WP) 01 includes costs for Task Order management for overall management of deliverables to budget and schedule.	[REDACTED]	[REDACTED]
IDT TO8.0 Utilities & Displacements	Work package (WP) 01 refers to leadership and management for Task Order 8.0. Leadership costs are not separated out.	[REDACTED]	[REDACTED]
IDT TO10.0 Early Lifting of the ATM cap	The pricing schedule makes a reference to "TO Leadership" costs.	[REDACTED]	[REDACTED]
<b>Total</b>		<b>1.089</b>	<b>1.526</b>

87 [REDACTED]

88 [REDACTED]

### 3.4.4 Is the progress and performance clearly and consistently reported including the consequential impact of delay?

HAL has provided copies of two key reports which are produced every month and summarise key performance indicators for the Expansion Programme. The two reports, namely Monthly Status Reports and Monthly Cost Management Reports, are subsequently summarised and based on the evidence provided, commentary is provided on whether progress and performance are clearly and consistently reported including the consequential impact of delay.

#### Performance reporting

##### Monthly Status Reports

HAL has provided 12 sets of Expansion Programme Monthly Status Reports (MSR) for the months of January 2018 through to December 2018. HAL has advised that every month the individual MSRs are summarised in a single programme wide MSR for review at the Joint Expansion Board (JEB). The MSRs provide an update on progress and performance per function, for key strategic milestones in addition to high level schedule information for design and construction activities.

The MSRs include cost and commercial metrics but do not draw a correlation between the cost and schedule progress updates. Key metrics included in the dashboards are:

- workstream headlines and key achievements
- commercial summary including budget (current and original), Actual Cost of Work Performed, Estimate to Completion and Estimate at Completion
- commercial commentary and a cumulative cash flow
- high level workstream schedule
- four week schedule ‘look ahead’ of prioritised activities
- major milestones
- top 5 risks and opportunities
- key decisions required.

We noted examples in the MSRs where changes to the milestone forecast dates were reported, but no commentary or analysis was provided to identify the impact of the delay in terms of scope, schedule, cost or risk. Table 30 includes an example of where milestone ‘M5 Approved’ was reported as delayed, and the reported variance to the baseline milestone date.

Table 30: Reported variance and forecast start date for M5 approved milestone

MSR	Forecast start date for ‘M5 Approved’	Reported variance
MSR – June 2018	19 July 2019	0 days
MSR – August 2018	TBC	The MSR referenced that the dates were under review, the reported variance was 0 days
MSR – September 2018	09 December 2019	0 days
MSR – December 2018	30 March 2020	Stated that the milestone was on schedule

Two examples from our review were also noted where the descriptions and Activity IDs used for specific schedule activities varied:

- the Activity ID for Preliminary Environmental Information Report (PEIR) varied between January 2018 and March 2018.
- the Activity IDs for “Submit interim Jan S16 report” varied for Airline Strategy between MSR for January 2018 and March 2018.

#### Monthly Cost Management Reports

HAL has provided 12 Monthly Cost Management Reports for the months of January 2018 through to December 2018. One dashboard is produced for each function. The key cost metrics reported in the Cost Management Reports include:

- A commercial summary with key cost data such as Actual Cost of Work Performed (ACWP), Estimate to Completion (ETC), Estimate at Completion (EAC), cost baseline and cost variances.

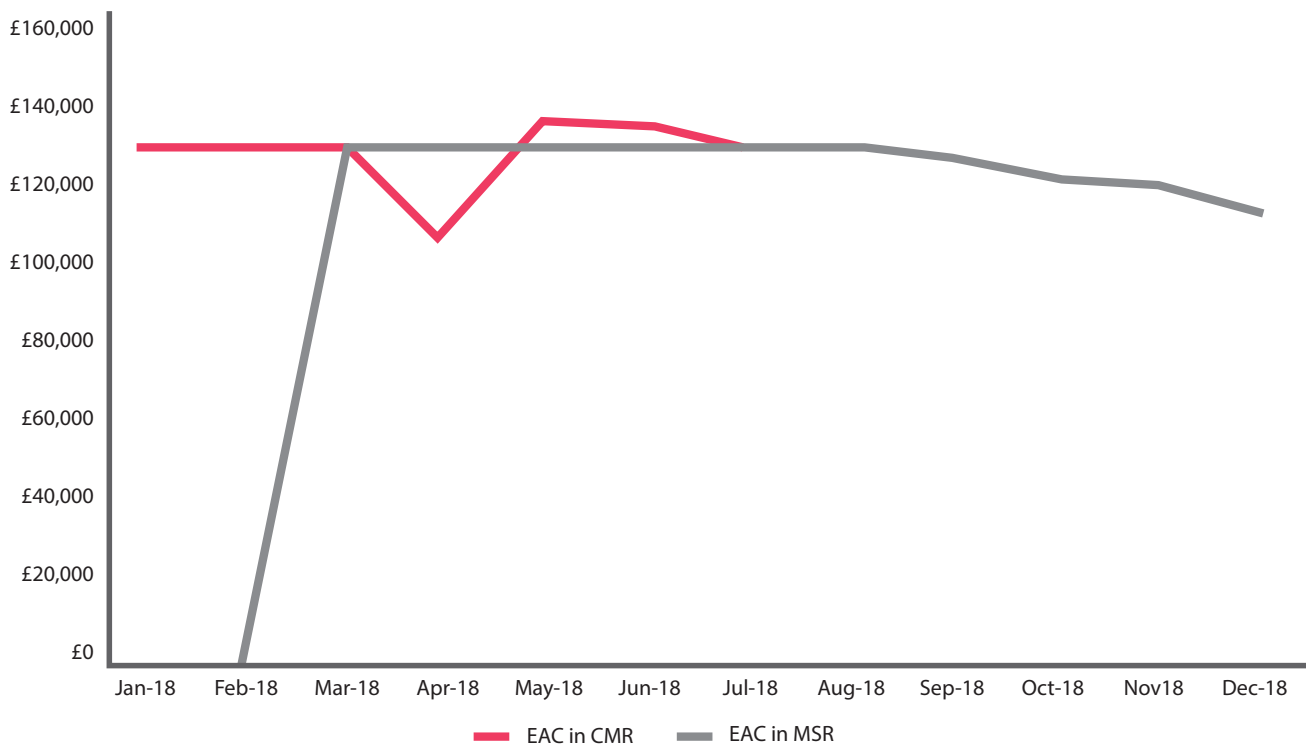
- Commercial commentary.
- A monthly cost profile for ACWP and ETC up to and including December 2018.

The Cost Management Reports included examples of inconsistent reporting where the Cost Management Report for April 2018 does not include any information or updates on the HR, Exec, Colleague Costs, Property and Land Referencing functions, the Cost Management Report for June 2018 does not include any information or updates on the HR and Exec functions.

#### Comparison of Monthly Status Reports and Cost Management Reports

We noted inconsistent reporting of the EAC for several months during 2018 between the MSRs and the Cost Management Reports. Figure 5 shows the differences in EAC which varies up to September 2018, and thereafter is consistent. The MSRs reported an EAC of zero during January and February 2018.

Figure 5: Reported EAC in the MSRs and Cost Management Reports



## In-year budgeting

The annual variance between actual costs and the “in-year” budget for 2018 is referenced in Table 31. There is an underspend of £13m in 2018 and the consequential impact of this underspend, if any, is unclear on Category B or Category C costs.

In 2018 the Category C costs incurred totalled £10.450m<sup>89</sup>, which represented an underspend of £29.5m compared to the annual budget of £39.952m.

Table 31: Variance between annual budget and actual costs for Category B and Category C costs

Year	a	b	c = a - b	d = (c/a)*100
	Budget (£m)	Actual costs (£m)	Variance (£m)	Variance as a %age
<b>Category B</b>				
2016	11 <sup>90</sup>	11	0	0%
2017	87.3	77.8	9.5	11%
2018	131.2	118.2	13	10%
<b>Category C</b>				
2016	0.348	0.348	0	0%
2017	21.110 <sup>91</sup>	6.890	14.22	67%
2018	39.952	10.450	29.502	73%

In 2018 HAL has undertaken an ‘in-year’ budgeting exercise and measured actual costs incurred against the annual budget. This process does not enable full visibility of, or a clear link to an overall baseline and cost estimate for the Expansion Programme. This process does not enable the impact of annual cost underspend or overspend to be clearly understood, or the consequential impact on scope, schedule and risk to be understood.

89 [REDACTED]

90 In the absence of any specific budget information for 2016, it is assumed to be the same as the actual costs for 2016

91 [REDACTED]







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