

# HAL RBP UPDATE - REVIEW OF CAPEX CATEGORIES AND DELIVERY OBJECTIVES

October 2021

Redacted version

## Project Objectives

The objectives for this project were to support the CAA's H7 capex incentives workstream by:

1. Reviewing the capex categories included by HAL in its June 2021 RBP update (HAL continues to use programmes to structure its capex plan, so the assessment would be of the programmes set out in the plan) and assess compliance with CAA definition of a capex category.
2. Provide a view for each capex category or programme included by HAL in its plan (under both the “Safety Only Plan” and the “Optimal Plan” envelopes included in the RBP update 1), whether it is suitable for implementing capex incentives in H7 – for example whether a delivery objective / obligation can be effectively identified for the category and whether it would be possible for the CAA to undertake an assessment of the delivery obligation, once the work has been delivered.
3. Developing a proposed approach / methodology for the asset management programme, splitting it into several capex categories, consistent with the CAA definition of capex category. This would involve working closely with the CAA to test proposed approaches before moving forward with a specific methodology.
4. Jointly developing and agreeing an approach to review delivery objectives proposed by HAL in the RBP update and develop worked examples of delivery objectives which are consistent with the CAA's definition. The number and scope of worked examples will be discussed by the CAA and the consultants once the approach has been agreed.

## Project Outputs

A slide pack report setting out the approach and findings. This report will be published alongside the Initial Proposals document.

1. Set out a **list of Capex Categories (HAL programmes)** – undertake a review of these Capex Categories to determine whether they are compliant with CAA definition.
2. Review and provide view of the **suitability of each Capex Category set out by HAL to set capex incentive** against during H7.
3. Agree **approach** to split the Asset Management Programme (Capex Category) into Capex Categories consistent with CAA definition.
4. A set of **worked examples of delivery objectives** which are consistent with the CAA's definition based on an agreed approach with the CAA. To be included in CAA initial proposals to help demonstrate how a delivery objective can be developed based on HAL's proposed capex plan. The worked examples will be used to further engagement with HAL and airlines on delivery objectives.

In delivering the scope of this project, Arcadis has concluded the following:

## 1. HAL Programme compliance with CAA Capex Category definition

- The majority of HAL programmes comply with the CAA definition of a Capex Category with similar risk and controllability characteristics.
- For the Asset Management and the Future Ready Airport Programmes, which as proposed by HAL include projects with varying levels of risk in delivery, we propose that these should be split into several capex categories that meet the CAA definition more closely. Splitting these into further capex categories would also enable HAL to set Delivery Objectives that would be SMART (specific, measurable, achievable, relevant and time bound).

## 2. Suitability of Capex Categories for Capex Incentives in H7

- All Capex Categories included in HAL's plan are suitable for ex ante Capex Incentives. Risk and Controllability attributes are similar for the plan as a whole, and a SMART Delivery Objective can be set (noting the point above about splitting the Asset Management and Future Ready Airport programmes into further capex categories).
- We consider that it is feasible to have 13 separate Capex categories, based on HAL's updated RBP plan, with similar risk and controllability profiles and which are suitable to set a SMART Delivery Objective against.

## 3. Splitting of HAL Asset Management Programme

- We consider it is feasible to split the asset management programme into 6 capex categories that can be used for capex incentives where SMART Delivery Objectives can be set.
- In addition, it is feasible to further split the Future Ready Airport Programme into 2 capex categories where the delivery risk are better matched and that a SMART Delivery Objective can be set.

## 4. Worked examples of Delivery Objectives

- We consider that HAL's programme Objectives are not SMART and cannot be used as Delivery Objectives.
- Arcadis has developed some illustrative examples to demonstrate how a SMART Delivery Objectives can be developed for capex categories that could be used by the CAA as part of the Capex Incentives framework for H7.

# Our approach

## Our approach

Arcadis has developed and followed a methodology that has supported the delivery of the scope of this project.

Our current scope has required us to review, examine, develop, test and validate our thinking in an agile and collaborative way with the CAA.

We understand that the introduction of a new regulatory regime for H7 is a developing process and we have sought to engage with the CAA throughout our work as we have progressed through our methodology and developed our thinking.

# Methodology

## Review

- Review our previous work which was to test different approaches for defining delivery objectives / obligations based on HAL's initial RBP submission
- Review HAL Capex Categories set out in the RBP Update
- Review any evidence HAL has made regarding Delivery Objectives

## Evaluate

- Whether the Programmes in HAL's Updated RBP meet the CAA Capex Category definition
- Whether the Asset Management Programme should be sub-divided into smaller Capex Categories to meet the CAA definition
- Method for sub-dividing the Asset Management Programme into suitable sub-categories
- Whether HAL has updated or set any Delivery Objectives / Obligations in the RBP Update

## Develop

- View on HAL Programmes and level of compliance to CAA definition
- Develop and agree methodology for splitting Asset Management Programme into sub-categories that comply with CAA definition
- Worked examples for the Capex Categories (HAL Programmes) that can be used for Capex Incentives
- Develop methodology for establishing Delivery Objectives

## Test

- Share opinion with CAA on compliance with definition of capex category
- Methodology and approach with CAA for splitting Asset Management Programme
- Illustrative Delivery Objective examples against CAA assessment criteria

## Validate

- Position regarding HAL compliance.
- The identified Capex Categories within the Updated RBP against Capex Incentives proposals
- Propose sub-categories for Asset Management Programme using agreed methodology
- Whether HAL's Delivery Objectives are robust and fit for purpose
- Whether illustrative examples provide the required level of information to support Capex Incentives

## Recommend

- What HAL, airlines and the CAA needs to do next to support the development of the Capex Category and Delivery Obligation workstream



## Review

- HAL acknowledges in Chapter 5 (5.3.6) of the RBP update 1 the CAA requirement to divide its capital plan into capex categories. HAL continues to use programmes to categorise its capital spend and therefore for the purpose of capital efficiency incentives defines its capex programmes as ‘capex categories’.
- HAL has developed a structure in the Updated RBP that underpins the delivery of the updated RBP set out in Chapter 6.1.
- HAL indicated that the Updated RBP has now been revised to set clear criteria for treatment of capex categories, setting of delivery obligations and reconciliation.
- HAL has set out its approach to Capital Governance in Chapter 6.1.6 and its response to CAP2139 which seeks to limit the application of ex-ante incentives to a sub-set of HAL’s Capex Programmes.
- HAL has sought to split its programmes in a manner that would allow ex-ante to apply to the elements it believes are suitable for ex-ante treatment. This approach is largely based on the work undertaken by HAL’s consultants (Jacobs).
- HAL acknowledges that its ‘Delivery Objectives’ are still under development with input from the airline community.
- HAL has produced ‘Capital Programme Mandate one-pagers’ (Appendix A) that use the terminology Objective within them.
- In its RBP Update, HAL has proposed that for the programmes that it has proposed should be in scope of ex ante incentives, delivery objectives would be agreed with airlines and linked to service quality where applicable (Table 4, chapter 6.1). However, in its response to the CAA CAP2139 consultation, HAL indicated that it does not think separate Delivery Objectives are necessary because it has proposed that measures from the OBR /SQRB regime could be used instead.

## Evaluation

- It is possible to translate HAL Programmes into Capex Categories that can meet the CAA definition however, it is necessary to divide some of the HAL Programmes into smaller 'sub-categories' to achieve this.
- For example, Arcadis has developed an approach to divide the Asset Management Programme into sub-categories that are compliant with the CAA definition of capex categories. The smaller capex categories have similar replacement activities so that SMART Delivery Objectives can be developed.
- Arcadis recommends that the Crossrail Contribution is not treated as a programme (capex category) for the purpose of capex incentives as this is pre-agreed commitment as part of the Q6 settlement that HAL makes a contribution to the cost of Crossrail. The Crossrail contribution costs included in the H7 plan represent the deferral of the payment into the H7 period rather than a new investment decision therefore Arcadis recommends this is treated as a cost pass-through and not subject to ex ante incentives.
- Arcadis' view is that all remaining capital expenditure (excluding Crossrail contribution) is suitable for ex-ante capex incentives as HAL's ability to predict and manage the deliverability of the work contained within the programmes is high.
- HAL has longstanding construction and delivery experience in a complex operational environment and its approach to delivering programmes of work in an environment it knows well and understands allows HAL to manage and mitigate many of the potential risks and they have significant levels of control over the programme.
- Although the level of risk and controllability of HAL's Capital Programme may vary between individual programmes, overall, HAL has a reasonable level of control and can manage the risks of the capex portfolio that it has proposed in the RBP update.

## Evaluation

- HAL has indicated in the updated RBP that it believes that only some of the capital expenditure is suitable for ex-ante capex incentives. Arcadis has considered this view but cannot support HAL's position. A review of the capex elements that HAL considers are not suitable for ex-ante have been assessed and it is our opinion that it is feasible to apply ex-ante capex incentives to the entire capex portfolio (with the exception of Crossrail contribution).
- HAL still maintains a high level of controllability and should be able to plan and reasonably control the two-runway capex plan that it has proposed for H7. Overall, we have not identified any significant differences in controllability and risk across HAL H7 capex portfolio. Any-differences that we have identified within HAL's individual capex programmes are not significantly different to warrant different incentive arrangements.
- HAL has neither developed Delivery Objectives or Delivery Obligations for the Capex Categories as set out in CAP 1940 / CAP2139 with little evidence of HAL reflecting of the approach proposed by CAA. HAL has indicated in the Updated RBP that it believes that there is sufficient measurement through the Outcomes Based Regulation (OBR) however it is our view that these are focused on delivering service and performance outside of delivering the Capital Programme and on an ongoing basis..
- HAL's 'Capital Programme Mandate one-pagers' (Appendix A) do have a high-level Objective however these are not SMART and cannot be used for the purpose of the capex incentive framework as set out in the CAA requirements.

Develop

Test

Validate

# Capex Categories

## Programme and Capex Category Review

HAL has not structured its RBP Update capex plan in terms of Capex Categories, as required in CAP1940, CAP1951 or CAP2139. HAL instead uses capex programmes to organise its capex plan.

Arcadis has reviewed HAL's proposed programmes in the RBP Update to determine whether they can be treated as Capex Categories in line with the CAA definition.

HAL has set out a programmatic framework for the H7 Capital Plan in chapter 5 of the RBP Update (slide 14). *Figure 14* in the chapter sets out the 7 Programmes HAL has proposed, aligned to the three portfolios. In Chapter 6.1 HAL has further sought to disaggregate this into 9 programmes (see slide 23) and has highlighted where they believe ex-ante treatment is and is not applicable for some certain categories.

HAL has provided two 'options' of its proposed capital plan titled Safety Only Plan and Optimal Plan (Slide 15). The Safety Only Plan includes only 6 of the 7 programmes whereas the Optimal Plan includes all 7 Programmes.

HAL uses inconsistent terminology between Programmes and Portfolios (sub-portfolios) as HAL has named its 7 Programmes as Sub-portfolios in RBP Update 4 Optimal Plan - Level 2 detail. In addition, HAL uses the terminology 'investment' in the Asset Management Programme which we have interpreted as sub-programmes

## Updated Programme Chapter 5.3 in RBP Update.

7 Programmes

1

2

3

4

5

6

7

Figure 14: Programmatic Framework for the H7 capital plan

Portfolio	Objective	RBP Update #1	PROGRAMMES						
			Asset Management	T2 Baggage	Security	Commercial Revenue	Efficient Airport	Carbon & Sustainability	Future Ready Airport
Protect the Business	Asset Management & Compliance	£2,138m	Critical Safety, Security & Compliance Scope £1,500m	T2 Baggage £180m	Regulated Compliance £420m			Airspace Modernisation £38m	
	Protect Efficiency and Revenue	£360m				Protect existing Revenues £100m CrossRail £78m	Avoid material Opex Increases £100m iH7 Roll-Over £82m		
Win the Recovery	Efficient Airport	£734m			Security Transformation £130m Security Compliance £230m		Automation & Digitalisation £374m		
	Commercial Revenue Generation	£600m				Generate Incremental Revenues £600m			
Build Back Better	Carbon & Sustainability	£150m						Carbon & Sustainability £150m	
	Future Ready Airport	£185m	Potential to use some allocation for this activity	T2 Baggage Solution £35m			Potential to use some allocation for this activity		Build Resilience, Capacity & Service £150m
<b>Total Portfolios</b>		<b>£4,167</b>	<b>£1,500m</b>	<b>£215m</b>	<b>£780m</b>	<b>£778m</b>	<b>£556m</b>	<b>£188m</b>	<b>£150m</b>

# Alignment of Programmes in Safety Only vs Optimal Plan (Chapter 5.3) in RBP Update.

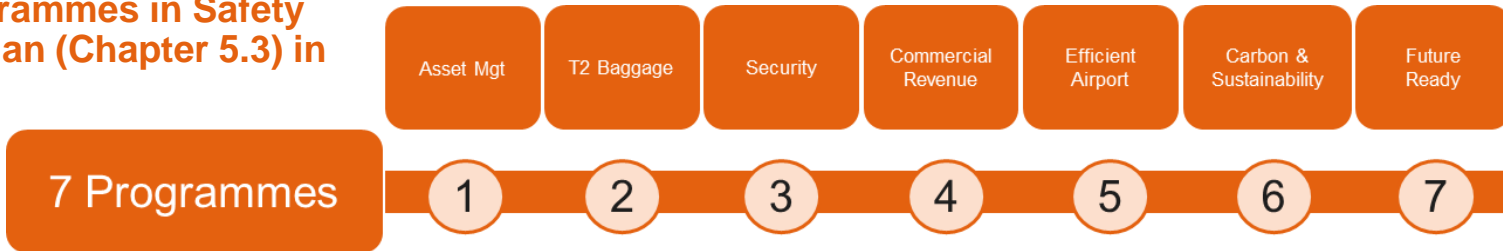


Table 5: Safety Only Plan portfolio

£ 2018 prices		2022	2023	2024	2025	2026	H7
Protect the Business	Asset Management & Compliance	235	309	314	317	325	1,500
	iH7 roll-over (KAD/TTS, T3/T4 ramp up)	63	19				82
	T2 Baggage (prolongation)	10	35	45	45	45	180
	Regulated Security	40	80	100	100	100	420
	Protect Efficiencies	10	25	25	20	20	100
	Protect Revenues	10	25	25	20	20	100
	Carbon - Airspace Modernisation	2	3	14	14	5	38
	Crossrail Contribution	39	39	0	0	0	78
<b>Total Safety Only Plan</b>	<b>409</b>	<b>535</b>	<b>523</b>	<b>516</b>	<b>515</b>	<b>2,498</b>	

Source: Heathrow

Table 4: Updated Optimal Plan portfolio

£ 2018 prices		2022	2023	2024	2025	2026	H7
Protect the Business	Asset Management & Compliance	235	309	314	317	325	1,500
	iH7 roll-over (KAD/TTS, T3/T4 ramp up)	63	19				82
	T2 Baggage (prolongation)	10	35	45	45	45	180
	Regulated Security	40	80	100	100	100	420
	Protect Efficiencies	10	25	25	20	20	100
	Protect Revenues	10	25	25	20	20	100
	Carbon - Airspace Modernisation	2	3	14	14	5	38
	Crossrail Contribution	39	39	0	0	0	78
<b>Subtotal Safety Only Plan</b>	<b>409</b>	<b>535</b>	<b>523</b>	<b>516</b>	<b>515</b>	<b>2,498</b>	
Win the Recovery	Security Compliance				100	130	230
	Security Transformation	10	30	75	10	5	130
	Commercial Revenues	10	70	160	170	190	600
	Efficient Airport	24	50	100	100	100	374
Build Back Better	T2 Baggage Solution				10	25	35
	Carbon, Sustainability				75	75	150
	Western Campus Connectivity & Efficiency				10	25	35
	Future Ready - Service, Resilience				50	65	115
<b>Total Optimal Plan</b>	<b>453</b>	<b>685</b>	<b>858</b>	<b>1,041</b>	<b>1,130</b>	<b>4,167</b>	

Source: Heathrow

We have used the HAL programmes on the previous slide to align the programmes with allocation of Capex.

The Safety Only Plan would take the number of HAL programmes down to 6 in number

### Safety Only Plan

Asset Mgt

T2 Baggage

Security

Commercial Revenue

Efficient Airport

Carbon & Sustainability

Future Ready

#### 7 Programmes

1

2

3

4

5

6

7

Budget (2420)

1500

180

420

100

182

38

0

% of Budget

62

7.4

17.4

4.1

7.5

1.6

0

### Optimal Plan

Asset Mgt

T2 Baggage

Security

Commercial Revenue

Efficient Airport

Carbon & Sustainability

Future Ready

#### 7 Programmes

1

2

3

4

5

6

7

Budget (4089)

1500

215

780

700

556

188

150

% of Budget

36.7

5.3

19.1

17.1

13.6

4.6

3.7



Develop

Test

Validate

## Alignment of Capex Categories with HAL Terminology

Protect the  
Business

Win the  
Recovery

Build back  
Better

**PORTFOLIO**

Asset  
Replacement

T2 Baggage

Regulated  
Security

Efficient  
Airport

Commercial  
Revenue

Carbon &  
Sustainability

Future Ready  
Airport

**PROGRAMMES**

PROJECT

PROJECT

PROJECT

PROJECT

PROJECT

PROJECT

PROJECT

**PROJECTS**

Programmes are the best alignment with Capex Categories although some could be combined or split based on the CAA definition

## Capex Category Definition compliance

*“To monitor capex delivery and set incentives at the appropriate level, we propose to split the capex programme into a manageable number of capex categories based on:*

- **clearly defined outputs** being delivered; and
- **any significant differences in the degree of risk and controllability.”**

Source: CAA CAP 1940 (3.11)

Arcadis has assessed the HAL Programmes against the above definition set out in CAP 1940 and repeated in CAP 2139 and the table on slide 20 sets out our view on whether HAL’s Programmes can be used as a capex categories as defined above.

In addition, Arcadis has considered additional criteria that HAL has included in chapter 6.1, Table 2 (Ex ante criteria) to determine whether these can act as additional factors to support our validation of whether capex programmes can meet the CAA definition above. The elements of regular and repeated, efficient contracting, planned & sequenced and programme complexity are all in essence detailed elements of controllability and we have used these to test our thinking and validate the two primary criteria of risk and controllability.

## Capex Category definition compliance assessment

*Arcadis has used its extensive experience in delivering Programmes in Aviation and wider construction programmes to assess the HAL Programmes (Capex Categories) using the criteria against the assessment questions. We have also worked at Heathrow Airport in delivering major programmes of work. This gives us significant insight into how HAL delivers its programmes and on-site experience.*

Assessment Criteria	Key Assessment Questions
HAL level of controllability	Can HAL predict, understand and constructively influence the time and cost outcomes of a specific Programme ?
Risk Profile in programme	Do the Projects within a Programme have similar levels of risk associated with their delivery?
Regular and repeated activity	Is this Programme activity something HAL has experience of delivering on multiple occasions or is this a first-time activity?
Efficient Contracting	In delivering the Programme is HAL in control of the procurement process and contracting arrangements?
Planned and Sequencing	Does HAL have significant control over when and how the Programme and individual projects within these are delivered?
Programme Complexity	Is the complexity of a Programme something that HAL has no influence or control over or has no experience?
Clearly Defined Outputs	Can the Programme have a clearly defined output which can be measured?

## Programme and Capex Category Review

Programme	HAL level of Controllability	Risk Profile in Programme	Regular & Repeated Activity	Efficient Contracting	Planned & Sequenced	Programme Complexity	Clearly Defined Output	CAA definition compliant
Asset Replacement	HIGH	MAJORITY SIMILAR	YES	YES	YES	LOW	YES*	YES*
Regulated Security	MEDIUM	SIMILAR	YES	YES	YES	LOW	YES	YES
T2 Baggage	HIGH	SIMILAR	YES	YES	YES	MEDIUM	YES	YES
Commercial Revenue	HIGH	SIMILAR	YES	YES	YES	LOW	YES	YES
Efficient Airport	HIGH	SIMILAR	YES	YES	YES	MEDIUM	YES	YES
Carbon and Sustainability	MEDIUM	SIMILAR	NO	YES	YES	LOW	YES	YES
Future Ready Airport	MEDIUM	DIFFERING	NO	YES	YES	LOW	YES	YES*

Additional Criteria from Updated RBP 6.1 Table 2

\*Arcadis concludes that the some of Programmes in the Update RBP could be used as Capex Categories however:

- The Asset Management Programme is significant in size which will potentially result in a variability in this single programme in risk and controllability making it difficult to assign a single Delivery Objective will be difficult to make SMART. Dividing this into sub-categories would be beneficial as this will closer align with the CAA definition and any Delivery Objective set will be SMART.
- Future Ready Airport category is broad in its scope and similar to the asset management programme presents variability in the levels of risk and controllability and setting a SMART do. Splitting this programme into sub-categories with similar risk/controllability profiles will assist in a similar way as outlined above.

## Original HAL Programme (Capex Category) Review – Detailed comments

Programme	HAL level of Controllability	Risk Profile in Programme	Regular & Repeated Activity	Efficient Contracting	Planned & Sequenced	Programme Complexity	Clearly Defined Output	CAA definition compliant
<b>Asset Replacement</b>	HIGH – All assets within airport boundary and under the control of HAL	DIFFERING – Although manageable, there are likely to be some differences in the delivery risk profile between different types of asset replacement projects/ type within the Asset Replacement programme.	YES – HAL has undertaken similar capex projects over many years and has undertaken lessons learnt / reviews so should have enhanced level of understanding in delivery	YES – HAL has ability to use the full suite of contract solutions to manage and control how services are procured	YES – HAL develops and agrees its own programme so is in control of when and how it delivers works	LOW – Capex is asset focused and works around existing assets with no significant ‘unknowns’ when replacing or upgrading existing assets	YES* - each element of the programme can demonstrate a defined outcome or output (albeit not the same for each asset)	<b>YES*</b>
<b>Regulated Security</b>	MEDIUM - Asset within HAL control although regulatory requirements are not controlled by HAL.	SIMILAR – The introduction of security equipment will carry the same delivery risk profile	YES – HAL has replaced and upgraded security equipment and facilities numerous times over the years	YES – limited suppliers of specialist equipment and type of contract used will be familiar to HAL and suppliers	YES – Install in live operational environments so HAL will phase and deliver to minimise disruption	LOW – Security programmes usually location specific and inputs similar to support installation	YES – elements will deliver efficient processing, greater threat detection or compliance outcomes	<b>YES</b>
<b>T2 Baggage</b>	HIGH – Asset within airport control and specific location at the airport. HAL has full operational control of the area	SIMILAR – Risks associated with current system well understood and requirements for upgrade / prolongation well known by HAL	YES – HAL and its suppliers have undertaken similar projects in the past with detailed lessons learnt exercises undertaken to manage delivery	YES – limited suppliers and ability to set up the right contract solution to limit delivery risk can be introduced by HAL	YES – HAL will work with stakeholders and suppliers to develop a delivery plan that minimises disruption to the operation	MEDIUM – Baggage systems are complex in their nature however HAL and its supply chain are aware of this so should be able to mitigate and reduce delivery risk	YES – System output , missed connect rate and reduced down time can all be outcomes / outputs for this programme	<b>YES</b>

Develop

Test

Validate

## Original HAL Programme (Capex Category) Review – Detailed comments

Programme	HAL level of Controllability	Risk Profile in Programme	Regular & Repeated Activity	Efficient Contracting	Planned & Sequenced	Programme Complexity	Clearly Defined Output	CAA definition compliant
<b>Commercial Revenue</b>	HIGH – HAL has control of the assets that it would implement capex spend on to support this programme	SIMILAR – Details within the programme indicate that the risk profile for the types of projects is similar	YES – HAL has undertaken such activity repeatedly over the years	YES – HAL has ability to use the full suite of contract solutions to manage and control how services are procured	YES – HAL has control over the phasing and sequencing of the programme	LOW – Type of projects are not complex, and HAL has relevant experience in delivering similar projects	YES – Outcome or output can be clearly identified and measured	<b>YES</b>
<b>Efficient Airport</b>	HIGH – HAL programme within airport boundary with high level of control	SIMILAR – Type of project highlighted by HAL would have a similar delivery risk profile	YES – HAL has undertaken such activity repeatedly over the years	YES - HAL has ability to use the full suite of contract solutions to manage and control how services are procured	YES - HAL has control over the phasing and sequencing of the programme	MEDIUM - There is some level of complexity however HAL and its supply chain should be able to mitigate and reduce delivery risk	YES - Outcome or output can be clearly identified and measured	<b>YES</b>
<b>Carbon and Sustainability</b>	MEDIUM – HAL will have control of the delivery environment but not necessarily the policy / requirement	SIMILAR - Type of project highlighted by HAL would have a similar delivery risk profile	NO – Much of the climate change work is emerging and new	YES - HAL has ability to use the full suite of contract solutions to manage and control how services are procured	YES - HAL has control over the phasing and sequencing of the programme	LOW - Type of projects are not complex, and HAL has relevant experience in delivering similar projects	YES - Outcome or output can be clearly identified and measured	<b>YES</b>
<b>Future Ready Airport</b>	MEDIUM - HAL will have control of the delivery environment but will not necessarily develop the requirements directly.	DIFFERING - Although manageable, there are likely to be some differences in the delivery risk profile of project types.	YES – HAL has delivered some of this type of work before but other elements are less clear	YES - HAL has ability to use the full suite of contract solutions to manage and control how services are procured	YES - HAL has control over the phasing and sequencing of the programme	LOW - Type of projects are not complex, and HAL has relevant experience in delivering similar projects	YES - Outcome or output can be clearly identified and measured	<b>YES*</b>

HAL has suggested a further disaggregation of the programme in Chapter 6 of the Updated RBP and has identified what it believes is suitable for ex ante incentives.

Table 3: H7 capex categories and incentive type

Capex category	% of H7 portfolio	Suitable for ex-ante treatment
Asset replacement – asset maintenance	36%	✓
Asset replacement – generational renewals (T2 baggage)	5%	X
Regulated security (compliance and transformation)	20%	X
Commercial revenue – protect existing revenues	2%	✓
Commercial revenue – Generate incremental revenues	17%	X
Efficient airport – avoid material opex increases	2%	✓
Efficient airport – automation and digitalisation	9%	X
Carbon and sustainability	5%	X
Future ready airport	4%	X

Source: Heathrow

Arcadis' view is that the elements that make up the Capex Categories suggested in Chapter 6.1 (table 3) are all suitable for ex-ante treatment based on the CAA definition. Arcadis does not however agree that the method used by HAL to determine whether ex-ante is applicable is aligned to the CAA definition.

HAL's rationale given in Chapter 6.1 (table 2) on whether a programme is suitable for ex ante treatment is reliant on how they have grouped their programmes. E.g. Security Compliance and Transformation is highlighted as a category that HAL does not believe is suitable for ex ante incentive treatment however, the elements within the programme required to deliver the outcomes are controllable by HAL and the risks will be similar therefore meeting the CAA definition.

Asset Mgt

T2 Baggage

Security

Commercial Revenue

Efficient Airport

Carbon & Sustainability

Future Ready

Develop

Test

Validate

# Splitting the Asset Management Programme



## Asset Management Programme – approach to splitting this into capex categories for the purposes of the capex incentive framework.

HAL has included the following ‘investments’ as part of the Asset Management Programme.

The term ‘investment’ within this programme will be considered as a sub-programme for the purpose of this activity.

The additional detail in the Updated RBP indicates that there is scope to create Capex Categories that better align with the CAA definition of a capex category for the purposes of the capex incentive framework.

Grouping ‘investments’ into Capex categories can provide the appropriate Delivery Objective focus for Capex Incentives.

Investment	£M
Cargo Tunnel	██████
Runway Resurfacing	██████
T4 Hold Baggage Screening (HBS)	██████
Main Tunnel	██████
Cyber Phase 3	██████
E & W Campus Logistics and compliance	██████
Other ‘continue’ investments <£10m	██████
Asset Mgmt. Plans	██████
Cyber & Technology Asset Mgmt. Plans	██████
Prioritisation / Phasing	██████
<b>Total</b>	<b>1500</b>

Source: Heathrow Update RBP 1 Optimal Plan – level 2 detail

## Asset Management Programme – There are several natural groupings of capex

Undertaking a further assessment of these potential sub-programmes has identified 6 groupings. 4 of the 6 are fully compliant with CAA definition however 1 is difficult to assess for compliance (Other <£10m) as there is no detail contained within the updated RBP and the other (Asset Mgmt. Plans) can be further broken down to provide SMART Delivery Objectives .

Investment	£M	
Cargo Tunnel	██████	Tunnels
Runway Resurfacing	██████	
T4 Hold Baggage Screening (HBS)	██████	Resurfacing*
Main Tunnel	██████	
Cyber Phase 3	██████	Baggage
E & W Campus Logistics and compliance	██████	
Other 'continue' investments <£10m	██████	IT / Technology
Asset Mgmt. Plans	██████	
Cyber & Technology Asset Mgmt. Plans	██████	Other
Prioritisation / Phasing	██████	
Total	1500	Maintenance

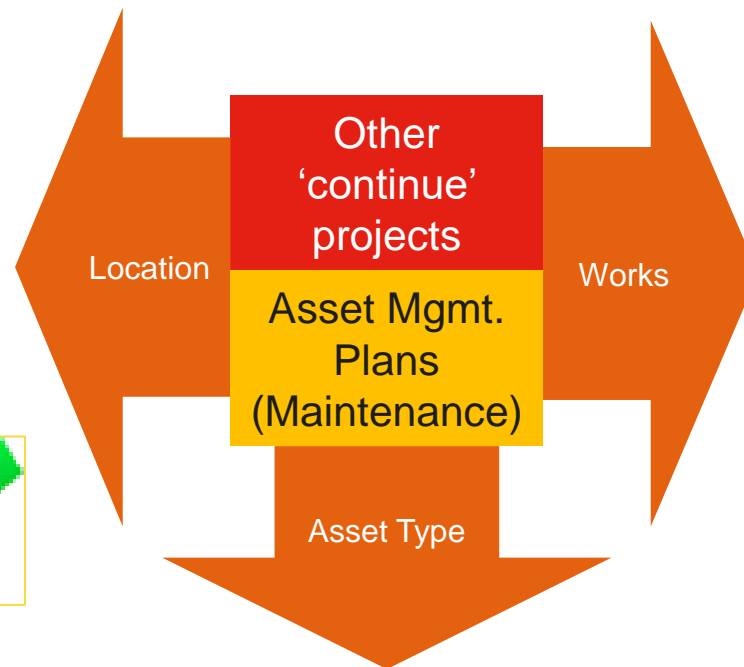
It is unclear how this 'efficiency' value will be treated in terms of Capex Incentives

\*Resurfacing can be incorporated into the Airfield Programme explained in more detail on slide 29

Arcadis has identified three ways to define Capex Categories with similar levels of risk and controllability for both the Other 'continue' projects and the Asset Mgmt. Plan (maintenance). Two of these options would however generate too many capex categories and potentially a significant regulatory burden and reporting complexity.

It is recommended that Location should be used to sub-divide the other 'continue' projects and Asset Mgmt. Plan elements into Capex Categories

Location at LHR would give similar levels of controllability for HAL. Although the works in these locations would differ, the risk profile would be similar. E.g. Undertaking a project in any of HAL's terminals will carry similar levels of controllability and risk. Runway resurfacing can be incorporated into the 'Airfield' programme.



Sub-dividing the maintenance into work type would provide far more granularity the level of controllability and risk are likely to be similar in each of the work types.

Eg The processes and steps taken by HAL to deliver a baggage maintenance project will be well known and understood by HAL but different to those required to deliver a digital project.

This would however produce a high number of smaller Capex Categories



Sub-dividing the maintenance into asset type would provide far more granularity and the level of controllability and risk are likely to be very similar in each of the asset types e.g. the risks and controllability associated in delivering a lift project in T2 would be similar to delivering a lift project in T3.

This would however produce a high number of smaller Capex Categories.

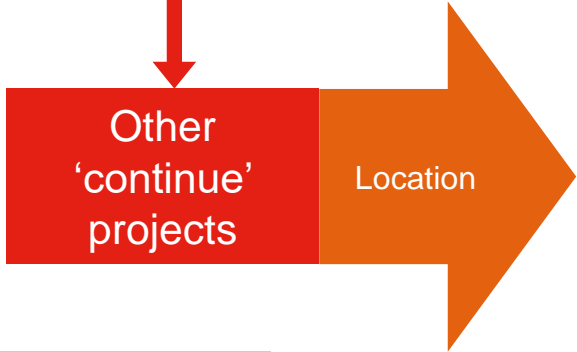


## Asset Management Programme element (Other 'continue' projects) can be split into sub-categories

THE CURRENT INFORMATION PROVIDED BY HAL IN THE UPDATED RBP DOES NOT CONTAIN ANY BREAKDOWN OF THE GENERAL 'OTHER' INVESTMENT PORTFOLIO SO WE HAVE ASSUMED THESE PROJECTS WILL FOLLOW A SIMILAR PATTERN TO ASSET MANAGEMENT PLANS

Investment	EM
Cargo Tunnel	1500
Runway Resurfacing	
T4 Hold Baggage Screening (HBS)	
Main Tunnel	
Cyber Phase 3	
E & W Campus Logistics and compliance	
Other 'continue' investments <£10m	
Asset Mgmt. Plans	
Cyber & Technology Asset Mgmt. Plans	
Prioritisation / Phasing	
<b>Total</b>	<b>1500</b>

- Tunnels
- Resurfacing
- Baggage
- IT / Technology
- General
- Maintenance

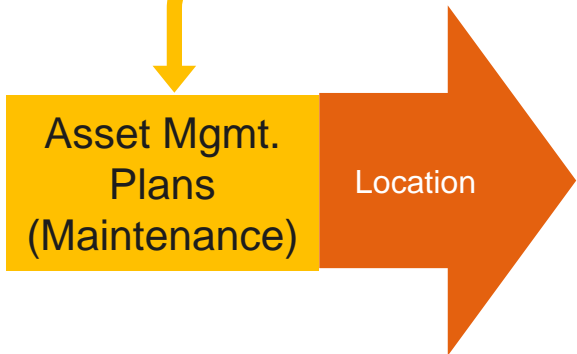


Location types would have similar controllability levels by HAL and although the works in these locations would differ, the risk profile would be similar. E.g. Undertaking a project in any of HAL's terminals will carry similar levels of controllability and risk. Runway resurfacing can be incorporated into the airfield programme.

Terminals	Airfield	Landside
<p>Terminals in this context includes everything from the 'front door' all the way to the 'airplane door'</p> <p>Projects undertaken within the 'Terminal' location across the LHR campus will encounter similar construction and delivery risks that differ from those in Airfield and Landside.</p> <p>Although HAL will need to liaise with different airline stakeholders when scheduling and programming the activity, the process and level of controllability is high.</p>	<p>Airfield in this context includes everything in the airside environment excluding the Terminal.</p> <p>Projects undertaken within the 'Airfield' location across the LHR campus will encounter similar construction and delivery risks that differ from those in Terminals and Landside.</p> <p>HAL will need to liaise with the same stakeholders and HAL's level of controllability is high.</p> <p>Airfield also includes all the buildings that sit airside that do not form part of the Terminal</p>	<p>Landside in this context includes everything from the 'front door' out to the airport's boundary and beyond</p> <p>Projects undertaken within the 'Landside' location across the LHR campus will encounter similar risks that differ from those in Terminals and Airfield.</p> <p>Although HAL will need to liaise with different stakeholders when scheduling and programming the activity, the process and level of controllability is still high.</p>

## Asset Management Programme element (maintenance projects) can be split into sub-categories

Investment	£M	
Cargo Tunnel	1500	Tunnels
Runway Resurfacing		Resurfacing
T4 Hold Baggage Screening (HBS)		Baggage
Main Tunnel		IT / Technology
Cyber Phase 3		General
E & W Campus Logistics and compliance		
Other 'continue' investments <£10m		
Asset Mgmt. Plans		
Cyber & Technology Asset Mgmt. Plans		
Prioritisation / Phasing		
Total	1500	Maintenance



Terminals	Airfield	Landside
<p>Terminals in this context includes everything from the 'front door' all the way to the 'airplane door'</p> <p>Asset management projects undertaken within the 'Terminal' location across the LHR campus will encounter similar construction and delivery risks that differ from those in Airfield and Landside.</p> <p>Although HAL will need to liaise with different airline stakeholders when scheduling and programming the activity, the process and level of controllability is high.</p>	<p>Airfield in this context includes everything in the airside environment excluding the Terminal.</p> <p>Projects undertaken within the 'Airfield' location across the LHR campus will encounter similar construction and delivery risks that differ from those in Terminals and Landside.</p> <p>HAL will need to liaise with the same stakeholders and HAL's level of controllability is high.</p> <p>Airfield also includes all the buildings that sit airside that do not form part of the Terminal</p>	<p>Landside in this context includes everything from the 'front door' out to the airport's boundary and beyond</p> <p>Projects undertaken within the 'Landside' location across the LHR campus will encounter similar risks that differ from those in Terminals and Airfield.</p> <p>Although HAL will need to liaise with different stakeholders when scheduling and programming the activity, the process and level of controllability is still high.</p>

Location types would have similar controllability levels by HAL and although the works in these locations would differ, the risk profile would be similar. E.g. Undertaking a project in any of HAL's terminals will carry similar levels of controllability and risk. Runway resurfacing can be incorporated into the airfield programme.

**The Future Ready Airport Programme currently has capex spend that has differing levels of risk and controllability. A splitting of this programme could align this programme with CAA definition.**

Service Resilience		£115m
Passenger Requiring Support (incl. Assistance Service)		£45m
Digital Service (incl. Digital Wayfinding, Digital Information points, Beacons, Virtual assistants)		£11m
Next Generation Touchless / Automated Journeys		£24m
Immigration (incl. Accessible e-gates)		£15m
Improved Relaxation Areas (seating) and Charging		£9m
Preparing for Consumer Service Expectations in H8		£11m
<b>Total Service and Resilience</b>		<b>£115m</b>

Western Campus Connectivity & Efficiency		£35m
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IT / Technology

Facility upgrades (non-IT)

*Source: Heathrow*

5.3 of the Updated Capex plans sets out the proposed spend in the Future Ready Airport Programme. HAL indicates that there is still a high level of uncertainty in this programme however there is an opportunity to align the capex spend more closely with the CAA definition so this will allow for delivery objectives that are specific to these 2 different types of activity, allowing for SMART Delivery Objectives to be set

Dividing the Future Ready Airport into two sub-categories bundles the capex into groupings with similar levels of controllability and risk. There is a group of projects that are clearly focused on digital / technology infrastructure and others that are focused on the physical infrastructure at the airport.

The delivery of digital technology projects will collectively have similar stakeholders, interfaces, suppliers, contracting types and risks associated with developing innovative and up-to-date solutions. HAL's level of controllability across this grouping will be similar and they have experience of delivering similar type innovation projects over time. The other grouping which is focused on the physical infrastructure again has similar levels of risk and controllability but this will differ from that of digital / technology infrastructure.

The 3 Service Resilience elements of Capex relate to IT type projects and 3 elements are related to service / facility type improvements will deliver similar outputs. The other identified Capex is Western Campus Connectivity & Efficiency which we have grouped with Facility Upgrades.

This will lead to Delivery Objectives that are SMART and can be applied to each of these two capex categories that group projects together.

Develop

Test

Validate

## Split Programme and Capex Category Review

Additional Criteria from Updated RBP 6.1 Table 2

Programme	HAL level of Controllability	Risk Profile in Programme	Regular & Repeated Activity	Efficient Contracting	Planned & Sequenced	Programme Complexity	Clearly Defined Output	CAA definition compliant
Asset Maintenance - Tunnels	HIGH	SIMILAR	YES	YES	YES	MEDIUM	YES	YES
Asset Maintenance - Baggage	HIGH	SIMILAR	YES	YES	YES	MEDIUM	YES	YES
Asset Maintenance – IT/Technology	HIGH	SIMILAR	YES	YES	YES	MEDIUM	YES	YES
Asset Maintenance - Terminal	HIGH	SIMILAR	YES	YES	YES	MEDIUM	YES	YES
Asset Maintenance - Airfield	HIGH	SIMILAR	YES	YES	YES	LOW	YES	YES
Asset Maintenance - Landside	HIGH	SIMILAR	YES	YES	YES	LOW	YES	YES
Regulated Security	MEDIUM	SIMILAR	YES	YES	YES	LOW	YES	YES
T2 Baggage	HIGH	SIMILAR	YES	YES	YES	MEDIUM	YES	YES
Commercial Revenue	HIGH	SIMILAR	YES	YES	YES	LOW	YES	YES
Efficient Airport	HIGH	SIMILAR	YES	YES	YES	MEDIUM	YES	YES
Carbon and Sustainability	MEDIUM	SIMILAR	NO	YES	YES	LOW	YES	YES
Future Ready Airport - IT	HIGH	SIMILAR	YES	YES	YES	LOW	YES	YES*
Future Ready Airport - Facility Upgrade	HIGH	SIMILAR	YES	YES	YES	LOW	YES	YES

Arcadis concludes that the 13 Programmes (Capex Categories) comply with the CAA definition

## Split Programme (Capex Category) Review – Detailed comments

Programme	HAL level of Controllability	Risk Profile in Programme	Regular & Repeated Activity	Efficient Contracting	Planned & Sequenced	Programme Complexity	Clearly Defined Output	CAA definition compliant
<b>Asset Maintenance - Tunnels</b>	HIGH – All tunnel assets within airport boundary and under the control of HAL	SIMILAR –risk profile in delivery within programme is similar	YES - HAL has undertaken such activity repeatedly over the years	YES - HAL has ability to use the full suite of contract solutions to manage and control how services are procured	YES - HAL has control over the phasing and sequencing of the programme	MEDIUM – There is some level of complexity, however HAL has relevant experience in delivering these kinds of projects and should be able to mitigate and reduce delivery risk	YES - Outcome or output can be clearly identified and measured	<b>YES</b>
<b>Asset Maintenance - Baggage</b>	HIGH – Baggage system under the control of HAL	SIMILAR - risk profile in delivery of baggage programme is similar	YES - HAL has undertaken such activity repeatedly over the years	YES - HAL has ability to use the full suite of contract solutions to manage and control how services are procured	YES - HAL has control over the phasing and sequencing of the programme	MEDIUM - There is some level of complexity however HAL and its supply chain should be able to mitigate and reduce delivery risk	YES - Outcome or output can be clearly identified and measured	<b>YES</b>
<b>Asset Maintenance – IT/Technology</b>	HIGH – IT infrastructure within airport boundary and under the control of HAL	SIMILAR - type of risk profile in delivery similar	YES - HAL has undertaken such activity repeatedly over the years	YES - HAL has ability to use the full suite of contract solutions to manage and control how services are procured	YES - HAL has control over the phasing and sequencing of the programme	MEDIUM - There is some level of complexity however HAL and its supply chain should be able to mitigate and reduce delivery risk	YES - Outcome or output can be clearly identified and measured	<b>YES</b>



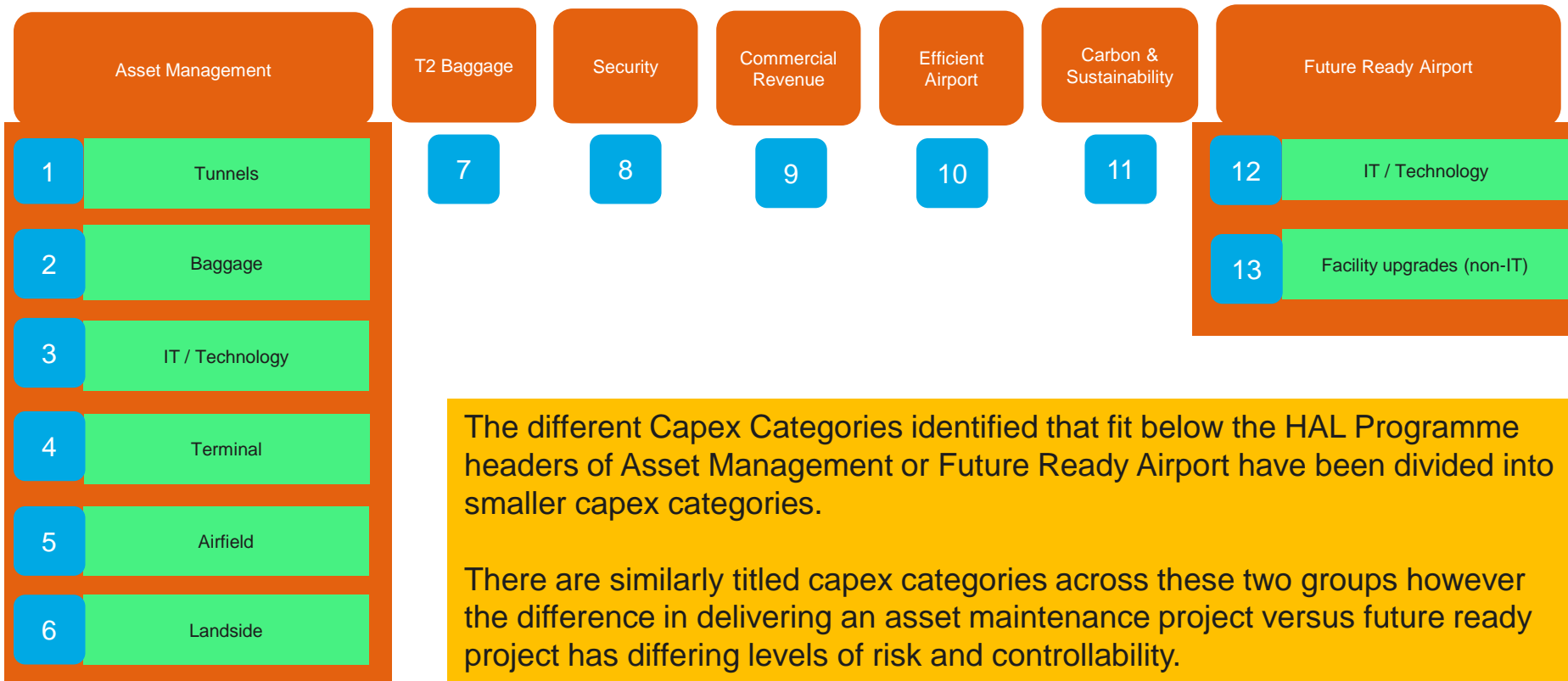
## Split Programme (Capex Category) Review – Detailed comments

Programme	HAL level of Controllability	Risk Profile in Programme	Regular & Repeated Activity	Efficient Contracting	Planned & Sequenced	Programme Complexity	Clearly Defined Output	CAA definition compliant
<b>Asset Maintenance - Terminal</b>	HIGH - All assets within terminal spaces is under the control of HAL	SIMILAR – type of risk profile in delivery similar when working in terminal locations	YES - HAL has undertaken such activity repeatedly over the years	YES - HAL has ability to use the full suite of contract solutions to manage and control how services are procured	YES - HAL has control over the phasing and sequencing of the programme	MEDIUM - There is some level of complexity however HAL and its supply chain should be able to mitigate and reduce delivery risk	YES - Outcome or output can be clearly identified and measured	<b>YES</b>
<b>Asset Maintenance - Airfield</b>	HIGH - All airfield assets within airport boundary and under the control of HAL	SIMILAR - type of risk profile in delivery similar in the airfield environment at LHR	YES - HAL has undertaken such activity repeatedly over the years	YES - HAL has ability to use the full suite of contract solutions to manage and control how services are procured	YES - HAL has control over the phasing and sequencing of the programme	LOW - Type of projects are not complex, and HAL has relevant experience in delivering similar projects	YES - Outcome or output can be clearly identified and measured	<b>YES</b>
<b>Asset Maintenance - Landside</b>	HIGH - All assets identified in the programme are within airport ownership boundary and under the control of HAL	SIMILAR - type of risk profile in delivery similar when working in landside locations	YES - HAL has undertaken such activity repeatedly over the years	YES - HAL has ability to use the full suite of contract solutions to manage and control how services are procured	YES - HAL has control over the phasing and sequencing of the programme	LOW - Type of projects are not complex, and HAL has relevant experience in delivering similar projects	YES - Outcome or output can be clearly identified and measured	<b>YES</b>

## Split Programme (Capex Category) Review – Detailed comments

Programme	HAL level of Controllability	Risk Profile in Programme	Regular & Repeated Activity	Efficient Contracting	Planned & Sequenced	Programme Complexity	Clearly Defined Output	CAA definition compliant
<b>Future Ready Airport - IT</b>	MEDIUM - All assets within airport boundary and/or under the control of HAL. HAL will have control of the delivery environment but will not necessarily develop the IT requirements directly.	SIMILAR - type of risk profile in delivery similar although due to the use of newer solutions will differ from asset replacement	YES - HAL has undertaken similar activity over the years	YES - HAL has ability to use the full suite of contract solutions to manage and control how services are procured	YES - HAL has control over the phasing and sequencing of the programme	LOW - Type of projects are not complex, and HAL has relevant experience in delivering similar projects	YES - Outcome or output can be clearly identified and measured	<b>YES*</b>
<b>Future Ready Airport - Facility Upgrade</b>	HIGH - All assets within airport boundary and under the control of HAL	SIMILAR - type of risk profile in delivery similar	YES - HAL has undertaken such activity repeatedly over the years	YES - HAL has ability to use the full suite of contract solutions to manage and control how services are procured	YES - HAL has control over the phasing and sequencing of the programme	LOW - Type of projects are not complex, and HAL has relevant experience in delivering similar projects	YES - Outcome or output can be clearly identified and measured	<b>YES</b>

**Splitting the Asset Management Programme into more meaningful programmes creates more Capex Categories that are CAA definition compliant.**



**This would potentially create 13 Capex Categories that meet the CAA definition that could have SMART Delivery Objectives**

# Delivery Objectives

Arcadis has jointly developed and agreed an approach to review delivery objectives proposed by HAL in the RBP update.

We have developed worked examples of Delivery Objectives which are consistent with the CAA's definition.

## Setting Delivery Objectives

The CAA will need to set Delivery Objectives for each Capex Category it intends to include in the new regulatory regime as part of its process of setting a capex incentive. To do so, the Delivery Objectives will need to be clearly set out at the commencement of the regulatory period (H7) so that the CAA, HAL and the airlines are clear on what the Delivery Objectives are for each of the Capex Categories, how these will be assessed and how the incentives will develop around this suite of Delivery Objectives.

Each capex category would have a SMART high-level statement of what HAL is seeking to deliver, and the reasons it has prioritised this spending. This would be the delivery objective, defined at the capex category level. As projects reach G3, the high-level delivery objective would be updated to reflect more specific metrics / requirements, at the capex category level. It would then become a delivery obligation.

Arcadis has sought to develop criteria that can provide the CAA the ability to measure HAL's performance.

In applying the SMART principles to the assessment criteria, we can provide a framework for the CAA to work with HAL and the Airlines to agree and develop the appropriate measurement of Capex Categories on an individual basis.

## Delivery Objectives

HAL has set out in the Updated RBP Capital Programme Mandate one-pagers (Appendix A) that contain what HAL has called programme objectives. Arcadis will assess these for suitability as Delivery Objectives

Programme	HAL Objective
Asset Management & Compliance Programme	Maintain physical and technological assets to keep colleagues & consumers safe and secure, critical functions operational and ensure compliance to regulatory standards.
T2 Baggage Programme	Meet and maintain agreed service levels of bags travelling with passengers.
Security Programme	The delivery of an enhanced end to end next generation security product across Heathrow; enhancing threat detection, responding to the regulatory compliance mandate and realising more efficient and effective ways of working for frontline colleagues, whilst also delivering an improved customer experience.
Efficient Airport Programme	Drive down the total cost of operation at Heathrow for the whole community through reducing opex and increasing operational efficiencies and protect against unforeseen cost increases.
Commercial Revenues Programme	Protects existing revenues and unlocks incremental revenue generation by delivering enhanced consumer outcomes.
Carbon & Sustainability Programme	Decarbonise airport infrastructure and enable carbon and air quality emissions reductions.
Future Ready Programme	Prepare the airport for future growth, unlocking capacity, transforming service and building additional resilience.

## Setting Delivery Objectives

The Delivery Objectives need to provide HAL with a clearly defined outcome or set of outcomes that it is seeking to achieve. It is not the intention that the Delivery Objectives will be onerous, but they must provide the CAA the ability to understand what HAL is seeking to deliver, when it is seeking to deliver the outputs or outcomes and how much it intends to spend at a Capex Category level to achieve this.

It is therefore important that the Delivery Objectives are SMART:

- **S – Specific** – objectives are aimed at what the business does,
- **M - Measurable** – the business can put a value to the objective,
- **A – Achievable** – and agreed by all those concerned in trying to achieve the objective.
- **R - Realistic** – the objective should be challenging, but it should also be able to be achieved by the resources available.
- **T- Time bound** – they have a time limit of when the objective should be achieved, e.g., by the end of the year.

In addition to the Delivery Objectives, each Project within a Capex Category will have Outputs. Again, these outputs would also need to be SMART which is best practice in project management.

Arcadis has assessed whether the current HAL 'objectives' in the Capital Programme Mandate one-pagers are suitable to be used as Delivery Objectives for Capex Incentives. It is not feasible for the objectives set out by HAL in the updated RBP to be used as Delivery Objectives as they are not SMART.

Programme	HAL Objective	S	M	A	R	T
Asset Management & Compliance Programme	Maintain physical and technological assets to keep colleagues & consumers safe and secure, critical functions operational and ensure compliance to regulatory standards.	Y	N	N	Y	N
T2 Baggage Programme	Meet and maintain agreed service levels of bags travelling with passengers.	N	N	Y	Y	N
Security Programme	The delivery of an enhanced end to end next generation security product across Heathrow; enhancing threat detection, responding to the regulatory compliance mandate and realising more efficient and effective ways of working for frontline colleagues, whilst also delivering an improved customer experience.	Y	N	Y	N	N
Efficient Airport Programme	Drive down the total cost of operation at Heathrow for the whole community through reducing opex and increasing operational efficiencies and protect against unforeseen cost increases.	Y	N	Y	N	N
Commercial Revenues Programme	Protects existing revenues and unlocks incremental revenue generation by delivering enhanced consumer outcomes.	N	N	N	N	N
Carbon & Sustainability Programme	Decarbonise airport infrastructure and enable carbon and air quality emissions reductions.	N	N	Y	N	N
Future Ready Programme	Prepare the airport for future growth, unlocking capacity, transforming service and building additional resilience.	N	N	N	N	N



- It is not possible to use HAL's original objectives to form the basis of the Delivery Objectives that are SMART and suitable for Capex Incentives.
- It may be possible to use the essence of what HAL is seeking to deliver to develop a Delivery Objective for each of the 13 Capex Categories proposed by Arcadis.
- Arcadis has developed illustrative examples for three of the Capex Categories to demonstrate how SMART Delivery Objectives can be developed.
- The detail, measurement and timing suggested in the assessed Delivery Objectives will need to be further discussed between HAL, the airline community and the CAA.

# ILLUSTRATIVE EXAMPLES OF DELIVERY OBJECTIVES

Based on the 13 proposed capex categories the CAA has considered a list of possible illustrative examples of Delivery Objectives for Arcadis to develop.

The CAA have indicated that the Security capex category (8) should be developed along with two examples from the Asset Management categories that Arcadis is proposing. Arcadis has selected Terminals (4) and Airfield (5) to develop illustrative Delivery Objectives for as part of this workstream

These illustrative examples have been developed for the purpose of demonstrating that a SMART Delivery Objective can be created for a Capex Category that can be used to support Capex Incentives.

The Delivery Objective developed by Arcadis should aid to support future discussions with HAL, airlines and the CAA when progressing the Capex incentives workstream and should not be considered as proposed Delivery Objectives as they are currently drafted.

## Illustrative Example – A Security Programme

Programme		S	M	A	R	T
Security Programme – Existing HAL 'Objective'	The delivery of an enhanced end to end next generation security product across Heathrow; enhancing threat detection, responding to the regulatory compliance mandate and realising more efficient and effective ways of working for frontline colleagues, whilst also delivering an improved customer experience.	Y	N	Y	N	N
<b>Specific</b>	Compliant , improves customer experience, asset work, threat detection	Y				
<b>Measurable</b>	Meeting CAA Security regulations by [DATE REDACTED] / Reduction or maintaining queuing times from XX minutes to YY minutes per pax / provide processing capacity of XX passengers per hour through security/ no incidents of non-compliance / Passenger experience		Y			
<b>Achievable</b>	Meets regulatory requirement / customer needs (Airline / passenger)			Y		
<b>Realistic</b>	Quantum of work suggested is deliverable within the time and HAL can programme in delivery in the time period				Y	
<b>Time bound</b>	Can set year on year improvement or delivery target / can deliver end of H7 target / specific regulator set timescale ([DATE REDACTED] for regulatory compliance of equipment)					Y
New Delivery Objective*	To meet CAA requirements to upgrade security equipment by [DATE REDACTED] to provide a compliant security function that improves the customer experience, HAL will utilise Capex over H7 to renew, replace or introduce security product that is capable of processing XX passengers per hour through security and ensure its security product offers greater threat detection and is fully regulatorily compliant with no incidents of non-compliance on an annual basis and to the end of H7.	Y	Y	Y	Y	Y

\*The New Delivery Objective can incorporate more detail to be more specific or measurable so that HAL, airlines and the CAA can achieve a level of granularity that is proportionate to the requirement for Capex Incentive assessment

## Illustrative Example – Asset Management Terminals Programme

Programme		S	M	A	R	T
Asset Management – Existing HAL ‘Objective’	Maintain physical and technological assets to keep colleagues & consumers safe and secure, critical functions operational and ensure compliance to regulatory standards.	Y	N	Y	N	N
<b>Specific</b>	Maintain assets, Keeps colleagues and consumers safe & secure, compliance, operational functions	Y				
<b>Measurable</b>	Replace life expired assets from XX number in 2019 to YY in [DATE REDACTED]. Reduce operational downtime of terminal assets from XX hours in 2019 to YY hours in [DATE REDACTED].		Y			
<b>Achievable</b>	Meets operational needs of customer (airline) Improve airport experience (passenger)			Y		
<b>Realistic</b>	Quantum of work suggested is deliverable within the time and HAL can programme in delivery in the time period				Y	
<b>Time bound</b>	Year on year improvement, By end of H7 or fixed timescale					Y
New Delivery Objective*	To keep colleagues and consumers safe and secure and to increase operational efficiency within the airport terminal environment, HAL will utilise Capex to maintain HAL terminal assets to replace life expired assets from XXXX number of assets in 2019 to XXX number of assets and the average asset down time to reduce from XX mins/asset to YY mins/asset by the end of H7. The programme will deliver no incidents of non-compliance on an annual basis and to the end of H7.	Y	Y	Y	Y	Y

\*The New Delivery Objective can incorporate more detail to be more specific or measurable so that HAL, airlines and the CAA can achieve a level of granularity that is proportionate to the requirement for Capex Incentive assessment

## Illustrative Examples – Asset Management Airfield Programme

Programme	HAL Objective	S	M	A	R	T
Asset Management – Existing HAL ‘Objective’	Maintain physical and technological assets to keep colleagues & consumers safe and secure, critical functions operational and ensure compliance to regulatory standards.	Y	N	Y	N	N
<b>Specific</b>	Maintaining airfield assets, compliance, safety critical, life expired asset replacement, maintain Declared Capacity (DC)	Y				
<b>Measurable</b>	Availability of airfield assets (Runways, Taxiways, Aprons, Stands) from XX to YY, No or reduction in any compliance events, replace life expired assets Declared Capacity of XX movements per hour		Y			
<b>Achievable</b>	Meets customer needs (Airline / regulator)			Y		
<b>Realistic</b>	Quantum of work suggested is deliverable within the time and HAL can programme in delivery in the time period				Y	
<b>Time bound</b>	Fixed time or annual (DC)					Y
New Delivery Objective*	To keep colleagues and consumers safe and secure HAL will utilise Capex to maintain HAL airfield assets to maintain the airfield Declared Capacity at XX movements per hour by reducing life expired assets from XXXX number of assets in 2019 to XXX number of assets and the average asset down time from XX mins/asset to YY mins/asset by the end of H7. The programme will deliver no incidents of non-compliance of regulatory standards on an annual basis and to the end of H7.	Y	Y	Y	Y	Y

\*The New Delivery Objective can incorporate more detail to be more specific or measurable so that HAL, airlines and the CAA can achieve a level of granularity that is proportionate to the requirement for Capex Incentive assessment

Arcadis has assessed whether the HAL 'objectives' can be modified to make them suitable to be used as Delivery Objectives for Capex Incentives. In most cases, the essence can be maintained but the detail needs enhancement to make each Delivery Objective SMART

Programme	HAL Objective	S	M	A	R	T
Asset Management & Compliance Programme	Maintain physical and technological assets to keep colleagues & consumers safe and secure, critical functions operational and ensure compliance to regulatory standards.	Y	N	N	Y	N
	To keep colleagues and consumers safe and secure HAL will utilise Capex to maintain HAL assets to reduce life expired assets from XXXX number of assets in 2019 to XXX number of assets and the average asset down time from XX mins/asset to YY mins/asset by the end of H7. The programme will deliver no incidents of non-compliance of regulatory standards on an annual basis and to the end of H7.	Y	Y	Y	Y	Y
T2 Baggage Programme	Meet and maintain agreed service levels of bags travelling with passengers.	N	N	Y	Y	N
	To ensure passengers travel with their bags, HAL will utilise Capex to maintain the performance of the T2 Baggage system so that it will be capable of an Overall System Capacity (volume of bags system can handle) of XXXX bags per hour and target to reduce miss-connects from XX bags per hour in 2021 to YY bags per hour in [DATE REDACTED].	Y	Y	Y	Y	Y
Security Programme	The delivery of an enhanced end to end next generation security product across Heathrow; enhancing threat detection, responding to the regulatory compliance mandate and realising more efficient and effective ways of working for frontline colleagues, whilst also delivering an improved customer experience.	Y	N	Y	N	N
	To provide a compliant security function that improves the customer experience, HAL will utilise Capex to renew, replace or introduce security product that reduces current queuing times from XX mins per passenger to YY mins per passenger by the end of H7 and ensure its security product offers greater threat detection and is fully regulatorily compliant with no incidents of non-compliance on an annual basis and to the end of H7security.	Y	Y	Y	Y	Y

Develop

Test

Validate

Arcadis has assessed whether the HAL 'objectives' can be modified to make them suitable to be used as Delivery Objectives for Capex Incentives

Programme	HAL Objective	S	M	A	R	T
Efficient Airport Programme	Drive down the total cost of operation at Heathrow for the whole community through reducing opex and increasing operational efficiencies and protect against unforeseen cost increases.	Y	N	Y	N	N
	To reduce the airport charge and drive down the total cost of operation at Heathrow for the whole community, HAL will utilise Capex to deliver a programme that will reduce opex by £XXX million by the end of H7 and increasing operational efficiency by X% per year and to the end of H7.	Y	Y	Y	Y	Y
Commercial Revenues Programme	Protects existing revenues and unlocks incremental revenue generation by delivering enhanced consumer outcomes.	N	N	N	N	N
	To reduce the airport charge and protect existing revenues and increase revenue generation, HAL will utilise Capex to deliver a programme of enhancements and improvements that aim to increase the level of revenue by X% per year and to the end of H7.	Y	Y	Y	Y	Y
Carbon & Sustainability Programme	Decarbonise airport infrastructure and enable carbon and air quality emissions reductions.	N	N	Y	N	N
	To improve local air quality and reduce airport source of emissions, HAL will utilise Capex on a programme that will deliver initiatives and measures that will reduce emissions from XXX tonnes of CO2 in 2019 to YYY tonnes of CO2 by the end of H7 and reduce Particulate Matter (PM's) from XX µg/m³ in 2019 to YY µg/m³ by the end of H7	Y	Y	Y	Y	Y
Future Ready Programme	Prepare the airport for future growth, unlocking capacity, transforming service and building additional resilience.	N	N	N	N	N
	To prepare the airport for future growth, HAL will utilise Capex to deliver a programme that will increase overall capacity by XX% , transform service where ASQ scores will increase from X.XX in 2021 to X.XX by the end of H7 as well as increasing resilience by X% from 2019 levels in the same time period.	Y	Y	Y	Y	Y

# 3. Recommendations and Next Steps



## Recommendations / Next Steps

### All

- There needs to be an agreement on the alignment of HAL Programmes and Capex Categories and the number of these.
- How performance against the Delivery Objectives will be measured needs to be agreed and the Capex specific assessment criteria need to be tested and validated once HAL has refined their outputs against the programmes in more detail.

### HAL

- HAL needs to propose SMART Delivery Objectives and in doing so be more reflective of the requirements of CAP1940, CAP1951 and CAP2139 (or any updated requirements subsequently issued by the CAA). The need to have a programme that sets out what outputs it is seeking to deliver is fundamental to developing the appropriate Delivery Objective.
- HAL will need to set out when it believes the outputs for each programme will be delivered/ realised either during, at the end or beyond H7

### Airlines

- Airlines should work with HAL and the CAA to develop the detailed Delivery Objectives that can demonstrate that are in the best interest of the consumer and the operation

### CAA

- Until HAL can set out an agreed programme and the outputs this will deliver, the CAA cannot test whether HAL's proposals comply with CAP1940 & CAP 1951 requirements. The CAA will need to be in a position to undertake a validation process of HAL's proposed Delivery Objectives against the assessment criteria to ensure they are SMART
- The CAA should consider developing a process/mechanism for undertaking the reviews of whether a delivery objective has been met.

**Workshops with the CAA (internal) initially followed by a session with HAL would ensure alignment and start to set out in more detail what each party needs to do to develop the new regulatory regime.**

# Appendix A: HAL Capital Programme Mandate one- pagers

Develop

Test

Validate



**HAL has published Capital Programme Mandate one-pagers that contain deliverables**

## Emerging Asset Management & Compliance Programme

Objective

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Consumer Outcomes

---

Benefits

---

Prioritisation

---

Measures

---

Emerging themes

---

Material existing business cases

---

RBP Forecast Allocation (2018p)



Develop

Test

Validate

**HAL has published Capital Programme Mandate one-pagers that contain deliverables**

## Emerging T2 Baggage Programme

Objective

Consumer Outcomes

Benefits

Prioritisation

Measures

Emerging themes

Material existing business cases

RBP Forecast Allocation (2018p)



Develop

Test

Validate

## HAL has published Capital Programme Mandate one-pagers that contain deliverables

Classification: Confidential

# Emerging Security Programme



Objective	
Consumer Outcomes	
Benefits	
Prioritisation (after regulatory compliance)	
Measures	
Emerging themes	
Material existing business cases	
RBP Forecast Allocation (2018p)	

Develop

Test

Validate

**HAL has published Capital Programme Mandate one-pagers that contain deliverables**

## Emerging Efficient Airport Programme

Objective

Consumer Outcomes

Benefits

Prioritisation

Measures

Emerging themes

Material existing business cases

RBP Forecast Allocation (2018p)



Develop

Test

Validate

**HAL has published Capital Programme Mandate one-pagers that contain deliverables**

## Emerging Commercial Revenues Programme

Objective

Consumer Outcomes

Benefits

Prioritisation

Measures

Emerging themes

Material existing business cases

RBP Forecast Allocation (2018p)



Develop

Test

Validate

**HAL has published Capital Programme Mandate one-pagers that contain deliverables**

## Emerging Carbon & Sustainability Programme

Objective

Consumer Outcomes

Benefits

Prioritisation

Measures

Emerging themes

Material existing business cases

RBP Forecast Allocation (2018p)





**HAL has published Capital Programme Mandate one-pagers that contain deliverables**

## Emerging Future Ready Programme

Objective

Consumer Outcomes

Benefits

Prioritisation

Measures

Emerging themes

Material potential business cases

RBP Forecast Allocation (2018p)

