

H7 INITIAL PROPOSALS ON OUTCOME-BASED REGULATION

Frontier Economics' independent review of the
CAA's Initial Proposals for OBR

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1 EXECUTIVE SUMMARY

- **Approach:** In this report we have reviewed the CAA's Initial Proposals for Outcome-based Regulation (OBR), with a focus on how the CAA's proposals align with the CAA's own policy objectives for OBR, regulatory best practice and general economic principles around incentive design.
- **The CAA's policy objectives:** As a starting point, we reviewed the H7 Initial Proposals for OBR against the CAA's stated principles during the consultation and guidance stage of the review. We find that the CAA's proposals do not fully meet the high-level objectives as described in its guidance, with three main consequences:
 - 1 For the most part, the CAA has not adequately taken into account customer research in its decision-making;
 - 2 The proposals also highlight that airline views have generally been given more weight than customer views since the disbandment of the CCB; and
 - 3 SQRB mechanisms have remained unchanged in a number of key areas where they could have been improved to better deliver outcomes for customers.
- **Outcomes:** While the CAA has proposed to accept Heathrow's business plan outcomes, which were based on effective consumer research, the outcomes currently serve as "add-ons" to the previous SQRB regime. The CAA does not effectively consider the role of these outcomes when focusing on what passengers really want throughout the rest of its proposals, meaning that the CAA has not treated outcomes as important inputs towards delivering effective measures, targets and incentives.
- **Measures:** An effective move towards OBR would entail that new measures reflect customer outcomes, where possible. However, the CAA's proposals for the new check-in and baggage measures risk being prescriptive about inputs or outputs, and financial incentives in these areas also risk being ineffective in delivering outcomes. The airlines' recommendations for daily measurement do not align with regulatory precedent and would incentivise Heathrow to become more focused on short-term service fluctuations rather than long-term initiatives and outcome delivery.
- **Targets:** The CAA's approach to targets reflects a much narrower scope than identified in its guidance, by focusing on Heathrow's historical performance and discounting a wide range of evidence that Heathrow has considered in its research. The CAA's approach also risks ignoring the context of Heathrow's historical performance in Q6, such as significant differences in costs compared to H7, changing customer demand and expectations, and an ageing asset base.
- **Incentives:** The CAA's proposals on incentives represent no significant progress from SQRB, with an unchanged approach to knife-edge incentives, a heavily downside-skewed risk profile and arbitrary rebalancing of SQRB incentive allocations. The CAA should take into account regulatory precedent and economic principles supporting sliding scale incentives, as well as designing a more balanced incentive package for Heathrow which drives innovation and ambition rather than risk aversion.

2 BACKGROUND AND OBJECTIVES

In 2016, the CAA announced their consultation on outcome-based regulation (OBR)¹. This marked an important opportunity for the CAA, allowing it to move forward from the previous output-focussed SQRB regime to an outcome-based approach that is grounded in economic principles. In October and November 2021, the CAA published its Initial Proposals² for OBR in H7. In this paper, we provide an independent review of the CAA's proposals for OBR against:

- 1 **The CAA's policy objectives** – we have reviewed the CAA's original policy objectives and assess its Initial Proposals against its own guidance and principles.
- 2 **Regulatory best practice** – we have drawn on the latest price control methodologies used in the UK water and energy sectors to assess the CAA's Initial Proposals.
- 3 **General economic principles** – we have considered the CAA's Initial Proposals to examine whether they represent sound economic principles and effectively incentivise outcome delivery for customers.

3 REVIEW OF THE CAA'S INITIAL PRINCIPLES FOR OBR

The CAA's business plan guidance³ for H7 included five principles for OBR:

- 4 *"OBR should be informed by robust consumer research.*
- 5 *The structure of OBR should include 'outcomes', 'measures', 'targets' and 'incentives'.*
- 6 *The Consumer Challenge Board and airlines play a key role in the development of OBR.*
- 7 *OBR should build upon the SQRB.*
- 8 *Performance reporting should be comprehensive and targeted at consumers."*

As a starting point, we have reviewed the H7 initial proposals for OBR against the principles above and find that the CAA have not fully met these high-level objectives as described in their guidance:

Principle 1: OBR should be informed by robust consumer research

¹ CAA, Future of service quality regulation for Heathrow Airport Limited: Consultation on the design principles for a more outcome-based regime, December 2016

² CAA, Economic regulation of Heathrow Airport Limited - H7 Initial Proposals Section 3: Incentives and other issues, October 2021 and CAA, Economic regulation of Heathrow Airport Limited: H7 Initial Proposals Working paper on outcome based regulation, Nov 2021

³ CAA, Guidance for Heathrow Airport Limited in preparing its business plans for the H7 price control, April 2017

Heathrow has used extensive consumer research, covering areas such as its outcomes synthesis⁴, willingness to pay⁵, customer preference prioritisation⁶ and cost-benefit analysis⁷. In April 2021, the CAA acknowledged in the “Way Forward” document⁸ that Heathrow was successful in demonstrating an “improved ‘golden thread’” by linking up consumer research to its business plan proposals for outcomes and measures.

However, as we will discuss in the following sections of this report, the CAA’s decisions in its Initial Proposals are not aligned with Heathrow’s consumer research in the key OBR building blocks of measures, targets and incentives. Instead, in these areas the CAA has largely relied on continuity from the previous SQRB regime – a scheme which did not use consumer research to design targets and incentives - and airline views. The CAA has not provided any comments on how customer research have informed its decisions except for the calibration of the bonuses. We therefore conclude that in the majority of its decisions, it is not clear how the CAA has reflected consumer research.

Principle 2: The structure of OBR should include ‘outcomes’, ‘measures’, ‘targets’ and ‘incentives’

The CAA has included all four mentioned building blocks in the proposed OBR framework. This achieves the second principle.

Principle 3: The Consumer Challenge Board and airlines play a key role in the development of OBR

The Consumer Challenge Board (CCB) was set up by the CAA as part of the H7 process to “*support our strategic theme of empowering consumers as part of a wider agenda to put passengers and cargo users at the heart of our approach to airport regulation*”⁹. In the previous Q6 price control, the CAA engaged its Consumer Panel to provide feedback on the CAA’s overall approach and decisions. The CCB’s terms of reference expanded the consumer voice by allowing it to engage directly in constructive engagement with Heathrow and airlines during the business planning process. This reflects the role of consumer bodies in other regulated sectors, such as Consumer Challenge Groups and Customer Engagement Groups in UK water and energy regulation respectively.

As part of constructive engagement, the CCB served as an important challenge to Heathrow and the airline community, as both parties have a key part to play in delivering customer experiences at Heathrow. Direct consumer representation is important as, for example, the Australian Competition and Consumer Commission identified that “*airline interests do not necessarily coincide with the interests of the broader community*” and that “*although airlines can*

⁴ Blue Marble Research, Consumer Outcomes – Future Measures, 2020

⁵ Systra, Heathrow Airport Customer Valuation Research, 2018

⁶ Systra, Passenger Priorities Research, 2020

⁷ ICS, Developing the Cost Benefit Analysis Framework - Parts 1, 2 & 3, 2019

⁸ CAA, Economic regulation of Heathrow Airport Limited: Consultation on the Way Forward, April 2021

⁹ CAA, Decision on the Terms of Reference for the H7 Consumer Challenge Board (CCB), September 2015

be expected to seek a commercial advantage in negotiations with airports they cannot be expected to seek lower prices overall for the benefit of the broader community”¹⁰.

Following the Court of Appeal's decision on Heathrow expansion and the impact of Covid-19 on the aviation sector, the CAA disbanded the CCB while stating that it will explore “*alternative approaches in continuing to ensure consumers' interests remains at the heart of its regulatory work for H7*”¹¹. However, it is not clear how the voice of the consumer is represented in the CAA's Initial Proposals in the absence of the CCB. The CCB's work was only mentioned a handful of times in the “Way Forward” and H7 Initial Proposal documents. More importantly, airline views were generally given more weight than consumer views, especially in key areas of OBR such as targets and incentives. Therefore, the CAA has not followed this principle when it comes to reflecting consumer views.

Principle 4: OBR should build upon the SQRB

The SQRB framework has been in place since the Q4 price review covering 2003 - 2008, following the Competition Commission's recommendations to the CAA in 2002. The CAA has acknowledged that “*the overall structure of the SQRB scheme has remained largely unchanged*”¹² over the previous three price controls but several developments made a review of SQRB relevant, including:

- Change in Heathrow's ownership: The CC's remedy around SQRB reflected BAA's ownership of Heathrow, Gatwick and Stansted airports and the need for service improvement and reporting across BAA's portfolio. Heathrow Airport Holdings Limited now only owns and operates Heathrow airport.
- The Civil Aviation Act 2012: This act set the CAA's primary duty as “*to further the interests of users of air transport services in respect of our economic regulation functions*”.
- Regulatory best practice: The CAA stated that they wanted to “*build on best practice approaches to service quality regulation being developed in other sectors*”. The CAA's consultation document also included a reference to Ofwat's PR14 periodic review which introduced the Outcome Delivery Incentive (ODI) regime.

As a tried and tested scheme, it makes sense to take into account aspects of SQRB that currently work for the interests of consumers. It is also important to take into account that there are key difference between other regulated sectors and aviation, so exact replication of other sectors' regulation will not be ideal. Airlines represent an important factor not found in other sectors and play a key role in delivering passenger services at the airport, such as check-in and baggage experiences. Therefore, the CAA is correct to take into account aspects of the SQRB scheme

¹⁰ ACCC, Productivity Commission Inquiry into the Economic Regulation of Airports - ACCC submission in response to the draft inquiry report, 2019

¹¹ CAA, Consumer Challenge Board webpage, <https://www.caa.co.uk/Consumers/Guide-to-aviation/Consumer-Challenge-Board/>

¹² CAA, Future of service quality regulation for Heathrow Airport Limited: Consultation on the design principles for a more outcome-based regime, December 2016

that deliver airline needs, but a move towards OBR also presents an opportunity to meaningfully evolve the existing regime. However, as we will explore in following sections, the H7 Initial Proposals do not represent a move forward from SQRB. Therefore, we do not believe the CAA has not shown enough ambition in achieving this principle, as SQRB mechanisms have remained unchanged in a number of key areas where they could have been improved to better foster outcome delivery.

Principle 5: Performance reporting should be comprehensive and targeted at consumers

Heathrow currently provides information and performance reporting on the SQRB scheme on its website, covering measures, performance levels and incentive payments across its terminals. Key metrics on SQRB performance are also displayed across the airport on information displays, allowing customers to engage with Heathrow’s performance during their journey. As Heathrow is already committed to this principle and no further challenge was provided by the CAA, CCB or airlines, this principle is not noted to be one of concern.

FIGURE 1 SUMMARY OF CAA’S PRINCIPLES AND EVALUATION

Principles for OBR identified by CAA	Evaluation: Has the CAA followed through?
1 OBR should be informed by robust consumer research	✗ Consumer research has not been fully considered by CAA when setting targets and incentives
2 OBR should include ‘outcomes’, ‘measures’, ‘targets’ and ‘incentives’	✓ The structure of the new framework includes all of these building blocks
3 The CCB and airlines play a key role in the development of OBR	✗ Airline views are given much more weight than consumer views, esp. following CCB’s disbanding
4 OBR should build upon the SQRB	✗ Lack of ambition from CAA means that SQRB has remained unchanged in a number of areas
5 Performance reporting should be comprehensive and targeted at consumers	↔ Heathrow is committed to this principle and CAA, CCB and airlines have not identified any issues

4 OUTCOMES

The CAA has proposed to accept Heathrow’s business plan outcomes, as they are effectively linked to consumer research and were supported by the CCB. Heathrow’s outcomes were based on a synthesis study¹³ and cover six key areas of airport services that customers consider important:

¹³ Blue Marble Research, Consumer needs synthesis, November 2020

FIGURE 2 HEATHROW'S OUTCOMES



Source: Heathrow, Revised Business Plan, December 2020

While the proposed outcomes are aligned with the CAA's policy objectives, they are not effectively integrated with the remaining elements of OBR. Instead, the outcomes could currently be interpreted as “add-ons” to the previous SQRB regime and do not translate to a true focus on what passengers really want when it comes to the subsequent building blocks. In its initial consultation on OBR¹⁴, the CAA stated that the SQRB's output-based approach risks missing the “*bigger picture*’ by not adequately capturing what consumers want and value from the airport service” and that OBR should “*focus its attention on what passengers value, giving stakeholders confidence that the regulatory regime is appropriately targeted*”. However, as we discuss in the following sections, the initial proposals for OBR point towards a continuation of the SQRB approach with consumer outcomes simply overlaid on top of the previous approach.

This contrasts with the introduction of outcome-based regulation in other sectors. For example, for its introduction of an outcomes-based regime at PR14¹⁵, Ofwat recognised that outcomes need be linked effectively to the other building blocks of OBR and not simply be taken in isolation:

*“Our focus throughout the review has been on **making sure that the promise of the new outcomes approach is realised**, with the creation of effective incentives that protect customers against under-delivery and where merited, reward companies for outperformance”*

As discussed in the following sections, the CAA has not treated outcomes as important inputs towards delivering effective measures, targets and incentives. For the most part, the remaining building blocks are not influenced by the introduction of a outcomes-based approach or

¹⁴ CAA, Future of service quality regulation for Heathrow Airport Limited: Consultation on the design principles for a more outcome-based regime, December 2016

¹⁵ Ofwat, Final price control determination notice: policy chapter A2 - outcomes, December 2014

engagement with consumer views, so the CAA has not fully followed through with its guidance on outcomes.

5 MEASURES

The CAA has proposed a list of 35 measures¹⁶ for monitoring over H7, of which 18 are linked to financial incentives and 17 are linked to reputational incentives. Heathrow and the CCB have maintained that the range of measures should best try to reflect outcomes that are important to customers across the passenger journey. It is important to note that, however, many customer experiences are influenced jointly by actions of Heathrow and its partners in the customer journey. Heathrow has identified in its consumer research that passengers are not necessarily able to differentiate between the individual impacts of Heathrow and 3rd parties when it comes to the experiences they receive at the airport¹⁷. In its revised business plan, Heathrow included a number of new measures that improved upon the SQRB list by better reflecting outcomes that are important to customers across the passenger journey. These included areas such as departure flight punctuality, arrival management and overall customer satisfaction. The CAA has proposed to accept most of these new measures and also acknowledged that some of the airlines' proposals on measures were too *"narrowly focused on services provided solely by HAL as the regulated entity"* rather than on fundamental customer outcomes.

5.1 FOR EFFECTIVE OBR, HEATHROW'S FINANCIALLY-INCENTIVISED MEASURES NEED TO DELIVER OUTCOMES AND BE CONTROLLABLE

Two of the new measures with financial incentives are cause for concern when it comes to regulatory precedent and general economic principles. These are the new measures for "Availability of check-in infrastructure" and "Timely delivery from departures baggage system". Our concerns are two-fold:

- With a move towards OBR, the CAA should consider what really matters to consumers across the end-to-end journey rather than being prescriptive about inputs and outputs.
- Regulatory precedent for incentive design make it clear that financially penalising or rewarding a single party which cannot solely control performance does not provide appropriate incentives, and economic principles indicate that this approach may instead risk causing unintended consequences.

On the first concern, it is noted that these new measures are relatively limited in scope and only cover operational outputs that Heathrow has some control over. While check-in and baggage service are undoubtedly key parts of the customer experience at Heathrow, the

¹⁶ CAA, Economic regulation of Heathrow Airport Limited: H7 Initial Proposals Working paper on outcome based regulation, November 2021

¹⁷ Populus, Resilience Qualitative Research, October 2019

introduction of these output-focussed measures will not fully reflect the customer outcomes in these areas. Ofwat's guidance for ODIs at PR14 recognised this risk¹⁸:

*"This reflects our desire to see **companies focusing on delivering what really matters to their customers**, rather than the delivery of outputs (such as engineering schemes), the provision or inputs (such as length of pipe)"*

Secondly, we are concerned by the use of financial penalties to incentivise performance in these measures, in which outcomes are not solely in Heathrow's control¹⁹. When implementing outcome-based regulation, it is not uncommon to find that some measures that cover the consumer experience are not fully within the regulated companies' control. In our experience, the best way forward is to continue to measure what matters to consumers while ensuring that the financial incentives are applied to the performance that the regulated company has control over. If it is not possible to measure this with accuracy, the best way forward is to invest in improving such measurement over time. Where this is not possible, a measure with a reputational incentive is most appropriate.

The risk in attaching financial incentives to multi-party measures and outcomes is that a given party may be rewarded or penalised even if the eventual customer outcome is not fully in its control. At an extreme, such incentives can result in windfall payments without any noticeable difference in performance or outcomes. We understand that outcomes in check-in service are heavily influenced by airline actions, and therefore incentivising Heathrow alone would be an ineffective mechanism for delivering outcomes. Regulatory precedent also points against the use of financially incentivising measures which are not fully within a company's control²⁰:

*"This includes, amongst other things, ensuring [measures] are controllable by the network companies (or where we have concerns about controllability, we consider carefully the applicability of financial rewards/penalties)... For other output measures where the network companies have a low level of control over performance, such as the proportion of renewable energy transported, **we propose to require the companies to report on their performance in order to provide a reputational incentive, but no financial incentive.**"*

The CAA has also acknowledged this consideration in its consultation on OBR²¹:

*"Non-financial incentives, especially in the form of reputational incentives (such as increased transparency), will play a role in those circumstances where **HAL cannot be held solely responsible for the achievement of a certain outcome**"*

In summary, the CAA's proposals on check-in and baggage service currently risk being focused on delivery of outputs, rather than outcomes, and the CAA should ensure that financial

¹⁸ Ofwat, Draft price control determination notice: technical appendix A2 – outcomes, August 2014

¹⁹ Heathrow, Heathrow bilateral response on H7 OBR engagement, September 2021

²⁰ Ofgem, Consultation on strategy for the next gas distribution price control - RIIO-GD1 Outputs and incentives December 2010

²¹ CAA, Incentivising the right consumer outcomes – discussion paper, May 2016

incentives are only attached to measures where Heathrow has full control in influencing outcomes.

5.2 DAILY MEASUREMENT DOES NOT ALIGN WITH REGULATORY PRECEDENT AND MAY INCENTIVISE HEATHROW TO OUTWEIGH SHORT-TERM SERVICE OVER LONG-TERM IMPROVEMENTS

The airline community have also asked the CAA to consider the use of daily measurement for a number of measures, rather than the current monthly and annual moving average approaches. Monthly reporting and measurement is already more frequent than in the energy and water sectors, where annual data is used to determine under/overperformance. The CAA has also identified²² two key considerations around daily measurement which we agree with:

- Targets would need to be calibrated downwards: Using the current monthly targets in daily measurement would in practice represent an increase in the level of performance required of Heathrow.
- Measures with more volatile daily movements would require much lower targets than the current monthly targets, in order for them to be achievable for Heathrow on a daily basis.

Daily measurement may also incentivise Heathrow to become focused solely on achieving target service levels in the short-term, in response to daily fluctuations in demand and service. This may result in an unwanted trade-off between achieving daily targets or delivering medium to long-term service improvements and innovation, as the use of monthly averages and annual moving averages currently allows.

This is especially problematic in the post-pandemic environment, as Heathrow works to understand and respond to potentially long-term changes in passenger demand, behaviours and expectations. In water, Ofwat recognised the risks from changes in customer behaviour and uncertainties around COVID-19 impacts, namely relating to the performance commitment around household water consumption. This has led Ofwat to delay the yearly in-period determinations on the Per Capita Consumption outcome delivery incentive payments until the PR24 review in 2024²³, where performance over the whole period and potential pandemic impacts will be assessed. This change also allows water companies to spend time on understanding the underlying changes to consumption and customer behaviour, and then delivering initiatives and lasting solutions to mitigate the identified changes. Under the previous yearly determinations, companies may have had to implement short-term solutions to avoid incentive payments immediately after the pandemic – these stop-gap initiatives would likely be sub-optimal compared to more carefully assessed medium to long-term solutions.

²² CAA, Economic regulation of Heathrow Airport Limited - H7 Initial Proposals Section 3: Incentives and other issues, October 2021

²³ Ofwat, Sector overview: Draft determinations of in-period outcome delivery incentives for 2020-21, October 2021

6 TARGETS

The CAA published its working paper on targets in November 2021²⁴, following the H7 initial proposals in October 2021. The working paper on targets was based on Arcadis' assessment of H7 targets²⁵, and the CAA proposed that targets in H7 should largely be in line with those in Heathrow's "Optimal capex plan" proposals²⁶. This was despite the CAA also proposing a mid-case capex forecast c. 45% lower than the Heathrow optimal plan. In its initial business plan guidance for Heathrow²⁷, CAA identified that target-setting should take into a number of factors:

- *"Customer preferences and satisfaction with respect to historical and current performance levels;*
- *The scope for improving performance (including consideration of innovative ways of working) without incurring significant extra costs on the basis of setting demonstrably challenging targets for management; and*
- *The willingness of consumers and airlines to pay for investment to further improve performance beyond that possible using existing facilities. This willingness to pay information should also be used as part of process of robust investment appraisal to identify the most cost beneficial option to deliver service improvement"*

The approach taken by Arcadis to assess targets was focused primarily on Heathrow's historical performance, along with some reference to CAA's proposals for capex and opex allowances. This is a much narrower scope than identified in the CAA's guidance, and means that the CAA therefore discounts a wide range of evidence that Heathrow considered in its research²⁸ while narrowly focusing on historical performance.

6.1 HISTORICAL SERVICE LEVELS IN Q6 NEED TO BE CONSIDERED "IN THE ROUND" WHEN COMPARING PERFORMANCE FOR H7

Heathrow's customer research found that consumers would want to see the service levels that Heathrow offers maintained or ideally improved, but the ability to deliver services depends significantly on the cost allowances that the CAA proposes. The CAA has proposed a much more stretching cost environment for H7 than Q6: the Initial Proposal mid-case capex forecast is c. 20% - 30% lower than the Q6 projections²⁹. Regulatory precedent is clear that targets for

²⁴ CAA, Economic regulation of Heathrow Airport Limited: H7 Initial Proposals Working paper on outcome based regulation, November 2021

²⁵ Arcadis, OBR Targets Assessment, November 2021

²⁶ The CAA proposed to maintain most targets at Q6 levels, except for the survey-based passenger satisfaction measures where proposed H7 targets are higher.

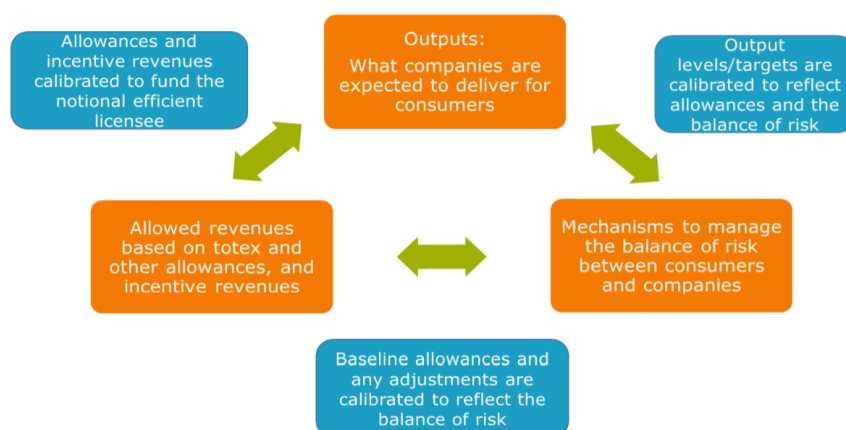
²⁷ CAA, Guidance for Heathrow Airport Limited in preparing its business plans for the H7 price control, April 2017

²⁸ E.g. "Accent, H7 Service Package Choices Follow up Research, 2020" and "Systra, Understanding Consumer Need Priorities in a (Post) Covid-19 World, 2020"

²⁹ The Q6 capex projections of £2,885 million in 2011/12 prices are inflated to 2020/21 prices in CPI terms: c. £3,070m and RPI terms: c. £3,540m. These are compared to the H7 Initial proposals Mid case capex of £2,401m in 2020 prices.

outcome delivery need to be set “in the round”, taking into account decisions made in other parts of the price control, particularly cost allowances (see Figure 3 below based on Ofgem’s approach). This means that the CAA’s use of historical Q6 service performance to calibrate H7 targets also needs to be aligned with the sizeable difference between H7 and Q6 cost allowances.

FIGURE 3 OFGEM’S “IN THE ROUND” APPROACH TO RIIO-2 DETERMINATIONS



Source: Ofgem, RIIO-2 Final Determinations - Core Document, December 2020

“In the round” assessments of companies in other regulated sectors, such as energy and water, also ideally involve comparisons and benchmarking between companies to determine efficient levels of performance. This is evident in cost benchmarking in these regulated sectors, but also in outcome-based regulation and target setting. In Ofwat’s guidance for PR19³⁰, it stated that companies should use comparative data in setting target for common measures based on upper quartile performance, as these targets would be “supported by good quality comparative information and we see little reason why companies should not be achieving the same stretching level of performance for these metrics”.

Benchmarking and comparisons within the UK are difficult for Heathrow, due to the differences in its size and volumes compared to other domestic airports. Nevertheless, Heathrow performs very well compared to international comparators with “the best ASQ scores of any major hub airport in Europe” and record ASQ scores on passenger satisfaction in recent quarters³¹. Ofwat’s guidance stated that companies “might also be able to use comparative data from other sectors or countries” depending on circumstances. Therefore, the CAA must take into account Heathrow’s excellent comparative performance when assessing targets, rather than simply judging against historical performance in isolation. Heathrow’s strong performance against other airports would indicate that it is near the top end of the performance distribution, and therefore its Q6 targets already reflect a very strong benchmark.

³⁰ Ofwat, Delivering Water 2020: Our methodology for the 2019 price review Appendix 2: Delivering outcomes for customers, December 2017

³¹ Based on reported ACI ASQ information in Heathrow’s RBP update (Heathrow, H7 Revised Business Plan - Update 1, June 2021)

6.2 THERE ARE KEY RISKS TO DEMAND AND CUSTOMER EXPECTATIONS WHICH MAKE HISTORICAL COMPARISONS LESS RELEVANT

The CAA and Arcadis' reliance on historical performance also risks assuming that past performance is representative of future performance, even though there are key risks around the post-pandemic recovery:

- Future demand is more uncertain, both in terms of the level and profiles of demand (e.g. distribution of demand across the airport will be less uniform for the foreseeable future compared to Q6, when passenger demand was higher and more stable);
- Customer behaviours, needs and expectations have evolved over the pandemic (e.g. perceptions around acceptable levels of cleanliness have changed as customers adapt their views in light of the pandemic).

On the first point, the CAA has acknowledged the “*specific circumstances of the exceptional uncertainty observable at the start of H7*”³² and correspondingly proposed a traffic risk sharing (TRS) mechanism to help manage risks associated with future passenger volumes. This risk around demand is also relevant when considering service delivery at Heathrow, especially with considerations around the composition of demand, peakiness of demand and Heathrow's ability to rapidly adjust to sudden changes in demand.

Heathrow is likely to face more peaky demand and volatility in the future relative to Q6, as a result of COVID-19 restrictions applying or easing alongside different scenarios for business and leisure travel. This could affect aspects of service in the airport, such as harder-to-manage peaks and troughs throughout the day and less predictable flow rates through security checks. There is also a risk around larger and more sudden changes in demand over H7 if restrictions are applied or eased. This means that, compared to Q6, Heathrow may face a more difficult service context as it may have to adapt to changes more frequently in the upcoming period, for example due to difficulty around staff rostering and flexing the workforce. Heathrow's ability to adapt service to changes in demand will be further complicated by external factors which were less apparent in Q6, such as a much tighter labour market³³.

Secondly, Heathrow's research, alongside external sources, have indicated that customer preferences and expectations have evolved over the pandemic. This means that historical performance related to satisfaction measures may relate to an out-of-date customer context. Heathrow's research³⁴ found that pandemic experiences have made passengers more engaged about cleanliness and customer service than in the past, which makes comparisons against historical performance less relevant. These findings about evolving customer expectations are

³² CAA, Economic regulation of Heathrow Airport Limited: H7 Initial Proposals - Section 1: Overall approach and building blocks, October 2021

³³ For example, the Recruitment and Employment Confederation (2021) has found that 88% of recruiters say that labour shortages are one of their biggest concerns for the remainder of 2021. Many staffing companies reporting the tightest labour market they've ever experienced.

³⁴ Systra, Understanding Consumer Need Priorities in a (Post) Covid-19 World, November 2020

also reported by independent third parties. For example, the ONS have reported³⁵ that the vast majority of adults now practice aspects of cleanliness and hygiene, such as face covering and increased hand washing, regardless of the level of COVID-19 in the UK. On the other hand, practiced social distancing relates more closely to national restrictions and has therefore declined significantly as restrictions have eased. PwC research³⁶ shows that 85% of customers now make travel decisions depending on the communications regarding safety received from transport providers and recent McKinsey research³⁷ has found that transport customers now expect higher levels of service, such as more tailored products, faster-turnaround and digital services. Research findings such as these are relevant under the CAA's aforementioned business plan guidance for assessing targets, however the backwards-looking approach taken by CAA and its advisers for the H7 initial proposals does not sufficiently account for this.

6.3 AN OLDER ASSET BASE AND UNCERTAIN OPEX OVERLAY MAKES HISTORICAL COMPARISONS FOR ASSET-RELATED MEASURES LESS RELEVANT

Another important aspect around the context of historical performance is the state of Heathrow's asset portfolio in Q6, and how this will differ over H7. The CAA and Arcadis identified that Heathrow performed strongly in asset-based measures over Q6 but have not considered the state of Heathrow's assets in detail.

In 2019, we engaged with Heathrow's asset management team and discussed the relevance of the age profile of assets as an important piece of context around Q6 performance³⁸. Heathrow demonstrated that under the "bathtub curve" model³⁹, it can be shown that high levels of performance in Q6 correspond to the "Useful Life" phase with low failure rates and stable performance.

However, the asset age context for performance in H7 will be more challenging than Q6, with an average asset age of c. 14 years compared to an average useful life of 20 years. As these assets approach their end of life in H7, Heathrow will face increased pressure on service and maintenance. Arcadis recognised risks of asset age on service levels and have acknowledged the rationale behind Heathrow's Enhanced Service Overlay (ESO) opex overlay. This overlay can help mitigate the impacts of aging assets, but further clarity is needed from CAA on the quantum of opex overlay allowed in H7 as per its initial proposals. The CAA's proposals for opex overlays represent a c. £2.2m annual uplift relative to the "Safety Only" plan, however Heathrow's estimates for a full ESO uplift would entail a c. £14m annual uplift relative to the "Safety Only" plan. The CAA's proposals for "Facilities and maintenance" opex are also 5% lower than Heathrow's RBP estimates. The comparisons with Q6 performance for asset-based are therefore not internally consistent as the CAA allowances for asset maintenance are limited

³⁵ ONS, Eight in ten adults think social distancing is important - but four in ten actually do it, October 2021

³⁶ PwC, How to restore confidence in travel during an uncertain time, April 2020

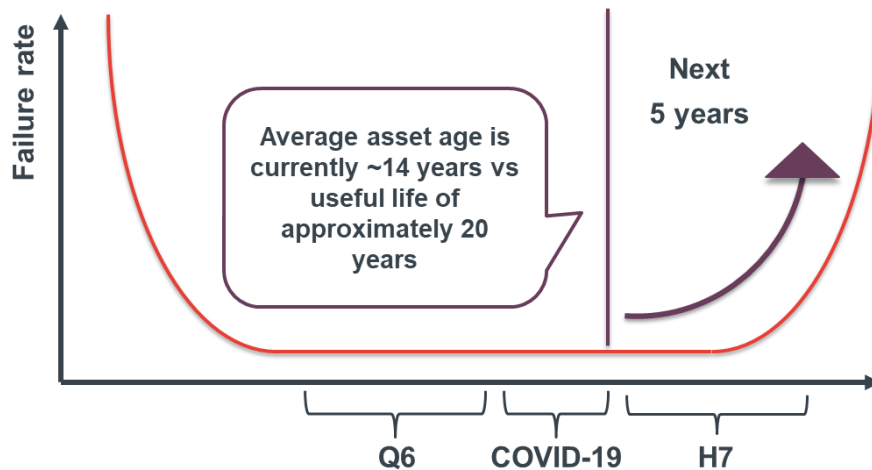
³⁷ McKinsey, Rebooting customer experience to bring back the magic of travel, September 2021

³⁸ During the initial business planning stage in March 2020, we received data from Heathrow's asset management team on LEPC, Airbridges, PCA, FEGP and SEGS assets regarding the size, age and average useful life of the portfolio.

³⁹ The bathtub curve is a well-respected model relating to mechanical and electrical asset performance. See "EPA, The Fundamentals of Asset Management, 2012"

relative to Heathrow's estimates, but the CAA have assumed that the asset age and health context is unchanged relative to Q6.

FIGURE 4 INDICATIVE BATHTUB CURVE BASED ON HEATHROW'S ASSET PORTFOLIO



Source: Information and data received from Heathrow's asset management team during Constructive Engagement on Heathrow's IBP in March 2020

Note: Based on LEPC, Airbridges, PCA, FEGP and SEGS assets across Heathrow Terminals 2, 3, 4 and 5

6.4 TARGETS - SUMMARY

In summary, the CAA's approach to targets does not follow on from its guidance to Heathrow in terms of the evidence and methodology considered. The CAA's subsequent proposals therefore risk being flawed due to:

- Heathrow's historical performance in Q6 not being considered "in the round" when assessing targets for H7. This is due to limited consideration given to differences in cost allowances over the two periods and lack of weight applied to Heathrow's strong comparative performance.
- Lack of acknowledgment on key risks to demand and customer expectations which make historical comparisons less relevant. This includes increased risks around the shape and levels of future demand, along with changing customer expectations.
- A different asset age context makes comparisons to Q6 performance less relevant when assessing H7 targets for asset-based measures. The CAA's advisers have acknowledged the risk from an aging asset base and Heathrow's corresponding request for an Enhanced Service Overlay on opex, but the CAA's opex forecasts do not fully account for this risk.

7 INCENTIVES

The CAA's Initial Proposals on incentives represent no significant evolution from SQRB, with an unchanged approach to incentive design, a heavily downside-skewed risk profile and arbitrary rebalancing of SQRB incentive allocations.

7.1 REGULATORY PRECEDENT AND ECONOMIC PRINCIPLES STRONGLY SUPPORT THE USE OF SLIDING SCALE INCENTIVES

On incentive design, the CAA has accepted the airlines' views to continue with a knife edge approach. This is at odds with clear regulatory precedent for sliding scale incentives, where incentives reflect the impacts of relative under/over performance and every unit counts. Sliding scale incentives are used in:

- Water: As part of its PR19 guidance⁴⁰, Ofwat strongly discouraged knife edge incentives as they do not provide incentives beyond the performance threshold and may *“drive inefficient behaviour by companies to the detriment of customers.”*
- Energy: For RIIO-2⁴¹, Ofgem set principles for incentive design with a focus on ensuring that *“DNOs incur penalties at a level that reflects the consumer detriment associated with the any decline in service performance”* and that incentive payments should *“reflect the value to the consumer of the service improvement (or the detriment caused by service degradation)”*.
- Telecoms: Ofcom's principles for Service Level Guarantees⁴² between Openreach and its customers are based on the *“pay compensation on a per event basis”* and that the *“amount of compensation should compensate for average loss”*.
- Aviation: The CAA's four service quality incentives for NERL at RP3⁴³ are all based on a sliding scale design, with deadbands and collars for maximum bonuses and penalties.

⁴⁰ Ofwat, Delivering Water 2020: Our methodology for the 2019 price review Appendix 2: Delivering outcomes for customers, December 2017

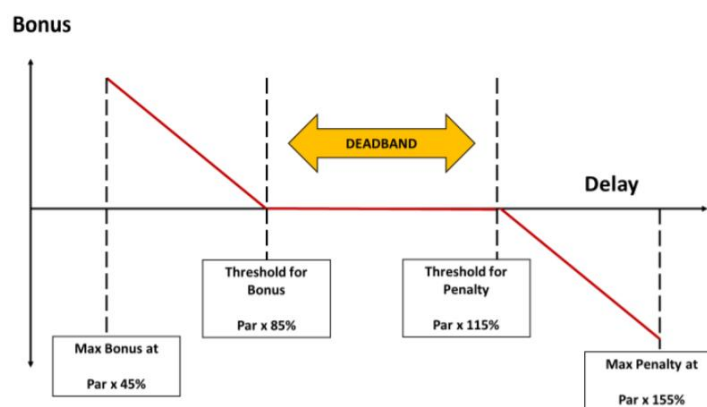
⁴¹ Ofgem, RIIO-2 Sector Specific Methodology - Core document, May 2019

⁴² Ofcom, Service level guarantees: incentivising performance - Statement and Directions, March 2008

⁴³ CAA, UK RP3 CAA Decision Document: Appendices, August 2019

FIGURE 5 CAA PROPOSED SLIDING SCALE INCENTIVES FOR NERL AT RP3

Figure D.2: C2 deadband and incentives



Source: CAA

Source: CAA, UK RP3 CAA Decision Document: Appendices, August 2019

The regulatory precedent, including CAA’s own approach for NERL, strongly supports sliding scale incentives. Sliding scales also represent sound economic principles, as they can more adequately incentivise outcome delivery by sending strong signals around the detriment and benefit corresponding to different service levels. Airlines have argued that sliding scales introduce the concept of “acceptable failure” for Heathrow. We do not agree with this argument, as all failures under well-calibrated sliding scales would be “unacceptable” to a regulated company. Moreover, compared to knife-edge incentives, sliding scale designs correctly reflect that “large” failures should not be penalised equivalently to “small” failures, which would present poor incentives for companies.

7.2 THE CURRENT INCENTIVE PACKAGE IS HEAVILY SKEWED TO THE DOWNSIDE AND PUSHES HEATHROW TOWARDS RISK AVERSION

The CAA has also proposed to continue with the +7.00% / -1.44% downside to upside revenue risk range for rebates and bonuses, as in Q6. Based on our analysis of the latest water and energy determinations⁴⁴, Ofgem and Ofwat’s have allowed downside risk ranges for outcome incentives which are c. 2.3 – 2.4x larger than the corresponding upside ranges. In comparison, the H7 initial proposals point to a c. 4.9x larger downside compared to upside range for Heathrow.

Compared to the water and energy sectors, where poor service and delivery by regulated monopolies can result in significant detriment and negative externalities, it is not entirely apparent why an airport should be faced with more skewed and stretching incentive package. The downside skew in other sectors helps represent the risk to customers and corresponding incentivisation against “bad” outcomes, such as pollution, outages and other harmful events. On the other hand, Heathrow, as a business focused on positive customer service, should be

⁴⁴ Ofgem, RIIO-2 Final Determinations – Finance Annex (REVISED), 2021 and Ofwat, PR19 final determinations: Aligning risk and return technical appendix, 2020

incentivised to deliver “good” outcomes, such as easier and predictable journeys. Therefore, the CAA’s proposal’s for a heavily downside-skewed package do not seem reasonable when compared to risk ranges in other sectors.

However, the CAA has also proposed to maintain outperformance incentives only on a restricted set of four measures, while also increasing bonus performance thresholds and making the new central search bonus contingent on performance in a separate measure. The CAA’s business plan guidance for H7⁴⁵ stated that “*where practicable incentives should be both positive (reward) and negative (penalty)*” and that Heathrow should propose incentive arrangements with a view on “*creating a balanced risk and reward package for its FBP.*” However, the CAA’s proposed package of incentives is very stretching and, due to its heavy skew towards downside risk, will likely incentivise Heathrow to become more risk averse. This is because the proposed incentive package pushes Heathrow towards managing downside risk and avoiding penalties.

The CAA’s goal should be to incentivise Heathrow to further stretch in delivering high levels of service, and continue delivering customer outcomes with innovation and ambition. A more balanced package, with greater scope for rewarding outperformance, would help incentivise such behaviour from Heathrow. However, the current proposals for incentives and performance risk do not engender this behaviour from Heathrow.

7.3 THE CAA’S APPROACH TO ALLOCATING INCENTIVES DOES NOT FOLLOW ITS GUIDANCE

In its November working paper⁴⁶, the CAA detailed its approach to allocating the downside and upside revenue risk ranges to the list of financial measures. On the allocation of rebates, the CAA stated that their “*starting point for considering the proposed allocation of rebates for H7 was the current set of rebates under the SQRB scheme*”. This essentially involved rebalancing the Q6 allocation of the 7.00% downside risk range for new and removed measures in H7. However, in both their initial consultation⁴⁷ and guidance⁴⁸ documents, the CAA explicitly pointed towards the use of consumer priorities when allocating incentives:

*Consultation document: “Priority of outcome performance standards should reflect consumer priorities, and **this should inform the calibration of financial measures**”*

*Guidance document: “**Incentives must be justified and calibrated with respect to consumer priorities and willingness to pay**”*

For its revised business plan, Heathrow engaged Systra⁴⁹ to understand customer priorities around different measures and areas of service, and correspondingly calibrated incentive levels. Heathrow’s resulting allocation of incentives did not represent a wholesale change from Q6 allocations, however incentives were better allocated according to consumer priorities and

⁴⁵ CAA, Guidance for Heathrow Airport Limited in preparing its business plans for the H7 price control, April 2017

⁴⁶ CAA, Economic regulation of Heathrow Airport Limited: H7 Initial Proposals Working paper on outcome based regulation, November 2021

⁴⁷ CAA, Incentivising the right consumer outcomes – discussion paper, May 2016

⁴⁸ CAA, Guidance for Heathrow Airport Limited in preparing its business plans for the H7 price control, April 2017

⁴⁹ Systra, Passenger Priorities Research, December 2020

Heathrow's approach was also more in line with the CAA's guidance. The CAA did not agree with Heathrow's approach, and instead somewhat arbitrarily rebalanced existing SQRB allocations for changes in the list of measures. The CAA's approach has led to some changes in incentive allocation that go against the findings of Heathrow's customer research. For example, the CAA have proposed lower incentive levels on passenger-facing measures than in Heathrow's RBP, including cleanliness satisfaction and hygiene safety testing. The CAA has also reduced the revenue at risk related to runway operational resilience, which is an important measure under the highest ranked "Predictable and Reliable Journey" outcome.

These allocations have led to higher maximum rebates for some operational asset-based measures, and also a relatively high maximum rebate for the new check-in infrastructure measure - which may not warrant a financial incentive at all. As discussed in Section 4, outcomes in check-in service are heavily influenced by airline actions, and therefore incentivising Heathrow alone would be an ineffective mechanism for delivering outcomes. Regulatory precedent supports the use of reputational incentives, rather than financial incentives, when it comes to measures which are not wholly controllable by a regulated company. This is because performance in these measures will not be fully in the company's control, and therefore the resulting penalties or bonuses will not meaningfully influence outcomes or incentivise actions by the company.

However, when allocating bonuses, the CAA's approach did reference Heathrow's customer research on priorities and valuation⁵⁰. The CAA used the research to identify that the central search and timely delivery of baggage measures warranted bonuses, and used them in place the outgoing flight information display screens and departure lounge seat availability bonus measures.

While the CAA's approach for bonus allocation is more in line with their guidance than their approach to rebate allocation, we believe that if this approach was followed through fully it would also point towards more areas where customers value outperformance and therefore justify bonus incentives. As seen in Figure 6 below, the results from CAA's referenced research study also point towards four further measures where customers value high performance from Heathrow. Incentivising excellent performance from Heathrow in these measures would align with CAA's guidance as well as ensuring high levels of service for customers.

⁵⁰ Systra, Passenger Priorities Research, December 2020

FIGURE 6 HEATHROW'S CUSTOMER RESEARCH POINTS TOWARDS AN WIDER SET OF OUTPERFORMANCE MEASURES

Measure	Improvement aspect	Benefit (% airfare)	Outperformance rewarded?
Central search	<ul style="list-style-type: none"> 9 out of 10 times you will go through security in less than 3 mins 	1.27%	✓
Cleanliness	<ul style="list-style-type: none"> Enhanced cleaning so surfaces are Covid-19 safe (UV cleaning, Covid-19 safe coatings, sanitisation surface tests) There is always a member of the cleaning staff present, assuring everything is constantly cleaned 	1.13 to 1.33%	✓
Wayfinding	<ul style="list-style-type: none"> Real time information [on wayfinding] is provided Physical signage and personalised wayfinding on your mobile device in multiple languages 	1.04 to 1.23%	✓
Timely delivery of baggage	<ul style="list-style-type: none"> 9 out of 1000 passengers' baggage will not travel with them on the same flight to 7 out of 1000 passengers' baggage will not travel with them 	0.95%	✓
Availability of arrivals baggage carousels	<ul style="list-style-type: none"> 9 out of 10 times you wait no more than 35 mins [for your bags to be delivered after your plane lands] 	1.38%	✗
Wi-Fi performance	<ul style="list-style-type: none"> Ultra-High-speed Wi-Fi with total coverage throughout airport at any time 	1.24%	✗
Security staff helpfulness / attitude performance	<ul style="list-style-type: none"> Staff deployed to help anywhere along the passenger journey 	1.19%	✗
Availability of check-in infrastructure	<ul style="list-style-type: none"> You are able to choose self-service bag drop machines if you want 	0.99%	✗

Source: Systra, Passenger Priorities Research, December 2020

7.4 INCENTIVES - SUMMARY

Similarly to targets, the CAA's approach to incentives does not follow on from its guidance to Heathrow in terms of the evidence and methodology considered. The CAA's resulting incentive package for Heathrow is heavily skewed to the downside and can lead to poor incentives and risk aversion for Heathrow.

On the other hand, a wider and more balanced incentive package for Heathrow, with well-designed rebates and ample opportunity to outperform for customers, would help better deliver service and innovation for passengers. This would entail the use of sliding scale incentive design, as per regulatory precedent and economic principles, alongside increased balance between downside / upside risk and more opportunity for Heathrow to outperform in areas that customers value.

8 CONCLUSION

H7 provides an important opportunity to implement meaningful change with a move forward from the output-focussed SQRB regime to a more outcomes-based approach to regulation. To do so, the CAA should take into account precedent from other sectors that have applied

outcomes-based frameworks, such as Ofwat and Ofgem's recent periodic reviews. It is also important for the CAA to move towards sound economic principles in areas of the service regime which are currently sub-optimal, rather than sticking to historical practice.

However, the CAA's initial proposals mark a continuation of the existing SQRB approach, which has been largely unchanged since its inception in 2003:

- As a starting point, the CAA has not achieved the majority of the principles it set out in its initial guidance for Heathrow. This includes CAA's objectives of adequately reflecting customer research in its proposals, ensuring customer views are weighted commensurately with airline views, and meaningfully evolving the current output-focused SQRB regime to better deliver outcomes for customers.
- Regardless of the high-level policy objectives the CAA initially identified, the fundamental principle underpinning OBR in H7 should be that robust customer outcomes are translated into effective measures, targets and incentives that reflect customer views and deliver their expectations. Yet, the initial proposals for outcomes do not seem effective currently, as they simply act as "add-ons" to the existing SQRB regime without acting as important inputs towards the remaining building blocks of OBR.
- With regard to measures, a move towards OBR would entail a focus on measures that deliver customer outcomes, rather than prescribing inputs and outputs where possible, along with ensuring that financial incentives only apply to areas under Heathrow's control. However, the CAA's proposals for the new check-in and baggage measures risk being overly output-focussed, while financial incentives in these measures do not correspond to regulatory precedent and also risk being ineffective in delivering customer outcomes.
- The CAA's current approach to targets is also not aligned with its guidance, by focusing primarily on Heathrow's historical performance and thereby discounting a wide range of evidence that Heathrow considered in its research. The CAA's reliance on historical performance also ignores the context of Heathrow's performance in Q6, such as significant differences in costs compared to H7, changing customer characteristics and an ageing asset base.
- Lastly, the CAA's proposals on incentives represent no significant change from SQRB, with a heavily downside-skewed package of incentives coupled with inefficient rebate design. These proposals on incentives do not reflect regulatory precedent, and likely push Heathrow towards becoming more risk averse when considering economic principles. For effective OBR, the CAA should consider changes to incentives which instead push Heathrow to go beyond for its customers and deliver innovation and ambition, such as sliding scale incentives and a more balanced under- and outperformance risk range.

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