BALANCED CONCESSIONS FOR THE AIRPORT INDUSTRY

DELIVERING WIN-WIN OUTCOMES FOR SUCCESSFUL AIRPORT CONCESSION CONTRACTS

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IATA

Purpose

IATA frequently engages with governments and asset owners who are seeking to put in place airport concession contracts as part of private sector participation programmes. Across multiple jurisdictions these contracts frequently suffer from a range of similar issues, such as inflexible fixed charges, investment plans and concession payments, which undermine the benefit of such programmes to the aviation sector. This Guidance Booklet ("Booklet") is designed to set out the concept and principles of more Balanced Concessions for the Airport Industry ("Balanced Concession") for decision-makers in government institutions, airports and airlines who are considering, or are impacted by, airport concession contracts.

This Booklet sets out common issues in airport concession contracts, defines the concept of a Balanced Concession and the opportunities to structure contracts with "win-win" outcomes through aligned incentives for all stakeholders, which include customers, consumers, communities, asset owners and concessionaires. The Booklet then provides practical guidance on how to structure a Balanced Concession that delivers long-term benefits to all stakeholders.

This Booklet builds directly on a broader "Airport Ownership and Regulation" guidance manual, published by IATA in June 2018, which set out recommendations for alternative ownership and operating models in airports globally, improved governmental decision-making, and required regulatory safeguards for privatized airports. It is recommended that that these two documents are read together.

Acknowledgements

This Booklet incorporates inputs from a broad range of senior aviation industry experts, including representatives of IATA and other industry participants. We wish to thank everyone who participated in this study,

Authors

Dorian Reece
Global Airport Lead,
Deloitte Professional Services (DIFC) Limited
dorreece@deloitte.com

Toby Robinson
Government and Infrastructure Advisory,
Deloitte Professional Services (DIFC) Limited
tobyrobinson@deloitte.com

Kartik Sood
Deloitte Consulting, Deloitte Touche Tohmatsu India LLP
ksood@deloitte.com

IATA Guidance Booklet
Balanced Concessions for the Airport Industry

December 2018

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Executive Summary

Need for Guidance on Concession Models in the Airport Industry

In response to a lack of clear guidance for governments on airport ownership and operating models for the aviation industry, IATA published a guidance manual which explored airport ownership and regulation ("*Airport Ownership and Regulation*" [1]). The manual highlighted opportunities for better decision-making when governments address changes in ownership, financing and management of airports, towards a greater role for the private sector.

IATA frequently engages with government and asset owners who have elected to adopt a Public Private Partnership ("PPP") or a concession contract to be the preferred model as part of a Private Sector Participation ("PSP") program. As a result, IATA is often faced with a common set of questions in the structuring of these contracts, although typically with local market nuances which also need to be considered.

Within airport concessions there can often be an 'agency problem' whereby the interests of the contracting parties, the government and concessionaires, take precedence over those of other stakeholders, giving rise to a number of issues. As airport concessions continue to be developed, delivered and re-negotiated, it is clear that there is an ongoing requirement from governments for specific guidance to optimize concession contracts and learn lessons from the successes and failures, and to provide support to key decision makers faced with defining the optimal outcome.

Introduction to Balanced Concessions for the Airport Industry

This Booklet addresses this need by defining the concept of a Balanced Concession, which represents an evolution from current general practices, in order to develop airport concessions which are responsive to the needs of all aviation stakeholders and build "win-win" outcomes for all concession counterparties.

The concept of a Balanced Concession is intended to define new ways of approaching concession contracts based on lessons learned within the airport sector and other comparable industries, and a wider stakeholder perspective. It is also intended to better-inform decision makers with the options available when structuring concessions and managing the trade-offs different concession terms can present.

This Booklet maps the key interests of all stakeholders to the concession model to identify where interests align or misalign. It is clear that in many cases there is not a fundamental misalignment of interests of different stakeholders; the Balanced Concession concept demonstrates that there are a number of opportunities to align stakeholder interests and structure concession contracts with "win-win" outcomes for customers, consumers and communities, as well as the asset owners and concessionaires.

The Balanced Concession demonstrates opportunities to move from a "vicious cycle", based on fragmented relationships, to a "virtuous cycle" which benefits the aviation industry and increases public value (see Figure 5, "Illustrative Vicious and Virtuous Cycles in Airport Concessions", on page 13).

Taken together, four guiding principles are identified which characterize a Balanced Concession:

1. Collaboration
2. Balanced Risks and Rewards
3. Transparency and Information Sharing
4. Mutual Interest

Issues in Airport Concessions

In many concessions, there are points of dispute or disproportional benefit to specific stakeholders. High concession payments, excessively long agreements, and fixed charges are common examples. These may be accompanied by fixed investment or quality targets in the contract which cannot meet market needs over the longer run. In turn, these lead to sub-optimal incentives to circumvent regulation or use contractual loopholes to maximize profit. Not agreeing on investment and quality objectives with stakeholders can lead to over- and under-investment, limited information sharing, and inefficiency, all of which strain the dialogue between airports and the people and communities they serve. Many of these issues stem not from the concession's existence, but from its implementation without sufficient stakeholder engagement with a view to achieving alignment.

To assess the issues that arise in airport concessions, this Booklet sets out a framework for the lifecycle of an airport concession. This framework comprises six key elements that span the life of a concession, from initial planning and initiation of a concession contract through to termination

[1] www.iata.org/policy/infrastructure/Documents/Airport-ownership-regulation-booklet.pdf

and transition from an existing contract. Some of these are sequential but others are ongoing requirements throughout a concession life:

- Initial Planning and Concession Design
- Airport Design, Development and Construction
- Airport Operations and Management
- Pricing of Airport Services
- Ongoing Capacity Augmentation
- Termination and Transition

Given the range of issues and failures it is evident that there is a need to detail "best practice" guidelines for structuring airport concessions that align the interests of all key contractual parties and broader stakeholders, including:

1. Government / Asset Owners
2. Concessionaires
3. Regulators
4. Customers
5. Consumers and Passengers
6. Communities

These stakeholders and their interests are defined in detail in the "Airport Concession Stakeholders and Interests" section on page 11.

Solutions for a Balanced Concession

Airport Ownership and Regulation sets out key safeguards of public value in a concession project. These include a competitive and transparent transaction process, assessment of bids on balanced criteria, and ensuring the key terms of any concession contract underpin improvements in efficiency, quality of service, and appropriate investment in the airport for the benefit of airlines and consumers. It also provided an overview of some key areas to consider in concession agreements. This Booklet seeks to go further and to provide practical guidance on how to structure a Balanced Concession and address the issues identified, and provide practical guidance and tools required by government to help answer key questions where there is significant public value at risk.

It is recognized that there is no "one size fits all" solution, with individual airport requirements and markets varying significantly, and the optimal concession design needs to be developed with key stakeholders and potential private sector counterparties. Whilst there are important considerations across the concession lifecycle, the most critical junctures to deliver a Balanced Concession (as well as the most risk for a failure to do so) are in the early stages prior to and at the start of a concession, and in the late stages prior to termination and transition.

This is not to discount the importance of the life of the concession and the need for regular review and rebasing of charges and capital requirements; it is assumed throughout this Booklet that the regulatory function will be fit-for-purpose to provide the necessary safeguards through effective forms of economic oversight and regulation. This should be implemented by governments as a priority, and a Balanced Concession does not reduce this requirement. However, there is recognition that where effective economic regulation does not exist, or is not fit for purpose, decision makers need to carefully consider how they seek to provide necessary protections in the concession structure, whilst maintaining the flexibility to adopt regulation when introduced in the life of the concession.

This Booklet provides solutions to areas where airport concessions can be more balanced to present win-wins for all stakeholders while also addressing the most critical junctures. These can be categorized into seven main categories which are further detailed overleaf:

- Selection of Airport Concessionaires
- Determination of Concession Length
- Concession Payments and Charges
- Super-Profit Protection
- Consultation Processes
- Capital Planning and Execution
- Continual Improvement and Airport Service Quality

IATA and the Balanced Concession

Overall IATA supports efforts to facilitate appropriate investment in airport infrastructure, and is committed to securing the best value outcome for the aviation industry as a whole. Airports and airlines succeed or fail together, and the timely delivery of cost-efficient infrastructure and airport services is good for everyone, whether government, airport concessionaires, airlines or the consumer.

IATA is often asked to act as an effective proxy for airport customers, and to provide specialist technical expertise to ensure the delivery of Balanced Concessions from planning and procurement and throughout the concession lifecycle. As such, IATA welcomes the opportunity to support and advise governments to ensure better concession solutions for the aviation industry as a whole and the economies they serve.

Road Map to a Balanced Concession

Building on the experience of successes and failures of concession contracts, governments and other stakeholders are encouraged to adopt the Balanced Concession model. Critical solutions that should be adopted for a Balanced Concession include:

Selection of Airport Concessionaires

- The selection of concessionaires should be based on a balanced scorecard approach and not on financial evaluation alone.
- The evaluation model and specific mechanics should be defined in the government business case to justify the preferred approach.
- Involvement of customers and industry stakeholders in informing the development of bidder selection criteria and evaluation is critical.
- Expert panels should be involved in evaluation, with benefits to inclusion of customers and other key stakeholders to the concessionaire selection.

Determinants of Concession Length

- The optimal concession length should be determined and justified through the government business case.
- Concession payments should be justified and should not be a primary variable to determine concession length.
- Governments should also consider the ultimate benefit the airport will create for the wider economy once it reverts to government ownership at the expiry of the concession.
- Reversionary value of the airport to the government should be incorporated into the government business case for the granting of the concession.

Concession Payments and Charges

- Governments should implement effective economic oversight and regulation ahead of the concession.
- Methodologies for setting charges should be in accordance to ICAO's policies and building block ethodology.
- Levels of concession payments to government should be justified based on services and a detailed value for money assessment.
- Under this principle, concession payments should not be the primary bid parameter.

Super-Profit Protection

- Contractual mechanisms to share and protect against excess profit can incentivize collaboration between concessionaires, government and consumers to improve performance and improve financial outcomes for all stakeholders.
- The success of a profit sharing contractual mechanism is dependent on open book accounting and transparency with appropriate governance processes embedded within the contract.

Consultation Processes

- Mechanisms for consultation and dispute resolution between concessionaires, customers and consumers need to be sufficiently-defined within concessions or their regulatory frameworks.
- Consultation and collaboration between concessionaires and customers at all stages of the concession lifecycle, from capital investment planning to operational decisions, can generate significant benefit for all.
- Consultation processes and outcome-based airport service level agreements should be embedded within concession contracts.
- Concession contracts should require a business case for capital investment, to be agreed by all parties.
- IATA's publications on consultation and collaboration are recommended for government decision-makers.

Capital Planning and Execution

- As airport users, airline customers should be involved in defining the project's requirements prior to the tendering process, and also in the evaluation of bidders' concept designs.
- During the iterative stages of airport design to execution of capital investment plans, continued consultation with customers can provide further benefits to address efficiency and service alignment.
- Capital investment plans should not be overly-rigid within the concession contract to avoid restricting innovation through collaboration with stakeholders.
- Fixed future capital investment during the concession should not be pre-defined in the concession contract.
- There should be contractual requirements for regular traffic forecast reviews, with a formal review every five years as a minimum, and an annual check.
- A competitive process should be required for the procurement of construction contractors and sub-contractors to ensure arms-length and best value commercial arrangements.
- Contractual mechanisms should be in place to incentivize late-life capital investment towards the end of the concession term.
- Once there is an agreed design freeze for any capital investment, the concessionaire should be responsible for delivery within agreed costs.

Continual Improvement and Airport Service Quality

- Concession contracts should be outcome-focused and include frameworks for airport service level agreements and specify mechanisms to incentivize continual improvement and adjustment to service levels.
- IATA's "Airport Service Level Agreement ("SLA") – Best Practice" policy guidance document includes commentary on best practices that should be considered.

Introduction

This Booklet builds on guidance within IATA's Airport Ownership and Regulation manual to identify solutions to better define and deliver airport concessions.

There are a range of different concession models which may be applied depending on the specific circumstances and requirements for an airport, and government's strategic objectives.

The commercial arrangements included in a concession contract are complex, and how they are specified will have a material impact on all stakeholders, not only government and the concessionaire.

Given the above, this Booklet seeks to establish the concept of a Balanced Concession and identify where it can lead to improved outcomes for the aviation industry as a whole, and its stakeholders.

Scope of this Guidance Booklet

As identified in *Airport Ownership and Regulation*, there has been a trend in moving away from direct government ownership, financing and management of airports, towards a greater role for the private sector, particularly as airports have evolved from being infrastructure providers to multi-faceted businesses.

The *Airport Ownership and Regulation* manual described the spectrum of ownership and operating models, drawing on a body of existing literature on infrastructure assets, and airports in particular. These models ranged from government-ownership models, government-ownership models incorporating different levels of PSP (for example, in the form of corporatization or management contracts), through to models with degrees of private-sector ownership, including PPP and concession models, as set out in Figure 1 ("Alternative Ownership and Operating Models"). The manual also set out recommendations for improved governmental decision-making, and required regulatory safeguards for privatized airports.

However, whilst *Airport Ownership and Regulation* set out best practice guidance for the selection and implementation of an ownership and operating model, it is by necessity a broad set of guidance. IATA frequently engages with government and asset owners who have elected to adopt a concession contract to be the preferred model as part of a PSP program. As a result, they are facing a common set of issues and challenges in the structuring of these contracts, although typically with market-specific nuances which also need to be considered. As airport concessions continue to be developed, delivered and re-negotiated, it is clear that there is a requirement from government for specific guidance to optimize concession contracts and learn lessons from successes and failures to date with the ultimate aim of providing support to key decision makers faced with defining the optimal solution.

This Booklet addresses this need by defining the concept of a Balanced Concession, designed to be applied to both greenfield and brownfield airport concession arrangements, which is responsive to the needs of all aviation stakeholders and builds "win-win" outcomes for all concession counterparties, and provides practical guidance to deliver such a concession.

This work on the Balanced Concession does not seek to replace, but to go further than the *Airport Ownership and Regulation* report in exploring how concession models might be best-applied. This builds on the preceding guidance, and it is recommended that both documents are read together. For example, this work assumes that a concession model has been selected as the preferred solution; the *Airport Ownership and Regulation* study outlined the process required to determine this.

This is intended to be a timely and relevant contribution to existing guidance on airport concessions for government and other decision-makers.

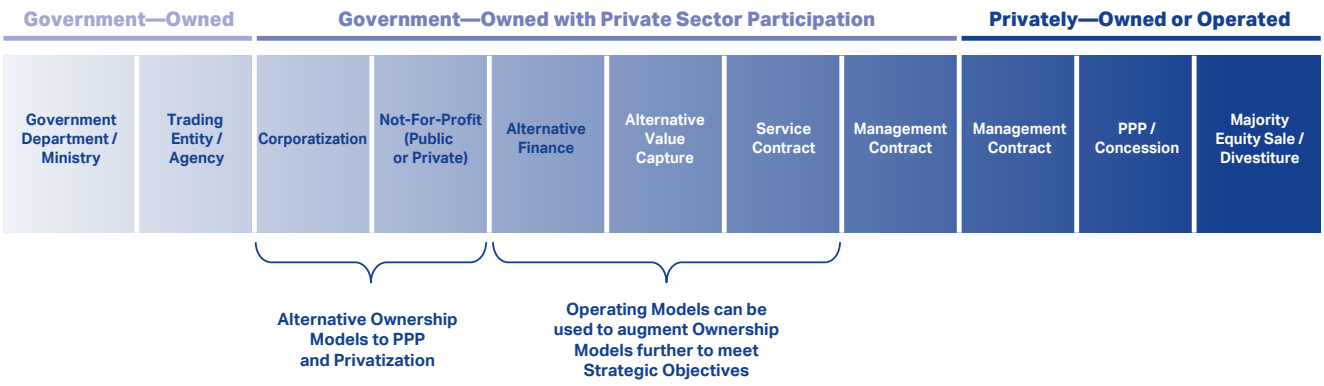
Overview of Airport Concessions

As described in Figure 1, service and management contracts are considered government-owned models with PSP. Although these can be included within the broadest definition of PPP, this Booklet takes a focused view of airport concession models as instances where a government has granted rights to operate an airport and control one or all of the airport's activities for a specific period of time. Concessionaires have financial risk and reward in the successful management and operation of these activities over that tenure. At the end of the contract period, the asset typically reverts to, or is granted to, the government, at which point the government can determine its preferred ongoing ownership and operating model.

There are a range of concession models covering a broad scope involving the role of the private sector in providing development (design and build), financing, operations and maintenance services, as well as the ultimate transfer of the airport asset. These models can be differentiated by the scope of the agreement, transfer of risk and reward to the private sector, the requirement to finance capital investment, and the control and ownership of assets.

Appendix 1 ("Typical PPP and Concession Models and Airport Sector Archetypes") sets out a table summarizing these models and how they are differentiated by private sector responsibility, as well as identifying the typical government requirements each model seeks to address.

Figure 1: Alternative Ownership and Operating Models



These models include:

- Design-Build-Operate ("DBO")
- Build-Operate-Own ("BOO")
- Built-Operate-Transfer ("BOT")
- Built-Operate-Own-Transfer ("BOOT")
- Design-Build-Finance-Operate-Maintain ("DBFOM")
- Operations and Maintenance ("O&M")

Further, Appendix 1 also provides archetypal cases in which each model might be most appropriate to the airport sector, subject to determining a concession as the preferred model in the first instance. The selection of model is typically dependent on the objectives that governments are seeking to achieve; the Airport Ownership and Regulation report set out a number of strategic objectives sought by government when pursuing airport PPP or privatization initiatives. These are set out in Figure 2 ("Strategic Objectives for Changes in Airport Ownership and Operating Models").

Government's specific requirements and objectives can determine the concession type and contractual provisions in a number of ways. For example, greenfield airport developments with significant capital spend and construction requirements and a constraint on government funding and management capability may drive a preference for a longer-term concession agreement. Longer contracts may better match the long-term nature of capital investments, and create incentives for efficient planning of capital investment, whole lifecycle costing and thorough asset management.

There is concern that historically the length of concession contracts that have been awarded may not be justified based on a balanced view of the core objectives above, nor supported by appropriate analysis to consider the trade-offs inherent in concession length decisions. Contracts with a long tenure may maximize government short-term financial objectives in the form of capital receipts and concession fees, within the parameters of concessionaires' return requirements. However, determining concession length to meet this objective may not fully consider the impact on all stakeholders to the contract, such as the need for flexibility in infrastructure planning, or even the potential value of the asset when it reverts back to the government at the expiry of the concession.

Additionally, there are a number of choices that need to be made in the structuring of a concession contract that will impact market interest from concessionaires, government, and other stakeholders to a concession contract, including customers, consumers and communities.

Figure 3 ("Indicative Airport Concession Commercial Structure") provides a summary of how the commercial arrangements supporting a long-term airport concession model are typically structured. This figure summarizes a typical greenfield airport structure (suitable, for example, for a DBFOM model), although a similar structure is applied to brownfield airport concessions requiring capital investment.

For implementation of the project, a project company or Special Purpose Vehicle ("SPV") is generally established for the delivery of the project. The SPV holds the concession agreement with the government or asset owner, and is responsible for design and build, arranging financing for capital investment and working capital, and operations and maintenance. All project cash flows (revenues, capital costs, operating costs and financing costs) are attributable to the SPV. The promoters of the SPV provide equity and typically enter into financing and security arrangements to raise debt to meet the capital expenditure requirements for the project.

Once the airport commences its operations (in the case of a greenfield airport), the SPV collects revenues

Figure 2: Strategic Objectives for Changes in Airport Ownership and Operating Models

by levying charges on the customers (airlines) and generating revenues from consumers (passengers) and real estate rental. There are a range of regulatory frameworks and nuances that determine charges; in broad terms, under single till regulation, all airport activities (including aeronautical and non-aeronautical) are taken into consideration when determining the level of airport charges. By contrast, under the dual till principle only aeronautical activities are taken into consideration [2]. Concessionaires may also have a right to generate returns from investment in real estate development, depending on the terms and scope of the concession agreement.

During the concession period, the concessionaire continues as required to undertake necessary capital investment to expand the airport, as well as managing the operations and maintenance of the existing facility. At the end of the concession, the agreement terminates and the airport transfers back to government.

The key point to note is that this structure is highly interdependent and requires a fine balance to meet the requirements of all stakeholders. These include the required levels of shareholder return, requirements of lenders (for example, debt service coverage ratios), concession payments to government, and charges and costs borne by customers and passengers for services to their markets. For example, all things being equal, an increase in concession payments will increase required revenues. By contrast, including real estate revenue within the scope of the concession may provide opportunities for the concessionaire to increase concession payments to government or reduce charges to customers and consumers.

Therefore, the scope and commercial arrangements included in the concession contract will have a material impact on all stakeholders and structuring a Balanced Concession that benefits the aviation ecosystem needs to consider the risks, rewards, issues and incentives that arise for different stakeholders.

Airport Concession Stakeholders and their Interests

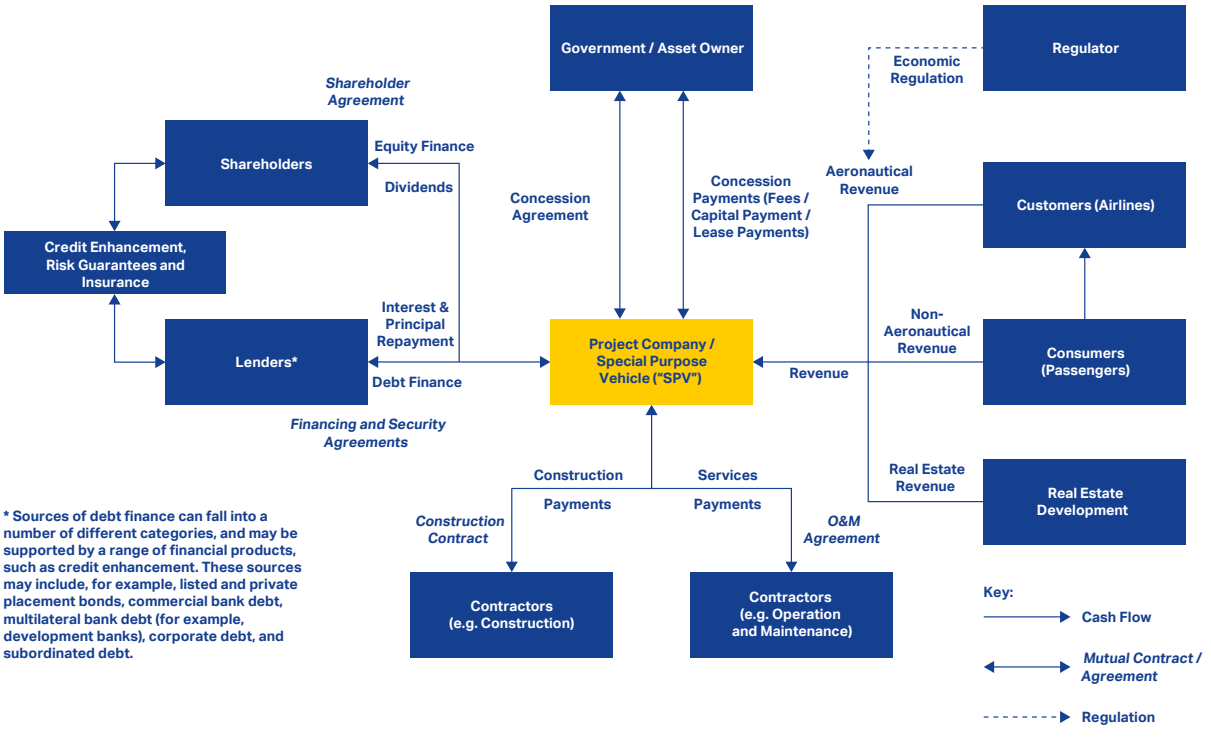
Airport concessions typically represent a contractual relationship between the government as the asset owner and the private sector concessionaire. This can create an agency problem whereby government is expected to act on behalf of customers and consumers who are materially impacted by the terms of the concession. There is a risk that the interests of the contracting parties take precedence over those of other stakeholders, including airline customers of the airport, who commonly have a limited role in contributing to the concession arrangement despite being directly affected by it.

The key stakeholders in an airport concession are presented in Figure 4 ("Airport Concession Stakeholder Overview") below, alongside their key areas of interest.

These include:

- **Government / Asset Owner**
  The grantor of the PSP contract or concession. In the context of the Balanced Concession this is typically the government entity which is the counter-party to the contract, and to whom the asset will typically revert at the end of the contract term.

Figure 3: Indicative Airport Concession Commercial Structure



* Sources of debt finance can fall into a number of different categories, and may be supported by a range of financial products, such as credit enhancement. These sources may include, for example, listed and private placement bonds, commercial bank debt, multilateral bank debt (for example, development banks), corporate debt, and subordinated debt.

[2] www.iata.org/policy/Documents/single-till.pdf

- **Concessionaire**
  The operator/controller of the asset under the concession contract. Within this category are considered the lead sponsor, but also other consortium members such as financiers, construction contractors, and other specialist sub-contractors.

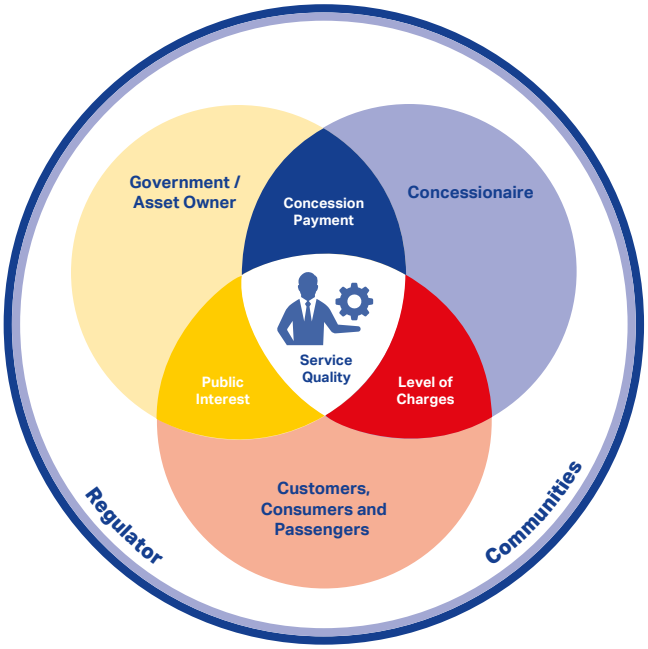
- **Customer**
  Passenger airlines and cargo carriers. The users of the airport facility and the parties which are directly impacted by the services and costs of airport as a result of the concession.

- **Consumers and Passengers**
  Travelling public, cargo operators, and other users of public airport services which rely on efficient and functional access and connectivity.

- **Regulator**
  Independent entity charged with economic regulation (and potentially safety regulation) and safeguards to prevent market abuse, secure efficiencies, and ensure service quality.

- **Communities**
  Impacted stakeholders at a local, regional, national and global level, with a particular focus on Environmental, Social and Governance ("ESG") factors. Such stakeholders include employees, local communities impacted by noise and air quality, and broader Non-Governmental Organizations ("NGOs"), national and supranational organizations concerned with issues such as security, climate change and trafficking.

Figure 4: Airport Concession Stakeholder Overview [3]



Key areas of interaction between the interests of different parties include:

- **Concession Payment**
  This is a financial payment or series of financial payments from the concessionaire to government in exchange for services and/or the right to the concession. This may be taken in the form of fixed or variable (for example, as a percentage of revenue) concession fees or lease payments, or in the form of up-front capital receipts. Governments frequently seek to increase this figure or accelerate the timing of payments to meet fiscal or budgetary objectives; however, this can have a negative impact on other stakeholders and indeed a government's wider objectives through increased levels of charges, reduced service quality, or reduced positive impact on public interest. In addition, regulatory frameworks with inadequate protections may allow high levels of concession payments to translate directly into higher charges without any fundamental change to the service provided.

- **Service Quality**
  Customers, consumers and passengers are predominantly interested in an appropriate level of service and infrastructure provision for a fair level of charges, reflective of market-specific customer and consumer factors. This interest may conflict with the interests of government to increase concession payments (which will increase charges), or the interests of concessionaires to increase their return (or reduce the level of service, and therefore cost). However, appropriate service quality is typically aligned with public interest objectives associated with economic growth and job creation.

- **Level of Charges**
  All other factors being equal, a concessionaire will be motivated to increase the level of charges and therefore profitability of the concession until the point where such increases would significantly affect traffic and reduce returns. Further, higher levels of charges are required to compensate for increases in concession payments, "gold plated" service quality or capital expenditures in excess of requirements, or instances of "overbidding" where concession bidders are overly aggressive with an expectation that charges can be increased or renegotiated. Due to the high level of market power enjoyed by airports, robust forms of economic regulation are required to safeguard the interests of customers, consumers and passengers and ensure a balanced approach is applied when defining the level of charges, service standards and infrastructure requirements, ideally in broad consultation with all relevant stakeholders.

- **Public Interest**
  Public interest can be served through the positive macro-economic impact of an airport, including domestic economic impact through trade connections and export-led trading, tourism and

[3] Source: Asian Development Bank, "Developing Best Practices for Promoting Private Sector Investment in Infrastructure", 2000. Abridged and amended.

maximizing domestic value creation (which in turn may generate increased future tax receipts for government). Airports enable air travel which connects people and markets, whilst needing to remain conscious of its environmental and social impacts. The increasingly visible positive impacts which aviation creates for economies is at risk of being undermined by increases in concession payments and charges to levels which adversely impact the industry and the wider economy. Recognizing that governments have a responsibility for broader strategic objectives than simply maximizing concession payments, appropriate cost benefit analysis should be applied to establish where reducing concession payments and charges can create a broader social and economic benefit.

From this simplified representation of key interests within an airport concession, it is clear that airport concession contracts are highly complex with a broader impact than the transacting parties. Competing interests between different stakeholders, and even within a single entity, cause issues seen in airport concessions and may negatively impact the overall performance of the airport ecosystem.

A more detailed range of interests by stakeholder are further assessed in Appendix 2 ("Mapping Stakeholder Interests in an Airport Concession") on page 64.

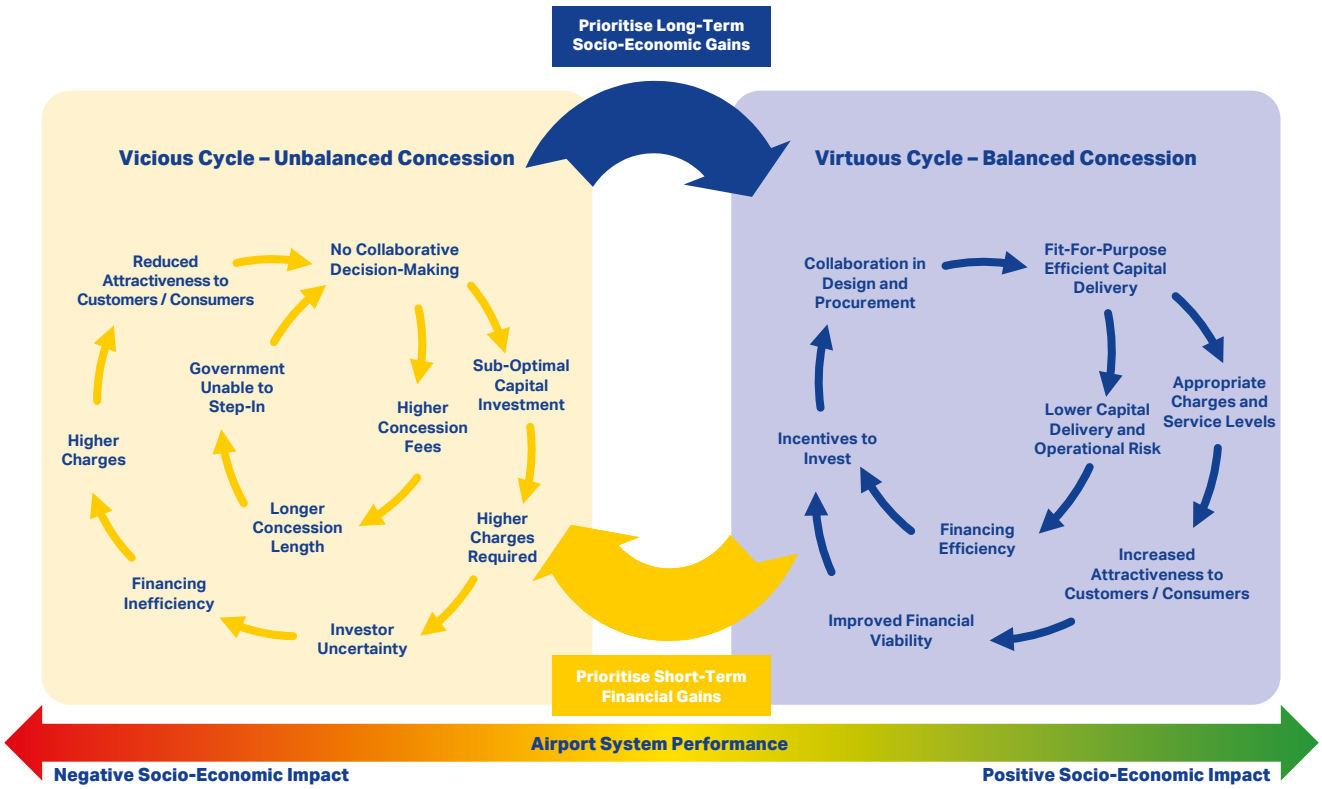
Aligning Stakeholder Interests for Better Outcomes

In many cases the issues identified do not arise from a fundamental misalignment of different stakeholder interests. There are also many areas of alignment between different stakeholders to an airport concession. Primary amongst these is a common interest in a well-functioning airport ecosystem that enables the continued development of the economies and the communities the aviation industry serves.

Where it is possible, aligning interests through a well-structured concession contract that considers the wider stakeholder landscape can create "win-win" outcomes that benefit all stakeholders. Where interests cannot be fully-aligned, better mechanisms for engagement and consultation between stakeholders can help to ensure fairer outcomes.

Figure 5 ("Illustrative Vicious and Virtuous Cycles in Airport Concessions") provides an example of how "win-win" outcomes can manifest through an alignment of interests and create a virtuous cycle of mutual benefit, rather than a vicious cycle which reduces the overall performance of the airport system and negatively impacts all stakeholders. Given the complexity of an airport ecosystem and airport concessions there are multiple ways in which these vicious and virtuous cycles can start and manifest, and this example is therefore illustrative of some of the interactions rather than comprehensive.

Figure 5: Illustrative Vicious and Virtuous Cycles in Airport Concessions



In the vicious cycle, a focus on short-term financial gains, with government requiring a high concession payment (or "gold plated" and/or excessive CAPEX) can lead to a higher level of charges required by the concessionaire. This adversely impacts airline customers who are likely to reduce capacity as a result of reduced demand from passengers resulting from increased levels of charges levied on customers and consumers, resulting in reduced economic value, and ultimately reduced long-term economic and financial gains. In this cycle, long and rigid concession terms may mean government are unable to step-in.

By contrast, a virtuous cycle whereby a concession is designed which balances impacts and appropriately prices services and charges drives passenger demand and economic connectivity leading to enhanced economic value. In this cycle, government is not needed to step in.

Guiding Principles for a Balanced Concession

A "Balanced Concession" is an approach that defines new ways of developing and delivering airport concession contracts based on a wider stakeholder perspective than typically used. Rather than believing stakeholders have different and adversarial objectives across the airport concession lifecycle, the Balanced Concession identifies similar and aligned interests to target a "virtuous cycle" in airport concessions which benefits the aviation industry as a whole, mitigating risk and delivering innovation, better public value, and an improved consumer experience. Taking this alternative perspective can help design concessions that benefit all airport stakeholders, and recognizes the long-term benefit of interaction between airports, their customers, consumers and communities.

Figure 5: Guiding Principles for a Balanced Concession

Four guiding principles are at the heart of defining the Balanced Concession, differentiating it from typical concession arrangements and setting the ground rules for Balanced Concession solutions.

Guiding Principle 1 — Collaboration

Airports are extremely complex ecosystems and no operational decisions can be taken in isolation to the broader impact on other stakeholders. Early involvement of relevant stakeholders in planning and procurement can help ensure a fit-for-purpose solution is identified and ultimately adopted. After a competitive tendering process has secured best value for money for all stakeholders, collaboration must be in place to ensure the ecosystem remains viable and competitive.

As a supplier to the airlines and cargo carriers, the concessionaire's own businesses can only benefit from being responsive to changing customer needs. The Balanced Concession needs to empower stronger partnership models and incentivize collaboration across the planning, designing and development phases, as well as in airport operations and management. Whereas many of the most successful businesses today succeed because they are customer-centric, firms that are not in fully competitive markets, as in the airport sector, risk mistaking customers' high cost of switching for customer satisfaction and misreading customer needs.

From early engagement with airlines prior to concession tendering to inform forecasts and define concession scope and requirements, through to the tendering process itself and refining the concept design with the concessionaire, collaboration with customers can help ensure a cost efficient, fit-for-purpose concession and facilities design. IATA's position paper, "Airport Infrastructure Investment – Best Practice Consultation", sets out how effective consultation and best practice governance can lead to mutual benefits through optimizing a project's cost and efficiency.

Guiding Principle 2 — Balanced Risks and Rewards

Airport operators and customers are highly interdependent and have a shared goal of creating and operating a functional, cost-efficient asset that maintains an appropriate level of service.

The Balanced Concession seeks to achieve this by properly incentivizing asset owners, concessionaires and customers through mitigation of risks by the party best placed to manage them, to better-enable improvements in efficiency, technological advancements and other positive changes to the status quo.

While the concessionaire should always be appropriately remunerated for efficiently made investments, concessions should introduce provisions to allow for sharing of benefits, and incentives to generate benefits in collaboration with other stakeholders, on an ongoing basis throughout the concession life. An effective economic regulatory framework should be able to address this.

Guiding Principle 3 — Transparency and Information Sharing

The modern airport is increasingly becoming data driven with advanced airports being the ones that capture all relevant data to inform critical operational and commercial decisions. Transparency and seamless information sharing between members of an airport ecosystem allows concessionaires and customers to act in a communally advantageous manner and improve efficiency and effectiveness of both day-to-day operational and strategic decisions. By placing emphasis on the long-term benefit of shared information, data and processes, the Balanced Concession will improve the performance of the aviation industry.

Guiding Principle 4 — Mutual Interest

Concession agreements typically focus on the asset owner and concessionaire's interests. However, the obligations and actions or inactions of the concessionaire and/or asset owner can detrimentally affect the interests of other stakeholders. Customers, consumers and community interests can benefit from well-defined concession contracts and service level agreements ("SLAs") that hold the concessionaire accountable for under-performance, as identified in IATA's policy guidance on Airport Service Level Agreements ("Airport Service Level Agreement – Best Practice").

The Balanced Concession provides a new focus on appropriately safeguarding the rights and interests of all stakeholders for the long-term and mutual benefit and interest of the aviation industry, as a complement to rather than a replacement for effective economic regulation. A concessionaire that acts in the customer and consumers interest can drive airport growth presenting a win-win outcome for all parties.

Key Takeaways

- There are a range of different concession models which may be applied depending on the specific circumstances and requirements for an airport, and a government's strategic objectives. The commercial arrangements and incentives included in a concession contract are complex, and how they are specified will have a material impact on all stakeholders, not only government and the concessionaire.
- Airport concessions suffer from an agency problem, with the contractual arrangements developed predominantly by government and concessionaires with relatively limited reference to critical impacted stakeholders, including customers, consumers and communities.
- Historically this has led to missed opportunities to align interests and create better "win-win" outcomes for all impacted stakeholders, including government and the concessionaire. These missed opportunities mean economic, social and financial value is lost, and a "vicious cycle" rather than "virtuous cycle" created.
- Government should consider the interests of and include a wider group of stakeholders in developing concession structures, procuring and managing concession contracts. It is clear there is a need to detail "best practice" guidelines for structuring airport concession contracts that builds on the alignment of interests of all key contractual parties and broader stakeholders.
- A Balanced Concession addresses these issues by defining new ways of approaching concession contracts in the airport sector based on similar and aligned interests, rather than different and adversarial objectives. Four guiding principles define a Balanced Concession:

  1. Collaboration
  2. Balanced Risks and Rewards
  3. Transparency and Information Sharing
  4. Mutual Interest

Issues in Airport Concessions

Airport concessions suffer from a wide range of issues, which are identified through case studies and their impact assessed using a framework based on the lifecycle of an airport concession.

Many of these issues also exist in other sectors, and there are relevant lessons and best practices that can be drawn on to provide guidance to governments seeking improved outcomes from airport concessions.

The subsequent section defines solutions for a Balanced Concession to address these issues across the airport concession lifecycle, drawing on lessons learned from this analysis.

Introducing the Airport Concession Lifecycle

Throughout this Booklet, issues and solutions which define the Balanced Concession are assessed with reference to the airport concession lifecycle.

Figure 6 ("Key Elements of Airport Concession Lifecycle") sets out how the airport concession lifecycle has been characterized into six primary activity areas spanning from initial planning and concession design, through to termination and transition of a concession contract. Many of these activities run in parallel to each other across the lifecycle of a concession.

Figure 7 ("Issues in Airport Concessions Across Lifecycle") which follows sets out an illustrative summary of the detailed activities across the lifecycle of a concession, and issues frequently faced by concession stakeholders, which are assessed in detail in the following section.

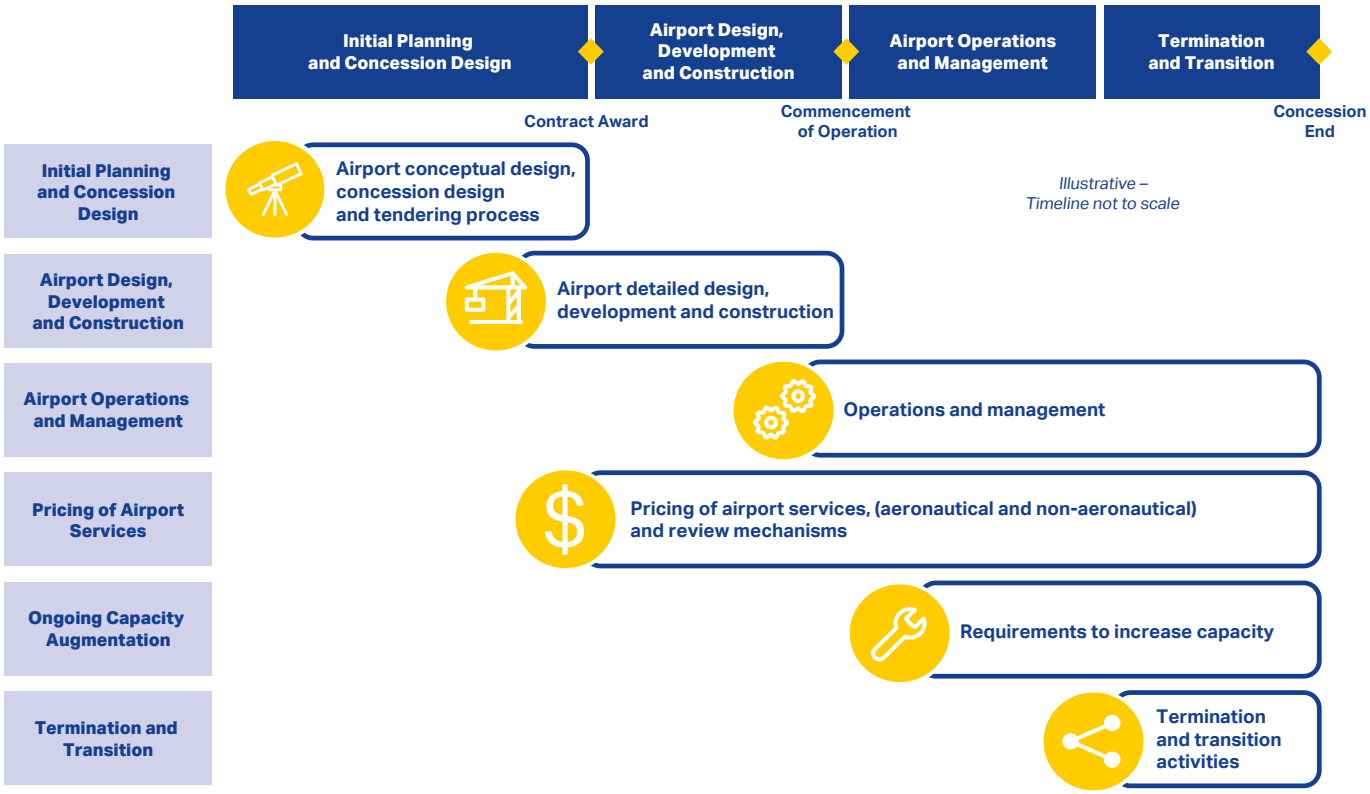
The length and timing of activities in the lifecycle varies by specific circumstances, including whether an airport is greenfield or brownfield, the maturity and nature of the market, and the capacity and capability of government to effectively deliver the requirements. Further, each activity in the lifecycle is not discrete or sequential; integrated planning and execution of activities is critical to maximize value. This is highlighted by the importance of, for example, Operational Readiness and Testing ("ORAT") planning through construction and development to operations and management, or the interaction between pricing of airport services and ongoing capacity augmentation.

The key features of the concession lifecycle are summarized below:

- **Initial Planning and Concession Design**
  This frames the design of the concession and tendering process to secure the optimal concessionaire. "Getting it right" upfront is key, and many of the key features of a Balanced Concession that are explored in this Booklet can be secured at this point. A government business case, developed with the input of users, is an important tool to understand concession design options (for example, the allocation of risks between different parties) and evidence the value for money from the selected solution.

- **Airport Design, Development and Construction**
  This is most common for greenfield concessions, although may be applicable to brownfield concessions with significant capital investment requirements. The activity commences with the selected concessionaire preparing the master plan and detailed designs for the airport, which should be subject to consultation with government, customers and other stakeholders. Once the plans are finalized, project finance is drawn down and the concessionaire starts the construction, testing and commissioning of the different components of the project according to an implementation schedule. The major responsibility related to the implementation tasks lies with the concessionaire but considerable monitoring is required by government to ensure works are contractually aligned. Further, customers need to be actively involved to integrate their plans for commencement of airport operations.

Figure 6: Key Elements of Airport Concession Lifecycle



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- **Airport Operations and Management**
  The ongoing operations, maintenance and management of the airport is typically defined in the concession through the clear detailing of service level frameworks that should have been defined in the contract. This includes contract management and performance monitoring by government. It is also important to ensure that the assets and facilities remain at the required standards, and that continuous improvement and innovation takes place, particularly as the requirements of the industry may change over the duration of the concession. An Airport Service Level Agreement ("ASLA") can provide a platform to measure performance on an ongoing basis and continue engagement with users.

- **Pricing of Airport Services**
  Ongoing mechanisms to determine pricing of airport services, including aeronautical and non-aeronautical price setting and review mechanisms. While aeronautical tariffs are usually determined based on national regulatory frameworks, it is an overriding assumption of this Booklet that pricing for airport services should follow the International Civil Aviation Organization ("ICAO's") key charging principles of non-discrimination, cost-relatedness, transparency and consultation with users as well as the implementation of effective economic oversight. In line with ICAO's principles these should be incorporated into national legislation, regulation, policies [4] and concession terms.

- **Ongoing Capacity Augmentation**
  This includes ongoing requirements to increase capacity, including capital expenditure and works, to cater to increased traffic volumes without compromising on the level of service to customers and consumers. The master plan of the airport is typically included as part of the concession agreement, specifying the land use and other restrictions on augmentation of the airport throughout the concession life, with regular review periods. A critical consideration is treatment of capital expenditure requirements where investment may not be recovered by means of aeronautical and commercial revenue streams by the existing concessionaire before the end of the concession term. This may occur with major investments across the term of a concession, but often becomes particularly acute towards the end of the concession life.

- **Termination and Transition**
  This concerns the end of the concession contract, whether at the end of the concession term, or in the event of default.

Conclusions

The airport concession lifecycle provides a structure to assess issues within airport concessions, and alternative solutions which can improve outcomes for all stakeholders under a Balanced Concession. These are assessed in the following sections of this Booklet.

Issues in Airport Concessions

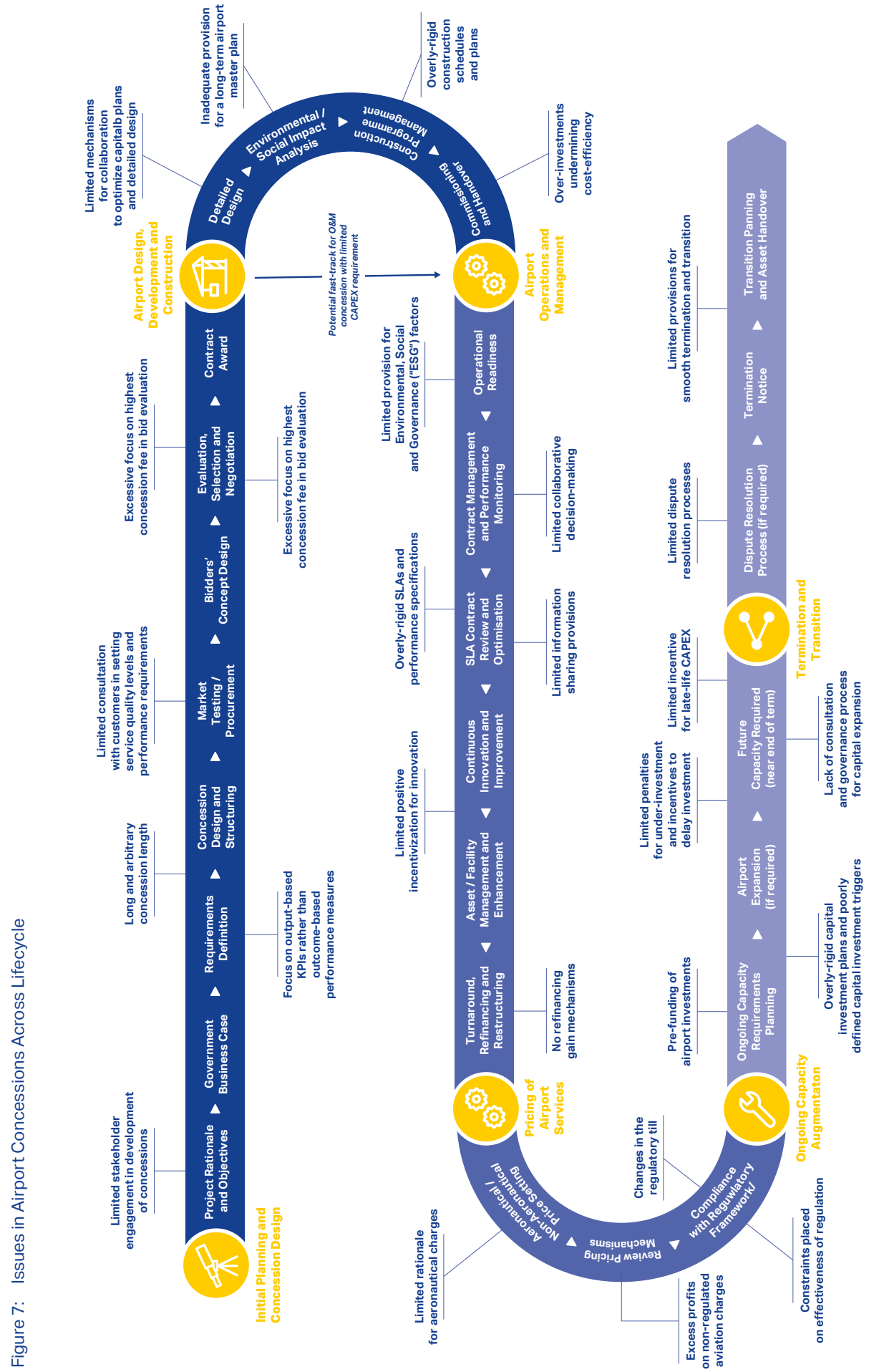
As IATA has engaged with governments seeking to put in place concession contracts, as well as concessionaires, customers and consumer representatives, it is clear that there are a number of similar and common issues associated with airport concessions. At the heart of these lies a fundamental agency problem whereby concessions are typically determined and negotiated between government and private sector concessionaires, with relatively limited focus on the customers, consumers and communities that will be impacted by the concession agreement.

This may lead to a misalignment of interests and incentives manifesting, for example, in an over-focus on maximizing financial value to government or market interest amongst prospective concessionaires at the expense of other interests. As a result, through its work in multiple territories, IATA is frequently faced with concessions which suffer from a similar set of issues across the airport concession lifecycle, such as inflexible fixed charges, predetermined investment plans, high levels of concession payments and limited involvement of wider stakeholders in airport planning, development and operation.

To understand the guidance required to create a better alternative that works in the mutual interest of all stakeholders, it is critical to understand the key issues and "pain points" faced by airport stakeholders across the concession lifecycle. These are set out with supporting case studies and analysis below, based on the lifecycle set out in Figure 8.

[4] ICAO's Policies on Charges for Airports and Air Navigation Services, Ninth Edition, 2012

Figure 7: Issues in Airport Concessions Across Lifecycle



Initial Planning and Concession Design

It is typically in the initial planning, concession structuring and tendering process that the most value is at risk. The commercial arrangements defined during concession design will impact the successful delivery of construction and development, and operation of the airport over many decades.

However, there are several issues in concession design that enhance the risks associated with airport concessions.

Long and arbitrary concession length

At times, the concession length prescribed for the project is unduly long or arbitrarily selected, which may impact different stakeholders in varying ways. Whilst customers and consumers interests are to have an efficient asset with appropriate service quality, the concessionaire's primary interest is to maximize return and secure long-term projects. Government may have competing objectives; it both wants the same outcome as customers and consumers, and a well-functioning aviation ecosystem, but at the same time longer-term and more lucrative provisions for concessionaires may increase the levels of concession payments to government.

A longer concession period, especially accompanied with rigid conditions, is typically more beneficial to the concessionaire as it can collect revenue over a longer period and it may result in increased profits. This may adversely impact customers and consumers with delays to investments and a lack of flexibility in service levels over a longer period being common concerns. Further, in longer-term concessions, as airport capacity is reached, specific protections are required to ensure operational or capital investment to prevent deterioration in service levels.

Case Study: Sydney Airport Long-Lease

The sale of Sydney's Kingsford Smith Airport was completed in 2002 with Southern Cross Airports Corporation acquiring the shares in Sydney Airports Corporation Limited, the company that held the long-term lease (50-year term, with an option for extension of 49-years). The sale agreement also granted the purchaser a 30-year right of first refusal over the development and operation of any second major airport within 100 kilometers.

Granting the right of first refusal reduced the government's flexibility and ability to address capacity constraints. This, and the long-term nature of the concession, create monopolistic conditions for airport infrastructure in Sydney, which in the past limited the bargaining power of government and customers to address these issues.

Source: The Sale of Sydney (Kingsford Smith) Airport, ANOA; A Study of Wilton and RAAF Base Richmond for Civil Aviation Operations, Department of Infrastructure and Transport.

By contrast, if the concession period is too short and without handback provisions, this will result in higher levels of charges during operations to recoup any initial capital investment and associated financing costs, and meet the concessionaire's required equity returns. Further, shorter concessions may result in bankability concerns for the lenders, as the cash flows generated in a short duration may not be sufficient to sustain high repayment obligations and may be subject to higher risk if faced with construction delays or slower establishment of steady-state operations than expected.

There are a range of mechanisms used in airport concessions to address some of these issues, including options to extend the concession period on mutual agreement or the concessionaire's discretion. However, these have typically been quite simplistic in nature (for example, a 25-year initial term with a 5-year extension option) without clear rationale supporting the selected concession length and extension option.

Limited stakeholder engagement in development of concessions

Airport concessions often suffer from limited engagement with stakeholders, including customers, consumers and communities, in the initial planning and concession design processes.

Given that airlines and passengers are an integral part of the airport ecosystem, the lack of involvement creates risks and issues, such as fixed and outdated SLAs, implementation of outdated airport technology, and poorly planned infrastructure (which itself undermines the provision of cost-effective airport infrastructure).

Case Study: Santiago International Airport ("SCL")

The concession agreement for SCL, Chile, mandated the creation of a new passenger terminal. The Ministry of Public Works («MOP») undertook planning of the new terminal in 2012, using an operational concept design from 2008 and the terminal is likely to be inaugurated in 2020. As a result the conceptual design will be more than a decade old, and expected to be lacking in modern enhancements to terminal operations and technology.

The long planning and development cycle for an airport concession, combined with rigid contractual provisions, creates a risk of outdated design and technology.

Moreover, design requirements for SCL were finalized without proper consultation with customers, enhancing the risk of the solution not meeting the modern challenges of airport operations.

Source: IATA Analysis

Limited involvement of stakeholders in the early stages of airport concessions can also undermine the success of new airport projects.

Limited consultation with customers in setting service quality levels and performance requirements

Similarly, since customers and consumers are the users of airport infrastructure, setting airport service levels and performance requirements that meet their needs is fundamental to deliver operational efficiencies, optimize passenger experience and support competition between airlines. Further, with evolving industry dynamics and a fast-pace of change associated with technology disruption and more demanding and discerning consumers, service levels at an airport will continue to evolve over time.

A key challenge emerges when customers and consumers, as the primary user of airports, are not involved in jointly setting service levels and key performance criteria resulting in ineffective KPIs and infrastructure development being mandated to the concessionaire. This can be compounded when service quality levels are rigid and not able to be amended during the concession period through a consultative mechanism.

Focus on output-based KPIs rather than outcome-based performance measures

Airport concessions have typically been biased towards output-based KPIs, with service levels determined by outputs such as response times.

Whilst these are important measures and will likely remain a key part of the performance measurement regime for airport concessionaires, customers and particularly consumers are typically more interested in tangible performance outcomes as the outputs that produce them.

The focus on output KPIs may not meet the requirements of customers and consumers, particularly as expectations change over time. This may result in inefficient operations, for example paying for a service or service level not required, or poor levels of satisfaction for consumers.

Deep-Dive: Output and Outcome Performance Measures in Airport Concessions

Many airport concession contracts include output- rather than outcome-based measures, which undermine the need to ensure airport operators meet the requirements of customers and consumers at the best value; the resulting inefficiency negatively impacts all stakeholders, and addressing this through outcome-based performance measures can create better outcomes for all.

Examples of output-based measures include pre-defined fixed investment requirements. These may take the form, for example, of specifying specific numbers of passenger boarding bridges, pre-defining the timing of future runway expansion by a specific year in the concession, or determining the required area or size of a terminal building.

As circumstances change and the industry evolves, such output specifications may result in unnecessary investments or out-dated service levels. This undermines the performance of an airport.

IATA prefers outcome-based mechanisms that do not pre-define outputs which cannot be predicted or may not be necessary in the future. Examples of outcome-based measures include, for example, ensuring that the airport has sufficient capacity to process a defined percentage of passengers through boarding bridges, or defining triggers for considering capital investment based on airport passenger numbers compared to the annual design capacity.

To enable this, IATA advocates for meaningful and effective consultation with customers throughout the concession lifecycle, and from an early stage in the bidding process to capture customer and consumer requirements, starting with bidding criteria, such as passenger, operational, and traffic demand needs at the requirements definition stage. This should be a key input to the evaluation criteria for the concessionaire.

Source: IATA Analysis

Limited participation in concession bid process

Whilst governments typically seek to stimulate market interest, there are a number of concession transaction processes globally which have resulted in low interest from best-in-class international operators, and mainly local market participants. Reasons for this include restrictions on investments by international entities, regulatory and market uncertainties. However, the impact is that concessions awarded to local operators may not lead to the desired adoption of global best practices and result in sub-optimal operational practices.

Case Study: Navi Mumbai International Airport

The construction of Navi Mumbai International Airport in Metropolitan Mumbai was first conceived in 1997. In 2014, after years of deliberations, the City and Industrial Development Corporation ("CIDCO"), a government authority formed and controlled by the Government of Maharashtra, issued the RFP for the greenfield airport concession.

The airport, alongside Chhatrapati Shivaji International Airport ("CSIA"), will form India's first urban multi-airport system. The 160 billion Indian Rupee project generated considerable initial interest among international airport operators. However, at the conclusion of the bid process, only two domestic airport operators submitted bids, GVK Power & Infrastructure Ltd & GMR Infrastructure Limited.

There were a range of contributing factors for this. They included a number of issues impacting participation of international parties, such as the complexity of project requirements and availability of local credible partners. Further, the synergies that GVK Power & Infrastructure Limited could have gained from their existing CSIA concession which included a "Right of First Refusal" provision, could have also been a relevant factor.

Source: GVK wins bid to develop Navi Mumbai airport; CIDCO to soon issue LoI, Deccan Chronicle

Conversely to this issue, the growing professionalization and globalization of the airport industry has led to a select number of companies competing in international concession tendering processes. Whilst the improved professionalization of the industry is to be welcomed, in the coming years consideration is required to ensuring the industry remains competitive globally and there is not an excessive concentration of market power. This is complicated by the absence of supranational competition regulation for the sector.

Excessive focus on highest concession fee in bid evaluation

A key bid evaluation parameter typically used by governments across regions is the highest concession fee. As a mechanism, this helps government to evidence the maximum financial return from a concession contract award.

However, this does not consider the more balanced requirements of customers and consumers, such as service levels, quality or adoption of new technology. Further, this financial metric does not consider the broader macro-economic objectives of government, including domestic economic impact through trade connections and export-led trading, tourism and maximizing domestic value creation (which in turn may generate increased future tax receipts for government).

Case Study: Mopa International Airport, India, and Queen Alia Airport, Jordan

Concession fees are frequently structured to maximize financial returns to government. The concession for the greenfield Mopa International Airport in India was awarded to GMR Group, which bid a revenue share to government of 36.99%.

In 2007, the 25-year concession for the Queen Alia Airport in Jordan was awarded to the Airport International Group in part because the consortium offered a 54.5% concession fee of revenues over the life of the concession. The concession is generally regarded as a success with the opening of a new terminal, upgrades to improvement in existing airport facilities, were upgraded, and an expanded capacity its ability to handle the growing demand. However, the

relatively-high level of concession fee results in higher levels of charges to customers and consumers.

Source: Public-Private Partnership Stories, IFC; GMR wins bid to develop airport at Mopa, Times of India

Focus on the concession fee as the bid evaluation parameter may disadvantage customers and consumers, and may provide enhanced incentives for concessionaires to meet profitability requirements through increasing charges, minimizing investments and/or operational and maintenance expenditure. Further, this may not be in governments' long-term interests. In particular, a lower concession fee may be partially or fully offset over time through additional government tax and other receipts associated with the direct and indirect economic value add of an airport.

Airport Design, Development and Construction

The decisions taken during Airport Design, Development and Construction lay the foundation for the effective operation of the airport. If appropriate capital investment decisions are not made, the repercussions can be felt for decades. Cost efficient and timely development of airport assets to meet demand and customer requirements, with the minimization of negative externalities on stakeholders, is key.

Limited mechanisms for collaboration to optimize capital plans and detailed design

Airport concessions typically provide limited or no ability for customers to formally engage with the concessionaire and share inputs on the infrastructure development plan or participate in optimization of capital plans during airport designing to balance capacity and demand.

Some governments have acknowledged the need for stakeholder engagement in preparation of development plans and have accordingly placed a requirement on concessionaires to consult with customers at a regular frequency. However, this is far from an industry norm and is a fundamental issue.

Inadequate provision for a long-term airport master plan and phasing strategy

Master planning of an airport needs to be viewed from a long-term perspective to maximize the ultimate capacity of the airport rather than just over the term of a concession. However, in airport concessions there are often inadequate provisions for a long-term airport master plan that reflects these needs, or a phasing plan to determine how capacity will be efficiently developed as demand grows incrementally. Instead, concessionaires typically view the airport asset only from the perspective of their concession term and as a result only master plan infrastructure to the expiry of the term. This has created issues with short-sighted airport master-planning, can undermine the future capacity or development potential of the airport, and lead to gaps in the long-term strategic planning required to optimize and expand national aviation industries. Further, upon concession completion, this can also lead to a potential requirement of asset demolition and recreation by a new concessionaire or the government.

Case Study: Quito International Airport

In February 2013, the new Quito International Airport was completed at a cost of USD $750 million and it replaced the incumbent airport. Within 10 months of its initial operationalization date, in October 2013, the airport underwent its Phase 2A expansion which included the addition of a new area and passenger bridges. In 2017, the airport initiated a new phase of expansion and improvement work which comprised of four expansion and five improvement projects at a cost of $60 million and $30 million respectively. The improvement works primarily comprised of re-modelling and re-configuring of the existing infrastructure which points towards an inadequate provision for the ultimate capacity of the airport in the original master plans.

Source: IATA Analysis, Corporación Quiport Announces Its Expansion And Improvement Plan For The Quito Airport - 2017-2020, Corporacion Quiport; Mariscal Sucre International Airport Expansion and Improvement Quito, Airport Technology

Overly-rigid construction schedules and plans

In certain concessions, there have been issues associated with fixed capital investment requirements, which are not aligned with clear master plan phases, linked to demand, appropriately timed or flexible enough to change according to market circumstances in the early stages of a concession.

Case Study: Rome Fiumicino International Airport

In 2013, Aeroporti di Roma ("ADR") and Ente Nazionale per 'Aviazione Civile ("ENAC") the Italian Civil Aviation Authority signed an amended concession agreement, also known as the Economics Regulation Agreement ("ERA"). The agreement was updated with the aim of implementing ADR's 12 Billion Euro long-term investment plan.

These investments were pre-determined in the ERA and, despite lower traffic growth than expected, the ADR were required to proceed with planned investments as they were contractually obligated in the concession agreement.

Source: IATA; ADR's New Concession Agreement, ERA to Come into Effect and 2012 Traffic Performance, GEMINA

Such conditions place unnecessary obligations or restrictions on concessionaires to build an asset irrespective of the demand. This has resulted in inefficient asset creation, infrastructure that is not cost-efficient, and ultimately higher tariffs and charges than required at airports.

Over-investments undermining cost-efficiency

Certain regulatory regimes determine tariffs based on the level of investments at the airport. This incentivizes airport operators to undertake higher levels of capital investment than required ("gold-plating") to maximize profit. It may also not incentivize efficiency in delivering capital projects.

Both these factors may undermine the cost efficiency of airport infrastructure. Governments in many instances have not been able to effectively regulate such investment, resulting in higher tariffs and charges for customers and consumers.

Case Study: Indira Gandhi International Airport ("IGIA")

In 2006, GMR Infrastructure Limited won the contract to operate, manage and develop IGIA in New Delhi, India. This involved the construction of the third terminal and a new runway as well as other rehabilitation and improvement projects.

While the estimated project cost for building Terminal 3 was Indian Rupees ("INR") 89.75 billion, the final project cost was estimated to be INR 127.00 billion. As a result, customers and consumers ultimately paid for this increase in costs through a pre-funding levy (termed as "Airport Development Fee") and other tariffs as determined by the economic regulator.

Source: Operation, Management and Development Agreement Delhi, Ministry of Civil Aviation

Airport Operations and Management

Inefficiency or issues in operations can adversely impact the airport ecosystem and, given the complex nature of airport and airline operations, it is imperative that all stakeholders work collaboratively. However, in many instances, concession agreements do not mandate or incentivize concessionaires to be transparent or to adopt a collaborative decision-making framework for key operational decisions that impact customers and consumers.

Limited collaborative decision-making

Concession agreements frequently do not fully define forums or mechanisms to invite inputs from stakeholders during the ongoing management of a concession. This negatively impacts both customers and consumers, but also concessionaires because they may not have visibility on key issues or concerns that could impact their decision-making and improve the operational and financial performance of the airport.

Limited information sharing provisions

Often in airport concessions, there are provisions mandated in a concession regarding the sharing of information between only government and the concessionaire, without a mechanism or tripartite agreement for sharing beneficial operational and strategic information with other stakeholders.

This lack of transparency results in various issues including inefficient operations and undermines the ability of airlines to work with airports to improve passenger experience.

Case Study: Chhatrapati Shivaji International Airport

For CSIA, the concession agreement only mandates for information to be shared with government but there are no requirements or mechanisms for sharing of key

information such as the annual maintenance program or KPI reporting with airlines.

Source: Operation, Management and Development Agreement Mumbai, Ministry of Civil Aviation

This lack of transparency may result in various issues such as inefficient operations and undermine the ability of airlines to work with airports to improve passenger experience.

Limited positive incentivization for innovation

Technology-driven disruption is altering the aviation landscape at a rapid pace. The inclusion of emerging technology in airport operations can bring in large improvements in efficiency at the airport, improving operational and financial performance, and in many instances offsetting or delaying the need for new capital investment to meet capacity expansion requirements.

However, concession contracts often do not provide incentivization mechanisms to adopt innovative solutions, particularly where the adoption of new solutions requires collaboration across stakeholders or where the benefits accrue unevenly to different stakeholders. The absence of such mechanisms means that concessionaires often see limited returns from implementing innovative solutions because they are unable to quantify and ultimately capture the benefit that would be generated, and demonstrate appropriate return on investment.

Case Study: Santiago International Airport

At SCL in Chile, a new concession agreement was signed for a period of 20 years. The bid evaluation parameter was a share of gross revenues with government, the winning Concessionaire bid to share 77.56% of gross revenue.

The concession requires one Common-Use Terminal Equipment ("CUTE") computer to be provided at every gate. Whilst it has been advocated by airlines that increasing this provision would greatly accelerate passenger processing and there is a clear business case to do this, there is no mechanism to share the cost and benefit generated from the investment removing any incentive for the operator to provide additional equipment.

Source: IATA Analysis

No refinancing gain mechanisms

Frequently, concession contracts do not specify gain sharing mechanisms to customers and consumers for refinancing benefits.

Under certain economic regulatory frameworks, the cost of capital is incorporated as part of determining airport tariffs, there are many concessions where tariffs are fixed. Accordingly, where the cost of capital decreases or a concessionaire is able to realize a refinancing gain through refinancing its outstanding debt financing package, this is not shared with customers and consumers.

This deviates from ICAO's cost-relatedness principle, resulting in customers and consumers paying higher charges than implied by the prevailing rate of capital finance.

Case Study: Sofia International Airport

The proposed concession agreement for Sofia International Airport in Bulgaria allows the concessionaire to refinance its debt, with any re-financing gains being shared equally between the government and the concessionaire. There is no specific provision for gains to be shared with customers and consumers.

Source: Ministry of Transport, Information Technology and Communications Website

Overly rigid SLAs and performance specifications

Given the rapidly changing dynamics of the aviation sector, there is an inherent need for KPIs or SLAs to be flexible to maintain their effectiveness. Concessions frequently suffer from limited flexibility and a lack of provisions to allow for the relevant stakeholders including government or asset owners, concessionaires and customers to enter into negotiations to amend service levels based on the changing needs of the industry and customers.

This may result in concessionaires providing outdated and even unnecessary service quality, particularly where there has been limited consultation with customers prior to development of the concession contract. Further, over the course of a long-term concession these inflexible KPI's or SLA's can result in inefficient operations and poor passenger experience.

Case Study: Kempegowda International Airport, Bangalore ("BLR")

The concession agreement for BLR prescribes the performance specifications for the airport for the complete duration of the concession and does not provide any flexibility to update the performance specifications based on the contemporary industry requirements.

Source: Concession Agreement for Development, Construction, Operations and Maintenance Agreement for Bangalore International Airport, http://civilaviation.gov.in/sites/default/files/moca_000743.pdf

Limited provision for Environmental, Social and Governance ("ESG") factors

The aviation industry impacts the communities it serves. It generates significant positive externalities and socio-economic outcomes, but it also needs to be recognized that there are negative externalities and risks to be managed and mitigated.

Whilst the profile of corporate social responsibility initiatives and international cooperation on ESG initiatives has grown in recent decades, airport concession agreements often provide only basic provisions for ESG factors. These factors impact all members of the airport ecosystem. Concession contracts need to better consider the environmental and social factors of an airport, and the required engagement with customers and communities to mitigate these.

A holistic focus on the impact of airports on communities can help safeguard the long-term success of the aviation industry.

Pricing of Airport Services

Pricing decisions are of primary concern to all stakeholders, as they impact financial returns and affordability for airline customers and consumers, and adequate protections are required to prevent abuse of market power. However, frequently pricing decisions have not been taken in a consultative manner or based on ICAO's principles.

Limited rationale for aeronautical charges

In a number of examples, there is limited supporting rationale for aeronautical charges, or there are excessive or pre-determined escalations in charges, out of step with ICAO's guidance on cost-relatedness.

Conversely, whilst an unjustified setting or escalation of tariffs negatively impacts customers and consumers, arbitrary tariffs that are not cost-related can also have an adverse impact on the profitability of concessionaires.

Pre-determined levels of aeronautical charges are also unsuitable in long-term contracts due to a lack of flexibility. Over time, fixed charges have the potential to deviate from the principles of cost-relatedness – a risk factor which may adversely impact concessionaires or customers and consumers.

Additionally, pre-determined charges without mechanisms in place to capture benefits associated with efficiencies realized by the concessionaire, with or without collaboration with other stakeholders, mean that there is no reduction in charges to reflect efficiency gains.

Excess profits on non-regulated aviation charges

The same is true for above-expected growth in non-aeronautical revenues, which could result in super-profits for concessionaires whilst aeronautical charge levels remain fixed.

Unregulated charges on ancillary aviation services such as ground handling and fuel throughput can lead to excessive charges for essential services.

In some instances, the absence of a defined regulatory framework for select ancillary services such as ground handling has led to excess profits on these services.

Pre-funding of airport investments

Pre-funding of airport investments through user charges prior to the creation of the asset means customers and consumers bear the financial burden without access to the asset. There is no guarantee that the customers or consumers that are paying higher charges now will also utilize the infrastructure that is created in the future, creating issues of equity and fairness.

Pre-funding of airport investments through charges should be the last resort for financing under a Balanced Concession model and should not be promoted by government given the negative and unequal impact on customers and consumers.

Case Study: New Quito International Airport

The Concession Agreement for Quito International Airport was granted to the concessionaire, Corporación Quiport S.A., for 35 years for the operation, administration, maintenance and improvement of the airport service for the city of Quito, from 2006 to 2041. The concession included the ability to operate and maintain the old Quito Airport and to develop, construct, operate and maintain the New Quito International Airport. Quiport using the cash generated at the old Quito Airport to finance the construction of the new airport.

Source: Quiport Website; Laudo de Avaliação - Curaçao, Quito and San José Airports, UBS

Constraints placed on effectiveness of regulation

In some cases, concession contracts are awarded in advance of or in the absence of an effective economic regulatory function.

A concession contract with pre-determined charges may undermine the role of an economic regulator, particularly where legal and constitutional provisions to implement regulation are required after a concession contract has been awarded. This may undermine the effectiveness of economic regulation, to the detriment of customers, consumers and communities. The level of competition in the sector makes the economic regulatory framework critical for ensuring that airport operators do not abuse their market power.

Case Study: Aeroportos de Portugal ("ANA") Concession

In 2013, Vinci paid 3.08 billion Euros for the 50 year concession of 10 airports in Portugal. The level of charges are pre-specified in the concession contract assuming a rolling price cap formula until 2022, with provisions allowing for an extension until the end of the concession. Until 2016, charges were computed assuming a pre-tax WACC of 12%, which was higher than comparable airports. For the period of 2016-22, while the WACC considered was 8.3%, although charges were not reduced. According to Airlines for Europe ("A4E"), charges could have been reduced by 20% in 2017 or 8% per year until 2022.

Although airlines may appeal the ANA charges decision, given the restriction in the concession contract the regulator cannot intervene if the setting of charges has followed the formula set out in the concession contract. Airlines and airline associations have filed appeals against the level of charges in 2013, 2015 and 2016; in all cases the appeal was rejected by the regulator on the basis the charges were consistent with the formula in the concession contract.

However, the regulator has been able to exert some influence over the level of charges; in 2016 it revised the methodology for calculating ANA's WACC, although this did not result in a reduction in the level of charges.

Source. Support Study to the Ex-post Evaluation of Directive 2009/12/EC on Airport Charges, European Commission

Changes in the regulatory till

There are many examples where the concession process has resulted in a change to the regulatory till in order to maximize attractiveness to concessionaires and financial returns to government, adversely impacting customers and consumers. Moving from a single till regulatory philosophy, where all revenues are taken into account when setting aeronautical charges, to a dual till philosophy, where only the aeronautical revenues are considered, can affect the quantum of aeronautical charges and impact airline customers and consumers. Consequently, in dual till, a significant increase in non-aeronautical revenues can potentially result in super-normal profit for the concessionaire.

Case Study: Nice International Airport

In 2016, Azzurra, a consortium formed by Atlantia (65%), ADR (10%), and EDF Invest (25%) won the 28-year concession to Nice / Côte d'Azur Airport. Azzurra's winning bid of 1.22 billion Euros was to buy the 60% of shares held by the state in Aéroports de la Côte d'Azur, the company which operates the Nice International Airport and the airports at Cannes-Mandelieu and Saint-Tropez. Concurrent to and following the bid process, a new dual till economic regulatory philosophy was introduced for Nice International Airport. This will result in a transition from a single till price cap based philosophy to a dual till over the course of 10 years.

Source: Investor Briefing October 2016, Atlantia; Privatization of Lyon and Nice airports to help public finances, Le Monde; Case Study: France, ICAO

Ongoing Capacity Augmentation

Airports are fixed infrastructure assets which have to cater to growing air traffic. While all infrastructure sectors have constraints on capacity growth, airport infrastructure is particularly complex given a range of factors – including the fixed location of airport infrastructure, need for proximity to urban areas, and changes in technology. Further, capacity growth at an airport cannot be planned independently of the growth plans of airlines operating from the airport or in the region (both national and international). However, there are a number of critical issues that exist in the planning and delivery of new capacity in airport concessions.

Limited penalties for under-investment and incentives to delay investment

There are frequently limited mechanisms in concession agreements to penalize under-investment in airport infrastructure, creating an incentive for concessionaires to delay investments as long as possible.

Underinvestment adversely impacts service quality and efficiency of operations, traffic growth, and can impact customers and consumers significantly, as well as reduce the value of the airport over time and prior to its hand-back to government at the end of the concession term.

Case Study: Santiago International Airport

The concessionaire pre-2016 was contracted to perform an initial large investment; however, there were no provisions in the concession agreement to make further significant capacity investments during the contracted period. As such, the needed investments were not made, and according to Chile's public works ministry ("MOP") the airport handled more than 15 million passengers in 2013, causing significant capacity constraints.

Chile's MOP awarded a new 20-year concession in 2016 to Nuevo Pudahuel consortium, which includes a required investment of c. USD 700 million in expanding the terminal to increase the capacity to 30 million passengers.

Source: IATA Analysis; Chile's Santiago Airport gets new Concessionaire, BN America

Overly-rigid capital investment plans and poorly defined capital investment triggers

Many concession contracts do not include appropriate flexibility in capital investment triggers, or have fixed capital investment plans that are mandatory for the concessionaire.

This is not suitable for either the concessionaire or customers and consumers for a number of reasons. As identified above, predetermined, fixed and overly rigid capital investment plans do not satisfy the demand for the right infrastructure at the right price and time. Further, in many instances operational efficiency and technological improvements can offset the need for new capital investment.

Case Study: Sofia International Airport

At Sofia International Airport in Bulgaria, the proposed concession agreement requires the concessionaire to commit to construct a new "low-cost" Terminal 1 (with a capacity of 3 million passengers a year), within the first 10 years of the concession. However, the concession does not justify the length of the development process for the terminal; if the expansion is an immediate need it should be undertaken when required, however if it is a future potential requirement this fixed capacity requirement may need to be higher or lower at the point of need.

Source: IATA Analysis; Ministry of Transport, Information Technology and Communications Website

Fixed and overly-rigid capital investment plans place unnecessary restrictions on concessionaire which results in issues of over-investment or under-investment, undermining the efficiency of airport operations and inappropriate charge or service levels.

Lack of consultation and governance process for capital expansion

Concession agreements often do not appropriately capture the integral role that customers should play in the ongoing capacity augmentation in an airport.

Airlines are the backbone of the airport, serving as the principal user of the infrastructure. This gives them an inherent advantage when evaluating what capacity augmentation decisions should be taken or prioritized.

By fostering an open dialogue and formally mandating a consultation with the customers of an airport, the concessionaire will benefit from the creation of an asset that effectively meets the needs of the larger airport ecosystem. Further, in many instances improved operational efficiency can offset the need for new capital expenditure.

Case Study: Greece Regional Airports

The concession agreement for 14 Greek regional airports mandates only the Asset Owner and Concessionaire agree upon the master plans and the capacity expansion timelines and trigger events. There is no role for the Customers to evaluate or provide their inputs on the appropriateness of the master plans or the triggers defined.

Source: Source: Concession Agreement for Regional Airports, Official Gazette Greece

Limited incentive for late-life capital expenditure ("CAPEX")

Towards the end of a concession contract, concessionaires often have limited incentive to continue investing into the asset. Without specific mechanisms within the concession contract in place to ensure this incentive, concessionaires will not invest in long-lived capital assets that may provide capacity over many decades but they will only enjoy the use and returns over a relatively short period at the end of the contract. A cause of this issue is that the concessionaire will view the airport asset as depreciating to zero value at the expiration of its contract, whereas the airport will have a considerable useful life beyond this. This means that, depending on the charge of control, concessionaires will either be dis-incentivized to make investments or alternatively recover their investment from customers through increased charges over a shorter period than the useful life of the asset.

Termination and Transition

In airport concessions, the termination and transition provisions at the end of the concession period are typically under-detailed in terms of the framework or mechanisms that will enable a smooth handover.

Limited dispute resolution processes

It is often the case that dispute resolution processes are not sufficiently detailed or multi-layered, leading to disputes which rapidly escalate to legal issues rather than being addressed through improved relationship management.

Limited provisions for smooth termination and transition

In the event of termination, concessions often provide for a compulsory buy-out by the government authority. Key considerations include the event of default, obligations and rights of each party, termination procedure and payments and compensation, and claim on assets.

Contracts also need to specify the transition arrangements when a new operator takes over. Issues arise when a smooth transition requirement is not appropriately addressed on contract termination or expiry, which can manifest in passing on risks of business interruption to customers and consumers.

Conclusions

Airport concessions frequently suffer from a wide range of issues across the concession lifecycle.

These issues have negatively impacted customers, consumers and communities. However, in many cases they have also negatively impacted government and concessionaires.

This suggests that improved approaches to developing and delivering airport concessions can lead to improved outcomes for all stakeholders. These opportunities are at the core of the Balanced Concession.

Lessons Learned from other Sectors

As identified in Airport Ownership and Regulation, there is a long history of the involvement of private sector finance, capability and expertise in the development, delivery and operation of public infrastructure. However, as has been the case in the airport industry, PPP and concession models have emerged as an increasingly common tool globally across a range of sectors in recent decades. These include public utilities, railways, roads, ports, power, and in social infrastructure, such as healthcare and education.

Similar to concessions in the airport industry, in a number of these sectors these models have played a pivotal role in developing new infrastructure, bringing efficiency in operations and adoption of new technologies.

The objectives for and outcomes from adopting these models have varied by sector. For example, in the roads sector in India in the early-2000s government sought to overcome delivery and capital funding constraints; this has been a contributing factor in increasing the pace of roads construction from two kilometers ("km") per day in 2000 to 28 km per day in 2018 [5]. In the power sector, technological innovations brought by the private sector has helped to address issues of transmission and distribution losses, reducing charges to consumers. Additionally, objectives of government authorities typically evolve over time as requirements and markets mature, for example transitioning from a focus on access to private capital for new infrastructure to efficiency in operations for established infrastructure.

Drawing Lessons for the Airport Sector

Concessions across infrastructure sectors have faced many similar issues to those experienced in airport concessions, and have a similar lifecycle including concession structuring and planning, designing of the facility, development and construction, operations and maintenance, transition and handover. Similar to the airport sector, there may be competing requirements between stakeholders including government, concessionaires, customers, consumers and communities. Facilities planning in all sectors needs to consider user requirements for effective facilities, whilst concessionaires and government (who may be the customers) are incentivized to maximize their financial benefits.

Many of the issues identified in airport concessions are responded to in other sectors in a number of different ways with innovations in concession contracts. There is therefore significant value in learning lessons from other sectors to inform the structuring of a Balanced Concession.

However, it should also be recognized that infrastructure projects in different sectors are not homogenous; there are many unique factors in respect of scale, technology, service requirements, and risk and return characteristics, to name only a few dimensions. Many sectors face similar characteristics of demand risk and capital intensity, but few compare directly to airports in terms of the separation of customers (i.e. airlines) from asset providers (i.e. airports), which gives rise to potential agency problems, as well as being consumer-facing and in the public eye.

These and other factors make the airport sector relatively unique, including the high levels of safety and security requirements, and the diverse and rapidly changing service requirements of customers and consumers. The ongoing need for capacity augmentation is also very different to other sectors. Typically, power concessions do not incorporate the need for capacity augmentation (a new power plant would be built instead since location is not by necessity co-located with existing capacity). In road and highway concessions capacity augmentation would be less complex as it would only involve vertical expansion (for instance, expansion of a four-lane to a six-lane highway). In the case of airport projects, capacity augmentation is far more complex and needs to consider and address various issues such as new operational technology, ever evolving safety and security requirements, and customer and consumer expectations.

Balanced Concession Solutions in other Sectors

Whilst no two PPP or concession requirements are the same and there is no "one size fits all" solution, there are areas of consistent issues and failures within contracts across the concession life cycle. To address these concerns, government authorities across regions have attempted to implement a range of innovative contracting solutions.

Further, government authorities have increasingly recognized the benefits of incorporating customers, consumers and communities in the development of concession agreements, rather than simply focusing on the relationship between government as the asset owner and the concessionaire. Understanding and appropriately addressing the objectives of different stakeholders has helped to ensure the successful delivery of infrastructure assets and services within concession models.

[5] Road construction up from 2km/day to 28km/day since BJP govt took over, News Corp VC Circle

Case Study: Bolivia Cochabamba's Failed Water Concession

In Bolivia in an early water concession in 2000, Cochabamba Concession awarded to Aguas del Tunari ("AdT") resulted in extensive civil protests after the signing of the concession agreement that eventually led to the government cancelling the contract. A range of factors contributed to the failure of the agreement, including a decision that required the operator to build an expensive dam, to be financed through increases in tariffs. A later study suggested that consumers were only informed of key features after the signing of the concession and stakeholder buy-in was not conducted prior to the concession award.

Lessons such as this have suggested that a "bottom-up" approach with extensive and transparent consultation is important at the outset of structuring a concession.

Source: Cochabamba Concession in Bolivia, Bulletin of Latin American Research

Deep Dive: Road Toll Variable Concession Length Mechanism

LPVR was an auction mechanism proposed by Engel, Fischer and Galetovic in 1998, which has been used as an effective mechanism to mitigate traffic risk from uncertain demand in road PPP projects.

Unlike a fixed-term auction, under the LPVR mechanism a concession is awarded to the bidder with the least present value of revenue from tolls that will be collected by the concessionaire. The length of the concession is linked to the present value of toll revenues, and the contract ends once the specified present value of tolls is collected; if traffic volumes are higher than estimated the contract finishes earlier, or if it is lower it is extended.

Additionally, if government want to buy back the concession the payment can be easily defined by the residual value of LPVR.

Source: Least Present Value of Revenues, PPP Infrastructure.com

The section below details some best practices adopted by government authorities in delivering concessions in a range of sectors. These best practices and how they have generated benefits are assessed. There are a number of opportunities to learn from these best practices in developing solutions for a Balanced Concession in the airport sector.

Determining the Length of a Concession

Determining the length of a concession is a common challenge across sectors. Whilst a large number of factors determine the appropriate length, which are explored in the section on "Determinants Of Concession Length" on page 46, general guidance from the World Bank's PPP Legal Resource Center suggests that typically a PPP concession length of 25 to 30 years is long enough to sufficiently fully amortize major initial investments [6].

However, in many instances detailed analysis is used to determine the optimal concession length. There are also examples of mechanisms which have been used to adjust the length of the concession during its life, as in the use of the Lease Present Value of Revenues ("LPVR") mechanism for road toll concessions.

Whilst such mechanisms have proven an effective risk mitigation for traffic risk in the roads sector, the complexity of airport operations and revenue streams mean they would be more complex to structure in the airport sector. However, they do provide insight into more flexible mechanisms that can be used to appropriately share risk through concession length than is often the case in airport concessions.

Concessionaire Selection Mechanisms

Another innovation observed in other sectors is defining the concessionaire selection criteria, with mechanisms being used to award concession contracts addressing issues such as affordability to customers and consumers rather than the highest concession fee. For example, in the power sector contracts are frequently awarded on the basis of reverse bidding, whereby the developers bidding the lowest tariff they would charge is awarded the contract. Other sectors have seen high levels of emphasis being placed on quality as compared to price or cost-based factors, particularly for strategically significant projects.

[6] Concessions, Build-Operate-Transfer (BOT) and Design-Build-Operate (DBO) Projects, World Bank

Case Study: Dhaka–Chittagong Expressway Project in Bangladesh

The Dhaka–Chittagong Expressway PPP Project in Bangladesh adopted the quality and cost-based selection ("QCBS") method to award the concession contract. The RFP selection criteria had a quality to cost ratio of 90%:10%. Higher weighting was given to quality or technical experience, as the project was considered of strategic significance for the country, connecting Chittagong port to Dhaka. The QCBS method of bidder selection provides a balanced mix of technical evaluation and price evaluation.

Source: People's Republic of Bangladesh: Dhaka – Chittagong Expressway PPP Design, Asian Development Bank

Outcome-Based Performance Mechanisms

In some other sectors, including delivery of complex government services, there has been a move away from defining contractual KPIs in terms of outputs towards outcome-based performance measures. This can facilitate a more appropriate transfer of risk from government to the private sector partner, as well as providing direct incentives to achieve the outcomes that matter rather than outputs that may need to change over time as industry standards evolve.

Case Study: Department of Health, State of Western Australia

The Department of Health for the State of Western Australia has developed outcome-based management KPIs for PPP projects, which include the methodology for their calculation, measurement and recording. These focus on the desired health outcomes, including a focus on effectiveness, continuity and sustainability of healthcare services, rather than only outputs (for example, facility availability).

Output KPIs contributing towards these outcomes are also measured, including waiting time, response time, in addition to outcome-based measures. The KPIs also focus on incentivizing cost and management efficiencies for the concessionaire.

Source: 2017/18 Outcome Based Management Key Performance Indicator Data Definition Manual, Government of Western Australia

It is easy to see how more advanced contracting models like these could be applied to the airport sector given the complexity and rapidly changing pace of operations and customer and consumer requirements.

Transparency and Information Sharing

Transparency and information sharing between government, concessionaire and, in some sectors, customers and consumers can be critical to successful concessions.

Recognizing this importance, government authorities have adopted mechanisms within concessions in some sectors to allow seamless information sharing between key stakeholders.

For example, in the power sector, depending on how the sector is structured by country, there may be a high degree of interdependency between stakeholders. These span the supply chain from generation through to transmission, distribution and retail supply. Across this value chain there are a range of commercial models frequently applied, including concessions in generation and transmission and distribution.

The interdependence of these companies means real time sharing is required to manage services, for example in terms of the level of current injected in the circuit, voltage control, power demand and usage. Grid balancing requires rapid data-driven decisions to be made which are required by the minute or even second.

In some markets, for example India, companies across the supply chain may enter into tripartite agreements that set out the scope and process of information flow and overall cooperation and coordination mechanisms in their operations [7].

Refinancing Gain Shares

Concessionaires often refinance their debts to reduce their financing costs, particularly where capital markets have moved favorably since the financing of the concession meaning the benefits of refinancing outweigh the costs of doing so.

Case Study: UK PPP Project Guidance

In the United Kingdom ("UK") PPP projects have historically followed the UK Office of Government Commerce's guidance note for sharing refinancing gains. This includes guidance for drafting of the PPP

[7] Model Power Purchase Agreement, Uttarakhand Power Corporation Limited

contract to include provisions and measurement methodologies for calculating the expected refinancing gain and determining the proportion of the gain that should be allocated to each party. These include bands such that the government's share of gains increases based on the scale of the refinancing gain.

Source: The Enec PPP Guide, EPEC PPP Guide

In early PPP models typically concessionaires or PPP partners would be the beneficiaries of such gains. However, as PPP models have matured, in certain sectors and countries government authorities have developed mechanisms to ensure refinancing gains are shared between different stakeholders.

Refinancing mechanisms that allow for benefits to be passed to customers and consumers to ICAO's principles of cost-relatedness, whereby the updated cost of debt finance is reflected in charges.

Cost-Relatedness of Charges

Pricing of services for customers and consumers has been a concern in concessions across sectors. Similar to airport projects, government authorities have focused on tariff setting with a range of alternative mechanisms for price determination or price regulation.

Case Study: Latvia Power Concessions

Power concessions in Latvia allow for the benefits arising out of such refinancing to be shared not only amongst the concessionaire and the government, but also with the consumers in the form of reduced tariffs.

Additionally, as is the case in economic regulation in many power markets globally, the tariff calculation methodology for the electricity transmission services incorporates the weighted average cost of capital, which includes the effect of cost of debt. Any reduction in the financing costs is reflected in the revised tariff rates allowing the benefits to be realized by the consumers and customers as well.

Source: Tariff Calculation Methodology for Electricity Transmission System Services, Public Utilities Commission Latvia

Cost-relatedness has therefore been a principle adopted broadly in the power sector in particular, similarly to ICAO's guidance for the airport sector.

Capital Investment

Similar to the airport sector, incentivization for ongoing capital investment particularly in the later years of concessions has been a consistent issue across sectors. A number of mechanisms have been used to try and address these in concession contracts.

Case Study: Manila Water Concession Agreements

In Manila, water concession agreements include incentivization for concessionaires to continue making capital investments even towards the end of the concession period.

An 'Expiration Payment' is included in the contract. This would be calculated as the net present value of the remaining unamortized asset, at the end of concession period which the government would pay this to the concessionaire.

These options provide certainty to the concessionaire around recovery of investments made towards the end of the concession life, incentivizing the concessionaires to continue capital investments up to the end of the concession.

Source: The Manila Water Concession, The World Bank

It is also recognized that flexibility in capital investment plans can generate benefits for all stakeholders, particularly recognizing the time between project concept design at bid stage and construction. In the roads sector in India, subject to approval from government, the concessionaire is able to flex the capital investment plan to a maximum of 10% of the planned capital value [8].

Provisions for Termination and Transition

As described earlier, transition of operations can have a significant impact on customers and consumers as well as asset owners and concessionaires. It is observable across a number of sectors that provisions relating to termination and transition in concession contracts are not sufficiently robust. Detailed guidelines or protocols for handback are often not sufficiently covered as part of the concession agreement.

[8] Concession Agreement - Navayuga Quazigund Expressway, National Highway Authority of India

However, best practice in concession contracts includes a clear definition of the transition process to safeguard the end of the transition period, and ensure the operational complexities that arise do not negatively impact customers and consumers.

Case Study: Tanzania Geothermal Power Generation Concessions

In Tanzania's concessions for geothermal energy generation, the concession agreement defines the process for transition in detail.

This includes defining the transferring of duties, permits, and rights to the asset upon termination. The agreement also clearly defines the details of settlement procedures including payment of all dues and liabilities, inaction, and other events occurring before the termination date.

Source: Tanzania, World Bank Group

Conclusions

Concessions in many sectors have suffered from similar issues and challenges to those seen in the airport sector. These have elicited a range of responses within concession contracts; many of these best practices should be included within a Balanced Concession.

However, recognizing the unique nature of the airport industry, further detailed solutions required to reflect on these lessons and provide guidance which is relevant and actionable. This is set out in the following guidance.

Key Takeaways

- Within airport concessions there are a range of models that can be used dependent on airport requirements and government strategic objectives. In structuring an airport concession, the scope and commercial arrangements are complex and have a material impact on all stakeholders, not only government and the concessionaire.
- This creates issues across the lifecycle of airport concessions which are often developed between government and prospective concessionaires, with limited inputs from other stakeholders.
- Key issues include inflexible and unjustified fixed charges, predetermined investment plans, high concession payments, and limited involvement of wider stakeholders in airport planning.
- Lessons drawn from other sectors provide insight on how some of these issues can be addressed and the benefits these can have, not only for customers, consumers and communities, but also for government and concessionaires.

Solutions for a Balanced Concession

Governments are recommended to adopt a Balanced Concession approach focused on aligning stakeholder interests and delivering win-win outcomes for all. Solutions are identified to address key issues across the concession lifecycle and safeguard public value from airport concessions.

When selecting an airport concessionaire, a balanced scorecard approach is recommended which focuses on demonstrating value for money by optimizing the trade-off between bidders' financial and technical offers rather than the best financial offer alone.

Specific guidance for key concession features is also provided, including how to determine the length of a concession and key concession design features such as regular stakeholder consultation and CAPEX triggers.

Guidance to Deliver a Balanced Concession

The recommendations in IATA's June 2018 *Airport Ownership and Regulation* guidance manual remain highly-relevant for the Balanced Concession, and it is recommended to be read in parallel. However, this Booklet goes further, providing practical guidance and tools to help government answer the key questions in airport concession structuring where there is significant public value at risk.

There is no "one size fits all" solution, with concession requirements and local market conditions varying significantly. The optimal concession design needs to be developed with key stakeholders, including detailed and robust market soundings with potential private sector concessionaires, to maximize the value of the concession to the national aviation ecosystem and broader economy.

The following analysis draws on best practice case studies in airport concessions, lessons learned from other infrastructure sectors, and the identification of new innovations and commercial mechanisms that could be considered to align stakeholder interests and deliver "win-win" outcomes for all.

Balanced Concession Solutions Across Concession Lifecycle

Across the concession lifecycle, there are a range of solutions which can be adopted that align to the guiding principles of the Balanced Concession and its focus on creating virtuous cycles and benefiting multiple stakeholders. A brief summary of the solutions that comprise a Balanced Concession is included here and summarized in Appendix 3 ("Issues and Solutions Across Concession Lifecycle") on page 68, which maps identified issues and their impact to Balanced Concession solutions.

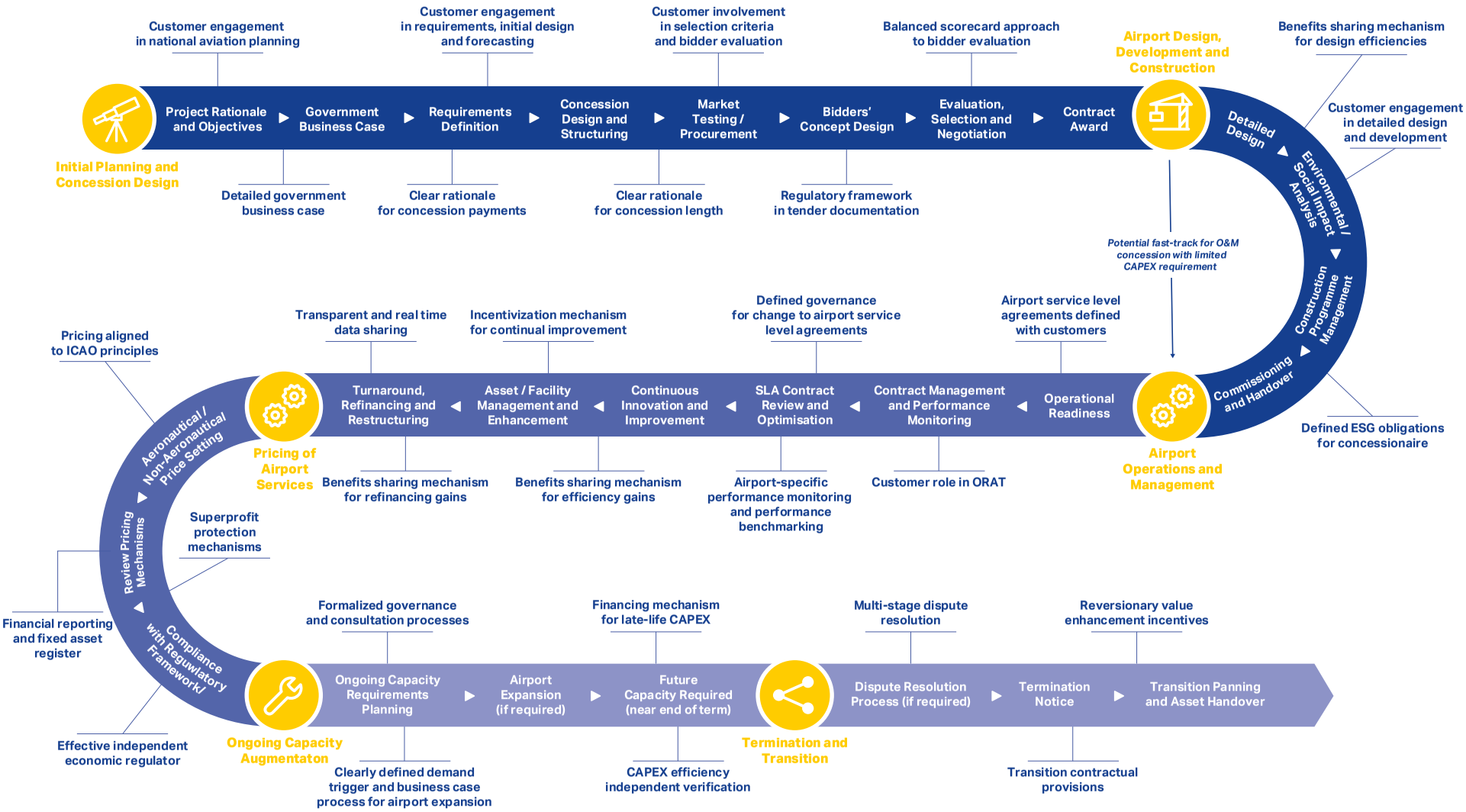
Figure 8 ("Summary of Balanced Concession Solutions Across Concession Lifecycle") below provides a summary of these solutions, across an airport concession's lifecycle. As identified previously, this diagram is illustrative only and a number of activities may happen in parallel.

Whilst there are important issues to be addressed across the concession lifecycle, the most critical junctures in the delivery of an effective concession and where most value is at risk to all project participants is in the early stages prior to and at the start of a concession, and in the late stages prior to termination and transition. This is expected given the key commercial activity, as well as construction and development, takes place in these stages. Both the commercial arrangements in the concession contract and the capital development are long-lived and may impact outcomes over several decades; sufficient expertise and resource to "get it right" at the outset of a concession is a must-have. This is a common point of failure by governments who may under estimate the complexity of the undertaking, rush the process, seek to do it with insufficient professional advice or consultation with customers, or a combination of the above.

Given this, there are also a number of particularly critical areas where case studies and experience show significant value is at risk, many of which span across the concession lifecycle and require specific technical guidance. Detailed Balanced Concession guidance for the following critical areas are also explored in further detail in the following sections:

- Selection of Airport Concessionaires
- Determinants of Concession Length
- Concession Payments and Charges
- Super-Profit Protection
- Consultation Processes
- Capital Planning and Execution
- Continual Improvement and Airport Service Quality

Figure 8: Summary of Balanced Concession Solutions Across Concession Lifecycle



Initial Planning and Concession Design

In the early stages of government's strategic decision-making, **customer engagement in national aviation planning** is recommended. This can help validate whether greenfield infrastructure is aligned to customer and consumer requirements. **Customer engagement in requirements setting, initial design and forecasting** can help improve the robustness of any concession and, where new infrastructure is required, the development of fit-for-purpose infrastructure.

A **detailed government business case** is a pre-requisite to determine the preferred ownership and operating model. *Airport Ownership and Regulation* included guidance for this as well as a "PSP Toolkit" with best practice reference documents to support its preparation, and guidance from multilateral agencies such as the World Bank on best practices in concession structuring [9]. The business case is a tool which can be used to provide evidence that justifies, quantifies and demonstrates value for money. Before progressing to a procurement process, the business case should robustly and transparently consider a number of key points that set the ground rules for the concession including, for example:

- Evidence of stakeholder involvement in project optioneering and solution development, and throughout the project development and business case process
- Identification of preferred solution through robust and evidence based appraisal process
- Planning conditions for the airport
- Economic regulatory framework and alignment to ICAO principles and the ICAO Building Block model
- Key commercial arrangements for the concession, for example a **clear rationale for concession payments and clear rationale for concession length**
- Performance management regime and service quality, for example considering operational requirements, airfield requirements, and demand triggers, with a focus on outcome KPIs to align concessionaire incentives to the requirements of customers and consumers
- Bidder selection criteria and evaluation methodology
- Design characteristics and preparation for the transaction or procurement process, including role of different stakeholders in procurement and at each stage of the process. This could include, for example, an expert panel comprising central and line ministries and agencies, regulators, IATA and other airline organizations, consumers and cargo stakeholders, which could determine the most appropriate bid evaluation criteria and support bidder evaluation

In the concessionaire procurement process, it is recommended to include the **regulatory framework in tender documentation** to provide clarity for all parties. **Customer involvement in selection criteria and bidder evaluation**, particularly in assessment of the concept design put forward by bidders, is another touch-point which can help ensure customers influence the infrastructure they are the primary users of. A **balanced scorecard approach to bidder evaluation** is also recommended to ensure an appropriate trade-off between financial and technical quality factors in concessionaire selection.

> **Case Study: Taiwan Taoyuan International Airport ("TTIA") Terminal 3 Bidder Evaluation**
>
> The tender panel for the contract award for Terminal 3 design included a number of experts from customer and community stakeholders.
>
> IATA participated to provide an independent, user perspective. As an independent representative of customers and a center of excellence in the industry, IATA is able to help in bidder evaluation to support the legitimacy of the process and to secure the best value for money from the procurement process.
>
> Source: IATA

Airport Design, Development and Construction

Customer engagement in detailed design and development provides significant value to concessionaires as well as government in right-sizing and refining the design to ensure cost-efficient infrastructure. Further, a formal **benefits sharing mechanism for design efficiencies** within the concession

[9] The World Bank publish a "concession checklist" for the airport industry which covers key required inclusions, at https://ppp.worldbank.org/public-private-partnership/ppp-overview/practical-tools/checklists-and-risk-matrices/airport-concession-checklist

contract could be used to incentivize all parties to work collaboratively to optimize design. **Defined ESG obligations for concessionaires** can provide a required level of protection for impacted communities.

Airport Operations and Management

In the transition to operations, ensuring the **customer role in Operational Readiness and Airport Transfer ("ORAT")** can help to safeguard a smooth transition and reduce the risks of delays or failures. Contractual mechanisms to encourage **transparent and real time data sharing** can help improve operational efficiency, including data requirements, process of data dissemination and frequency.

Airport service level agreements defined with customers provide mutual clarity and ensure the operation of the asset meets user requirements, whilst **defined governance for changes to airport service level agreements** recognizes that these requirements change over time given the pace of change in the industry and that the needs of customers and consumers can often be met in different ways. **Benefits sharing mechanism for efficiency gains** and **incentivization mechanisms for continual improvement** provide incentives where collaboration is required to improve performance, and the definition of the cost-benefit analysis or business case process for such change initiatives is recommended within the concession contract.

Airport-specific performance monitoring and performance benchmarking can help to ensure best practices are incorporated into airport management, but aligned to the specific requirements of an airport and local market expectations and circumstances. Defined regular engagement processes between concessionaire and airlines to review performance and charges may facilitate this.

Further, a **benefits sharing mechanism for refinancing gains** is recommended to ensure ICAO principles of cost-relatedness are adhered to on an ongoing basis.

Pricing of Airport Services

It is an overriding assumption of this Booklet that pricing for airport services should follow ICAO's key charging principles of non-discrimination, cost-relatedness, transparency and consultation with users. **Pricing aligned to ICAO principles** can help to ensure cost-relatedness, particularly as market required rates of return may change over time. The concession commercial arrangements should also consider the scope of aeronautical and non-aeronautical revenue and where, for example, revenue generated from real estate development facilitated by the airport may generate benefits for the airport ecosystem as a whole. Pre-determination of charges in concession agreements would not be compatible with ICAO's key charging principles when in the absence of appropriate review mechanisms.

An **effective independent economic regulator** is a key requirement for a Balanced Concession, permitting governments to reconcile the potential conflicts of interest inherent in its role as asset owner and its wider responsibilities to customers, consumers and communities [10]. Defining **financial reporting and fixed asset register** requirements in the concession contract can support this by providing visibility of the fixed asset base for the airport and mitigate any risk of a lack of clarity on the regulated asset base. **Super-profit protection mechanisms** within concession contracts can also be used to safeguard the interests of government, customers and consumers and mitigate the risk of abuse of market power through excess profits by an incumbent concessionaire.

Ongoing Capacity Augmentation

A **clearly defined demand trigger and business case process for airport expansion** and **formalized governance and consultation processes** can help to ensure planning of timely and cost-effective capital investments to provide required capacity, or identify alternative performance improvement initiatives without the need for capital investment. This can provide benefits for all stakeholders. CAPEX efficiency independent verification can provide assurance that capital investments are required and that they are delivered efficiently and in line with market benchmarks.

Incentivizing required capital investments towards the end of a concession contract is a common issue in concessions across sectors. Innovative **financing mechanisms for late-life CAPEX** can help to address this to the benefit of concessionaires, government, customers and consumers, for example through preventing recovery of investment over the remaining term of the concession rather than the useful life of the capital investment.

[10] IATA's position on Economic Regulation of Airports and Air Navigation Service Providers can be found at www.iata.org/policy/Documents/economic-regulation.pdf

Termination and Transition

Multi-stage dispute resolution processes embedded within concession contracts can address emerging issues between contracting parties and stakeholders before they result in costly or disruptive outcomes. Drawing on financing mechanisms for late-life CAPEX, **reversionary value enhancement incentives** can ensure investment requirements towards the end of the concession life are met, and **transition contractual provisions** can ensure a smooth handover of operations.

Critical Balanced Concession Solutions

Selection of Airport Concessionaires

Airport Ownership and Regulation incorporated guidance on an effective procurement process, including practical advice to deliver a tendering process successfully, pre-qualification of bidders, market engagement, and the design of the transaction process.

Further consideration is provided here on how this process should be initiated, the definition of the selection criteria and specific evaluation approaches to select a preferred concessionaire. The methodology to select an airport concessionaire is critical because of the long-term nature of the agreement. Competitive tension exists in the tendering process which will not exist in the same way during the concession life, driving an imperative to "get it right" at the outset by selecting the right concessionaire, as well as ensuring the right contractual mechanisms and protections are in place.

1. Pre-Consultation with Stakeholders

As the users of the airport, government should include pre-consultation with users and representative organizations on the development of requirements, initial design and forecasting, concession design and structuring. This allows users to identify their requirements for services and facilities as an input to the bidding process, and for government to have a more robust view of demand, operating model, key performance metrics and longer-term needs.

Customer consultation on bidder evaluation criteria can also help safeguard the process to deliver the best value tender, aligned to basic principles that the preferred concessionaire should be best placed to offer cost effectively with quality services that can respond flexibly to changing airline customer needs.

In a Balanced Concession, the goal is to involve all relevant industry stakeholders in the development of the bidder selection criteria which supports the development of cost efficient airport infrastructure and economically sustainable growth of the aviation industry. The pre-consultation phase allows for a first evaluation of airport customer and consumer requirements, which can be translated into objectives. These objectives are then translated into technical and financial criteria and weighted.

As the end users of facilities, airline stakeholders are very well placed to support the assessment and selection of concessionaires, and have the capability to do so through subject matter experts, in addition to operational staff. Meaningful and effective stakeholder consultation from an early stage will benefit the bidding process and support infrastructure that develops cost efficient outcome users support and need.

2. Define Selection Criteria and Process

Concession tenders typically require a financial and technical submission, with both subject to qualitative as well as quantitative assessment. However, within the bid evaluation process, there are numerous methodologies and approaches that are commonly used by government when selecting concessionaires, or demonstrating value for money in procurement more generally. These include:

- Best Financial Offer
- Best Financial Offer, Technically Acceptable
- Balanced Scorecard

Best Financial Offer

This methodology is a relatively simple selection process whereby the contracting authority selects the best financial offer without regard to technical evaluation, assuming the bidder meets all the conditions for participation in the tender process.

This is most relevant for relatively simple procurements, for example homogenous or undifferentiated products where quality is less significant. It is not recommended for the selection of an airport concessionaire.

Best Financial Offer, Technically Acceptable

This methodology considers evaluation of bidders' technical or quality factors as well as the best financial offer. As illustrated in Figure 9 ("Best Financial Offer, Technically Acceptable") below, this typically operates in two stages.

Firstly, a number of bidders are evaluated and scored for technical quality by technical evaluators, based on pre-defined evaluation criteria. A broad range of technical evaluators given the complexity of the requirement is recommended to make the process as objective as possible, with independent moderation panels helping to secure a robust outcome.

Once a selected number of technically acceptable bids are identified these bidders are short-listed for financial evaluation. The best financial offer, as pre-defined in the procurement process, is selected.

Case Study: Selection of Concessionaire for Nagpur Airport, India

MIHAN India Limited, a joint venture between Maharashtra Air Development Company (a Government of Maharashtra undertaking) and Airport Authority, issued an RFP to privatize the Nagpur Airport in March 2018. In October 2018, GMR Airports Limited was awarded the 30-year O&M concession, which included the construction of a new terminal. The tender process was two stage, with a RFQ issued in 2017 to select bidders primarily based on a technical criterion, financial capacity and O&M experience. MIHAN India qualified six firms (GMR, GVK, Ideal Road Builders, Tata Group, PNC Infrastructure and Essel Group), of which GVK and GMR responded to the RFP in March. The evaluation criteria for the second stage was solely based on price, with GMR submitting the highest revenue share bid.

Source: CAPA, The Times of India, Maharashtra Government

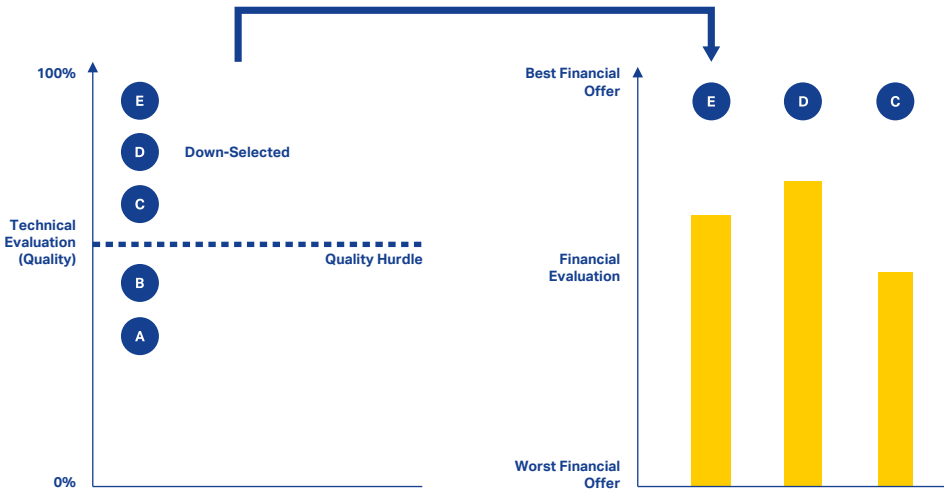
This methodology is best when the contracting authority is seeking to procure non-sophisticated items or services where quality, safety and/or innovation are not a priority and therefore do not play a critical role in the final selection. When the requirement can be clearly defined and the risk of unsuccessful contract performance is minimal, cost or price may be the key distinguishing factor of a winning bid [11], but the grantor is protected against bidders that do not have the capability or capacity to deliver to specifications.

Case Study: Kansas City International Airport Security Screening Provider Challenge (2011)

The US's Transport Security Administration ("TSA") selected a security screening service provider using the lowest-price, technically acceptable criteria.

This was challenged in court through a post-award bid protest. The court found that TSA did not sufficiently demonstrate best value, and that "… when selecting

Figure 9: Best Financial Offer, Technically Acceptable



[11] Federal Acquisition Regulation — Part 15, 2000

a low-price technically inferior proposal in a best value procurement where non-price factors are more important than price, it is not sufficient for the government to simply state that a proposal's technical superiority is not worth the payment of a price premium. Instead, the government must explain specifically why it does not warrant a premium."

Whilst in relation to procurement of airport services rather than a concessionaire, this demonstrates the complexity of airport operations and the challenge of applying a lowest price or best financial offer, technically acceptable evaluation criteria when non-financial factors are critical.

Source: Bid Protest, Court of Federal Claims, Hindson & Melton; COFC Outlines Source Selection Missteps, GovLoop

Whilst this methodology is common, the level of sophistication in airport operations and the long-term impact on stakeholders to a Balanced Concession mean that this methodology may not always be preferred.

Balanced Scorecard

An alternative approach advocated for under the Balanced Concession is the selection of concessionaires based on a balanced scorecard approach. This demonstrates value for money to government and other stakeholders through evaluating the trade-off between technical and quality factors and bidders' financial offers. Unlike other methodologies, this explicitly recognizes that the trade-off in paying for a proportionately higher level of quality and demonstrates best value by optimizing this trade-off.

Case Study: Bulgaria Sofia Concession Award Criteria (2018)

The award criteria for the Sofia Airport concession include a 55% weighting to financial evaluation and 45% to technical evaluation. This includes weighted evaluation of technical proposals covering: conceptual development plan; business plan; financing plan; overall strategy, and forecast tariff, EBITDA and capital expenditure plans.

This is a much more balanced evaluation methodology for airport concessionaires than is often the case. However, it is noted that the bidder award is based on the highest blended score, and therefore there is a linear trade-off between financial and technical factors.

Source: Justification for the Works Concession for Civil Airport for Public Use Sofia

This allows for a more nuanced assessment of technical and quality factors and the willingness to pay for a given level of quality, which is required given the sophisticated nature of airport concessions and interaction between concessionaires and other stakeholders.

This methodology is closely aligned to the Most Economically Advantageous Tender ("MEAT") methodology introduced in EU legislation in 2014, which balances price and quality, technical merit, and functional characteristics. Under this framework value for money is defined as the balance between price and quality, and it allows the contracting authority to reflect qualitative and technical aspects in addition to price when awarding a contract. This has already been applied within the airport industry in Europe, with many airports required to follow EU procurement requirements.

Case Study: Heathrow Airport

Heathrow's tendering process and award criteria are based on the most economically advantageous approach with competition being the primary vehicle to demonstrate the delivery of value. Assessment of suppliers includes consideration of health and safety, methodology, resources, behaviors, innovation, risk and value management and sustainability.

Source: Prospective Suppliers, Heathrow

Figure 10 ("Most Economically Advantageous Tender Trade-Off") below shows how this trade-off can work in practice. Based on technical and financial evaluation of bidder submissions these can be assessed either on a linear basis or by defining trade-off between technical and financial factors. Definition of a trade-off may be useful to ensure a different weighting is given to financial factors at different levels of technical quality; for example, at a high level of quality financial factors may differentiate bidders more to prevent paying for "gold plated" solutions.

Selecting an Evaluation Model

The evaluation model and specific mechanics should be defined in the government business case to justify the

preferred approach. Stakeholders should be involved in this decision given the significance of choice of selection methodology for customers and consumers.

For a project as significant as an airport concession, particularly when there is significant capital expenditure involved and/or the airport has socio-economic significance for the geographical area it serves, the balanced scorecard is the preferred approach and technical evaluation should consider a range of factors. This allows criteria to be selected and weighted to provide the best overall outcome for all stakeholders.

However, as more nuanced and qualitative factors are considered in tender evaluation, particularly in technical evaluation, there may be concerns in respect of transparency and non-discrimination in evaluation. Best practice in tendering process and protections should be in place to safeguard against such issues, and transparency on evaluation criteria should be provided.

Case Study: Sale of Brisbane, Melbourne, Perth and Sydney Airports

Australia's Airport Privatization Program saw Brisbane, Melbourne and Perth airports effectively privatized and sold with long-leases of 50 years with a 49 year extension option in 1997. The Request for Proposal issued to bidders in October 1996 stated the sale objectives, along with an evaluation criteria; however, no particular weighting or priority was given to the criteria. Following a review of the tender process by the ANOA, it recommended that future trade sales have a more transparent and accountable decision-making tender process, and to set out the relative importance for each evaluation criterion.

The sale of Sydney Airport followed in 2002, and the Binding Bid Evaluation Committee determined that it was not appropriate to apply a pre-specified weighting systems to rank bid. It however included a statement weighting the criteria as follows: "The Commonwealth aims to maximize net sale proceeds on a risk adjusted basis while achieving optimal outcomes in relation to the other criteria."

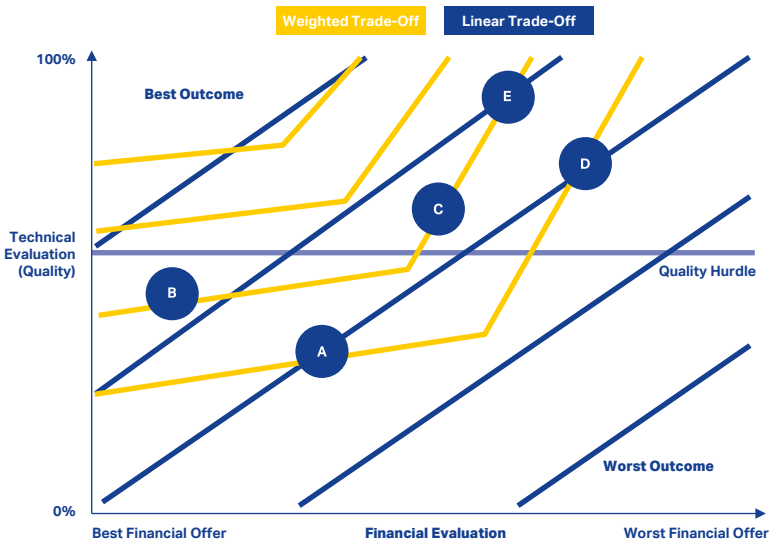
Source: Sale of Brisbane, Melbourne and Perth, ANAO; Sale of Sydney Airport, ANAO

3. Evaluation, Selection and Negotiation

Evaluation is typically conducted based on a mix of pass/fail responses (for example, acceptance of contractual terms, evidence of financial commitment, confirmation of a binding proposal), and other technical criteria which are categorized and given relative percentage weights in the evaluation process, which should be transparent to bidders.

IATA recommends government do not pre-determine the design of the airport infrastructure and instead place the onus on the bidders to present both their approach and

Figure 10: Most Economically Advantageous Tender Trade-Off



concept design to deliver the brief, enabling the adoption of innovation and best practices. The solutions proposed should not be committal and should provide the selection panel with a technical basis that can then be assessed against bid evaluation criteria. The sections below provide details on specific considerations for technical and qualitative criteria, and Appendix 4 ("Qualitative Bidding Framework") provides a list of elements that would be required to assess bidders.

In addition to technical criteria, there are key contractual and financial parameters that are used in the selection process. These should not solely be the highest concession fee. Alternative or additional criteria could be considered, but are not always compatible with the concept of a Balanced Concession.

While it is normal that the winning bidder will make their return based in part on airport charges, the structure of the financial criteria should not incentivize bidders to over-bid and then recoup their investment purely by raising charges. As a general rule, governments should target that the privatization processes will not result in the level of airport charges adversely increasing due to, for example, the inclusion of financing charges from over-leveraging the project. See also the section on Concession Fees and Charges below.

Non-price financial factors may also form part of the technical evaluation, for example, assessing the robustness of the bidders' financial plan, financial risk management plan, and financial strength of the project company to deal with commercial risks and distress.

Defining the Criteria Weighting

These criteria and their weighting will vary by project requirements (for example, level of capital investment requirement) and markets. They should cover as a minimum the bidders' qualifications and experience, key personnel, technical plans, health and safety, environmental and social plans, and management capability and capacity. The use and weighting of each criterion needs to be considered in light of the incentives they will provide to bidders and the alignment of these incentives to project objectives and stakeholder interests.

Pre-Qualification

Information should be provided in a detailed brief as part of a pre-qualification process which allows bidding parties to describe their qualifications and experience in delivering what is required at the airport. This allows for a first assessment of planning, implementation and delivery capacity of bidders. Appendix 4 provides details on the types of information that should be provided at this level.

Key elements of the assessment criteria should include a detailed assessment of traffic forecasts, demand and capacity solutions, a land use plan, master plan and phasing strategy to deliver the required capacity solutions, and a concept design that is both flexible and efficient to develop.

Example: Pre-Qualification Criteria

Each sector and project has its own specificities. For example prequalification criteria for an airport PPP may include:

- level of owned total assets in excess of a set amount
- recent experience managing the construction and operation of an airport of similar size and complexity in a similar market
- recent experience raising similar amounts of debt and equity
- exclusion of air carriers, or of companies owned by air carriers, or of operators of airports located close to the site (e.g. within 800 km) (which would create a natural conflict of interest)

Clearly these criteria will need to be adjusted based on market context.

Source: PPIAF/World Bank Group, Creating A Framework for Public-Private Partnership (PPP) Programs: A Practical Guide for Decision-Makers, Jeffrey Delmon

Evaluation, Selection and Negotiation

Expert panels should be involved in the evaluation of bidder technical and financial proposals, particularly given the qualitative nature of scoring technical submissions. IATA recommends that customers are involved in this process, as well as wider government and non-government stakeholders, where appropriate, to deliver balanced outcomes. Moderation panels should be used to validate evaluation and ensure fair outcomes and non-discrimination.

Conclusions

It is recommended not to evaluate concession tenders on the basis of financial proposals only. A balanced scorecard approach is preferred, which allows for a more precise trade-off between financial and technical factors.

However, any evaluation model needs to consider appropriate mechanisms, including transparency, to safeguard non-discrimination in the tender process, evaluation and award.

Expert panels should be involved in evaluation, with benefits to inclusion of customers and other key stakeholders to the concessionaire selection.

Determinants of Concession Length

Balanced Concession Preferences

The basic determinant of an appropriate concession length is the required period for a concessionaire to recover its capital investment with a market return for the level of risk taken. However, it has been observed that airport concessions can suffer from unduly long and arbitrary concession lengths. Part of this is due to the complexity and many interdependent factors involved in assessing this basic determinant, their variability over time, and the trade-offs that government need to consider to establish the best value for money solution.

Generally a longer concession period is in the interests of the concessionaire, all other factors being equal. Customers have historically tended to prefer a shorter concession period due to concerns about the potentially non-competitive tendencies of the airport sector and a desire to maintain a level of competitive tension in the industry through more frequent re-tendering of concessions. However, customers may also favor a longer period on the basis that charges will be higher if the financing of the airport capital investment is over a shorter concession period rather than the (most likely) longer useful life of the assets, assuming the concessionaire needs to recover capital investment over the concession term in the absence of terminal value mechanisms. Excessively short concession periods may also be unattractive to the market, may not be bankable if project cash flows are not sufficient to meet debt repayment obligations, and there can be significant cost to procure and transition between contracts.

Government may prefer a longer concession period where it stands to gain from increased concession fees or upfront capital receipts from the concessionaire (or, dependent on project-specific factors, reduces any payments to the concessionaire). However, this should be understood as a product of the present or future value of the contract to the concessionaire, and government should be conscious that the earlier reversion of the airport asset may have a financial value to government, as well as enhancing its control over the airport sector and its wider socio-economic benefits. Where government takes a balanced approach, i.e. considers the trade-off between financial and other strategic objectives, shorter concession terms may be preferred. Further, the following analysis demonstrates that concession payments, which are a key interdependent factor with concession length, should be justifiable.

Determining the optimal concession length can represent a fine balancing act between stakeholders and the range of strategic objectives that government have for a project, and there is no clear or universal preference. It is strongly recommended; however, that the concession length be determined and justified through the government business case with reference to detailed quantitative financial and economic analysis that recognizes the trade-off between different strategic objectives, and places public value at its heart.

Indicative Decision Tree for Concession Length

Figure 11 ("Indicative Decision Tree for Concession Length") below provides a representation of some of the factors that need to be considered when optimizing a concession length.

These simplified factors include the extent of the capital investment requirement, type and objective of the concession contract, financial viability of the project itself, and prevailing capital market conditions. Of course, there are many additional factors to consider in the detailed evaluation of concession length, and this analysis is indicative; the determination of concession length should be based on detailed analysis considering project and market specific factors.

In this analysis a brownfield, operational airport requiring management support only would typically require a short-term management contract only. This would not be classed as a concession model in this analysis, given the absence of the contractors' rights to project cash flows, but is shown for clarity.

Where an objective of the contract is to manage capital investment in addition to management requirements, an Operations and Maintenance ("O&M") concession could be applied with defined CAPEX responsibilities for the concessionaire; in certain circumstances with a high level of initial CAPEX requirement for a brownfield airport (for example, an additional runway and significant terminal expansion), a longer-term DBFOM concession could even be appropriate. The term of the concession will be dependent on the period required to meet concessionaires' target equity Internal Rate of Return ("IRR"), defined within the government business case and incorporating market sounding.

Case Study: Brazilian Airport Concessions

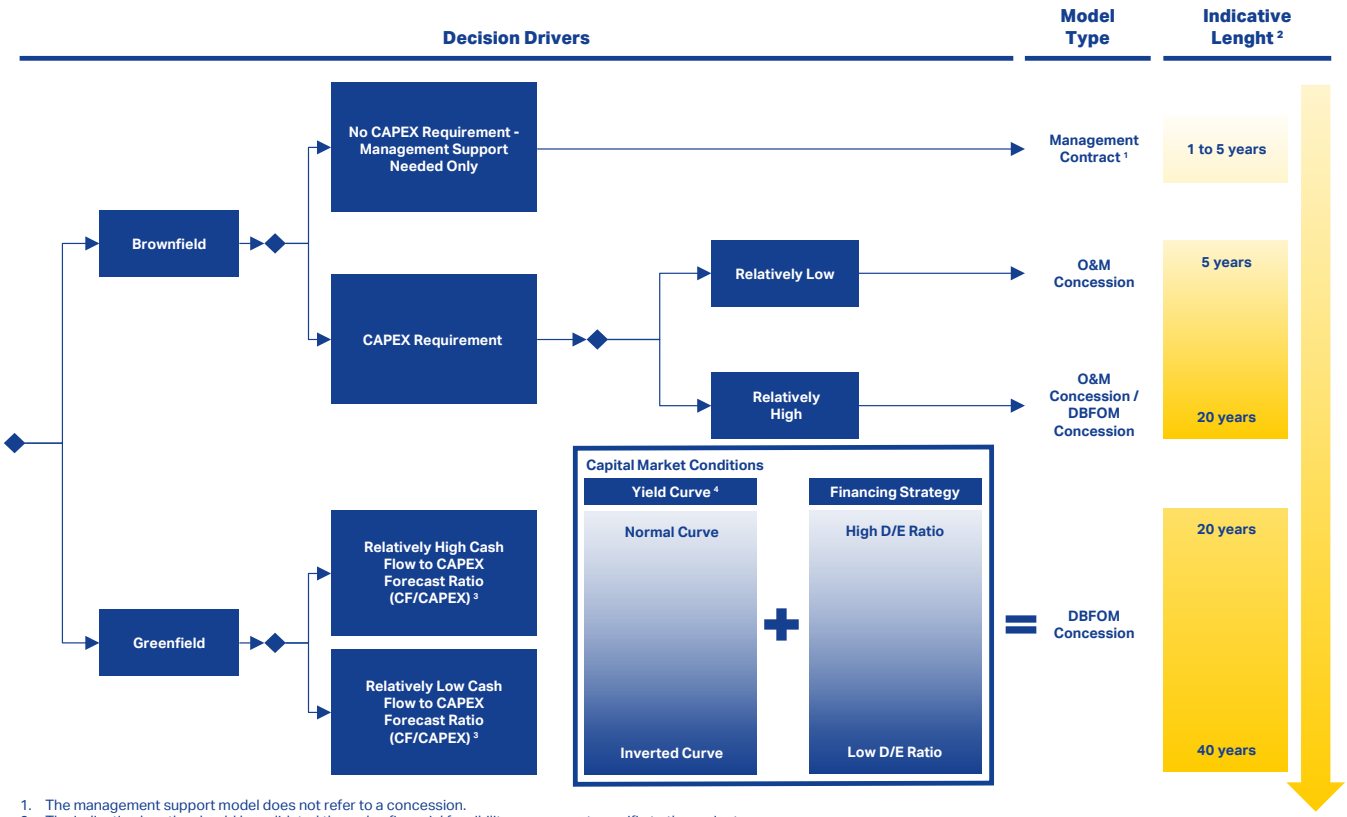
When the Brazilian Government commenced its concession program in 2011/2012 through long-term concessions with the government retaining a significant minority equity stake of 49%, concession terms were varied for different airports depending on the capital investment requirement.

For example, Natal Airport was granted in 2011 with a 28-year concession term, and Brasilia Airport and Viraconos were granted in 2012 for 25-years and 30-years respectively.

Source: anac.gov.br

For illustrative purposes this decision tree is represented as a continuum with a greenfield airport requiring a significantly higher level of capital investment and DBFOM concession, although there may be some overlap between greenfield and brownfield concessions dependent on the extent of capital investment required.

Figure 11: Indicative Decision Tree for Concession Length



1. The management support model does not refer to a concession.
2. The indicative lengths should be validated through a financial feasibility assessment specific to the project.
3. Assumes no capital receipt or concession fees to government as a required input for the concession.
4. A 'normal' yield curve typically refers to an expansionary period where short term debt is relatively cheaper than long term debt. An 'inverted' yield curves typically refers to a recessionary period where the opposite is true.

Case Study: Airports Council International ("ACI") EU Airport Review

ACI's 2016 study into ownership of European airports found, as would be expected, a relationship between the length of concession agreement and capital investment requirements, strongly related to the size and growth potential of the airport.

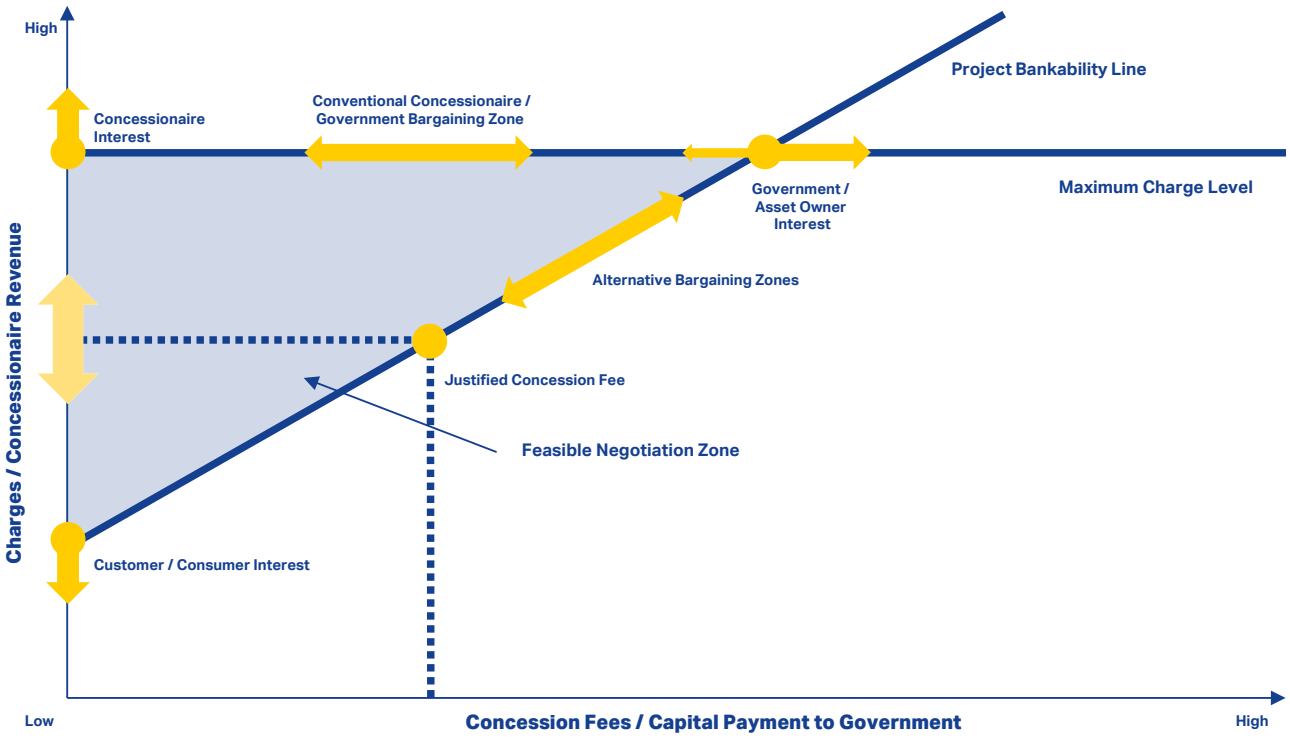
56.1% of airport concessions within the EU were found to be within the 20-50 years length, with 33.7% less than 20 years.

Source: ACI, "The Ownership of Europe's Airports", 2016

For a greenfield airport, the financial feasibility of the project based on project cash flows (revenues, capital expenditure and operational expenditure) is a key consideration. Each project will vary in its basic feasibility, considering factors such as unique capital spend and expected revenues based on the specific market. The ratio of expected cash flows to CAPEX is used here to illustrate these unique project characteristics. A project with a relatively high level of cash flows relative to required CAPEX is a more viable project than one with a low level of cash flows relative to CAPEX and, all things being equal, will be able to meet its financing repayment requirements to both debt and equity finance providers. As a result the required investment will be considered lower risk.

In addition, the timing of the capital investment in respect of prevailing capital market conditions will determine the availability and pricing of finance. All things being equal, an expansionary market (represented by a normal, upwards rising yield curve) suggests a more liquid capital market, with debt cheaper in the short than long-term, and higher debt-to-equity ratios for borrowers. These factors will reduce the Weighted Average Cost of Capital ("WACC") for the concessionaire, allowing it to meet its debt repayments and equity shareholder return requirements over a relatively shorter period. This results in a shorter required concession period, even where all other project factors are the same. An inverted yield curve in a recessionary environment, whereby debt is cheaper in the long than short-term, and or where capital markets are experiencing reduced levels of liquidity due to

Figure 12: Concession Payment and Charges Trade-Off Diagram



market uncertainty implies the opposite. This results in a longer required concession period, even where all other project factors are the same. Concession periods in excess of 40 years are typically only required in specific market conditions and where CAPEX requirements are unusually high relative to expected cash flows.

Concession Payments

Importantly, this analysis focuses on project and market factors in the determination of concession length. Whilst concession payments in the form of concession fees or capital receipts are a common motivation for longer concession terms, any concession payment should be justifiable and supported by a value for money assessment to ensure it supports public value. This should therefore be a fixed figure in determining project viability (similar, for example, to CAPEX requirements) and not a primary variable to determine concession length.

Concession payments are assessed in more detail in the following section.

Scope of Concession

The scope of the concession in terms of revenue generation opportunities is critical, as opportunities such as real estate development can impact the required rate of return to shareholders, allowing for reductions in charges for aeronautical services.

Increases in concession fees can negatively impact the ability for shareholders to meet their target equity IRR. This means that relatively higher concession fees can have a material impact on required concession length. At its extreme, this impact may even compare negatively for government as compared to deferring concession fees to facilitate handover of the concession to government earlier.

Conclusions

Concession length should not be arbitrary and should be justified through the government business case with detailed quantitative financial and economic analysis and recognition of the trade-offs required between different strategic objectives in determining concession length. Airport Ownership and Regulation provided guidance on business case best practice, and a PSP toolkit with further reference documents.

Increasing concession payments to government are a common motivation for increasing concession length. However, it is argued here that concession payments should not be a primary variable to determine concession length.

Governments should also consider the impact of deferring the ultimate benefit the airport will create for the government once it reverts to its ownership at the expiry of the concession.

Concession Payments and Charges

There are many services that are provided by government to the aviation community to enable the successful operation of an airport. These may include preparation of land to de-risk private sector investment, enabling infrastructure such as road and rail connections, the lease of the land itself to the concessionaire, and the provision of an effective regulatory function to facilitate the aviation sector.

Further, there are a wide range of both positive and negative externalities associated with airport development and operation. These include, for example, economic multipliers and boosts to trade and tourism (which positively impact national treasuries and ministries of finance through tax receipts as well as society), but also environmental and other negative impacts on local and other communities. Government proceeds from increased economic activity may serve to offset the loss in government revenue from lower concession fees, and should be considered.

Challenges in Airport Concessions

However, frequently under an airport concession governments are seeking to maximize returns, and either seeks to monetize the value of a concession by setting a concession payment at the highest level the market can accept, or defining the concession fee as a bidder selection criteria and seeking the highest offer.

Figure 12 ("Concession Payment and Charges Trade-Off Diagram") below shows how frequently the setting of charges may become, in effect, a negotiated settlement between government and the concessionaire market.

All other things being equal, a government's typical objective is to maximize concession payments, concessionaires seek to increase charges and revenue, and customers and consumers have the opposite interest, to minimize charges for a given level of service.

This diagram is intended to conceptually illustrate some key points and trade-offs in the setting of concession payments and their impact on charges. As concession payments rise, the charges that a concessionaire needs to support a financially-viable project increases. This is represented as the "Project Bankability Line". There is also a notional charge level at which further increases result in no additional revenue because customers and consumers will not be willing to pay. This is represented as the "Maximum Charge Level".

If government have the sole objective of maximizing concession payments, the incentive will be to move concession charges to the Maximum Charge Level in order to support the highest possible concession payments. This outcome will have a direct negative impact on the interests of customers and consumers and is likely to result in adversely impacting typical economic benefits. Detrimental impacts may include reduced traffic due to higher cost of air travel and reduced economic activity ultimately leading to a loss of government tax revenues.

Balanced Concession Approach

The Balanced Concession argues for a different approach that creates "win-win" outcomes for all stakeholders. It is suggested that government should be providing services in exchange for concession payments; this is in adherence to ICAO's policies that airport charges should be related to the cost of providing airport facilities and services, to protect against stakeholders benefiting from monopolistic positions. Government may also consider economic and other impacts in its business case to value the socio-economic impact of airport investment and ensure this is not undermined by excessive concession payments.

The scale of airport investments warrants that these wider socio-economic outcomes are considered in detail in the business case for an airport. Whether through reference to the financial cost of services provided, or the economic positive and negative externalities associated with an airport, concession payments can therefore be justified through detailed financial and economic analysis within the government's business case for a concession.

Once this approach is taken to define and agree a justifiable concession payment level, in line with the services and infrastructure provided, the appropriate level of charges can also be determined based on the Project Bankability Line, all other things being equal.

This solution means an appropriate level of concession payment for all stakeholders. It is in the interest of government because it appropriately values the impact of the airport investment, and in the interests of the concessionaire because it allows for a target return on investment that makes the project financially feasible.

Structure of Concession Payments

The guidance here is agnostic to concession payments in the form of leases/rents, ongoing concession fees or upfront capital receipts, as long as they are clearly justified. However, based upon the principle that concession payments should be related to services, there is a preference for ongoing concession fees as opposed to up-front payments. Requiring that the payment is ongoing in place of upfront can also reduce the potential risk associated with the political business cycle and short term incentives for governments. However, it is recognized that government may have particular fiscal or budgetary constraints or objectives which dictate the preference for timing of cash flows. In all instances any financial engineering should be justifiable and with reference to the prevailing financing rate.

Where the structure of payments is variable (for example, expressed as a percentage of revenue) rather than fixed, this may be a commercial choice for government. Clearly variable cash flows carry more financial risk, so a higher return would be expected than fixed payments. Again, this should be justified with reference to the level of risk taken and prevailing capital market conditions. It should also be recognized that variable payments are a commercial outcome not directly linked to the value of services provided to the airport.

Case Study: Kansai Airports

In 2016, Kansai Airports (a consortium formed by Vinci Airports and Orix) commenced operations under a 44-year concession for Kansai ("KIX") and Osaka Itami ("ITM") airports. In 2017, the consortium was also awarded a 42-year concession for Kobe airport. Concession payments for the concessions comprised a range of mechanisms, as follows:

	KIX and Itami	Kobe
Upfront Fee	N/A	€ 3.4m (¥ 450m)
Fixed Annual Concession Fee	€ 280.6m (¥ 37.3bn)	€ 3.4m (¥ 445m)
Revenue / Profit Share Mechanism	Lower of 3% of revenues in excess of 1.13bn (¥ 150bn) per annum and 6% of cash flows available to shareholders	Lower of 3% of revenues in excess of € 15m (¥ 2bn) per annum and 6% of cash flows available to shareholders

Concerns were expressed by domestic and international investors about the level of concession fees. The government rationale for the fees was the cost borne by government of investment in reclaimed land at KIX.

Kansai Airports (Vinci and Orix) was the only consortium to submit a compliant bid, and following negotiations they secured the concession for KIX and Itami. The tender process for Kobe commenced in 2016, and while many companies participated in the tender, Kansai Airports received the first right of refusal as the government aimed to consolidate the operation of the three airports located in the Kansai area.

Source: Japan's airport privatisation picks up pace, CAPA; Capital Market Day, Vinci; Japan Infra to Take Off, Clifford Chance

Reducing or Removing Lease and Concession Payments

Through a proper and robust financial and economic analysis in the business case, government may find that reducing or removing lease payments and concession fees altogether may benefit all stakeholders and represent value for money.

Even where it results in losses in respect of services government provides to the airport, these may be recoverable through, for example, future tax receipts generated by increased economic activity. As suggested here, a detailed assessment is required to support this decision by government considering macro-economic impact and value for money. Further guidance on this is included in Airport Ownership and Regulation, and the supporting PSP toolkit.

Considerations on Charges

It is assumed throughout this Booklet that the regulatory function will be fit-for-purpose to provide the necessary safeguards and robust forms of economic regulation, and a Balanced Concession does not reduce this requirement.

The evolution of charges should be linked to the actual efficient costs of operating an airport or regulatory policy in regards to an appropriate rate of return. Entering into a concession agreement should not, all things being equal, translate into an increase in charges. Governments should consider this when reviewing economic regulation for compatibility with different bidding criteria and concession payment models.

Case Study: Greece and Concession Accounting

In Greece, where a significant upfront payment was a selection criteria for both Fraport Greece concessions, the airports use concession-based accounting as the basis for airport charges and as permitted in the contract. This results in existing assets being depreciated over a longer period of time, an effect that is countered by potentially accelerated depreciation of any new CAPEX made during the concession. Any bid which is above the book value of the assets automatically translates into higher charges as the concession fee is included as an allowable cost in the calculation of charges.

Source: Fraport Greece Concession Agreement, IATA Analysis

Conclusions

Concession payments, in the form of rents/leases, upfront capital receipts or ongoing payments, should be justified with reference to the value of services provided by government and the socio-economic impact of airport investment rather than maximizing government returns.

Under this principle, concession payments should not be the determinant for selecting the winning bidder.

Evaluating these factors within the government business case allows for clear and transparent evaluation of the appropriate level of concession fees, and the trade-offs associated with different fee levels.

Super-Profit Protection

It is an overarching assumption throughout this Booklet that the regulatory function will be fit-for-purpose to provide the necessary safeguards and robust forms of economic regulation. However, there may be instances where specific contractual mechanisms can protect against abuse of market power by a concessionaire in addition to the regulatory function. One of these is in relation to super-profit, or excess profit being achieved by the concessionaire as a result of monopoly position enjoyed by concessionaires during the life of the contract and or a suboptimal concession design at award.

Figure 13 ("Example Profit Share Mechanism") shows an example of a contractual mechanism for incentivizing and sharing profit, whilst protecting against excess profits beyond the market norm. Illustrative figures are used to demonstrate this and would typically need to be adjusted to reflect local market conditions and required return on equity.

This example works with several "profit bands" which determine the share of profit. Up to a lower threshold, in this case 8% profit margin, the concessionaire is entitled to retain 100% of profit. As this increases through pre-defined bands, profit generated can be shared between the concessionaire and stakeholders (in the form of returns to government or reduced charges to customers and consumers).

In this worked example, the concessionaire and stakeholders share profit achieved between an 8% and 12% margin equally. Between 12% and 15%, stakeholders share 75% of the profit achieved, and surplus profit achieved beyond a 15% margin is shared fully with stakeholders, particularly customers and consumers in the form of lower charges.

As demonstrated in Figure 14 ("Example Profit Share Payoff Diagram"), this creates an effective profit cap at the upper threshold. Increases in profit margin beyond 15% do not result in additional return to the concessionaire, with the proceeds being returned annually through a pre-agreed arrangement to customers and consumers through reduced charges in the next annual reporting period.

This mechanism would therefore provide incentive to concessionaires to increase efficiency, but protection for government, customers and consumers against excess profit. Further, it would help to foster a collaborative environment in airport management whereby the concessionaire and stakeholders benefit from realizing efficiencies and are incentivized to work together to achieve them.

Of course, the success of a contractual mechanism of this nature is dependent on a number of factors. It requires open book accounting and transparency regarding the financial performance of the concession, and expertise and experience in contract management to effectively oversee the mechanism, with appropriate governance processes embedded within the contract. Further, since market conditions and profit bands change over time such a mechanism would need to be subject to market benchmarking, reviewed and amended over time, in line with the prevailing regulatory function.

Any payment and performance mechanism creates its own incentives and calibration is key, including specification of profit margin measurement, accounting treatments, and mechanisms (for example) for financing investment.

Conclusions

Contractual mechanisms to share profit and protect against excess profit can incentivize collaboration between concessionaires, government and consumers to improve performance and improve financial outcomes for all stakeholders.

Figure 13: Example Profit Share Mechanism

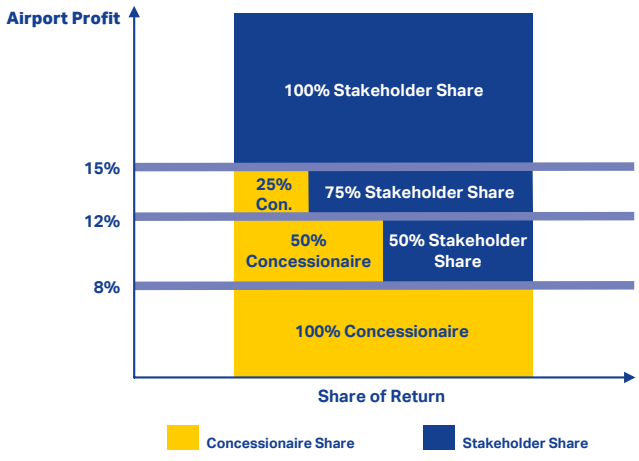
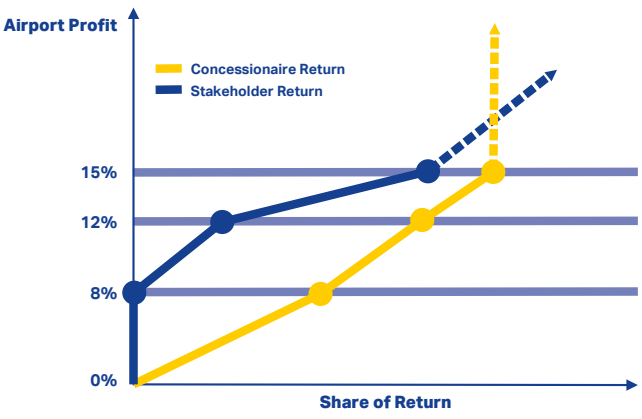


Figure 14: Example Profit Share Payoff Diagram



Consultation Processes

Mechanisms for consultation and dispute resolution between concessionaires, customers and consumers are often not sufficiently-defined within concession contracts or their regulatory frameworks.

Given the nature of airport assets being built to serve their customers and consumers there are substantial touch-points between concessionaires and their customers in both strategic decision-making, for example long-term capital planning and development programs, and in day-to-day operations and management.

IATA has published extensively on the topic of consultation and collaboration. Recommended reading for decision-makers includes "Airport Infrastructure Investment – Best Practice Consultation" [12]. This demonstrates the significant benefits of improved consultation and collaboration between concessionaires and customers at all stages of the project lifecycle.

Consultation in the capital investment plan (both in the initial airport planning for a greenfield airport and in capital expansion of an operational airport) is critical to ensure a business case that demonstrates an appropriate Return on Investment ("ROI") for all parties. Without this consultation and a business case explicitly agreed by all parties, concessionaires are at risk of inefficient or poorly-timed investments which reduce their returns and increase costs to customers and consumers. This can also lead to undermining broader economic benefits to the communities the aviation industry serves.

In operations, collaborative decision-making supported by data sharing can also yield significant efficiency benefits, improving on time performance ("OTP"), punctuality, and improved consumer experience. Implemented effectively and with the right consultation in advance, airport collaborative decision-making can improve outcomes for all stakeholders.

Consultation means more than transparency alone. Transparency refers to the sharing of relevant and detailed information at various stages in the process. Consultation, on the other hand, implies engagement early in the decision-making process, including at the concept stage, to ensure shared hypotheses are used in design choices and business cases. Engagement after major investment decisions have been made would not meet the definition of consultation.

Conclusions

It is recommended that consultation requirements are embedded in concession contracts at defined intervals and milestones.

Capital Planning and Execution

Overall IATA supports efforts to facilitate appropriate investment in airport infrastructure and address capacity growth challenges. However, airport infrastructure development is unique, its costs are not linear or modular, and there are many aspects that impact the complexity of any airport design and development which need to be addressed on a site-specific basis. Airport development models can vary significantly based on customer service needs for passenger handling, baggage, cargo and ground handling. These requirements, alongside requirements for security, immigration and customs, can greatly impact the airport design for a given market. For these reasons, to improve capital efficiency, consultation with customers is required across all capital investment planning and execution processes from initial design, through detailed design, construction and development, and ongoing capacity augmentation through the life of the airport.

Initial Planning and Concession Design

Customers have a unique perspective on traffic forecasts and opportunities for a national aviation industry. It is recommended that government decision-makers involve customers, the airport operator and the investment community, in the development of the national aviation strategy. This by extension will require them to be involved in the development of the strategic business case that identifies requirements for new airport infrastructure and greenfield airports. This helps to ensure that the overall aviation system is optimized with respect to major new capital investment at a national level, and provides a further scrutiny to the traffic forecasts which support the business case for new investment.

It is also recommended that customers are involved in defining the project's requirements and procurement activities. There is a clear benefit to involvement of customers in the definition of project requirements prior to the tendering process, and also in the evaluation of bidders' concept design submissions.

[12] www.icao.int

Further detail on the required submissions from bidders is included in APPENDIX 4 ("Qualitative Bidding Framework"). Involvement in both of these stages by customers, the ultimate users of the proposed asset, supports the right-sizing of capital investment plans to provide appropriate airport assets and associated level of service at the right price for the market.

Airport Design, Development and Construction

Once a concession contract is awarded and the concessionaire moves from concept design through the iterative stages of airport development to detailed design and the execution of capital investment plans, continued consultation with customers in the design process and ongoing refinement can support CAPEX efficiency to the benefit of all stakeholders.

The consultation process to develop the detailed design in order to deliver cost efficient solutions that meets customers' needs is critical, taking into account the trade-offs between service quality, performance and costs. Flexibility is required during this stage to identify the optimal design and construction plan, reflecting the iterative nature of airport infrastructure development. Whilst they form an important part of the evaluation of the preferred concessionaire, it is recommended that capital investment plans should not be overly-rigid so as not to restrict innovation through collaboration with stakeholders.

Case Study: Fraport Greece Aegean Regional Airports Concession

Fraport Greece is responsible for maintaining, operating, managing upgrading and developing 14 regional airports in Greece over 40 years, with operational transfer taking place in April 2017, under two separate concession agreements.

As part of these arrangements, Fraport Greece are responsible for €330 million investment until 2021. The agreement includes a contractual obligation to complete fixed expansion works within 48 months of the concession commencement date.

IATA has identified that the fixed nature of these expansion plans have led to investments which could have been more efficient.

Source: Aegean Regional Airports – Cluster B, 1st Annual Report on Environmental Strategy, July 2017; www.hellenicparliament.gr; IATA Analysis

It is recognized that government contracting authorities need to demonstrate value for money through procurement of the concessionaire, and therefore may be reluctant to give excessive flexibility to the winning bidder to change output specifications and investment plans after the award of the concession contract. However, outcome-focused contractual mechanisms can be used to safeguard against this and provide incentives to improve CAPEX efficiency and evidence improved value for money outcomes whilst ensuring the delivered solution meets the strategic objectives of the government.

For example, benefit or gainsharing mechanisms could be incorporated within concession contracts to share benefits of improved CAPEX efficiency during the detailed design phase which are agreed between the concessionaire, government and customers. Financial gains could be shared with reference to the original bid model prior to design freeze, at which point the capital delivery risk in construction would reside with the concessionaire. This mechanism would encourage all parties to work together to improve the efficiency of design and share the associated financial benefits, without increasing risk to the concessionaire.

It should further be noted that this involvement should be early and prior to design freeze; a key cause of cost overruns in many airport capital programs are ongoing change requests from stakeholders during construction, which should be minimized unless critical.

Ongoing Capacity Augmentation: CAPEX Trigger Mechanisms

Another issue identified in some concession contracts is the lack of triggers for new capacity requirements, or alternatively overly-fixed and pre-determined trigger mechanisms. This is a particular challenge for the aviation industry; the rapidly changing nature of the industry means that over the duration of an airport concession airlines need to innovate their offering to continually attract passengers in an ever-competitive market, and consumer expectations of the end-to-end passenger experience change rapidly.

As identified by IATA's "Airport Infrastructure Investment – Best Practice Consultation" document, "investments should only proceed where a clear business case exists, supported by a positive cost benefit analysis". This allows for robust evidence-based decision making for capital investment plans which, with the inputs of key stakeholders including government, regulators and customers, can secure improved outcomes for all.

However, the triggers for formalized governance and consultation processes for capital investment and the form of these mechanisms can vary significantly and are often poorly-specified in airport concessions leading to sub-optimal outcomes across the airport ecosystem, including unnecessary infrastructure build.

One solution which can support the Balanced Concession model and help all parties achieve "win win" outcomes through improved efficiency involves a trigger threshold for an independent demand and capacity assessment and consultation process, before activating any future capacity to enable traffic growth at the agreed service levels. A version of this mechanism is used in Athens.

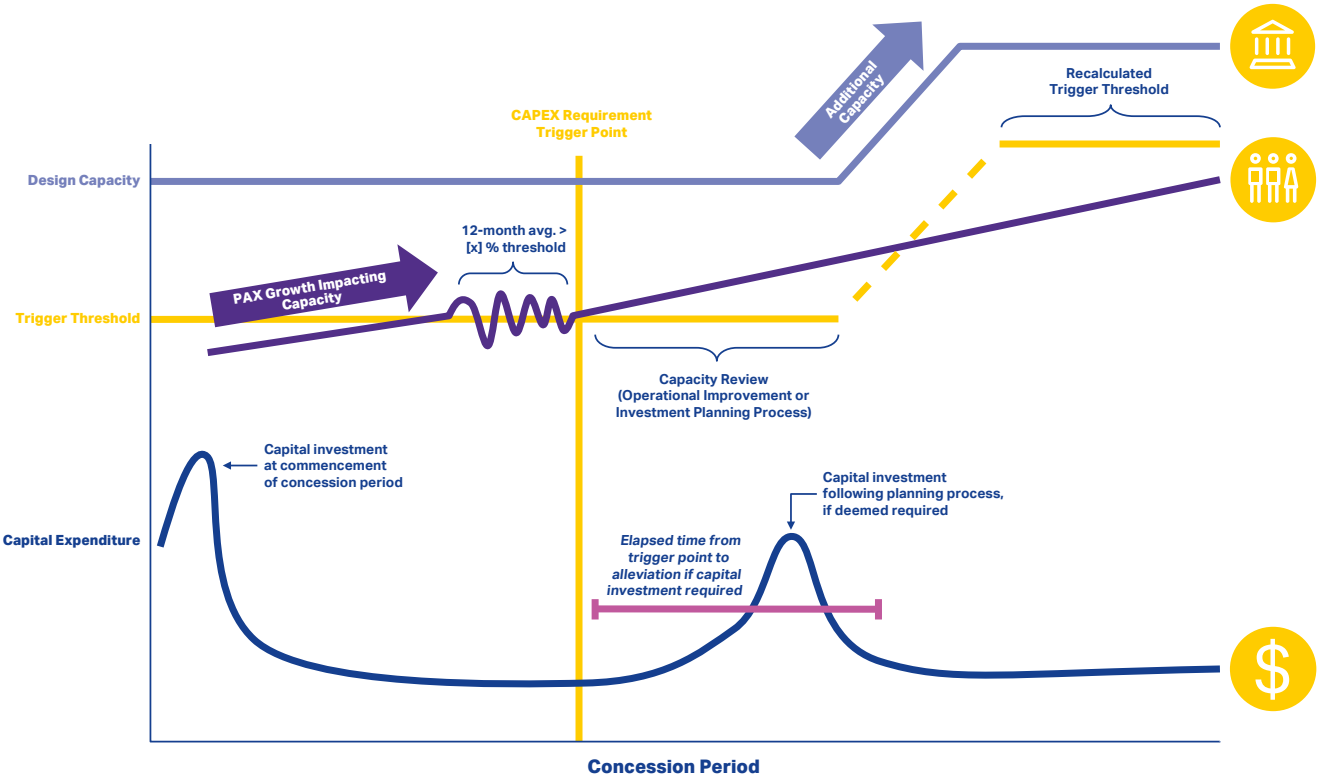
Case Study: Athens International Airport ("AIA")

AIA has a set trigger threshold for an independent passenger demand forecast. This is expressed as a percentage (90%) of the design capacity (100%). In 2016, this trigger threshold was reached with 18.9 million passengers in the preceding 12 months as compared to the previously-established 100% capacity level of 21 million.

Once this trigger threshold was reached, AIA commissioned IATA to undertake an independent demand forecast and capacity assessment for the subsequent two years to determine whether capital investment was required to remain within the 90% threshold. The independent study by IATA determined that following planned technological and organizational improvements, a small expansion, and once the satellite terminal commenced operations, the AIA would be able to handle 26 million passengers. Therefore the independent assessment demonstrated no need for major capital investment, and a re-baselining of annual passenger capacity for future trigger points as AIA continues to grow.

Source: 2016 Annual Report, AIA

Figure 15: Flexible CAPEX Trigger Mechanism



The mechanism used in Athens effectively triggers a review of the existing infrastructure to evaluate if the previous value for design capacity is still valid and capacity augmentation is needed, or if the design capacity can be adjusted based on operational changes, use of technology, or minor capital works. This recognizes the fast-pace of technological change in the industry which may mean operational improvements and efficiencies offset the need for expensive capital investment programs; all alternative solutions should be first explored to minimize CAPEX requirements. Contractual mechanisms such as this, which incorporate a degree of flexibility in capital expansion and encourage alternative operational solutions to deliver incremental capacity, are recommended.

Figure 15 ("Flexible CAPEX Trigger Mechanism") demonstrates graphically how this mechanism works in practice. It is important for government decision-makers to consider the appropriate level of the trigger threshold, and mechanisms within the contract to re-evaluate this threshold based on airport passenger growth rates and forecasts, and their change over time.

Higher thresholds can be applied to airports with relatively stable and lower growth rates. However, it is clear that in markets and airports experiencing double-digit growth rates and growth in excess of 20%-30% that airport capacity would likely be breached before new capital assets are operational given the length of the planning and development cycle for major capital investments. Lead times can be up to 10 years due to planning permissions, design development, environmental, build and commissioning needs, and demand is unpredictable and fluctuates over time. Given these factors, a lower trigger threshold than used in Athens may often be required; this should be assessed and addressed during concession design. What is critical is a trigger process flexible enough to accommodate change in demand over time, with the objective to provide balanced capacity with airline customers', which in turn will ultimately support efficient outcomes.

Further, such trigger mechanisms should complement contractual requirements for regular traffic forecast reviews to reflect changes in the market, with a formal review every five years as a minimum and an annual check. ICAO and IATA best practices also recommends a master plan review every five years to ensure infrastructure will continue to meet demand and deliver the required functionality. It is recommended that both traffic forecasts and master plans should be meaningfully consulted upon and agreed with airline customers, and these requirements incorporated into concession contracts. Traffic forecasts should be independently verified by an expert, external consultant.

Ongoing Capacity Augmentation: CAPEX Delivery

Once a robust business case is developed and agreed to support a major capital investment, an important consideration is the attribution of risk for the capital delivery program.

The concessionaire is responsible for the capital program and is compensated for this risk through a reasonable return on capital invested. Consequently, it is reasonable that the risks from under-performance in the capital program are not passed on to the customer or consumer nor should the government take a level of risk that should be the responsibility of the concessionaire.

To enable this, it is recommended that independent CAPEX assessments are incorporated within the business case based on best practices to provide assurance that the business case represents value for money, and that the business case is agreed and finalized alongside a design freeze to provide an agreed cost baseline. The concessionaire can then be responsible for cost overruns or savings generated by poor or effective management of the capital program.

Further, it is recommended that a competitive process is required for the procurement of construction contractors and sub-contractors to ensure arms-length and best value commercial arrangements, particularly for instances where a concessionaire has affiliated or group companies who may bid for the construction contracts. Within Europe, for example, many airports have historically been subject to certain public utilities procurement rules which require specific competitive procurement principles and processes to safeguard public value for money in sectors with limited competition. Similar requirements for transparent and robust procurement are recommended for airport concession contracts.

Ongoing Capacity Augmentation: Late-Life CAPEX

Appropriately incentivizing capital investment late in the life of a concession is a particular issue, which is common across concessions in many infrastructure sectors.

The main reason is the mis-match in timing between the use of long-lived assets, which may last 20-30 years or more, and the ability of a concessionaire to generate sufficient returns to justify the investment from the balance of the concession period.

This challenge is shown in Figure 16 ("Late-Life Capital Investment Requirements"), below. Here there is a new capital investment requirement identified beyond typical

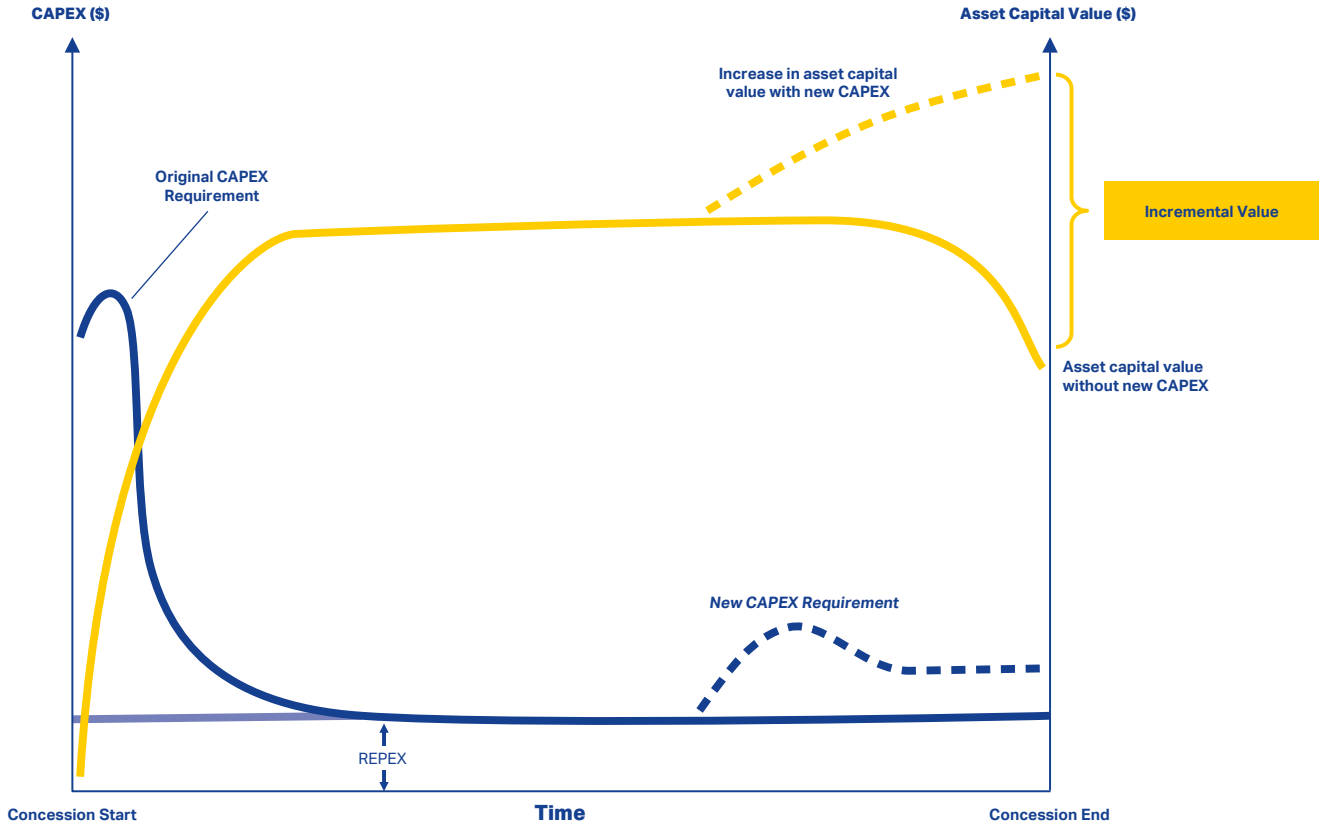
replacement expenditure ("REPEX") costs. This may be due to a required capital expansion to meet latent demand, longer-term traffic growth, and/or because of a need to replace capital assets reaching the end of their useful life. Without this new CAPEX the value of the airport as a whole may decline as capital assets expire, become less efficient and more costly to maintain towards the end of their useful life.

There is therefore additional value for all stakeholders from the incremental value realized from this new capital investment. The value of the airport, at reversion to government at the end of the concession term, will increase whilst the concessionaire will benefit from improved capacity and revenues for the remainder of the concession term. However, this may not adequately justify the investment resulting in a reluctance to invest. Customers and consumers will benefit from fit-for-purpose infrastructure at the right price for far longer than the term of the existing concession period.

Airport concessions often lack an effective financial and commercial mechanism to incentivize the realization of this "win-win" with the benefits shared appropriately between stakeholders. This is typically a challenge with all major capital investment requirements, but becomes more acute as the concession contract reduces the available time for the concessionaire to realize the value of its investment. A reduction in the time over which a concessionaire will amortize its investment, which will reflect the remaining term of the concession rather than the useful life of the new assets, means a concessionaire without a specific incentive mechanism in the contract would only undertake this by passing additional charges to customers and consumers. In the absence of the ability to do this, the concessionaire is likely to under-invest, which would adversely impact all stakeholders.

A range of potential solutions have been proposed to address this issue. These include allowing the concessionaire to levy additional aeronautical charges to

Figure 16: Late-Life Capital Investment Requirements



amortize its investment over the remaining concession life. These will typically be far in excess of the long-term cost of the new airport infrastructure if amortized over its useful life instead. Other proposals include extending the concession period to facilitate the appropriate return on investment for the concessionaire over the useful life of the capital asset. However, given the long-term nature of airport capital investment and the fact that new capital requirements may be identified at multiple times during a concession, this is likely to result in reduced levels of re-tendering for concessionaires and increase the monopolistic tendencies of the sector and potentially ignores the value of the airport business that will be handed back to the government at the end of the concession ("reversionary value").

The Balanced Concession proposes that any potential solution be bound by principles that work for all stakeholders, including:

1. Appropriate return on investment for the concessionaire over the concession period
2. Meeting the requirement of customers and consumers for new capital assets
3. Maximizing the reversionary value of the airport asset for government
4. Payment for infrastructure over its useful life not the concession life

Government financing of late-life capital investment, recognizing that government stands to benefit from the value of the airport on its reversion at the end of the concession term, is one mechanism that would meet these criteria. However, it is recognized that this solution may be prohibited by government budgetary constraints.

Alternatively pre-agreeing the amortization profile of the asset to determine the reversionary value at the termination of the concession is an alternative. This could either be paid by government at the end of the concession, paid for by a new concessionaire who could then finance the asset over its remaining useful life, or privately-financed capital market solutions could be used to novate the loan to a new concessionaire. Such solutions would be relatively innovative and would need to be developed with the debt markets to ensure appropriate security (and, for example, government guarantees), financing efficiency, and reflect the financial products available in different markets.

Conclusions

There is a significant benefit to the involvement of customers in airport planning and airport construction and development.

There should be sufficient flexibility to amend capital investment plans after contract award to a concessionaire prior to a design freeze, but these should include pre-defined benefit or gainsharing mechanisms in the contract and subject to agreement between the concessionaire, government and customers to prevent under-investment.

Flexible CAPEX trigger mechanisms with consultation requirements and provisions for independent third party assessments enable a better outcome for concessionaires and customers.

Mechanisms are required within concession contracts to specifically ensure any necessary capital investment is delivered late in the concession life. The specific mechanism will vary by circumstance, but needs to pass four key principles to safeguard the interests of all stakeholders. Solutions are identified which achieve this:

1. Government funding of CAPEX
2. Government commitment to pay amortized value of capital investment at concession end, either directly, through a new concessionaire, or with capital market solutions

Continual Improvement and Airport Service Quality

As identified in IATA's policy guidance on Airport Service Level Agreements ("Airport Service Level Agreement – Best Practice"), there is a requirement for airport SLA frameworks to be incorporated in concession contracts as a basis for the transaction structure. These help to ensure there is a focus on outcomes and the required service standards are consistently delivered in return for charges paid by customers. Airport service level agreements set clear customer requirements on a user pay principle, ensuring that the customers pay on an outcome-basis for a given level of service and concessionaires benefit from meeting customer requirements and not under or over-servicing.

Built on an approach of openness, transparency and collaboration between concessionaires and customers, they can also promote a culture of continuous improvement in service quality and the ability to adapt to ever-changing passenger expectations. The rapidly changing dynamics of the aviation sector and the increasing ability to leverage technology to meet airport service quality require SLAs to be flexible and dynamic whilst ultimately achieving the strategic objectives of the concession and the predetermined outcomes.

IATA's policy guidance paper covers best practice elements that should be incorporated in airport service level agreements, defined by function:

- Scope, covering queuing, asset availability for passenger sensitive equipment ("PSE"), asset availability for other equipment, passenger experience
- Critical operational assets and periods
- Defined methods of measurement, with quantitative and automated measurements used wherever possible
- Level of service rebate mechanisms
- Clear definition of any exclusions, for example force majeure

Conclusions

Concession contracts should be outcome-focused and include frameworks for airport service level agreements and specify mechanisms to incentivize continual improvement and adjustment to service levels.

IATA's "Airport Service Level Agreement ("SLA") – Best Practice" policy guidance document includes commentary on best practices that should be considered.

Key Takeaways

There are numerous mechanisms and approaches which can be used to make airport concessions more balanced, and present "win-win" outcomes for all stakeholders to a concession.

Selection of Airport Concessionaires

- The selection of concessionaires should be based on a balanced scorecard approach and not on financial evaluation alone.
- The evaluation model and specific mechanics should be defined in the government business case to justify the preferred approach.
- Stakeholders should be involved in this decision given the significance of choice of selection methodology for customers and consumers. Involvement of customers and industry stakeholders in the development of bidder selection criteria and evaluation is critical.
- Expert panels should be involved in evaluation, with benefits to inclusion of customers and other key stakeholders to the concessionaire selection.

Determinants of Concession Length

- Historically airport concessions can suffer from unduly long and arbitrary concession lengths.
- The optimal concession length concession length should be determined and justified through the government business case with reference to detailed quantitative financial and economic analysis that recognizes the trade-off between different strategic objectives and stakeholders.
- Increasing concession payments to government are a common motivation for increasing concession length; concession payments should be justified and should not be a primary variable to determine concession length.
- Governments should also consider the ultimate benefit the airport will create for the government and the wider economy through increased economic activity, and once it reverts to government ownership at the expiry of the concession.
- Reversionary value of the airport to the government should be incorporated into the government business case for the granting of the concession.

Concession Payments and Charges

- Governments should implement effective economic regulation ahead of the concession.
- Methodologies for setting charges should be in accordance to ICAO's policies and building block methodology.
- Levels of concession payments to government should be justified based on services and a detailed value for money assessment. IATA prefers ongoing concession fees be paid by concessionaires as opposed to up-front payments as it reduces the potential risk associated with the political business cycle and potential short term incentives for governments.
- Under this principle, concession payments should not be the primary bid parameter.

Super-Profit Protection

- Contractual mechanisms to share profit and protect against excess profit can incentivize collaboration between concessionaires, government and consumers to improve performance and improve financial outcomes for all stakeholders.
- The success of a profit sharing contractual mechanism is dependent on open book accounting and transparency regarding the financial performance of the concession, and expertise and experience in contract management to effectively oversee the mechanism, with appropriate governance processes embedded within the contract.

Consultation Processes

- Historically mechanisms for consultation and dispute resolution between concessionaires, customers and consumers have not been sufficiently-defined within concession or their regulatory frameworks.
- Consultation and collaboration between concessionaires and customers at all stages of the concession lifecycle, from capital investment planning to operational decisions, can generate significant benefit for all.
- Consultation processes and outcome-based airport service level agreements should be embedded within concession contracts.

- Concession contracts should require a business case for capital investment, to be agreed by all parties.

- IATA has published extensively on the topic of consultation and collaboration. Recommended reading for decision-makers includes "Airport Infrastructure Investment – Best Practice Consultation" [13].

Capital Planning and Execution

- As airport users, customers should be involved in defining the project's requirements prior to the tendering process, and also in the evaluation of bidders' concept designs.

- Once a concession contract is awarded and the concessionaire moves from concept design through the iterative stages of airport development to detailed design and the execution of capital investment plans, continued consultation with customers in the design process and ongoing refinement can provide further benefits and supports CAPEX efficiency.

- Capital investment plans should not be overly-rigid within the concession contract to restrict innovation through collaboration with stakeholders.

- Fixed future capital investment during the concession should not be pre-defined in the concession contract. A trigger threshold should be used or an independent demand and capacity assessment and consultation process, before activating any future capacity.

- This should complement contractual requirements for regular traffic forecast reviews, with a formal review every five years as a minimum, and an annual check.

- A competitive process should be required for the procurement of construction contractors and sub-contractors to ensure arms-length and best value commercial arrangements.

- Contractual mechanisms should be in place to incentivize late-life capital investment towards the end of the concession term. These could include government funding of CAPEX, or a government commitment to pay amortized value of capital investment at concession end, either directly, through a new concessionaire, or with capital market solutions.

- Once there is an agreed design freeze for any capital investment, the concessionaire should be responsible for cost overruns.

Continual Improvement and Airport Service Quality

- Concession contracts should be outcome-focused and include frameworks for airport service level agreements and specify mechanisms to incentivize continual improvement and adjustment to service levels.

- IATA's "Airport Service Level Agreement ("SLA") – Best Practice" policy guidance document includes commentary on best practices that should be considered.

[13] www.icao.int

Appendix 1.

Typical PPP and Concession Models and Airport Sector Archetypes

Responsibilities by Project Participant					Model Naming Conventions*	Government Requirements Addressed			Airport Achetype
Design	Build	Finance	Operate	Maintain		External Financing	Capital Delivery Cpability	Management & Operational Capability	
					Built-Operate-Own ("BOO")	√	√	√	N/A – permanent transfer of assets not recommended.
					Design-Build-Finance-Operate-Maintain ("DBFOM") / Built-Operate-Own-Transfer ("BOOT")sign-Build-Finance-Operate-Maintain ("DBFOM") / Built-Operate-Own-Transfer ("BOOT")	√	√	√	Greenfield airport with significant capital requirements and limited government financing capacity or management capability.
					Design-Build-Operate ("DBO") / Built-Operate-Transfer ("BOT")		√	√	Greenfield airport with limited management capability, but government financing capacity.
					Operations and Maintenance ("O&M")			√	Existing operational (brownfield) airport suffering from under-performance and requiring specialist management and operational capability. In certain cases, O&M contracts may include concessionaire responsibility for capital works; as these become more significant (for example, in the case of a new runway and significant terminal expansion) this may be similar to a DBFOM/BOOT model.

Responsibility Key:

Concessionaire / PPP Partner
Government / Asset Ownavaer

* Acronyms as follows [14]:

- **Design-Build-Operate ("DBO")**: Under this model, government owns and finances new assets, with the PPP partner responsible for design, build and operation to defined outputs levels / specifications. Government pays an operating fee for operations, and revenue risks reside with the government.
- **Built-Operate-Transfer ("BOT")**: This model is typically applied to a greenfield project. In different literature there are different distinctions drawn on the source of financing and responsibility for operations; in this table this is interpreted as a government-financed asset, operated by the private sector, similar to a DBO.
- **Built-Operate-Own-Transfer ("BOOT")**: Similar to a DBFOM model, this typically includes private sector financing and is often applied to a greenfield project. The private sector / concessionaire operates and maintains the asset for the duration of the contract, and it is transferred to government at the end of the contract term.
- **Design-Build-Finance-Operate-Maintain ("DBFOM")**: Under this model, the private sector is fully responsible for designing, building, financing, operating and maintaining the asset for the contract term. Similar to a BOOT, it is transferred to government at the end of the contract term.
- **Built-Operate-Own ("BOO")**: This model is similar to a BOOT, but is a perpetual concession with no transfer of assets to government.
- **Operations and Maintenance ("O&M")**: Under this model, a concessionaire is responsible for operations and maintenance of the airport asset. Unlike the interpretation of a DBO/BOT above, the concessionaire takes risks associated with both revenue and costs.

Notes

1. Perpetual models (BOO) are excluded from this analysis;
2. All models identified are forms of PPP. A "concession" is a specific term in civil law countries, but in common law countries are used to describe projects similar to BOT projects [15].

[14] Sources: World Bank Group Legal Resource Centre (PPPLRC); Public-Private Infrastructure Advisory Facility (PPIAF, PPP Modalities)

Appendix 2.

Mapping Stakeholder Interests in an Airport Concession

Airport Concession Lifecycle	Initial Planning & Concession Design	Airport Design, Development & Construction	Airport Operations & Management	Pricing of Airport Services	Ongoing Capacity Augmentation	Termination & Transition
Government / Asset Owners	• Fit-for-purpose airport • Limited government financial contribution • Maximize concession fee • Maximize upfront fee (trade-off vs. recurring fee) • Stakeholder satisfaction • Sustainable solution	• Construction to agreed time and scope • Minimized negative stakeholder impact • Fit for purpose facilities and "future proofed" (technology and capacity)	• Efficient, safe and secure operations • Regulatory compliance • Economic value and job creation • Optimal customer experience for all stakeholders • Catalytic effect to the broader development of the aviation sector	• Maximize revenue share • Economic value and job creation • Optimal regulations aligned to govt.'s strategic objectives	• Timely capacity to absorb demand for economic value and job creation • Limited/ no government contribution	• Continued capital investment to maximize asset value • Continuity of operations at asset transfer • Optimal condition of asset at transfer • Limited/ no required capital investment at reversion
Concessionaire	• Maximize investment return • Minimize investment risk • Favorable concession design and terms for concessionaire • Minimized demand risk and maximized catchment • First right of refusal of future competing airport developments	• Construction to agreed time and budget, assuming charges are fixed • Design scope flexibility • No planning risk	• Decision autonomy • Minimized operational expenditures • Maximize revenues • Development of aviation business and passenger flow to maximize asset value • Limited regulatory oversight • Loosely defined service standards • Limited penalties for non-performance of SLAs	• Maximize charges defined by concessionaire • Limited or no restrictions on setting airport charges • Limited or no regulatory oversight • Clarity on the regulatory framework in place	• Investment certainty (pre-defined capex triggers) • Investment flexibility / decision autonomy	• Maximize return until the end of the concession • Minimize capital investment if non-recoverable or below required ROI
Regulator (Economic and Safety)	• Specifications for safe and secure operations • Contract compatible with regulation • OPEX efficiency planned into airport development plans • Defined role of the regulator in the concession design	• Alignment with specifications approved • Capex efficiency	• Efficient, safe and secure operations • Regulatory compliance • Open and transparent information • Regulatory step-in rights	• Cost based pricing on an efficient basis, while still ensuring investment is financeable • Open and transparent information • Safeguard consumer interests • Regulatory step-in rights	• Capex efficiency • Capacity for safe and secure operations	• No disruption to operations on handover

Airport Concession Lifecycle	Initial Planning & Concession Design	Airport Design, Development & Construction	Airport Operations & Management	Pricing of Airport Services	Ongoing Capacity Augmentation	Termination & Transition
Customer (Airlines)	• Fit-for-purpose airport • Input to appropriate design • OPEX efficiency planned into airport development plans	• Construction to agreed time, budget and scope • Capex efficiency • Customer centric design and cost efficiencies • Service offering aligned to customer requirements	• Fit-for-purpose airport • Value for money charges (cost-efficient for a desired service level) • Good customer and consumer experience • Operational efficiency	• Value for money charges (cost-efficient for a desired service level) in line with ICAO policies and principles • Single till regulation • No unnecessary increase in charges or pre-funding • Independent transparent and robust regulator	• Capex efficiency • No unjustified increase in charges or pre-funding • Input to appropriate design	• No disruption in services • No unjustified increase in charges
Consumers (Passengers)	• Fit-for-purpose airport, that maximizes airline competition and destinations served	• Passenger centric design • Service offering aligned to passenger requirements	• Efficient passenger flow and convenience • Good consumer experience (goods and services)	• Minimize fares • Minimize costs of goods and services	• Efficient passenger flow and convenience • No increase in fares or costs of goods and services	• No disruption in services • No increase in fares or costs of goods and services
Communities	• Transparent information on project • Engagement on ESG impacts	• Construction to agreed time, budget and scope • Optimized ESG impacts	• Limited emission and noise impact • Economic value and job creation	• Economic value and job creation	• Transparent information on project • Engagement on ESG impacts	• No disruption associated with termination and transition

Appendix 3.

Issues and Solutions Across Concession Lifecycle

Issue	Impact	Balanced Concession Solution(s)
Initial Planning and Concession Design		
Long and arbitrary concession length	• Redundancy in concession terms over time • Lack of flexibility for government	• Detailed government business case • Clear rationale for concession length
Limited stakeholder engagement in development of concessions	• Potential risk of all design requirements not being captured identification of potential issues that can arise in the future	• Customer engagement in national aviation planning • Customer engagement in requirements, initial design and forecasting • Customer involvement in selection criteria and bidder evaluation • Balanced scorecard approach to bidder evaluation
Limited consultation with customers in setting of service quality levels and performance levels	• Inappropriate setting of service levels will increase cost of customer operations or poor passenger experience	• Customer engagement in requirements, initial design and forecasting • Airport service level agreements defined with customers • Defined governance for change to airport service level agreements
Focus on output-based KPIs rather than outcome-based performance measures	• Concessionaire only focuses to meet the output based KPIs and not outcomes required by customers and consumers. This may result in unacceptable service levels, particularly over time as the industry requirements change	• Airport service level agreements defined with customers • Defined governance for change to airport service level agreements
Limited participation in concession bid process	• Limited scope for global best practices to be introduced • Potential risk of market power abuse	• Detailed government business case (including procurement strategy)
Excessive focus on highest concession fee in bid evaluation	• Focus only on cash returns for government, without reference to services provided, service levels and long-term economic value add	• Detailed government business case (including procurement strategy, and justified level of concession payment) • Customer involvement in selection criteria and bidder evaluation • Balanced scorecard approach to bidder evaluation • Usage of financial criteria other than highest concession fee • Usage of balanced scorecards to take into account non-financial (i.e. technical criteria)

Issue	Impact	Balanced Concession Solution(s)
Airport Design, Development and Construction		
Limited mechanisms for collaboration to optimize capital plans and detailed design	• Inadequate or inefficient facilities being developed • Limited incentive to improve airport design and share benefits	• Customer engagement in the development of detailed design and service quality • Benefits sharing mechanism for design efficiencies • Customer role in ORAT
Inadequate provision for a long-term airport master plan and phasing strategy	• Concessionaire short-term incentives may result in airport not meeting long-term capacity requirements most efficiently	• Customer engagement in long term master plan and phasing strategy • Clearly defined demand trigger and business case process for airport expansion • Formalized governance and consultation processes
Overly-rigid construction schedules and plans	• Over or under investment resulting in higher charges or poor service levels	• Customer engagement in detailed design • Clearly defined demand trigger and business case process for airport expansion • Formalized governance and consultation processes
Over-investments undermining cost-efficiency	• Higher charges for customers and consumers	• Customer engagement in detailed design • Clearly defined demand trigger and business case process for airport expansion • Formalized governance and consultation processes

Issue	Impact	Balanced Concession Solution(s)
Airport Operations and Management		
Limited collaborative decision-making	• Customers and consumers issues and concerns not appropriately addressed • Lack of coordination resulting in inefficient operations	• Airport service level agreements defined with customers • Defined governance for change to airport service level agreements • Incentivization mechanism for continual improvement • Transparent and real time data sharing • Benefits sharing mechanism for efficiency gains
Limited information sharing provisions	• Inefficient operations for customers and concessionaires	• Mandated transparency and real time data sharing
Limited positive incentivization for innovation	• Redundant technology at the airport, creating inefficient operations and undermining the competitiveness and growth of the aviation sector as a whole	• Airport service level agreements defined with customers • Defined governance for change to airport service level agreements • Incentivization mechanism for continual improvement • Benefits sharing mechanism for efficiency gains • Airport-specific performance monitoring and performance benchmarking
No refinancing gain mechanisms	• Refinancing benefits accruing to concessionaires and government, rather than being passed to customers and consumers through reduced charges on the basis of the principle of cost-relatedness	• Benefits sharing mechanism for refinancing gains
Overly-rigid SLAs and performance specifications	• Aviation ecosystem suffer from inefficient operations and potentially inadequate service levels, rather than providing the right services at the right price	• Airport service level agreements defined with customers • Defined governance for change to airport service level agreements
Limited provision for Environmental, Social and Governance ("ESG") factors	• Negative impact on community based on inadequate obligations on concessionaire	• Defined ESG obligations for concessionaire

Issue	Impact	Balanced Concession Solution(s)
Pricing of Airport Services		
Limited rationale for aeronautical charges	• Charges misaligned to ICAO principles • Potential for excess profits or, conversely, airport underperformance and incentives to reduce investment	• Pricing aligned to ICAO principles • Effective independent economic regulator • Detailed government business case (including rationale for charges, proposed bid parameter and charge regime) • Customer involvement in selection criteria and bidder evaluation (including proposed financial bid parameter)
Excess profits on non-regulated aviation charges	• Charges may be increased excessively by the concessionaire given market power, adversely affecting customers and consumers	• Pricing aligned to ICAO principles • Superprofit protection mechanisms • Effective independent economic regulator • Implementation of single till mechanism
Pre-funding of airport investments	• Unnecessary burden on current customers and consumers to fund the future infrastructure	• User pay principle adopted
Constraints placed on effectiveness of regulation	• Regulator constrained in amending basis of regulation by concession contract, resulting in excess profits or limited performance improvement incentives for concessionaire	• Regulatory framework in tender documentation (intended to provide market clarity on regulatory principles for tender process, rather than defining all regulation in contract) • Effective independent economic regulator
Changes in the regulatory till	• Changing the scope of regulation (till) from a single or hybrid to a pure dual till may cause aeronautical tariffs to be higher	• Regulatory framework in tender documentation (intended to provide market clarity on regulatory principles for tender process, rather than defining all regulation in contract) • Effective independent economic regulator • Financial reporting and fixed asset register (to support definition of regulated assets, where applicable)

Issue	Impact	Balanced Concession Solution(s)
Ongoing Capacity Augmentation		
Limited penalties for under-investment and incentives to delay investment	• Under-investments may cause major operational issues for all stakeholders • Airport growth and capacity may be restricted	• Clearly defined demand trigger and business case process for airport expansion • Formalized governance and consultation processes
Overly-rigid capital investment plans and poorly defined capital investment triggers	• Infrastructure not developed in line with traffic growth, or unnecessary investment undertaken • Results in inefficient operations and inadequate service levels • May restrict growth of the airport	• Clearly defined demand trigger(s) and business case process for airport expansion • Formalized governance and consultation processes
Lack of consultation and governance process for capital expansion	• Customer feedback and inputs not incorporated in the development plans, resulting in inefficient development	• Clearly defined demand trigger and business case process for airport expansion • Formalized governance and consultation processes
Limited incentive for late-life CAPEX	• Lack of incentive to develop CAPEX in final years • Recovering CAPEX investment over term of concession rather than useful life of asset, resulting in current customers and consumers paying for long-term infrastructure	• Financing mechanism for late-life CAPEX
Termination and Transition		
Limited dispute resolution processes	• Escalation rather than resolution of dispute and associated service disruption	• Multi-stage dispute resolution
Limited provisions for smooth termination and transition	• Transition and handback issues leading to interrupted operations during the transit period	• Transition contractual provisions

Appendix 4.

Qualitative Bidding Framework

Brief for Pre-Qualification Process

Bidders should be provided a detailed brief to provide as much certainty as possible. At a minimum this should cover:

- The available land with details of any feasibility studies or blighted areas
- A clear planning framework, i.e. national, local planning rules, environmental or airspace considerations
- Government aviation master plan / aviation strategy
- Government assessments of national traffic demand
- Surface access strategy
- Basic user operating requirements
- Defined user consultation strategy to develop infrastructure, monitor performance, and trigger feasibility for new investments
- Clarity on planned regulatory framework to be defined prior to procurement and adopted by bidders

Elements Supporting a Technical Bid Evaluation

IATA advocates for bidder technical proposals to cover a range of areas which should be evaluated, in line with the Airport Development Reference Manual ("ADRM"), including:

A. A detailed long term traffic forecast that should clearly indicate:

- Passengers in millions per annum and in the peak hour with additional detail for the first phase of development
- Air traffic movements in thousands per annum, and movements during the peak hour with additional detail for the first phase of development
- Cargo in tonnes per annum

Traffic forecasts should clearly indicate the demand by traffic type, and plot demand triggers for investment. This should illustrate how bidders intend to apply the framework provided to them regarding demand triggers.

B. An airport land use plan, draft master plan and phasing strategy taking account of major airport planning building blocks including:

- Airfield elements – runway, taxiway, taxi lanes
- Airport terminal(s)
- Aircraft parking stands
- Cargo facilities
- Fuel facilities
- Surface access
- Support and aircraft maintenance facilities

The most efficient use of the available land to meet the forecast demand should be demonstrated, including that it is aligned with long-term master plan.

C. For the first phase of investment, a clear understanding of the design and development process, costs, and timeframes to demonstrate capability in this area. Specific elements to assess could include:

- Capacity review study
- Different steps of the consultation process with users to secure their buy-in
- Planning permissions
- Design process including Concept, Options, and Detailed design
- Environmental assessments
- Deliverability of capital program and risk mitigation plan
- Procurement, construction, operational planning and commissioning
- Lead time required to develop the new infrastructure including airfield, terminal and cargo (speed of delivery)

D. Key design parameters including:

- Design specifications such as passenger Levels of Service i.e. IATA Airport Development Reference Manual (Optimum)
- Parking stands and levels of "pier service" (contact versus remote stands)
- Operational performance such as runway utilisation, average taxi times

E. Flexibility and efficiency in design and operation, including:

- Modular build sufficiently flexible to accommodate fluctuating traffic forecasts over time and changes in new technology
- Concept of operation
- An assessment of how the building will be used, as well as its cost and planning parameters is essential to implement cost efficiency
- Alignment of design to target quality/service

Short-listed bidders should develop a business case to demonstrate a return on investment for users, and to ensure that functional requirements are embedded in airport capital investment plans. As part of the concessions terms IATA highly recommends governments oblige concessionaires to consult and agree upon the detailed design and service quality solutions required to deliver their requirements, during the airport design, development and construction stage. As stated, IATA has developed specific best practice guidance to support meaningful and effective consultation that works towards consensus, "Airport Infrastructure Investment — Best Practice Consultation". This will help to select best value capital investment solutions which deliver user requirements.

Appendix 5.

Glossary

Abbreviation	Meaning
A4E	Airlines For Europe
A-CDM	Airport-Collaborative Decision Making
ACI	Airports Council International
ADP	Aéroports de Paris
ADR	Aeroporti di Roma
ADRM	Airport Development Reference Manual
AdT	Aguas del Tunari
AIA	Athens International Airport
ANA	Aeroportos de Portugal
ASLA	Airport Service Level Agreement
BLR	Kempegowda International Airport, Bangalore
BOO	Build-Operate-Own
BOOT	Built-Operate-Own-Transfer
BOT	Built-Operate-Transfer
CAA	Civil Aviation Authority
CAPEX	Capital Expenditure
CIDCO	City and Industrial Development Corporation
CSIA	Chhatrapati Shivaji International Airport
CUTE	Common-Use Terminal Equipment
DBFOM	Design-Build-Finance-Operate-Maintain
DBO	Design-Build-Operate
ENAC	Ente Nazionale per 'Aviazione Civile
ERA	Economics Regulation Agreement
ESG	Environmental, Social and Governance
GPUs	Ground Power Units
ICAO	International Civil Aviation Organization
IGIA	Indira Gandhi International Airport
IRR	Internal Rate of Return
INR	Indian Rupees
ITM	Osaka Itami Airport
KIX	Kansai Airport
KM	Kilometer
KPIs	Key Performance Indicators
LPVR	Least Present Value of Revenues
MEAT	Most Economically Advantageous Tender
MOP	Chile's Public Works Ministry
NGOs	Non-Governmental Organizations
O&M	Operations and Maintenance
OPEX	Operating Expenditure
ORAT	Operational Readiness and Testing
OTP	On Time Performance
PPP	Public Private Partnership
PSE	Passenger Sensitive Equipment
PSP	Private Sector Participation
QCBS	Quality and Cost-based Selection
RAB	Regulatory Asset Base
REPEX	Replacement Expenditure
ROI	Return on Investment
ROOT	Rehabilitate-Operate-Own-Transfer
SCL	Santiago International Airport
SLA	Service Level Agreement
SPV	Special Purpose Vehicle
TOOO	Rehabilitate-Operate-Own
TSA	Transport Security Administration
TTIA	Taiwan Taoyuan International Airport
UK	United Kingdom
WACC	Weighted Average Cost of Capital

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International Air Transport Association
33, Route de l'Aéroport
1215 Geneva 15 Airport
Switzerland

iata.org

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