AIRPORTS COUNCIL INTERNATIONAL

# Policy Brief

## Modernizing Global Policy Frameworks on Airport Charges: Ensuring the Efficient Use of Infrastructure for the Benefit of the Travelling Public

2021

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**Policy Brief**

Modernizing Global Policy Frameworks on Airport Charges:

Ensuring the Efficient Use of Infrastructure for the Benefit of the Travelling Public

November 2021

Copies of this publication are available from:
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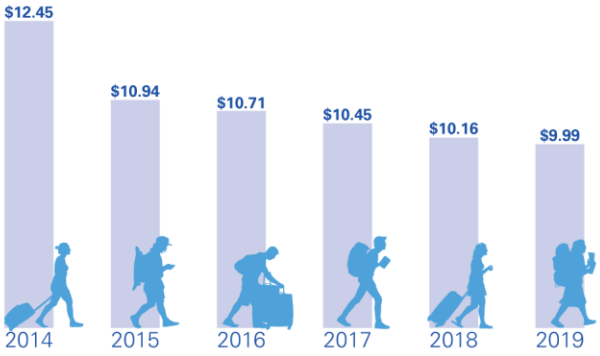
ACI World acknowledges the assistance of Inter*VISTAS* Consulting Inc. and the support of Oman Airports Management Company, ACI Africa, ACI Latin America-Caribbean, and ACI North America in preparing this Policy Brief.

# MODERNIZING GLOBAL POLICY FRAMEWORKS ON AIRPORT CHARGES

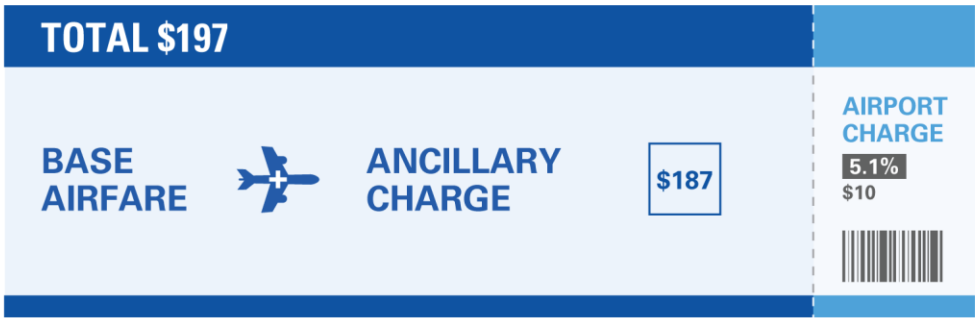
## Charges Have Fallen in Real (Inflation Adjusted US$) Terms

Global airport charges per passenger have on average declined by approximately

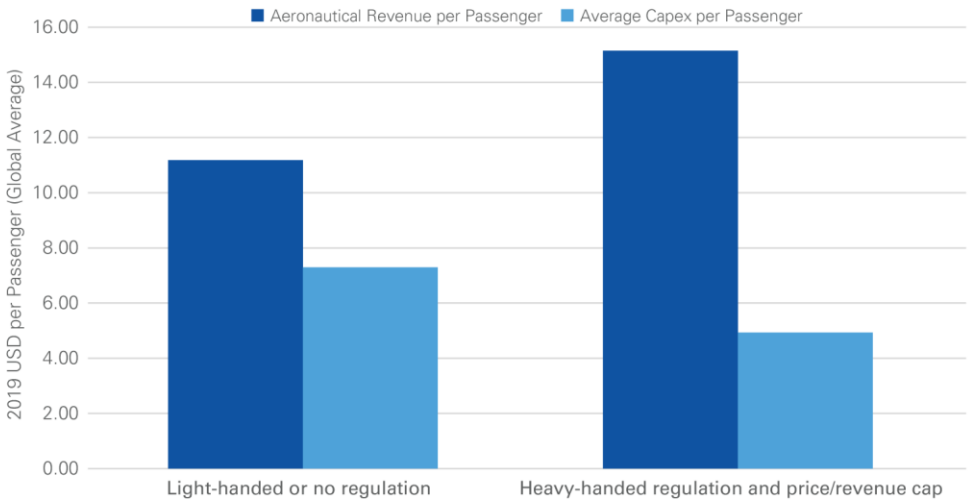
**20%** in real terms in the 5 years up to 2019.




## Airport Charges are a Small Percent of Airfares (US$)




## Heavy-Handed Regulation Does Not Always Lead to Better Results




## A Dramatically Evolved Aviation Industry

### AIRPORTS

- Commercialization and/or privatization
- Customer experience
- Increased competition
- Growth of non-aeronautical revenue
- Capacity shortfalls
- Innovations in charges (from only landing fees to landing/passenger fees)
- Unbundled and granular airport pricing
- Introduction of incentive pricing and commercial contracts
- Focus on mitigating noise and environment impacts

### AIRLINES

- Deregulation
- Privatization
- Antitrust immunized alliances
- Consolidation
- Increased customer orientation
- Aircraft technology
- Massive growth in fleets and capacity
- Innovative pricing (fares)
- Unbundling services and introducing ancillary charges

**Policies on airport charges should ensure that they serve the best interests of the travelling public and local communities.**

# Contents

# KEY FINDINGS

## Airport charges are an important element of the commercial aviation eco-system for infrastructure development

The level and structure of airport charges are an important part of the commercial aviation eco-system, affecting decisions on infrastructure development, aviation's social and economic connectivity and the prices consumer pay for air travel. They also provide important signals to airlines regarding optimal and efficient use of scarce airport resources, including airport slots and reduction in aviation's climate and other environmental impacts such as noise.

## Aviation is a dramatically changed industry – Many airlines have been deregulated, privatized, and consolidated, and there is increased competition between airports

- In most parts of the world, the approach to setting airport charges is still based on a cost recovery model encapsulated in ICAO's policies on airport charges; little has changed since it was first drafted in 1948.
- However, the aviation industry has transformed beyond recognition since ICAO policies on charges were first developed. Airlines have been substantially deregulated, many have been privatized and governments have enabled airline consolidation and antitrust immunized alliances. Airports have transformed from state-run utilities to commercial entities, often with private sector involvement or ownership. The approach to airport charges needs to be updated to reflect the changed environment and the need for airport pricing to focus on achieving economic efficiency, reflecting both supply and demand elements of the airport market.
- There are a range of factors, including competition between airports and countervailing power of airlines, which mitigate against the use of market power in a way that damages economic efficiency.
    - Airports today face much greater competition: within their catchment areas from rival airports, from airports in rival destinations, for transfer passengers, and for air service capacity deployed by airlines. Over half of surveyed airports reported having a competing airport within 100kms and analysis of airline schedules reveals a dramatic increase in competition for connecting passengers.
    - There is substantial and growing countervailing market power from airlines due to consolidation of legacy carriers, antitrust immunized alliances, and the evolution of airline business models (e.g., Low-Cost Carriers). Research from Europe found that 15–20% of routes are churned each year as airlines shift existing and allocate new capacity. As a result, airport charges are subject to market forces which mitigate against abuse of market power.

## The impact of airport charges on consumers, airlines, and airports

- The impact of airport charges on consumers (passengers) is very small to negligible. The full basket of airport charges represents only 5.1% of the base airfare and ancillary fees. Landing charges represent only 1% of the airfare.
- Airport charges have been declining in recent years in all regions. Average global aeronautical revenues from charges on a per passenger basis declined approximately 20% in real terms between 2014 and 2019, despite capital expenditures (CAPEX) generally increasing over this period.
- While airport charges represent a small proportion of airline cost historically (4%), they are a fundamental revenue source for airport operators to cover the cost of infrastructure. Airport revenue generated from aeronautical charges represent as much as 55% of all revenues (including passenger- and aircraft-related charges). Only 24% of all airport revenues come from charges that are levied on airlines.

## Airport capital expenditure, climate change, and airport charges

- Airports have an important role in tackling both local and global environmental impacts, especially emissions and noise. A study commissioned by the European Commission found that 61% of European airports applied some sort of charging adjustment for noise and 20% for emissions. It is appropriate that airports set charges that incentivize reductions in noise and emissions.
- Despite the impact of COVID-19, there is a long-term need for capacity expansion to meet future demand. Previous research estimated the needed total global airport CAPEX required by 2040 was US$2.4 trillion globally. Airports need to be able to set airport charges with a commercial focus to attract the level of investment needed and to signal whether users are willing to pay for these investments.
- Where there is excess demand for airport capacity (congestion) and where capacity expansion is difficult to implement, airport charges should play a critical role in signaling which airline operations would make the best use of the scarce capacity. Charges should signal the scarcity and whether the market is willing to pay for capacity expansion. Where there is a willingness, scarcity-based charges can be used to prefund the needed CAPEX.
- Where airport capacity is underutilized, there is a role for airport charges to provide incentives for new services to increase regional connectivity and hence maximize economic and social benefits of air transport.

## Market developments and the impact of economic regulation on airport charges (pre-COVID-19 pandemic)

- A number of airports around the world have been subject to economic regulation of their charges, with governments using a variety of regulatory models from heavy-handed (e.g., rate-base, price cap) to light-handed (e.g., trigger regulation or pricing and performance monitoring). Others have not been subject to regulation. Analysis of aeronautical revenues found that heavy-handed forms of regulation did not result in lower charges than light or no regulation and in some cases such charges regulation is associated with higher charges, although this may

partially be due to some price cap regulated airports having high CAPEX needs. At the same time, CAPEX is at similar levels for airports subject to light-handed and no regulation as they are for airports subject to heavy-handed regulation (although CAPEX at light-handed regulated airports is higher).

- A survey of airports around the world found that half of airports, largely those subject to more heavy-handed forms of regulation, did not believe that their current regulatory model fostered innovation, cost efficiency, and innovative charges to stimulate demand where capacity is available or to signal scarcity to allocate capacity to highest value uses. Respondents indicated that there can be conflict between government policy and regulatory decisions, impacting the ability of the airport to make investments and other commercial decisions. Incentives and discounts have become widespread instruments deployed by airports worldwide. A majority (62%) of airports surveyed used some form of incentive or discounting for new route development and another 19% were considering them. Of those using incentives, 82% considered them effective. However, half of the respondents indicated their regulatory model limits the effective use of incentives. European airports indicated a more negative result than airports responding from North America, reflecting regional variation in experience with regulation.

## The impact of the COVID-19 pandemic on the airport industry

- The COVID-19 pandemic has massively impacted the airport sector. Global airport revenues declined 65% in 2020, a loss of US$122 billion. The outlook for 2021 is similar with a decline of 57% (compared with 2019).
- Despite the large losses incurred by the COVID-19 pandemic, over two-thirds of surveyed airports (68%) have implemented some form of discounts or incentives to the airport charging specifically to address the COVID-19 impacts and recovery.
- Surveyed airports were asked what their most pressing issues arising from the COVID-19 pandemic are regarding airport charges regulation. These are lack of flexibility to adjust prices rapidly, lack of clarity as to how losses could be recovered in the future and impacts on financing future investments. Those airports subject to regulation were asked if they would be able to recover COVID-19-related losses, and only 34% indicate that they would.
- The impact of the COVID-19 pandemic on airport traffic has caused investors to re-evaluate their risk assessment of airports. As a result, a number of airports in North America, Europe, and Asia-Pacific have had their credit ratings downgraded following the COVID-19 pandemic. Analysis of asset betas (a measure of financial market risk) of listed airport companies showed a marked increase in the beta value since the start of the pandemic. This has implications for airport investment — if airports are not able to recover from COVID-19-related losses through future airport charges, it is very likely that investors will require higher returns to mitigate this risk.

# POLICY RECOMMENDATIONS

## Policies on airport charges should ensure that they serve the best interests of the traveling public and local communities

Government policy needs to consider what is ultimately best for consumers, independently of the market relationships of other actors in the aviation ecosystem such as airports and airlines. In many instances, this means crafting policy that incentivizes sustainability, efficiency, investment in infrastructure, and generates a multiplier of socio-economic benefits and connectivity.

## Right to assess charges

Airports have a right to set and collect charges for airport facilities. While this may seem obvious and has been an ICAO policy from the beginning, in some countries it is still necessary to enable this in law.

## Strictly cost-based airport charges should be reconsidered as they do not ensure that infrastructure is used more efficiently for the benefit of the travelling public

The cost-based approach considers only one side of the market. It ignores the demand side and the need for airport pricing policies to provide the right incentives and signals regarding capacity utilization, community responsibility regarding noise and environmental impact, traffic growth to support aviation dependent economic sectors and social connectivity, and non-aeronautical revenue development.

## The primary focus of charges should be on market needs and signals

The primary focus of policies toward airport charges should be on flexibility and responsiveness to market needs and developments. Airport charges should provide incentives for optimal use of airport resources and for investments. The cost-relatedness principle should be supplemented by a market-responsiveness principle that reflects the competitive dimension of the airport industry and enables incentives and market-based charges to respond to passenger and airline needs and address impacts such as noise and pollution.

## The best way forward is through commercial agreements between airports and airlines

Exceptional cases aside, commercial agreements between airports and airlines are the best way forward. Such agreements have been successful in a number of jurisdictions and can address issues of information disclosure by airports and airlines, consultation formats, CAPEX plans and approvals, noise/congestion/environment incentives and dispute resolution.

## The economic oversight function should evaluate the degree to which an airport is subject to competition in various sectors

The traditional view that airports are natural monopolies that will inevitably exercise market power no longer holds. Most airports compete in multiple dimensions. Such competition can and does constrain the pricing conduct of airports. Where airports face competition in one or more of the dimensions of catchment area, transfer passengers, destination attractiveness, or airline fleet deployment, the presumption should be that regulation of charges is not necessary and the onus

should be on the government to demonstrate that the competition is not sufficiently constraining prices. The Australian approach of periodic monitoring of airport charges, regarding whether market power has actually been unduly exercised with negative performance outcomes, is worthy of consideration.

### The economic oversight function should evaluate the degree to which airlines can exercise countervailing power regarding airport charges

Airlines have the ability to respond to pricing by moving capacity. As well, airline concentration at many airports is high and growing. Airline mergers and various types of alliances, especially those with airline pricing and capacity immunity, have enhanced the countervailing power of airlines.

### Any consideration of whether to regulate, or continue to regulate airport charges should be subject to a cost-benefit analysis

Regulation should only be used if the benefits of regulation exceed the costs. Governments should require any new regulation of airport charges to be justified by cost-benefit analysis, and they should periodically review whether continued regulation of charges remains justified on a cost-benefit basis.

### Where regulation is deemed necessary, light-handed oversight formats should be preferred

In those few cases where commercial arrangements between airports and airlines will not satisfactorily constrain airport charges, it may be appropriate to consider a regulatory constraint on charges. Such consideration must first conduct and pass a cost-benefit test. Any regulation applied should seek to foster the evolution of competitive forces, and to encourage the market players to come to their own resolution. The use of lighted-handed formats such as trigger-regulation or airport charges monitoring should be favored ahead of more intrusive regulatory formats.

### Where airports are regulated, dual till regulatory approaches should be considered favorably

Dual till charges allow an airport to retain net non-aeronautical revenues rather than immediately apply them to offset aeronautical costs. Dual till policies strongly incentivize the airport to aggressively develop non-aeronautical services. Because passenger traffic volumes are the primary driver of non-aeronautical revenues dual till airports are strongly incentivized to develop passenger volumes through marketing incentive-based charges such as volume discounts and new air service supports. At many airports, dual till income is a key source of financing current and future CAPEX, either directly or via servicing new debt and/or equity funding for CAPEX. Further, dual till arrangements encourage airports to develop non-aviation related services in an efficient way, especially where they have land holding not required for current or future aviation uses.

# 1. MODERNIZING AIRPORT CHARGES – FROM OLD CONVENTIONS TO EXISTING INDUSTRY REALITIES

## 1.1. Airport charges

Across the globe, charges that are levied by airports on users of airport infrastructure are, in many cases, subject to economic regulation. Historically, this has been based on initially well-intentioned pursuits by regulators. However, outdated global conventions hang over the airport industry that are not reflective of market realities. Inadvertently, this has been to the detriment of the traveling public and a disservice to the economic and social benefits of air transport.

In 1948, when the International Civil Aviation Organization (ICAO) issued its first circular on airport charges, airports were seen essentially as public services provided by the government to facilitate the newly expanding industry of commercial air travel. More than 70 years later, airports, and the air transportation ecosystem they operate within, have drastically changed. So has how they fund their operations and capital investments. And yet, the current underlying airport charges principles have not evolved much from the definitions set forth in the late 1940's. This is a fundamental issue for airports as they enter the post-COVID-19 pandemic recovery phase.

What are charges? Airport charges are fees assessed by airport operators for the services they provide to their customers. Customers may be airlines using runway/apron parking/terminal services, passengers using terminal services/ground transport/other services, and lessors of airport facilities (such as airlines for maintenance, office and other purposes, freight forwarders for the handling of cargo, government agencies for the facilities they require to carry out their mandates, and a number of other users of airport service and facilities).

## 1.2. Economic issues regarding airport charges

The unintended consequences of the cost basis for airport charges – ICAO defines an airport charge as *"a levy that is designed and applied specifically to recover the costs of providing facilities and civil aviation services,"* including the operating expenses and costs related to capital investments to build and maintain airport infrastructure.

ICAO's exclusive cost focus regarding airport charges is the fundamental issue raised in this Brief. While a cost focus by regulators is well-intentioned to mimic what economists refer to as a welfare enhancing outcomes based on the cost-relatedness principle, unfortunately perverse outcomes have been observed based on the industry's historical data. The consequence is that infrastructure developments that extend benefits to the traveling public and the related socio-economic multiplier benefit to economies has been hindered in many jurisdictions.

This issue is of critical importance as global policy frameworks have been misguiding approaches to airport charges in those jurisdictions that impose regulation.

The underlying problem resides in the often-taken assumption that airport market structures are monopolistic and airport

operators necessarily conduct themselves as such. In most cases, empirical data demonstrates that pricing behaviour and market conduct of airports reflects otherwise. The belief that airports are monopolies and would inevitably charge higher prices to users of infrastructure if left to their own device is a fallacy in many jurisdictions. In fact, many airports compete along multiple dimensions that restrain any market power – the ability to raise prices – they may have.

A cost basis for regulated charges also risks rewarding cost inefficiencies.

**Pricing as a signal for the efficient use of airport infrastructure –** Prices that are exclusively cost-based often provide the wrong signals to the market. They do not incentivize airport operators towards efficiencies, cost reduction and innovation for the benefit of the traveling public, and they do not incentivize airport users to make the most optimum and sustainable use of airport infrastructure. Charges based on recovering costs do not provide incentives for cost reduction, nor for improvements in the customer experience.

**Airport charges should be viewed as price signals for the efficient use of airport infrastructure.**

The view of Airports Council International (ACI) is that airport charges should be market-based, reflecting not only market supply (cost) but also demand aspects. The oversight of airport charges should not be confined merely to the coverage of historical costs. Charges should provide incentives for prioritizing uses of existing capacity, for signalling when the market needs are able to pay for additional capacity, for signalling changes in behaviour to mitigate external impacts such as noise and the decarbonization of air transport, for ensuring coverage of infrastructure maintenance and replacement at current costs, and for increasing regional/national connectivity via incentives. Financial risks, especially in the post-COVID-19 era, also needs to be addressed in airport charges.

In essence, an important distinction needs to be made between airport charges that are solely based on cost recovery principles as defined by ICAO, versus charges that represent a true measure of value and provide signals to airport operators and their customers alike for the efficient allocation and development of resources.

Pricing in any market is a result of the interaction of supply and demand factors. In some market conditions, prices will result in charges that exactly cover the cost of a specific airport service. In most scenarios, however, this will not be the case. Prices have many functions other than cost recovery. For airports, one critical function is that they need to provide signals on optimum use of scarce airport resources. Congested airports (those where demand for airport services exceeds available capacity) should have prices that incentivize only the flights that create the most value for passengers and society in general. A congested airport could have low unit costs, but low prices provide the wrong incentives for use of the limited capacity, and do not encourage the airport operator to invest in capacity expansion. Charges should signal when users are willing to pay for investments and prefund needed capital expenditures.

**Flexible pricing need not be inconsistent with cost recovery over time –** Pricing flexibility to better reflect market conditions can mean that prices can be lower than cost when demand is low and higher when it is high. This is observed (discussed later) in the current COVID-19 market conditions where many airports offer incentives to carriers to

incentivize and support the restart of services and regional connectivity. When demand for airport services exceeds available capacity, higher charges are desirable and can be used to prefund needed CAPEX. One of the inefficiencies of cost-based regulation is that it encourages airports to recover costs when demand is low to the detriment of customers and the development of the airport and its connectivity. A more flexible charges approach is a gain for airlines and consumers and a benefit for the whole aviation ecosystem.

**Airport charges should reflect not only market supply (cost) but also demand elements,** especially price signals for efficient use of airport resources.

Charges should provide incentives for prioritizing uses of existing capacity, for signalling when the market needs and is able to pay for additional capacity, for signalling changes in behaviour to mitigate external impacts such as noise and environment, and for increasing connectivity via incentives.

Airport charges policies need to evolve in favour of passengers (consumers) who are at the centre of the aviation ecosystem – A theme of this Brief is that in many cases government policies toward airport charges have not evolved and are now resulting in economic distortions and inefficiencies. Charging policies were originally set in an era where the economics of the aviation sector were dramatically different from what they are today. Regulators have an important role to play in monitoring competition in both airport and airline markets – as opposed to price determination. Serving the traveling public through policy tools that incentivize much needed capital investments, that enhance connectivity, and that ensure existing infrastructure is used efficiently is a key consideration for public policy. Charging policies were originally airline-centric and were set in an era where the economics of the aviation sector were dramatically different from what they are today. Recognition must also be given to the multiple dimensions of airport competition which can constrain airport charges.

# A NEW APPROACH TOWARD AIRPORT CHARGES

## FROM COST-BASED PRICES ON A COST-LINE BASIS

- Recover the historical operating and capital costs of the airport, typically setting cost-based charges for each cost grouping (e.g., terminal, airfield, ramp parking, etc).

## TO MARKET-BASED PRICES

### Pricing that recovers costs but also manages capacity efficiently (supply side)

- Reflect and recover the operating, current maintenance, and replacement capital costs of the airport over time, although not necessarily on a year-by-year basis.
- Provide incentives to airports to reduce costs via market pressures.
- Reflect scarce airport capacity to prioritize high value uses of the available capacity.
- Provide funds via pre-financing when capacity is scarce and must be expanded.
- Provide incentives when there is unutilized airport capacity to attract new services expand regional connectivity.

### Pricing that properly reflects the value of scarce airport capacity (demand side)

- Reflect customer (airline, passenger, leaseholder) willingness to pay and valuation of services.
- Signal to the airport operator when the market is willing and able to pay for increased capacity. These price signals can be used for partial prefunding of needed and justified capacity expansion.

### Pricing that increases connectivity and capacity utilization (demand side)

- Provide incentives to airlines to increase community connectivity via new routes, added capacity, lower fares, and competition.
- Provide appropriate and effective incentives to airlines to grow traffic when capacity is underutilized and in a recovery.

### Pricing that reflects the competitive landscape (market based)

- Reduce airport/airline/government/stakeholder costs of price regulation when the benefits of regulation do not exceed its costs.
- Recognize the market pressures at the increasingly large number of airports that compete for catchment area, connecting and destination traffic, airline deployment of fleet capacity and intermodal competition.

### Pricing that incentivizes reduction in noise and emission externality impacts

- Allow pricing to incentivize mitigation of noise and emission impacts.
- Support airport decarbonization strategies and goals.

# 2. THE AVIATION INDUSTRY: TRANSFORMED BEYOND RECOGNITION

The aviation sector (airlines, airports, and consumers) has radically transformed in the decades since the ICAO policies of airport charges were first drafted, as summarized below.

## 2.1. Airline deregulation and liberalization

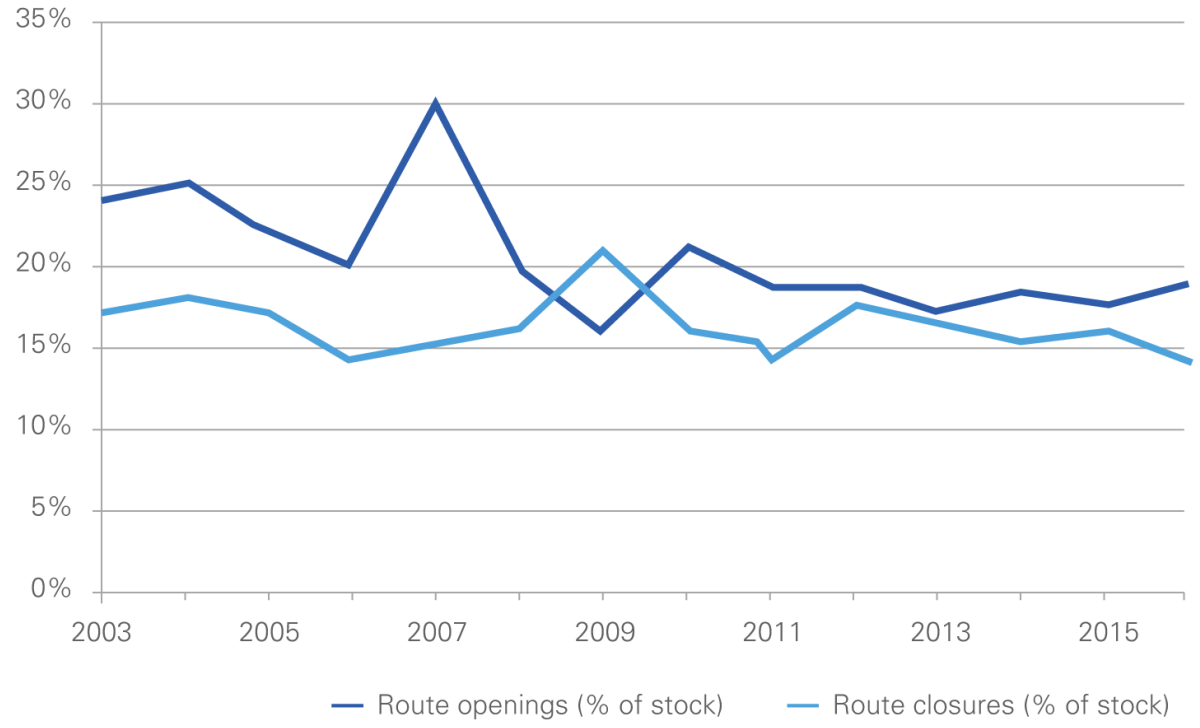
Starting in the 1970s, governments deregulated air service and privatized airlines, removed government controls, and allowed market forces to determine service and price levels. There has also been a trend towards the liberalization of international air services, with countries pursuing "open skies" bilateral air service agreements, which remove restrictions on capacity, pricing, and routes, among other aspects. This deregulation and liberalization of aviation markets has led to greater competition between airlines, the emergence of new carriers and carrier types, and the dramatic commercial transformation of existing carriers. Most notably (but not exclusive to deregulated markets) has been the rise of low-cost carriers (LCCs).

This more liberal air policy and changing business models have resulted in air carriers becoming more flexible and "footloose" in how and where they operate. Air carriers, especially LCCs, are willing to switch capacity between airports (sometimes referred to as "focus cities") in response to market demand and cost levels. This is illustrated in Figure 1 which shows the "churn" of routes — the percentage of routes that either started or terminated each year within Europe as carriers move capacity between airports. This figure shows that 15–20% of routes are churned each year and demonstrates the freedom airlines have to shift existing and allocate new capacity, which in turn translates into airport competition for traffic development and retention.

This ability to move capacity can provide airlines with countervailing buyer power towards airports, particularly when the airline represents a large proportion of an airport's traffic. This is because the action of a single airline (or a group of airlines) can have a significant effect on the airport's profitability.

Therefore, actual switching, or even just the credible threat of switching some capacity away from the airport, can provide significant countervailing power for the airline.

FIGURE 1 Route Churn Rates in Europe 2003–2016




Source: ACI Europe, "The Continuing Development of Airport Competition in Europe", reported prepared by Oxera for ACI Europe, 15 September 2017. One route is defined as a service by a unique airline between a unique origin and destination. Based on traffic between European countries.

## 2.2. Airline consolidation

In the last two decades, continual airline consolidation with a smaller number of airlines controlling an increasing share of the air traffic has been seen. This consolidation process accelerated following the Global Financial Crisis of 2007/08 as some airlines faced financial distress. As noted in the previous section, dominant airlines controlling a large share of traffic at an airport can hold bargaining or countervailing power.

Such intense competitive trends are shaping the dynamics of the airport industry where airline consolidation and airlines' countervailing power has continuously increased in many markets over the last decades. The rise and prevalence of the LCC business model, presence of dominant carriers, formation of oligopolistic airline alliances, and holding of large portfolios of grandfathered airport slots are giving airlines significant countervailing power vis-à-vis airport operators. This consolidation continues to occur through mergers and acquisitions, airline failures, and the emergence and strong growth of dominant LCCs such as Ryanair, EasyJet, Southwest Airlines, and Air Asia.

## 2.3. Increased airport competition

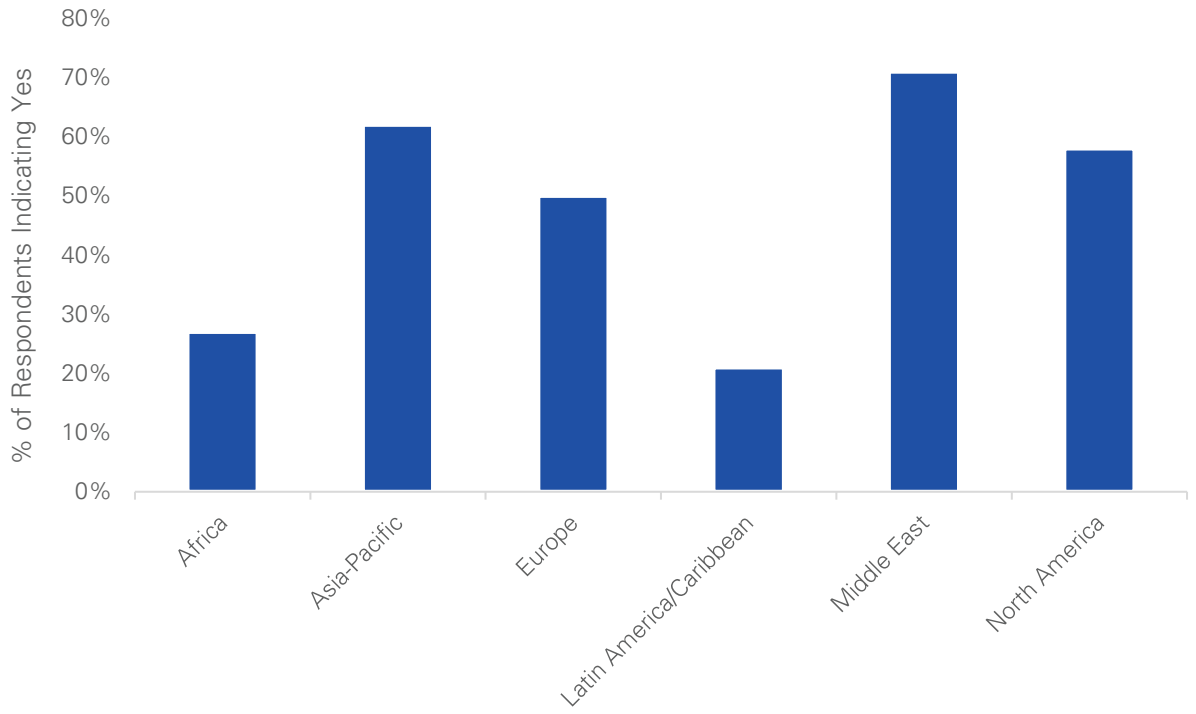
Airports face competitive pressures to attract and retain passengers and airlines, which manifest in several forms:

- Competition for air services
  With airlines able to move capacity between airports and focused on deploying additional capacity (i.e., new aircraft) where returns are highest, airports are forced to aggressively compete for air services. This is reflected in the growth of airline network development conferences where airports market themselves to airlines. In a 2019 survey of European airports, 65% reported that their route development budgets were substantially higher than 10 years previously and a further 13% reported their budgets had increased marginally.[1] In addition, the average number employees assigned to route development had increased from 3.7 FTEs (full-time equivalents) to 4.7 FTEs over the past ten years (a 28% increase).[2]

- Competition for local markets
  There are many instances where airports are in proximity of each other and compete for passengers (and cargo) in the same catchment area. Many cities have two or more airports through which passengers can access air services. A survey of airports conducted as part of this study found that half of respondents indicated that there was another commercial airport within 100km of their airport. This was especially true for those airports from the Asia-Pacific region, as shown in Figure 2. Four of the six global regions have more than 50% of airports indicating a competing commercial airport is within 100 km.

[1] "Airport competition from airports' perspective: Evidence from a survey of European airports", Bilotkach, V. and Bush, H., Competition and Regulation in Network Industries 21(3), July 2020.
[2] Ibid.

FIGURE 2 Percent of Airports Surveyed that have Another Airport Within 100km 2021




Source: Inter*VISTAS* Analysis of Airport Survey Data (2021)

- Competition for transfer traffic
  At many major airports, connecting traffic, both passenger and cargo, is a major component of the total traffic handled. At several major hubs, connecting traffic makes up more than half of the total passenger traffic handled by the airport. Transfer traffic can easily shift from one airport to another if cheaper, faster, and/or more convenient connections become available, or if an airport offers a better experience for the traveller. For example, Istanbul and Dubai have emerged as major connecting airports, a result from the growth of their home carriers, from investment by each airport to facilitate growth, and from leveraging the geographic advantage of being located between large population regions. The passenger's opinion of the "airport experience" matters in this competitive equation. Airports with better passenger facilitation services, a greater array of terminal services and a better customer experience are favoured by many passengers.

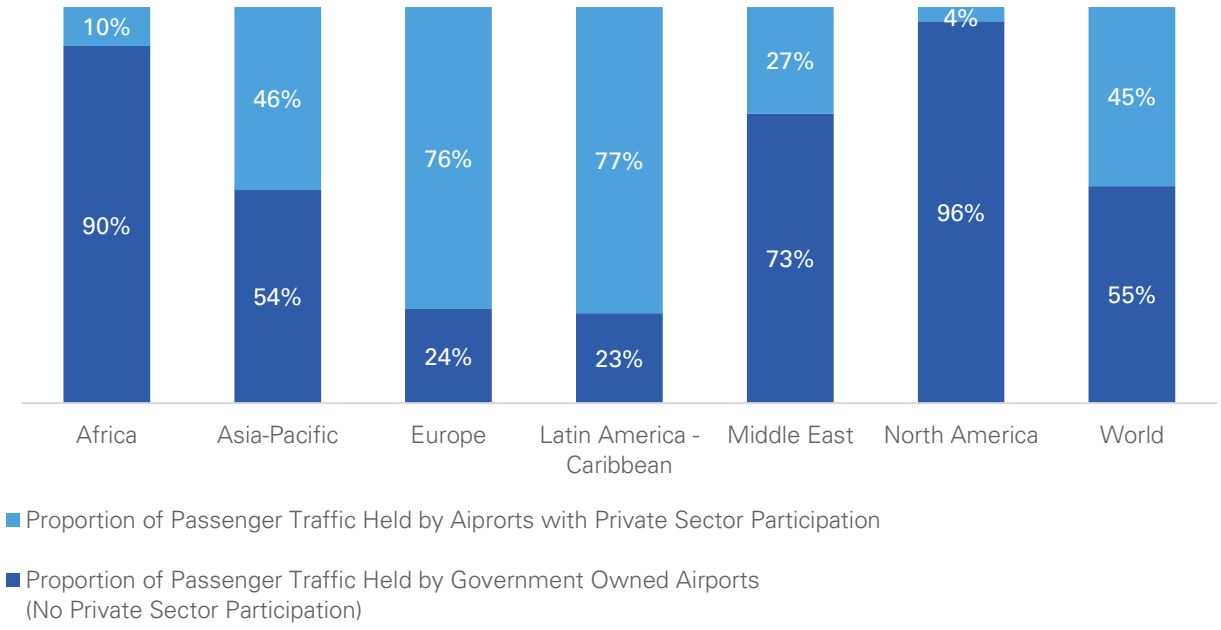
- Competition with other modes of transport
  On certain short haul routes, air services are competing with rail and road. For example, the Eurostar service between London and European cities, the TGV services in France, and new high speed rail lines in China. This results in further competitive pressure on airport charges and services.
- Competition with other sectors (non-aeronautical revenues)
  The airport business is two-fold: it combines aeronautical services with non-aeronautical activities such as providing retail, food and beverage, parking, hotel accommodation, and other various services to passengers and other stakeholders. Therefore, they also compete against non-aviation sectors of the economy. The rise of e-commerce, sharing economy platforms, ubiquitous digitalization, and other significant forces and trends have enhanced these competitive pressures. For instance, airport retail activities – typically the largest source of commercial revenues – are now in direct competition with online retailers whereby consumers can compare prices from stores, buy goods online, and get these delivered directly to their homes.

## 2.4. Airport commercialization, corporatization and privatization

Since the 1980s, there has been a trend towards increased private sector involvement in airports. This has included wholesale or partial privatization (various UK and European airports, Australia, New Zealand), not-for-profit authorities (Canada), and concession arrangements. The latter, sometimes referred to as Build-Operate-Transfer (BOT) is where the private sector operates the airport for a period of 20–40 years (the concession period) while committing to invest in required infrastructure improvement and expansion, while the state retains ownership of the airport.

The degree of private sector involvement varies by region, as illustrated in Figure 3. Airports with private sector involvement accounted for 76% of passenger traffic in Europe, 77% of passenger traffic in Latin America and the Caribbean, and 46% of traffic in Asia Pacific. Private sector involvement is lower in other regions, particularly North America, where most airports are largely operated by state or local governments.

FIGURE 3 Distribution of Passenger Traffic by Ownership Structure and Region 2019



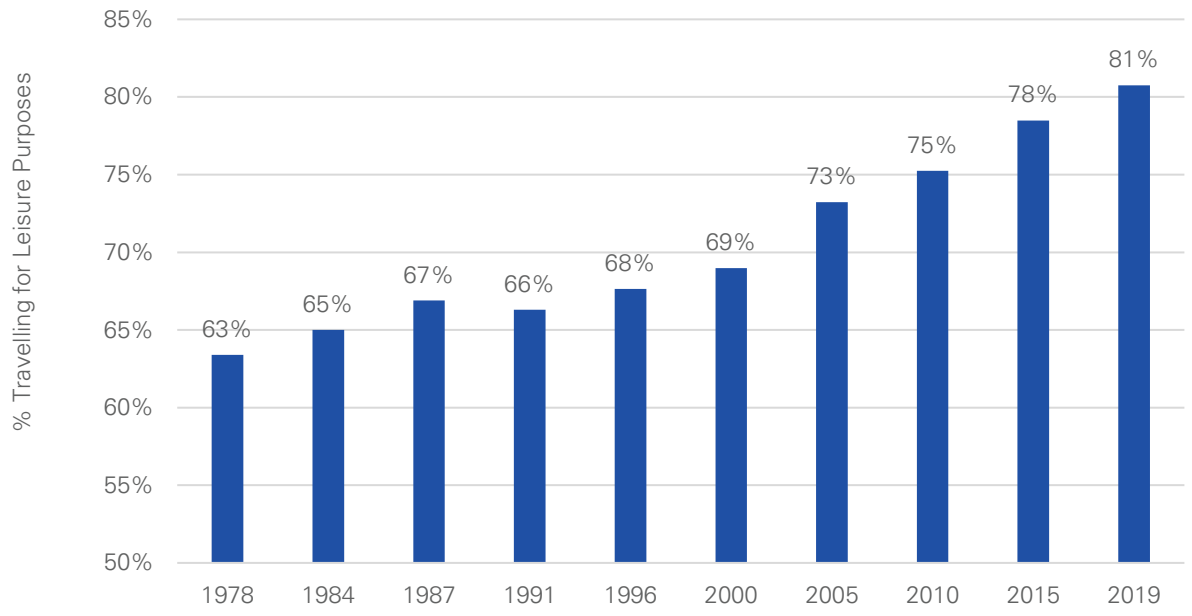

Source: Updated with 2019 Passenger Data based on "Policy Brief: Creating fertile grounds for private investment in airports", 2018, Airport Council International.

Often the BOT concession agreement specifies the scale and nature of the capital investment and indicates the airport charges that can be applied, providing certainty for investors and airlines alike. Even at airports that remain under government control, such as those in the United States, airport managers have shown a greater focus on commercial operations, as governments seek to improve value for money to the taxpayer and in recognition of the wider benefits of stimulating additional traffic and connectivity. There is a recognition that these airports should seek to accommodate the travel needs of the local region and contribute to the local economy.

## 2.5. The changing nature of air passenger demand

As air services have become more affordable and more accessible, there has been a general trend toward greater leisure travel. This is illustrated in Figure 4, which shows the proportion of passengers at London airports travelling for leisure purposes. While this is a specific example (given the data availability in the UK), this is also a general trend.

FIGURE 4 Share of Passengers at London Airports Travelling for Leisure Purposes 1978–2019




Source: UK CAA Departing Passenger Survey Reports 1991-2019. Includes Heathrow, Gatwick, Stansted, and Luton. Years selected prior to 2000 are based on availability of data.

Leisure travelers tend to be more price sensitive than business travelers as the latter are generally not personally paying the bill for their travel. This has been found repeatedly in empirical research. In addition, leisure travelers tend to be less time sensitive and are willing to travel to more distant airports to obtain cheaper air travel. Therefore, the changes in passenger mix place greater competitive pressure on airports seeking to attract price sensitive leisure passengers.

Another factor to consider for the evolving passenger profile is the impact of service quality and the evolution of passenger needs regarding service quality. Many airports around the world are making investments to ensure passengers want to return to their airport (airports can compete on service quality), and this is especially true for airports in close proximity or airports that compete for transfer traffic.

### 2.6. Environmental pressures and associated charges

Noise and emissions from activity at airports, including aircraft landing and taking off, can frequently impact communities around the airport. While many actors are responsible for these impacts (airlines, passengers, ground handlers, cargo operators, etc.), airports are the public's primary focus for such concerns, and they are expected to manage these "externalities." In addition, airports have a role to play in tackling the growing climate crisis linked to the emission of greenhouse gases. ACI and its members set out a long-term goal to reach net zero carbon by 2050:

*"ACI member airports at a global level commit to reach net zero carbon emissions by 2050 and urge governments to provide the necessary support in this endeavor."* June 2021.[3]

The ability to apply surcharges to airlines that use heavily emitting or noisy aircraft (or use the airport at noise sensitive times) and to offer discounts to those airlines that use cleaner, quieter aircraft can be crucial to airports achieving their environmental and community responsibility targets. A study commissioned by the European Commission found that in 2016, 61% of European airports applied some sort of charging adjustment for noise and 20% for emissions.[4]

**Prices are not merely a means to achieve coverage of costs. They are critical signals for achieving economic efficiency, including those from externalities such as noise, emissions, and congestion.**

It is important to note that there is a difference between modulations of charges to incentivize airlines to use quieter or lower-emissions aircraft, which may be revenue neutral, and the application of noise or emissions charges. The former may be revenue neutral to the airport, while the latter is not part of general revenues but are typically used to provide funds for noise mitigation purposes or local environmental actions.

There is a need for airports to set charges at levels that would provide meaningful price signals to achieve economic efficiency by reductions in noise and emissions. Prices are not merely a means to achieve coverage of costs. They are critical signals for achieving economic efficiency, including from externalities such as noise, emissions, and congestion. Some may be of the view that charges incentives at a single airport for noise and emissions reductions would be ineffective. However, such charges can provide meaningful incentives for fleet

[3] ACI World (2021) Net zero by 2050: ACI sets global long term carbon goal for airports, https://aci.aero/2021/06/08/net-zero-by-2050-aci-sets-global-long-term-carbon-goal-for-airports/

[4] Support study to the ex-post evaluation of Directive 2009/12/EC on Airport Charges, Steer Davies Gleave, December 2017.

renewal and deployment. As well, as additional airports adopt such incentive schemes, the cumulative impact on fleet decisions potentially becomes significant.

### 2.7. Airport capacity crunch

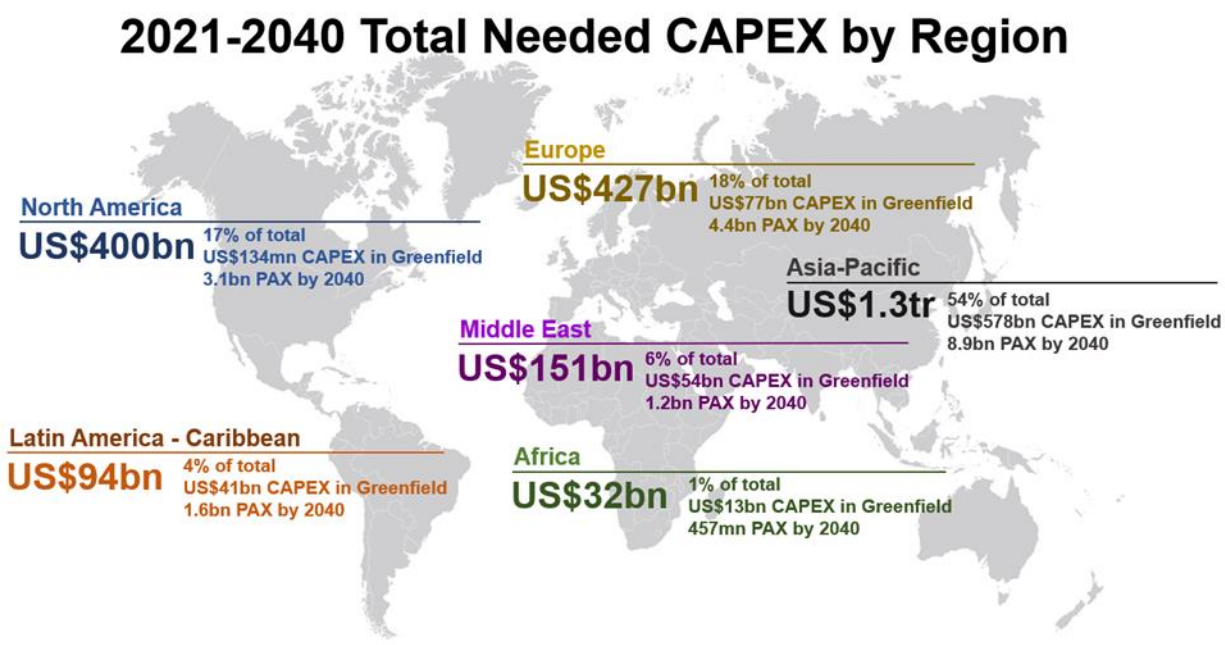
Airports aim to achieve the best use of existing capacity – rationing scarce capacity to the highest value uses when there is congestion and excess demand, and incenting new services when capacity is underutilized. A more commercial approach to airport charges can contribute to achieving this objective.

While the COVID-19 pandemic has led to a dramatic decline in air traffic volumes, traffic is projected to recover in the next few years. In the medium-term, air traffic is forecast to return to robust growth driven by rising incomes, growth in working populations in developing economies, and increased air service affordability, choice, and convenience.

These rising traffic volumes will need to be accommodated at airports and with many airports already at or close to capacity, there will be a need for substantial capacity expansion through a combination of expanding existing airports or developing new airports. A comprehensive study commissioned by ACI World estimated the total CAPEX required up to 2040 was US$2.4 trillion globally, as summarized in Figure 5.[5] Approximately 70% of this expenditure will be spent on expanding and upgrading existing airport facilities ("brownfield") and 30% will be spent on the development of new airports ("greenfield").

[5] "Global Outlook of Airport Expenditure: Meeting Sustainable Development Goals and Future Air Travel Demand", ACI World, June 2021.

FIGURE 5 Total CAPEX Needs by Region 2021–2040




Source: "Global Outlook of Airport Expenditure: Meeting Sustainable Development Goals and Future Air Travel Demand", ACI World, June 2021.

Attracting US$2.4 trillion in investment will be challenging, especially as the investment needs tend to be "lumpy" (large amounts are required at a time) and will deliver returns over a long period of time. Airports need to be able to set airport charges with a commercial focus, ensuring that they have market-based mechanisms that allow the airport operators to ensure that efficient and needed investments are made. Without this, it will be near impossible to attract the necessary investment, or the returns required will be too prohibitive. It is essential that the return on invested capital in the airport business is commensurate with the cost of its debt and equity instruments, which the evidence clearly indicates have increased post-COVID-19.

# 3. MARKET REALITIES AND THE IMPACT OF ECONOMIC CHARGES REGULATION – WHAT DOES THE DATA REVEAL?

## 3.1. Airport charges have declined, and airports share more of the risk

Airport charges are assessed on various aeronautical services (e.g., take-off and landing, terminal use, aircraft parking, security services, etc.) provided by either the airport or the government. The list of charges outlines all related charges for an airline to operate at an airport. The list also includes any charges directly assessed on passengers. While the list of charges presents the base level of charges applicable at an airport, these can overstate the actual charges paid by airlines, as they do not include discounts or incentives offered to airlines by the airport.[6]

The revenue generated from aeronautical charges represent as much as 55% of all airport revenues (including passenger and airline related charges). While charges paid by airlines represent a vital source of revenue for airports, they are insufficient to cover the full cost airports. After recognizing non-aeronautical revenues, on average only 24% of total airport revenues come from charges that are levied on airlines. This is where non-aeronautical revenues play an important role (see Figure 6).

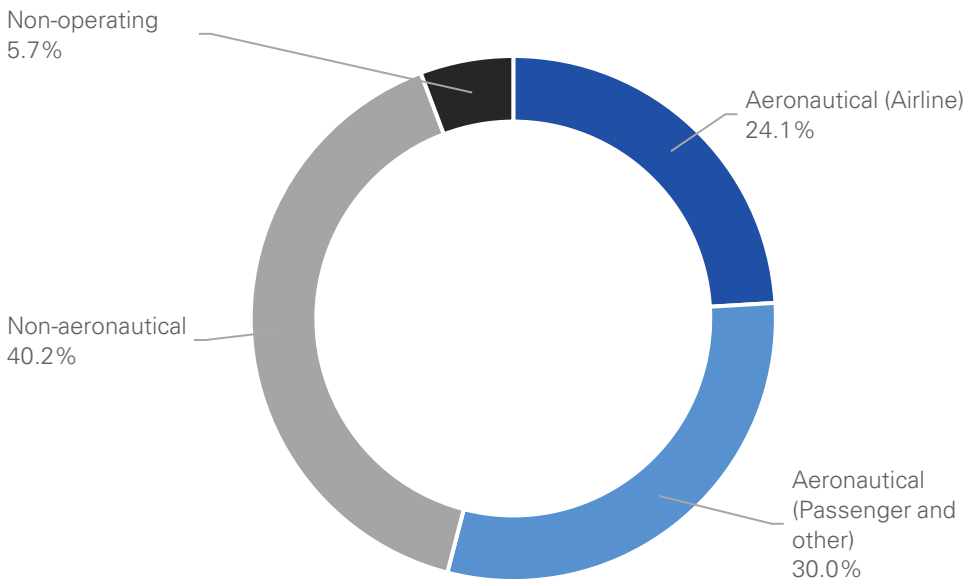
On the other hand, of overall airline costs, only a small proportion is attributable to airport charges, in the realm of 5% historically.[7]

In a survey of ACI membership globally, approximately half of respondents indicated discounts on airport charges averaged between 1%–15%. Some respondents indicated greater than 50% discounts are offered to airlines via incentives. The use of discounts and incentives show that many airports operate under competitive conditions.

[6] Some airports will provide a formal list of incentives and discounts, and criteria for meeting them. An increasing number of airlines solicit proposals from airports for air services and the airport response might be specific to each request.

[7] Based on international scheduled services data from International Civil Aviation Organisation (ICAO) and the International Air Transport Association (IATA) and World Air Transport Statistics (WATS)

FIGURE 6 Global Airport Revenue by Source 2019




Source: ACI 2021 Airport Key Performance Indicators.

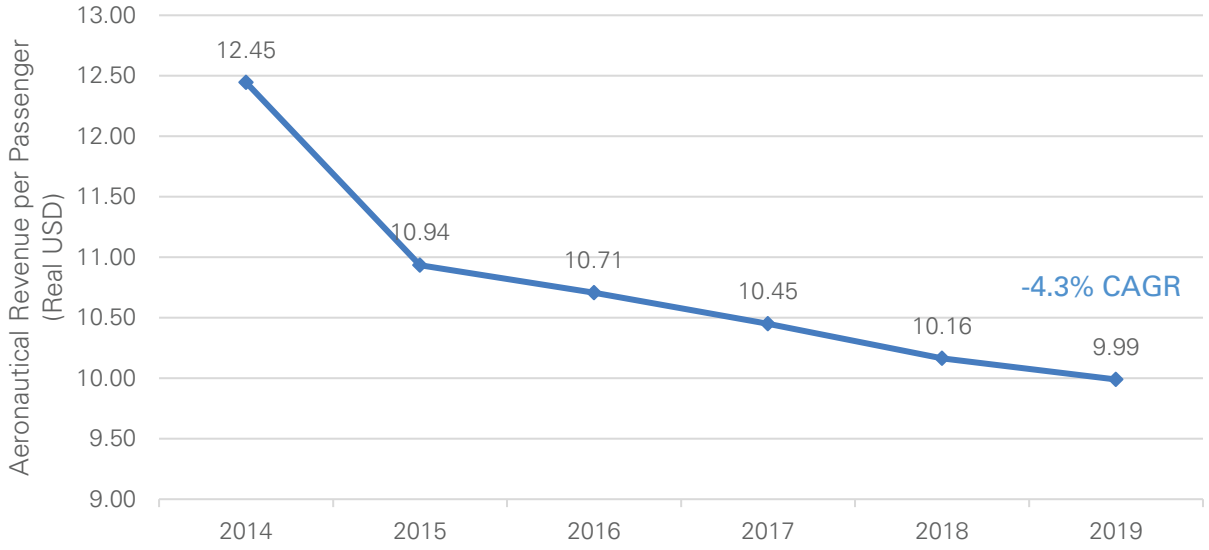
**31% of airports reported that they use long-term contracts. 28% are implementing other risk-sharing mechanisms in their pricing policies.**

As a result of these competitive pressures and airport charge discounts, global airport charges per passenger have on average declined by approximately 20% in real terms in the five years up to 2019, as shown in Figure 7. Furthermore, there has been a shift towards passenger-related charges and away from landing charges (a larger amount of revenue per passenger is generated from passenger-related charges). This shifts the revenue risk from the airlines towards the airports and can be viewed as a way to incentivize airlines to operate at airports. This is one of the many new pricing techniques airports have implemented.

In addition, some airports are using long-term contracts with airlines as a means to determine mutually agreeable charges and reduce risks for airlines. A survey of ACI membership globally found that 31% of airports reported that they used long-term contracts. A number of airports also indicated they were implementing other risk-sharing mechanisms in their pricing schemes (28% of respondents to the question).[8]

[8] Inter *VISTAS* analysis of ACI Member Survey (2021) responses.

FIGURE 7 Declining Aeronautical Revenues per Passenger
Global 2014–2019




Source: ACI Economics Dataset
Note: Revenues have been adjusted to USD and inflation adjusted based on IMF figures

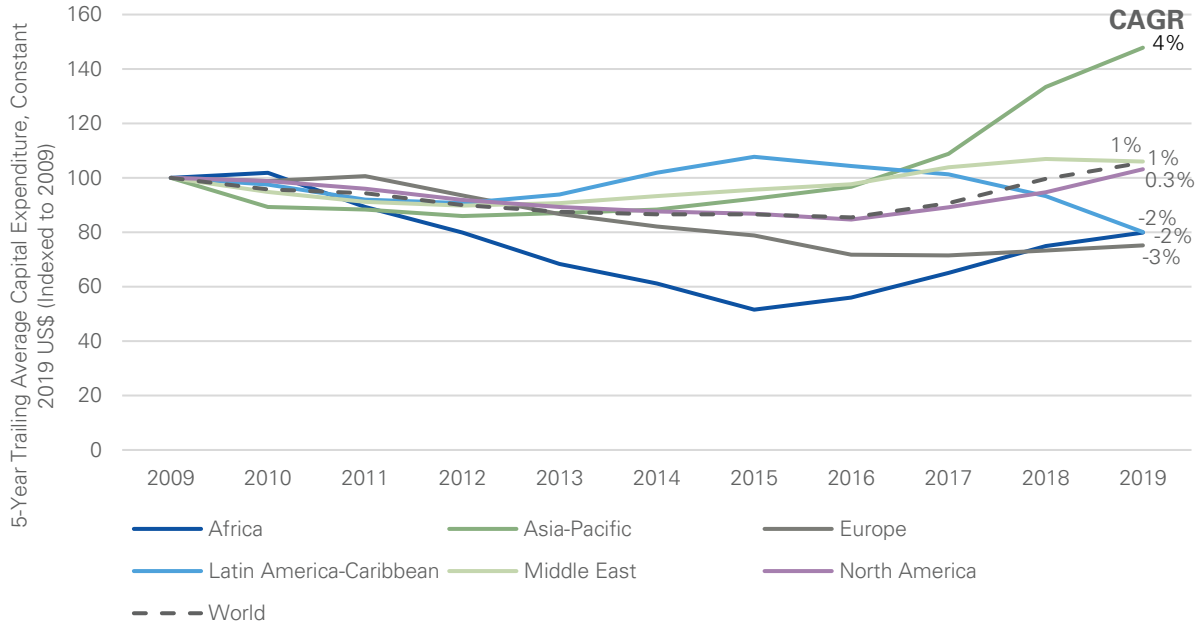
**Global airport charges per passenger have on average declined by approximately 20% in real terms in the 5 years up to 2019.**

### 3.2. Capital spending has increased despite declining airport charges

Airport capital spending (CAPEX) can be a difficult variable to analyse, given the inherent "lumpiness" of investment in airport infrastructure. Figure 8 shows the change in the 5-year trailing average CAPEX for a selection of airports globally.[9] Since 2009, across the sample of airports, average capital expenditures at airports has increased, as airports transform to become more passenger-centric, adjust to new aircraft and airline business models, and expand capacity to meet demand. The largest growth in average annual CAPEX over the period was seen in the Asia-Pacific region, which is in line with the large number of airports being built in the region, including countries such as China, India, and Vietnam.

[9] These airports represent airports of various sizes, ownership, and regulatory models.

FIGURE 8 5-Year Trailing Average CAPEX




Source: InterVISTAS analysis of ACI Economics Data
Note: Sample size includes data from 101 airports, across all regions, varying in size, ownership, and other factors.

Even though airport charges were declining, this suggests airports were able to make needed at least some of the capital investments to serve the large growth in passenger traffic, although in part this reflects lower costs of capital following the 2008/09 financial crisis. However, with the needed capital investment for future growth and adaptation (e.g., climate change), airports will need to generate funds to cover these costs, with potentially less traffic due to the impacts of the COVID-19 pandemic (at least in the short- to medium-term). The ability to do so is dependent on the ability for airports to have flexible, market-based charging schemes, to ensure that existing infrastructure is used efficiently, and future infrastructure is funded.

### 3.3. Airport regulation does not lead to lower charges

Economic regulation, regardless of the industry, is meant to provide markets with a mechanism that prevents companies from abusing any market power that they may have. Effective competition is preferred to regulation (it leads to better economic outcomes than regulation), but when there is an exercise of excess market power, regulation in some form may be needed.

Airports have been regulated around the world, with governments using a variety of regulatory models, often learning from the regulation of other industries. The typical types of economic regulation in place for airports could be classified along two dimensions which include heavy-handed models – government intervention in price determination or light-handed models – market-based approaches with minimal government intervention:

#### HEAVY-HANDED MODELS:

- Direct setting of charges by government
  This can be an extreme form of heavy-handed regulation, as it can deny the airport the ability to establish charges to achieve economic efficiency in terms of allocation of scarce airport resources to the highest value uses, to provide incentives to increase connectivity, especially when airport assets are not fully utilized, and to provide price signals to reduce environmental noise and emission impacts.
- Rate-base or cost-based regulation
  This is a heavy-handed regulatory format where charges are based on a detailed analysis of an airport's costs, CAPEX, and traffic levels. This is considered heavy-handed as it requires detailed analysis, financial forecasting and monitoring by the regulator requiring significant time to develop, review, debate, and revise.
- Price or revenue cap regulation
  Under these formats, airport charges are set based on the general inflation level and expected efficiency targets. Typically, a CPI-X formula is used, where the airport is allowed to increase charges by general inflation (typically measured by the consumer price index), and where regulator reduces the allowed increase by the value of X, which is set based on factors such as expected productivity gains, allowance for new CAPEX, and improvements in service quality. Price cap was planned as a "lighted-handed" form of regulation, but in practice this regulatory format often becomes heavy-handed, as the regulator requires the same type of detailed information as rate-based regulation on financial accounts, plus forecasts of airport operations and costs, currently and prospectively, in order to determine the X value.
- Government approval
  In some jurisdictions, the government directly establishes each individual charge, for example as part of an annual government budgeting process or bill. The method of establishing charges might be as simple as a uniform increase in all existing airport charges by a given percentage in order to generate incremental revenues to cover anticipated percentage cost increases; or it could be a more involved process where the government (e.g., a municipal council for a city operated airport) conducts reviews of a proposed airport budget for operating expenses and CAPEX, then decides the final budget allocation for the airport, including an updated schedule of charges.

## LIGHT-HANDED MODELS:

- Trigger regulation or price monitoring
  These are lighted-handed constraints on airport charges, using the threat of regulatory intervention. The government can step in to regulate airport charges if they are deemed to jeopardize social welfare, e.g., as determined via an industry or policy review. Poor performance can thus trigger a regulatory intervention.
- Government approval of airport developed schedule of charges
  This would be the case where a municipal or other government operated airport is permitted to internally develop and propose changes in charges which ultimately are then reviewed and approved by a local government entity.
- Other forms of economic oversight
  These include use of airline-airport contractual agreements covering provision of information, consultation, review of proposed CAPEX, levels of charges and inflation adjustment, and dispute resolution. Other forms include application of competition law for arbitration and mediation.

Using data in the survey of airports conducted by ACI World, Figure 9 compares average airport charges per passenger (as a proxy for airport charges) for two airport classifications. The first group in the figure are those airports who self-identify as being subject to light-handed or no regulation. The second group includes those who identify as subject to price/revenue cap or other heavy-handed regulation.[10] Figure 9 indicates that heavy-handed regulation is not observed to lead to lower charges. The figure suggests that heavy-handed regulation may result in higher-than-average charges, but we are reticent to draw that conclusion as there are many factors that could account for this.

**Price cap regulation does not necessarily lead to lower airport charges. The need to continue using an expensive form of regulation should be questioned.**

One potential reason that airports with light-handed or no regulation may have similar or lower charges than those airports with heavy-handed/price cap regulation is that CAPEX may be higher for the latter. The concern is that higher charges per passenger for heavy/price cap regulated airports could be due to the inflexibility in these heavy-handed regulatory models, that closely tie charges to costs, and do not allow for a level of risk-sharing or incentive to reduce costs. However, Figure 10 suggests that higher charges per passenger are due to higher CAPEX at such airports is unlikely to be the case, on average.[11] The figure indicates that the average heavy/price cap regulated airport has lower CAPEX per passenger.

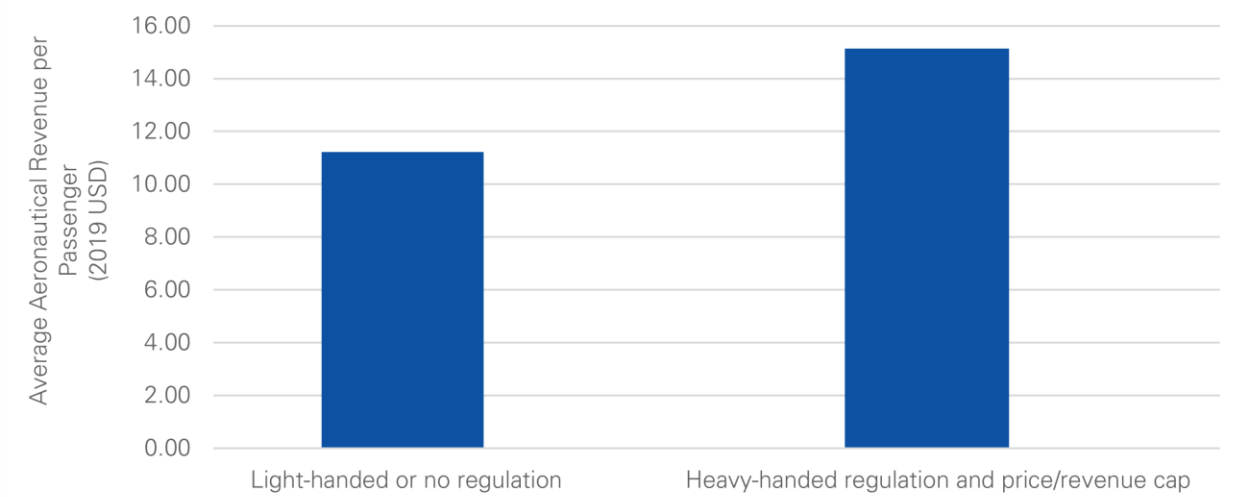
[10] ACI sent the survey to all airports that participate in its World and Regional Economics Committee. A few airports did not identify their regulation type in in their survey response. For most of these, data from ACI's Airport Economic Survey was used. Airports that indicated their charges were set by a form of government approval were not included in Figures 9 and 10. This group included a number of African airports and the U.S. airports. U.S. airports receive substantial grants, enjoy tax-free bonding financing and their passenger service charge revenues are treated separately and not included in their operating revenues; including them would have distorted the comparisons.

[11] CAPEX is measured as a five year average of annual CAPEX, so that the results would not be distorted by cases where in 2019 an airport had little CAPEX after having just finished a major capital program, and vice-versa.

These results imply that price caps do not necessarily lead to lower airport charges, and thus the need to continue using an expensive form of regulation (especially the more heavy-handed price caps that have evolved) is questionable.

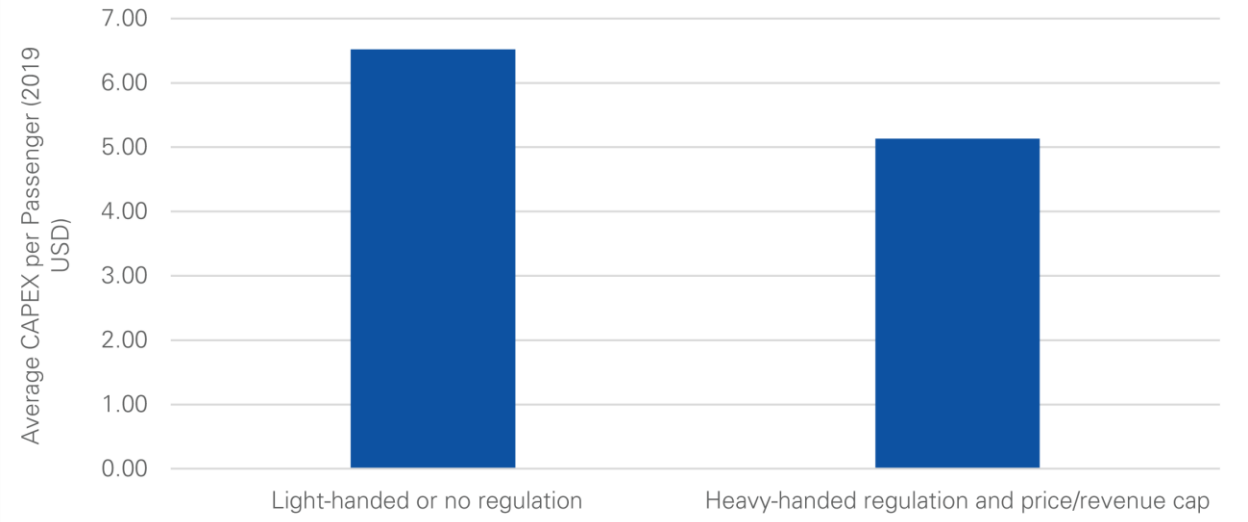
Analysis also found that operating costs were lower at lightly regulated airports compared with airports subject to heavy-handed regulation.

FIGURE 9 Average Annual Aeronautical Revenue per Passenger (2019 US$) 2014–2019




Source: Inter *VISTAS* analysis of ACI Economics Data
Note: Sample size includes data from 94 airports, across all regions, varying in size, ownership, and other factors.

FIGURE 10 Average Annual Capital Expenditure per Passenger (US$ 2019) 2014–2019




Source: Inter *VISTAS* analysis of ACI Economics Data
Note: Sample size includes data from 94 airports, across all regions, varying in size, ownership, and other factors.

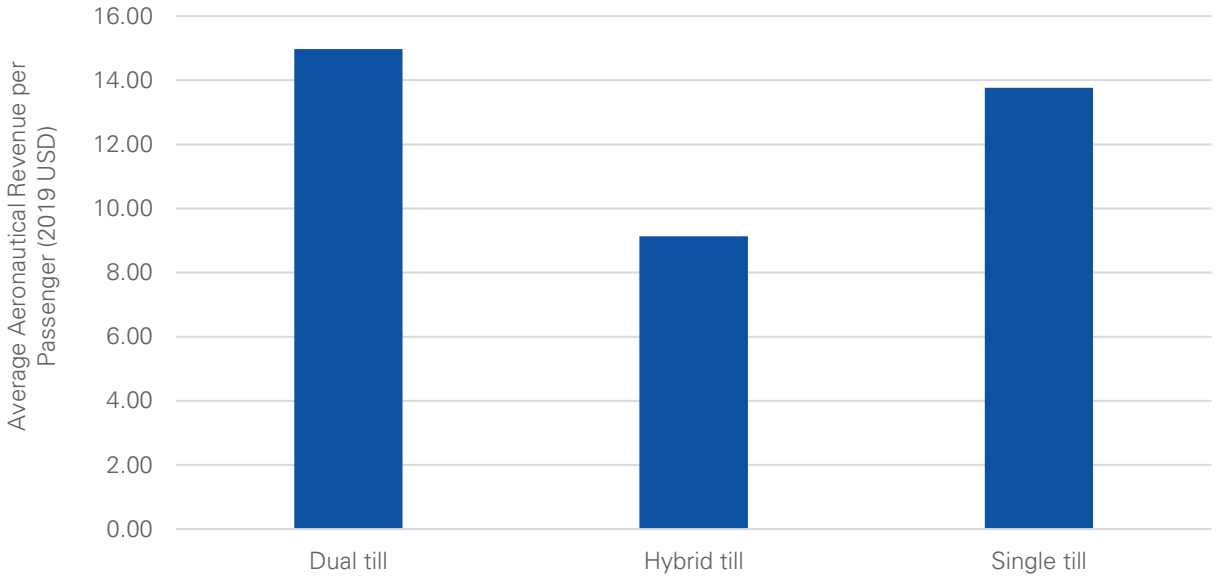
### 3.4. Where airport charges are regulated, pricing till has implications for charging and CAPEX

In addition to the regulatory model, another element of airport charges is the choice of pricing till in place at an airport, i.e., which prices are being constrained. There are three main categories of pricing tills:

- Single till – total airport costs are reduced by the net earnings from non-aeronautical sources before calculating regulated aeronautical charges (i.e., landing charges, passenger charges, etc.). The cost of aeronautical services is cross subsidized by non-aeronautical earnings. This pricing till hinders and provides little incentive for the development of non-aeronautical activities.
- Dual till – Aeronautical services are not cross-subsidized by non-aeronautical earnings (aeronautical users receive no benefit nor risk from non-aeronautical activities). There is an incentive for the airport to develop commercial (non-aeronautical) activities.
- Hybrid till – A form of dual till where a specified fraction of non-aeronautical revenues, or only certain non-aeronautical revenue streams, are used to subsidize aeronautical revenues.

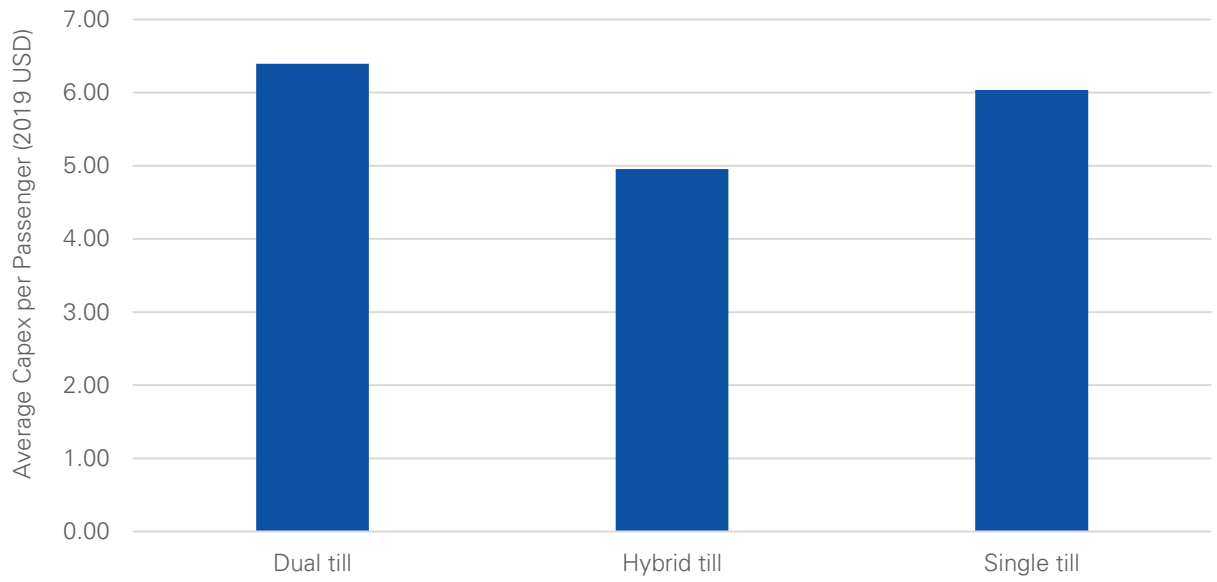
Figures 11 and 12 show the average aeronautical revenue and CAPEX per passenger for a selection of airports globally. Hybrid till airports in the sample have the lowest level of aeronautical revenue per passenger on average, while dual till and single till airports are larger but similar levels. It is also important to note, however, that hybrid till airports in the survey also have the lowest level of CAPEX per passenger, while dual till have the highest. Lower CAPEX is typically associated with lower charges, and this is what the two figures suggest. The results are also consistent with a view that dual till airports have larger CAPEX, which may be tied to the incentive to improve the passenger experience through airport adequate capacity and non-aeronautical activities.

FIGURE 11 Average Annual Aeronautical Revenue per Passenger (US$ 2019) 2014–2019




Source: Inter*VISTAS* analysis of ACI Economics Data
Note: Sample size includes data from 75 airports, across all regions, varying in size, ownership, and other factors.

FIGURE 12 Average Annual Capital Expenditure per Passenger (US$ 2019) 2014–2019

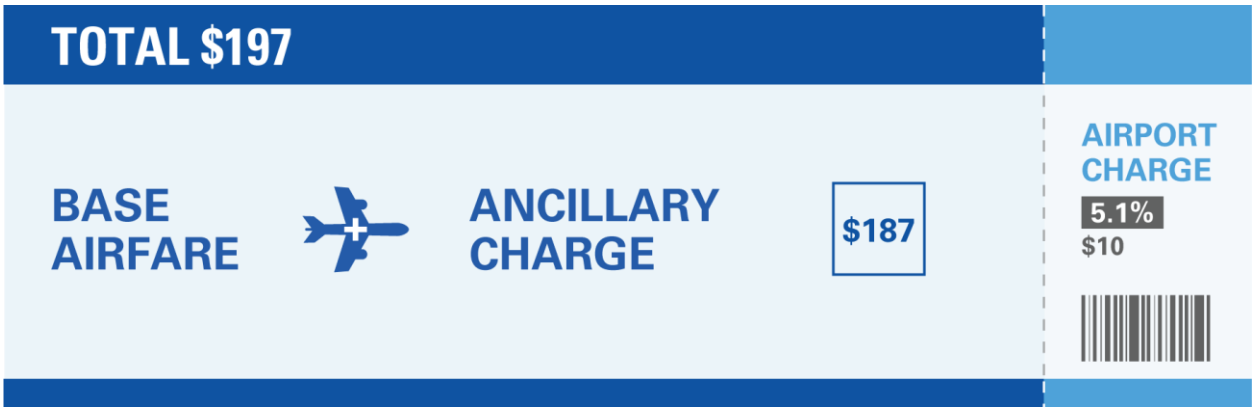



Source: Inter*VISTAS* analysis of ACI Economics Data
Note: Sample size includes data from 86 airports, across all regions, varying in size, ownership, and other factors.

### 3.5. Impact of airport charges on passenger airfares

Airport charges represent a small portion of airline costs compared with labour, fuel, aircraft equipment, maintenance, and overheads. To illustrate, an augmented base airfare has been constructed using the global average base airfare over time,[12] and an estimate of ancillary revenue per passenger, as shown in Figure 13. Note that this does not include taxes and some other airline fees; given the global nature this would be difficult to estimate. In 2019, globally, airport charges accounted for only 5.1% of the augmented base airfare and would be considerably lower if ticket taxes were included.

FIGURE 13 Airport Charges as a Percent of Global Airfare in 2019 (US$)




Source: Inter*VISTAS* Analysis of Sabre MIDT Airfare Data, Ancillary Revenue Data from IdeaWorks, and ACI Economics Data.

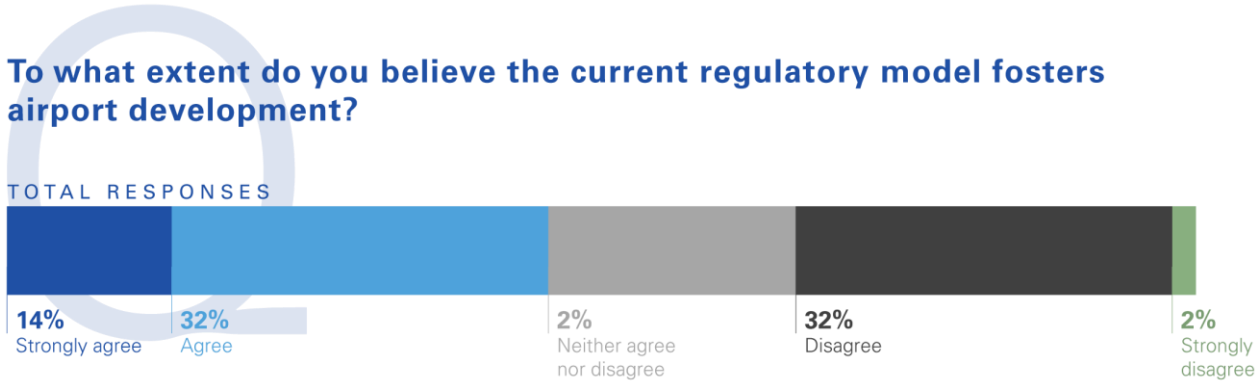
[12] The computations are for all regions, domestic and international, short and long-haul traffic. Sabre MIDT Airfare Data was used, supplemented by ancillary revenue data from IdeaWorks (airline ancillary charges) , and ACI Economics Data (airport charges).

# 4. AIRPORTS' EXPERIENCES WITH AIRPORT CHARGES REGULATION INDICATE A NEED FOR A MORE FLEXIBLE APPROACH

A survey of ACI member airports was conducted to understand three key topics: the airport experience with economic regulation, the interplay between airport pricing strategies and regulation, and finally the impacts of COVID-19.[13] Surveys were sent to airports covering all ACI regions, and 66 survey responses were received, covering 163 airports (as some responses covered multiple airports within a network). Airports covered a variety of sizes (based on passenger traffic), ownership models, and economic regulatory models. A summary of their responses is provided below.

### Many regulatory models are not fostering airport development

Airports were asked about whether their current regulatory model fosters airport infrastructure development to achieve the economic benefits to their communities. As shown below, less than half of respondents agreed with the statement. Viewing responses based on regulatory type suggests that those with light-handed or no regulation generally agreed that their regulatory model fostered development while more heavy-handed forms of regulation did not. This was evident as well in the comments received from the airports directly, pointing to: inflexibility of the regulatory model in allowing airports to set charges, issues with concession contracts being too restrictive or too short for long-term investments, and issues with development decisions controlled by politics rather than by commercial vision and strategy.




Source: ACI Survey of Airports (2021).

[13] Survey was described in a previous footnote.

When asked about capital project financing, the majority of respondents indicated that they are unable to increase charges ahead of capital projects. European airports are more likely than those in other regions to be able increase charges and fees ahead of capital projects, although there are some airports in other regions that are able to pre-finance capital projects. Among airports that can raise charges and fees ahead of capital projects, the majority of surveyed responses from Africa, Asia-Pacific, Europe, and Latin America/Caribbean indicated they are unable to increase charges until construction starts. In contrast, most survey responses from Middle Eastern and North American airports indicated that they are able to increase fees and charges prior to construction starting. The majority of surveyed airports from each region considered pre-financing capital projects as an appropriate mechanism to support airport development. However, airports in Africa viewed the practice of pre-financing as a contentious topic.

### Incorporating environment concerns into airport charging

Airports were asked about using incentives to innovate, such as charges for mitigating airport noise and emissions or for funding sustainability improvements. Based on the survey responses, the use of innovative pricing techniques is primarily limited to responses from European airports.

The use of environmental charges (for noise, emissions, etc,.) was most prevalent in Europe, with a number of surveyed European airports having implemented noise charges, environmental charges, or noise and environmental discounts. A few airports in the Asia-Pacific region also had implemented noise-related charges and discounts. Almost a third of respondents (29%) indicated they were at least considering sustainability incentives, aside from those that already have them in place. Similarly, 20% of respondents indicated that they have considered noise incentives for their airport but have not yet implemented them.

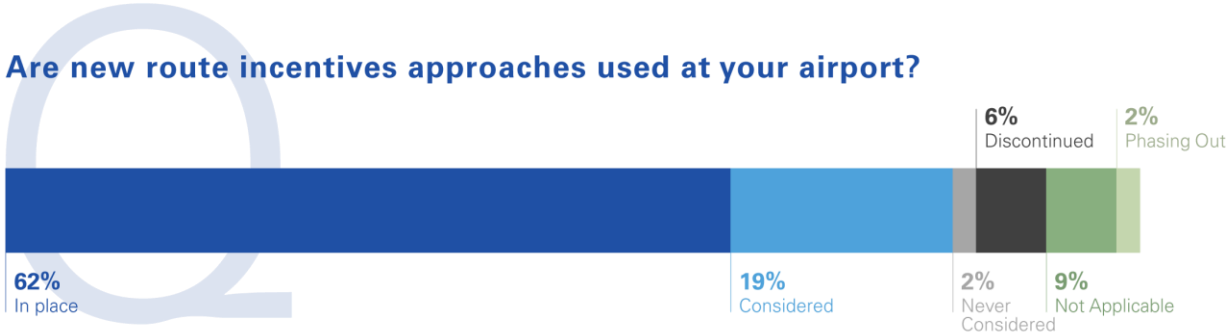
### Issues with regulatory flexibility and responsiveness

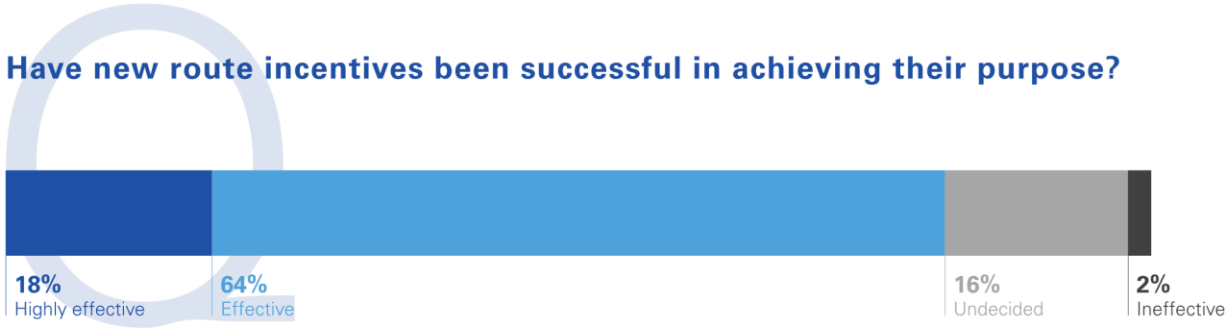
The majority of respondents indicated they had challenges with the flexibility of their current regulatory regime in adjusting airport charges to changing conditions and there is a large commitment for management regarding consultations and regulatory submissions. Respondents were much less impacted by airlines directly obstructing investment decisions and regulators changing development plans. From a regional perspective, in all regions except North America, the majority of survey respondents indicated that their current regulatory model is not responsive, which results in lags in adjusting charges for new CAPEX or other developments.

### Extensive use of incentives and related marketing initiatives

The majority of airports surveyed in each region had some form of new route incentives in place, with the exception of African airports. The next most prevalent incentive schemes were for volume discounts under which carriers that achieve a targeted volume (which may be specific in terms of either passengers or movements, can qualify for lower charges, with more than half of the airports indicating they have at least considered, if not already implemented, this form of incentive.

When asked about how effective the different incentive schemes were, airports were generally very positive about new route incentives, but less so about other forms of incentives (many were undecided).




Source: ACI Survey of Airports (2021)

Airports were also asked about their ability to effectively use incentives given their regulatory environment. Half of the respondents indicated their regulatory model limits the effective use of incentives, while others indicated that their model of oversight helps facilitate the effectiveness of incentives. European airports indicated a more negative result than airports responding from North America, reflecting the regional variation in experience with regulation.

### Many airports are seeking changes to regulation

Airports were asked to provide their views on what can be done to improve airport pricing policies and regulation. The majority of survey responses from each region either agreed or strongly agreed with:

- Moving from heavy-handed to light-handed regulation.
- Allowing for more freedom and flexibility to set the structure and level of charges.
- Implementing arrangements that foster investment and capacity development.
- Implementing arrangements that stimulate efficient and environmentally conscious operations.
- Suspending economic regulation frameworks if airports and airlines reach commercial agreements regarding charges with a process for dispute resolution.
- Implementing arrangements that incentivize innovation and entrepreneurship (e.g., tax credits for innovation).

### Some airports report that they lack legislation authorizing the right to assess charges

A few airports indicated that they lack legislation which authorizes the airport to assess charges. An airport's right to assess charges has been part of the ICAO Charges Guidelines since its first edition, and where this is the case, nations should rectify.

# 5. THE COVID-19 PANDEMIC HAS FURTHER EXPOSED THE LIMITATIONS OF THE CURRENT APPROACH TO AIRPORT CHARGES AND REGULATION

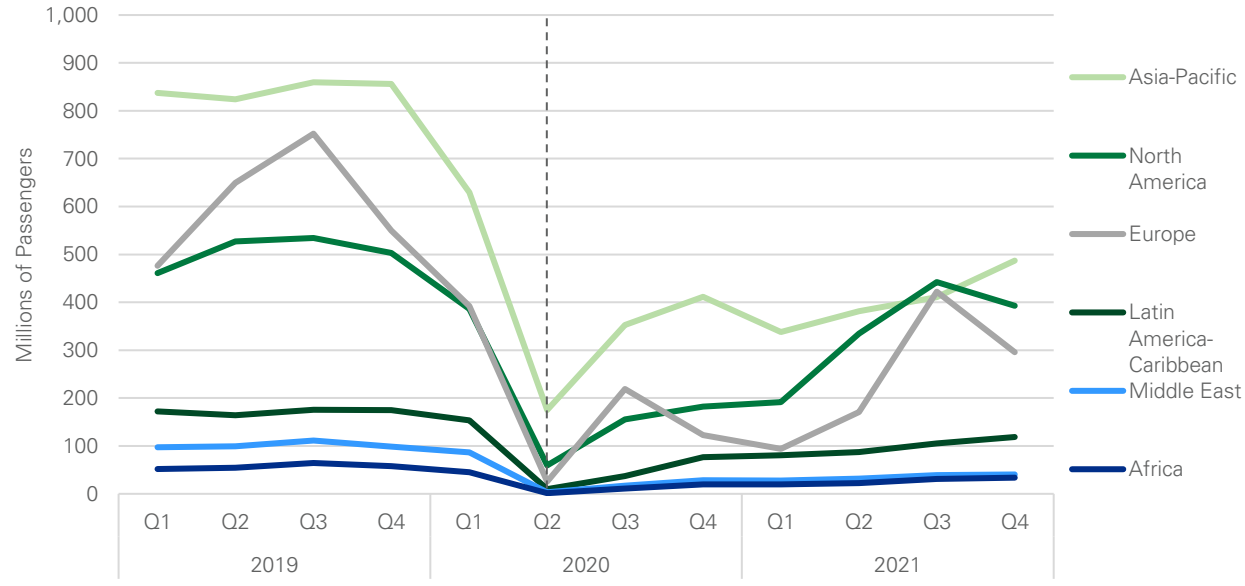
## 5.1. What has happened

At an early stage of the COVID-19 pandemic, governments around the globe put in place various restrictions on passenger air travel, including the complete or partial closing of borders to overseas travellers and the suspension of flights to some or all destinations (including domestic air travel in some cases). As of November 2021, restrictions on international air travel are easing but remain commonplace.

The impact on passenger traffic at airports has been severe and unprecedented across all parts of the globe, as shown in Figure 14. Global passenger travel declined 61% in 2020 relative to 2019 (a loss of 5.6 billion passengers) with the worst impacted regions being Europe (69% decline), Middle East (67%) and Africa (66%). Asia Pacific experienced the smallest decline (54%) largely due to recovery in the sizable Chinese domestic market.

The outlook for 2021 is for marginal improvement, with global passenger traffic expected to be reduced by 50% compared with 2019, and the weakest recoveries expected in the Middle East (down 66% on 2019) Europe (60%), and Africa (54%). North American traffic is expected to recover the most (down 33%) due to recovery in the US domestic market.

FIGURE 14 Quarterly Air Passenger Traffic 2019–2021



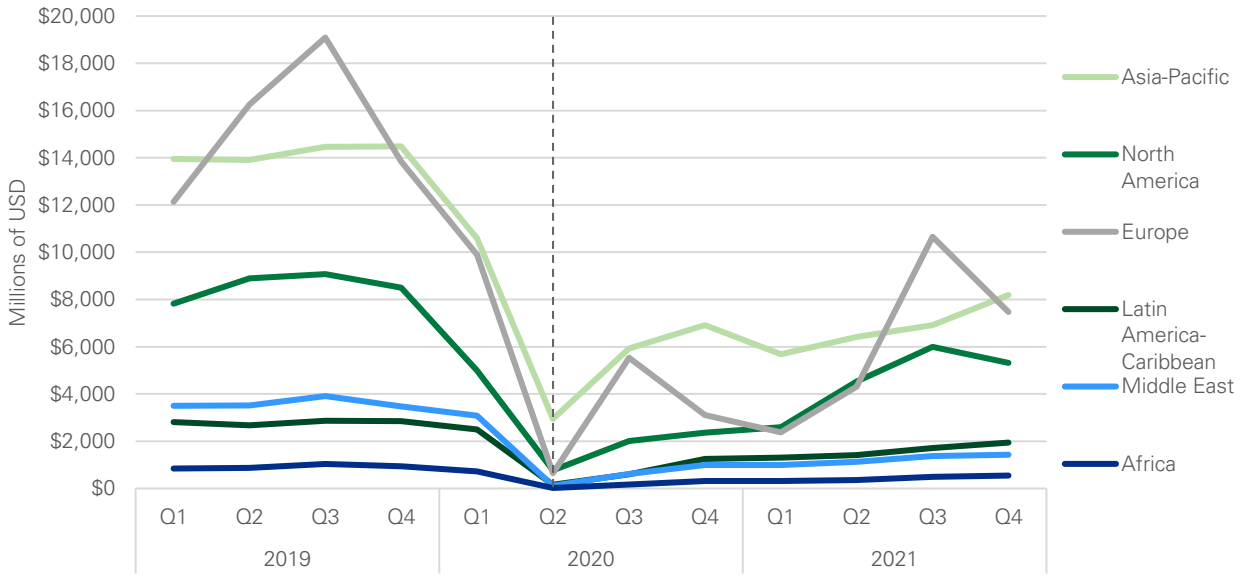

Source: ACI World. The impact of COVID-19 on the airport business—and the path to recovery, 30 Oct 2021. Projections based on ACI analysis.

Unsurprisingly, the impact has been devastating to airport finances, as shown in Figure 15. Global airport revenues in 2020 declined 64%, a reduction of US$115 billion as compared to 2019. The largest percentage declines were in Europe, the Middle East, and Africa, while the largest dollar declines were in Europe, Asia-Pacific, and North America due to the larger air markets in these regions:

- Africa: 60% revenue decline – US$2.5 billion
- Asia-Pacific: 54% revenue decline – US$30.4 billion
- Europe: 69% revenue decline – US$47.2 billion
- Latin America and Caribbean: 60% revenue decline – US$6.7 billion
- Middle East: 67% revenue decline – US$9.6 billion
- North America: 71% revenue decline – US$24.2 billion[14]

The outlook for 2021 is only slight better. Revenues are projected to be down 54% (US$98 billion) from 2019 levels globally. Europe and the Middle East are expected to be the most affected regions with revenue declines of 59% and 66% respectively with only the Americas projected to experience a decline of less than 50% (declines of 43% for Latin America and Caribbean and 46% (North America).

FIGURE 15 Quarterly Airport Revenue 2019–2021




Source: ACI World. The impact of COVID-19 on the airport business—and the path to recovery, 30 Oct 2021. Projections based on ACI analysis.

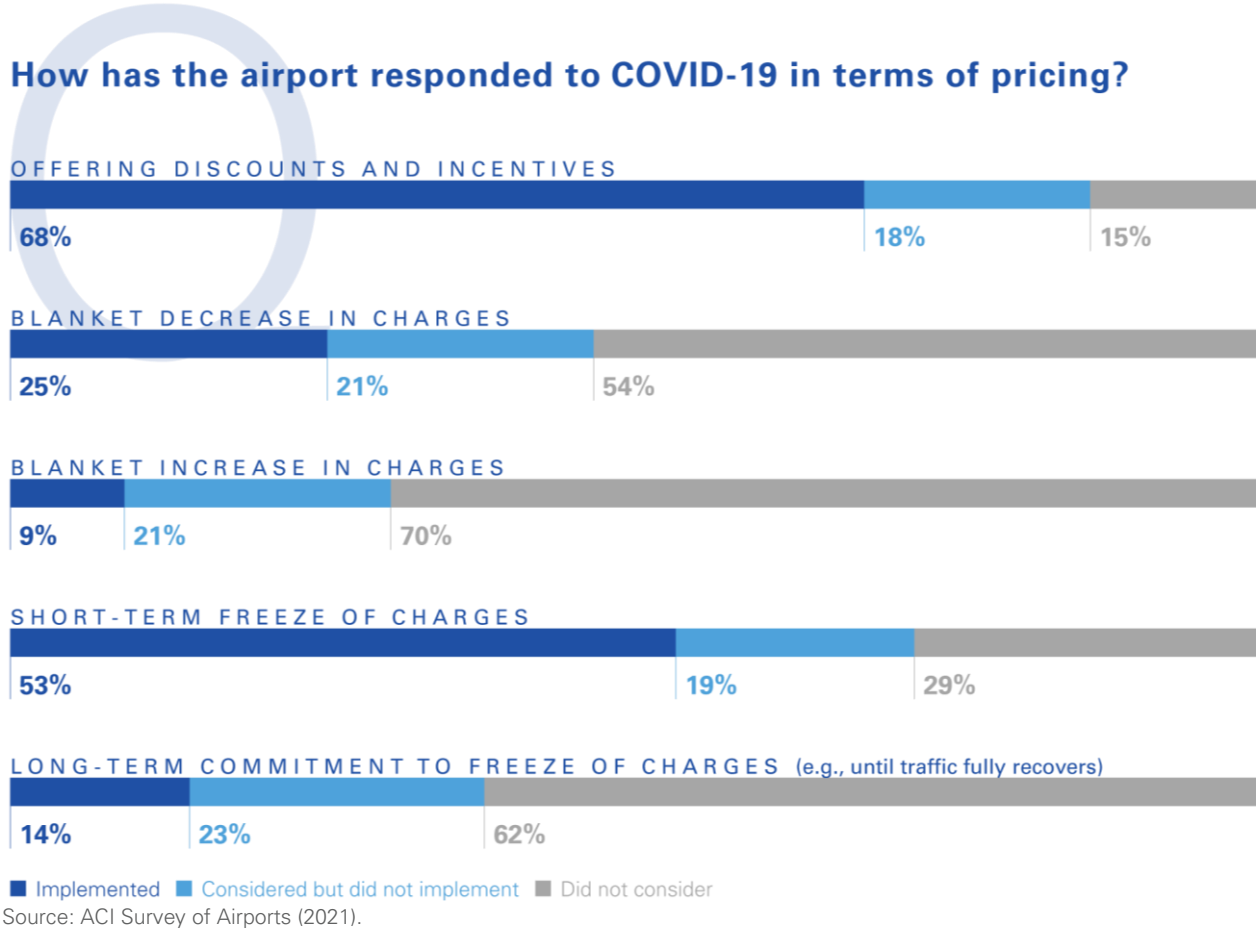
[14] ACI World (2021). The impact of COVID-19 on the airport business—and the path to recovery, 30 Oct 2021. Projections based on ACI analysis.

**Two-thirds of airports (68%) have implemented some form of discount or incentive to their airport charges specifically to address the COVID-19 impacts and recovery.**

## 5.2. Airports have responded with relief for airline customers

Surveyed airports were asked about their response to COVID-19 in terms of their aeronautical charges. As shown below, a super majority of airports (68%) have implemented some form of discount or incentive to their airport charges specifically to address the COVID-19 impacts and recovery. Apart from North America, the majority of airports in each region have implemented discount and incentive programs. This form of discounting has been preferred to wholesale reduction in the airport charges, which only 25% of airports have implemented (and another 21% have considered). The discounts and incentives are flexible and more targeted. None of the respondents have implemented blanket increases in charges other than some North American airports, some of whom were required to raise airport charges to meet debt covenant requirements (e.g., Canadian airports).

FIGURE 16 COVID-19 Response of Airports Regarding Charges




Source: ACI Survey of Airports (2021).

Surveyed airports were asked to describe the most pressing issues around airport charges regulation that arise from the COVID-19 pandemic. Key concerns across all regions were the lack of flexibility to adjust prices rapidly, lack of clarity as to how losses could be recovered in the future and impacts of financing future investments. Those airports subject to regulation were asked if they were able to recover COVID-19 related losses, and only 34% indicated that they were.

### 5.3. The perceived risk profile of airports has changed

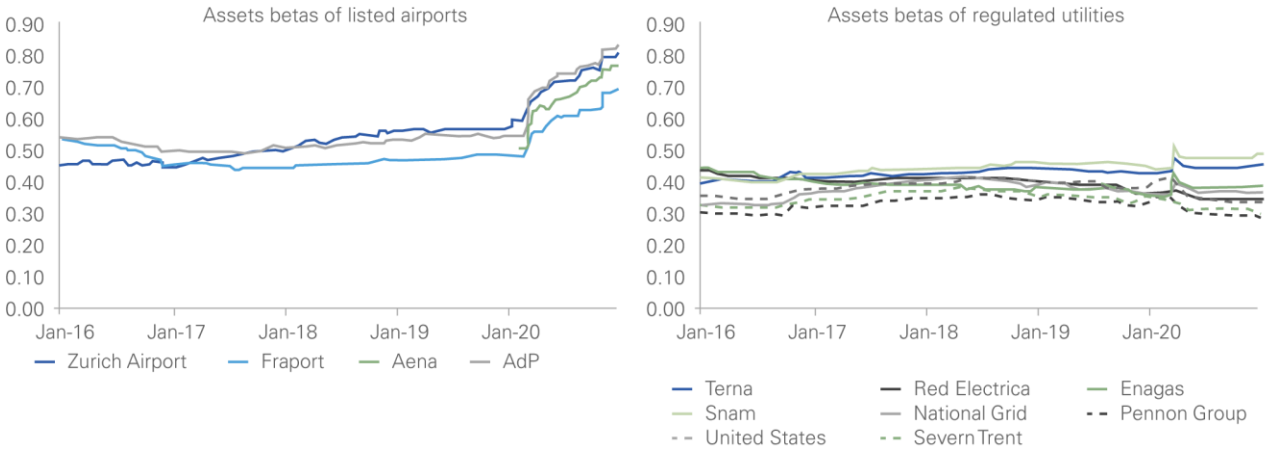
The impact of the COVID-19 pandemic on airport traffic has caused investors to re-evaluate the risk assessment of airports. There remains considerable uncertainty around short-term and long-term impacts of the pandemic on airport businesses regarding the timing and extent of traffic recovery, changes in the structure and composition of travel demand (e.g., slower and possibly permanently reduced business demand), and changes in market structure and general economic conditions.

**As a result of COVID-19, investors and credit rating agencies view airports as riskier assets than previously thought.**

As a result, a number of airports have had their credit ratings downgraded following the COVID-19 pandemic, including those in North America, Europe, and Asia Pacific.

There is evidence that asset betas (a measure of market risk) of listed airport companies are showing a marked increase since the start of the pandemic, as shown in Figure 17. An increase in asset betas did not occur with regulated utilities.

FIGURE 17 Asset Betas of Listed Airports




Source: Adapted from Post-COVID Airport Regulation: A Clear Path? March 2021, Oxera.

The dramatic impact of COVID-19 on airport financials has implications for airport investment and the economic regulation of airports, both in terms of the immediate response and the need for adaptation in the long-term. Airports have faced considerable losses, as previously documented, and future planned airport development has had to be massively revised due to uncertain traffic developments and the unknown timeline for recovery.

Consideration needs to be given to risk-sharing during shock events. There is a clear trade-off between the degree of risk borne by the airport and the cost of capacity that debt and equity providers will require. As demonstrated in previous sections, the risk profile of airports is being re-evaluated in light of the COVID-19 pandemic and if airports are not able to recover COVID-19 related losses in future charges, it is very likely that investors will require higher returns (higher cost of debt, higher equity returns) to mitigate this risk.

# 6. A NEW APPROACH TO AIRPORT CHARGES AND REGULATION IS REQUIRED

## 6.1. Crafting airport charges policies that extend benefits to consumers

Regulators must consider what is ultimately best for the traveling public (consumers). In many instances this means ensuring that existing infrastructure is used as efficiently as possible, incentivizing the sustainable development of airport infrastructure, and enhancing connectivity to generate socio-economic benefits. In fact, all the above require clear market signals for the efficient allocation of resources.

Consumer expectations as part of the passenger journey have also transformed over the decades. Consumer preferences have increased for easier movement through airport processes, the range and choices of airport amenities (including food, retail, personal/professional service), digital connectivity (e.g., Wi-Fi services, mobile phone-based check-in, border /security /health processes) and new ground transportation options. This, in turn, requires more ambitious development efforts to increase efficient infrastructure that is fit for purpose and offers consumers both value for money and a pleasurable travel experience.

When the aviation industry recovers from the COVID-19 pandemic, it will return to capacity constraints and bottlenecks at many airports. There are serious economic and social implications of capacity shortfalls and associated congestion, and this why it is so important to ensure that the right policies towards airports are adopted. Based on the relationship between passenger travel and socio-economic outcomes, for every 1,000,000 foregone passengers due to airport capacity constraints in 2040, the global air transport industry would support 10,500 fewer jobs and US$346 million less in GDP. Estimates of potentially foregone passengers due to unmitigated capacity constraints through airport capital investment suggests that up to 5.1 billion passengers may not be realized by 2040.[15] Failing to revise regulatory approaches that hinder capacity adjustments will thus dampen economic development.

## 6.2. The current framework for airport charges is no longer appropriate for today's airport industry

ICAO has been articulating guidelines for airport charges since the 1940s and 1950s, and formally articulated a policy in 1974. This framework has a number of desirable elements – non-discriminatory charges, users should bear their fair share of costs, simplicity and suitability of charges, and user consultation. However, it is fundamentally an administrative cost-based approach, focused on cost recovery and not on achieving economically and socially beneficial outcomes. An administrative cost-based approach risks providing the wrong incentives to both airports in providing services and capacity, and to airport users in whether and how they use that capacity. By ignoring the demand side of the airport market in the supply and demand equation, the traditional framework can encourage a misallocation of

[15] Air Transport Action Group (September 30, 2020) Aviation: Benefits Beyond Borders and Oxford Economics' calculations

airport resources. Cost-recovery-based charges at congested airports can encourage further demand for airport capacity at peak times, which provides an incorrect price signal. It also does not sufficiently incentivize airports to expand capacity where demand exceeds available capacity, or to incent new services where capacity is underutilized.

**The evidence is that many, and increasingly most, airports are competing with each other. This competition is not confined to competition in overlapping catchment areas, but also for airline routes and capacity, for connecting traffic, and between destinations. There is also intermodal competition in many markets.**

Most importantly, the traditional framework has not been able to keep up with the dramatic changes that have occurred in the aviation industry. Airlines have been privatized and/or deregulated. Multiple airline business models have emerged that focus on different market segments, some of which did not exist when the ICAO framework was developed mid-century. Just as airline passenger demand has been fragmented into multiple consumer segments with different elasticities with respect to price and service, so too have airlines demanded varied airport services.

The evidence is that many, and increasingly most, airports are competing with each other. This competition is not confined to competition in overlapping catchment areas but also for airline routes and capacity, for connecting traffic, and between destinations. In addition, airlines have significant countervailing powers due to their ability to switch capacity between airports. This competitive environment is reflected in the increasing investment made in airport marketing and the use of incentives and discounting provided to airline, which is done by nearly two thirds of airports.

Many governments have responded to the commercialization and privatization of airports, and the often-unfounded concerns of monopolist exploitation, by imposing what has become heavy-handed regulation, without regard to whether the benefits of regulation exceed the costs. The ICAO airport charges framework does not have a recommendation which states that before regulation is imposed, the costs and benefits of such regulation need to be assessed.

As documented previously, airports are tackling the twin challenges of ensuring that their activities (and those of airlines and other users) minimize their noise and emissions impacts while managing sometimes scarce capacity and investment to accommodate future growth.

It is clear that the traditional airport charges framework no longer provides appropriate guidance on airport charges for today's airport sector. The time has come for a new approach toward airport charges.

**Price cap regulation was removed from Australian airports in 2002. Successive reviews have shown that the system delivers good market outcomes, enhanced passenger satisfaction and effective infrastructure development.**

Australia's government removed the price cap regulation remaining at Australian airports in May 2002, recognizing that the market had

effective competition, strong buyer power from airlines, and airports were unable to use any market power that they may possess. Successive reviews by the Australian Government Productivity Commission in 2006, 2011, and 2019 have shown that the system delivers good market outcomes, enhanced passenger satisfaction and effective infrastructure development.

### 6.3. ACI recommendations for guidance on airport charges and regulation

Having the above economic characteristics of airports in mind, ACI puts forward the following key recommendations for guidance on airport charges.

#### Policies on airport charges should ensure that they serve the best interests of the traveling public and local communities

Government policy needs to consider what is ultimately best for consumers, independently of the market relationships of other actors in the aviation ecosystem such as airports and airlines. In many instances, this means crafting policy that incentivizes investment in airport infrastructure and generates a multiplier of socio-economic benefits and connectivity.

#### Right to assess charges

Airports have a right to set and collect charges for airport facilities. While this may seem obvious and has been an ICAO policy from the beginning, in some countries it is still necessary to enable this in law.

#### Strictly cost-based airport charges should be reconsidered as they do not ensure that infrastructure is used more efficiently for the benefit of the travelling public

The cost-based approach considers only one side of the market. It ignores the demand side and the need for airport pricing policies to provide the right incentives and signals regarding capacity utilization, community responsibility regarding noise and environmental impact, traffic growth to support aviation dependent economic sectors and social connectivity, and non-aeronautical revenue development.

#### The primary focus of charges should be on market needs and signals

The primary focus of policies toward airport charges should be on flexibility and responsiveness to market needs and developments. Airport charges should provide incentives for optimal use of airport resources and for investments. The cost-relatedness principle should be supplemented by a market-responsiveness principle that reflects the competitive dimension of the airport industry and enables incentives and market-based charges to respond to passenger and airline needs and address impacts such as noise and pollution.

#### The best way forward is through commercial agreements between airports and airlines

Exceptional cases aside, commercial agreements between airports and airlines are the best way forward. Such agreements have been successful in a number of jurisdictions and can address issues of the information airports (and airlines) will provide, consultation formats, CAPEX plans and approvals, noise/congestion/environment incentives, and dispute resolution.

#### The economic oversight function should evaluate the degree to which an airport is subject to competition in various sectors

The traditional view that airports are natural monopolies that will inevitably exercise market power no longer holds. Most airports compete in multiple dimensions. Such competition

can and does constrain the pricing conduct of airports. Where airports face competition in one or more of the dimensions of catchment area, transfer passengers, destination attractiveness, or airline fleet deployment, the presumption should be that regulation of charges is not necessary and the onus should be on the government to demonstrate that the competition is not sufficiently constraining prices. The Australian approach of periodic monitoring of airport charges, regarding whether market power has actually been unduly exercised with negative performance outcomes, is worthy of consideration.

### The economic oversight function should evaluate the degree to which airlines can exercise countervailing power regarding airport charges

Airlines have the ability to respond to pricing by moving capacity. As well, airline concentration at many airports is high and growing. Airline mergers and various types of alliances, especially those with airline pricing and capacity immunity, have enhanced the countervailing power of airlines.

### Any consideration of whether to regulate, or continue to regulate, airport charges should be subject to a cost-benefit analysis

Regulation should only be used if the benefits of regulation exceed the costs. Governments should require any new regulation of airport charges to be justified by cost-benefit analysis, and they should periodically review whether continued regulation of charges remains justified on a cost-benefit basis.

### Where regulation is deemed necessary, light-handed oversight formats should be preferred

In those few cases where commercial arrangements between airports and airlines will not satisfactorily constrain airport charges, it may be appropriate to consider a regulatory constraint on charges. Such consideration must first conduct and pass a cost-benefit test. Any regulation applied should seek to foster the evolution of competitive forces, and to encourage the market players to come to their own resolution. The use of lighted-handed formats such as trigger-regulation or airport charges monitoring should be favored ahead of more intrusive regulatory formats.

### Where airports are regulated, dual till regulatory approaches should be considered favorably

Dual till charges allow an airport to retain net non-aeronautical revenues rather than immediately apply them to offset aeronautical costs. Dual till policies strongly incentivize the airport to aggressively develop non-aeronautical services, by allowing the airport operators to retain net revenues rather than immediately surrendering them in the form of reduced aeronautical charges. Because passenger traffic volumes are the primary driver of non-aeronautical revenues dual till airports are strongly incentivized to develop passenger volumes through marketing incentive-based charges such as volume discounts and new air service supports. At many airports, dual till income is a key source of financing current and future CAPEX, either directly or via servicing new debt and/or equity funding for CAPEX. Further, dual till arrangements encourage airports to develop non-aviation related services in an efficient way, especially where they have land holding not required for current or future aviation uses.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C6

# ANNEX: ICAO'S POLICIES ON AIRPORT CHARGES[16]

[16] International Civil Aviation Organization, "ICAO's Policies on Charges for Airports and Air Navigation Services," Ninth Edition, 2012. Document 9082. These are policies approved by the Council. See Section II.

# SECTION II. ICAO'S POLICIES ON AIRPORT CHARGES

**The cost basis for airport charges**

1. As a general principle it is desirable, where an airport is provided for international use, that the users shall ultimately bear their full and fair share of the cost of providing the airport. It is therefore important that airports maintain accounts that provide information adequate for the needs of both airports and users, and that the facilities and services related to airport charges be identified as precisely as possible. In determining and allocating the total cost to be met by charges on international air services, the list in Appendix 1 may serve as a general guide to the facilities and services to be taken into account. Airports should maintain accounts that provide a satisfactory basis for determining and allocating the costs to be recovered, should publish their financial statements on a regular basis, and should provide appropriate financial information to users in consultations[1]. Moreover, it is recommended that States consider the application by airports, where appropriate, of internationally accepted accounting standards.

2. In determining the cost basis for airport charges, the following principles should be applied:

i) The cost to be allocated is the full cost of providing the airport and its essential ancillary services, including appropriate amounts for cost of capital and depreciation of assets, as well as the costs of maintenance, operation, management and administration. Consistent with the form of economic oversight adopted, these costs may be offset by non-aeronautical revenues.

ii) In general, aircraft operators and other airport users, including end-users, should not be charged for facilities and services they do not use, other than those provided for and implemented under the Regional Air Navigation Plan.

iii) Only the cost of those facilities and services in general use by international air services should be included, and the cost of facilities or premises exclusively leased or occupied and charged for separately should be excluded.

iv) While airports should maintain cost data in sufficient detail to facilitate consultation, transparency and economic oversight, it may be beneficial to develop more aggregated cost bases in certain circumstances for the purpose of setting charges. However, the aggregation should be done in a logical and transparent manner accompanied by safeguards, as appropriate, regarding consultation and, where possible, agreements with users to avoid discrimination among users.

v) An allocation of costs should be considered in respect of space or facilities utilized by government authorities.

vi) The proportion of costs allocable to various categories of users, including State aircraft, should be determined on an equitable basis, so that no users shall be burdened with costs not properly allocable to them according to sound accounting principles.

vii) Costs related to the provision of approach and aerodrome control should be separately identified. (Principles applicable to the recovery of such costs are addressed in Section III, paragraph 7.)

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1. Guidance on accounting contained in the *Airport Economics Manual* (Doc 9562) may be found useful in this context, although there are other approaches.

viii) Airports may produce sufficient revenues to exceed all direct and indirect operating costs (including general administration, etc.) and so provide for a reasonable return on assets at a sufficient level to secure efficient financing in capital markets for the purpose of investing in new or expanded airport infrastructure and, where relevant, to remunerate adequately holders of airport equity.

ix) The capacity of users to pay should not be taken into account until all costs are fully assessed and distributed on an objective basis. At that stage the contributing capability of States and communities concerned should be taken into consideration, it being understood that any State or charging authority may recover less than its full costs in recognition of local, regional or national benefits received.

x) Costs directly related to oversight functions (safety, security and economic oversight) for airport services may be included in the airport's cost basis, at the State's discretion.

**Airport charging systems**

3. Charging systems at international airports should be chosen in accordance with the following principles:

i) Any charging system should, so far as possible, be simple and suitable for general application at international airports.

ii) Charges should not be imposed in such a way as to discourage the use of facilities and services necessary for safety, such as lighting and navigation aids.

iii) Charges should be determined on the basis of sound accounting principles and may reflect economic principles as required, provided that these are in conformity with Article 15 of the *Convention on International Civil Aviation* and other principles in the present policies.

iv) The charges must be non-discriminatory both between foreign users and those having the nationality of the State in which the airport is located and engaged in similar international operations, and between two or more foreign users.

v) Consistent with the form of economic oversight adopted, States should assess, on a case-by-case basis and according to local or national circumstances, the positive and negative effects of differential charges applied by airports. States should ensure that the purpose, creation and criteria for differential charges are transparent. Without prejudice to modulated charging schemes, the costs associated with such differential charges should not be allocated to users not benefiting from them. Charges offered for the purpose of attracting or retaining new air services should only be offered on a temporary basis.

vi) To avoid undue disruption to users, increases in charges should be introduced on a gradual basis; however, it is recognized that in some circumstances a departure from this approach may be necessary.

vii) Where charges are levied by different entities at an airport, they should, so far as possible, be consolidated for invoicing purposes. The combined revenues should be distributed among the entities concerned as applicable.

viii) Maximum flexibility should be maintained in the application of all charging methods to permit introduction of improved techniques as they are developed.

ix) Airport charges levied on international general aviation, including business aviation, should be assessed in a reasonable manner, having regard to the cost of the facilities needed and used and the goal of promoting the sound development of international civil aviation as a whole.

**Landing charges**

4. The following principles should be taken into account when landing charges are established:

i) Landing charges should be based on the aircraft weight formula. The maximum certificated take-off weight as indicated in the certificate of airworthiness (or other prescribed document) should be used, while considering local restrictions that may affect aircraft maximum take-off weight. Allowance should be made for the use of a fixed charge per aircraft or a combination of a fixed charge with a weight-related element, in certain circumstances, such as at congested airports and during peak periods.

ii) Where charges for approach and aerodrome control are levied as part of the landing charge or separately, they should be consistent with policies on charges for air navigation services (see Section III, paragraph 7).

iii) Stage length flown should not be a factor in determining landing charges.

**Parking and hangar charges**

5. The following principles should be applied in establishing parking and hangar charges:

i) For the determination of charges associated with use of parking, hangar and long-term storage of aircraft, maximum permissible take-off weight and/or aircraft dimensions (area occupied) and length of stay should be used so far as possible as the basis.

ii) Any period of free parking time for aircraft immediately following landing should be determined locally by considering aircraft scheduling, space availability and other pertinent factors.

**Passenger service charges**

6. Efficiency of collecting airport charges levied on passengers should be considered to avoid queues and delays at airports. It is recommended that where the collection of a passenger service charge directly from passengers at an airport gives rise to such facilitation problems, these charges should be levied through the aircraft operators where practicable. The need for consultations between airport entities and users at the local level with a view to alleviating collection problems should be emphasized.

**Security charges**

7. States are responsible for ensuring the implementation of adequate security measures at airports pursuant to the provisions of Annex 17 — *Security* to the *Convention on International Civil Aviation*. They may delegate the task of providing individual security functions to such agencies as airport entities, aircraft operators and local police. It is up to States to determine in which circumstances and the extent to which the costs involved in providing security facilities and services should be borne by the State, the airport entities or other responsible agencies. With reference to the recovery of security costs from the users, the following general principles should be applied:

i) Consultations should take place before any security costs are assumed by airports, aircraft operators or other entities.

ii) The entities concerned may recover the costs of security measures at airports from the users in a fair and equitable manner, subject to consultation.

iii) Any charges for, or transfers of, security costs to providers, aircraft operators and/or end-users should be directly related to the costs of providing the security services concerned and should be designed to recover no more than the relevant costs involved.

iv) Civil aviation should not be charged for any costs that would be incurred for more general security functions performed by States such as general policing, intelligence gathering and national security.

v) No discrimination should be exercised between the various categories of users when charging for the level of security provided. Additional costs incurred for extra levels of security provided regularly on request to certain users may also be charged to these users.

vi) When the costs of security at airports are recovered through charges, the method used should be discretionary, but such charges should be based on either the number of passengers or aircraft weight, or a combination of both factors. Security costs allocable to airport tenants may be recovered through rentals or other charges.

vii) Security charges may be levied either as additions to other existing charges or in the form of separate charges but should be subject to separate identification of costs and appropriate explanation.

**Noise-related charges**

8. Although reductions are being achieved in aircraft noise at source, many airports will need to continue the application of noise alleviation or prevention measures. Costs incurred in implementing such measures may, at the discretion of States, be attributed to airports and recovered from the users. States have the flexibility to decide on the method of cost recovery and charging to be used in light of local circumstances. In the event that noise-related charges are to be levied, consultations should take place on any items of expenditure to be recovered from users and the following principles should be applied:

i) Noise-related charges should be levied only at airports experiencing noise problems and should be designed to recover no more than the costs applied to their alleviation or prevention.

ii) Any noise-related charges should be associated with the landing fee, possibly by means of surcharges or rebates, and should take into account the noise certification provisions of Annex 16 — *Environmental Protection* to the *Convention on International Civil Aviation* in respect of aircraft noise levels.

iii) Noise-related charges should be non-discriminatory between users and not be established at such levels as to be prohibitively high for the operation of certain aircraft.

**Emissions-related aircraft charges to address local air quality (LAQ) problems at or around airports**

9. Although reductions in certain pollutants emitted by aircraft engines that affect LAQ are being addressed by a variety of measures of a technical or operational nature, some States may opt to apply emissions charges to

address LAQ problems at or around airports. Costs incurred in mitigating or preventing the problem may, at the discretion of States, be attributed to airports and recovered from the users. States have the flexibility to decide on the method of cost recovery and charging to be used in the light of local circumstances[2]. In the event that LAQ emissions-related charges are to be levied, the following principles should be applied:

i) LAQ emissions-related charges should be levied only at airports with a defined LAQ problem, either existing or projected, and should be designed to recover no more than the costs of measures applied to the mitigation or prevention of the damage caused by the aircraft.

ii) The cost basis for charges should be established in a transparent manner, and the share directly attributable to aircraft should be properly assessed.

iii) Consultations with stakeholders should take place before any such charges are imposed on users.

iv) LAQ emissions-related charges should be designed to address the LAQ problem in a cost-effective way.

v) LAQ emissions-related charges should be designed to recover the costs of addressing the LAQ problem at airports from the users in a fair and equitable manner, should be non-discriminatory between users, and not be established at such levels as to be prohibitively high for the operation of certain aircraft.

vi) It is recommended that in levying LAQ emissions-related charges special consideration be given to the need to reduce the potential impact on the developing world.

vii) LAQ emissions-related charges could be associated with the landing charges, possibly by means of surcharges or rebates, or in the form of separate charges but should be subject to the proper identification of costs.

viii) It is recommended that the aircraft emissions charges scheme be based on data that most accurately reflect the actual operations of aircraft. In the absence of such data, ICAO standardized landing/take off (LTO) cycle times-in-mode should be used (Annex 16 — *Environmental Protection* to the *Convention on International Civil Aviation*, Volume II — *Aircraft Engine Emissions*).

ix) Any State imposing LAQ emissions-related charges on aircraft that are in international operation should annually report the existence of such charging schemes to ICAO. The charging authority should maintain records regarding the fees collected and the use of funds to be made available to all users.

2. Additional guidance on LAQ emissions-related charges appears in *Guidance on Aircraft Emissions Charges Related to Local Air Quality* (Doc 9884).

**Development of revenues from concessions, rental of premises and "free zones"**

10. Income derived from such sources as concessions, rental of premises, and "free zones" is important to airports. It is recommended that, with the exception of concessions that are directly associated with the operation of air transport services, such as fuel, in-flight catering and ground handling, non-aeronautical revenues be fully developed, while keeping in mind the interests and needs of passengers and the public, and ensuring terminal efficiency[3].

**Fuel concession fees**

11. Where fuel "throughput" charges are imposed, they should be recognized by airport entities as being concession charges of an aeronautical nature. Fuel concessionaires should not add them automatically to the price of fuel to aircraft operators, although they may properly include them as a component of their costs in negotiating fuel supply prices with aircraft operators. The level of fuel "throughput" charges may reflect the value of the concessions granted to fuel suppliers and should be related to the cost of the facilities provided, if any. Alternatively, consideration may be given, where feasible, to replacing fuel "throughput charges" by fixed concession fees reflecting the value of the concession and related to the costs of the facilities provided, if any. Where imposed, any such charges or fees should be assessed by airport operators in such a manner as to avoid discriminatory effects, either direct or indirect, for both fuel suppliers and aircraft operators and to avoid their becoming an obstacle to the progress of civil aviation.

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3. In the development and determination of the fees for concessions directly associated with the operation of air transport services, reference might be made to the relevant guidance contained in the *Airport Economics Manual* (Doc 9562) and to the model clause on ground handling for optional application in air services agreements in *Policy and Guidance Material on the Economic Regulation of International Air Transport* (Doc 9587).

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