

Slot regulation and the maximization of the capacity of the airport infrastructure: the Slots White Paper published by IATA

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*As customer demand continues to rise, airports are becoming increasingly congested. Expanding infrastructure is the key solution, but political constraints make it unfeasible in many regions. In this context, where airport capacity is severely limited, the slot allocation process serves as a vital tool to maximize airport efficiency. Achieving this requires collaboration and compromise across the industry, as shown by the Worldwide Airport Slot Guidelines (WASG), established by the Worldwide Airport Slot Board (WASB), which includes airports, coordinators and airlines. Together with the International Air Transport Association (IATA), they have developed a **White Paper** to provide policymakers with the airline industry's perspective on the future development of slot policies.*

Introduction

An airport slot is defined as “a specific time on a particular day for which an airline is granted the right to plan its future operation”¹ allocated in advance by slot coordinators according to the Worldwide Airport Slot Guidelines (WASG). The issues related to slots and their allocation and management are directly dependent on the fact that they are a **scarce resource**, often in demand that exceeds supply, making them limited and in need of administration and governance.

Since the early 1960s, airport slots have been a crucial element in airline schedule planning and airport capacity management. It should be noted that not all airports are subject to slot coordination or classified as “Level 3”; only those facing capacity limitations are required to implement this system. To ensure greater certainty and improve customer service, Level 3 airports worldwide have adopted **the Calendar of Coordination Activities for slot coordination**, aiming to optimize the operational activities of all three key stakeholders described in the following paragraph.

1. The Three Key Players in Slot Planning

Each phase of the slot process operates effectively through the collaboration of three key parties: Airports, Slot Coordinators, and Airlines. Their roles and responsibilities are defined in the WASG and, in some countries, further regulated by legislation. Airports are responsible for delivering capacity in the operational phase, which is a critical role because under capacity reduces the airlines' ability to meet customer demand. Slot coordinators are responsible for refining the final airport schedule, ensuring maximum efficiency while considering infrastructure limitations. Meanwhile, airlines base their slot planning on network strategy, consumer demand, and fleet capabilities.

What is relevant is that all the stages require a dynamic approach, but it is equally necessary to ensure that the involvement of parties such as the coordinator is characterized by independence, impartiality, and transparent processes.

2. The operational issues arising from slot management and the attempts to mitigate them

As correctly observed in the White Paper, the imbalance between capacity and demand has tangible consequences in issues that have become critical for the industry, such as escalating delays, constrained networks and suboptimal schedules.

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1 Slot white Paper, Future Airport Slot Policies and airline Industry refocusing on slot: a global picture of slot policy

The need to overcome these issues has led to an intense planning activity by the airlines, which use increasingly sophisticated planning techniques, and to the development of guidelines that are intended to assist them in their efforts. One of the most significant set of guidelines is provided by IATA itself which, with the Airports Council International (“ACI”) and the Worldwide Airport Coordinators Group (“WWACG”), has developed and published the Worldwide Airport Slot Guidelines (“WASG”)².

The White Paper highlights how relevant these issues are, considering that IATA has classified over 200 airports as “Level 3” airports, which essentially are defined as airports with the following characteristics:

- a) demand for airport infrastructure significantly exceeds the airport’s capacity during the relevant period of time;
- b) expansion of airport infrastructure to meet demand is not possible in the short term;
- c) attempts to resolve the problem through voluntary schedule adjustments have failed or are ineffective;
- d) as a consequence of the above, there is a need for a process of slot allocation for all airlines and other aircraft operators, so that slots must be allocated by a coordinator to ensure arrival and departure at the airport during the periods when slot allocation occurs³.

In fact, the importance of slot allocation and the possibilities to create a more efficient systems through regulatory means have been discussed at length in the European Union, particularly in connection with the potential recast of the current regulation, the so called “*Slot Regulation*”⁴, introduced in 1993.

Discourse around the slots, considered scarce resources and potential barriers to market access, has been focused on possible inefficiencies created by the Regulation. It has been argued that the current system creates a scenario in which those that already have slots are incentivized to hold onto them, thus leading to phenomena such as “*slot hoarding*” and “*slot babysitting*”⁵, as well as to the creation of the secondary slot market⁶.

However, these issues are not exclusive to the European market and have been discussed in relation to other markets and to the global aviation market at large⁷.

These concerns are not specifically addressed in the White Paper. Even though it describes in general, as stated above, what the issues with slots allocation are and what kind of difficulties it can cause, the White Paper does not really dwell on the criticism towards the current system.

It simply describes in general what the IATA believes to still be the best and more efficient approach and does not specifically focus on concerns.

Consistently with the indications of the WASG, the White Paper describes the handling of the problem as two- pronged: on the one hand, there is the issue of slot allocation, and, on the other hand, that of schedule facilitation.

2 Airports Council International, International Air Transport Association, Worldwide Airport Coordinators Group. Worldwide airport slot guidelines (WASG). Montreal, Geneva, 2023.

3 Airports Council International, International Air Transport Association, Worldwide Airport Coordinators Group. Worldwide airport slot guidelines (WASG). Montreal, Geneva, Edition 3, 2023 pagina 20.

4 Council Regulation (EC) 95/93 of 18 January 1993 on common rules for the allocation of slots at Community airports [1993] OJ L14/1.

5 École Nationale de l’Aviation Civile, France: Nathalie Lenoir (2016) DIRECTORATE-GENERAL FOR INTERNAL POLICIES, POLICY DEPARTMENT B: STRUCTURAL AND COHESION POLICIES, TRANSPORT AND TOURISM Research for TRAN Committee – Airport slots and aircraft size at EU airports IN-DEPTH ANALYSIS, page 19.

6 Aras, T. (2022). Article 102 TFEU to the rescue: filling the legal gaps of the airport slot regulation. European Competition Journal, 18(3), 658–682. <https://doi.org/10.1080/17441056.2022.2128551>.

7 Dian Sheng, Zhi-Chun Li, Xiaowen Fu, Modeling the effects of airline slot hoarding behavior under the grandfather rights with use-it-or-lose-it rule, Transportation Research Part E: Logistics and Transportation Review, Volume 122, 2019, Pages 48-61, ISSN 1366 5545, <https://doi.org/10.1016/j.tre.2018.11.006>. See also, in reference to the US Market: Hideki Fukui, Do carriers abuse the slot system to inhibit airport capacity usage? Evidence from the US experience, Journal of Air Transport Management, Volume 24, 2012, Pages 1-6, ISSN 0969-6997, <https://doi.org/10.1016/j.jairtraman.2012.04.001>.



Slot allocation should be carried out through a process that is fair, transparent, pro-competition and efficient. As for schedule planning, the White Paper observes that it has a level of complexity that is not often well understood: oftentimes only its most basic aspect is considered, namely the need for compatible and complementary slots to match at each end of the route, whereas scheduling is actually much more complex, requiring careful management of the fleet availability and sustainability, access to airports and their infrastructures when and as needed, the granting of traffic rights and the related approvals, the retention of supplier of necessary third-party services and supervision over the crew and its flight time limitations.

IATA particularly enhances the need for coordination at the global level noting that, as aviation is a network industry, any uncoordinated and local approach could create issues for airlines and therefore consumers. In fact, it is the IATA's position that there are risks involved with the fact that certain areas of operational policy which are not included in the guidelines may be independently regulated by policymakers.

Consequently, the global utilization of the WASG is viewed as the optimal solution.

In line with this view that considers a homogenous and coherent approach the most important feature of the system, but, perhaps in contrast with current regulatory trends, IATA indicates an unfavorable view of any policy that would link slot allocation to the environmental performance of aircraft.

3. The links between airline economics and slot management

The issues with slot management are closely linked to airline economics and business models.

The White Paper briefly describes the main aspects of the market, starting from the fundamental slots of supply and demand to then describe the airline business models, elaborating on the differences between the hub-to-spoke model⁸ and point-to-point model⁹, slot planning, profitability and cost and investment management.

The first three sections contain an introduction to the basic features of the airline business.

The fourth section, concerning cost and investment, is of particular interest for the scope of the White Paper.

Air travel requires significant investments in infrastructure, starting from the aircraft, that represent the fundamental capital asset. The significance of the investments means that all decisions concerning the fleet, and more specifically whether to favour the acquisition of newer models or the maintenance of the older or whether to buy or lease¹⁰, have an incredible impact on profitability. Furthermore, airlines have to sustain other investments in hubs and, for cargo airlines, in storage and sorting facilities.

The high costs of investment, combined with high fixed costs for necessities such as fuel and personnel, is also the reason why the profitability of the industry is volatile and more vulnerable to economic downturns. In fact, after the initial investment, the fixed costs must continue to be paid, even where the profitable activities have been disrupted or halted, and the airline is unable to get revenues.

Starting from these premises, IATA makes the argument that reliable access to infrastructure and therefore to slots is not only necessary from an operational standpoint, but also for the financial sustainability of the airline business. This further substantiates the White Paper's main point concerning the need for reliable global slots rules.

⁸ The hub-and-spoke model is a system in which airlines operate flights from a central hub airport to multiple destinations. The hub airport serves as a central connecting point for passengers and cargo traveling to different destinations. It is the model typically used by traditional air carriers.

⁹ The point-to-point model is a system in which airlines operate flights directly between two destinations without a central hub. This model is predominately used for airlines that operate short-haul flights between nearby destinations.

¹⁰ The White Paper indicates that currently around 50% of the global fleet of aircraft are leased by airlines.



4. Forecasting New Strategies for the Future Slot Management System

The White Paper concludes by proposing a series of recommendations to improve and innovate the airport slot policy, based on a collaborative approach between airports, coordinators, and airlines, with the aim of optimizing airport capacity utilization.

Among its key suggestions are improving the management of seasonal capacity declarations to ensure that airports adapt to changes in market demand. Additionally, the White Paper advocates for strengthening airport accountability, enhancing performance monitoring, and introducing alternative dispute resolution mechanisms for coordinator decisions to reduce costs and time associated with current legal actions.

Furthermore, the White Paper calls for a reevaluation of policies governing access to congested airports, aiming to foster competition, network efficiency, and customer service. It emphasizes the need for dynamic slot allocation, with waiting lists managed according to demand and airline requirements to promote competition and route development.

Given the above, the central “*Vision*” for the future of slots allocation are the following four fundamental values, all centered around the “customer”:

consistency efficiency
transparency
stability

In describing these core points and in the reasoning leading up to their enumeration, the White Paper stresses once again the importance of a uniform and stable slot policy, enumerating all the advantages that it provides to airlines and, ultimately, customers.

5. Conclusions

To address growing demand and limited expansion opportunities, the *IATA Slots White Paper* underlines the crucial role of efficient slot allocation in optimizing airport infrastructure capacity. However, it does not critically examine inefficiencies such as “*slot hoarding*” or secondary slot markets. From IATA’s perspective, the global adoption of the WASG represents the optimal solution, while firmly opposing any connection between slot allocation and the environmental performance of aircraft. After analyzing the airline business model, the White Paper also points out that reliable access to infrastructure, and thus to slots, is not only vital for operational efficiency but also for the **financial sustainability of the airline industry**.

The White Paper calls for slot policy to remain focused on customer needs, while also preserving principles such as competition, transparency, and stability. Given the evolving nature of the aviation industry, slot regulation must continue to develop, ensuring that it supports the growth and competitiveness of the global air transport network.