International Civil Aviation Organization
CAR/SAM Regional Planning and Implementation Group (GREPECAS)

WORKING PAPER

GREPECAS/23 — WP/8.28
14/01/26

Fifth GREPECAS–RASG-PA Joint Meeting (GREPECAS-RASG-PA/5) and Twenty-Third Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/23)

Virtual Phase (Asynchronous, 19 January to 17 February 2026)
In-Person Phase (Mexico City, Mexico, 4 to 6 March 2026)

Agenda Item 8: CAR/SAM Air Navigation Implementation

ENHANCING OPERATIONAL EFFECTIVENESS AND PUNCTUALITY THROUGH INDEPENDENT PARALLEL SIMULTANEOUS DEPARTURES (IPSD)

(Presented by Brazil)

EXECUTIVE SUMMARY

This Working Paper assesses the operational performance observed at Brasília International Airport (SBBR) following the implementation of Independent Parallel Simultaneous Departures (IPSD). The analysis focuses on the results obtained during the post-implementation period, considering parameters related to capacity, punctuality, departure-flow efficiency, and the maintenance of operational safety levels. The document presents the indicators collected, identifies the improvements achieved, and records the operational challenges detected, providing a clear and objective view of the actual impact of the procedure on the airport's aeronautical operations.

Action:	The Meeting is invited to: a) recognize that the implementation of parallel operations such as IPSD is an operational measure that, in addition to increasing capacity and efficiency, directly contributes to emissions reduction by decreasing taxi times and operational delays; b) promote the continuous assessment of R15 and R60 indicators as standardized regional tools for capacity monitoring, enabling the identification of optimal operating windows and supporting strategic decisions on the gradual expansion of IPSD at aerodromes with similar conditions; c) encourage the integration of the operational benefits observed (reduced taxi-out time, increased punctuality, and more stable departure flow) with the regional environmental KPIs, to quantify the CO_2-mitigation potential derived from advanced departure procedures and efficient runway usage; and d) foster the exchange of experiences among States and the development of regional guidance material to support air navigation service providers in the safe and harmonized adoption of parallel operations,

	considering different meteorological conditions and varying levels of technological maturity.
Strategic Objectives 2026-2050:	• Every flight is safe and secure • Aviation is environmentally sustainable • Aviation delivers seamless, accessible, and reliable mobility for all • No country left behind • The International Civil Aviation Convention and Other Treaties, Laws and Regulations Address All Challenges • The Economic Development of Air Transport Assures the Delivery of Economic Prosperity and Societal Well-Being for All
References:	• ICAO Assembly – 42nd Session; • Global Air Navigation Plan (GANP); and • Scoping Report on Environmental Metrics of Relevance to the Global Aviation System – ICAO CAEP – 2022.

1. Introduction

1.1 The purpose of this document is to analyze the operational performance of Brasília Airport (SBBR) during the application of Independent Parallel Simultaneous Departures (IPSD) within the authorized time windows. The analysis considers movement data, declared capacity, R15/R60 indicators, efficiency effects, and the results observed after the gradual reintroduction of IPSD during 2025.

1.2 Brasília Airport has two parallel runways and a declared capacity of 80 movements per hour. Throughout 2025, IPSD was gradually reinstated in three phases:

- Phase 1: 1130Z–1300Z starting 22 April 2025
- Phase 2: 2330Z–0100Z starting 21 August 2025
- Phase 3: IMC operations starting 20 December 2025

1.3 The IPSD application windows were defined as:

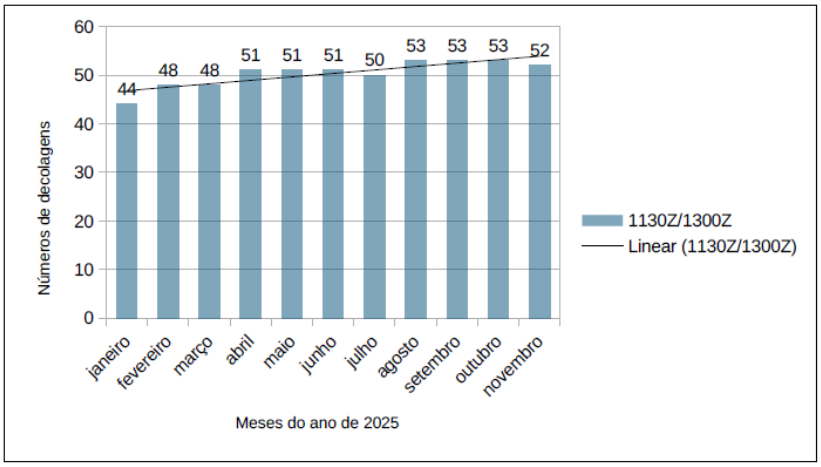
- 1130Z–1300Z
- 2330Z–0100Z

2. Analysis and GANP KPIs Used

2.1 Evolution of movements during IPSD windows

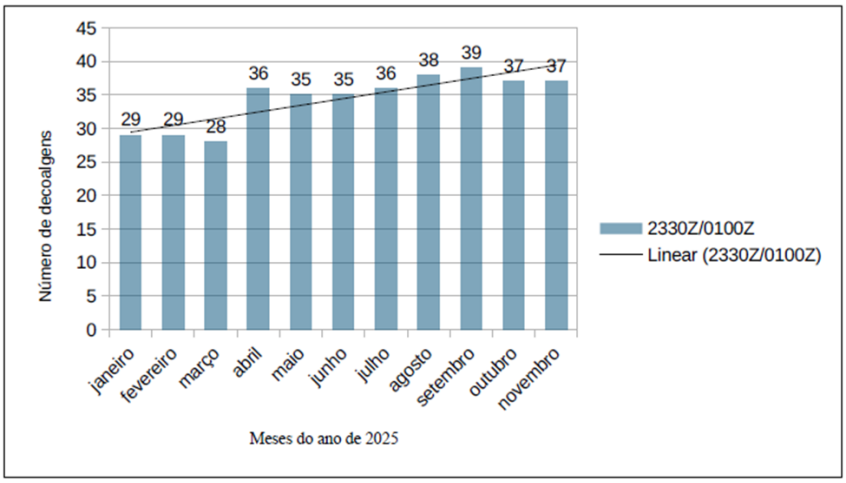
The data show significant operational growth:

- During the 1130Z–1300Z window, from April onward the airport recorded values higher than previous months, indicating increased demand and improved IPCD utilization.



Fonte: TATIC PORTAL

- During the 2330Z–0100Z window, movements increased from approximately 28–29 in the first quarter to 36–39 in the second half of the year, evidencing sustained growth.



Fonte: TATIC PORTAL

2.2 Capacity Usage – R15 and R60 Indicators

R15 – 75% of Capacity

- Estimated system capacity: 12 movements / 15 minutes
- Actual movements: 9
- Indicates operation below saturation level (80–100%).

Operational implications:

- Efficient flow without significant queue formation
- 25% operating margin allows absorption of demand variations
- Contributes to reduced taxi-out time and greater punctuality

R60 – 60.4% of Capacity

- Runway capacity: 48 movements / hour
- Actual movements: 29

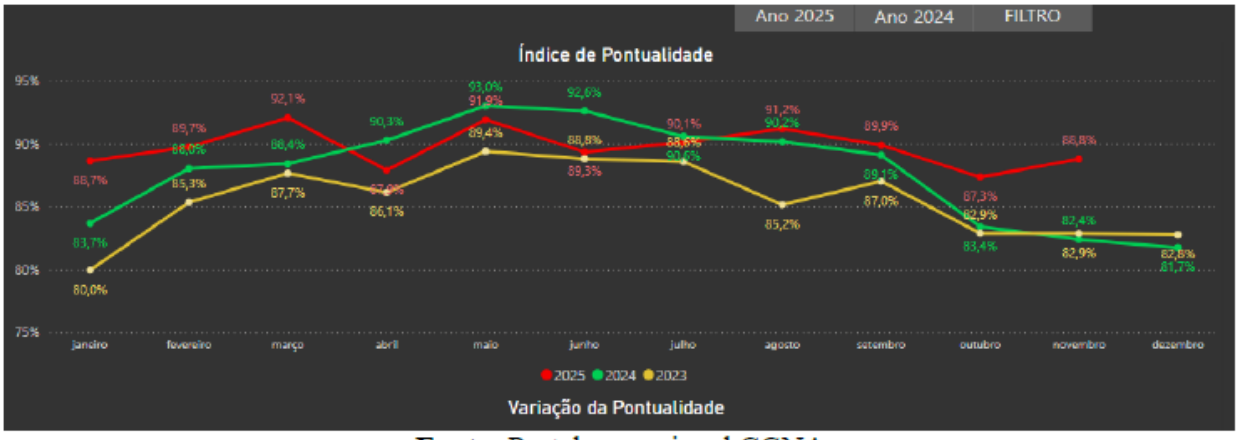
Operational implications:

- Stable and predictable operation
- Wide remaining capacity to absorb demand increases
- Restrictions appear only during peaks of simultaneous arrivals and departures

2.3 IPSD Efficiency Impacts

With the adoption of parallel departure operations:

- A significant improvement in departure-flow efficiency was observed
- Punctuality indicators show continuous improvement from May onward



Fonte: Portal operacional CGNA

- Reduction of additional taxi-out time: the 1-minute decrease is directly associated with improved flow throughput

Fonte: Portal operacional CGNA

3. Conclusions

3.1 **Increased capacity and efficiency:** IPSD and the use of both runways for departures clearly increased capacity, reduced waiting times, and directly improved punctuality.

3.2 **Sustained growth in movements:** The 1130Z–1300Z and 2330Z–0100Z windows showed consistent expansion, especially at night (from 28–29 to 36–39 movements), indicating higher demand and adequate system absorption.

3.3 **Operation below saturation:** R15 (75%) and R60 (60.4%) demonstrate that the airport operated with ample margin, avoiding congestion and maintaining predictability.

3.4 **Consolidated operational efficiency:** Reduced taxi-out time and increased punctuality confirm that IPSD contributed to a more stable and regular departure flow, with consistently positive results throughout the year.

4. Suggested actions

4.1 The Meeting is invited to:

a) Recognize that the implementation of parallel operations such as IPSD is an operational measure that, in addition to increasing capacity and efficiency, directly contributes to emissions reduction by decreasing taxi times and operational delays;

b) promote the continuous assessment of R15 and R60 indicators as standardized regional tools for capacity monitoring, enabling the identification of optimal operating windows and supporting strategic decisions on the gradual expansion of IPSD at aerodromes with similar conditions;

c) encourage the integration of the operational benefits observed (reduced taxi-out time, increased punctuality, and more stable departure flow) with the regional environmental KPIs, to quantify the CO_2-mitigation potential derived from advanced departure procedures and efficient runway usage; and

d) foster the exchange of experiences among States and the development of regional guidance material to support air navigation service providers in the safe and harmonized adoption of parallel operations, considering different meteorological conditions and varying levels of technological maturity.

— END —