



***Agenda Item 3: ATFM Performance Framework
P/02 CAR Region ATFM Performance***

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**Third North American, Central American and Caribbean Working Group (NACC/WG)
Air Traffic Flow Management (ATFM) Implementation Task Force Meeting (ATFM/TF/3)
Mexico City, Mexico, 17 to 19 May 2022**



Objectives

- Discuss alternatives to analyze ATFM performance in the CAR Region.
- Share experiences on evaluating the performance of your ATFM system.
- Promote group discussion on key aspects to ensure regional performance measurement in the CAR Region.
- Analyze the possible follow-up strategy.



ATFM Performance Measurement

- ✈ Demand/Capacity balancing
 - ✈ Requirement: Capacity determination/demand information.
- ✈ Basic building block.
 - ✈ Assessment of ATFM implementation, according to requirements.
- ✈ ATFM performance analysis
 - a. ATFM programme effectiveness: How effective is the ATFM measure implemented in delivering the intended level of traffic?
 - b. Compliance assessment: How well do stakeholders comply with the ATFM measure?
 - c. Impact analysis: Who are impacted by the ATFM programme, and how?
- ✈ CAR/SAM ANP
 - ✈ CAR/SAM ANP Volume III KPAs: Capacity – Efficiency - Predictability



ATFM Basic building block

- ✈ How do you measure the progress in the implementation of your ATFM system?
 - ✈ What is the role of the Aeronautical Authority?
1. ATFM implementation Plan.
 - Who approves?
 - National air navigation Plan.
 2. Oversight programme.
 - ✓ What evaluates?



ATFM Performance Analysis



AIR TRAFFIC FLOW MANAGEMENT
POST-OPERATIONS ANALYSIS RECOMMENDED FRAMEWORK

Version 1.0 November 2020

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- ✈ This document provides recommendations on how ATFM operations analysis can be conducted, with overview of analyses that can be carried out during each phase of ATFM operations from planning demand and capacity to post-operations analysis of an ATFM program with various ATFM measures.



Impact Analysis

- **Key Question: Who are impacted by the ATFM program, and how?**
- This section should analyze the impact of the ATFM measure activated. The analysis should include breaking down the various Airspace Users and Airport Operators involved along with the impact – such as ATFM delays – they face.
- Impact analysis should be able to provide insights such as ATFM delay trend, fairness in ATFM delay distribution, and particular areas where further collaborations are needed.

Compliance Assessment

- **Key Question: How well do stakeholders comply with the ATFM measure?**
- This section should assess the level of ATFM compliance exhibited by impacted stakeholders. ATFM measure generally works best when majority of flights included in the program comply with the requirements assigned.
- Analyzing the compliance level from different stakeholders can provide insight into areas where more collaboration or even a change in governing procedure can improve the performance

ATFM Effectiveness

- **Key Question: How effective is the ATFM measure implemented in delivering the intended level of traffic?**
- This section should evaluate the outcome at the ATM resource for which the ATFM measure has been activated, against planned objective(s). For example, if a Ground Delay Program (GDP) is required to manage traffic into an airport during the 2-hour period with thunderstorms, the actual number of arriving traffic should be counted in comparison to the plan.
- The most important note to keep in mind is to ascertain that the ATFM measure objective(s) are set appropriately and clearly prior to the activation of the program. Once set, the objectives should be the main driving force behind operational decisions taken.



ATFM performance analysis

✈ ATFM programme effectiveness

✈ Compliance assessment

✈ Impact analysis

✈ How do you measure the effectiveness of your ATFM programme?

✈ What's the level of compliance?

✈ How do you assess the impact of your ATFM programme? Or your ATFM measures?

✈ Are stakeholders taken into consideration?



CAR/SAM ANP

CAR/SAM ANP Volume III

- ▼ Efficiency
 - ▶ Flight time & distance
 - ▶ Vertical flight efficiency
 - ▶ Fuel burn
- ▼ Capacity
 - ▶ Capacity, throughput & utilization
 - ▶ Capacity shortfall & associated delay
- ▼ Predictability
 - ▼ Punctuality
 - ▶ Departure punctuality at the gate/stand
 - ▶ Arrival punctuality at the gate/stand
 - ▶ Adherence to the planned take-off time
 - ▶ Variability



	Detail	Target Implementation
Phase IA	<i>The accuracy and effectiveness of capacity and demand analyses and ADP preparation and distribution, including supporting information [...], should be verified through comparison with operational outcomes observed, and rectification of discrepancies included in planning for system and process improvements</i>	12 Nov 2015
Phase IB	<i>Procedures and agreements should be developed to ensure post-operational analysis of cross-border ATFM programs, including the canvassing and consideration of feedback from airspace users, airport operators, ATS and other ATFM units. Daily post-operations analysis conferences should be held, supplemented where necessary by ad-hoc conferences called to assess the outcomes of programs of ATFM measures responding to non-normal situations</i>	25 May 2017
Phase II	<i>(No specific mention of post-operations analysis as Phase IB has already covered all that need to be conducted)</i>	8 Nov 2018

Table 4 - Post-Operations Analysis in Regional ATFM Framework



ATFM Regional Performance Measurement

✈ Capacity

✈ Efficiency

✈ Predictability

✈ How can we measure
ATFM Regional?

✈ KPI07 En-route ATFM
delay



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Thank You