México
State Air Navigation Plan

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Table of Contents

1. Introduction

This document is México's State Air Navigation Plan (ANP) describing the plan and status of aviation technology implementation. The background of the State ANP and the environment of our air navigation system are presented along with the method and process to evaluate and monitor aviation technology implementation.

1.1 Background

The ICAO Global Air Navigation Plan (Doc 9750, GANP) provides ICAO's vision to achieve sustainable growth of the global civil aviation system. It also presents all States with a comprehensive planning tool supporting a harmonized global air navigation system. The GANP is an overarching framework that includes key civil aviation policy principles to assist ICAO Regions and States with the preparation of their Regional and State Air Navigation Plans (ANPs).

Planning and Implementation Regional Groups (PIRGs) are expected to develop the regional ANPs reflecting the regional requirements. GANP obligates States to map their individual or regional programmes against the harmonized GANP, but provides them with far greater certainty of investment. GANP requires active collaboration among States through the PIRGs in order to coordinate initiatives within applicable regional ANPs.

The GANP introduces the Aviation System Block Upgrades (ASBU) methodology. The ASBU methodology and its description of future aviation capabilities define programmatic and flexible global systems engineering approaches allowing all States to advance their air navigation capacities based on their specific operational requirements.

To this extent, the North American, Central American and Caribbean (NACC) Regional Office (RO), has published the NAM/CAR Regional Performance-Based Air Navigation Implementation Plan (RPBANIP, v3.1 in April 2014) aligning the activities and strategies with the ICAO ASBU methodology.

This document is the ANP for México aligning activities and strategies to the GANP and RPBANIP. The information contained in the México ANP is related mainly to:

- Planning: objectives set, priorities and targets planned at the state level
- Implementation monitoring and reporting: monitoring the progress of implementation towards targets planned. This information should be used for reporting purposes (i.e.: global and regional air navigation reports and performance dashboards); and/or
- Guidance: providing state guidance material for the implementation of specific system/procedures in a harmonized manner.

The México ANP would be used as a tool for planning, monitoring, and reporting the status of implementation of the aviation capabilities.

1.2 Environment

The environments of Air Navigation of México, such as authority, airspace and airports, and air traffic are described in this section.

1.2.1 Authority of México

The ABC Organization was established by an Act of Parliament in NNNN. Its mission is to maximize air and sea-borne traffic and related services through safe and efficient operations. Its mandate is defined as the provision of coordinated and integrated systems of airports and seaports.

The ABC Organization is responsible for managing the aerodromes and airspace and other things. The organization is organized as shown in Figure 1.2.1. Who does what? Who has what responsibilities? Its operation is performed by a highly motivated work force contributing to the sustainable, social and economic development of My State.

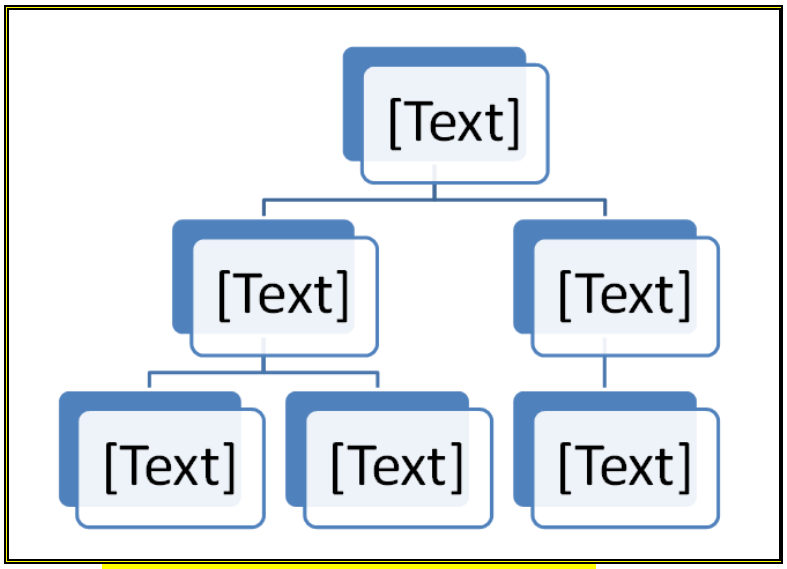
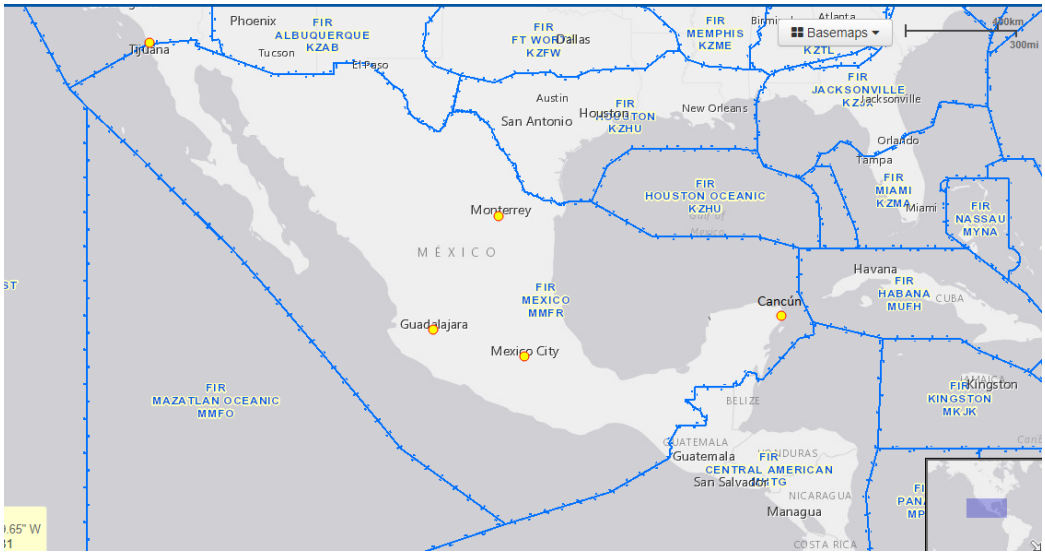


Figure 1.2.1: Organizational Structure of México

1.2.2 Airspace

México is located within the ZZZ Flight Information Region (FIR) that is managed by ABC. OR My State manages ZZZ Flight Information Region (FIR). Refer to Figure 1.2.2 for the airspace around My State or ZZZ FIR. Describe FIR more in detail if you like.



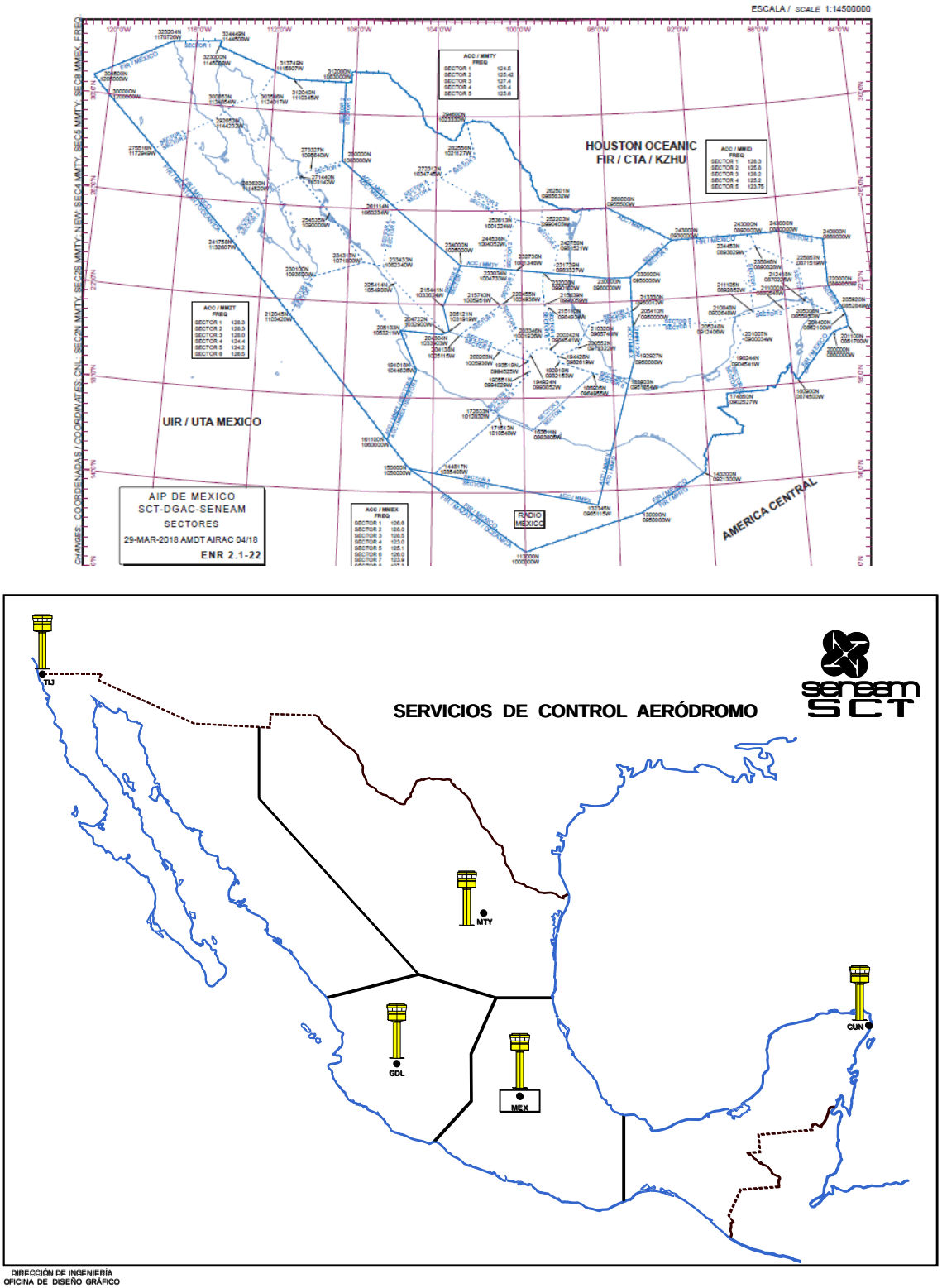


Figure 1.2.2: ZZZ FIR and My State

1.2.3 Aerodromes

Two (Two is an example. Determine the aerodromes to be included in this doc and describe.) major aerodromes in My State are: Wow Wonderful Airport (TWOW) and Beautiful International Airport (TBTF). These two aerodromes are listed in the ICAO's regional ANP titled, "Caribbean and South American Air Navigation Plan, Volume I (dated October 2015), Table AOP I-1, International Aerodromes Required in the CAR/SAM Regions". The TWOW has the capacity of 8-10 air traffic movements per hour. The TBTF has the capacity of 12-14 air traffic movements per hour.

Runway Information on Wow Wonderful Airport (TWOW)

	Runway 09	**Runway 27**
Length x Width	6227 ft x 148 ft	6227 ft x 148 ft
Surface Type	asphalt	asphalt
TDZ-Elev	20 ft	10 ft
Lighting	edge	edge
Displace Threshold	430 ft	1011 ft

1.2.4 Traffic Forecast

Number of typical daily operation (arrivals/departures) at Wow Wonderful Airport (TWOW) and Beautiful International Airport (TBTF) are 25/25 (total of 50 movements) and 30/30 (total of 60 movements), respectively. The RPBANIP forecasted that average annual growth of air traffic in the Caribbean region would increase 5.9% during 2011-2031. The My Organization believes that this overall Caribbean regional forecast of annual increase of 5.9% is too optimistic for My Organization and more moderate number of 3.0% annual increase might realistic anticipation. Estimated daily operations at TWOW and TBTF are shown in Tables 1.2.4a and 1.2.4b applying the increase forecasts to each year from 2017 to 2031.

Year	**MEX**	**GDL**	**MTY**	**CUN**	**TIJ**
2017	1440	720	720	720	480
2018	1525	762	762	762	508
2019	1615	807	807	807	538
2020	1710	855	855	855	570
2021	1811	906	906	906	604
2022	1918	959	959	959	639
2023	2031	1016	1016	1016	677
2024	2151	1075	1075	1075	717
2025	2278	1139	1139	1139	759
2026	2412	1206	1206	1206	804
2027	2555	1277	1277	1277	852
2028	2705	1353	1353	1353	902
2029	2865	1432	1432	1432	955
2030	3034	1517	1517	1517	1011
2031	3213	1606	1606	1606	1071

1.3 Planning Methodology

Guided by the GANP and RPBANIP, the state planning process starts by identifying the state responsible ATM areas, major traffic flows and international aerodromes. An analysis of this data leads to the identification of opportunities for performance improvement. Available technologies and ASBU Elements are evaluated to identify which Elements best provide the needed operational improvements. Depending on the complexity of the selected technology or Elements, additional planning steps may need to be undertaken including financing and training needs. Finally, state plans would be developed for the deployment of improvements and supporting requirements. This is an iterative planning process which may require repeating several steps until a final plan with specific regional targets is in place. This planning methodology requires full involvement of States, service providers, airspace users and other stakeholders, thus ensuring commitment by all for implementation.

Considering that some of the ASBU Modules contained in the GANP are specialized packages of implementable capabilities, called Elements, that may be applied where specific operational requirements or corresponding benefits exist, States will decide how each ASBU Element would fit into national and regional plans.

In establishing and updating the implementation priorities detailed in the México ANP, due consideration should be given to the safety priorities set out in the Global Aviation Safety Plan (GASP) and the NAM/CAR regional safety strategy. México would establish its own air navigation objectives, priorities and targets to meet its individual needs and circumstances in line with the global and regional air navigation objectives, priorities, and targets.

1.4 Air Navigation Planning Process

The air navigation planning process prescribes evaluation, implementation, reviewing, reporting, and monitoring activities. It is recommended to conduct the process on a cyclical, annual basis. An Air Navigation Reporting Form (ANRF) is a tool to monitor and report the implementation status of capabilities. The México ANRF is a customized tool for the application of setting planning targets, monitoring implementation, and identifying challenges, measuring implementation/performance and reporting. The ANRF reflects selected key performance areas as defined in the Manual on Global Performance of the Air Navigation System (ICAO Doc 9883).

Many of the future capabilities are described in terms of ASBU Elements. Some capabilities are specific to the need of the Caribbean Region and/or the State needs. These specific needs are described as Regional Aviation System Improvements (RASI) and State Aviation System Improvements (SASI). Both Analysis and Work Flow and ANRF are useful to manage the implementation status of ASBU, RASI, and SASI capabilities.

1.4.1 Analysis and Work Flow Process

Figure 1.4.1 depicts the workflow for analysing and implementing ASBU Elements. This flow process should be applied to each of the ASBU Elements. If the Element is applicable to an airport, each airport needs to be evaluated through this flow process. This same flow process is applicable to RASI and SASI.

The significance of each step in the workflow as it pertains to regional planning is as follows:

- **Analysis Not Started** – The requirement to implement this ASBU Element has not yet been assessed
- **Analysis In Progress** – A Need Analysis as to whether or not this ASBU Element is required, is in progress

- **N/A** – The ASBU Element is not required
- **Need** - The Need Analysis concluded that the ASBU Element is required, but planning for the implementation has not yet begun
- **Planning** – Implementation of this ASBU Element is planned, but not yet started
- **Developing** – Implementation of this ASBU Element is in the development phase, but not yet operational
- **Partially Implemented** – Implementation of this ASBU Element is partially completed and/or operational but all planned implementations are not yet complete
- **Implemented** - Implementation of this ASBU Element has been completed and/or is fully operational everywhere the need was identified

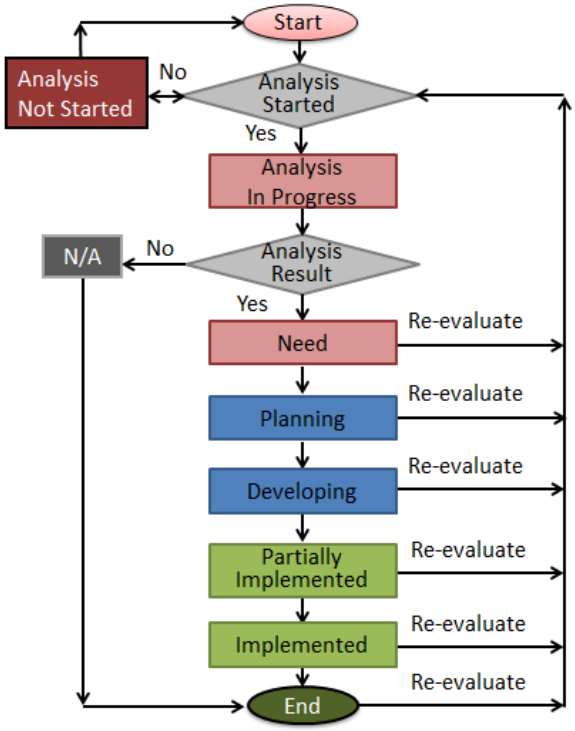


Figure 1.4.1: Analysis and Work Flow

The Need Analysis of ASBU Elements will identify which ASBU Elements are required. In this context, "required" means that the benefits estimated from the implementation would justify the associated implementation costs, or, the potential safety benefits are deemed to justify the implementation costs. The implementation status of ASBU Elements which are not required should be indicated as "N/A", meaning "not applicable".

The analysis and implementation status determined in accordance with the above is reflected in the applicable ANRFs and in the ASBU Implementation Status Tables.

1.4.2 Monitoring and Reporting Results

Monitoring and reporting results will be analysed by the Regions, States and the ICAO Secretariat to steer the air navigation improvements, take corrective actions and review the allocated objectives, priorities and targets if needed. The results will also be used by ICAO and aviation partner stakeholders to develop the annual Global Air Navigation Report. The report results will provide an opportunity for the international civil aviation community to compare progress across different ICAO regions in the

establishment of air navigation infrastructure and performance-based procedures. The reports will also provide the ICAO Council with detailed annual results on the basis of which tactical adjustments will be made to the performance framework work programme, as well as triennial policy adjustments.

The information provided in the México ANRFs should be periodically reviewed and updated if subsequent analysis results in a change to the applicability of any ASBU Elements, whether or not they were selected. The explanation of ANRF is provided in Appendix A. The customized México ASBU Air Navigation Reporting Form Template is provided in Appendix B. The México RASI and SASI Air Navigation Reporting Form Templates are provided in Appendix C.

1.5 Problem Identification

To provide and promote safe and efficient aviation services to the customers, it is important to resolve ongoing challenges that hindering the mission. It is also important to anticipate and address the potential problems in the future.

1.5.1 Existing Problems

The demands for TWOW and TBTF are only expected to increase in the future. The current infrastructure at both airports, notwithstanding upgrades and expansions over the years, does not adequately meet peak capacity demand. The solution requires a huge investment in airport infrastructure. This includes airport terminal development, runway and turning bay reconstruction and rehabilitation, total drainage redevelopment, new control tower and technical block, and continuous modernization of communication, navigation, and surveillance equipment (e.g. Performance Based Navigation procedures (PBN). The formal implementation of Standard Instrument Departure procedures (SIDs) would improve on the safety, efficiency and management of airspace capacity.

In addition, airport operations need to be improved by introducing capabilities such as Airport Collaborative Decision Making (ACDM). To support airport operations, having accurate and timely weather and aeronautical information is essential. Information such as aerodrome warnings and wind shear warnings/alerts will increase safety of operations. Securing quality data should also be accomplished by introducing the Quality Management System (QMS) to both weather and aeronautical data.

A fundamental component which is critical concern, is the availability of human resource to meet the wide-ranging needs of airport operations. The provision of relevant training for that human resource is paramount.

1.5.2 Future Problems

Anticipating heavier demand at the TWOW and TBTF airports, the introduction of a Ground Based Argumentation System (GBAS) landing system procedure would be effective.

The human resource issues, if not addressed in tandem with the infrastructure and procedure development, could result in deficient service provision and delivery. Human resource acquisition and development must coincide with the infrastructure and procedure development.

2. México's Aviation System Block Upgrade (ASBU) Implementation Status

The status of ASBU implementation is provided in this section. Though there are Block 0 to Block 3 (B0, B1, B2, and B3), only B0 capacities are ready to be implemented with supporting documents such as standards, procedures, specifications, and training materials. ICAO will provide supporting documents for B1 in 2019, B2 in 2025, and B3 in 2031.

2.1 ASBU Block 0 Implementation Metrics, Targets, and Status

ASBU B0 Implementation Targets and Status are presented in this section. My Organization considers two airports, Wow Wonderful Airport (TWOW) and Beautiful International Airport (TBTF) for airport oriented Elements.

2.1.1 ASBU B0 Implementation Metrics and Targets

Table 2.1.1 provides the ASBU B0 Implementation Metrics, Targets, and Progress for each B0 Element.

Block 0 Modules	Elements	Metrics	Targets	Status & Remarks
Performance Improvement Area 1: Airport Operations				
ACDM	**1.** Interconnection between aircraft operator & ANSP systems to share surface operations information	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-ACDM-1 Target 1:** Assessed Mar 2018 **a.** Yes **b.** 2 **B0-ACDM-1 Target 2:** **c.** None	**Planning 2020**: CUN, MEX **Not Applicable:** MTY, TIJ, GDL
	2. Interconnection between aircraft operator & airport operator systems to share surface operations information	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-ACDM-2 Target 1:** Assessed Mar 2018 **a.** Yes **b.** 2 **B0-ACDM-2 Target 2:** **c.** None	**Planning 2020**: CUN, MEX **Not Applicable:** MTY, TIJ, GDL
	3. Interconnection between airport operator & ANSP systems to share surface operations information	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-ACDM-3 Target 1:** Assessed Mar 2018 **a.** Yes **b.** 2 **B0-ACDM-3 Target 2:** **c.** None	**Planning 2020**: CUN, MEX **Not Applicable:** MTY, TIJ, GDL
	4. Interconnection between airport operator, aircraft operator & ANSP systems to share surface operations information	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-ACDM-4 Target 1:** Assessed Mar 2018 **a.** Yes **b.** 5 **B0-ACDM-4 Target 2:** **c.** 1 (MEX)	**Planning 2020**: CUN, MEX **Not Applicable:** MTY, TIJ, GDL
	5. Collaborative departure queue management	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-ACDM-5 Target 1:** Assessed Mar 2018 **a.** Yes **b.** 5 **B0-ACDM-5 Target 2:** **c.** None	**Planning 2020**: CUN, MEX **Not Applicable:** MTY, TIJ, GDL

Block 0 Modules	Elements	Metrics	Targets	Status & Remarks
APTA	**1.** PBN approach procedures with vertical guidance to LNAV/VNAV minima	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-APTA-1 Target 1:** Assessed Mar 2017 **a.** Yes **b.** 5 **B0-APTA-1 Target 2:** **c.** None	**Partially Implemented**: MTY GDL, CUN, TIJ **Planning:** MEX (2020)
	2. PBN approach procedures with vertical guidance to LPV minima	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-APTA-1 Target 1:** Assessed Mar 2018 **a.** Yes **b.** 5 **B0-APTA-1 Target 2:** **c.** None	**Developing**
	3. PBN Approach Procedures without vertical guidance (LP, LNAV minima; using SBAS)	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-APTA-1 Target 1:** Assessed Mar 2018 **a.** No **b.** None **B0-APTA-1 Target 2:** **c.** N/A	**Not Applicable**
	4. GBAS Landing System (GLS) Approach procedures	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-APTA-1 Target 1:** Assessed Mar 2018 **a.** Yes **b.** 1 **B0-APTA-1 Target 2:** **c.** None	**Planning** MEX 2020
RSEQ	**1.** AMAN via controlled time of arrival to a reference fix	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-RSEQ-1. Target 1:** Assessed Mar 2018 **a.** Yes **b.** 2 **B0- RSEQ-1 Target 2:** **c.** None	**Planning**: MEX, CUN 2020
	2. Departure management	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-RSEQ-2. Target 1:** Assessed Mar 2018 **a.** Yes **b.** 2 **B0- RSEQ-2 Target 2:** **c.** None	**Planning:** MEX, CUN 2020
	3. Departure flow management	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-RSEQ-3. Target 1:** Assessed Mar 2018 **a.** Yes **b.** 2 **B0- RSEQ-3 Target 2:** **c.** None	**Planning**: MEX, CUN 2020
	4. Point merge	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-RSEQ-4. Target 1:** Assessed Mar 2018 **a.** No **b.** None **B0- RSEQ-4 Target 2:** **c.** None	**Not Applicable**

Block 0 Modules	Elements	Metrics	Targets	Status & Remarks
SURF	**1.** A-SMGCS with at least one cooperative surface surveillance system	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-SURF-1. Target 1:** Assessed Mar 2018 **a.** Yes **b.** 2 **B0-SURF-1. Target 2:** **c. None**	**Planning** / CUN 2019 **Partiality implemented**: MEX 2020
	2. Including ADS-B APT as an element of A-SMGCS	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-SURF-2. Target 1:** Assessed Mar 2018 **a.** Yes **b.** 2 **B0-SURF-2. Target 2:** **c.** 2	**Planning** / CUN 2019, MEX 2020
	3. A-SMGCS alerting with flight identification information	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-SURF-3. Target 1:** Assessed Mar 2018 **a.** Yes **b.** 2 **B0-SURF-3. Target 2:** **c.** 2	**Planning** / CUN2019, MEX 2020
	4. EVS for taxi operations	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-SURF-4. Target 1:** Assessed Mar 2018 **a.** Yes **b.** None **B0-SURF-4. Target 2:** **c.** N/A	**Not Applicable**
	5. Airport vehicles equipped with transponders	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-SURF-5. Target 1:** Assessed Mar 2018 **a.** No **b.** None **B0-SURF-5. Target 2:** **c.** N/A	**Not Applicable**
WAKE	**1.** New PANS-ATM wake turbulence categories and separation minima	*ICAO has not developed new minima.*	**N/A**	**Not Applicable**
	2. Dependent diagonal paired approach procedures for parallel runways with centrelines spaced less than 760 meters (2,500 feet) apart	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-WAKE-2. Target 1:** Assessed Mar 2018 **a.** Yes **b.** None **B0-WAKE-2. Target 2:** **c.** N/A	**Not Applicable**
	3. Wake independent departure and arrival procedures for parallel runways with centrelines spaced less than 760 meters (2,500 feet) apart	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-WAKE-3. Target 1:** Assessed Mar 2018 **a.** Yes **b.** None **B0-WAKE-3. Target 2:** **c.** N/A	**Not Applicable**

Block 0 Modules	Elements	Metrics	Targets	Status & Remarks
	4. Wake turbulence mitigation for departures procedures for parallel runways with centrelines spaced less than 760 meters (2,500 feet) apart	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-WAKE-4. Target 1:** Assessed Mar 2018 **a.** Yes **b.** None **B0-WAKE-4. Target 2:** **c.** N/A	**Not Applicable**
	5. 6 wake turbulence categories and separation minima	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-WAKE-5. Target 1:** Assessed Mar 2018 **a.** Yes **b.** None **B0-WAKE-5. Target 2:** **c.** N/A	**Not Applicable**
Performance Improvement Area 2: Globally Interoperable Systems and Data				
AMET	**1.** WAFS	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-AMET-1.Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-AMET-1.Target 2:** **c.** Yes (1990)	**Implemented/** Real time seismograms for Popocatepetl
	2. IAVW	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-AMET-2. Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-AMET-2. Target 2:** **c.** Yes (2000)	**Implemented**
	3. TCAC forecasts	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-AMET-3. Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-AMET-3.Target 2:** **c.** Yes (1980)	**Implemented**
	4. Aerodrome warnings	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-AMET-4. Target 1:** Assessed Mar 2018 **a.** Yes **b.** 1 **B0-AMET-4.Target 2:** Implement by Dec 2019 **c.** None	**Planning/** MEX 2020
	5. Wind shear warnings and alerts	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-AMET-5. Target 1:** Assessed Mar 2018 **a.** Yes **b.** 1 **B0-AMET-5.Target 2:** **c.** None	**Planning/** MEX 2020
	6. SIGMET	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-AMET-6. Target 1:** Assessed Mar 2018 **a.** Yes **b.** 5 **B0-AMET-6. Target 2:** **c.** 5 (2012)	**Implemented**
	7. Other OPMET information (METAR, SPECI and/or TAF)	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-AMET-7. Target 1:** Assessed Mar 2018 **a.** Yes **b.** 5 **B0-AMET-7.Target 2:** **c.** 2 (1978)	**Implemented**

Block 0 Modules	Elements	Metrics	Targets	Status & Remarks
	8. QMS for MET	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-AMET-8. Target 1:** Assessed Mar 2012 **a.** Yes **b.** Yes **B0-AMET-8.Target 2:** **c.** Yes (2012)	**Implemented**
DATM	**1.** Aeronautical Information Exchange Model (AIXM)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-DATM-1. Target 1:** Assessed Mar 2016 **a.** Yes **b.** Yes **B0-DATM-1. Target 2:** **c.** Yes (2016)	**Implemented/** AIXM database operational
	2. eAIP	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-DATM-2. Target 1:** Assessed Mar 2017 **a.** Yes **b.** Yes **B0-DATM-2. Target 2:** **c.** No	**Developing /** eAIP software at 90%, waiting for some software issues solution
	3. Digital NOTAM	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-DATM-3. Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-DATM-3. Target 2:** **c.** No	**Planning**
	4. eTOD	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-DATM-4. Target 1:** Assessed Mar 2018 **a.** Yes **b.** 5 **B0-DATM-4. Target 2:** **c.** None	**Planning/** MEX 2020
	5. WGS-84	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-DATM-5. Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-DATM-5. Target 2:** **c.** Yes (2004)	**Implemented/** Completed by the Mexican Geographic Institute
	6. QMS for AIM	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-DATM-6. Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-DATM-6. Target 2:** **a.** Yes (2012)	**Implemented**/ QMS procedures implemented on the AIM department
FICE	**1.** AIDC to provide initial flight data to adjacent ATSUs	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-FICE-1. Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-FICE-1. Target 2:** **c.** Yes (2004)	**Implemented/** AIDC operational with foreign ACCs
	2. AIDC to update previously coordinated flight data	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-FICE-2. Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-FICE-2. Target 2:** **c.** Yes (2004)	**Implemented/** AIDC operational with foreign ACCs
	3. AIDC for control transfer	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-FICE-3. Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-FICE-3. Target 2:** **c.** Yes (2004)	**Implemented/** AIDC operational with foreign ACCs

Block 0 Modules	Elements	Metrics	Targets	Status & Remarks
	4. AIDC to transfer CPDLC logon information to the Next Data Authority	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-FICE-4. Target 1:** Assessed Mar 2018 **a.** Yes **b.** No **B0-FICE-4. Target 2:** **c.** N/A	**Not Applicable**/ No planned
Performance Improvement Area 3: Optimum Capacity and Flexible Flights				
ACAS	**1.** ACAS II (TCAS version 7.1)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-ACAS-1. Target 1:** **a.** No **b.** TBD **B0-ACAS-1. Target 2:** Implement by TBD **c.** No	**Status - Analysis Not Started**
	2. Auto Pilot/Flight Director (AP/FD) TCAS	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-ACAS-2. Target 1:** **a.** No **b.** TBD **B0-ACAS-2. Target 2:** **c.** N/A	**Status - Analysis Not Started**
	3. TCAS Alert Prevention (TCAP)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-ACAS-3. Target 1:** **a.** No **b.** TBD **B0-ACAS-3. Target 2:** **c.** N/A	**Status - Analysis Not Started**
ASEP	**1.** ATSA-AIRB	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-ASEP-1. Target 1:** Assessed Mar 2018 **a.** No **b.** TBD **B0-ASEP-1. Target 2:** **c.** N/A	**Status – No applicable**
	2. ATSA-VSA	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-ASEP-2. Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-ASEP-2. Target 2:** **c.** Yes (1978)	**Implemented** / ATC clears IFR arrivals for a visual approach when the flights request that kind of procedure.
ASUR	**1.** ADS-B	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-ASUR-1. Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-ASUR-1. Target 2:** **c.** No	**Partially Implemented/** ADS-B implemented in CUN, MTY, MEX for helicopter surveillance. Working on the implementation at the 4 ACCs. **N/A:** GDL, TIJ
	2. Multilateration (MLAT)	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-ASUR-2. Target 1** Assessed Mar 2018 **a.** Yes **b.** 2 **B0-ASUR-2. Target 2:** **c.** None	**Planning/** CUN, MEX 2020
FRTO	**1.** CDM incorporated into airspace planning	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-FRTO-1. Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-FRTO-1. Target 2:** **c.** Yes (2014)	**Implemented** / Airspace planning team includes air traffic controllers, procedure designers, airlines and the military.

Block 0 Modules	Elements	Metrics	Targets	Status & Remarks
	2. Flexible Use of Airspace (FUA)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-FRTO-2. Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-FRTO-2. Target 2:** **c.** Yes (1978)	**Implemented** / Agreements have been made with the military to share some SUAs.
	3. Flexible route systems	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-FRTO-3. Target 1** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-FRTO-3. Target 2:** **c.** No	**Developing**
	4. CPDLC used to request and receive re-route clearances	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-FRTO-4. Target 1:** Assessed Mar 2018 **a.** Yes **b.** No **B0-FRTO-4. Target 2:** **c.** No	**Not Applicable**
NOPS	**1.** Sharing prediction of traffic load for next day	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-NOPS-1. Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-NOPS-1. Target 2:** **c.** Yes	**Implemented**
	2. Proposing alternative routings to avoid or minimize ATFM delays	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-NOPS-2. Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-NOPS-2. Target 2:** **c.** Yes (2002)	**Implemented** /ATFM operational with basic ATFM functions for MMMX.
OFTL	**1.** ITP using ADS-B	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-OFTL-1. Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-OFTL-1. Target 2:** **c.** No	**Not Started**
SNET	**1.** Short Term Conflict Alert (STCA)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-SNET-1. Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-SNET-1. Target 2:** **c.** Yes (1994)	**Implemented**
	2. Area Proximity Warning (APW)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-SNET-2. Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-SNET-2. Target 2:** **c.** Yes (2007)	**Implemented**
	3. Minimum Safe Altitude Warning (MSAW)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-SNET-3. Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-SNET-3. Target 2:** **c.** Yes (1994)	**Implemented**
	4. Medium Term Conflict Alert (MTCA)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-SNET-4. Target 1:** Assessed Mar 2018 **a.** Yes **b.** Yes **B0-SNET-4. Target 2:** **c.** Yes (2007)	**Implemented**

Block 0 Modules	Elements	Metrics	Targets	Status & Remarks
Performance Improvement Area 4: Efficient Flight Paths				
CCO	**1.** Procedure changes to facilitate CCO	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-CCO-1. Target 1:** Assessed Mar 2018 **a.** Yes **b.** 5 **B0-CCO-1. Target 2:** **c.** 5 (2006)	**Implemented /** TMA´s
	2. Route changes to facilitate CCO	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-CCO-2. Target 1:** Assessed Mar 2018 **a.** No **b.** 5 **B0-CCO-2. Target 2:** **c.** 5 (2006)	**Implemented /** TMA´s
	3. PBN SIDs	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-CCO-3. Target 1:** Assessed Mar 2018 **a.** Yes **b.** 5 **B0-CCO-3. Target 2:** **c.** 4 (2017)	**Implemented/** TIJ,GDL, MTY,CUN **Planning /** MEX 2020
CDO	**1.** Procedure changes to facilitate CDO	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-CDO-1. Target 1:** Assessed Mar 2018 **a.** No **b.** 5 **B0-CDO-1. Target 2:** **c.** 5 (2006)	**Implemented /** TMA´s
	2. Route changes to facilitate CDO	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-CDO-2. Target 1:** Assessed Mar 2018 **a.** No **b.** 5 **B0-CDO-2. Target 2:** **c.** 5 (2006)	**Implemented /** TMA´s
	3. PBN STARs	Number of aerodromes to be considered: 5 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, 2, 3, 4, or 5* **c.** How many aerodromes implemented the capability? *None, 1, 2, 3, 4, or 5*	**B0-CDO-3. Target 1:** Assessed Mar 2018 **a.** Yes **b.** 5 **B0-CDO-3. Target 2:** **c.** 4 (2017)	**Implemented/** TIJ,GDL, MTY,CUN **Planning /** MEX 2020
TBO	**1.** ADS-C over oceanic and remote areas	**a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-TBO-1. Target 1:** Assessed Mar 2018 **a.** Yes **b.** No **B0-TBO-1. Target 2:** **c.** No	**Not Applicable**/ Not planned due to very low amount of traffic on the oceanic FIR
	2. CPDLC over continental areas	**a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-TBO-2. Target 1:** Assessed Mar 2018 **a.** Yes **b.** None **B0-TBO-2. Target 2:** **c.** N/A	**Not Applicable**
	3. CPDLC over oceanic and remote areas	**a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**B0-TBO-3. Target 1:** Assessed Mar 2018 **a.** Yes **b.** None **B0-TBO-3. Target 2:** **c.** N/A	**Not Applicable**

Table 2.1.1: ASBU B0 Implementation Metrics and Targets

2.1.2 ASBU B0 Implementation Status Summary

The summary of ASBU B0 implementation status is provided in the Table 2.1. The details of ASBU B0 implementation status is recorded using ANRFs and provided in Appendix D.

Module	Elements	Need Analysis				Implementation Status (if Element is needed)			
		Not Started	In Progress	Need	N/A	Planning	Developing	Partially Implemented	Implemented
Performance Improvement Area 1: Airport Operations									
ACDM	1. Interconnection between aircraft operator & ANSP systems to share surface operations information				3	2			
	2. Interconnection between aircraft operator & airport operator systems to share surface operations information				3	2			
	3. Interconnection between airport operator & ANSP systems to share surface operations information				3	2			
	4. Interconnection between airport operator, aircraft operator & ANSP systems to share surface operations information				3	2			
	5. Collaborative departure queue management				3	2			
APTA	1. PBN approach procedures with vertical guidance to LNAV/VNAV minima				1	4			
	2. PBN approach procedures with vertical guidance to LPV minima				5				
	3. PBN approach procedures without vertical guidance to LNAV minima				5				
	4. GBAS Landing System (GLS) procedures to CAT I minima				4	1			
RSEQ	1. AMAN via controlled time of arrival to a reference fix				3	2			
	2. Departure management				3	2			
	3. Departure flow management				3	2			
	4. Point merge				5				
SURF	1. A-SMGCS with at least one cooperative surface surveillance system				3	1		1	
	2. Including ADS-B APT as an element of A-SMGCS				3	2			
	3. A-SMGCS alerting with flight identification information				3	2			
	4. EVS for taxi operations				5				
	5. Airport vehicles equipped with transponders				5				
WAKE	1. New PANS-ATM wake turbulence categories and separation minima				5				
	2. Dependent diagonal paired approach procedures for parallel runways with centrelines spaced less than 760 meters (2,500 feet) apart				5				
	3. Wake independent departure and arrival operations (WIDAO) for parallel runways with centrelines spaced less than 760 meters (2,500 feet) apart				5				
	4. Wake turbulence mitigation for departures (WTMD) procedures for parallel runways with centrelines spaced less than 760 meters (2,500 feet) apart based on observed crosswinds				5				
	5. 6 wake turbulence categories and separation minima				5				
Performance Improvement Area 2: Globally Interoperable Systems and Data									
AMET	1. WAFS								√
	2. IAVW								√
	3. TCAC forecasts								√
	4. Aerodrome warnings				4	1			
	5. Wind shear warnings and alerts				4	1			
	6. SIGMET								√
	7. Other OPMET information (METAR, SPECI and/or TAF)								5
	8. QMS for MET								√
DATM	1. Standardized Aeronautical Information Exchange Model (AIXM)								√
	2. eAIP						√		
	3. Digital NOTAM						√		
	4. eTOD						5		

Module	Elements	Need Analysis				Implementation Status (if Element is needed)			
		Not Started	In Progress	Need	N/A	Planning	Developing	Partially Implemented	Implemented
	5. WGS-84								√
	6. QMS for AIM								√
FICE	1. AIDC to provide initial flight data to adjacent ATSUs								√
	2. AIDC to update previously coordinated flight data								√
	3. AIDC for control transfer								√
	4. AIDC to transfer CPDLC logon information to the Next Data Authority				√				
Performance Improvement Area 3: Optimum Capacity and Flexible Flights									
ACAS	1. ACAS II (TCAS version 7.1)	√							
	2. AP.FD function	√							
	3. TCAP function	√							
ASEP	1. ATSA-AIRB	√							
	2. ATSA-VSA								√
ASUR	1. ADS-B								√
	2. Multilateration (MLAT)					√			
FRTO	1. CDM incorporated into airspace planning								√
	2. Flexible Use of Airspace (FUA)								√
	3. Flexible routing						√		
	4: CPDLC used to request and receive re-route clearances				√				
NOPS	1. Sharing prediction of traffic load for next day								
	2. Proposing alternative routings to avoid or minimize ATFM delays								√
OPFL	1. ITP using ADS-B	√							
SNET	1. Short Term Conflict Alert implementation (STCA)								√
	2. Area Proximity Warning (APW)								√
	3. Minimum Safe Altitude Warning (MSAW)								√
	4. Medium Term Conflict Alert (MTCA)								√
Performance Improvement Area 4: Efficient Flight Paths									
CCO	1. Procedure changes to facilitate CCO								5
	2. Airspace changes to facilitate CCO								5
	3. PBN SIDs					1			4
CDO	1. Procedure changes to facilitate CDO								5
	2. Airspace changes to facilitate CDO								5
	3. PBN STARs					1			4
TBO	1. ADS-C over oceanic and remote areas				√				
	2. CPDLC over continental areas				√				
	3. CPDLC over oceanic and remote areas				√				

Table 2.1.2 ASBU B0 Implementation Status Summary

2.2 ASBU Block 1 Implementation Targets and Status

This section will be written after 2019. Appendix E is reserved for ASBU B1 ANRFs.

2.3 ASBU Block 2 Implementation Targets and Status

This section will be written after 2025. Appendix F is reserved for ASBU B2 ANRFs.

2.4 ASBU Block 3 Implementation Targets and Status

This section will be written after 2031. Appendix G is reserved for ASBU B3 ANRFs.

3. ICAO NACC Regional Aviation System Improvements (RASI) Status

The RPBANIP is aligned with GANP and provides guidance to States in the NACC region. The ICAO NACC RO also provides guidance to implement certain capabilities outside the ASBU scope, yet regionally important improvements. Currently 4 aerodrome associated NACC region specific improvements are identified and shown below. RASI ANRF for ICAO NACC Regional Initiatives is prepared and provided in Appendix H.

- Aerodrome certification – Status: Developing (at both TWOW and TBTF)
- Heliport operational approval – Status: Implemented
- Visual aids for navigation – Status: Implemented
- Aerodrome Bird/Wildlife Organization and Control Programme – Status: Developing

4. México's Aviation System Improvements (SASI) Status

México's State Aviation System Improvements (SASI) are broken into three categories; (1) Equipment upgrades; (2) Procedure upgrades; and (3) Infrastructure upgrades. The details of upgrades were recorded using SASI ANRFs and provided in Appendix I.

4.1 Equipment Upgrades

Equipment upgrades are not identified at this time.

4.2 Procedure Upgrades

Procedure upgrades are not identified at this time.

4.3 Infrastructure Upgrades

There are three infrastructure upgrades, shown below, which have been identified to address anticipated airport and airspace demand growth. SASI ANRF for Infrastructure Upgrades is prepared and provided in Appendix I.

- Airport Terminal Development – Status: Planning
- Airport Rwy Rehabilitation and extension – Status: Analysis in Progress
- Control Tower and Technical Building upgrade – Status: Planning

5. México State ANP Next Review Schedule

The next review and revision of this document is scheduled in September 2018.

Appendix A: ANRF Explained

An ASBU ANRF should be completed for each applicable ASBU Module as follows:

PIA The Performance Improvement Area (1, 2, 3 or 4) for the ASBU Module, as per the *NAM ASBU Handbook*.

Block - Module The Module Designation for the ASBU Module, as per the *NAM ASBU Handbook*.

Date The date when the form was completed or updated.

Module Description The Summary Description for the ASBU Module, as per the *NAM ASBU Handbook*.

Element The descriptive text for each Element, as per the *NAM ASBU Handbook*. It is not necessary to include the Defined, Derived from or Identified By information. Insert additional rows, if necessary, to accommodate all of the Elements listed for the ASBU Module.

Date Planned or Implemented The month and year when the Element was fully implemented or the year when it is planned for the Element to be fully implemented by all applicable States or at all applicable aerodromes. This field should be left blank if the Status for the Element is "Analysis Not Started" or "Not Applicable" for all States or aerodromes in the Region.

Status The Need Analysis or Implementation status for the Element, in accordance with Table NAM ASBU III-1, III-2, III-3 or III-4. Indicate the status as follows:

Not Started: if the Need Analysis has not been started for any of the States or aerodromes

In Progress: if at least one Need Analysis has been started but none have yet been completed

Need: if at least on Need Analysis has determined a requirement for the Element, but no implementation planning has yet been initiated

Not Applicable: 1) if all of the Need Analyses completed to date have concluded the Element is not required, or 2) if the Element is not an aerodrome-related improvement and the Region has not adopted the improvement for region-wide implementation.

Planning: if at least one implementation is in the Planning phase and no implementations have yet been completed.

Developing: if at least one implementation is in the Developing phase but no implementations have yet been completed.

Partially Implemented: if at least one, but not all, implementations have been completed.

Implemented: if all of Needed implementations have been completed.

Status Details Further information to support or explain the reported status. The reason(s) an Element was found to be "Not Applicable" for all the aerodromes (or States) in the Region. The reason(s) why the Need Analysis has not been completed for all or some of the aerodromes (or States) in the Region. Information on where implementation has or has not been completed (as appropriate) if the reported status is "Partially Implemented".

Achieved Benefits Describe the achieved benefits for the entire Module or particular Elements. The benefits can be quantitative or qualitative. The benefits should be described for the following 5 of the 11 Key Performance Areas (KPAs) defined the *Manual on Global Performance of the Air Navigation System* (Doc 9883):

Access & Equity: Improving the operating environment so as to ensure all airspace users have the right of access to ATM resources needed to meet their specific operational requirements; and ensuring that the shared use of the airspace for different airspace users can be achieved safely. Providing equity for all airspace users that have access to a given airspace or service. Generally, the first aircraft ready to use the ATM resources will receive priority, except where significant overall safety or system operational efficiency would accrue or national defence considerations or interests dictate by providing priority on a different basis.

Capacity: Improving the ability to meet airspace user demand at peak times and locations while minimizing restrictions on traffic flow. Responding to future growth by increasing capacity, efficiency, flexibility, and predictability while ensuring that there are no adverse impacts to safety and giving due consideration to the environment. Increasing resiliency to service disruption and minimising resulting temporary loss of capacity.

Efficiency: Improving the operational and economic cost effectiveness of gate-to-gate flight operations from the airspace users' perspective. Increasing the ability for airspace users to depart and arrive at the times they select and fly the trajectory they determine to be optimum in all phases of flight.

Environment: Contributing to the protection of the environment by minimizing or reducing noise, gaseous emissions, and other negative environmental effects in the implementation and operation of the air navigation system.

Safety: Reducing the likelihood or severity of operational safety risks associated with the provision or use of air navigation services.

Implementation Challenges A description of any circumstances that have been encountered or are foreseen that might prevent or delay implementation. Challenges should be categorized and described under the applicable subject area.

Notes Any further information as deemed appropriate.

Appendix B: ASBU ANRF Template

State Name ASBU Air Navigation Reporting Form (ANRF)					
PIA	4	**Block - Module**	B0 - CDO	**Date**	April 17, 2017

Module Description: To use performance-based airspace and arrival procedures allowing an aircraft to fly its optimum profile using continuous descent operations. This will optimize throughput, allow fuel efficient descent profiles, and increase capacity in terminal areas. The application of PBN enhances CDO.

Element Implementation Status

1	**Element Description:** Procedure changes to facilitate CDO	**Date Planned/Implemented** Dec 15, 2013	**Status** Implemented
	Status Details Describe status.		
2	**Element Description** Route changes to facilitate CDO	**Date Planned/Implemented** Dec 15, 2013	**Status** Planning
	Status Details Describe status.		
3	**Element Description** PBN STARs	**Date Planned/Implemented** Dec 15, 2013	**Status** Developing
	Status Details Describe status.		

Achieved Benefits

Access and Equity

Element 1: Describe if you can, else leave it blank.

Element 3: Describe if you can, else leave it blank.

Capacity

Efficiency

Environment

Safety

Implementation Challenges

Ground system Implementation

Avionics Implementation

Procedures Availability

Operational Approvals

Notes

Provide notes if applicable.

Appendix C: RASI and SASI ANRF Templates

RASI and SASI ANRF templates are the same with ASBU ANRF template with exception of the header as shown in this Appendix. The first header is for the ICAO NACC Regional Office specific improvements while the second header is for the State specific improvements.

Section C.1: Regional Aviation System Improvements

Enter appropriate State Name and Date. Describe the Module (i.e., improvem **(RASI) ANRF Header** ent group description.)

State Name RASI Air Navigation Reporting Form (ANRF)		
ICAO NACC Regional Initiatives	**Date**	September 1, 2017
Module Description: ICAO NACC RO has identified airport improvements.		
Refer to the ASBU ANRF for the remaining sections (i.e., Element Implementation Status, Achieved Benefits, Implementation Challenges, and Notes)		

Section C.2: State Aviation System Improvements (RASI) ANRF Header

Enter appropriate State Name, Upgrades category (i.e., Equipment, Procedure, Infrastructure, etc.), Date. Describe the Module (i.e., Upgrades category description.)

State Name SASI Air Navigation Reporting Form (ANRF)		
Infrastructure Upgrades	**Date**	September 1, 2017
Module Description: Describe module.		
Refer to the ASBU ANRF for the remaining sections (i.e., Element Implementation Status, Achieved Benefits, Implementation Challenges, and Notes)		

Appendix D: México ASBU Block 0 ANRFs

Insert 18 ASBU Block 0 ANRFs.

Appendix E: México ASBU Block 1 ANRFs

Insert ASBU B1 ANRFs in the future.

Appendix F: México SBU Block 2 ANRFs

Insert ASBU B2 ANRFs in the future.

Appendix G: México ASBU Block 3 ANRFs

Insert ASBU B3 ANRFs in the future.

Appendix H: México RASI ANRFs

Replace with your RASI ANRF

My Organization RASI Air Navigation Reporting Form (ANRF)			
ICAO NACC Regional Initiatives		**Date**	September 1, 2017
Module Description: ICAO NACC RO has identified airport improvements.			
Element Implementation Status			
1	**Element Description:** Aerodrome certification	**Date Planned/Implemented** Dec 2019	**Status** Developing
	Status Details ICAO NACC region has a goal to have CAR aerodromes in its regional ANP Table AOP I-1 be certified. My Organization's two airports, TWOW and TBTF. They are both in the process.		
2	**Element Description:** Heliport operational approval	**Date Planned/Implemented** Sep 2017	**Status** Implemented
	Status Details ICAO NACC region has a goal to have CAR heliports in its regional ANP Table AOP I-1 certified. Currently in Saint Lucia, there is one approved heliport (servicing a hotel resort), and each airport has a designated landing area for helicopters. There is also a heliport in the need stage at a private hospital.		
3	**Element Description:** Visual aids for navigation	**Date Planned/Implemented** Sep 2017	**Status** Implemented
	Status Details ICAO NACC region has a goal to have CAR airports in its ANP Table AOP I-1 compliant with Annex 14 requirements. This capability is implemented at both TWOW and TBTF.		
4	**Element Description:** Aerodrome Bird/Wildlife Organization and Control Programme	**Date Planned/Implemented** Dec 2018	**Status** Developing
	Status Details ICAO NACC region has a goal to have CAR airports in its ANP Table AOP I-1 have an aerodrome bird/wildlife organization and control programme. Saint Lucia is developing the manual to address this issue.		
Achieved Benefits			
Access and Equity Element 1 - Aerodrome certification: International operators may not be permitted to operate to aerodromes that are not certified Element 2. Heliport operational approval: International operators may not be permitted to operate to heliports that are not approved Element 3. Visual aids for navigation: International operators may not be permitted to operate to aerodromes that are not compliant with Annex 14			
Capacity: No report			
Efficiency Element 3. Visual aids for navigation: Annex 14 compliant visual aids for navigation assist flights to more efficiently complete ground movements			
Environment: No report			
Safety Element 1 - Aerodrome certification: Certification should be contingent upon the airport complying with applicable ICAO SARPs. Certification and the associated regulatory oversight should increase the effectiveness of SSP and SMS processes to identify and correct safety issues at certified aerodromes. Element 2. Heliport operational approval: Certification should be contingent upon the heliport complying with applicable ICAO SARPs. Approval and the associated regulatory oversight should increase the effectiveness of SSP and SMS processes to identify and correct safety issues at approved heliports. Element 3. Visual aids for navigation: Annex 14 compliant visual aids for navigation reduce flight crew confusion and assist in avoiding runway incursions or other ground movement errors. Element 4. Aerodrome Bird/Wildlife Organization and Control Programme: An effective organization and control programme reduces the potential for aircraft to strike wildlife or ingest wildlife into engines or propellers.			
Implementation Challenges			

Ground system Implementation: No report: No report
Avionics Implementation: No report
Procedures Availability: No report
Operational Approvals: No report
Notes Element 1: Airport Terminal Development will also address the airport terminal security issues.

Appendix I: México SASI ANRFs

Replace with your SASI ANRF.

Saint Lucia SASI Air Navigation Reporting Form (ANRF)			
Infrastructure Upgrades		**Date**	September 1, 2017
Module Description: Development of major components of the overall Airport/Aerodrome to meet the demands of the growing Aviation Industry. This will improve capacity and safety in the in terminal and allow seamless maneuvering of wide body Aircraft (example B777) at the turning bay. Such maneuvering will reduce runway occupancy time and reduce surface wear and tear. New ATC facility is required to meet the demands of increase staffing. Improving operational space is vital to meet the need of increased traffic. The benefits of such infrastructure upgrades will increase an overall traffic management efficiency and enhance safety.			
Element Implementation Status			
1	**Element Description:** Airport Terminal Development	**Date Planned/Implemented** TBD	**Status** Planning
	Status Details Current terminal building does not meeting the passenger demands during peak periods. With the current airport terminal situation, the security and safety are likely to be compromised.		
2	**Element Description:** Airport Runway Rehabilitation and Extension	**Date Planned/Implemented** TBD	**Status** Analysis in Progress
	Status Details Certain areas of the runway require improvement. For example, it is highly important to be fully compliance with ICAO Aerodrome 4E.		
3	**Element Description:** Control Tower and Technical Building Upgrades	**Date Planned/Implemented** TBD	**Status** Planning
	Status Details Control Cab was originally designed to house one ATCO per shift. However, the Control Cab currently operating with three ATCOs per shift to meet the traffic demands. In addition, significantly more equipment was installed in the already crowded Control Cab. The expected increase of workload due to the increased traffic will only make the work environment of the Control Cab worse and impact on safety and efficiency of the ATC operation.		
Achieved Benefits			
Access and Equity			
Capacity Element 1 - Airport Terminal Development: Increase the capacity to handle passengers smoothly at the peak arrival periods.			
Efficiency			
Environment			
Safety Element 2 - Airport Runway Rehabilitation and Extension: Improve operational safety of aircraft. Element 3 - Control Tower and Technical Building Upgrades: Improve operational safety of aircraft and ATCOs.			
Implementation Challenges			
Ground system Implementation			
Avionics Implementation			
Procedures Availability			
Operational Approvals			

Notes
Element 1 - Airport Terminal Development: Address the airport terminal security issues.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