



CAAB'S CHARGING SCHEME

Consultation Meeting with Airspace Users – Response to Comments 7th December, 2020





CAAB's charging scheme consultation

The Civil Aviation Authority of The Bahamas' (CAAB) published on the 31st August 2020 the Notice of Intent describing the CAAB's intention to implement a charging scheme for air navigation services (ANS) and regulatory oversight activities. This Notice of Intent was publicly disseminated and it is available on the CAAB's website (www.bcaabahamas.com/notice-of-intent-caabs-charging-scheme/).

On the 18th of November 2020, an initial consultation meeting with the airspace users was held. The dissemination material presented during the same can be found on the CAAB's website (www.bcaabahamas.com/caab-consultation-meeting-presentation/). The meeting was open to all airspace users and the general public.

As indicated during the meeting, and stated in the aforementioned written dissemination material, the airspace users were given a period for comments that concluded on the 30th of November 2020. The CAAB's response to the received comments is included in the present document. The consultation process will finalize with a closure meeting on the 21st of December 2020.

CAAB's consultation closure meeting

The CAAB convenes a closure Consultation Meeting open to all the airspace users in compliance with ICAO's Doc 9082.

The Consultation Meeting is scheduled for the 21st of December 2020 at 11.00 EST. The meeting will follow the agenda below:

- 11.00-11.30: The CAAB will update the information given in the first consultation meeting.
- 11.30-13.00: Questions and answers from the audience.

The Consultation Meeting will be held remotely and open to the public. The attendants will be able to join the meeting using the following link: bit.ly/CAABMeetingWithAirspaceUsers, at due time. The CAAB kindly requests the participants to pre-register at the following link: bit.ly/MeetingWithAirspaceUsersRegistration, to confirm their attendance at the closure Consultation Meeting.

Questions and concerns

Please direct any questions regarding this Public Notice to Director General, Civil Aviation Authority of The Bahamas, Blake Road, P.O. Box N-975, Nassau, The Bahamas, Telephone No. (242) 397-1400 and Email <u>directorgeneral@bcaabahamas.com</u>.





Airspace users' comments and CAAB's answer

The following table includes the airspace users' comments that were received before the 30th November 2020, as indicated in the CAAB's consultation process schedule:

#	Originator	Organization	Question	CAAB's answer
1	Captain Paulo Cartwright (18/11/2020)	Bahamasair	_	•
2	Captain Paulo Cartwright (18/11/2020)	Bahamasair	weight groupings determined e.g. we operate B737-500 (130,000lbs MTOW) and B737-700 (154,500lbs	The aircraft weight groupings are based on international benchmarking. The goal is to minimize the ANS cost impact per aircraft seat, while still generating enough revenues for the CAAB to cover its operating and capital expenses.
3	Captain Paulo Cartwright (18/11/2020)	Bahamasair	infrastructure for redundancy to PBN navigation as well as for communication, etc. There was no	CAAB's investment plan includes the implementation of PBN terminal procedures (STARs, SIDs, and approaches). The deployment of weather reporting facilities will be assessed at the due time to achieve a successful implementation.
4	Tania Helena (30/11/2020)	JetBlue Airways		The CAAB understands the current pandemic situation and the impact it is having on the aviation





hardships. Thank you!

an answer from the Cuban Authorities, that you may industry. To avoid an excessive fee in the initial years push these changes from March 2021 to sometime (due to the low traffic levels), the CAAB's delayed the in 2022 to help many airlines survive these global initially planned investments and has proposed fees to progressively recover the CAAB's costs of the period 2021-2025. Nevertheless, The Bahamas intends to keep the 1st March 2021 as the effective date for the new charging scheme.

IATA and Airlines for America sent their comments on the 1st December 2020, and thus after the CAAB's scheduled deadline for submitting feedback. Nevertheless, the CAAB has included in its response document the answers to IATA and Airlines for America position. Note that no further comments have been received from any other party, and thus all the airspace users have been treated equally. The following table assesses IATA and Airlines for America comments, jointly submitted by Mr. Jose Antonio Ruiz (IATA) and Mr. Keith Glatz (Airlines for America):

#	Торіс	Question	CAAB's answer
5	Transparency	Users should be provided with transparent and appropriate financial, operational, and other relevant information to allow them to make informed comments.	Please, refer to the appendix of this document.
		1) CAAB's response indicates that CAPEX and OPEX were considered for the model, yet airlines have not received the model or any CAPEX and OPEX details. The lack of adherence to the transparency principle does not allow for a proper consultation and analysis of the proposed fee.	
6	Cost- relatedness	Charges should be based on the cost of providing the service. The costs must be efficient and effective.	The CAAB's proposed fee estimated revenues only cover the operating and capital costs of the CAAB, as well as the service fee to be paid to the external service providers. CAAB's revenues will not be used to fund non-aeronautical activities or services. For further detail, please, refer to the appendix.





7 Costrelatedness

1) CAAB's response notes that "no ANS revenues will be used for non-aeronautical activities..." While this is an important element, there is no evidence provided (e.g. budget) to determine a match between expected costs and expected revenues.

8 Costrelatedness

2) Furthermore, each fee should be related to the cost of providing a specific service. While CAAB's response quotes ICAO noting that international operators should bear a fair share of the costs of the services, CAAB is proposing to charge overflight users for services and equipment they do not use. This is not aligned with the "fair share of costs" recommendation.

CAAB must break down the cost of each service it provides overflight, terminal navigation, and oversight. Each cost should include its respective operational and investment costs. Following this exercise, CAAB should utilize the Building Block Methodology to determine each fee. This is a simple methodology where you divide a specific service's cost (e.g. overflight) by the service's traffic units (e.g. distance overflown). In the following link you will find a best practice example of transparency and cost-relatedness (LINK). You will note that NAV CANADA includes financials, forecasts, justifications and a specific breakdown of costs corresponding to the services it provides and a clear relation between specific service costs and its corresponding fee. For each fee category, international operators should bear their fair share of the cost of the specific service they are receiving.

ICAO Doc 9082 (ninth edition), Section III(4)(ii)

It is for each State to decide for itself whether, when, and at what level any air navigation services charges should be imposed. It is recognized that States in developing regions of the world, where financing the installation and maintenance of air navigation services is difficult, are particularly justified in asking the international aircraft operators to contribute through charges towards bearing a fair share of the cost of the services.

The Bahamas is recognized by the United Nations as a "small island developing state"¹. Furthermore, The Bahamas has difficulties to fund the maintenance of the ANS facilities and infrastructure ("Many Caribbean countries are plaqued by high levels of debt; in the Bahamas ... debt-servicing costs alone absorb more than 10 per cent of government revenue"1). Besides, The Bahamas, due to its geographical location, is subject to extreme weather conditions that regularly damage the ANS infrastructure ("the debt burden is associated with the high exposure of these relatively small countries to extreme weather events such as hurricanes"1) that has grown with intensity and frequency caused by climate change. Therefore, as per ICAO's recommendations, The Bahamas is justified in asking the international aircraft operators to contribute through charges towards the country's air navigation services and facilities to ensure air safety and security.

The CAAB intends to develop The Bahamas' ANS capabilities and infrastructure with the revenues that the proposed





charging scheme may generate. No ANS revenues will be used for non-aeronautical activities or services, reinvesting all of them in the aviation sector. In this regard, the CAAB has used a Building Block methodology, based on a reasonable rate-of-return to calculate the fees. For further detail, please refer to the appendix.

1. Source: UN, <u>World Economic Situation and Prospects</u> and Statistical Annex (2020)

9 Costrelatedness

3) CAAB notes that the proposed fee "was reduced based on the agreement that has been reached with the FAA." In 2017, overflight traffic in the Bahamas FIR was 89.1 million NM or 891k traffic units. CAAB's initial proposal was \$61 per 100NM and the revised is \$54.50, a difference of \$6.50. CAAB's reduction comment indicates the FAA's cost was previously estimated at \$5.8M (891k units x \$6.50). At \$54.50, CAAB is estimated to earn \$48.5M (891k units x \$54.50). Given that the service received by overflight users is provided by the FAA and the FAA will not charge the Bahamas for providing the service, please advise what additional service will be provided to overflight traffic that justifies the \$48.5M cost?

The \$48.5M figure overestimates the revenues that the CAAB may generate with the proposed charging scheme since:

- The estimation considers 2017 traffic values, i.e. pre-COVID-19 outbreak values.
- The estimation is based on a flat fee of \$54.50 per 100NM. This is not aligned with the CAAB's proposal, which has established an aircraft MTOW-based fee, ranging from \$8.90 to \$54.50 per 100NM.
- The estimation does not consider the traffic that is exempted from ATC charges.

For further detail on the estimated revenues, please refer to the appendix.

10 Costrelatedness

4) Should the \$48.5M cost correspond to terminal navigation services or investments at airports or any other aeronautical activity, these costs should be allocated to its respective users.

The CAAB is accountable for the management of the entire Bahamian sovereign airspace and territorial seas ("**The Bahamas Airspace**"). Indeed, the CAAB provides the air navigation services in the archipelago, which are delegated to the BANSD (Bahamas), the FAA (USA), and ECNA (Cuba).

However, the Bahamian aerodromes are the responsibility of The Bahamas Airport Authority, a separate and independent operator, and thus no investment in airport infrastructure (non-related to ANS) has been included in the cost base for the calculation of ANS charges.





Besides, (i) BANSD supports the en-route ANS provision with ground CNS infrastructure (e.g. Nassau radar data is shared with the FAA), (ii) the FAA transfers the control responsibility to The Bahamas (BANSD) for the segment of the overflight that is within the Nassau TMA boundaries below 12,000 feet and (iii) The Bahamas provision of oversight functions for air navigation services in respect of the three air navigation service providers, namely: BANSD, ECNA and FAA. Therefore, The Bahamas is not only providing terminal ANS but also en-route ANS. Both services are currently free of charge, which airspace users have enjoyed for almost 50 years since the Country's independence in 1973. The CAAB's proposed charging scheme amends the current situation.

11 Non-Discrimination Charges related to the provision of a specific service must be equal for all carriers.

In compliance with the Chicago Convention Article 15, all carriers will pay the same charge independently of their nationality. The CAAB's proposed charging scheme amends the current FAA's overflight fee exemptions granted to Bahamian and US carriers only.

For instance, a flight departing from Toronto (Canada) and landing in Kingston (Jamaica) operated by Air Canada currently pays to the FAA an overflight fee of \$61.75 per 100NM over the applicable FIR in The Bahamas Airspace. The same flight, operated by American Airlines, pays no overflight fee.

The FAA has accepted to waive its overflight fee for The Bahamas Airspace. The CAAB's proposed charging scheme applies uniform conditions to all airspace users, resulting in a lower overflight fee (\$8.90-\$54.50 per 100NM) compared to the current fees charged.

2. Source: FAA, Overflight fees (2019)





12	Non- Discrimination	1) IATA and A4A do not support cross subsidization of charges. Obligating an overflight user to pay for the services provided to a terminal navigation user is discriminatory. Each user should bear its respective costs.	Please, refer to the 8 th question and answer.
13	Non- Discrimination	2) CAAB must not abuse its monopoly power to promote discrimination, cross-subsidization, and excess profitability, and to oblige users to comply with these practices.	Please, refer to the 8 th question and answer.
14	Non- Discrimination	3) Overflight Fees should be directly related to the cost of the FAA and ECNA, plus minimally justified administrative costs.	Please, refer to the 8 th and 10 th questions and answers.
15	Consultation	Regular and meaningful consultation between ANSPs and airlines should cover level of charges, traffic development, investment plans, performance management, service quality, and collection of charges.	The CAAB's Notice of Intent was published on the 31st August 2020, six months before the entry-into-force of the charging scheme, which exceeds ICAO's recommendations (four months). The consultation phase includes the following milestones:
			 Publication of the Notice of Intent, detailing the proposed charging scheme (31st August 2020).
			 Pre-consultation meeting with IATA (4th September 2020) and answer to IATA's feedback.
			- Initial consultation meeting with all airspace users (18 th November 2020).
			 Period to receive comments and feedback from the airspace users (18-30th November 2020) and answer to airspace users' comments.
			- Closure consultation meeting with all airspace users (21st December 2020).
			- Publication of the Notice of Imposition (1-2 months before the entry-into-force of the charging scheme).





- CAAB's charging scheme effective date (1st March 2021)

Additionally, ICAO was initially informed of CAAB's intention in January of 2018 and IATA was informed of CAAB's intention in April of 2018 and both organizations have been regularly kept apprised.

- 16 Consultation
- 1) As noted during our meeting, CAAB has not provided any meaningful financial information to analyze the fairness of the proposed charges.

Please, refer to the appendix of this document.

- 17 Consultation
- 2) As agreed during the meeting, CAAB will propose a date in early December to hold a proper consultation. The announcement must be given with proper advance notice, so airlines can organize their schedules to attend. We are also kindly requesting that consideration be given to lengthen the timeline for comments.

The CAAB already presented in the initial consultation meeting (18th November 2020) the timeline for the consultation process with the airspace users. The airspace users were given a period for comments that concluded on the 30th November 2020. The final consultation meeting will be held on the 21st December 2020, as presented during the initial consultation meeting and published on the CAAB's website. There will be no further period for comments.

IATA should note that the CAAB already answered their initial comments after the pre-consultation meeting (4th September 2020).

- 18 Consultation
- 3) In CAAB's presentation there is mention of investment in ANS infrastructure to cover The Bahama's extensive aerodrome network. Please be advised that users of each aerodrome should be responsible for the cost of the aerodrome's specific investments and overflight users should not pay for these investments. In addition, IATA and A4A invite the CAAB to consult on the proposed investments, with the intent of optimizing the investment plan.

The CAAB intends to expand the coverage of the CNS infrastructure to the entire archipelago. This means radio-communication coverage, navigational aids (DVOR/DME stations for conventional navigation and as back-up of GNSS-based navigation), and surveillance coverage (ADS-B and radar). This CNS infrastructure will serve both the terminal and the en-route air navigation services.





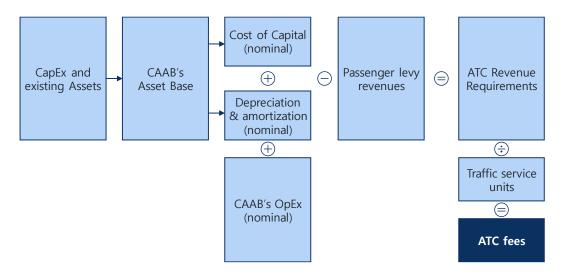
APPENDIX. CAAB'S CHARGING SCHEME DETAILS

CAAB's Building Block methodology

The CAAB's charging scheme is based on a Building Block model, which covers the CAAB's operating and capital costs plus a reasonable return on the assets. The rate-of-return methodology has been used for the calculation of the CAAB's fees. This methodology (suggested by the ICAO's Doc 9161 – Manual on Air Navigation Services Economics) ensures that the CAAB's charging scheme is cost-reflective (as indicated by the ICAO's Doc 9082 – ICAO's Policies on Charges for Airports and Air Navigation Services).

The Bahamas Airspace has been assessed as a unique region, independently of the airspace volume, FIR, or ANSP. A unique ATC fee will be charged to the airspace users to operate within it. Therefore, the ANS costs will be shared among all the airspace users.

A schematic of the methodology followed is shown below.



CAAB's Building Block model (based on ICAO's Doc 9161)

The CAAB's Cost of Capital is based on the Weighted Average Cost of Capital (WACC) of similar government companies. The CAAB's cost model applies the WACC only to the CAAB's asset base, including (i) the current asset base and its depreciation, and (ii) the assets derived from CAAB's development plan and their depreciation. The FAA's and ECNA's assets are excluded from the calculation.

Costs to recover

The CAAB's proposed ANS fees are calculated based on the revenue requirements of the next five (5) years. CAAB's cost model includes the following investment plan.





CAAB's investment plan (2021-2025)

Investment categories	Investment items				
CNS infrastructure					
Communication systems	- Radio communications:				
	 Technological upgrades and network link robustness 				
	 Extended coverage to the entire Bahamas Airspace (including all the islands in the archipelago) 				
Navigational aids	 DVOR/DME network to support conventional navigation and to back-up PBN operations. Four (4) stations included in the budget: Exuma, Andros, Long Island, and Crooked Island 				
Surveillance network	- Surveillance coverage in the entire Bahamas Airspace:				
	 Standalone ADS-B station at Freeport 				
	 Upgrade of Nassau's radar to integrate ADS-B 				
	 PSR2D/MSSR sites at Freeport and Crooked Island 				
ATC facilities & feasibility studies	- Feasibility study: conventional tower vs remote tower				
	- ATC tower at North Eleuthera, Exuma, and Marsh Harbour				
	 Cost model includes the most cost efficient option remote tower center (RTC) and three (3) remote tower masts at the aerodromes 				
	 Upgrade of Nassau's TRACON/ACC with new functionalities: data link serves, ADS-B processing 				
	 New Nassau TRACON/ACC facility fully independent from the current one (acting as a backup – contingency) 				
PBN airspace development	- APV, SID, and STAR procedures for all runway configurations at Nassau, Freeport, and Marsh Harbour				
	 APV approach procedures for all runway configurations at Exuma, North Eleuthera, Treasure Cay, Gov's Harbour, Rock Sound, and San Salvador 				
	 Review of the VFR aerodrome basic information and update of the AIP 				
	- SBAS coverage study in the archipelago				
	 Airspace CONOPS and PBN design to extend Nassau FIR to the lower level of the entire Bahamas Airspace 				
ANS training institute	- Land property and institute building				
	- Hardware and software equipment of the institute				





AIS upgrade to AIM	-	Upgrade of the AIM office to provide the flying public with
		efficient and automated information

CAAB offices & equipment - Satellite office in Freeport

- Office equipment for Nassau and Freeport offices

The above-listed investment costs are indicated in the table below.

CAAB's capital expenditure (2021-2025)

CAPEX (millions of BSD, real 2020)	2021	2022	2023	2024	2025
CNS infrastructure					
Communication systems	0.0	1.0	0.0	0.0	0.0
Navigational aids	0.0	1.3	1.3	1.3	1.3
Surveillance network	0.3	1.7	6.0	0.0	6.0
ATC facilities & feasibility studies	0.2	6.5	3.8	10.0	0.0
PBN airspace development	0.8	1.7	1.7	1.7	0.2
ANS training institute	0.0	1.7	0.0	0.0	0.0
AIS upgrade to AIM	0.3	0.0	0.0	0.0	0.0
CAAB offices & equipment	0.0	0.0	0.5	0.5	0.0
Total CAPEX (\$49.3M)	1.5	13.9	13.1	13.4	7.4

The CAAB's investment items have been amortized and depreciated following ICAO's Doc 9161 guidelines, and thus their standard useful life has been considered. However, it should be noted that, due to the extreme weather conditions that regularly affect The Bahamas, the CAAB's facilities and systems could consider shorter depreciation periods. This effect has not been included in the cost model. The Bahamas will continuously update and monitor the status of the CAAB's assets and will update the investment plan accordingly.

CAAB's asset base and WACC

ASSET BASE (millions of BSD)	2021	2022	2023	2024	2025
CAAB asset base (real, 2020)	10.6	22.3	31.8	41.6	46.3
CAAB WACC (nominal)	8.4%	9.8%	9.2%	9.4%	9.5%





The CAAB's Weighted Average Cost of Capital (WACC) is based on the PRB's methodology¹, which establishes a sound approach for the calculation of the WACC for an Air Navigation Service Provider (ANSP), including state-owned ANSPs, fully financed with equity (as it is the case of the CAAB). The WACC value is updated annually based on the US 10-year bond rate and The Bahamas and the US Consumer Price Index (CPI) forecasts².

The CAAB's costs have been adjusted for inflation, indexing them to the CPI outlook. The annual nominal costs are summarized in the table below.

CAAB's costs to be recovered

COSTS (millions of BSD, nominal)	2021	2022	2023	2024	2025
CAAB operating expenses					
Salaries and related costs	17.5	18.8	19.6	22.4	24.7
External service providers	4.7	5.2	5.7	6.2	6.7
Other operating costs	3.6	3.8	4.7	5.5	6.4
Amortization and depreciation	1.3	2.3	3.9	3.9	2.9
Cost of capital	0.9	2.2	2.9	3.9	4.4
Total costs (\$184.1M)	28.0	32.3	36.8	41.8	45.2

Traffic outlook

The traffic outlook considers historical data from two sources (i) the Federal Aviation Administration (FAA) traffic statistics for O/D international flights and overflights and (ii) the Official Airline Guide (OAG) traffic statistics for O/D domestic flights. The traffic outlook is based on the forecasts of macro-economic indicators extracted from the Oxford Economics database. Traffic recovery from the COVID-19 outbreak has been modeled based on the most recent public reports by ICAO, IATA, and EUROCONTROL, as well as the scheduled traffic currently reported by the OAG database.

The following table presents the CAAB's traffic assumptions. The traffic in The Bahamas is expected to recover to pre-COVID-19 values in the years 2024-2025.

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¹ PRB, Performance Review Body of the Single European Sky, which is an advisory body to the European Commission for air navigation services. The source of the WACC calculation methodology is PRB – <u>Study on Cost of Capital, Methodology review.</u>

² CPI outlook extracted from the Oxford Economics global database.





The Bahamas' Airspace traffic and forecast

TRAFFIC ('000 flights)	2019	2020	2021	2022	2023	2024	2025
O/D domestic flights	44.3	31.4	30.7	37.5	44.3	47.5	50.5
O/D international flights	127.5	49.1	80.3	92.1	103.9	115.7	127.5
Overflights	381.2	145.7	244.7	278.8	312.9	347.0	381.2
Total flights	553.0	226.2	355.7	408.4	461.1	510.3	559.2

Regulatory oversight fees

Passengers landing in or departing from The Bahamas will be charged a flat fee of one Bahamian dollar (\$1.00). The charges will be levied on a per-flight basis. Note that the CAAB's regulatory oversight fees are input to the Building Block model.

Air Traffic Control (ATC) fees

The CAAB's ATC fees are an outcome of the Building Block model and the fee structure has been determined based on the nature of the service to be provided by the CAAB as described in the following.

Aircraft landing in or departing from The Bahamas will be charged a fee, which will depend on the aircraft MTOW in accordance with the following table. The charges will be levied on a perflight basis.

CAAB's ATC charge to aircraft with O/D in The Bahamas

Aircraft MTOW	BSD per flight
10,000 kg and below	\$10.00
10,001 kg to 20,000 kg	\$20.00
20,001 kg to 40,000 kg	\$35.00
40,001 kg to 60,000 kg	\$45.00
60,001 kg and above	\$61.00

Aircraft transiting The Bahamas Airspace without landing in or taking off from The Bahamas will be charged a distance-based fee, which will depend on the aircraft MTOW in accordance with the following table. The charges will be calculated based on the Great Circle Distance (GCD) between (i) the point of entry into The Bahamas Airspace and (ii) the point of exit from The Bahamas Airspace.





CAAB's ATC charge to overflying aircraft

Aircraft MTOW	BSD per 100NM
10,000 kg and below	\$8.90
10,001 kg to 20,000 kg	\$17.90
20,001 kg to 40,000 kg	\$31.30
40,001 kg to 60,000 kg	\$40.20
60,001 kg and above	\$54.50

CAAB's revenues

The proposed ATC fees are a weighted average of the 2021-2025 period due to the current uncertainty derived from the COVID-19 outbreak impact on the aviation industry. Nevertheless, the CAAB will continuously monitor the traffic levels and the charging scheme generated revenues to correct the potential deviations from the current estimation. The ATC fees will be increased or reduced accordingly to match the actual budgetary needs of the organization in the upcoming years and after consultation with airspace users.

Note that, when calculating the potential revenues of the CAAB's proposed charging scheme, the aircraft exempted from ATC charges have been excluded. Besides, the traffic outlook has been split into the aircraft MTOW weight groupings indicated in the ATC charges. Both the aircraft weight groupings and the airspace user category groupings are extracted from the air traffic statistics received from the FAA for The Bahamas Airspace.

The following table shows the estimated revenues that the CAAB's charging scheme will generate during the 2021-2025 period.

CAAB's estimated revenues (2021-2025)

REVENUES (millions of BSD)	2021	2022	2023	2024	2025
Regulatory oversight fees	1.3	1.6	1.8	2.0	2.1
ATC fees	27.4	31.2	35.1	38.9	42.7
Total revenues (\$184.1M)	28.7	32.8	36.9	40.9	44.8

The total expected revenues match the costs to be recovered (\$184.1M). Therefore, the CAAB's charging scheme is cost-reflective and proposes a fair and equitable charging scheme for all airspace users.



Director General Michael F. L. Allen
The Civil Aviation Authority of The Bahamas
directorgeneral@bcaabahamas.com
www.bcaabahamas.com