



WORKING PAPER

WORLDWIDE AIR TRANSPORT CONFERENCE (ATCONF)

SIXTH MEETING

Montréal, 18 to 22 March 2013

**Agenda Item 2: Examination of key issues and related regulatory framework
2.7: Economics of airports and air navigation services**

FINANCING THE AIR TRANSPORT SYSTEM

(Presented by the Secretariat)

EXECUTIVE SUMMARY

This paper addresses issues relating to the outcome of the Twelfth Air Navigation Conference (AN-Conf/12, Montréal, 19 to 30 November 2012), focussing on the challenges associated with financing the air transport system; in addition, it provides information pertaining to the future work programme of ICAO in this regard.

Action: The Conference is invited to:

- a) review the information and assessment presented in this paper;
- b) endorse the conclusions presented in paragraph 5; and
- c) adopt the recommendations presented in paragraph 6.

References:

ATConf/6 reference material is available at www.icao.int/meetings/atconf6.

1. INTRODUCTION

1.1 The Twelfth Air Navigation Conference (AN-Conf/12) considered the issue of aviation system block upgrades (ASBUs) and recommended that the Conference conclusions relating to the economic, financial and social aspects of ASBUs be referred to the Sixth Worldwide Air Transport Conference (ATConf/6) with a view to developing solutions which would support a safe and sustainable air navigation system (recommendation 6/3 refers).

2. OUTCOMES OF THE TWELFTH AIR NAVIGATION CONFERENCE

2.1 The following is a brief synopsis of the outcome of AN-Conf/12. The Conference:

- a) addressed strategic issues related to the challenge of integration, interoperability and harmonization of systems in support of the concept of “One Sky” for international civil aviation;
- b) agreed that the ASBUs and associated technology roadmaps were an integral part of the Global Plan and that the policy and associated principles in the Global Plan were fundamental to long-term planning. The Conference therefore agreed that there was a need for the inclusion of high level policy principles and that other proposed improvements should be included in the Global Plan;
- c) endorsed the ASBU modules and recommended that ICAO use them as the basis for its work on standards development;
- d) addressed issues related to airport capacity and operations which included security, wake turbulence issues and performance-based navigation;
- e) addressed interoperability and data, through a globally interoperable system-wide information management (SWIM), and also addressed other issues related to aeronautical information management;
- f) addressed optimum capacity and efficiency through global and collaborative air traffic management. Recommendations were made on air traffic flow management, separation minima between aircraft, flexible use of airspace, meteorology, and remotely piloted aircraft systems; and
- g) also addressed ASBUs related to trajectory-based operations with the initial basis being Performance Based Navigation (PBN), continuous climb and descent operations.

3. CHALLENGES TO THE FINANCING OF THE AIR TRANSPORT SYSTEM

3.1 *ICAO's Policies on Charges for Airports and Air Navigation Services* (Doc 9082) is of particular interest in the consideration of funding of airports and air navigation services providers (ANSPs) infrastructure, but the policies contained therein do not touch on policies, practices or plans of other interested parties and stakeholders. The economic challenge of air traffic management (ATM) modernization is related to the requirement of a large number of relatively small investments that need to be secured over a long period of time. Many of these investments have to be made by airspace users, their business case being directly dependent on the investments made by other airspace users and ANSPs. Nevertheless, aircraft operators have stated that they cannot afford to absorb all costs incurred, and cannot shoulder all financial risks associated with acquiring and installing avionics, solely on the basis of promises that the capabilities needed to enable the new air navigation systems will materialize in the future. Reluctance has been expressed with regard to investing in necessary cockpit technology in view of the fact that the cost/benefit case has not been fully demonstrated.

3.2 To address such financing problems, States have explored new venues. For instance, a public-private partnership (PPP) has been authorized in the United States which will facilitate the implementation of the Next Generation Air Transportation System (NextGen) equipage for general aviation and commercial airlines. As a PPP, the NextGen Equipage Fund will bring substantial private-

sector capital to overcome the investment barriers that have prevented aircraft operators from investing in the NextGen technologies to equip the aircraft cockpits.

3.3 Furthermore, it should be noted that some States have implemented a “best equipped, best served”, procedure by which priority is given to aircraft equipped with various ATM capabilities. Further incentives schemes need to be designed in order to ensure timely and controlled deployment of the block upgrades as well as to drive behaviours from last-mover-advantage to first-mover-advantage.

4. FURTHER WORK TO BE UNDERTAKEN

4.1 AN-Conf/12 recognized that there is a need to address the economic and institutional impediments to implementation of ASBUs and recognized the development of ATM modernization plans by a number of States and suggested that a mechanism be developed for sharing these best practices. The Conference recommended that ICAO (Recommendation 6/1 refers):

- a) identify the issues, funding, training and resource requirements necessary to support a safety framework that would lay the foundation for successful implementation of the aviation system block upgrades;
- b) develop, together with industry and stakeholders, an engagement strategy to address the economic and institutional impediments to implementation of the aviation system block upgrades; and
- c) develop a mechanism for sharing of best practices for the aviation system block upgrade implementation.

4.2 Recognizing the principle of “first come, first served” in the *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM, Doc 4444) and in the *Global Air Traffic Management Operational Concept* (Doc 9854), AN-Conf/12 also noted the need for global operational performance incentives to obtain early benefits in those operational environments where not all stakeholders have reached the higher capabilities provided by new technologies and procedures, but for which a critical mass of higher capabilities is reached locally. AN-Conf/12 recommended that (Recommendation 6/2 refers):

- a) ICAO develop an appropriate set of operational and economic incentive principles to allow early benefits of new technologies and procedures, as described in the aviation system block upgrade modules, to support operational improvements, while maximizing safety, capacity and overall system efficiency; and
- b) States and international organizations contribute to this work.

4.3 Finally, with regard to economic assessment of ATM modernization, AN-Conf/12 considered that complex and systemized network-wide ATM modernization programmes required a network-wide assessment of the costs and benefits at the operational level, which should aim at capturing the costs and benefits across as many ATM network stakeholders as possible; the assessment should also be aligned with the deployment process so as to maximize the benefits that can be achieved through ATM modernization programmes. The Conference recommended that (Recommendation 6/3 refers):

- a) ICAO undertake work toward developing a network-wide operational improvement level assessment for global use, which should include the development of standard values and processes for economic evaluations;
- b) States conduct economic, financial and social analyses in a closely coordinated manner with relevant ATM stakeholders in view of the diverse position of involvement in the implementation of aeronautical systems.

5. CONCLUSIONS

5.1 There is a need to update and develop the current ICAO policies and guidance material in order to meet the challenges associated with the air navigation services upgrades in particular, and with financing the air transport system in general. Consequently, and in cooperation with States, international organizations and the industry, ICAO intends to develop a new manual that will encompass economic and financial techniques and instruments that can be mobilized to finance the air transport system. This new manual will complement material already contained in the chapters on financing in the *Manual on Air Navigation Services Economics* (Doc 9161) and in the *Airport Economics Manual* (Doc 9562). The table of contents of these chapters is attached in the appendices of this paper. These two manuals also contain basic guidance on incentives for both providers and users. The new manual will focus on the recommendations made at AN-Conf/12 (for instance incentives, costs and benefits, best practices, access and equity policy' for States that could negate the last-mover-advantage and still cater for mixed fleet equipage during transition, etc.).

6. RECOMMENDATIONS

6.1 The following recommendations are proposed for consideration by the Conference:

- a) ICAO should continue to develop its guidance material on the sustainable financing of the air transport system;
- b) ICAO, in cooperation with States, international organizations and the industry, should develop a new manual on financing the air transport system, taking into account the specific needs expressed by States and by the industry at AN-Conf/12; and
- c) ICAO should set up a new mechanism by which to facilitate regular consultation among States, international organizations and the industry with a view to identifying needs and participating in discussion relating to sharing experiences and best practices on financing of the air transport system.

APPENDIX A

Manual on Air Navigation Services Economics (Doc 9161)

Table of Contents

It should be noted that this Table of Contents is an excerpt of the fifth edition of Doc 9161, which is currently under editorial review and will be available shortly. The published version of Doc 9161 may slightly differ from the table presented below.

	<i>Page</i>
CHAPTER 6. Financing air navigation services infrastructure	6-1
A — Traffic forecasts	6-1
B — Enlisting the services of experts.....	6-1
C — Economic and financial analyses	6-2
Financial evaluation	6-2
Cost-benefit analysis	6-3
Business case	6-4
Economic impact analysis	6-4
D — The financing plan	6-5
Purpose and contents of a financing plan.....	6-5
Currency requirements	6-5
Costs typically payable in domestic currency	6-6
Costs typically payable (wholly or partially) in foreign currency.....	6-6
Repayment of loans.....	6-6
E — Sources of financing.....	6-7
Domestic sources	6-7
Foreign sources	6-8
Bilateral institutions.....	6-8
Development banks and funds	6-9
United Nations Development Programme	6-9
Commercial sources.....	6-9
Debt financing.....	6-10
Credit rating.....	6-10
Pre-funding of projects through air navigation services charges	6-11
Other sources	6-11
F — Special financing aspects of CNS/ATM systems implementation	6-12

APPENDIX B

Airport Economics Manual (Doc 9562)

Table of Contents

It should be noted that this Table of Contents is an excerpt of the third edition of Doc 9562, which is currently under editorial review and will be available shortly. The published version of Doc 9562 may slightly differ from the table presented below.

	<i>Page</i>
CHAPTER 6. Financing airport infrastructure.....	6-1
A — Traffic forecasts	6-1
B — Use of experts.....	6-1
C — Economic and financial analyses.....	6-2
Economic impact analysis	6-2
Cost-benefit analysis	6-3
Business case	6-4
Financial analysis.....	6-5
D — The financing plan	6-6
Purpose and contents of a financing plan	6-6
Currency requirements.....	6-6
Costs typically payable in domestic currency.....	6-7
Costs typically payable (wholly or partially) in foreign currency	6-7
Repayment of loans	6-7
E — Sources of financing	6-8
Domestic sources.....	6-8
Foreign sources.....	6-9
Bilateral institutions.....	6-9
Development banks and funds	6-10
United Nations Development Programme	6-10
Commercial sources	6-10
Debt financing	6-11
Credit rating	6-11
Pre-funding of projects through airport charges	6-12
Other sources.....	6-13