

**ASSEMBLY — 35TH SESSION****ECONOMIC COMMISSION****Agenda Item 30 Other air transport  
: issues****REPORT BY THE COUNCIL ON FORECASTING AND ECONOMIC  
PLANNING****SUMMARY**

This paper reports on ICAO's work in forecasting and economic planning since the 33rd Session of the Assembly and provides highlights of the proposed future work programme in this field.

Action by the Assembly is in paragraph 6.

**1. INTRODUCTION**

1.1 ICAO's activities in the forecasting and economic planning field are contained in Appendix C of Resolution A33-19 — *Consolidated statement of continuing ICAO policies in the air transport field* which calls on the Council to develop and maintain long-term and medium-term forecasts of future trends and developments in civil aviation and to make arrangements to collect and develop material on forecasting methods for development of its own forecasts and for dissemination to Contracting States as guidance in their own forecasting. The Resolution also addresses the requirements of the planning of air navigation systems and the assessment of the future environmental impact of civil aviation.

1.2 Traffic forecasts serve an important function in anticipating facilities and services that will be required to meet the demand for air travel and in determining where and when airspace or airport congestion may occur. The forecasts also have a special role in planning the cost-effective implementation of communications, navigation and surveillance/air traffic management (CNS/ATM) systems. In this context, the Council adopted in 1996 a strategy for the evolution of traffic forecasting activity to support more widely the planning and implementation of air navigation systems and a plan of action to establish traffic forecasting groups (TFGs) in all ICAO regions.

1.3 This paper summarizes activities carried out since the 33rd Session of the Assembly in pursuance of Appendix C of Assembly Resolution A33-19, along with the Council strategy referred to above

and provides some highlights of the work programme in the forecasting and economic planning field for the next triennium.

## 2. AIR TRAFFIC FORECASTS

2.1 During the present triennium, the Secretariat has prepared one set of long-term forecasts, published in ICAO Circular 304, *Outlook for Air Transport to the Year 2015*, and three sets of medium-term forecasts, the first two of which were published in Circular 291, *The World of Civil Aviation, 2001-2004*, and Circular 299, *The World of Civil Aviation, 2002-2005*; the third set is being published in Circular xxx, *The World of Civil Aviation, 2003-2006*. A preliminary edition of this circular will be available for the Assembly.

2.2 Long-term forecasts to the year 2015 were developed in early 2004 for scheduled airline passenger and freight traffic for the world and by region of airline registration. Global forecasts of aircraft movements as well as passenger traffic forecasts for major international route groups have also been generated. In order to prepare these forecasts, in-depth analyses of air traffic and financial trends, as well as economic and other factors underlying these trends during the recent decade, were carried out.

2.3 Medium-term, three-year forecasts have been developed on an annual basis for several years. They are prepared for world scheduled airline passenger traffic only, in total, and by region of registration. The forecasts developed during the current triennium are for the years 2002-2004, 2003-2005 and 2004-2006. In addition to traffic forecasts, an outlook, in general and global terms, of airline finances has been developed for each of the forecast periods. As in the case of long-term forecasts, historical trends in airline traffic, productivity, prices, finances as well as historical developments in the world economy were examined. Projections of underlying economic and other (e.g. demographic) factors were made in order to prepare the subject forecasts.

2.4 Under the strategy referred to in paragraph 1.2 above, regional traffic forecasting groups have been established for each ICAO region. The primary function of the TFGs is to respond to requests for forecasts and other economic planning data from the respective planning and implementation regional groups (PIRGs) concerned. In all regions, the basic requirements from the TFGs are forecasts of aircraft movements to, from and within the region concerned, for selected route groups, including forecast movements in peak or busy periods for areas of high traffic density. Traffic flow forecasts are provided for route groups and major city-pairs and progressively for the full population of the city-pairs concerned.

2.5 Two regional TFGs have been in existence for some years: the North Atlantic Traffic Forecasting Group which was established in 1965 and the Asia/Pacific Area Traffic Forecasting Group established in 1991. The Caribbean/South America Traffic Forecasting Group was established in late 1996. The establishment of TFGs for the Middle East Region and the Africa/Indian Ocean Region took place in 1997 and 1998 respectively. The long term goal is for all the TFGs to become largely self-sufficient as regards development of forecasts and business cases, with the Secretariat simply assuming coordination and commonality. However, apart from the North Atlantic TFG which has been working independently without the direct involvement of the Secretariat since its inception, the other four TFGs require inputs from, and servicing by the Secretariat. Below is a short description of the status of forecasts developed by each of these four TFGs.

2.6 The Asia/Pacific Area TFG updated, in 2002, aircraft movement forecasts for the transpacific and intra-Asia/Pacific markets for the period 2000-2015. In addition, five-year passenger forecasts were developed for 41 major city-pair flows within, to and from the Asia/Pacific region. Aircraft movement forecasts for selected flight information regions (FIRs) were analysed and peak-period parameters were updated. The Caribbean/South America TFG revised, in 2002, passenger and aircraft movement forecasts up to the year 2012 for six major route groups and for the top 25 city-pairs in each of the groups. The Africa/Indian Ocean TFG developed, in 2003, passenger and aircraft movement forecasts to, from and within the Africa/Indian Ocean Region to the year 2018. The Middle East Region TFG reviewed, in 2002, traffic forecasts prepared by the Secretariat for major traffic flows to, from and within the Middle East Region to the year 2010, including aircraft movement forecasts for the city-pairs within each major traffic flow.

2.7 In support of environmental analysis work carried out by the Committee on Aviation Environmental Protection (CAEP), the Secretariat led the Forecasting Sub-Group of the Forecasting and Economic Analysis Support Group (FESG) in the development of CAEP/6 passenger traffic and fleet mix forecasts by generic seat categories to the year 2020. These forecasts, which were developed in 2002, took into account the impact of the events of 11 September 2001, and other prevailing economic and political factors. The Secretariat also took part in the preparation of guidance material on cost/benefit analysis for the balanced approach to aircraft noise management.

2.8 During the current triennium, the ICAO Secretariat updated Doc 8991, *Manual on Air Traffic Forecasting* to include the most recent methodologies and approaches in air traffic forecasting. The updated Manual is expected to be available in the third quarter of 2004.

### **3. DEVELOPMENT OF GUIDANCE MATERIAL ON BUSINESS CASE ANALYSIS FOR THE IMPLEMENTATION OF CNS/ATM SYSTEMS**

3.1 Recognizing the need for the development of sound business cases in order to secure the financing of the implementation of CNS/ATM systems, the World-wide CNS/ATM Systems Implementation Conference, held in Rio de Janeiro in 1998, recommended that ICAO develop guidance material on the development of business cases (Recommendation 3/9 — *Cost-benefit and business cases* and Recommendation 3/16 — *ICAO follow-up action* refer). The 32nd Session of the Assembly subsequently endorsed this recommendation and requested the completion of the follow-up work envisaged by the Conference (Resolution A32-12 — *Follow-up to the 1998 Worldwide CNS/ATM Systems Implementation Conference* refers).

3.2 Prior to the Conference in Rio de Janeiro, the Secretariat had developed guidance material to assist States in the economic planning and decision-making process related to the implementation of the CNS/ATM systems. Included in this guidance material is Circular 257, *Economics of Satellite-based Air Navigation Services* which provides guidelines for cost/benefit analysis of CNS/ATM systems. The guidance material on the development of business cases is an extension of the previous work.

3.3 A business case is a tool supporting planning and decision-making. It is a detailed justification for a project, a policy or a programme proposal requiring a resource allocation and/or investment, often including a financial commitment.

3.4 The business case analysis sets out the context, presents the problem or the situation addressed and provides a thorough description of the proposed project, policy or action, the rationale for its selection among other alternative options and a comprehensive assessment of its benefits, costs and risks. The alternative options, not retained by the proposal, need also to be outlined and their associated benefits, costs and risks estimated. The business case analysis evaluates the impact of the proposal on the performance and productivity measures of the various activities involved. Critical success factors are identified and discussed.

3.5 The financial analysis in a business case shows the expected cash flow consequences of the proposal and includes the assumptions, methods and rationale used for the quantification of revenues and expenditures.

3.6 Since the implementation of CNS/ATM systems involves new concepts and might lead to significant changes in the way air navigation services are provided, several risks might be entailed. They may be technical, political, economic, financial, etc. A business case analysis includes, therefore, a risk management section. The objective of risk management is not to eliminate risks but to identify and evaluate them in a comprehensive manner in order to reduce their effects by the implementation of appropriate mitigation plans. Risk management encompasses risk analysis, risk evaluation and the development of risk mitigation plans.

3.7 The new guidance material on the development of business cases for the implementation of CNS/ATM systems consists of two components:

- a) a definition, explanation and illustration of a business case and its application to the implementation of CNS/ATM systems; and
- b) a financial analysis spreadsheet which allows the user to evaluate the alternative implementation options for CNS/ATM systems.

The material is expected to be available in the last quarter of 2004.

#### 4. **FUTURE WORK PROGRAMME**

4.1 The following activities in the forecasting and economic planning field are planned for the next triennium:

- a) long-term and medium-term forecasts will continue to be developed and published on a biennial or triennial and annual basis, respectively;
- b) the Secretariat will continue to provide assistance to the regions in the development of forecasts and other planning parameters required or requested by the respective PIRGs;

- c) a web-based financial analysis tool will be developed to assist States in the CNS/ATM systems implementation; and
- d) forecasting and economic analysis support will continue to be provided to the Committee on Aviation Environmental Protection, as required.

## 5. **FINANCIAL IMPACT OF THE PROPOSED ACTION<sup>1</sup>**

5.1 The proposed work set out in paragraph 4.1 would be undertaken within the resources available under Programmes 3.3, Forecasting and Economic Planning and 3.6, Environmental Protection, of the draft Programme Budget 2005-2007. Programme 3.3 includes a reduction of one General Service post compared to the current triennium.

## 6. **ACTION BY THE ASSEMBLY**

6.1 The Assembly is invited to note the work done in the forecasting and economic planning field in the current triennium, endorse the Council's plans for the future work programme, and provide further guidance as required.

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<sup>1</sup> This information is presented only to indicate the estimated financial impact of the proposed action. The funds allocated to this proposed action will depend upon the final form of the Programme Budget of the Organization for 2005-2006-2007 approved by the Assembly.