International Civil Aviation Organization

INFORMATION PAPER

A38-WP/321
EC/36
12/9/13
(Information paper)
English only

ASSEMBLY — 38TH SESSION

ECONOMIC COMMISSION

Agenda Item 42: Economics of Airports and Air Navigation Services

STRATEGIC REGIONAL AIRPORTS NETWORK

(Presented by Brazil)

EXECUTIVE SUMMARY

The passenger demand for air services in Brazil increased at an average pace of 12 per cent in the last ten years. At the same time there was a decrease in number of cities served by air transport. Currently only 121 Brazilian cities receive regular commercial flights and the vast majority of routes are flown between state capitals, the systemic airports. This paper presents the method developed by the Secretary of Civil Aviation to select the localities which will receive the primary focus of federal investments in airport infrastructure, creating a strategic network, in order to increase capacity and develop regional aviation in Brazil. The main goal is to provide air service access to the maximum number of citizens, given budgetary constraints. Two main criteria were used to select the municipalities be part of the network: socio-economic potential and national integration. From the 5,565 Brazilian municipalities 270 were selected, resulting in 96.2 per cent of the population being at most 63 miles of an airport which will be able to receive commercial flights.

Strategic Objectives:	This working paper relates to Strategic Objective C – *Environmental Protection and Sustainable Development of Air Transport*
Financial implications:	No financial implications.
References:	Doc 9750 – The ICAO Global Air Navigation Plan

1. INTRODUCTION

1.1 In accordance with the Global Air Navigation Plan (Doc 9750), planning should be focused on specific performance objectives, supported by a set of initiatives, chosen by the States and regions in compliance with their particular needs. In order to maximize their access to air services, the Secretary of Civil Aviation (SAC) presents, in this information paper, a method to create a strategic network for regional aviation in the country. The network proposed drives more capacity and develops regional aviation in Brazil.

1.2 The Secretary of Civil Aviation is the Ministry responsible for planning the development of the civil aviation sector in Brazilian territory. The recent economic cycle brought monetary stability, steady growth of gross domestic product (GDP) in all of its components – industry, agriculture and services – and also better income distribution among its citizens to Brazil and many other emerging economies.

1.3 As a consequence, the passenger demand for air transportation services grew at an average pace of 12 per cent in the last ten years. The economic conditions drove the increase in demand mainly by the effect in the income distribution, but other important effects, though not independent, were the decrease in passenger yields and the massive increase in the supply of new seats.

1.4 Paradoxically, the number of cities served by regular commercial aviation decreased at an average pace of 2 per cent in the same period. Currently only 121 Brazilian cities receive regular commercial flights, twenty seven being the Federation Capitals. Therefore, there are only ninety regional airports being served by commercial flights in the country[1]. If the analysis is taken further backwards the decrease is even more accentuated. Some authors claim that at the end of 1960s approximately 400 Brazilian cities were served by commercial aviation[2]. Civil aviation in Brazil moved, in the last twenty years, to a model where a large number of routes were created to serve fewer cities.

1.5 In 2011, SAC began to develop a plan to provide transportation services to more cities in the country, initially called the "Regional Aviation Development Plan". With the objective of investing in infrastructure – increase capacity, provide safety and security equipment and ultimately build new aerodromes – a committee of experts was formed to select the cities to compose the Regional Airport Network.

1.6 SAC built upon the knowledge of various technical areas of expertise within the Brazilian government and academic community, notably the Instituto Brasileiro de Geografia e Estatística (IBGE), Ministry of Planning (MPOG), Departamento do Controle do Espaço Aéreo (DECEA), Ministry of Transportations (MT) and Ministry of Tourism (Mtur).

[1] 31 airports serve the 27 Capitals.
[2] Monteiro, Raul Francé. 2002. Aviação: Construindo Sua História. Gioânia: Editora da UCG.

2. SELECTION METHODOLOGY

2.1 To compose the Regional Aviation Network, two main criteria were used:

a) socio-economic potential; and
b) national integration.

2.2 The socio-economic potential of a city is defined by its ability to generate income, either by traditional GDP drivers, the economic centers, or by its touristic attractions, the touristic centers. Both translate in municipalities that have demand potential and can justify economic viable airports. These economic and touristic centers also have other important characteristics: they attract the demand of smaller cities in the radius of at least sixty three miles, as our econometric tests, performed using gravity models[3] have shown.

2.3 The socio-economic potential criterion were applied first to all the 5,565 Brazilian municipalities and in a second phase the results were discussed individually with each unit of the Federation, in order to access their reality and plans, which resulted in some changes to the initial selection of cities. The Ministry of Tourism was also consulted.

2.4 The resulting municipalities selected were: 155 cities classified as economic centers, of which eleven will be new airports and; twenty three cities classified as touristic centers, of which seven will be new airports.

2.5 It is important to notice that the thirty one airports that serve the twenty seven capitals were not included in any criteria since they do not compose the Regional Airport Network, despite being both economic and touristic centers. The thirty one airports that serve the twenty seven Brazilian Capitals are classified as Systemic Airports.

2.6 The National Integration concept involves two main criteria: to provide air transportation services to areas otherwise isolated or in which transportation is severely hindered either by their the topography or by the costs to provide other forms of transportation (Remote Access Cities) and; to maximize the portion of Brazilian territory covered by airports in condition to provide adequate air transportation services in the radius of sixty three miles (Coverage Cities).

2.7 The Remote Access Cities are concentrated, but not limited to, the region locally defined as Amazônia Legal[4]. The dense forest, the river and the large unpopulated area between cities are factors that difficult transport. Air transportation will bring social integration to those communities, acting as a public policy, and also stimulate the productive activities.

2.8 Brazil is a country of continent proportions. The density of its population is concentrated in the southwest and south regions, but the GDP participation of other regions, notably Northeast and Western Center are growing. Nevertheless, those regions lack airports in

[3] See Alderighi, M., Cento, A., Nijkamp, P., and Rietveld, P. (2005) Network competition—the coexistence of hub-and-spoke and point-to-point systems, Journal of Air Transport Management, 11(5), 328-334.

[4] The Amazônia Legal is an area which occupies 59% of the Brazilian territory, being composed of eight Units of de Federation (States) – Acre, Amapá, Amazonas, Mato Grosso, Pará, Rondônia, Roraima and Tocantins – and the part of Maranhão situated at west of meridian 44ºW). See http://www.ipea.gov.br/desafios/index.php?option=com_content&id=2154:catid=28&Itemid=23

conditions to operate regular flights. Most of the Municipalities included in the Coverage Cities aim to fill this gap, providing transportation logistics to stimulate production and integrate communities.

2.9 The National Integration criteria selected ninety nine municipalities. Of those, fourteen will be new airports.

3. CONCLUSIONS

3.1 The growth in demand for air transport services in Brazil was not met by the number of cities served by regular air transport. Aiming to solve this problem, the Civil Aviation Secretariat (SAC) developed a method to propose a "Regional Aviation Network" to select cities to receive infrastructure investments in order to be able to safely and securely receive air transport services.

3.2 In 2012, more than 100 million persons travelled by plane in Brazil. The vast majority who went through domestic destinations flew only to 121 cities. Currently, approximately 75 per cent of the population has access to an airport with a regular commercial flight within sixty three miles of their home city center. Upon completion of the "Regional Aviation Development Plan", 96.2 per cent of the Brazilian population will have access to an airport able to receive commercial regular flights.

3.3 Figure 1 shows the 270 cities selected, plus the 31 systemic Airports and the sixty three mile coverage radius.

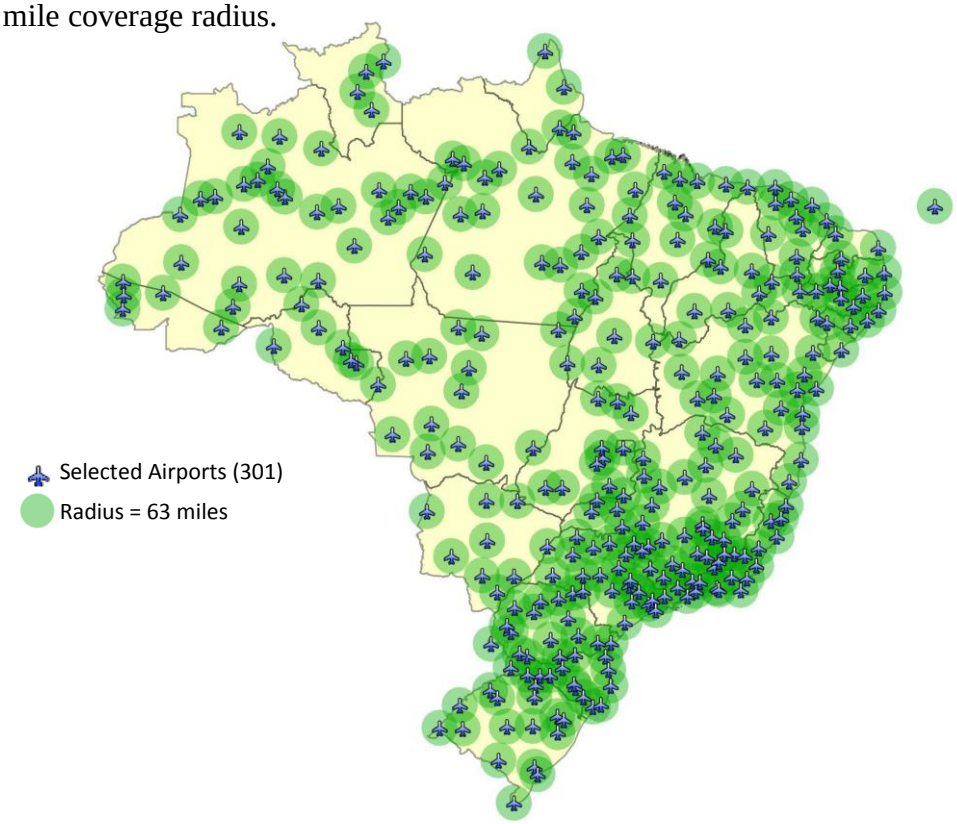

Figure 1: Regional Airports Network

— END —