

AIRPORT NETWORK DEVELOPMENT IN SOUTH EAST EUROPE

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ROZVOJ SIETE LETÍSK V JUHOVÝCHODNEJ EUROPE

Abstrakt: v náplni dohody ECAA, ktorá definuje liberalizáciu agendy v regióne juhovýchodnej Európy, sa premieta úplna liberalizácia práv leteckej prevádzky tým, že stanovuje právne požiadavky na nový rozvoj leteckých ciest v rámci regiónu. Kým spojenie s hlavnými európskymi destináciami sú dominantné a všetci poprední európsky dopravcovia sú už v prevádzke v tomto regióne, v súčasnosti iba 10% zo všetkých aktivít komerčných leteckých spoločností SEE je realizovaná v rámci siete letísk juhovýchodnej Európy. S ohľadom na kapacitné preťaženie hlavných európskych letísk, je treba zväziť aj budúcu úlohu letísk v juhovýchodnej Európe. V článku je zhodnotený stav odvetvialeteckej dopravy v juhovýchodnej Európe, so zameraním na potenciál pre rozvoj letísk v tomto regióne. Sú tu tiež analyzované stratégie rozvoja siete leteckých spoločností v juhovýchodnej Európe s cieľom zlepšiť spojenie medzi jednotlivými hlavnými mestami a veľkými mestami v juhovýchodnej Európe, ako aj regionálna integrácia v európskej leteckej dopravnej sieti.

Kľúčové slová: juhovýchodná Európa, toky letovej prevádzky, konektivita trás

1. Introduction

The break-up of Yugoslavia and associated confrontations caused geopolitical and economic changes in the region which influenced the reduction of air transport sector in South East Europe (further referred to as SEE) to a shadow of its former self. Overall traffic carried on the SEE territory by regional airlines in year 2001 represents approximately 50% of passenger kilometre (PKM) carried by Yugoslavian JAT in 1989 [1]. Comparing the SEE airport performance in pre and post war period, only three airports in year 2010 traverse the traffic figures from year 1987 [2]. The densest routes are international, mainly to and from European Union, due to relatively small SEE countries areas which implicate lack of domestic traffic with exceptions in Croatia and Serbia. That fact highlights the importance of cross border international traffic on regional and European level. After signing the ECAA agreement liberalisation of air service occurred and the route network has grown rapidly. New established routes are connecting European destinations with SEE region serving neighbouring hub airports as feeders while regional main airport which could compare to

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European hubs has not yet been established. Main airports offering connecting flights are Belgrade and Zagreb although with 2.1 and 2.4 million passengers in 2009 remain small by European standards [3].

2. Prospects of regional air traffic

Air traffic is growing rapidly from a low base, as a shadow of a series of armed conflicts and economic turbulences of the past decades. Traffic growth in SEE can be described by two characteristics. First one is that the main drivers of passenger traffic in the region are tourism and the migrant communities. Second characteristic is that much of passenger traffic between the EU and SEE is land based. Air transport in the SEE is driven by GDP growth and exponential relationship between per capita income and tendency to fly.

Table 1. Forecast of traffic growth in SEE region [7]

Country	base case		high case	
	annual	total	annual	Total
Albania	4.9	39.2	6.1	48.8
Bosnia & Herzegovina	5.2	41.6	6.7	53.6
Croatia	4.6	36.8	6.0	48.0
FRYOM	3.3	26.4	4.7	37.6
Serbia & Montenegro	4.5	36.0	5.8	46.4
Regional Average	4.06	36.0	5.86	46.88

The Eurocontrol medium term report (which includes over-flight traffic) assumes an annual 4 percent growth for the selected countries between 2010 and 2017, while base case scenario for EU 27 predicts 2.7 percent annually [7].

The main drivers for air transport demand in SEE region are tourists, mostly EU nationals and large migrant community, mostly based in EU. Eurocontrol flight movements forecast emphasizes that route network sensitivity will be concentrated in SEE region because the reduction in IFR departures is not connected with the influence and effects of high speed trains [6].

Main characteristic of air traffic in the region is that majority of traffic flow in the SEE region flows across national borders, as most countries are too small for domestic flights. Croatia is the only exception, with 554,000 passengers in domestic traffic.

The second characteristic is that regional air traffic flows count two-thirds of air traffic in the SEE region – 69 percent in Bosnia and 87 percent in Albania. Albania and Kosovo have only one airport each while FRY of Macedonia has two, which are 150 km apart. This highlights importance of cross-border liberalisation by ECAA implementation.

Table 2. General air transport indicators in SEE region

Country	Passengers (000)			Cargo 000 t	Airports	Airlines	Passenger per Capita
	International	Domestic	Total				
Albania	1,267	0	1,267	3,5	1	4	0,4
Bosnia & Herzegovina	550	0	550	1,5	3	1	0.15
Croatia	4,610	554	5,164	13,9	8	4	1,15
FYROM	697	0	697	2,8	2	1	0.34
Montenegro	1,109	0	1,109	0.8	2	1	1,85
Serbia	2,680	0	2,680	7,2	2	2	0,36
Kosovo	1,131	0	1,131	1,0	1		0,6
Total/Average	12,470	554	13,024	29,9	19	13	0,87

Third characteristic are strong migration and trade linkages with neighbouring countries. Germany, Italy and Austria, according to EC Report, account over 60 percent of the routes from EU to SEE region. At the same time the low – cost effects and market share by traffic zone will be in 2015 the lowest in Albania (5%) and Macedonia (8%) modest in Serbia, Montenegro and Bosnia and Herzegovina (19-20%) and highest in Croatia (21-30%). It should be noted that on Croatian air transport market in term of passenger carried the share of LCC (2008) is already 24.8 percent.

There are some 2,000 airlines around the world that operate a total fleet of 23,000 aircraft. They serve some 3,750 airports through a route network of several million kilometres managed by around 160 air navigation service providers. SEE region presents modest and undeveloped region, which represents 0.59 percent of passenger transportation in the world scheduled air traffic and 0.53 percent of international airports in the world. General indicators of air traffic development in 2008 are presented in Table 2. Indicator number of passenger carried per capita indicates the degree of the development and mobility of the population [2]. The leaders in the region are Montenegro (which residents traditionally use the services of air transportation) and Croatia which has domestic air transport market, unlike other countries in the region.

3. South East European airports connectivity

European airport network has historically developed by connecting several national airport systems through one or more main national airports that each had their own network of smaller airports providing the feeding/de-feeding role to them. National networks in most countries were developed around national or ‘flag’ carrier’s network which was also main base of this carrier, very often in the capital city, and provided the ‘hub’ role [4].

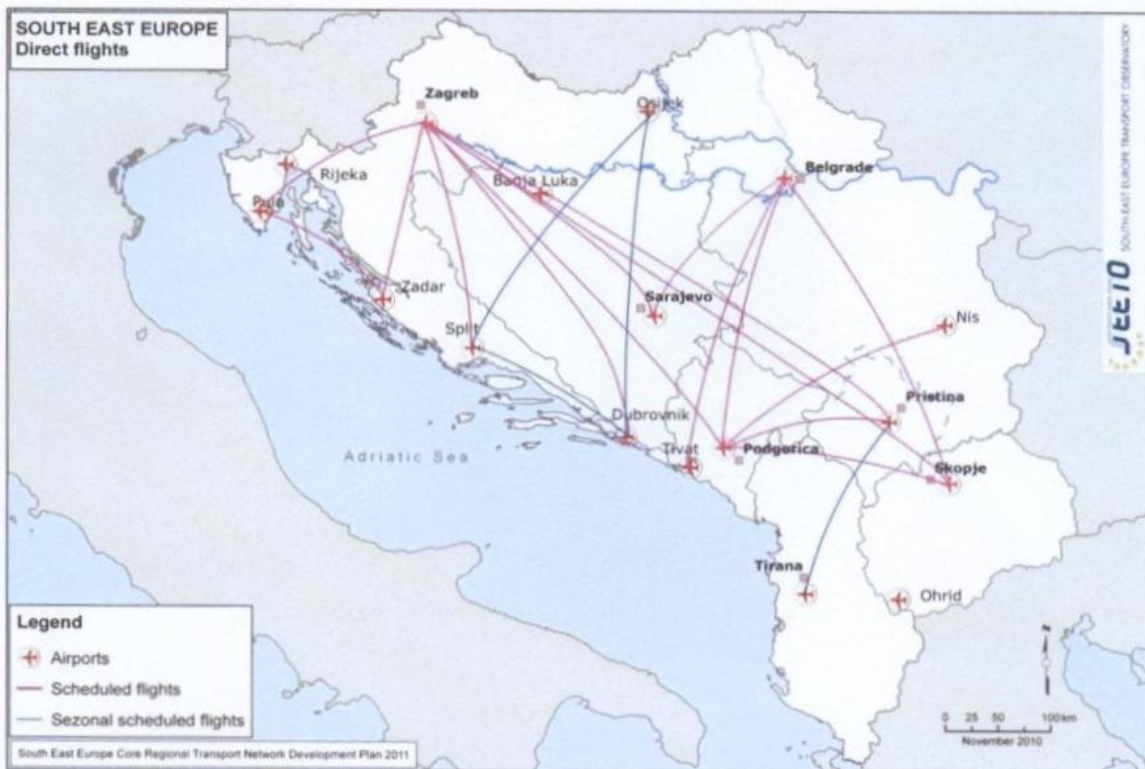


Fig.1. Route network of direct flights in South East Europe (2009) [3]

Air transport development on SEE territory didn't followed aforementioned development scenario because of recent war crisis and at that time impossibility to follow European airports traffic growth and its network development.

Today, aggravating circumstances for SEE airport network development is that European airports have already established its position within European and world air transport network reducing possibility for new entrants' progression.

Since most of the routes to and from SEE region are thin and demand is limited, many important services are not economically viable for the carriers and in order to increase its traffic volumes, SEE airports are more opened for low-cost carriers' services. Market stimulation by low fares has led to spectacular increases of passenger volumes at many underutilised airports. These include SEE airports where, during its solely traditional role, high fares prevented higher use of air services. Low cost carriers triggered underutilised airports and its expansion. Huge benefit attributable to low-cost traffic is in their catalyst role for additional air services, economic and tourism development.

The existing connectivity network and air transport frequencies within the region are far bellow growing needs and demands of the travelling public. The situation is getting even worse when it comes to air fares, quality of air transport services, intermodal transport connectivity and environmental issues.

Table 3. Number of destinations available from South East European airports

Airport	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	% of intra-regional destinations (2010)
Banja Luka	3	4	3	2	1	-	-	-	3	3	-	-
Belgarde	42	37	41	40	43	41	40	40	43	44	48	10.42%
Dubrovnik	10	12	17	22	20	26	31	34	37	44	49	6.12%
Niš	-	-	-	-	4	1	1	2	2	2	2	50.00%
Ohrid	8	4	4	4	4	5	5	7	5	4	2	50.00%
Osijek	1	1	3	2	2	2	3	2	3	3	4	50.00%
Podgorica	1	7	6	8	9	9	9	9	12	10	17	29.41%
Pristina	4	4	14	11	12	14	11	12	16	23	24	12.50%
Pula	3	6	7	6	5	7	11	10	12	16	20	10.00%
Rijeka	2	2	2	2	2	4	9	10	7	11	6	-
Sarajevo	12	12	20	15	8	11	9	9	17	14	15	13.33%
Skopje	25	23	18	16	17	16	18	18	18	13	12	33.33%
Split	18	16	21	22	23	27	28	31	40	43	50	6.00%
Tirana	17	15	14	14	16	25	28	32	33	35	35	2.86%
Tivat	4	10	11	9	10	9	10	8	9	14	11	9.09%
Zadar	4	5	4	5	7	7	6	8	10	14	22	9.09%
Zagreb	28	29	28	25	26	30	33	34	39	36	34	23.53%

While connections with main European destinations are dominant and all leading European air carriers already operate in the region, presently only 10% of all SEE airlines commercial activities are realized within the SEE network.

Therefore, an underdeveloped connection between individual capitals and major cities of the SEE region represents a barrier for fast and convenient travel within the region. The outcome is lack of intraregional routs and that only possible connections are available through European airports.

Main indicators of intra-regional connectivity and connectivity with Western Europe are given in table 2 for sample airport Frankfurt during the selected time period of July 2010 during which highest traffic volumes are recorded. It is visible that highest frequencies are recorded on routes connecting SEE region with Western Europe through the airports Zagreb and Belgrade, as well as on Dubrovnik and Split due to its seasonal character. It can be noted lack of intraregional connectivity as well as lack of demand noticeable in average amount of seats available on intra-regional routes ranging from 66 to 124.

Table 4. Intra-regional and Western-European airport connectivity level ratio (July 2010)

[5]

Departure airport	Arrival airport	No. carriers operating	No. flights occurred in time period	Type of aircraft	Average No. of seats available on the flight
Belgrade	Frankfurt	7	154	Narrow Body Jet	123/150
Zagreb	Frankfurt	5	217	Narrow Body Jet	123/124/150
Sarajevo	Frankfurt	1	5	Turboprop	66
Tirana	Frankfurt	1	9	Narrow Body Jet	94
Pristina	Frankfurt	1	5	Narrow Body Jet	145
Podgorica	Frankfurt	1	40	Narrow Body Jet	102
Dubrovnik	Frankfurt	4	99	Narrow Body Jet	124/150
Split	Frankfurt	4	108	Narrow Body Jet	124/150
Belgrade	Podgorica	1	9	Turboprop/NBJ	66/126
Belgrade	Sarajevo	1	50	Turboprop/NBJ	66/126
Zagreb	Sarajevo	1	27	Turboprop	66
Zagreb	Split	3	106	Narrow Body Jet	124/150
Zagreb	Podgorica	2	26	Turboprop	74
Zagreb	Pristina	1	30	Turboprop	74
Zagreb	Dubrovnik	2	9	Turboprop/NBJ	74/150

4. Conclusions

In the forthcoming period European air traffic management will handle double flight operations then today – from 1.7 to 2.1 higher traffic level in 2025 than in 2005 [8]. The problem of European airspace fragmentation should be solved by the comprehensive dynamic harmonization programs, which can contribute to effective increase of airspace capacity and increase of air transport efficiency. The main objective of development strategy refers to the implementation of reformation processes of the European air traffic management system through functional ATM regionalization. Encouraged by the Single European Sky programme, and through airspace de-fragmentation, numerous projects have been initiated by Eurocontrol in cooperation with European Commission. One of them is establishing Functional Airspace Block in South East Europe. The implementation of regulatory, institutional and legal framework of Single European Sky FAB would ensure expansion of European air traffic market to South East Europe, counting over 500 million potential users. Croatia and all the other countries in the region have to adopt provisions of ECAA agreement and EU air transport acquis in their national legislation.

New air connections within the SEE region could considerably improve mobility and accelerate economic integrations and cooperation processes. In that respect, this new mobility potential should be further considered and analyzed to answer whether a different airport network could be established.

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