TRANSPORT PROBLEMS 2017 Volume 12 Issue 1
PROBLEMY TRANSPORTU DOI: 10.20858/tp.2017.12.1.1

Keywords: public service obligation; state aid; regional airports; regional development

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DEFINITION OF PUBLIC SERVICE OBLIGATION POTENTIAL IN THE NEW EU MEMBER STATES

Summary. This paper deals with public service obligation, a form of state aid that applies to air services. The paper first provides general information on the European legislation applying to this form of state aid, and elaborates the legal framework and general principles. The second part is dedicated to a comparison of a similar subsidizing programme in the USA and Australia. An examination of current imposed public service obligation routes in Europe is provided in the following section. The coefficients defining the number of imposed PSO routes per various geo-economic variables have been defined.

1. INTRODUCTION

All forms of state aid raise strong debates about their efficiency and contribution to society. Public service obligation (PSO), a form of subsidizing of regular air services, is not an exemption and ignites the same level of controversy.

As a highly relevant topic these days, the need to increase awareness of this form of state aid has emerged in new EU member states. This scheme is widely used in the "old" EU member states, but in the new member states, which joined the EU in 2004 and later, this scheme is used sporadically.

Throughout the years, this scheme has proven its efficiency and positive contribution to local communities and economies. However, as a form of state intervention in a liberalized market in Europe, it should be applied carefully in an equal and non-discriminatory manner.

2. THEORETICAL BACKGROUND

Liberalization, which began in 1987, has dramatically changed the nature of air transport in the European Union. The result of the liberalization process was the opening up of markets to new entrants. At that time, these markets were served only by state-owned airlines. With the removal of barriers and protectionist policies, many of them started to face a difficult period. The member states tried to defend their interests and supported their national carriers through various forms of subventions. Moreover, member states tried to assist their airports through all kinds of operational aids. In this situation, the Commission had to react promptly, because without its intervention this situation could have disrupted the process of liberalization. Based on these facts, the Commission developed guidance and rules regarding the application of state aid in air transport.

Currently, according to the Commission's rules and guidelines, there are several forms of state aid, which are addressed either for construction and operation of airport infrastructure or for users of airport infrastructure. State aid can be provided as:

- a public service obligation, which is defined under regulation 1008/2008;
- a start-up aid defined by regulation 868/2004;
- a support for construction of airport infrastructure, which can be found in Article 107 of the Treaty on the Functioning of the European Union;
- financial aid for restructuring airlines, which is applied according to guidelines on state aid for rescuing and restructuring firms in difficulty;
- a reduced airport charge adopted by directive 2009/12/EC.

A Public Service Obligation is defined as a form of service of general interest in which a state can subsidize an air connection. The state can impose a PSO to ensure adequate provision of scheduled air services to a peripheral or developing region or on a thin route to any regional airport that is considered vital for the economic development but is not commercially viable [1].

2.1. PSO legal framework

The first Public Service Obligations were imposed by the European Union when the "third package" of European Union air transport liberalization came into effect on 1st January 1993. This package has considerably reduced the restriction on flights within domestic and intra-EU operations. But there was still a need to connect some domestic and intra-EU routes, especially to peripheral or developing regions, which would be otherwise unserved, because these routes are not commercially viable. Therefore, a regulation defining these services was needed. The first regulation permitting the imposition of PSOs was defined by Council Regulations no. 2408/92 on access of community air carriers to intra-community air routes. Over the years this regulation has made a number of substantial changes and in 2008 was replaced by a new regulation. The current legislation defining the common rules for the operation of air services in the community is defined by Regulation no. 1008/2008 of the European parliament and of the council, and came into effect on 24th September 2008 [3].

Apart from the main regulation determining PSOs, one can find additional guidelines and decisions that affect the terms and conditions of PSOs:

- Judgement of the court of 24th July 2003 in Case C-280/00 (reference for a preliminary ruling from the Bundesverwaltungsgericht): Altmark Trans GmbH, Regier-ungspräsidium Magdeburg vs. Nahverkehrsgesellschaft Altmark GmbH.
- Commission decision of 23/IV/2007 on public service obligations on certain routes to and from Sardinia under Article 4 of Regulation (EC) No 2408/92 on access for community air carriers to intra-community air routes.
- Information of the European Union: Consultation on review of the community guidelines on financing of airports and start-up aid to airlines departing from regional airports.
- EU Commission decision of December 2011 on the application of Article 106(2) of the Treaty on the Functioning of the European Union to State Aid in the form of public service compensation granted to certain undertakings entrusted with the operation of services of general economic interest [4].

All conditions and requirements for public service obligations are published in articles 16–18 of the Air service regulation 1008/2008. The public tender procedure must be organized according to the mentioned general principles for public service obligations. They are set out in paragraphs 2–10 in article 17 of regulation 1008/2008. If there is any doubt that some decisions related to PSOs have infringed community law or national rules implementing community law, member states should ensure that any decision taken under articles 16 and 17 of regulation 1008/2008 is reviewed well and as soon as possible.

3. COMPARISON OF PSO SCHEMES IN THE EU, USA, AND AUSTRALIA

PSO is not a tool exclusive to the EU. Similar schemes can be found in other geopolitical areas, where they are used even more extensively. In this chapter, PSO schemes of the USA and Australia have been analysed and compared with the EU scheme.

3.1. PSOs in the USA – Essential air services

Essential air services (EAS) is a subsidization system that was introduced in 1978. After deregulation in the USA there was a need to guarantee small communities regular access to other areas in the USA. The programme was introduced as a safety net for communities that would be abandoned by commercial airlines, because these routes would not be commercially viable for them. The original programme was planned to be effective for only 10 years, but it was prolonged for another 10 years and finally it became permanent in 1998. Over the years, the Congress of USA has made a number of changes in the EAS programme, but the goal of the programme has remained the same [6].

The United States Department of Transportation is mandated to administrate EAS. The Department needs to ensure communities appropriate access to the National Air Transportation System. This is accomplished either by a 30- to 50-seat aircraft with two round trips or with an aircraft with 9 or fewer seats, which adds additional frequencies to a large or medium hub airport [7].

The Reform act of 2012 has modified the list of communities that are eligible to receive EAS. If the community wants to remain eligible, it needs to have a minimum of 10 enplanements per day in the last fiscal year. This definition does not apply to communities in Alaska and Hawaii and to communities that are more than 175 driving miles (282 kilometres) from the nearest large or medium hub [7].

The Department of Transportation has introduced in 2014 a new regulation limiting communities that can avail of subsidization via the EAS scheme. This limitation applies to communities located in 48 states (except Alaska and Hawaii). The price cap restriction must not exceed a subsidy of 200 US dollars per passenger, unless the community is located more than 210 miles (338 kilometres) from the nearest large or medium hub [7].

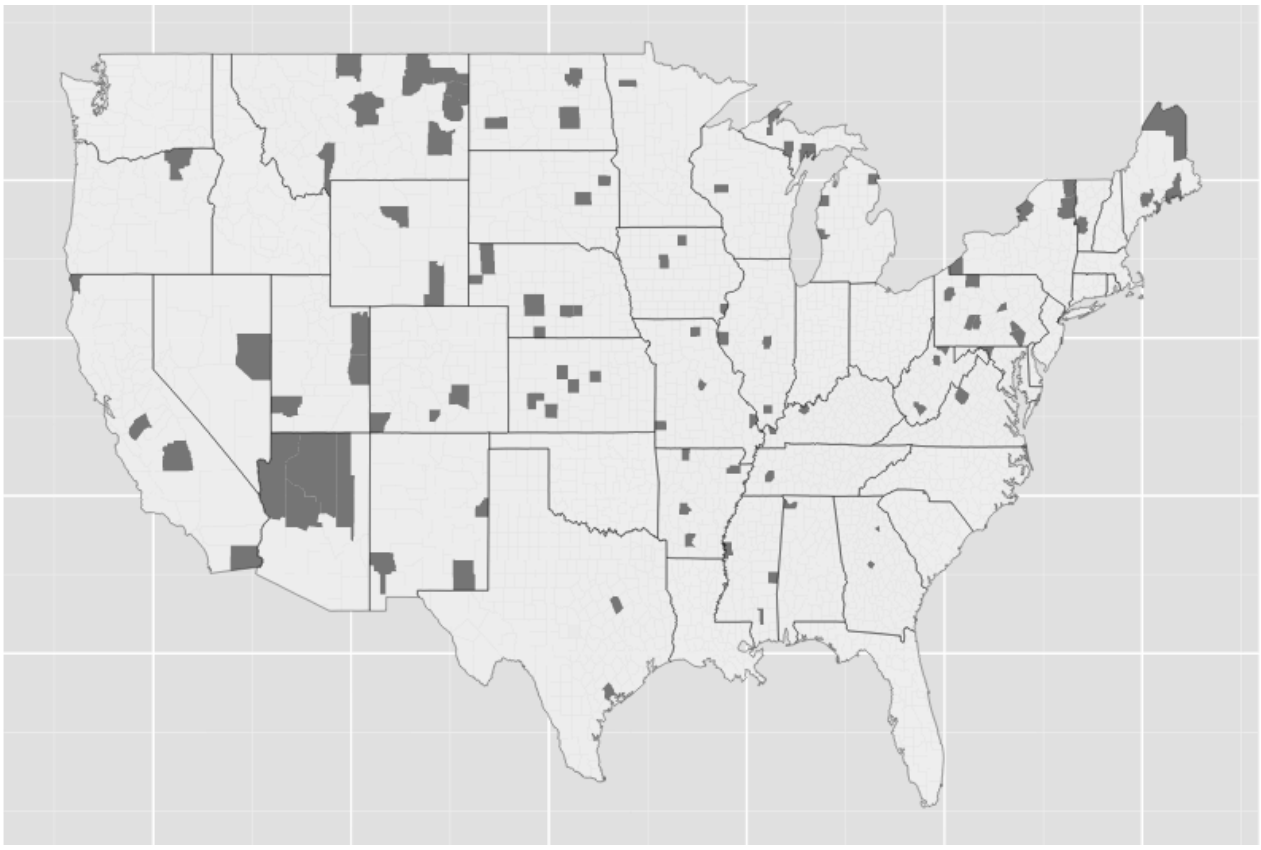

Fig. 1. Counties containing airports subsidized by Essential Air Service

3.2. PSOs in Australia – Regional aviation access programme

The Australian government has developed a complex programme that consists of subsidies and financial help for airports and air services. The Regional Aviation Access Program (RAAP) offers funding support for aerodrome infrastructure, aerodrome safety, and for air services that are not commercially viable. RAAP is funded by the Australian government and executed by the Department of Infrastructure and Regional Development. RAAP has five funding components, one of which is the Remote Air Services Subsidy (RASS) Scheme, which subsidizes a regular weekly air transport service for the carriage of passengers and goods to communities in remote and isolated areas of Australia. The only exclusion is mail, which is under a different contract with Australia Post. Many air services to the outer regions of Australia are very important, because during several months of the wet season only air service provides reliable connection to these parts. Apart from transport of passengers, air transport services provide shipment of various goods, such as medicines, educational materials, or other urgent supplies, to the communities. However, RASS provides support to remote aviation services that are not commercially viable but are essential for the social and economic well-being of the communities they serve [8].

The Federal Government has been subsidizing remote air services since 1957. In 1983 the Australian government issued the RASS scheme, which is in force at present. The domestic air transport market of Australia was deregulated by the Federal Government in 1990. In addition, some inter-state domestic markets are still regulated to varying extents by state governments, such as that of New South Wales, but intra-state air services in Tasmania, Victoria, the Northern Territory, and the Australian Capital Territory are completely deregulated [8].

Fig. 2. Australian routes under RASS

3.3. Comparison of PSO schemes

On comparing the three schemes mentioned above (EU, US, and Australian), one can see slightly different approaches to subsidizing air services. Basic differences between the PSO, EAS, and RASS schemes are described in Table 1.

The Australian scheme is the oldest and a result of Australia´s geographic characteristics. It was a natural way to ensure transportation of people and goods to remote and less-populated areas of Australia.

On the other hand, the decision to subsidize air services in the USA is a result of the deregulation process. Before deregulation, regular air services to small communities were established by air carriers, which provided services between large cities. Routes to large cities were a lot more profitable and hence the carriers could guarantee air services to local communities where the air service was not financially viable. After 1978, the Department of Transport assured small communities that their air connection to a hub airport would be maintained by introducing essential air services.

In Europe, introducing the PSO scheme was also a result of the liberalization process. However, in the European Union (at that time the European Community), the need to introduce a single scheme was also driven by the fact that the EU is a community of multiple states and hence the subsidizing of air services in one member state could be governed by different conditions and forms than those in other member states. Rules for subsidizing air services were unified for all member states and are administrated by both the European Commission and member state.

Table 1

Basic differences between PSO, EAS, and RASS schemes

	PSO	EAS	RASS
background	during the deregulation process in the EU; applicable since 1993	after deregulation in 1978	subsidizing since 1953; RASS scheme since 1983
objective	maintain scheduled air services for peripheral or developing regions	guarantee small communities regular access to other areas in the USA	ensure air transport to remote and isolated areas
administrative body	European Commission, member state	Department of Transport	Department of Transport and Regional Services
eligible route	serving peripheral or developing regions; vital for the economic development of the region where the airport is located	communities receiving certified air services or are listed on an air carrier's certificate in October 1978; additional requirements are applied under the Department of Transport	there must be a demonstrated need for such a service; the community must be sufficiently remote
contract duration	up to 4 years; for remote regions, up to 5 years	2 years or 4 years, depending on the history of air carrier on particular route	normally exceeds 2 years with a possible extension up to additional 2 years
budget (2014)	up to each member state	249,000,000 US dollars	18,196,000 AUS dollars (14,032,000 US dollars)
current scale of operations (2014)	174 routes within the EU and 51 more in Norway	serving 115 communities in 48 states and 60 communities in Alaska	363 communities: 257 directly serviced and 106 neighbouring communities

Another difference is that the RASS scheme applies to scheduled domestic passenger and cargo services, while the EAS scheme applies to only scheduled domestic passenger services. The PSO scheme applies to scheduled domestic and intra-European international services. Cargo services are not forbidden by the regulation, but only passenger services have taken advantage of the scheme.

When it comes to the duration of the contract under the EAS and RASS schemes, both provide a little flexibility within the system. Basic duration is about two years and when the community or Department is not satisfied with the air carriers providing the air services, they impose a new tender so

that a new carrier can be selected. There are also some exceptions and the contract can be signed for a period of four years, but it applies only to air carriers that have proven their reliability on a particular route. In the EU, the contracts are usually signed for four to five years. Thus, the air carriers operating in the PSO route do not change too often compared to those in Australia or the USA.

In 2014, there were 363 communities served by the RASS programme. Only 257 remote communities were served with direct air service. The remaining 106 were neighbouring communities that benefitted from the air services established in the neighbouring communities. There were six air operators that provided their service throughout Western Australia, the Northern Territory, South Australia, Queensland, and Tasmania. The total budget of the RASS scheme was 14 million US dollars, which is relatively low compared to the EAS budget of 249 million US dollars with a few more routes.

The EAS programme subsidizes 115 air services in 48 states of the USA. An additional 60 air services were subsidized by this scheme in Alaska. A total of 175 routes cost about 249 million US dollars annually. In the USA, this programme is often criticized by taxpayers for its huge costs. Sometimes, the decision of which community needs an EAS route and which does not is also questioned, especially if there are other means of transport available.

In 2014, there were 174 PSO routes imposed within the European Union and an additional 54 routes were imposed in Norway and Iceland, which are a part of the European Economic area. The total costs of all PSO routes are difficult to calculate as the costs are administrated by each member state separately.

4. UTILIZATION OF PSO IN EU MEMBER STATES

Since the introduction of the PSO in 1993, one can witness different approaches in the use of PSOs by member states. There are states that have imposed various routes under the PSO scheme on the one hand, while, on the other, there are states that have not imposed any or only a few routes under this regulation.

Since there is no database of imposed PSO routes, the trend of imposed routes will be assessed from data given by the Directorate-General for Mobility and Transport of the European Commission. The author was provided with data from 2013 to 2015.

Table 2

The number of PSO routes imposed in various years

	2001	**2007**	**2013**	**2014**	**2015**
Estonia	x	0	0	4	4
Czech Republic	x	0	3	0	0
Croatia	x	x	0	0	10
Cyprus	x	0	0	0	1
Finland	0	4	3	3	3
France	46	73	58	42	45
Germany	5	3	3	0	0
Greece	0	25	31	28	28
Ireland	5	7	7	3	3
Italy	6	31	41	20	22
Portugal	10	27	25	24	21
Spain	10	16	18	18	18
Sweden	1	11	11	10	10
United Kingdom	12	26	21	22	22
Iceland	1	7	7	0	0
Norway	61	40	62	51	51
Total	**157**	**270**	**290**	**225**	**238**

x – the state was not yet a member of the EU

The number of routes operated in Europe under the PSO contract has been growing more or less consistently throughout the selected period. In 1997 there were 67 PSO routes, in 2001 there were 157 PSO routes, in 2003 there were 230, and in 2007 there were 270. The highest number of imposed routes was in 2013 (a total of 290 routes). In 2014 and 2015 there was a slight decline with 225 and 238 routes, respectively. All numbers include routes imposed in Norway and Iceland. These states are not member states of the EU but are members of the EAA and when it comes to PSO routes they are under the same regulation as EU member states [11].

One important fact that needs to be mentioned is that these numbers involve imposed routes only. In reality, the number of active routes with an assigned operator is less. Many of the imposed routes are being repealed or have had unsuccessful tenders.

When comparing the list of imposed routes in 2013 and 2015, one can see that some routes were successfully prolonged, new routes were imposed, and some ended their operation. In 2015, 10 new routes were imposed by the newest member of the European Union – Croatia; four more were imposed by Estonia and one by Cyprus. On the other hand, three routes have not been prolonged because of unsuccessful tender in the Czech Republic. Three routes in Germany ended their contract in 2013 and were not prolonged for years to come. In France, Italy, and Portugal, several routes ended their service by 2015.

4.1. Factors influencing the number of PSO routes - methodology

There are several factors that influence how many routes the state decides to impose: for example, geographical size, total population, and national GDP, among others. In this section, the relationship between the number of imposed PSO routes and geographical size, total population, and national GDP is defined. To this end, data collection was carried out, which can be found in Table 3.

Once the input data are known, coefficients determining the relation between the number of PSO routes and the particular variable must be defined. For this paper, the following coefficients were selected:

- Number of PSO routes per 10 000 km^2 of member state's area
- Number of PSO routes per 1 million inhabitants of the member state
- Number of PSO routes per 10 billion EUR of the member state's GDP

The results can be seen in Table 3 below.

Average values of the described coefficient from the data set can be found in the last row of Table 3. As the results show, there is an almost identical number of PSO routes in relation to the geographical size (0.73) than in relation to the population (0.79). When taking GDP into account, the number of imposed PSO routes is significantly lower – as much as 0.27 routes per 10 billion EUR of the national GDP.

In terms of geographical size (area), the highest number of PSO routes in 2015 were imposed in Portugal (2.28) and Greece (2.12). In terms of population, the most PSO routes in 2015 were imposed in Norway (9.77). Finally, in terms of GPD, the most PSO routes were imposed in Croatia (2.32).

When comparing how PSO routes are used by "original" and "new" EU member states, we found that the most routes were imposed in "original" member states. Only Austria and Benelux countries have never imposed PSO routes, probably due to sufficient access to air transport within their territory. On the other hand, far more "new" member states have never imposed any routes. For this reason it is of extreme importance to raise awareness on this scheme, which significantly contributes to regional development.

4.2. Potential number of PSO routes in new EU member states

As defined earlier, in this paper a member state is one whose entry into the EU was in 2004 or later. There are in total 13 countries in this group: Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia,

Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, and Slovenia. Among these countries, only Croatia, Cyprus, and Estonia have ever used the PSO scheme.

Based on the coefficient defined and calculated in the previous section, the potential number of PSO routes in the remaining ten new EU member states was calculated. For this purpose too data collection had to take place. The results are presented in Table 4.

Table 3

Existing PSO routes in relation to geographical size, population, and GDP in the EU member states and in Norway and Iceland

	PSO imposed in 2015	Area (km^2)	PSO per 10 000 km^2	Population (2015) (mil.)	PSO per 1 mil. inhabitants	GDP (2014) (bil. EUR)	PSO per 10 bil. EUR GDP
Estonia	4	78 866	**0,51**	10,55	**0,38**	19,5	**2,05**
Croatia	10	56 594	**1,77**	4,28	**2,34**	43,1	**2,32**
Cyprus	1	9 251	**1,08**	1,14	**0,88**	17,5	**0,57**
Finland	3	338 424	**0,09**	5,49	**0,55**	205,2	**0,15**
France	45	643 801	**0,70**	66,66	**0,68**	2132	**0,21**
Greece	28	131 957	**2,12**	10,96	**2,55**	179,1	**1,56**
Ireland	3	70 273	**0,43**	4,64	**0,65**	185,4	**0,16**
Italy	22	301 338	**0,73**	60,67	**0,36**	1616	**0,14**
Portugal	21	92 212	**2,28**	10,43	**2,01**	173	**1,21**
Spain	18	505 990	**0,36**	46,42	**0,39**	1058	**0,17**
Sweden	10	450 295	**0,22**	9,88	**1,01**	430,3	**0,23**
United Kingdom	22	242 495	**0,91**	64,72	**0,34**	2223	**0,10**
Norway	51	385 178	**1,32**	5,22	**9,77**	500	**1,02**
Total/ Average	**238***	3 811 956*	**0,73****	301,06*	**0,79****	8782,1*	**0,27****

* Total

** Average

For calculating the potential number of PSO routes on the basis of the selected criteria (area, population, and GDP), the average values from the previous section were used (0.73, 0.79, and 0.27, respectively). Outputs are in Table 4 below.

Because of both their large geographical size and population, Poland and Romania have the highest potential in PSO routes area-wise and population-wise. In terms of GDP, Poland is again on the top spot, followed by the Czech Republic and Romania. The reason why there are no PSO routes in Poland despite the highest potential is simple. The air transport market is large, there is good connectivity from local airports, and Poland as a nation has been utilizing air transport since historic times.

On the other hand, there may be states that simply do not want to use the PSO scheme because of limited financial resources and other priorities in the transport policy compared with air transport itself. An example of such a country is Slovakia.

5. CONCLUSION

PSO is a scheme that is widely used all over the world. In the EU, this scheme is being used mostly by original member states. Because of several reasons, new member states are reluctant to impose this kind of air service despite the need in some regions that would greatly benefit from better air

connectivity. This paper defines coefficients with regard to mutual relationships between the number of imposed PSO routes and geographical size, number of inhabitants, and national GDP of the particular country.

Table 4

Potential number of PSO routes according to coefficients in relation to geographical size, population, and GDP in new EU member states

	Year of entry	Area (km^2)	PSO per 10 000 km^2	Population (2015) (mil.)	PSO per 1 mil. inhabitants	GDP (2014) (bil. EUR)	PSO per 10 bil. EUR GDP
Bulgaria	2007	110 370	**8,06**	7,2	**5,7**	42	**1,13**
Czech Republic	2004	78 868	**5,76**	10,54	**8,3**	154,3	**4,17**
Hungary	2004	93 011	**6,79**	9,86	**7,8**	103,2	**2,79**
Latvia	2004	64 573	**4,71**	1,99	**1,6**	24	**0,65**
Lithuania	2004	65 286	**4,77**	2,92	**2,3**	36,3	**0,98**
Malta	2004	315	**0,02**	0,43	**0,3**	7,9	**0,21**
Poland	2004	312 679	**22,83**	38	**30,0**	413,1	**11,15**
Romania	2007	238 391	**17,40**	19,87	**15,7**	150	**4,05**
Slovakia	2004	49 035	**3,58**	5,42	**4,3**	75,2	**2,03**
Slovenia	2004	20 273	**1,48**	2,06	**1,6**	37,3	**1,01**

References

1. Gordijn, H. & Van De Coevering, P. *Aviation as public transport: which regions are underserved?* Netherlands Institute for Spatial Research, 2006. Available at: http://abstracts.aetransport.org/paper/download/id/2330.
2. Tomová, A. The need for new directions in airspace economics: Seventy years after Chicago. *Journal of Air Transport Management*. 2015. 44-45. P. 1-7.
3. Reynolds-Feighan, A. *European Air Transport Public Service Obligations: A Periodic Review. Fiscal Studies*. 1995. Vol. 16. No. P. 58-74. Available at: http://www.ifs.org.uk/fs/articles/fsreynolds.pdf.
4. *Rules on public service compensation state ownership of enterprises and aid to public enterprises ON.* 2012. Available at: http://www.eftasurv.int/media/state-aid-guidelines/part-vi---compensation-granted-for- the-provision-of-services-of-general-economic-interest.pdf.
5. *Regulation (EC) No 1008/2008 of the European Parliament and of the Council on common rules for the operation of air services in the Community.*
6. *Essential Air Service*, US Department of Transport. Available at: https://www.transportation.gov/policy/aviation-policy/small-community-rural-air-service/essential-air-service.
7. *What is essential air service (EAS)?* 2009. Office of Aviation Analysis, U. S. DOT. Available at: https://www.transportation.gov/sites/dot.gov/files/docs/easwhat.pdf.
8. *Remote Air Services Subsidy Scheme*. Department of Infrastructure and Regional Development. Available at: https://infrastructure.gov.au/aviation/regional/rass.aspx.
9. Kazda, A. & Badanik, B. & Tomova, A. & Laplace, I. & Lenoir, N. Future airports development strategies. *Komunikacie.* 2013. Vol. 15(2). P. 19-24.
10. Sedláčková, A.N. & Novák, A. Simulation at the bratislava Airport after application of directive 2009/12/EC on Airport charges. *Transport and Telecommunication.* 2010. Vol. 11(2). P. 50-59.
11. Minshall, C. *Use and Reform of the Public Service Obligation.* MSc thesis. Cranfield University. 2004.

Received 17.08.2015; accepted in revised form 03.02.2017