

ROLE OF AIRPORTS IN THE DEVELOPMENT OF LATVIAN CITIES, TOWNS AND REGIONS

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Abstract

One of the most significant issues for ensuring successful development of cities not only in Latvia, but also in the whole world is its accessibility. Therefore, well organized transport infrastructure is one of the most important prerequisites for increasing the competitiveness of a city. In urban and regional development city's accessibility is ensured not only by developed road, rail or sea transport infrastructure, but also by a well-developed air transport infrastructure. Although the Latvian government from time to time has emphasized and set in its transport development guidelines how significant development of regional airports is for equal development of Latvian regions, in practice, public support for the development of regional airports has so far been confined to including the future vision of the development of these airports in several important policy and planning documents.

Key words: city, town, urban and regional development, transport, regional airports.

Introduction

The aim of this paper is to assess the role of Latvian regional airports in the urban and regional development since the improvement of transport infrastructure leaves a positive impact on the development of economic activities, which results in an increased demand for transportations due to increased production volumes. In countries, whose economies are at an early or middle stage of development, businesses related to air transportations are poorly developed, thus facing difficulties in the socio-economic development of the region and integration of its population. Under these conditions, the principles for building transport infrastructure and support facilities are most frequently associated with short-term planning and poor use of economic instruments (management, profit, financial resources). In developing the urban and regional infrastructure, first of all, long-term gains associated with social benefits and perspective optimization of transport infrastructure should be taken into consideration [1].

1. Role of regional airports in urban and regional development

Development of regional airports plays a significant role in further development of the closest cities and surrounding areas. When assessing the impact of scheduled air transportations on regional development, it may be defined as direct, indirect and related.

Direct impact means that airports together with the air carriers and air traffic control services ensure successful operation of air transportations. Consequently, successful development

of air transportations contributes to the growth of airports and its related businesses.

Taking into consideration the breakdown of employment in the aviation sector (see Figure 1), the sector of air transportation and airport supply leave the greatest impact on creation of new jobs. Air carriers alongside with airport service personnel may constitute up to 79% of the workplaces in the airport infrastructure [2].

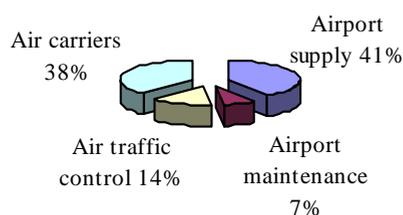


Fig. 1. Breakdown of personnel directly employed in the aviation sector [2]

Thus, due to further development of scheduled inland flights:

- New workplaces are created.
- It also contributes to businesses related to aviation technology supplies (aviation fuel delivery, handling services, aircraft maintenance, communications, supplies, etc.).
- It also contributes to the airport land remediation and restoration, resulting in a significant increase in airport land added value.

2. Indirect impact

Although the relationship between infrastructure, connectivity and regional economic development is very complex, many researchers be-

lieve that under conditions of global competition the presence of a good infrastructure and good access to regions, can play a very important role, when choosing a favourable place for the location of a business. The infrastructure is one of the factors which investors take into account when looking for a new place. In order to ensure the competitive environment for businesses, the accessibility is of vital importance.

Indirect effect of the air transportation industry is indicative, and it is most difficult to be expressed in financial estimates. However, taking into consideration the experience of the regional transport network development and the results of the EU comparative statistical analysis, the regions with developed aviation infrastructure have experienced a 20% increase in the investment environment competitiveness, a 30% increase of innovative technology businesses and up to 40% increase of employment in tourism and public services sector [2].

In Europe, the aviation industry on average contributes 2,4% to the total annual GDP [3]. It is possible to apply these calculations in assessing the indirect impact of the regional air transportation for the Latvian situation, as well. However, it should be emphasized that such an impact of the regional air transportation on GDP is to be expected in the long run, in case the air transportation industry is sufficiently stable, reliable and gain consumers' loyalty.

Thus:

- It also contributes to the investment environment in cities, towns and regions.
- In the long term, due to the availability of air transportation, it is possible to increase the GDP on the basis of the regional businesses.

3. Related income

As a result of the airport operation and availability of regular traffic, the demand for a wide range of services and goods, is generated, which in turn is essential for small and medium business development in the regions, including the demand for construction services, staff training, IT technologies, retail trade availability, communications, utilities and public transport services.

An important factor in accessibility of the regional aviation infrastructure objects is the provision of national aviation operations and supplies for fulfilling the functions of aviation search and rescue services and state external border patrol [4].

European regional and structural policies are aimed at increasing social cohesion among member states and at reducing disparities between levels of development in different regions. Accessibility of the regional air transportation contributes to the population movement and the consumption needs increase, thus:

- Creating the demand for development of new businesses.
- Reducing arterial road congestion and improving regional accessibility.
- Providing support for fulfillment of national aviation functions.
- Accessibility of air transportation facilitates migration of population and increase of the consumption needs [5].

Understanding the significance of further airport development in urban and regional development, so far only some of the Latvian self-governments have been able to make substantial investments in the existing infrastructure of the regional airports, as well as, all these years, cover the airport operating costs, however, due to insufficient self-government budget resources and the changing political environment, without financial aid from the state and unified infrastructure development programme, viability of regional air transportation and airport infrastructure is not possible.

International experience shows that regional airports around the world are in a less favourable situation than the big airports. While small regional airports may not have reached the required capacity, it is difficult, if not impossible, without an initial state aid, to attract airlines, which would be ready to launch regular flights, because when starting such operations, the airlines for the first three to five years would suffer losses [6].

The airports play an important role in reaching the most distant regions, e.g., in Greece, Scandinavia, Scotland and Spain. This has had a positive impact and contributed to successful economic development, improving local services, such as medicine and education, as well as promoting cultural and sporting links. Similarly, it should be emphasized that the accessibility of air services has been essential and has left a positive impact on the competitiveness of such regions as northern Sweden and Puglia in Italy [2].

The accessibility of the regions may prove to be a major attraction of skilled labor, as in remote areas far from the capital city, the unemployment rate is often higher. This could become

an impeding factor for growth of the entire economy. For this reason, a significant part of air services, connecting the periphery with major cities and towns, is classified as "the public service obligation", which means that the aviation operations are financially supported by regional and national governments. As a justification, commonly cited are the significant connections to capital cities or regional centres or the accessibility of such services as hospitals and schools.

Taking into account the significance of the development of regional airports in regional development, the European Commission addressed this problem and changed its previous position regarding the issue of supporting the regional airport development by issuing on 9 December 2005 the Communication entitled "Community guidelines on financing of airports and start-up aid for airlines departing from regional airports".

In the future, availability of air transportation as an alternative solution to the increasing loads on the Latvian trunk roads may be used as a sufficient justification that this mode of transport becomes more popular and eventually will be able to provide economically substantiated airline traffic occupancy [6].

4. Air transportation in Latvia

In the early 1990s, when Latvia regained its independence the Latvian government decided to declare its ownership only for the Riga airport, while transferring the other local airfields to self-governments or private owners. As a result, most of the airfields were squandered, most valuable airfields sold, or the owners were financially unable to maintain the airfields in a good state.

Today, the national carrier jsc "Air Baltic Corporation" and some private airlines – "Latcher Airlines" Ltd., jsc "RAF-AVIA", "Iversija" Ltd., "VIP AVIA" Ltd., etc., as well as helicopter carriers "Baltic helicopter" Ltd. and "GM helicopter" Ltd., etc. operate in the Latvian aviation industry [7].

At the moment, international flights are provided only by the Riga International airport. By the end of 2011, the international airports "Liepaja" and "Ventspils" were also able to provide regular flight operations, but these airports were not extended the appropriate certificates. Non-scheduled flights for passengers, mail, and cargo services are ensured from the private airfield "Tukums". Latvian airspace and air traffic management are operated by public joint stock

company "Latvian air", which in their work uses modern communication and radar navigation tools and appropriate procedures conforming to the European Union standards [7].

Changes in the Latvian economy and society affect the demand of transport services and its satisfaction. The criteria that identify the choice of the passenger or cargo carrier are different, e.g., availability and performance of other modes of transport, price, speed of delivery, etc. Under conditions of economic crisis, the transport choice is largely determined by its price. When making assessments within a region (in this case, within a country), air transport, unlike the rest of the modes of transport, has most disadvantages, number and significance of which do not outperform its advantages (see Table 1).

Table 1. Advantages and disadvantages of air transportation (compiled by authors)

-	+
DISADVANTAGES	ADVANTAGES
- High transportation costs	+ Speed
- Great time consumption for ancillary operations	+ Possibility to reach distant regions
- Geographic accessibility	
- Booking process	

In accordance with data of Civil Aviation Agency, in Latvia at present there are 9 certified airfields and airports:

- Riga International airport - the main international airport certified for regular passenger, mail and freight traffic;
- Liepaja and Ventspils airports - international regional airports certified for general aviation;
- Tukums airfield/airport – certified for occasional passenger, mail and freight traffic;
- General aviation airfields – "Ikšķile", "Cēsis", "Adazi" and "Daugavpils" from which air transportations are not made and which are envisaged for aircraft with maximum take off weight up to 5,700 kg;
- Heliport - National Armed Force Base airfield Lielvarde (general aviation heliport "Sola M") [7].

We understand scheduled air transport of passengers here as air traffic on fixed routes on a regular schedule. Non-scheduled air transport

means transport by air, which is not provided on a fixed schedule, as well as regular charter flights [8]. General aviation airfields, under no circumstances, may be used for air transport [9]. Thus, opportunities for passenger transport within the region are limited.

Although Liepaja and Ventspils airports have made attempts to operate scheduled passenger services, currently, Riga International Airport is the only scheduled air traffic airport in Latvia providing 100% of scheduled air services operated in Latvia. The number of regular flight passengers at Latvian airports is shown in Table 2.

Table 2. Number of scheduled passengers in Latvian airports over the past five years (compiled by authors [4,13,14])

Year	2006	2007	2008	2009	2010	2011
Riga	2 495 020	3 160 945	3 690 549	4 066 854	4 663 647	5 106 926
Liepaja	1201	31 375	42 269	458	0	0
Ventspils	0	0	6 607	0	0	0

In Liepaja airport regular passenger services were performed from 2005 to 2009, but in Ventspils airport only in 2008. Accordingly, the services provided by regional airports refer to the

passengers of occasional tourist and business trips, as well as passengers of the flights performed by border guards. Freight turnover at the Riga airport is shown in Table 3.

Table 3. Cargo loaded and unloaded at the Riga airport (compiled by authors [14])

Year	2005	2006	2007	2008	2009	2010
Cargo loaded, t	2020	2273	2312	2658	3790	5299
Cargo unloaded, t	13943	10334	5811	4900	5560	6994

As shown, in Table 3, the quantities of cargo loaded and unloaded in the Riga airport tend to change drastically. In addition to the above mentioned certified airfields and airports, in Latvia there are several uncertified short runway airfields (about 400-500m), which were once used for agricultural aviation purposes, but now they are mainly used by local aero clubs and private aircraft owners [7]. For example, in Jelgava district there is a helicopter field "Centre Jaunzemji"; in Limbaži a general airfield "Langači"; in Riga - airport "Spilve"; in Talsi - grass airfield; as well as hard surface airfields in Rezekne, Jekabpils, Vaiņode, Slampe, Mālpils, Skrunda, Cirava and Irlava and many other small Latvian towns. These airfields satisfy neither the requirements of general aviation, nor any type of commercial flight requirements. To adapt these airfields for regular air traffic, they should be first certified to conform to the regulatory requirements. Taking into account that, for the most part, in these airfields only some pieces of asphalt concrete surface in poor technical condition are to be found, significant financial investments would be required, to accommodate the airfield infrastructure, which would be equal to building a new airfield.

5. Opportunities for the development of regional airports

It is not really possible to identify, explore and analyze the priorities for functional and economic development of airports separately from the regional and urban development plans. Tukums airport case has even proven not only the essential role the self-government plays for the development of the airport, located in its territory, but also, in accordance with the existing legal framework, the importance of the adjoining area of the airport impact zone and its ownership. In case the town of Tukums imposes restrictions on airport operation in the airfield takeoff or landing sector, the airport development will be further blurred. If these restrictions are lifted, the position of the nearby Riga Airport would play an important role, as from the global perspective, the primary aim of air carriers is the capital city or other developed regional centres. In Tukums case, the primary destination of airlines, as well as passengers destined for Riga, is, of course, Riga. And, if the Riga airport capacity is not overloaded, it is unlikely, that the Riga airport would be interested in shifting one part of its traffic flow, and, hence, the potential revenue to the airport in Tukums.

According to the authors, the city of Ventspils has the greatest potential attractive-

ness of the region. The city is positioning itself as advanced, business and tourist-oriented environment. When making the cost-benefit analysis for Ventspils airport development project, we have come to a conclusion that one of the most essential risks for further development of the airport is whether the state aid to the airport and airlines would or would not be granted, which is aimed at developing domestic flights and launching of new international flights outside Latvia.

Air transport industry compared to other industries is faced with increasing political influence and regulatory efforts. This situation affects the investment climate in the transport sector, which is particularly sensitive to political processes in the regions and countries. It directly affects the development of airports, because in this case the invested resources are contributed to a specific geographic location and are dependent on the associated political decisions [10, 12].

There are some differences between the methodology of forecasting the development of country's national airport passenger flow, and regional airport passenger traffic development, as well as the methodology for the development of an airport, operating long term, and a new airport, which is still under construction, in the planning stage. During the implementation stage of the methodology, the developed countries use air traffic parameters, which are derived from the relationships of different national indicators - gross domestic product, sales, price fluctuations, etc. The future forecast may be obtained by inserting separate forecasted values into the respective functions. However, this model can be fully used only in the developed countries [12].

Considering that the historical data that could help and explain the future business model and development of Ventspils, Daugavpils, or Tukums airport operation do not exist, or are not of significant importance (Ventspils airport case), when making the forecasts, mathematical approach (such as trend and regression methods) cannot be used. In Liepaja, where regular passenger services were practiced during the period between 2005 and 2009, the forecast may be made on the basis of historical data.

Overall, the forecasts for Latvian regional airports can be made using the conclusion and judgment methods, based on the available information and assumptions. The general development scenarios that apply to all airports, include the following directions:

- General aviation traffic;
- Local traffic;
- Regional and international traffic;
- Cargo transportation;
- The State Border Guard;
- Search and Rescue Service.

Making analysis of the potential demand in general aviation, the assumptions show that, in the coming years, number of business and corporate flights in Europe and especially in the Central Europe and Russia, could significantly increase [11].

In a longer period of time, it might be possible that some general aviation aircraft would be deployed at airports. It would become possible if, for example, two, three, or four local entrepreneurs would like to use aircraft according to the so-called "shared ownership program" principle, which is based on flight time distribution principle.

Local traffic is largely related to the connections with the capital city of Riga which competes with about a 3 hour journey by road. If such a route were successful, it would be like providing direct service in the morning and in the evening between Riga and regional cities. It would provide quick transportation of business people and other travelers who have tight time schedule back and forth. In addition, such a route could be used as an access road from the international flights to and from Riga. Initially, this domestic flight could be operated by a relatively small size aircraft such as Beech 1900, Jetstream 31 or Saab 340, to try and test the possibilities of this route, but later, the routes could be also operated by a larger turboprop aircraft. At this stage, frequency and regularity of flights, as well as aircraft size and capacity are important. This service could be realized and offered by any EU aircraft company, but it is more likely that only the Baltic and Scandinavian air carriers would show an interest in these transportation options. In this case, local routes would combine with regional flights in the Baltic and Scandinavian countries, in order to ensure maximum flight fulfillment and profitability.

The main rival of any Latvian regional airport is the Riga airport. Its geographic location provides its zone of influence within all the territory of Latvia (the zone of influence is the distance to be reached in 2 hours), so most part of the passengers of each regional airport or primary passengers will be the inhabitants of towns, while the potential passengers will come from the sec-

ondary zones and will use the airport, in case it would offer flights to such destinations that Riga airport or a competing airport do not offer. (In case of Liepaja, competing airports could be in Ventspils or Palanga, in case of Ventspils - Liepaja airport).

It should also be noted that the flight destinations are not chosen only by the airport itself, but in most cases it depends on the potential Latvian and international carriers, who mainly look for the good profit opportunities in the region. Thus, in the planning stage it is almost impossible to determine the potential number of passengers at each airport, because it is not known, how many passengers could be attracted from the zone of influence of Riga.

Thus, the regional airport zone of influence and impact strength will depend on the following factors:

- Designated geographical area;
- Purchasing power of population;
- Structure of industry;
- International relations;
- Tourist attraction;
- Airport services and classification;
- Proposed flights and their frequency;
- Another airport located at a distance to be easily covered by road transport;
- Competition consisting of roads which may be overloaded.

The true meaning and importance of mutual interaction between different parameters is unpredictable in absolute terms, but it is important to identify these factors when planning airport development [12].

When making forecasts about potential airport destinations, it should be taken into consideration that most of scheduled flights from the Riga International Airport (also from the Palanga Airport) are made to the airports of the major European cities, at the same time, there are no flights to small regional airports in Scandinavian and Baltic countries. However, as it has already been mentioned, the airlines and not the airports make decisions about the choice of the destinations and development of new routes, regardless of the wishes of the airport. This means that the regional airports can only focus on providing good, high-quality promotion and marketing activities, but where, when and how many flights will be made depend only on the operators' own decisions.

The main task of the airport is to create conditions which are favorable enough to attract airlines.

In all the adjoining territories of the regional airports, the towns, when planning the strategic development of the airport, have already chosen and set up commercial and industrial zones (or in the case of Daugavpils, they plan to do it in the near future). Towns try to attract producers of electrical goods, or high-quality textile producers, or producers of similar goods that might also turn out to be a good basis for the development of transportation. Freight transport quite often is being replaced by the so-called package freight being carried on passenger aircrafts, which does not increase the number of flights and airport revenues. Larger scale freight transportation can be carried out by special aircraft, which will require airfields with high allowable takeoff or landing weight of the aircraft weight ratio.

Conclusion

With the increase of people's standard of living and changes in the aviation transportation market, all over the world the number of air passenger flights and air freight traffic is growing, which in turn creates the need to constantly develop the airports, fostering their growth and making them into major centres with a wide range of service offerings.

Assessing the factors essential for promoting airport development and air service system in Latvia, we may state that, at present the biggest problem of the Latvian regional airports is the shortage of passengers and air carriers, as well as lack of airport capacity, or poor technical condition of the airports. It may not be unambiguously alleged that the problems of development in all airports are equal. In terms of their development potential and opportunities, they have some common features, however, on the whole they are different.

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