Airports Environmental Management: Results from the Evaluation of European Airports Environmental Plans

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ABSTRACT

Although airports contribute to region’s economic development, they have a negative impact on the environment and on the communities around them. Environmental impacts such as noise, air and water pollution, and natural resources consumption are some of the implications resulting from the operation of airports that have the ability to constrain airports further development. In addition, increased public concern, regarding climate change, imposes more restrictions on carbon use and greenhouse gas emissions. As a result, many airports can no longer make full use of their capacity, especially when the mitigating cost is quite high. This paper is about airports environmental management and presents the results related to key components of the environmental plans that have been adopted in eight European regional airports. Key issue of the research is to investigate the differences and common practices in applied environmental strategies and systems. Even though most of the airports recognize the need to specify an environmental management strategy, not many regional airports have set specific targets about their environmental performance. Airports that serve more than five million passengers per year seem to have a more detailed environmental strategy; airports located in countries that do not have applied specific sustainable development strategies focus on facilitating growth, rather than taking measures to control their environmental disturbance.

Keywords: Airports, Environmental Management, Environmental Plan, Regional Airport, Sustainable Development

INTRODUCTION

The air transport industry plays a significant role in the economic growth of a region, city or nation, by providing accessibility. Airports bring significant social benefits, and in many cases they are the single largest generator of economic activity in the regions they serve (Airports Council International (ACI) Europe, 2004) and significant components of regions’ supply chain systems. At the same time, airports
affect the surrounding urban planning and they have negative impacts on the local environment.

The airport industry has experienced strong growth over the past few years (ICAO, 2007). Despite the fact that aviation forecasts have been projecting significantly lower rates of growth, aviation in Europe has managed to overcome economic crisis. According to the new long-term forecast (Eurocontrol, 2010), the average annual growth in the next 20 years will be around 2.8%. Considering the anticipated growth in air traffic demand, there is a clear need for airport capacity improvements. It is estimated that 5-19% of air traffic demand will not be accommodated in year 2030 because of limited airport capacity, affecting the flow of operations in the entire network (Eurocontrol, 2010). To satisfy the expected demand, airports have to invest in new infrastructure to increase their capacity. At the same time, the existing and extra capacity must be balanced with their environmental impacts (Upham, Thomas, Gillingwater, & Raper, 2003).

Environmental impacts such as air pollution, noise, water and soil pollution, waste, biodiversity loss, can arise from the operation and development of airports. According to Eurocontrol (2008), environmental impacts of airports’ activities have the potential to constrain the operational capacity or the potential for the growth of airports, especially when noise or emissions exceed the regulatory limits, planning agreements or tolerance criteria within the surrounding communities, but also when the required energy and water supplies cannot be guaranteed. Consequently, the challenge for airports’ operators will be to balance the social and economic benefits of an airport to a region or city, with the disturbance on the environment and on the human health (Daley, Dimitriou & Thomas, 2008).

This paper deals with airports environmental management. The key objective of this research is to review airports environmental plans, investigate applied environmental management techniques, propose the key issues towards a sustainable airport management and outline the directions for further research in the future. The research is focused on European regional airports, where the analysis of the environmental plans shows that country’s legislation, location and airport’s development model and business strategy play a significant role to airports environmental performance.

The paper is organized in five sections. In the first section, the role of airports in regional development is briefly given. In the second section, the key issues of airport environmental management system are analyzed, while in the following sections, the key messages of the analysis of the applied best practices are given. Finally, the research conclusions and the references can be found at the end of the paper.

AIRPORTS AND REGIONAL DEVELOPMENT

The significant role of airports on regional economy has been well recognized in many researches; airports bring significant social benefits and in many cases they are thought to be the single largest generator of economic activity in the regions they serve (Air Transport Action Group (ATAG), 2008). Additionally, many reports highlight that European regions with airports and significant air services have a better social and economic development with lower unemployment, higher productivity and higher income per-capita, compared to regions without airports (ACI Europe, 2004).

The benefits of airports are measured in terms of direct employment, inward investment and tourism, trade with the rest of the world, cultural development and travel for education and leisure (Maughan, Raper, Thomas & Gillingwater, 2001). The economic impact that an airport causes on a region equals with the sum of direct, indirect, induced and catalytic impact (Graham, 2008).

Based on a recent report, airports’ contribution to the overall regional economies, in terms of Gross Domestic Product (GDP), can vary from 1.4 to 2.5%, excluding tourism impacts; failure to provide increases in airport capacity could cost between 2.5 and 3% of national or regional GDP (ACI Europe, 2004).
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