

# FAST: Future Airport Strategies

(Conference in ATM Economics, 10-11 September 2009, Belgrade)

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**Abstract—** During the last decade the European air transport market was marked by the emergence and development of the low cost carriers which represent now a significant share of intra-European flights. Another noticeable trend is the change in the running of airports from public to private ownership and/or management.

**In this context, it is worth focusing on airport strategies and their future evolution. Although airlines strategies will be the main drivers of traffic evolution, the airports are by no means passive, and their own strategies will have an impact on airline behavior and route development. What are the strategies that have been developed by airports in the last decade? Will new trends in airport strategies appear? Which type of airport will be concerned by which strategies? What could be the impact of airport strategies implementation on the traffic distribution at airports?**

**In our paper, we expose the results of the FAST project, supported by Eurocontrol over a year period. This study provides answers to these questions by analyzing the potential evolution of airport strategies in the next decade according to a typology of airports that was designed for this purpose. It also analyses the potential impacts of such future strategies on traffic distribution at airports. This methodology is then illustrated with an application to Bordeaux Mérignac airport in France**

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**Index Terms—** Aeronautical activity, Airlines, Airport, Air traffic management, Diversification, Impacts, Low-cost carriers, Potential for growth, Specialization, Strategies, Airport typology.

## I. INTRODUCTION

During the last decade the European air transport market was marked by the emergence and development of the low cost carriers which represent now a significant share of intra-European flights. Another noticeable trend is the change in the running of airports from public to private ownership and/or management.

Both phenomenon explain why airports have been keen on having a more active role in the air transport industry, by improving their attractiveness and their competitiveness, and why most of the strategies they developed are aimed at low cost carriers.

In this context, it is worth focusing on airport strategies and their future evolution. Although airlines strategies will be the main drivers of traffic evolution, the airports are by no means passive, and their own strategies will have an impact on airline behavior and route development. What are the strategies that have been developed by airports in the last decade? Will new trends in airport strategies appear? Which type of airport will be concerned by which strategies? What could be the impact of airport strategies implementation on the traffic distribution at airports?

In our paper, we expose the results of the FAST project, supported by Eurocontrol over a year period. This study provides answers to these questions by analyzing the potential evolution of airport strategies in the next decade according to a typology of airports that was designed for this purpose. It also analyses the potential impacts of such future strategies on traffic distribution at airports.

Two main categories of strategies are identified: Strategies of specialization related to the airport core business activity (aeronautical activity) and strategies of diversification (commercial activities, services to passengers, consultancy or management services...). To identify the most relevant strategic options for an airport, we use a typology based on three scales, measuring airport size, potential for growth in capacity and in demand for this airport, and we refine our findings by considering other factors like the congestion level,

the competition level, the type of regulation and the airport status.

The impacts of these strategic options on traffic distribution at an airport and on the airport air traffic management are then studied by identifying a reference airport which has developed past strategies similar to the future strategies of the considered airport. We analyze the past route network evolution of the reference airport and use it to make predictions on the future route network evolution of the analyzed airport.

This methodology is then illustrated with an application to Bordeaux Mérignac airport in France, and Bucharest Otopeni airport in Romania.

The approach developed to identify the strategic options for an airport and to make predictions of its future route network evolution, can be broken down as follows:

1. Description of the past strategies of the considered airport.
2. Identification of the future strategic options of the analyzed airport according to its type.
3. Identification of a reference airport which has developed past strategies similar to the future strategies of the considered airport.
4. Analysis of the past route network evolution of the reference airport following the strategy it developed.
5. Use of this past route network evolution of the reference airport to make predictions on the future route network evolution of the analyzed airport.

Following sections provide details on the FAST methodology and illustrate this methodology by Application to Bordeaux airport in France<sup>1</sup>.

## II. PAST STRATEGIES

The future strategic options of an airport are strongly related to the strategies it developed in the past. These past strategies were influenced by the airport characteristics and environment. It is therefore essential to analyze the past strategies of an airport before being able to identify its future strategic options.

### **Application to Bordeaux airport:**

*In order to find a way to revitalize the traffic that decreased by 8% between 2001 and 2003 (following the 11th September crisis) the airport decided to develop an active development strategy from 2004. The aim was to secure the loyalty of airlines and to attract new airlines (especially low cost*

*airlines) on the platform by guaranteeing them graduated discounts on passenger fees during a three years period. This strategy proved successful since the airport traffic grew by 18% between 2004 and 2007. This large growth was mainly due to the low cost traffic increase that was multiplied by three in three years, to represent 11% of the total traffic in 2007 (source [www.usinenouvelle.com](http://www.usinenouvelle.com)).*

*The airport then chose to communicate on the success of this strategy and about future investments relative to runway and terminal capacity increase, as well as on the improvement of the airport services thanks to investments on car parking. Other investments by the airport concerned the development of the commercial activities: The airport decided to diversify its commercial offer in the airport area by building hotels and offices.*

## III. FUTURE STRATEGIC OPTIONS

### *A. The FAST typology*

The current situation of an airport in terms of passenger numbers, or traffic flows, is not necessarily a good indicator of what the airport could become in 10 or 20 years. Some airports have grown tremendously in the past 10 years, others have not. Analyzing the future evolutions of airport strategies therefore requires to confront the information on the airport size with other elements.

What can explain that a given airport will develop, while another will not?

In order to grow an airport should have spare capacity, to accommodate more flights and/or more passengers, but it would be no avail if there is no demand. We are looking at airports from the point of view of traffic evolution. To be able to grow, an airport needs to have “good characteristics” in terms of supply (mainly capacity) AND demand.

Indicators of the airport potential for growth in capacity relate to the current runways and terminal capacity and to their possibility of extension.

Indicators of the potential for growth of the airport in terms of demand are based on passengers numbers on incoming and outgoing segments of the market. Some airports have mostly incoming passengers, leisure or business, because of some attractiveness of the area. Some airports have mostly segment of outgoing passengers, and this has to do with different factors, linked to population wealth in the region, (and depending on adequate supply of flights at the airport). Some airports are hubs, and have an important proportion of connecting passengers, for whom the region around the airport will be unimportant. Last, cargo demand will have requirements altogether different. Overall, indicators of the potential for growth in demand therefore relate mainly to intrinsic characteristics of the airport region.

All these indicators of the airport potential for growth in capacity and demand can then be used to develop a typology of airports that will be used as baseline in the FAST project.

The FAST typology of airports is therefore based on three measuring scales:

<sup>1</sup> The FAST methodology has also been applied to Bucharest airport in the context of the FAST project (see [24])

- quantitatively the airport size as number of passengers and
- qualitatively the levels of **potential for growth in capacity** and **in demand**. Both levels of potential for growth are decomposed in low, medium and high potential levels.

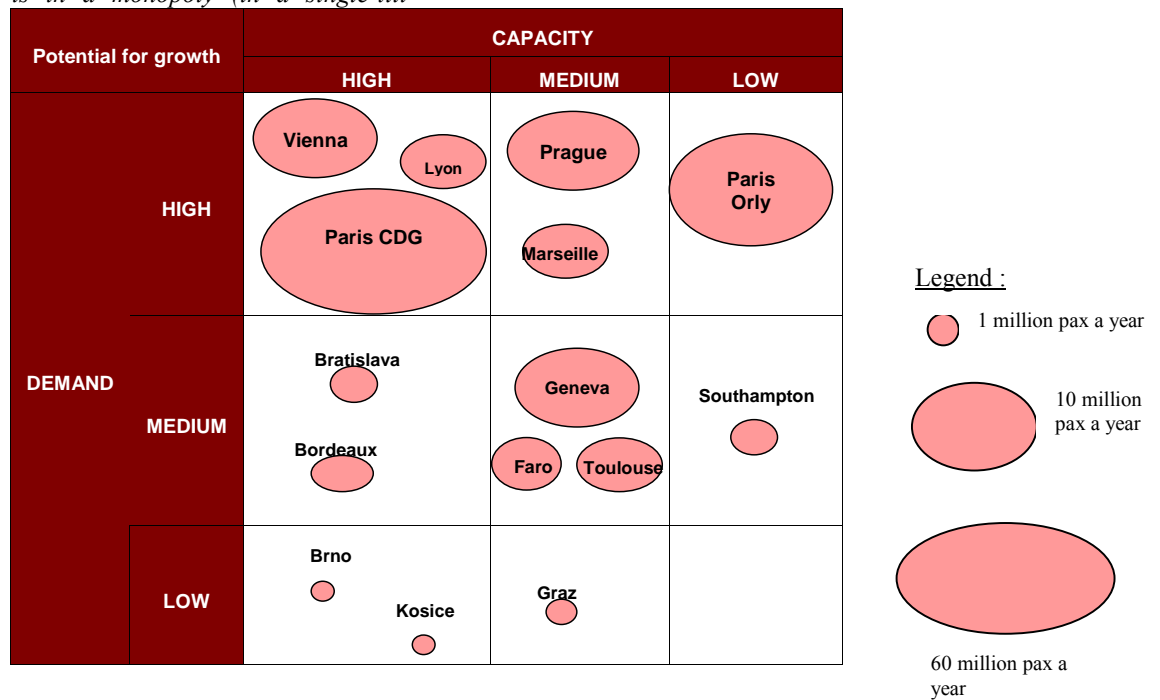
Table III-1 illustrates this three dimensional typology with examples of airports.

**Application to Bordeaux airport:**

*Bordeaux airport is a regional small airport with available capacity. The airport is in a monopoly (in a single-till*

*context) situation but may be in strong competition with the high-speed train in the future with a reduction of one hour in the journey time between Bordeaux and Paris (two hours journey time in 2016 instead of three hours). Bordeaux airport has a high potential for growth in capacity (with possibilities of building a new runway and a new terminal) and a medium potential for growth in demand (by taking in consideration the population around the airport which is 1.5 millions within 1 hour's drive.*

*The region also has attractiveness for tourism and business purposes).*



**Table III-1: Illustration of the three dimensional typology**

***B. Strategies of specialization and diversification***

The currently used distinction between aeronautical and non-aeronautical activities of airports corresponds to a distinction between core business and non core business activities of the airport respectively. This essential distinction in the analysis of strategies leads to the identification of two categories of strategies:

- Strategies of specialization related to the core business activity;
- Strategies of diversification non related to the core business activity.

Strategies of specialization are generally used to develop the aeronautical activity of the airport thanks to capacity (terminal and/or runway) increase, commercial policies to airlines and promotion of the airport and its region. The development of low-cost terminal is a new trend in strategies of specialization. Low-cost terminals are particularly relevant in case of airports with available runway capacity, trying to revitalize their traffic

volume in case of strong competition with other airports or other transport modes (high-speed rail).

Strategies of diversification aiming at developing the non-aeronautical activities are more and more considered as important strategic axes by airports to stabilize and balance the airport's economy. The most common strategy of diversification is the development of commercial activities made by increasing the commercial areas for shops, restaurants, car rentals, etc., at the airport. An emerging strategy of diversification concerns the development of services to the airport passenger independently of the airlines (lounges, wireless internet (free or not), trip planner websites...). The objective is to secure the loyalty of passengers toward airports. Other strategies of diversification of midsize or large airports consist in selling the airport know how to other airports by developing consultancy or management services. Last, airports can also invest in other airports or other economic sectors. These last strategies of

diversification however require important financial resources and are therefore generally developed only by large airports.

*C. Method of identification of strategic options*

Besides the size of the airport, the degree of development of these strategies will be strongly linked to the level of competition with other airports, the level of congestion of the airport but also to the airport ownership and management and the perimeter of regulation of the airport.

The developed method of identification of the possible strategies of an airport therefore contains three steps:

1. **Identifying all the possible strategies of specialisation** for this type of airport

Potential for growth		CAPACITY		
		HIGH	MEDIUM	LOW
DEMAND	HIGH	<ul style="list-style-type: none"> <li>- Accessibility improvement</li> <li>- Commercial policies to airlines (<i>reduced fees on hub traffic</i>)</li> <li>- Investments in communication and marketing</li> <li>- Investment in passenger and/or freight terminal capacity</li> <li>- Investment in a low-cost terminal</li> <li>- Investment in runway capacity</li> <li>- Investment in infrastructure for efficiency</li> <li>- Development of intermodality</li> </ul>	<ul style="list-style-type: none"> <li>- Accessibility improvement</li> <li>- Commercial policies to airlines (<i>incentive fees to use large aircraft</i>)</li> <li>- Investments in communication and marketing</li> <li>- Investment in passenger and/or freight terminal capacity</li> <li>- Investment in a low-cost terminal</li> </ul>	<ul style="list-style-type: none"> <li>- Accessibility improvement</li> <li>- Commercial policies to airlines (<i>incentive fees to use large aircraft</i>)</li> </ul>
	MEDIUM	<ul style="list-style-type: none"> <li>- Accessibility improvement</li> <li>- Commercial policies to airlines (<i>reduced fees on hub traffic</i>)</li> <li>- Investments in communication and marketing</li> <li>- Investment in passenger and/or freight terminal capacity</li> <li>- Investment in a low-cost terminal</li> <li>- Investment in runway capacity</li> </ul>	<ul style="list-style-type: none"> <li>- Accessibility improvement</li> <li>- Commercial policies to airlines (<i>reduced fees on traffic volume</i>)</li> <li>- Investments in communication and marketing</li> <li>- Investment in passenger and/or freight terminal capacity</li> <li>- Investment in a low-cost terminal</li> </ul>	
	LOW	<ul style="list-style-type: none"> <li>- Accessibility improvement</li> <li>- Commercial policies to airlines (<i>reduced fees on traffic volume</i>)</li> <li>- Investments in communication and marketing</li> </ul>		

Table III-2: Strategies of specialization by airport type

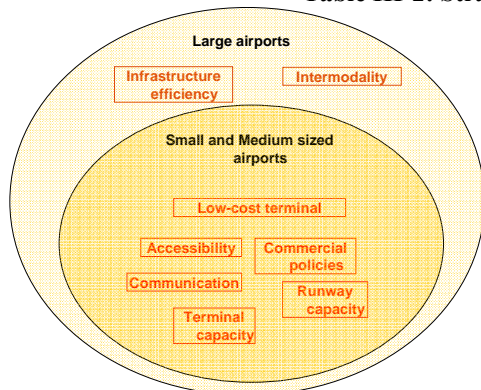


Figure III-1: Strategies of specialisation by airport size

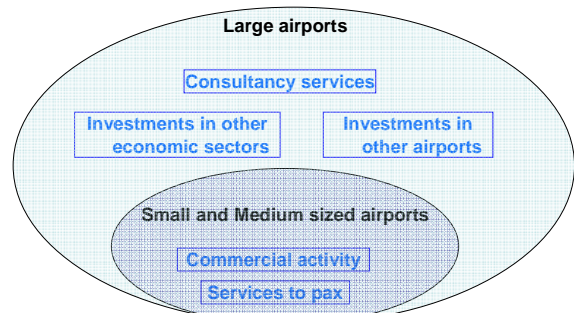


Figure III-2: Strategies of diversification by airport size

2. **Identifying all the possible strategies of diversification** for this type of airport

Application to Bordeaux airport:

- o Table III-2 highlights with a red circle all the possible strategies of specialization for Bordeaux airport
- o Figure III-1 highlights the most relevant strategies of specialization for a medium-sized airport (between 5 and 10 million pax a year)

Application to Bordeaux airport:

Figure III-2 highlights the most likely strategies of diversification for a medium-sized airport (NB the strategies of diversification exist whatever the potential for growth in capacity and demand but will be more or less developed according to the situation of the airport)

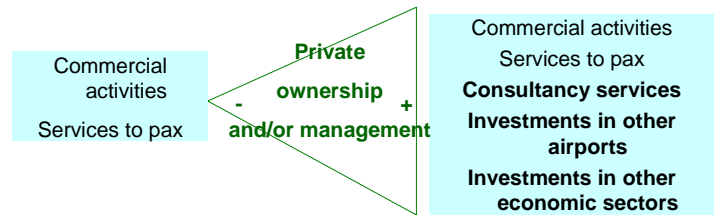


Figure III-5: Diversification strategies relevancy according to the airport status

3. **Refining** all these strategic options (specialisation and diversification strategies) **with other factors**: congestion level, competition level, regulation type, airport status

**Application to Bordeaux airport:**

The information from Figure III-3 and Figure III-4 shows that Bordeaux airport, which will be in strong competition with the high-speed rail in the future and which has available capacity, will mainly have incentives to develop the following strategies of specialisation:

- Improvement of the airport accessibility
- Investment in a low cost terminal
- Development of commercial policies to airlines
- Investment in communication and marketing

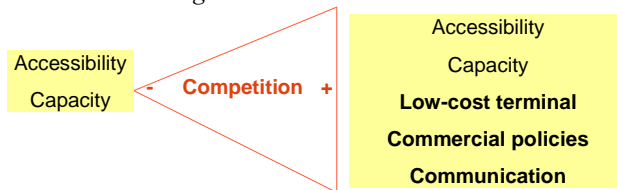


Figure III-3: Specialisation strategies relevancy according to the level of competition

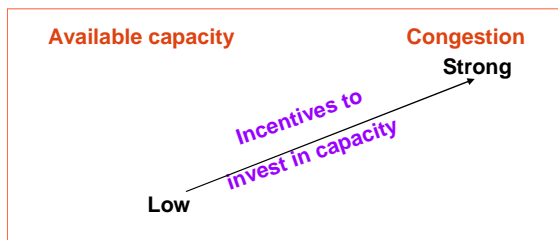


Figure III-4: Strategy of investment in capacity relevancy according to the level of congestion

The information summarized in Figure III-5 helps to identify that Bordeaux airport, which is publicly owned and managed, will mainly have incentives to develop the following strategies of diversification:

- Development of commercial activities
- Development of services to passengers

4. **Result**: Identification of the airport objectives and strategic options in a 5-8 year time horizon.

**Application to Bordeaux airport:**

This analysis leads us to conclude that the airport, in its effort to anticipate the future drop in demand due to the strong incoming competition with the high-speed train, has two main objectives:

- Securing the loyalty of passengers and airlines
- Attracting additional low cost airlines on the platform

To reach such objectives, we have identified the following future strategic options for Bordeaux airport in a 5-8 year time horizon:

**Future strategies of specialisation of Bordeaux airport:**  
 Airport accessibility improvement  
 Development of commercial policies to airlines  
 Investments in communication and marketing  
 Investment in a low cost terminal

**Future strategies of diversification of Bordeaux airport:**  
 Development of commercial activities  
 Development of services to passengers

IV. REFERENCE AIRPORT WITH SIMILAR PAST STRATEGIES

Once having identified the future strategic options of the analyzed airport, the next step of the analysis consists in identifying a reference airport which already developed a similar strategy in the past.

**Application to Bordeaux airport:**

The traffic level at Marseille airport grew by 27% between 1997 and 2007. Between 2001 and 2003 the airport faced a traffic decrease due to the strong competition with the Marseille-Paris high-speed train and the Airlib Express bankruptcy (which mainly operated flights to Paris). The

arrival of Easyjet at the airport helped limit the traffic decrease in 2003.

Past strategies:

- low cost terminal building: MP<sup>2</sup> terminal in strong collaboration with Easyjet first, and then Ryanair, helped the airport in its low cost terminal conception;
- communication on the MP<sup>2</sup> strategy success by highlighting the non cannibalisation of the traffic by low cost carriers to reassure Full Service Carriers;
- commercial policies to new air carriers: 90% discount on landing, lighting and parking charges during the first year, 50% discount on the second year (Source Albatross Airports database);
- promotional campaigns in neighbouring cities: Montpellier, Avignon and Toulon, so as to increase its catchment area.
- Investment in runway capacity
- Development of the commercial activities: between 2006 and 2007, the airport increased its non-aeronautical revenues by 19.3% mainly due to the spending of passengers using MP<sup>2</sup>

The current situation of Bordeaux airport presents similarities with the past situation of Marseille airport. In fact being aware of the future strong competition with the high-speed train and encouraged by its attractiveness for low cost carriers, Bordeaux airport should develop a future strategy aimed at increasing the low cost market share at the airport while securing the loyalty of full-service carriers. This objective was also the same for Marseille airport.

The same strategic tools as used by Marseille airport could be used by Bordeaux airport to reach similar objectives as Marseille airports. One important strategic option is the building of a low cost terminal that should be opened in 2009 at Bordeaux airport and that already opened in 2006 at Marseille airport.

#### V. PAST ROUTE NETWORK EVOLUTION OF THE REFERENCE AIRPORT

The past evolution of the reference route network is then analyzed by identifying: abandoned routes, new routes, routes originally non-scheduled which became partly or fully scheduled, routes with a high level of development.

##### Application to Bordeaux airport:

Marseille airport route network evolution, between 2003 and 2007:

- Only 6 abandoned routes to southern Europe, North western Africa and West Africa
- Main changes in the route network concern **Northern Europe:**

- o Germany: 6 new routes, 3 existing routes in 2003 with a strong traffic increase

- o United-Kingdom: 4 new routes, 1 existing route in 2003 with a strong traffic increase

- o Sweden: 2 new routes, 1 existing route in 2003 with a strong traffic increase

- Other changes in the route network concern **Southern Europe**, especially with the 3 new routes to Croatia (not served in 2003)
- Only two non-scheduled routes in 2003 become mainly scheduled in 200.

#### VI. FUTURE ROUTE NETWORK EVOLUTION OF THE ANALYZED AIRPORT

By making comparisons with the past route network evolution of the reference airport it is possible to make assumptions for the new potential routes, for non-scheduled routes which could become partly or fully scheduled as well as for routes which could have a high level of development in the future.

##### Application to Bordeaux airport:

- Several new routes could potentially appear in the future to **Germany, Sweden, Croatia and Italy**
- At least one additional route could potentially be created in the future to **Belgium, Norway, Netherlands and/or Spain**
- A potential transfer from non-scheduled to scheduled traffic on the **Agadir** destination could occur
- The comparison with Marseille does not allow us to make assumptions on the potential traffic evolution on the current routes with a low traffic level

#### VII. CONCLUSION

Airports become essential actors in the air transport market with a growing independence in strategic decision-making. Thus, analyzing their strategies and impact on the evolution of the airport route network is significant and could give important clues as to the development of the air transport market.

The FAST project provides an original perspective on the evolution of the air transport market by focusing on airports, and taking into account their growing role in the strategic decisions affecting the air transport industry. It develops a methodology of identification of the future airport strategies that can be applied to any European airport, and analyzes the potential impacts of these strategies on airport route networks.

While several traffic forecast methodologies exist, few deal with the evolution of route networks, which is at the center of FAST. In this respect FAST is complementary to forecasts dealing with traffic increase on existing routes (STATFOR/ Challenges of Growth 2008 study [13]), or even to studies dealing with traffic increases on existing origin-destination (Nigel Dennis [10]), by identifying new destinations which could potentially develop in the future.

While only applied to a few airports in the study, the conceptual framework developed by FAST could be applied and extended to:

- all airport types including airports in the new European member states
- airports with overlapping catchment areas as well as to the competing hub – airports,
- complementary airports in case of **multi-airport management** as well as in case of **complementarity between hub and secondary airports**

The usefulness of the FAST approach was confirmed by the positive feedbacks received from air transport market stakeholders, as in particular airport managers or aircraft manufacturers, during the Eurocontrol INO workshop in December 2008.

#### ACKNOWLEDGMENT

*Authors thanks Marc Houalla (Former Marseille airport director), Pierre Germain (Geneva airport director), Bernard*

*Chaffange (Former Lyon airport director and current Marseille airport director), Loïc Chovelon (Head of Promotion & Communication, Marseille Provence Airport), Pierre Bogart (Ryanair Base Captain, Marseille airport), Peter Hloušek (Praha – Ruzyně Operations Director), Jaroslav Mach (Bratislava Airport Director for Strategy), Tomáš Plaček (Brno – Tuřany Airport CEO), Gabriel Maličský (Captain SkyEurope Airlines), Marta Horvathová (Košice Airport CEO), Roman Biro (LPS SR*

*š.p. – Slovak Air Navigation Services Director), for the precious help they brought to the project by accepting answering our questions.*

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