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FAST: Future Airport Strategies

Although airline 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. The FAST project methodology analyzes 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 future strategies on traffic distribution at airports.

by: Isabelle Laplace et al

I. INTRODUCTION

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

Both phenomena 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 airline 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 airport strategies in the last decade? Will new trends in airport strategies appear? What type of airport will be concerned by what strategies? What could be the impact of airport strategy implementation on traffic distribution at airports?

The FAST project, supported by Eurocontrol over a one-year period, provides answers to these questions by analyzing the potential evolution of airport strategies. 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 position in a typology of airports that we designed.
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.

The following sections provide details on the FAST methodology and illustrate this methodology by Application to Bordeaux airport in France . This study was performed between March 2008 and March 2009. Since then, strategies of Bordeaux airport evolved (we will come back to that later in the article) but we chose to keep the analysis we made to show how the results we obtained match the new strategies chosen by airports.

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 9/11 crisis) the airport decided to develop an active strategy from 2004. The strategy guaranteeing graduated discounts on passenger fees during a three-year period proved successful since the airport traffic grew by 18% between 2004 and 2007. This large growth was mainly due to the increase in low-cost traffic, which tripled in three years, representing 11% of the total traffic in 2007 (source www.usinenouvelle.com).

III. FUTURE STRATEGIC OPTIONS

A. FAST typology of airports

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. Ana-

lyzing the future evolutions of airport strategies therefore requires to confront the information on the airport size with other elements.

What can explain an airport's development potential, and what cannot?

Indicators of the airport's capacity growth potential relate to the current runways and terminal capacity and to their possibility of expansion.

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

All indicators of the airport's growth potential 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:

- ✦ the airport size as number of passengers
- ✦ the levels of growth potential in capacity and in demand. Both levels of growth potential 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 is a small regional 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). Bordeaux has a high growth potential in capacity (with possibilities of building a new runway and a new terminal) and a medium growth potential in demand (by taking in consideration the population around the airport which is 1.5 million within a 1 hour drive).

The region also has attractiveness for tourism and business.

B. Strategies of specialization and diversification

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

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

Strategies of specialization are generally used to develop the aeronautical activity of the airport thanks to capacity increase (terminal and/or runway), commercial policies to airlines and promotion of the airport and its region. The development of low-cost terminals is a new trend in strategies of specialization. Low-cost terminals are particularly relevant in cases 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 to develop the non-aeronautical activities are considered more and more as important strategic axes by airports to stabilize and balance an airport's economy. The most common strategy of diversification is the development of commercial activities 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 airport passengers, independent from the airlines (lounges, wireless internet (free or not), trip planner websites...). The objective is to secure the loyalty of passengers towards airports. Other strategies of diversification of mid-sized or large airports consist in selling the airport know-how to other airports by developing consultancy or management services. Airports can also invest in other airports or other economic sectors. These last strategies of diversification, however, require financial resources and are therefore generally developed only by large airports.

Potential for growth		CAPACITY		
		HIGH	MEDIUM	LOW
DEMAND	HIGH	Vienna, Lvon, Paris CDG	Prague, Marseille	Paris Orly
	MEDIUM	Bratislava, Bordeaux	Geneva, Faro, Toulouse	Southampton
	LOW	Brno, Kosice	Graz	

Table III 1: Illustration of the three dimensional typology

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.

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

1. Identifying all the possible strategies of specialization for this type of airport
2. Identifying all the possible strategies of diversification for this type of airport
3. Refining all these strategic options (specialization and diversification strategies) with other factors: congestion level, competition level, regulation type, airport status.
4. Result: Identification of the airport objectives and strategic options in a 5-8 year time horizon.

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

Table III 2: Strategies of specialization by airport type

Application to Bordeaux airport:

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

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 in a 5-8 year time horizon:

Future strategies of specialization 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

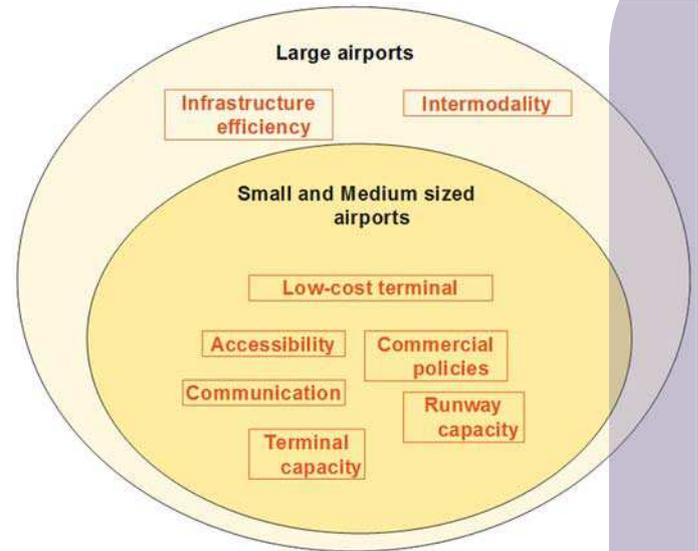


Figure III 1: Strategies of specialization by airport size



Figure III 2: Strategies of diversification by airport size



*Aéroport de Bordeaux-Mérignac
Photos courtesy of APPA*

One would think “infrastructure efficiency” would also be important to small airport, because of the small yields

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 of identifying a reference airport that has 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 strong competition with the Marseille-Paris high-speed train and the Airlib Express bankruptcy (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: MP² terminal in strong collaboration with easyJet and Ryanair helped the airport in its low-cost terminal concept;
- ✦ communication on the MP² strategy success by highlighting the non-cannibalization of the traffic by low-cost carriers to reassure Full Service Carriers;
- ✦ commercial policies to new carriers: 90% discount on landing, lighting and parking charges during the first year, 50% discount in the second year (Source: Albatross Airports database);
- ✦ promotional campaigns in neighboring 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 passenger spending using MP²
- ✦ The current situation of Bordeaux presents similarities with the past of Marseille. Being aware of the future, strong competition with the high-speed train and encouraged by its attractiveness for low-cost carriers, Bordeaux 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.

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.

V. 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 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:

Marseille airport route network evolution, between 2003 and 2007 was the following:

- ✦ Only 6 abandoned routes to southern Europe, North western Africa and West Africa
- ✦ Main changes in the route network concern Northern Europe:
 - ✦ Germany: 6 new, 3 existing routes in 2003 with a strong traffic increase;
 - ✦ United-Kingdom: 4 new, 1 existing route in 2003 with a strong traffic increase;
 - ✦ Sweden: 2 new, 1 existing route in 2003 with a strong traffic increase.
- ✦ Other changes in the 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 2007.

Potential evolution at Bordeaux:

- ✦ 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, the 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

VI. 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 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 [11]), or even to studies dealing with traffic increases on existing origin-destination (Nigel Dennis [9]), by identifying new destinations which could 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 hubs;
- ✦ complementary airports in case of multi-airport management as well as in case of complementarity between hub and secondary airports.

The relevance of the results of the FAST study was confirmed by the Bordeaux airport strategy. In June 2009, three months after the end of the FAST project, Bordeaux Mérignac airport decided to build a low-cost terminal, which will be opened in May 2010. This strategy is fully in line with the FAST results for Bordeaux airport: attracting additional low-cost and securing the loyalty of passengers in contemplation of the future strong competition with the high-speed train in 2016.



*Aéroport de Bordeaux-Mérignac
Photo courtesy of APPA*

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References

- [1] Al Ries & Jack Trout (1986) "Marketing Warfare", McGraw-Hill 1986; ISBN 0-07-052730-X
- [2] Barrett Sean D. (2004), "How do the demands for airport services differ between full-service carriers and low-cost carriers?", Department of Economics, Trinity College, Dublin, Ireland, Journal of Air Transport Management 10 page 33-39.
- [3] CAA (2006) "No Frills Carriers: Revolution or evolution? A study by the Civil Aviation Authority", CAP 770, November 2006
- [4] CAA (2007) "CAA Passenger survey report 2006", Economic regulation Group, Survey of passengers at Belfast City, Belfast International, Birmingham, Gatwick, Heathrow, London City, Londonderry, Luton, Manchester, Nottingham east Midlands & Stansted
- [5] CAA (2008) « Recent trends in growth of UK air passenger demand », January 2008
- [6] CCI Marseille Provence (2008) "Profils des voyageurs et nouveautés S08", Chambre de Commerce et d'Industrie Marseille Provence, www.marseille-aeroport.fr
- [7] Conseil National des Transports (2007) "Dossier n°8: les stratégies aéroportuares en Europe », Observatoire National des Transports, March 2007
- [8] De Neufville R "Management of multi-airport systems: a development strategy", Working paper, technology and Policy program, Massachusetts Institute of Technology
- [9] Dennis Nigel (2002) "Long-term route traffic forecasts and flight schedule pattern for a medium-sized European airport", Transport Studies Group, University of Westminster, Journal of Air Transport Management, Vol. 8, pp. 313–324
- [10] DGAC (2007) "L'utilisation du transport aérien. Enquête sur le taux de pénétration du transport aérien en France », Direction des Affaires Stratégiques et Techniques, July 2007
- [11] EUROCONTROL (2008) "Challenges of Growth 2008, Summary Report", EUROCONTROL, STAFOR, November 2008
- [12] European Commission (2002) "Study on competition between airports and the application of State Aid Rules", Final report Volumes 1 and 2, Directorate General Energy and Transport, Directorate F – Air transport
- [13] European Commission (2007) "Directive of the European Parliament and of the Council on airport charges", COM(2006) 820 final
- [14] Gillen D., Niemeier H-S (2006) "Airport economics, Policy and Management: The European Union", Rafael del Pino Foundation, Comparative Political Economy and Infrastructure Performance: The case of airports, Madrid, September 18th and 19th 2006
- [15] Graham A. (2004) "Airport strategies to gain competitive advantage", University of Westminster, GARS: Slots, Airport Competition and Benchmarking of Airports, Bremen., 19-20 November 2004
- [16] IATA (2006) "Economic regulation"
- [17] M3 Systems, ENAC, University of Zilina (2008) "WP1: Actual air transport situation and market environment", FAST project, EUROCONTROL CARE INO project, June 2008
- [18] M3 Systems, ENAC, University of Zilina (2008) "WP2: Airport strategic options and future tendencies", FAST project, EUROCONTROL CARE INO project, December 2008
- [19] M3 Systems, ENAC, University of Zilina (2008) "WP3: Impacts of airport strategies on traffic distribution", FAST project, EUROCONTROL CARE INO project, March 2009
- [20] Starkie D. and Yarrow G. (2002) "The single-till approach to the price regulation of airports", Regulatory Policy Institute, Draft paper
- [21] Tretheway M. (2001) "Airport ownership, management and price regulation", InterVISTAS Consulting Inc. Research conducted for the Canada Transportation Act Review, March 2001
- [22] Walker W., Marchau V., (2007), LOW-COST AIRPORTS FOR LOW-COST AIRLINES: FLEXIBLE DESIGN TO MANAGE THE RISKS, Paper Prepared for Special Issue of Journal of Transportation Planning and Technology, editors, Richard de Neufville, Massachusetts Institute of Technology, Cambridge, MA 02138 (U.S.A.).