FINAL REPORT

The Strategic Spatial Planning of an ‘Airport City’; Case of Amsterdam Schiphol International Airport

CP706 – THE STRATEGIC SPATIAL PLANNING: PRINCIPLES, TECHNIQUES AND PRACTICES

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The strategic spatial planning of an ‘Airport City’

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I. Introduction

Most of the world’s largest airports are situated in densely populated metropolitan areas. Both the metropolitan agglomerations and the international airports, are characterized by excessive growth. International trends and structural changes in the aviation industry will need to be accommodated locally, keeping in mind that the (future) accommodation of civil aviation is strongly linked to the acceptability of the developments at regional and local level. The debates on noise, safety and health tend to evolve into debates on “acceptable” limits. Planning policies often thus actually deal with implementation of the airport and airport-effects, instead of addressing the strategic planning issues.

Strategic planning requires consideration of the airport regulatory environment. While planning for the future, trying to match capacity with the demand for airline service, and meeting the needs of airport tenants and users and the public at large, airport operators must ensure that they satisfy the regulatory requirements imposed by federal, state, and local agencies. In addition, airports are required to comply with various state and local regulations that protect airports and the surrounding communities from incompatible development, define airport design and construction standards, and provide environmental guidelines. In respect of these circumstances, planning an airport has many different stakeholders in the strategic planning process. ACRP Report 20, which is sponsored by Federal Aviation Administration, prepared detailed report for strategic planning in the airport industry and gave us some clues about stakeholders. They divided stakeholders into two as internal and external;

- Internal;
  - Board of directors/policy makers
  - Senior management team
  - Department leaders
  - Airport staff

Figure 1: The airport strategic planning process framework (ACRP Report 20)
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Externals;
• Airlines
• Other airport tenants
• Passengers
• Vendors
• Federal/state/regional/local government representatives
• Federal aviation administration (FAA) & U.S. department of transportation (U.S. DOT)
• Department of homeland security (DHS)
• State and local regulatory agencies
• Non-governmental/public interest organizations
• Local business/community leaders (ACRP Report 20)

The development of airports beyond a key piece of transport infrastructure is occurring worldwide. Airports are transforming themselves into ‘Airport Cities’ and in the process they are having a significant impact on local and regional economies. Airports are seeking to maximize non-aeronautical income from a range of activities including development industry, warehousing, hospitality, office buildings, accommodation and residential. This report highlights airports around the world that are becoming ‘Airport Cities’ and aerotropolises and reflects what this means for Amsterdam Schiphol International Airport in terms of strategic spatial planning.
II. AIRPORT CITY AS A CONCEPT

II.1. Definition and the basic strategies

‘Airports like cities are never static. They are constantly evolving in form and function (Kasarda 2008, 1).’ says Professor John D. Kasarda who is known as the main developer of Airport City/Aerotropolis concept. As you can understand from the name, this concept actually creates a whole city from the beginning. The main goal of such development starts to differ from any other airport construction.

Airport city is a term for an “inside the fence” airport area which includes the airport (terminals, apron and runways) and on-airport businesses such as air cargo, logistics, offices, retail, and hotels. This kind of a structure starts to mean something in one point; better economy, timing, and connectivity. To support such development and economic growth, this model includes some strategies and goals for the environment of the Airport City. Professor John D. Kasarda suggests an ‘aerotropolis’ concept also, which is defined as a new urban form placing airports in the center with cities growing around them, connecting workers, suppliers, executives, and goods to the global marketplace. An aerotropolis is an urban sub region whose infrastructure, land-use, and economy are centered on an airport. It consists of the airport’s aeronautical, logistics and commercial infrastructure anchoring an airport city at its core, and outlying corridors and clusters of
Aviation-oriented businesses and residential development that feed off of each other and their proximity to the airport.

Airport City concept is not a new concept for the world. It was firstly generated by New York commercial artist Nicholas DeSantis in the 1930s, whose drawing of a skyscraper rooftop airport in the city was presented in the November 1939 issue of Popular Science. In 1970s, the conceptual origins of the contemporary airport city phenomenon may be traced to H. McKinley Conway’s 1977 book, ‘The Airport City and the Future Intermodal Transportation System’. Conway, the founder of Site Selection magazine, described how aviation linked commercial development would evolve at and around airports, including logistics facilities, office parks, retail complexes, and residential airparks. After that, coming nowadays, academic and air commerce expert John D. Kasarda has revived the term based on his prior research on airport-driven economic development since 1990s. He is the best known pioneer in this branch.

Academics and researchers are trying to improve this concept to get better influence from the reality. The chapter “The Way Forward” from Global Airport Cities describes the basic airport city strategies which have evolved with different spatial forms predicted on available land and ground transportation infrastructure:

1. Airports need to create new non-aeronautical revenue sources, both to compete and to better serve their traditional aviation functions.
2. The commercial sector's pursuit of affordable, accessible land.
3. Increased gateway passengers and cargo traffic generated by airports.
4. Airports serving as a catalyst and magnet for landside business development (Kasarda 2010, 9-10).

II.2. ‘Airport City’ concept as an urban planning tool

"The true challenge is planning to get the Aerotropolis right. If there is not appropriate planning, airport-area development will be spontaneous, haphazard, economically inefficient, and ultimately unsustainable. The aerotropolis model brings together airport planning, urban and regional planning, and business-site planning, to create a new urban form that is highly competitive, attractive, and sustainable (Kasarda, http://www.aerotropolis.com)."

As the professor says, the main challenge is to plan this mega development in true way. Otherwise it would be hard to get it under control. He also states that there are different components of planning which are used in airport city model. Actually it brings many different branches together which is very beneficial to reach some good level in the planning. In addition to this, airport planning includes various types of studies including facilities planning, financial planning, economic planning, environmental planning,
organizational planning and strategic planning stages. These planning issues are important for such concepts to be successfully implemented.

The airport city has come of age in recent years because of changes in the global economy. In strategic terms, planners from different countries with different goals use this concept in many ways. For example, in developing countries, the airport city concept is being used as an urban planning tool to accommodate strong economic and population growth. On the other hand, in the United States, the airport city concept is viewed as a means of increasing non-airline revenues amid the uncertainty of federal funding, as well as promoting economic development and job creation.

III. STRATEGIC LAND USE PLANNING AND AIRPORT DEVELOPMENT IN THE EU

Strategic planning differs from long-term planning. In long-term planning, it is generally assumed that the environment in which the organization operates will remain unchanged over time or that trends and patterns from the past will continue in the future. Goals and objectives defined as part of the long-term planning process are based on an extrapolation of current business trends. Strategic planning, on the other hand, enables an organization to react to a dynamic and continually changing environment. Strategic planning is about proactively thinking about and mapping the future and developing a creative plan that will enable the organization to reach its objectives in a non-static environment (ACRP Report 20). The debate on the future development of airports in metropolitan regions is an illustration of the growing dualism between administrative space and economic space within these regions, as Friedmann (1995) noticed; A growing social schizophrenia resulting from the double covering of, on the one hand, regional societies and local institutions, and, on the other hand, the rules and operations of the economic system at the international level.

III.1. Airport cities as opportunities for airport sites

The European air transport industry has seen the demand for air travel increase three-fold between 1980 and 2000, and is set to double by 2020 (ACI, ATAG 2006). Air traffic growth works parallel with the worldwide economic growth. Depending on it, it is crucial to improve air traffic in airports to somehow compete with the world economy. Here, I mean is that, the airport which serves for a certain city must work with the city components depending on the city’s strategic plan. If the air traffic improves, it should have some positive effects for the city in terms of globalization and economic growth. In addition, not only the passenger transport, high value/low bulk cargo also having a big role in air traffic growth.
In globalized world, airports become transit-points such as having multiple function centers and mixed uses. While preparing strategic spatial plans, planners should be aware of the potential of airport sites for the cities. It is sometimes hard to assign mixed uses for such places, but such as ‘Airport City’ concept or Aerotropolis model, these uses are a must for sustaining the whole system. To illustrate some of the above, some tangible examples on the stages of airport development and the type of firms you can expect to locate at the airport are summarized in a scheme that Fraport uses for its development (see figure 3).

As we are talking about the airports and their environment, we should somehow clarify the advantages and disadvantages of such developments. Airport sites are huge places to talk with. “... the issue of territorial capacity turns into a planning issue, the idea of planning being the challenge on finding ways in which citizens, through acting together, can manage their collective concerns with respect to the sharing of space and time.”
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(Healey, 1992). A British urban planner Patsy Healey also indicates the importance of territorial capacity. She tries to say that the airports territorial capacity moves from being a supply factor, and concern of the airport authority, to a concern of many.

III.2. Considering airport with the city

Airports are no longer the mere providers of infrastructure for airlines. Not only has the character of airports changed, also the business drivers for optimizing the location value of the airport site have changed. Developing airports as economic centers places them equally at the heart of regional and national economic and spatial planning policies. Airports and airport development are one of the major dilemmas, one of the issues on which a conflict of interests emerges when it comes down to the formulation of a longer term spatial planning policy.

The term airport planning covers in general both the planning of the technical facility as well as broader master planning. In order to see clearer the term airport planning will be used for the planning of a technical facility (with economic spin-off effects) operated by an airport authority. Spatial planning concerns policymaking whereby across the European Union the most binding plans are produced by local governments. To divide between the different forms of planning, we use the following definitions (Ineco, 2006):

- **Airport master planning**: The planning of the airport infrastructure and lay-out (including the real estate component), as done by the airport authority
- **Spatial planning**: In order to operate a commercial airport or to develop other uses at existing airports inevitable planning permissions and operating licenses are required. We enter here the realm of spatial planning; Plans that are prepared by the responsible public authority as part of their spatial, economic and social policies. These plans can have a legally binding status.

In planning policies of most European countries airports are not only considered an infrastructure facility, but also as investment to attain social or economic goals. Infrastructure facilities are seen as instruments for regional planning in order to attain targets that surpass a reasoning based solely upon efficiency for the transport sector. Infrastructure has, in this vision, a 'structuring' effect on spatial and economic developments. For example, the main airport of New York, JFK International, is considered foremost as an infrastructure facility, important for the economy of Manhattan. However, it is not considered to be the 'economic engine' for the regional economy, nor as a spatial structuring economic complex.
IV. CASE STUDY: SCHIPHOL INTERNATIONAL AIRPORT

IV.1. Introducing the airport

Schiphol is an important European airport, ranking as Europe's 4th busiest and the world's 14th busiest by total passenger traffic in 2013 (16th in 2012). It also ranks as the world's 6th busiest by international passenger traffic and the world's 16th busiest for cargo tonnage. 52.569 million passengers passed through the airport in 2013, a 3% increase compared with 2012 (Transport and Traffic statistics, 2014). Schiphol's main competitors in terms of passenger traffic and cargo throughput are London Heathrow Airport, Frankfurt Airport, Paris–Charles de Gaulle Airport and Madrid–Barajas Airport. Amsterdam Airport Schiphol is the main international airport of the Netherlands, located 20 minutes, 9.1 km southwest of Amsterdam, in the municipality of Haarlemmermeer. It is the fourth busiest airport in Europe in terms of passengers (Figure 4).

As one of Europe's three busiest airports, Amsterdam Schiphol Airport is served by all major international airlines and is the base for national carrier KLM. Facilities and services at Amsterdam Schiphol International Airport (AMS) are considered to be amongst the finest in Europe, with a wide choice of restaurants, bars and shops, plus banks, ATMs and excellent amenities for business travelers, those with special needs and young families. AMS Airport's 'See Buy Fly' shopping center stocks a wide range of top brands, with shoppers able to pick up their tax-free purchases on return to AMS. Amsterdam Airport Schiphol has frequently been nominated "the best airport in the world". A well-planned development greatly contributed to this. NACO has continuously been working on the development of this airport since 1960.
Airport Schiphol is served very well in terms of transportation infrastructure. The trains depart from platforms located underneath the Schiphol Plaza and can be reached by either escalators or lifts. As well as a fast and efficient train schedule into Amsterdam Central Station, there are also direct trains from the airport to other parts of the country. The International trains, including the Thalys, south to Brussels and Paris also stop at Schiphol station. The role of transportation becomes important when it comes to Airport City concept. Of course the strategic planning of the whole region has a big role in this.

IV.2. Amsterdam Strategic Plan and Schiphol Airport

City of Amsterdam Industrial Development Agency has developed a 4 years strategic plan (2013-2016) for the Greater Amsterdam district. Their mission is to provide the resources that encourage investment, innovation, growth and global competitiveness. By creating a successful business climate that improves the quality of life for the resident of the region, planners should have an idea of implementing Airport City of Schiphol Airport into the city. We can say that, Airport City by itself creates a big impact for business activities. IDA’s mission is understandable at this point for using Schiphol Airport sustainably for the city of Amsterdam.

In the report, they listed their goals as (City of Amsterdam IDA, 4 Year Strategic plan);

- To create new employment opportunities,
- To retain existing employment opportunities,
- To increase the City’s tax base,
- To diversify the City’s economic base,
- To improve the quality of life in City of Amsterdam.
In my opinion, creating new employment opportunities and retaining existing employment opportunities can be obtained by the existence of Airport City itself. With many offices, shopping centers, conference halls and cargo terminals, it would be easy to be successful in these goals. Looking from the business umbrella, other two goals are the main indicators of Airport City model. By improving timing, by decreasing the time loss, improving accessibility to the international based transportation, business starts to live a better life. We can say that all these goals are needed to be a globalized city in our time. As the globalization started and developed since the 1980s, Airport City trend was also being developed since those days. This is not a coincidence of course. Economic, technologic and liberal changes lead cities to be more global and internationally connected.

Going to further, IDA suggests to develop the Amsterdam IDA into one of the top IDA’s within New York State and to provide complete financing mechanisms, first rate development sites and buildings, and total infrastructure packages to City business. These also show that city of Amsterdam wants to be somehow globalized more and more. Having a good airport in current helps them to develop much different ideas in strategic ways.

IV.3 Goals and Strategies of the Schiphol Group

Schiphol Group is an airport company and Amsterdam Airport Schiphol is its principal airport. They mainly aim to create sustainable value for their stakeholders, with due regard for their various interests. All stakeholders’ actions reflect Schiphol groups’ key values: reliability, efficiency, hospitality, inspiration and sustainability.

Schiphol group defines an Airport City as: a dynamic metropolitan area offering travelers and airlines all the services they need, 24 hours a day. Our three complementary and mutually reinforcing business areas bring the Airport City formula into practice. Serving travelers, airlines and ground handling agents, the Aviation business area has a pivotal role at the airport. Aviation supplies and manages the infrastructure that is required to ensure pleasant, reliable and efficient arrival and departure processes for travelers, baggage and cargo. The Consumer Products & Services business area offers travelers a range of products and services that guarantee a carefree, comfortable and enjoyable travel process. The Real Estate business area develops and manages real estate at and around the airport. The airport area is an attractive environment for companies, offering a huge variety of high-quality real estate in the form of offices, industrial premises and logistics facilities.
City of Amsterdam, by having an operator for the airport environment, gains many advantages strategically. This group organizes all the strategic goals for the airport itself. Their strategy is to remain Europe’s preferred airport. Schiphol group wants to improve the strong competitive position of the Mainport Schiphol which also includes air transportation. This can be done when the group cooperated at national and regional levels. Airliner also has a big role in the whole process. They plan to provide optimal facilities for the home carrier KLM. Lastly, they want to carry the Schiphol airport into the multi-modal hub in the Netherlands which will be a driving force of the Dutch economy.

Schiphol Group has formulated four long-term themes to guide its strategy;

**Top Connectivity:** their focus is on ensuring that Amsterdam Airport Schiphol can continue to facilitate the extensive network of frequencies and destinations in future.

**Excellent Visit Value:** Schiphol Group wishes to continue offering its passengers, airlines and other users an attractive, high-quality airport environment at competitive rates. This will allow Schiphol to retain its status as Europe's Preferred Airport, while safeguarding and further improving its competitive position.

**Competitive Marketplace:** Schiphol offers an attractive working and business location. The Airport City concept includes shopping, meeting and leisure facilities.

**Sustainable performance:** Schiphol airport creates sustainable value for its customers and stakeholders. Financially sound, robust and efficient business operations will be crucial in building a future-proof company.
V. CONCLUSION

Airport city is a unique and successful concept. Airports are more than just places to get on and off planes. An airport is like a modern city. The airport city and its broader aerotropolis are still in their earliest stages of evolution. Management and planning strategies are just beginning to catch up to the reality of their largely spontaneous development. The challenge now becomes to design and administer future airport city and aerotropolis development in a manner that it brings about the greatest returns to the airport, its users, and the larger region it serves. It is a challenge of both in terms of strategic and spatial planning and design. We, as the new planners of the world, should focus more on these modern concept and ideas to make them more sustained and spatially powerful.

There are many examples throughout the world where international airports have turned an ageing economy into revitalized hi-tech economy and a growth region. Schiphol International Airport is one of them. Of course to have such revitalization, the city and also the country itself should have already existing infrastructure. Without being a globalized country, it would be hard to get globalize a city in the country. Planners have big role in this process because they are the main factors who says that it should have been an Airport City.

In conclusion, from this research, I tried to gather some advantages and risks of being an Airport City. For the positives; I can say that it is a very big attraction point for the development and business. With the Airport City concept, it wouldn’t be false to say that the globalization factor is the major reason of choosing such solutions. Thirdly, economic growth with a possibility of tourism factor is inevitable. As IDA predicts, new job and employment opportunities would be on the way after the implementation of such concept. Lastly for the positives, competitiveness would be a hard part for the city to cope with. Coming to the negatives, on the other hand, every huge constructions and developments are under risks of unsustainability. It should be taken under consideration as the first important mark. Uncontrolled growth, noise pollution, air pollution are also disadvantages of an Airport City. Lastly, as we are dealing with the planes, there is also a safety risk. Cone of flight plays a dangerous role while building the environment of an airport. The environment of the airport should be designed by considering it.
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