Developing successful landside real estate: An airport urbanism approach

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Max Hirsh

MAX HIRSH, PHD,

is a professor at the University of Hong Kong and a leading expert on airport real estate development, nonaeronautical revenue, passenger behaviour and emerging ground access patterns. He is the author of *Airport Urbanism*: an unprecedented study of airports and air travel that incorporates the perspective of passengers, airport and airline operators, urban planners, developers and travel retail professionals. Max provides thought leadership for the aviation industry through the popular blog 'Airport urbanism',[1] where he presents leading-edge strategies for tackling the key challenges that confront airports today. Passionate about airports and air travel, Max works with airport authorities, developers and urban planners around the world to help shape the future of airports and the cities that they serve.

Abstract

Landside real estate development is a crucial source of nonaeronautical income and an essential part of the airport business model. In recent decades, airports have launched hundreds of commercial real estate projects, often branded as an 'airport city' or 'aerotropolis'. Research conducted at more than 50 airports worldwide, however, indicates that many airport real estate projects do not generate a substantial return on investment, while many others struggle to move from the planning stage to implementation. This paper investigates why these projects fail to meet their full potential. Drawing on expert interviews, the paper identifies the key factors that fundamentally determine the success or failure of landside real estate projects, highlighting customer focus and collaboration with local partners as the two most important drivers of success. The paper then introduces a new, people-focused development approach called airport urbanism (AU). Focusing on the needs and desires of the people who use the airport on a regular basis — passengers, employees and local residents — AU advances growth strategies that deliver long-term benefits to both the airport and the city that it serves. The paper concludes with a practical how-to guide for implementing AU.

Keywords

airport urbanism, landside real estate, nonaeronautical income, aerotropolis, airport city

INTRODUCTION

In recent decades, airports have transformed from simple air transport facilities into sophisticated urban centres.[2] Two factors are driving that process:

- First, successful airport authorities understand that nonaeronautical revenue is an essential part of the airport business model, generating profits that have higher margins and are less susceptible to cyclical downturns in the aviation industry.[3] Leveraging the airport's real estate holdings is a powerful tool to develop nonaviation activities on the landside and to expand and diversify the airport's revenue streams. Today, many leading international airports generate more income from nonaeronautical activities than they do from aviation itself.
- Secondly, savvy urban leaders — who recognise the airport's significance for the regional economy — are building

Max Hirsh,
University of Hong Kong,
Room 1023,
10/F Jockey Club Tower,
Pokfulam Road,
Hong Kong

Tel: +852 9687 6454;
E-mail: hirsh@post.harvard.edu

new districts near the airport to advance broader urban development goals. At the same time, some cities are turning their airports into multimodal mobility hubs, where high-speed rail and emerging autonomous vehicle (AV) networks intersect with air transportation. This multimodal approach promises to significantly increase the airport's total throughput and raise land values in the airport area.

Taken together, these two trends have led to the development of hundreds of landside real estate projects — often branded as an 'airport city', 'airport corridor' or 'aerotropolis'. While these models vary considerably in terms of their functional scope, geographic scale and the lead actors involved in their implementation, they all seek to promote commercial activities at the airport itself as well as a mix of commercial, residential and industrial activities in the airport area.[4] Research conducted by the author at more than 50 airports around the world, however, indicate that very few of these projects have been implemented in a timely fashion, and even fewer have managed to deliver a significant return on investment.[5] This paper investigates why many airport real estate projects fail to meet their full potential, highlighting the key spatial, economic and managerial factors that fundamentally determine the success or failure of a given project. In particular, it is argued that successful airports have a clear understanding of who their target customers are and focus on those customers' unique needs and desires in order to drive the development process. They also develop a coherent spatial plan, marketing strategy and governance structure that emphasises collaboration between partners in the public and private sectors and, in particular, between the airport authority, urban planning agencies and real estate developers. By contrast, less successful airport development projects initiate the development process with a predetermined set of building types and do not adequately assess local market demand and competition from nearby projects. Many of these projects turn to the aerotropolis model for guidance, yet that model has been widely discredited in both the academic literature and among industry professionals. The paper concludes by introducing a new, people-focused approach to landside real estate development called airport urbanism (AU) and offers a practical how-to guide for implementing AU across a variety of airport types.

RISE AND FALL OF THE AEROTROPOLIS

The idea that airports can generate revenue through landside real estate development is not new: in fact, it dates back more than a century, to the early days of civil aviation.[6] In the 1920s and 1930s, European architects proposed combining the airport with existing building types, such as amusement parks, exhibition halls and railway stations.[7] In the United States, designers thought that airports should be merged with other new building types that were considered exciting and futuristic: such as supermarkets, skyscrapers and car parks.[8] In 1939, the artist Nicholas DeSantis first coined the term 'aerotropolis' in a fanciful proposal for an airfield built on top of an inner-city office tower.[9] On both sides of the Atlantic, urban planners argued that airports could be used to develop satellite towns to service the emerging logistics industry (Figure 1) — or even that entire new cities could be built around the airport.[10] Like the railway stations of the 19th century, airports would thus

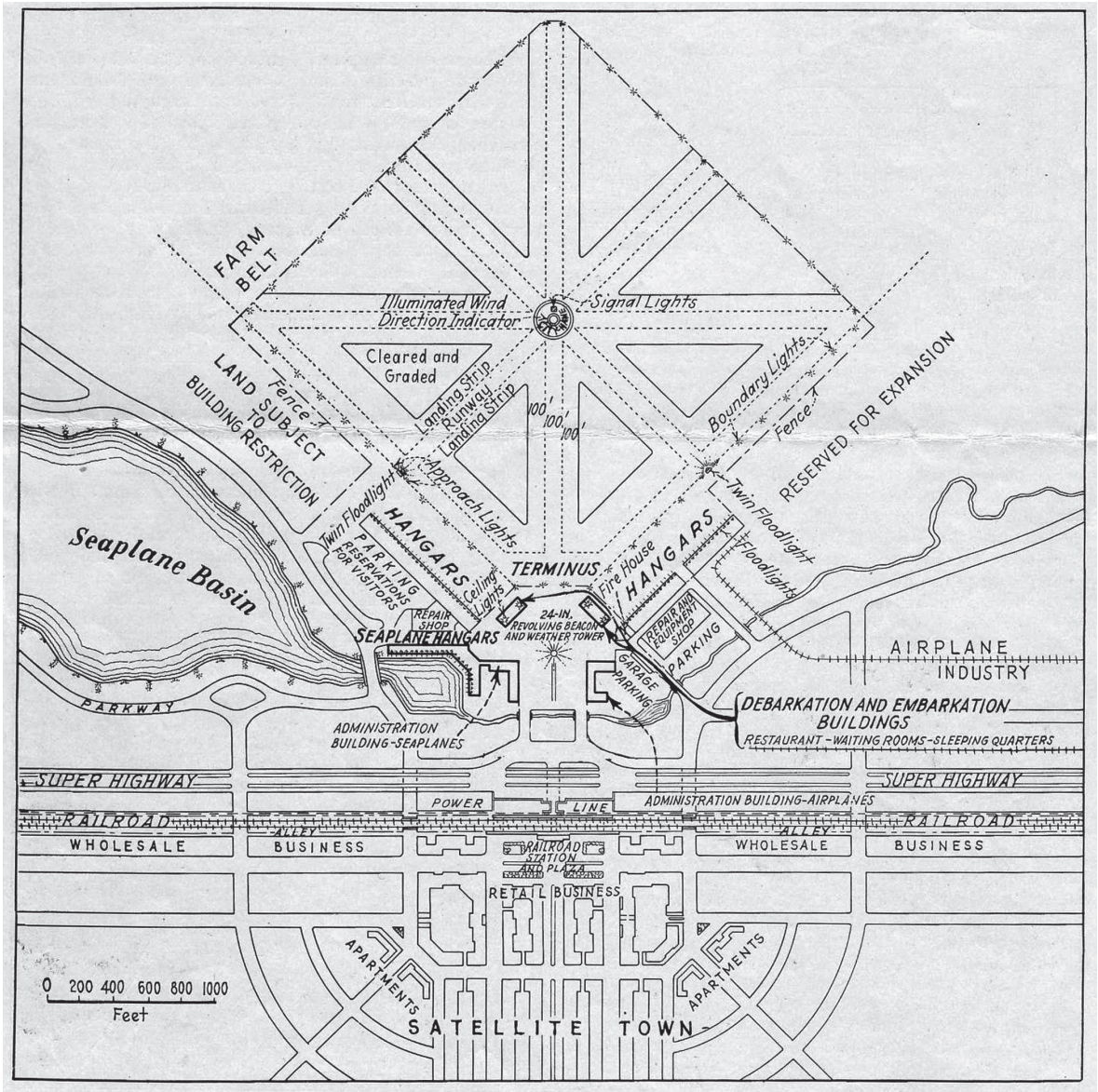

Figure 1 In the early days of civil aviation, urban planners believed that airports would become focal points of urban growth, generating revenue from a range of nonaeronautical activities. In this 1928 schematic drawing, the American planner John Nolen proposed that airports should be designed as satellite towns to service the emerging logistics industry

serve as centres of urban development: an idea that remained popular throughout the post–World War II era, but one that never came to fruition.[11]

In 1991, the economist John Kasarda resurrected some of these older concepts and incorporated them into a development model that he called the

'aerotropolis'.[12] Kasarda argued that the airport of the future would assume the role that traditional downtown business districts had played in the 20th century. He claimed that in a globalising economy, accessibility to air transport networks would be essential for doing business. Land located near the airport would become a desirable place to build corporate headquarters, convention centres and conference facilities.[13] The airport area would also attract storage and transshipment facilities for logistics firms that handled high-value products and time-sensitive cargo, such as food and flowers.

Kasarda's idea was both interesting and timely. In the 1990s, airport authorities began to evolve from subsidised public utilities into commercialised, for-profit institutions. At the same time, deregulation in the airline industry put pressure on airports to reduce their aeronautical charges, leading them to look for new sources of income.[14] Within that context, the aerotropolis was a tempting model — yet one that ultimately proved to difficult to implement. Over the past decade, the aerotropolis concept has been widely discredited in the academic literature on airport development, and urban economists have voiced skepticism about its underlying business case.[15] Specifically, the recent literature on airport development argues that Kasarda incorrectly forecast how global economic integration and the rise of global cities would effect changes in land use in and around international airport hubs.[16] In particular, scholars have argued that the aerotropolis model vastly overestimated the attractiveness of the airport as a place to conduct business, underestimated critical factors such as the distance of the airport to the central business district (CBD) and overlooked the resurgent popularity of inner-city districts among both the business community and high-income individuals.[17] Simply put, the airport does not have the 'pull' of historic city centres, which have steadily gained in desirability over the past 30 years. If anything, multinational corporations (and their employees) want to be downtown now more than ever — in attractive, walkable, mixed-use neighbourhoods. At the same time, innovations in supply chain management have made physical adjacency to the airport less of a concern for air cargo firms and freight forwarders, who tend to locate their facilities their facilities in the most economical location within a one-hour drive of the airport.[18]

There are a few notable examples where the aerotropolis model has been extremely successful: particularly at Amsterdam Schiphol (AMS) and in Las Colinas, Texas, near Dallas-Fort Worth (DFW). But as a 2008 study of Schiphol pointed out, these projects performed well because the airports that they are attached to are located in the middle of a dense metropolitan region, equidistant from multiple urban centres that are well connected by road and rail. In effect, proximity to the airport is an ancillary amenity rather than a determining factor for success.[19]

Interviews conducted by the author at airport authorities, airport consultancies and technical service firms corroborate these findings.[20] In particular, the author's research points to five key reasons why landside real estate projects fail to reach their full potential:

1. a lack of experience in real estate development on the part of the airport authority;
2. political pressure to produce an overly optimistic business case that exaggerates the attractiveness of airport real

estate, overestimates market demand and underestimates competition from comparable developments located nearby;
3. the implementation of a generic, cut-and-paste real estate development model rather than a site-specific plan that leverages unique local success factors (e.g. airport's proximity to the CBD, industrial profile of surrounding region, culturally specific modal choices and spending patterns);
4. a lack of coordination and an unclear division of labour between the airport authority, private developers and urban and regional planners; and
5. an unclear vision of what types of customers the project aims to attract, along with an unclear understanding of those target customers' specific needs and desires.[21]

As a result of the challenges outlined above, the majority of unsuccessful real estate development projects fall into two categories: 1) underutilised office buildings and logistics facilities that struggle to attract tenants and 2) overly ambitious airport-area development plans that fail to move from the planning stage to implementation due to conflicts with local regulators, inadequate coordination with landowners and a lack of interest among private investors.

CUSTOMER FOCUS AND COLLABORATION: THE RECIPE FOR SUCCESS

What then are the key factors that fundamentally determine the success of a landside real estate project? In order to answer that crucial question, three research techniques are deployed: long-form interviews with airport planners, directors and real estate developers; site visits to landside real estate developments in Asia, Europe, the Middle East and North America; and an online survey, distributed via LinkedIn, Facebook, WeChat and the author's personal website.[22] Taken together, these research methods delivered both an in-depth investigation of individual case studies, as well as a broad overview of global industry trends, viewed from the perspective of both airports clients and the consultants that they employ.

The findings point to customer focus and collaboration with local partners as the key drivers of success. First and foremost, successful airports take a customer-focused approach to landside real estate development. They begin the planning process by identifying the specific types of customers that the project could potentially attract. They study the unique needs and desires of those customers and investigate which of those needs are not currently being met at the airport, or in the airport area. By allowing customer desires to drive the planning process, successful airports are thus able to pinpoint specific services, facilities and land uses that respond to existing demands and expand the airport's customer base to include new types of users.

Less successful airports, on the other hand, depend on the product-driven approach advocated by older development models such as the aerotropolis. They initiate the planning process with a predetermined set of building types — for example, an office park, a convention centre and a logistics hub — and then look for potential customers to fill those buildings. In so doing, these airports ignore the actual needs of the local business community and overlook innovative opportunities to capture new sources of nonaeronautical revenue. By ignoring local market conditions, these

projects often duplicate existing facilities in the surrounding area, leading to high vacancy rates and a poor return on investment.

That pitfall points to the second factor for success: collaboration. Successful airports coordinate what is being built on the airside, landside and beyond the perimeter fence in order to advance development strategies that complement, rather than compete with, one another. To do so, they forge creative alliances with private developers and public-sector actors, establishing a clear division of labour based on each partner's area of expertise, along with a clear model for sharing both costs and profits. Depending on the local context, these alliances can alternately be generated through informal professional networks or formalised through the establishment of a dedicated airport-area development board. By contrast, airports that attempt to develop landside real estate single-handedly, without the cooperation of public- and private-sector partners, are more likely to advance unrealistic development plans and are more likely to experience protracted disputes about zoning, land use and profit sharing that can lead to significant delays or even derail the entire project.

AIRPORT URBANISM: A PEOPLE-FOCUSED APPROACH

These two success factors — customer focus and collaboration — are the guiding principles of a new, people-focused approach to airport development called AU. Focusing on the needs and desires of the people who use the airport on a regular basis, AU empowers airports to see more clearly what their customers want — and how those customer insights can help airports to maximise the value of their landside real estate in a profitable and sustainable manner.

Both a planning philosophy and a practical model for implementation, AU is based on two core principles:

1. Focus on people: Successful airports focus on the needs and desires of their customers. That includes not just passengers, but also the people who live, work and own businesses at the airport and in nearby communities.
2. Growing together: Successful airports coordinate airside, landside and off-airport development in a holistic and mutually beneficial manner, because airports and cities grow best when they grow together.

First and foremost, AU focuses on people: specifically, the people who live, work and travel through the airport on a regular basis. Ultimately, the economic dynamics at the airport revolve around these three sets of actors (Figure 2):

1. passengers, who fly in and out of the airport;
2. employees, who work for the airport, the airlines and in aviation-related services; and
3. residents, who live and operate businesses in the communities around the airport.

What are the benefits of this people-focused approach? First, AU highlights each airport's unique mix of passengers in order to come up with site-specific development guidelines that respond to the particular needs and desires of those customers. This is in contrast to the aerotropolis model, which applies a one-size-fits-all approach to every single airport. Simply put, successful airports

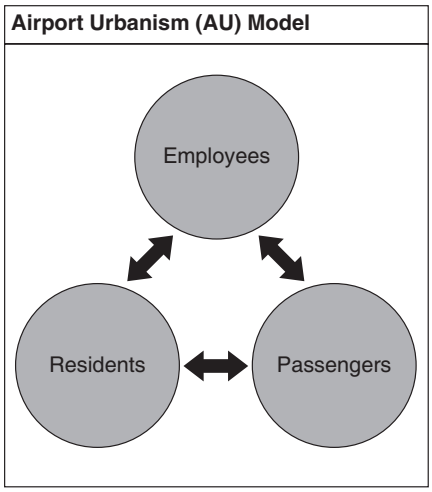

Figure 2 Passengers, employees and local residents: Successful airport real estate projects are designed with the needs of these three groups in mind

have a clear understanding of who their passengers are — and who they are not.

For example, many airports try to cater to business travellers by developing office parks and conference centres. That is a sensible approach in cities that have a lot of origin and destination business traffic and where office space is in short supply. But it is less relevant for airports that are leisure destinations, transfer hubs or primarily host low-cost carriers (LCCs). In order for landside real estate to really take off, it is critical to match future development plans with the needs of the specific passenger types that are passing through the airport. For example, the case of Bangkok Suvarnabhumi (BKK) demonstrates that airports that welcome a lot of older travellers, as well as passengers from developing countries, are more likely to benefit from strategic investments in medical tourism rather than by building a conference centre. Likewise, airports that receive many foreign tourists who are visiting the country for the first time consider how to curate those memorable first and last experiences and focus on tourist-oriented retail and food options, combined with attractive exhibitions of local culture. Airports located in cities that have a shortage of large event spaces, such as Hong Kong (HKG), have found that a landside concert arena is a sound investment. Finally, successful airports study their top ten destinations and investigate whether travellers on those flights have specific spending habits or dietary needs. All of these issues are essential to consider at the outset of the planning process.

Secondly, AU focuses attention on the desires of the people who work at the airport every day. Airports are one of the largest regional employment centres, providing jobs for tens of thousands of people. All of them are potential customers for local goods and services and potential tenants for nearby residential developments. When thinking about how to plan for their needs, it is often the 'little' things than can have a big impact. Does the airport offer places where employees can exercise during their lunch break, relax after work or pick up groceries on their way home? Successful airports like Amsterdam Schiphol (AMS) and Zurich Kloten (ZRH) recognise that these kinds of amenities drive employee satisfaction — which helps to retain talented workers — and that they double as sources of revenue. These facilities also make the airport a more attractive place to do business, thereby increasing the value of the airport's commercial real estate.[23]

Third, AU's focus on people enables airports to expand their customer base to include residents of local communities. Less successful airports think of these residents as troublesome 'stakeholders' whose complaints about noise and air pollution can constrain future growth.

Successful airports, on the other hand, view people who live near the airport as potential customers and develop a variety of commercial and recreational facilities that cater to their needs. For example, in the early 2000s Singapore's Changi International Airport (SIN) built a variety of attractive playgrounds, parks and children's education centres on the landside. As a result, the airport became a popular weekend destination for families, who met there to eat and shop during the airport's off-peak hours. In 2008, SIN also built a resort hotel in the airport's forecourt, complete with a palm tree–fringed infinity pool. It quickly became a fashionable place for locals to get married or to enjoy a brief 'staycation'. Around the world, these kinds of community-focused design changes have led to a significant improvement in residents' perception of the airport while also increasing nonaeronautical revenue. In other words, they make people more likely to spend money at the airport and less likely to fight future expansion plans.

Finally, AU's focus on people draws attention to the needs of the local business community. As noted above, many older development models falsely claimed that the airport was, by definition, an attractive place to do business. But unless a company's employees need to be at the airport on a daily basis, there is no compelling reason why any business should relocate to an airport office park or why they should hold a meeting or conference there. That is why it is crucial to understand what local business owners and entrepreneurs need to grow and how new developments at the airport can enable them to do so. What challenges do they face in terms of recruiting talented staff, finding suitable production facilities and managing their supply chain? How can future airport developments respond to those unmet demands, and how could local products and services improve the passenger experience? Bringing business owners into focus empowers airports to see where their strategic interests intersect with those of the local business community and explore how to strengthen those connections.

FINDING OPPORTUNITIES FOR AIRPORT URBANISM

Developing successful landside real estate requires a deep understanding of both the global aviation industry and the local urban context. But it also requires a willingness to initiate meaningful collaborations across departments and between institutions. In less successful cities, the airport authority, airlines, concessions operators, urban planners and private developers view each other with suspicion rather than as partners. They're reluctant to share data or to share their aspirations for the future. That leads to poor coordination between the development of airside, landside and off-airport facilities, producing both gaps and redundancies that have a detrimental effect on the customer experience and preventing those facilities from delivering a healthy return on investment.

How can airports tackle these barriers? One option is to commission a lengthy market demand and feasibility study. But in many cases, airports can pinpoint opportunities more quickly and efficiently through an AU workshop. In these one- to two-day events, workshop members generate creative landside development strategies and a concrete implementation plan. To do so, they apply the three-step AU method:

- First, participants identify preexisting assets 'on the ground' that can be

leveraged in future development projects. What industries, attractions and skills are already located at or near the airport, and how could potential synergies with the airport be incorporated into future plans?
- Secondly, they uncover the desires of the people who use the airport on a regular basis — passengers, employees, residents — and determine how airport-area developments can satisfy those needs. What kinds of services and amenities are currently missing at the airport, and how could new developments address those unmet demands?
- Thirdly, workshop members connect these local factors to broader technical, spatial and demographic changes that are taking place in the aviation industry and at airports all around the world. This enables each airport to better understand how it fits into a larger global picture.

This three-step, proactive approach produces a site-specific blueprint for action that aims to deliver a profitable return and sustainable long-term growth for the airport's real estate investments. The viability of that approach has been successfully demonstrated by the case of Helsinki-Vantaa International Airport (HEL). Working together with the airport authority, the local municipality and three of Finland's largest developers, the author organised a series of AU workshops that identified missed development opportunities at the airport and in the surrounding airport area. (The accompanying research study is the subject of a forthcoming paper.[24]) These collaborative working sessions led to the formulation of four site-specific growth strategies centred around tourism, entertainment, aviation training and the fine arts. The four strategies have been formally endorsed by Vantaa's board of directors, and the relevant project areas are slated for completion by 2020.

CONCLUSION: PLANNING FOR SUCCESS

Successful airports recognise that they need to be both open minded and realistic when it comes to planning future real estate developments. In the past, older development models like the aerotropolis grossly overstated the attractiveness of the airport as a place to conduct business. These models ignored critical issues about financing, land ownership and — above all — market demand. Based on a shaky business case, many of these projects failed to deliver a significant return on investment. The struggles encountered by airport-led development endeavours in Kinston, North Carolina; Parchim, Germany; and Songdo, South Korea — all touted as model aerotropolis projects — highlight the global scope of these challenges.[25]

Learning from those past missteps, AU takes a very different approach. Rather than dictating a predetermined set of building types at the outset of the planning process, AU starts by focusing on the needs and desires of the people who use the airport on a regular basis. It then draws on those customer insights to develop site-specific design guidelines and development strategies. In so doing, AU does not rule out building office parks and convention centres — if that is really what local market conditions call for. At the same time, by taking a people-focused approach, AU opens up a much wider range of development options that respond to the needs of each airport's unique mix of passengers, employees and residents. Doing so empowers airports to see more clearly

how they can maximise the value of their landside real estate assets.

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