

# Airport Business Districts – An Indispensable Reality

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## Abstract

The purpose of this paper is to examine the role of air transportation as the key catalyst in contemporary urban development. Since the concept of airport-side development is comparatively recent, with little or no guidelines, the study perforce was based on the exemplar sampling, the existing Indian norms, as well as the situation on ground in India. During the course of the study, it was revealed that all three airport area growth drivers, i.e., passengers, service-sector businesses and shippers, are steadily increasing in size and economic importance and have several unmet needs which deserve to be addressed systematically.

The conclusions also confirm that the world is in the process of 'learning' and coding suitable norms of such development in order to avoid lop-sided development or un-controlled urban growth. The key contribution of the study lies in firmly establishing that till such time that an advanced alternative to airport transportation is found, any country's economic growth, shall be positively catalyzed by developing Airport Business Districts.

## INTRODUCTION

Development of airport cities and airport-centred urban economic regions is gaining substantial traction due to the increasing economic importance of such development and multiplying rapidly on a global scale. The guru of this concept, Dr. John Kasarda<sup>1</sup> has identified over 80 such airport cities and airport-centred urban economic regions around the world that are either already operational or in early stages of development.

These include India's international airports at Delhi, Bengaluru, Kochi, and Hyderabad. This unprecedented growth needs urgent attention of all in the domain of built environment and urban habitats. The following discourse attempts to introduce to the reader, the reasons for this global phenomenon and its manifestations to date.

## Role of Transportation in Urbanization

Transport infrastructure has shaped urban growth since the days of the Roman Empire. Broadly speaking, cities evolved in five overlapping transportation-induced waves. The world's first major cities like Rome and Constantinople developed around seaports. The next wave of urban growth occurred along the networks of rivers and canals that formed the backbone of the industrial revolution (London, Paris, and Kolkata). Railroads generated a third wave of urban development as they opened up inland areas to

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manufacturing and trade: major goods processing and distribution centers emerged at rail hubs and terminal points (Chicago, Manchester).

The fourth wave of urban development was fostered by a shift to cars and trucks to move people and goods. Freeways, expressways and interstate highways generated a massive dispersion of business and housing, with large suburban commercial centers, industrial parks, and office complexes sprouting as much as 100 kilometers from major city centers. Some of these fourth-wave edge cities now have more retail and office space than downtowns.

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Currently cities are being shaped by the fifth wave in which airports are the primary drivers of urban growth. This wave was ushered in by introduction of large jet aircrafts, advances in telecommunications, and needs for speed, flexibility and reliability in movement of people and products. All of these greatly accelerated globalisation<sup>2</sup>.

### **Reason for the Aviation-driven Business District**

The aviation-driven business district has emerged because of the advantages airports and their environs provide to business in the new speed-conscious, globally networked economy. Today's manufacturers use advanced information technology and high-speed transportation to source parts globally, minimize inventories, and provide fast responses to customers' needs. To meet these imperatives of time-critical manufacturing, repair and distribution, facilities are being built near airports with extensive flight networks. This clustering stimulates further expansion along airport transportation corridors. As the world's service economy shifts into fast-forward, airports have become magnets for development of business hubs for those who are required to undertake frequent long-distance travel.

Since major airports typically have excellent expressway links, the airport area also provides accessibility advantages to the local metropolitan market, attracting all types of commercial facilities. Airports are cashing upon this to develop their real estate and brand opportunity. Thus, the business case underlying this type of development recognizes the airport land availability, improved surface transportation access, growing air traveller consumer demands, airport revenue needs, new business practices, site-specific commercial real estate opportunities, and, big employment opportunities.

The economic influence of airports is far greater compared to the transit-oriented development of the previous era like railway terminus precincts. A significant number of airports employ more than 50,000 workers, a number which qualify as the workforce in a medium sized city centre. With the addition of the daily passengers to this number, the footfalls alone are sound reasons for development.

Given the higher incomes of air passengers, which typically are two to four times the national average, and their often massive numbers – some 30 million to 90 million people compared with 8 million to 12 million who visit large shopping malls – it is not surprising that major airport retail sales per square foot are up to six times greater than those for shopping malls and downtown shops in the case of US cities<sup>3</sup>.

### **Evolution and Growth of Airport-centred Urban Development**

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Airports, like all major transportation interchanges, attract commercial development. This attraction has grown with increase in passenger and cargo traffic and as cities expand outward towards and, sometimes around, airports. Some of the factors that induce airport area growth include providers and consumers of air transportation; businesses which cater to the ancillary needs of air travelers and employees of the other businesses, and companies which may simply be searching for sites with good highway access; increase in footfalls of business travelers in a new global economy and due to increase in international travel for leisure, tourism, education and medical care.

These various activities create a domino effect, accelerating airport area growth in an organic manner. In response, passenger terminals are becoming luxury shopping malls, artistic and recreational venues and ideal locations to exchange knowledge and conduct business. High-end business lounges and trade facilities are sprouting up in the terminals, as well as concourse-connected luxury hotels. In addition, airports are developing their public-access property with hospitality, entertainment, and recreation clusters; office and retail complexes; conference and exhibition centers; and facilities for processing time-sensitive goods.

Not to be left behind, the private sector has joined in, developing similar facilities just beyond the airport fence. The largest concentration of hotel rooms on the US West Coast surrounds Los Angeles International Airport. London Heathrow's new Sofitel Hotel, with direct access to Terminal 5, measures up in design and guest amenities to any downtown London five-star facility. Major conference venues have sprouted up near other airports such as Atlanta, Chicago, Frankfurt and Paris. Since airport areas are attracting businesses, workers and residents, airport area commercial development reflects employee and resident needs, which are being provided in large mixed-use developments near the airport with many now becoming metropolitan area growth nodes.

The boundaries of numerous airports were established many decades ago, well before they assumed significant commercial and competitive development roles. Yet, just as urban development did not stop at the political boundaries of metropolitan area central cities, it is apparent that airport-dependent

development will not stop at the formal boundaries of the airport. This form of urbanisation has evolved with different spatial forms predicated on available land and ground transportation infrastructure, yet virtually all have emerged in response to four basic factors:

1. The need of the airports 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 passenger and cargo traffic generated by gateway airports.
4. Airports serving as a catalyst and magnet for landside business development.

### **THEORETICAL STRUCTURE: AIRPORT-CENTRED URBAN DEVELOPMENT**

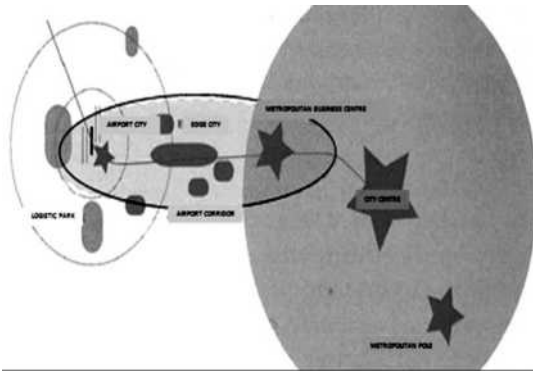
Since airports are fast becoming dynamic centres of economic activity, they have caused impulse development in their vicinity, giving rise to new poles similar to metropolitan central business districts. The three significant types of development are the airport city, the airport corridor and the 'aerotropolis'.

#### **The Airport City**

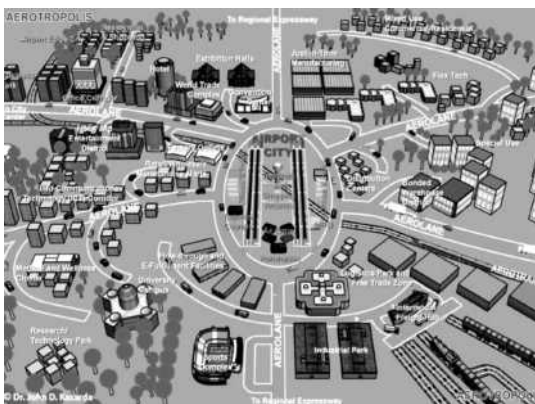
This concept first appeared in the 1970's and was used for industrial and business parks in the vicinity of airfields. It is now used to describe the growth of aeronautical and non-aeronautical land developments occurring at airports. Urban planners acknowledge it as an urban form<sup>5</sup>, a spatial manifestation of interaction between airport-centred commerce, real estate development, and multi-modal transportation, which must also show the qualitative features of a city, such as density, access quality, environment, and services<sup>6</sup>. Economists, however, disregard the urban dimension and define the airport city as clustering of economic functions at and around the airport<sup>7</sup>, whereas airport operators see it as a model to promote the airport areas as attractive business locations.

#### **The Airport Corridor**

Airport-centred development assumes different spatial manifestations, according to physical scale, the operator's business approach and the nature of commercial activities. Such business clusters grow outward primarily along connecting transportation corridors, resulting in the "Airport Corridor" (Figure 1). This is the most widely used concept to describe this type of broader outside-the-fence development. This definition<sup>8</sup> stands for a planned and integrated urban development occurring alongside major surface infrastructure, in the previously under-developed areas between airport and the cities it serves.



**Figure 1:**  
The Airport Corridor  
(Source: Airport and City',  
Shaafsma, Amkreutz and  
Guller, 2008)



**Figure 2:**  
The Aerotropolis  
(Source: John Kasarda,  
Chapter I, Airport Cities: The  
Evolution. London: Insight  
Media, 2008)

## The Aerotropolis

The term aerotropolis was coined by John Kasarda<sup>9</sup>. The aerotropolis (also known as the Airport Economic Region) describes the sum of all airport-related developments that appear around airports. It is an area that centres its economy on the airport, which in turn serves as the community's economic engine. Analogous in shape to the traditional metropolis made up of a central city and outlying corridors and clusters of aviation-oriented businesses and their associated mixed-use residential developments (Figure 2).

According to Peneda and Macario<sup>10</sup> the different airport-centred development concepts may be regarded as part of a sequential process, in which the airport progressively increases its territorial impact. This process manifests in the development of the airport's business model through time, in regard to the nature of the infrastructure, the relevance of commercial activities and integration in the local and regional networks, in a search for new and reliable strings of income.

## **The Reality on Ground**

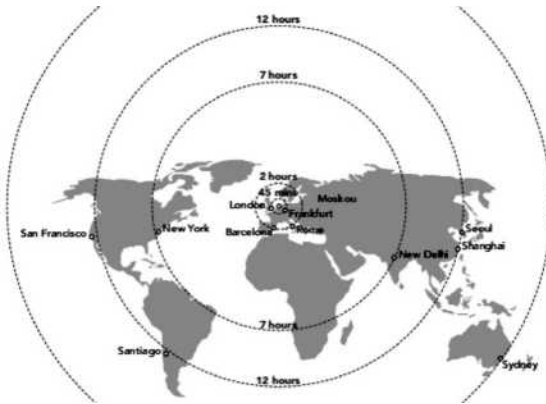
It is clear that development of land in and around airports for non aeronautical purposes is inevitable. Attracted by the economic dream, governments have leased large airports to private players. In the recent past these entities have been well placed to benefit from the demand for airport-related commercial development.<sup>11</sup> They are emerging as important sub-regional activity centers with growing complexity of land use, infrastructure, transport, environmental impacts and implications on stakeholder relations.

Airport impacts now pose considerable challenges for both airport operators and the surrounding city. World over, issues that are currently being faced include those related to Transport (isolated planning strategies leading to localized congestion and inadequacies), Land-use (conflicts between airports and surrounding urban areas), Infrastructure (inadequate and inequitable provision to maximize profits), Economy (inefficiencies/duplication of investments); Environmental Issues and resource use and, Governance, including inert decision-making, poor coordination and conflict resolution. The planning challenge is how to affect the land uses in the region so that the changes harmonize with the local and city planning to deliver sustainable economic and spatial development.

### **CASE EXAMPLE I: AMSTERDAM AIRPORT AREA AND ZUIDAS BUSINESS DISTRICT**

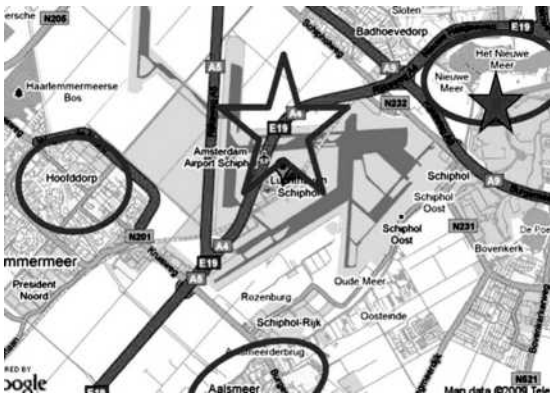
**Profile and Connectivity:** With 301 flight connections to airports in 90 countries, Amsterdam Airport Schiphol is one of the four main European main ports, easily accessible to all European cities and markets. It sits on a fast and high quality, high speed road and rail system giving access in all directions, shortening travel time to other major European hubs (Figure 3).

Amsterdam Airport Area (AAA) offers a convenient contact point to help international companies establish and maintain operations. Over 500 international companies are currently located at the five business parks at Schiphol Airport which has its own World Trade Centre, as well as conference, hotel and leisure facilities. It is a major driver of the regional economy generating on-airport jobs for 62,000 people. Due to the ever-increasing growth in freight there are plans for a dedicated freight lane as part of Amsterdam Connecting Trade (ACT), in which transport via road, rail and air are brought together between Amsterdam Airport Schiphol, Aalsmeer the Europe's largest flower market, Hoofddorp a tourist destination and Zuidas a new business district in Nieuwe Meer<sup>12</sup>. (Figure 4)



**Figure 3:** Connectivity of Amsterdam Airport Schiphol with rest of the world (Source: [www.zuida.nl](http://www.zuida.nl), accessed in November 2011)

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**Figure 4:** Relative locations of Aslmeer, Hoofddorp, Nieuwe Meer and Amsterdam Airport Schiphol (Source: Author with base map sourced from Google maps, December 2011)

### The Zuidas Business District at Nieuwe Meer

Before the start of the Zuidas Development, Nieuwe Meer was a sleepy hamlet in the Dutch province of North Holland.<sup>13</sup> As per the census of 2004, Nieuwe Meer had a population of around 41014. Located just 6 minutes’ drive from the Schiphol Airport, it has been now designed as an Integrated Business District in the vicinity of one of the world’s busiest airports.

By 2007 Zuidas covered an area of 270 hectares and was home to approximately six million people, who lived within a one-hour journey time by car, train, metro from Amsterdam’s Central Station (Figure 5).

Lying between two established and extremely popular residential districts, with 130,000 people living within a two-kilometer radius, this area had the highest average disposable income in the Amsterdam region. The region

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was home to various cultural and commercial establishments, conference and exhibition centres, Banks and, the World Trade Centre of Amsterdam. Existing amenities include hotels, bars, restaurants, sports centers and childcare facilities. There are several schools and colleges offering primary, secondary, further and vocational education, including a number of international schools. (Figure 6)

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### **The Vision:**

The intention was to create a sustainable and successful urban environment of international allure, but with traditional Amsterdam qualities. This meant a focus on 'high-end' offices and public amenities, the greatest possible use of public transport and the bicycle, rather than the private car; efforts to develop a mixed-use program to encourage permanent 24/7 usage, with great diversity in functions; development of both physical and perpetual linkages to the nearby regions, development of an individual ecological quality, including a welcoming microclimate and a healthy human environment, as well as an efficient waste disposal.

The objective also is to create buildings and public spaces to enhance the health and wellbeing of all Zuidas users and foster the development of a diverse, fully inclusive community which actively encourages interaction, personal responsibility and involvement. (Figure 7).

### **The Concept:**

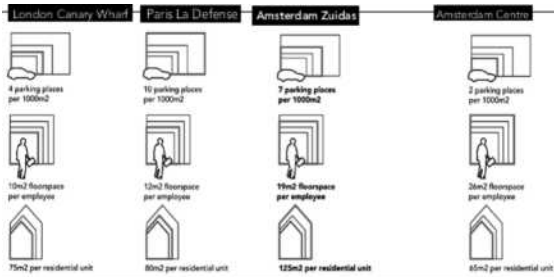
Keeping in mind that development was to be undertaken over a long period, the Zuidas Vision was prepared as a 'draft outline plan' for the process of strategic urban development. An inbuilt flexibility ensured scope to address unforeseen circumstances and take advantage of new developments in construction techniques, communications or energy provision. The two significant components of the plan were:

1. The underground Dok<sup>15</sup> built for bundling of road and rail infrastructure to remove the physical barriers between Zuidas and other parts of Amsterdam. This space optimisation in the very centre of the Zuidas district reduces air pollution and traffic noise, without detracting from accessibility. The underground location also allows for generous standards of provision.
2. A layered project structure cognisant of sustainability comprising a framework of open spaces, suitable layers of transportation networks, a spatial development program of mutually supporting mixes translating into buildings of high quality.





**Figure 5:** Relative locations of Zuidas and Amsterdam Airport Schiphol (Source: <http://www.nieuwbouw.amsterdam.nl/contents/pages/80245/zuidastoeekomst.jpg>)



**Figure 6:** Creation of Infrastructure comparable with International Standards (Source: [www.zuida.nl](http://www.zuida.nl), accessed in November 2011)



**Figure 7:** Compactness geared towards use of public transport (Source: <http://www.nieuwbouw.amsterdam.nl/contents/pages/80230/zuidastoeekomst.jpg>)

**An Inbuilt Approach to Sustainability:**

By 2030, Zuidas aims to be among the Top Ten sustainable urban centers in Europe. Specific attention was, therefore devoted to minimizing the environmental impact of energy consumption and CO<sub>2</sub> emissions<sup>16</sup> and to achieve an entirely CO<sub>2</sub> neutral development.

The pursuit of maximum sustainability throughout the chain, from the sourcing of materials, production methods, transport, processing and eventual disposal also meant minimizing waste generation; efficient and responsible waste disposal.

A sustainable approach was adopted for designing all transport movements to, within and from Zuidas without hampering mobility. The overall aim is zero deterioration to the local micro-climate, a substantial improvement of the human environment, and a creation of an urban landscape to encourage biodiversity and ecological values. (Figure 8)

**The Overall Program of the Zuidas Area:**

The 270 hectares project is planned to cater to 200,000 people every day, including 25,000 permanent residents, 80,000 employees and 30,000 students. Passengers being served at the Zuidas hub are 250,000. Construction is being taken up in phases, and expected to be complete by 2040.

Approximately 38% of the total built-up area of 420,000,000 sq m is devoted to Offices, the Residential component being 29%, and that of Services and amenities being 33%. Around 73,000 employees would be using an average of 19sqm of office space, housing comprises 9000 units of average area 125sqm, while the Amenities occupy 1,500,000 sq m Regarding transport, it is planned that 40% of the users would be using the public transport, 30% use bicycles and only 30% use their car. 1.25 car spaces are provided per residential unit, 1 car space per 250 sqm. if office < 800 m from station or 1 car space for 125 sqm. if office > 800 m from station. The Amenities cater to 1car space for 100 sqm. (Figure 9)

**The Zuidas Company:** The Zuidas Company is responsible to carry out the Zuidas project, which is contained by both public and private shareholders. The Dutch ministry of Finance and the City of Amsterdam participate as shareholders, each with a minority interest of 20%. The remaining 60% is allocated among selected private parties. The Zuidas Company has the form of a closed limited partnership under the Dutch law. (Figures 10 & 11)). It is operating on Public-private partnership for entire project with a limited risk-bearing participation of private parties.



**Figure 8:** Sustainable approach to all transport movements at the Zuidas Business District (Source: [www.skyscrapercity.com](http://www.skyscrapercity.com))



**Figure 9:** Plan of Zuidas Dok Area (Source: <http://upload.wikimedia.org/wikipedia/commons/6/60/INGHouse1.jpg>)



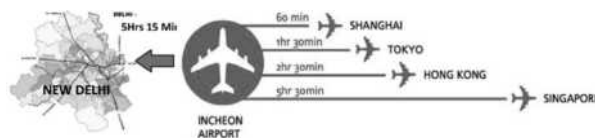
**Figure 10 & 11:**

Public buildings in Zuidas (Source: <http://upload.wikimedia.org/wikipedia/commons/Zuidas.jpg>)



**Figure 12:**

Administrative divisions of Incheon (Source: [www.en.wikipedia.org/wi/wk/File:Inchion\\_islands\\_2.svg](http://www.en.wikipedia.org/wi/wk/File:Inchion_islands_2.svg))



**Figure 13:**

Distance from Incheon Airport to other parts of the world (Source: Made by author based on information from the Internet and [www.dda.org.in](http://www.dda.org.in))

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## CASE EXAMPLE II: THE SONGDO INTERNATIONAL BUSINESS DISTRICT, SOUTH KOREA

**Profile and Connectivity:** The Songdo International Business District is located just over 7 miles from Incheon International Airport and is a gateway to more than 1/3<sup>rd</sup> of the world's population in just 3½ hours flying time. It is a strategic location to be just a few hours away from one-half of the world's population of China, India, Japan and Russia (Figure 12).

The Incheon Metropolitan City is located in northwestern South Korea and has led the economic development of Korea as a centre of industrialisation. As an international city, Incheon has held numerous international conferences & fairs and will be 17<sup>th</sup> Asian Games of 2014. Thus, Incheon has established itself as a true hub of Northeast Asia (Figure 13).

The new Incheon International Airport is currently Asia's eighth busiest airport in terms of passengers, the world's fifth busiest airport in terms of cargo and freight, and the world's eleventh busiest airport in terms of international passengers in 2006. In 2009 the airport was rated the best in the world by Skytrax<sup>18</sup>, receiving a full 5-star ranking. Also, Incheon's sea port is the second largest port in Korea after Busan's sea port. It is connected to the Incheon International Airport by just a 7 mile long suspension bridge (Figure 14).

**Songdo in Incheon:** Songdo International City began development in 1994 and is built on reclaimed land on the Yellow Sea off Incheon. The city officially opened on August 7, 2009 as the first new sustainable city in the world designed to be an international business district. The city was designated as Korea's first free economic zone.

Primarily, the goal of this FEZ<sup>17</sup> is to transform this area into a hub for logistic international business and leisure and tourism for the Northeast Asian region. Planned to be a self-contained living and business district featuring air and sea transportation, it is a specially designated zone to create the most favorable business and safe living environment where foreign nationals can live and invest freely. It has now become a centre of diverse international businesses, a hub for international trade, knowledge-based technologies, and a place for eco- friendly urban living (Figures 15 & 16).

The place is connected by Train to more than 11 stations, the Airport Express (AREX) line runs from the airport to Seoul Station via Gimpo International Airport (Figure 17). ).

**Basic details of the Songdo IBD Master Plan:** The total development is on 13,162 acres, and is planned for a population of 2,52,000 persons. The Core



**Figure 14:** The 7-mile long Incheon Grand Bridge between Songdo and the Airport (Source: [www.songdo.com](http://www.songdo.com))



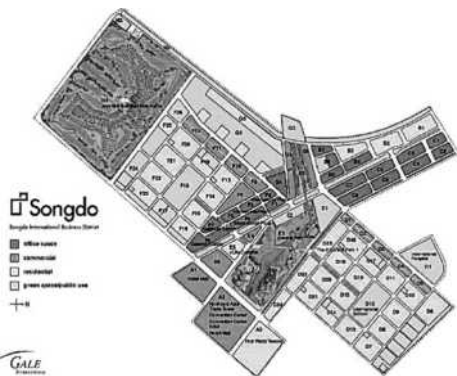
**Figure 15:** Connectivity between the Airport and Songdo International City via bridge (Source: [www.songdo.com](http://www.songdo.com))



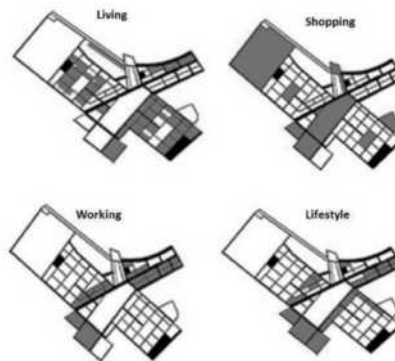
**Figure 16:** View of Songdo International City (Source: [www.songdo.com](http://www.songdo.com))



**Figure 17:** View of the station at Incheon International Airport (Source: [www.en.wikipedia.org](http://www.en.wikipedia.org). Incheon Airport)



**Figure 18:** Master plan of Songdo  
(Source: www.songdo.com)



**Figure 19:** Mix and location of uses  
(Source: www.songdo.com)

City area would be on 150 acres, with a built-up area of 9,300,000 sq m, comprising 40% of commercial use, 35% of residential, 10% each for retail & public amenities, and 5% for the Hospitality industry. (Figures 18 & 19)

**Highlights of the Songdo IBD Master plan:** The place includes landmarks such as Korea’s tallest 68-storied Northeast Asia Trade Tower, which is its most advanced corporate center; the stunning *Songdo Convensia*, Incheon’s primary convention center & Korea’s largest column-free interior space; the Incheon Arts Center, which houses a concert hall, opera house, museum of Asian contemporary art, a music conservatory, design school, artist in residence housing, and a library. Nest is the State-of-the-art learning environment, including the International School Songdo (ISS). Currently under construction, the Incheon Tower in the Songdo City will be 487m high with 102 floors<sup>19</sup>, second tallest in the world after the Burj Khalifa. 600 acres of open space including a 100-acre Central Green and an 18-hole championship golf course, a full clubhouse and a fitness center would be situated on a 228-acre site with luxury villas and condominiums. The Songdo International City Hospital, will have the latest in medical diagnosis and treatment technologies. Bupyeong Station on the Incheon subway line has a large underground shopping centre with many restaurants, shops, and a Lotte Mart on ground. The Arts Centre refers to a performance venue but also to a subway station and area. Within this district in Guwol-dong is Rodeo Street, a busy central square packed with restaurants and department stores (Figures 20, 21, 22 & 23).



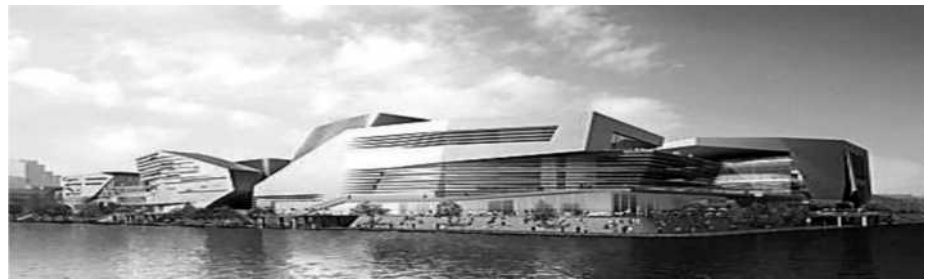
**Figure 20:** The under construction Incheon Tower will rise 102 floors (Source: [www.songdo.com](http://www.songdo.com))



**Figure 21:** Northeast Asia Trade Tower, Songdo (Source: [www.songdo.com](http://www.songdo.com))



**Figure 22:** River Stone Retail Complex, Songdo by Daniel Libeskind is a two level enclosed regional shopping centre



**Figure 23:** The IFEZ Songdo Arts Center



**Figure 24:** Open spaces for recreation and maximizing contact with nature. Source: [www.songdo.com](http://www.songdo.com)



**Figure 25:** A typical mid-rise residential neighborhood (Source: [www.songdo.com](http://www.songdo.com))



**Sustainability of Songdo IBD:** Setting new standards for large-scale development, the following six core design goals for Songdo IBD reflect the designers' commitment to sustainability: (Figures 24 & 25)

1. Open space: Connection to nature for all is inbuilt in the layout. Native or adapted species are utilised throughout the development.
2. Its targets certification under the LEED-NC and/or LEED-CS rating system along with the KGBCS (Korean Green Building Certification System). It is also part of the LEED-ND (Neighborhood Development) Pilot Program.
3. Creating comfortable energy efficient building projects built to or above ASHRAE<sup>20</sup> standards.
4. Optimizing use of potable water, reducing storm water runoff, mitigating the urban heat island effect and promoting biodiversity & species habitat preservation.
5. Recycling materials and utilizing locally produced / manufactured materials.
6. Recycling construction waste up to 75%. Reducing the use of Portland cement, through the utilization of fly-ash-content concrete.

## **LESSONS REVEALED**

### **Lesson One -- Typology, ownership and scale of ABDs:**

From theoretical studies and case examples, one concludes that there are many types and scales of operations. At the smallest end is the extension of the Airport landside facility on airport owned land which generates non-aviation related incomes. The large number of passengers<sup>21</sup> make this an attractive proposition. Similar is the case where cargo is the major transit object, and logistic support is offered at a cost. The economic beneficiary in both cases is the airport company. Parallel and sometimes fuelled by this type of development, land parcels in the airport vicinity held by other players are developed in tandem. The risk involved at development this scale is selection of facilities in response to short term gains which may soon lose novelty value. On the largest end is a conscious effort by an Airport Development Authority, City & Country Planning, Urban / Regional Departments and National governments to recognise aviation as the cause of new urbanisation and to suitably respond to the same depending upon the airport and its unique selling proposition; the nature, scale, opportunities and challenges of the city it serves; the region it influences; and, the current networks and their future potential. The developments in Songdo, Zuidas, Beijing, Kuala Lumpur, New Delhi, Bengaluru and many others belong to this category and the outcomes are Airport Business Districts and Airport Cities of various scales and types.

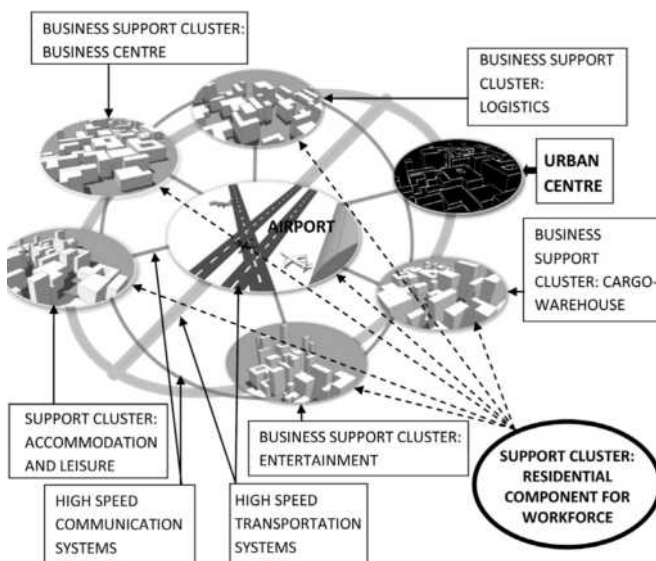
### **Lesson Two -- Role and Function of ABDs**

Case examples clearly show that any such Airport Business District is actually representative of an urban centre which is of great importance to the world for various reasons of commerce, the goal is to transform that area into a hub for logistics, international business, leisure, and tourism for the given region. The ABD is a specially designated area to create the most favorable business and living environment, a center of diverse international businesses, a major hub for international trade, an area for knowledge-based technologies, and a transit for the adventurous tourist and above all a place for eco-friendly urban living. It then automatically becomes a major driver of the regional economy generating on-airport jobs for many.

### **Lesson Three -- Compulsory Components of an Airport Business District**

While one may not generate norms, it would be useful to identify a list of essential components, which could be tailored to suit local conditions.

1. **Location:** Foremost for the success of an ABD is the location. Its location must be the most important strategically, and central to a region with suitable connectivity so that, major market are accessible in no time.
2. **Multi-modal Hub:** The ABD, therefore, is envisaged as a major domestic and international air, road, and rail transportation hub connected with efficient and advanced multimodal /intermodal transportation hubs to near and distant locations with equal efficiency.
3. **Cargo Airport:** Being an Airport Business Hub, it must possess a large cargo airport equipped to handle all kinds of goods. Without this the ABD has no *locus standi*.
4. **Cost of Living:** The Cost of living in the ABD and the Urban Centre must be favourable compared to other such centres of the world.
5. **Self-contained & Mixed-use:** The ABD must be a self-contained living and business district, with round-the-clock facilities for business and leisure. It must have a logistics complex, an international business centre, conference centres, financial services, hotels and serviced apartments, office and warehouse space, hospitals, residences for a highly skilled, multilingual employee force working 24/7, and, access to schools for families of ABD employees and other direct service providers.
6. **Support Infrastructure:** Civic Infrastructure like police station, water works, disaster management station, general and grocery supplies, etc.



**Figure 26:**  
Theoretical  
Structure of an  
Airport Business  
District (Source:  
Author)

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The theoretical structure of an ABD is shown in Figure 26. Each of the business support clusters are self-contained in terms of service personnel and civic amenities. The schematic structuring is quite similar to the case examples.

### **Lesson Five -- Zoning of the Airport Business District**

Primarily, the ABD zoning has the following important considerations in the Zoning of the district:

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1. Airport area goods-processing activities are spatially segregated from white-collar service facilities and airport passenger flows.
2. Noise and emission-sensitive commercial and residential developments are be sited outside high-intensity flight paths.
3. Cluster rather than strip development is encouraged along airport transportation corridors with sufficient green space between clusters.
4. Spatial planning using thematic architectural features and iconic structure in planned hubs have an advantage of making of a 'Place' and enhancing way finding.
5. Mixed-use residential/commercial communities housing airport area workers and frequent air travellers is developed with easy commutes and designed to human scale providing local services and a sense of neighbourhood.
6. Regional marketing through informative and aesthetically pleasing public art characterize the airport's terminals.

### **TO SUM UP**

The specific insights derived from the case studies and examples reveal that Airport Business Districts have a unique role and function to perform and are tailor made to serve the economy of the city-region. All have a promise of diversity, but exhibit variations in size depending upon the nature of the development. Though armoured by mass rapid transit systems; ABDs are supported by urban development which is pedestrian and cycle friendly. These promise an excellent quality of life, and are designed with environmentally conscious and with sustainable strategies, placing a high value on contact with nature; and exploration and delivery of a diverse set of amenities which are unique to the place. This also implies that it is not logical to generate norms for size and composition of an ABD.

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## NOTES & REFERENCES

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- 12 ‘Meer’ in Dutch means a large water body like a big pond or a lake.
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- 14 Statistics Netherlands (CBS), Gemeente Op Maat 2004: Haarlemmermeer”. <http://www.cbs.nl/nl-NL/menu/themas/nederland-regionaal/nederland-regionaal/publicaties/gemeente-op-maat/2004/alfabet/H/2004-haarlemmermeer.htm>. accessed on 4th December 2011
- 15 The word “Dok” is an adaptation of the word “Dock” which has its roots in Europe approximately before 1000 CE
- 16 Carbon di-oxide Emissions
- 17 Anagram from Free Economic Zone
- 18 Skytrax is a UK-based aviation research organization and has one of the largest airline and airport review and ranking site. It conducts Quality Audit and research work for commercial airlines and airports throughout the world.
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- 20 ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) is an organization devoted to the advancement of indoor-environment-control technology in the heating, ventilation, and air conditioning (HVAC) industry
- 21 30 million to 90 million people compared with 8 million to 12 million who visit large shopping malls making major airport retail sales per square foot six times greater than those for shopping malls and downtown shops, in the case of USA. John Kasarda in The Way Forward.

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