Shopping In the Airport City and Aerotropolis

New Retail Destinations in the Aviation Century

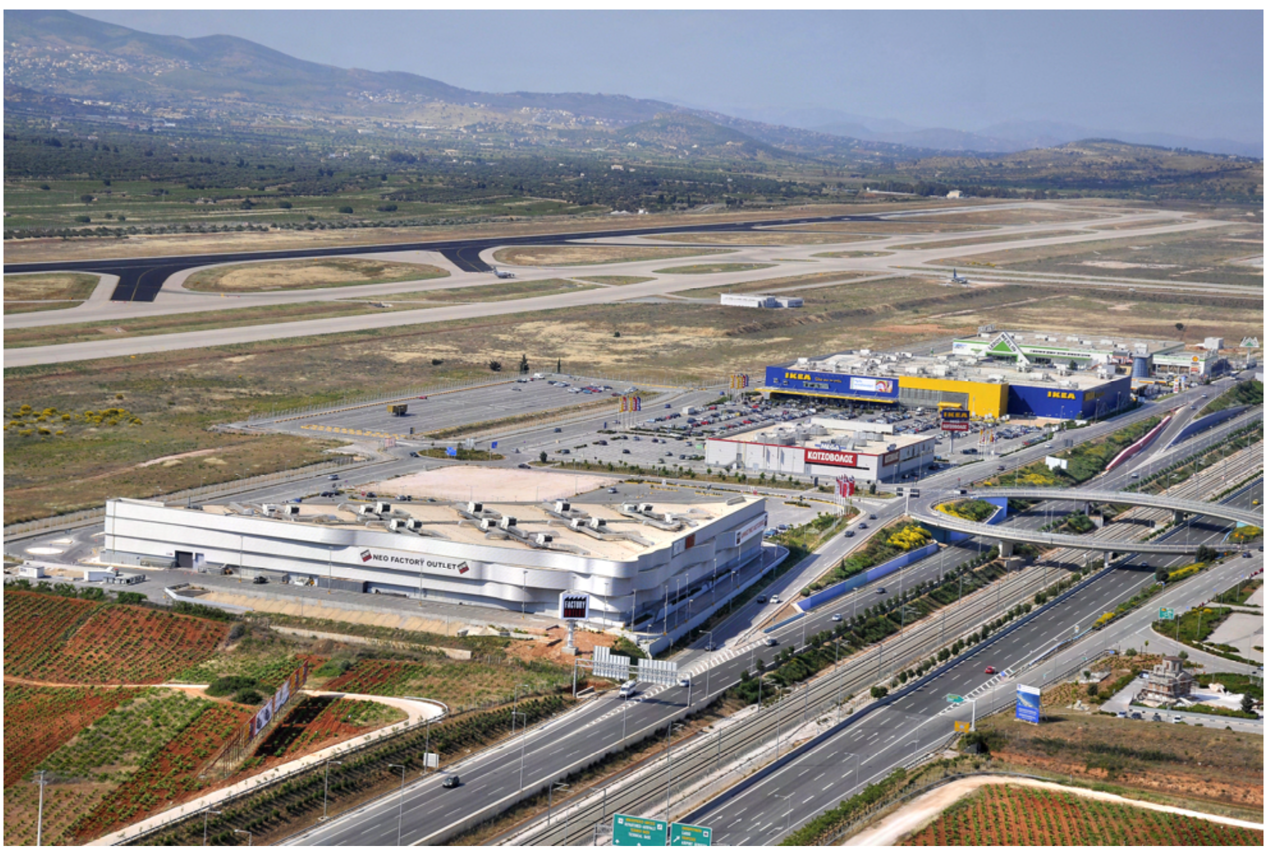
*John D. Kasarda**

Abstract: *Airports and their environs are becoming new commercial anchors taking on many features of destination retail and of cities themselves. Passenger terminals are morphing into shopping malls and leisure venues. Strings and clusters of retail outlets, hotels, entertainment complexes, conference centers and aviation-oriented businesses are locating outward along airport corridors forming a greater aerotropolis. This article assesses the evolution of airport cities and the aerotropolis, pointing out the special opportunities and challenges that they offer to the retail real estate and retail industries; it begins with their "multi-modal core"—the airport terminal—and moves outward sequentially to the airport city and the aerotropolis.*

Airports in the 21st century are experiencing a new and distinct evolutionary stage—the "airport city." What started out in the early 1990s—a handful of European and U.S. air gateways substantially notching up their duty-free and traditional terminal retail and eateries—has become a world-wide phenomenon of airport commercial expansion and diversification. In the process, gateway airports have assumed roles few before anticipated.

Major airports serve as regional, multi-modal surface-transportation nodes and as magnets for business locations, commercial transactions, information exchanges and leisure activities. As their terminals transform into shopping malls and artistic venues, airports are spawning aviation-linked clusters of hotels; convention, trade and exhibition facilities; corporate offices; and retail complexes along with culture, entertainment and recreation centers. Air gateways, in short, have become as much commercial destinations as places of departure: they are urban realms in their own right, driving and shaping the very fabric of the new cities they are creating.

The airport city is far more expansive and important for employment growth, business competitiveness and urban form than prior transit center-oriented developments such as those found in the vicinity of



Athens Airport and Surrounding Retail Park

* Director, Kenan Institute of Private Enterprise, University of North Carolina

Table 11-1

Retail and Food & Beverage Sales at Selected U.S. Hub Airports, 2007 (All Figures in U.S. Dollars)									
Airport	**Sales, excluding Duty Free**	**Sales, Excluding Duty Free Per Enplaned Passenger (EP)**	**Sales, Duty Free**	**Duty Free Sales Per EP**	**Total Sales, with Duty Free**	**Total Retail Square Footage**	**Total Sales Per Square Foot**	**Enplaned Passengers**	**Examples of Tenants**
Atlanta Hartsfield-Jackson International Airport	$320,458,101	$7.15	$16,487,577	$3.71	$336,945,678	188,789	$1,784.77	44,831,102	Wilson's Leather, Kidsworks, Coca Cola Store, CNN Newsstand, Hudson News, Wolfgang Puck Kiosk, Sam Adams Brewhouse, Starbucks
Chicago O'Hare International Airport	$296,370,000	$7.86	$34,734,000	$6.06	$331,104,000	125,297	$2,642.55	37,700,300	Brookstone, Landau Jewelers, Mindworks, Mont Blanc, Hudson News, Wolfgang Puck, Starbucks, The Grove
Dallas/Fort Worth International Airport	$224,060,072	$7.52	$9,982,831	$3.57	$234,042,903	231,565	$1,010.70	29,775,878	Brooks Brothers, La Bodega Winery, KidZoo, Fossil, Hudson News, Wall Street News, Jazzman's Café, La Duni Latin Café, Cousins Barbeque
Denver International Airport	$211,227,596	$8.47	$1,421,572	$2.82	$212,649,168	149,280	$1,424.50	24,940,953	Images of Nature Gallery, Radio Road/Fly Babies, Amore Flori Flowers, Connections Newsstand, Hixon Popcorn, Rocky Mountain Chocolate, Paradise Bakery & Café
John F. Kennedy International Airport	$256,007,678	$10.79	$148,492,359	$13.85	$404,500,037	236,051	$1,713.61	23,728,195	Bijoux Terner, DKNY, Oasis Day Spa, Swatch, Coach, Mindworks, Hudson Books News West, Brooklyn Ale House, Papaya King, So Ho Bistro
Memphis International Airport	$40,236,130	$7.52	$0	$0	$40,236,130	69,904	$575.59	5,353,100	Godiva Chocolatier, PGA Tour Shop, Memphis Rock'n Soul Museum, Elvis Shop, Vito's Market, Famous Famiglia, Backyard Burger

Source: All data from or derived from ARN (Airport Revenue News) Fact Book 2008

downtown train stations. An increasing number of airports employ more than 50,000 daily workers, which would make them metropolitan central cities by the U.S. census definition.

Well beyond their fences, airports are generating corridors and clusters of aviation-linked businesses ranging from health and wellness facilities to large shopping, entertainment and leisure complexes. This broader airport-integrated region has come to be known as the "aerotropolis."

Airport Commercial Metamorphosis

No longer restricted to magazine shops, fast-food outlets and duty-free shops, airport terminals now feature brand-name boutiques, specialty retail and upscale restaurants, along with entertainment and cultural attractions. For instance, Hong Kong International hosts more than 30 high-end designer clothing shops; Singapore Changi Airport offers cinemas, saunas, and a tropical butterfly forest; while McCarran International Airport Las Vegas has a museum and Amsterdam Airport Schiphol has a Dutch Masters art gallery.

Other airports doing things differently include Frankfurt, which has the world's largest airport health clinic, serving more than 36,000 patients yearly. Detroit Metro Airport's "swanky" 420-room Westin Hotel is located just off its main terminal concourse as is Dallas-Ft. Worth's (DFW) International Airport's Grand Hyatt hotel, which serves as a fly-in virtual corporate headquarters for many U.S. businesses.[1] Beijing Capital International Airport's tenants include banks, while Stockholm Arlanda Airport's intensively utilized chapel conducted nearly 500 weddings in 2007.

Most major airports are diversifying, expanding and upgrading their retail offering, with leading gateways in Asia and Europe incorporating shopping streets, gallerias, and gourmet and culinary clusters along with arts, entertainment and cultural zones. These are being complemented by locally themed merchandise and

[1] "Home Is Where The Airport Is," *Business Week.* Issue 4047, August 2007, pp. 89-92.

dining outlets. Given the significantly higher incomes of airline passengers (typically three to five times higher than national averages) and the huge volumes of passengers flowing through the terminals (up to 88 million annually, compared to 8-12 million visitors annually for a large mall), it is not surprising that major airport retail sales per square foot are up to six times higher than shopping malls and downtown shops. For example, as Table 11-1 shows, airport terminal-based stores in the U.S. can generate annual sales from just under US$600 to over US$2,500 per square foot. Non-anchor tenants in the average U.S. regional mall, by comparison, produce approximately US$450 per square foot.[2]

Some airports in Asia and the Middle East substantially trump U.S. hub airport commercial revenues. For example, South Korea's Incheon International Airport had US$990 million in retail revenues in 2006,[3] while in that same year Dubai International Airport had US$712 million in duty-free sales alone.[4] Growing at 17% per year, Incheon aims to have US$3 billion in retail sales by 2015.[5] Dubai International's retail growth is even faster, exceeding 20% annually.[6]

In addition to incorporating an expanding variety of shopping and leisure venues into passenger terminals, airports are developing their landside areas with hospitality, entertainment and recreation clusters; office and retail complexes; conference and exhibition centers; logistics and free trade zones; and facilities for processing time-sensitive goods. Such rapid expansion of airport-linked commercial development is making today's gateways leading urban growth generators. These airports, in fact, are taking on many features of metropolitan central business districts, increasingly operating as regional and national points of multimodal surface-transportation convergence and commercial development. This evolution in form and function has transformed numerous *city airports* into *airport cities*.

Airport City Drivers

Airport cities and the "greater aerotropolis" have evolved with different spatial forms predicated on available land and ground transportation infrastructure. Yet, virtually all emerged in response to four basic drivers:

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. Airport expressways serving as a catalyst and magnet for airport-linked business development.[7]

Along with air traffic patterns, surface connectivity, land price and the nature of the local market—for example, the resident population's retail demands—play a role in airport area development. So do airport boundaries. Those airports with limited developable property will see substantial airport-driven commercial development taking place "outside the fence," typically along connecting expressways.

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

Airport areas are attracting businesses, workers and residents at a heightened pace, typically growing considerably faster than the metropolitan suburban area in which the airport is located. Commercial development reflects not only air passenger and business needs but also airport employee needs in terms of incidental services. These services include housing, recreation, food services, retail, health, child day care, and so on, that growing numbers of airport and airport-linked business employees desire or even require. Often, those needs are being provided in large mixed-use developments in the airport region. Hence, many airport areas have also become metropolitan growth nodes.

New Management and Investment Opportunities

Consistent with their growing commercial roles, airports are altering their operational management and opening up opportunities to developers and investors. Numerous airports have established retail and/or commercial real estate divisions and are increasingly partnering with the private sector to develop their landside areas and to collaborate on projects beyond airport boundaries (see Box 11-1 for examples).

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[2] John Connolly, "Sales Productivity Picks Up in May," *International Council of Shopping Centers U.S. Mall Report.* Vol. 3, (Issue 5), 2008, pp.1-3.
[3] Gavin Lipsith, "Getting to the Heart of Seoul's Tender," *Duty-Free News International.* Vol. 22 (No. 5), 2007, p. 49.
[4] "Dubai Duty Free Sales Soar to USD712 Million in 2006," Middle East Company News Wire. January 3, 2007.
[5] Gavin Lipsith, "Incheon Aims for $3bn Duty-Free Sales by 2015," DFNIonline.com. May 29, 2008.
[6] "Dubai Duty Free Sales Soar to Dhs3.175bn," Middle East Company News Wire. January 2, 2008.
[7] Christopher LeTourneur, "The Bricks and Mortar of Global Commerce." *Airport World.* Vol. 6 (No. 6), December 2001-January 2002, pp. 36-40.

Box 11-1
Airports Develop Their Landside Areas and Beyond

Aéroports de Paris has established a real estate division to act as the developer, general contractor and construction project owner and manager of landside commercial properties at Paris' Charles de Gaulle and Orly international airports.

China Capital Airport Holdings is rapidly proceeding with its highly ambitious Beijing Capital International Airport City, whose master plan takes an expansive definition of airport functions. These include, among others, shopping, entertainment, education, sports and leisure, logistics, light manufacturing, finance, trade, and housing—mostly being developed in partnership with the private sector.

Dallas-Fort Worth International Airport's management is aggressively expanding its real estate development business, leasing airport land to a wide variety of commercial tenants. Together with private-sector partners, it plans to develop over 5,000 acres of property for office, hospitality, retail, dining, entertainment and wellness.

The Metropolitan Washington Airport Authority has purchased 400 acres adjacent to its western boundary, where it is partnering with private-sector developers to create an airport-linked commercial complex.

Hong Kong International Airport has established both commercial and real estate divisions to boost its terminal retail and to develop SkyCity, a 10 million sq ft retail, exhibition, business office, and hotel and entertainment complex near its passenger terminal.

Malaysia Airports Holdings Berhad is developing Kuala Lumpur International Airport's airport city, which is commercially anchored by its large Gateway Park that, in addition to retail and office development, includes motor sports, an automotive hypermarket and leisure venues drawing on the local as well as aviation-induced market.

Incheon International Airport Corporation is developing the airport's "Air City," which encompasses international business areas, logistics zones, shopping, entertainment and tourism districts, as well as housing and services for airport city workers and residents.

Dubai World Central is a US$82 billion airport-centered city being built around its new Al-Maktoum International Airport, which is 25 miles south of downtown Dubai. Corner-stoned by a massive multi-modal air logistics hub, the airport city will include a megamall, office towers, hotels, golf course and housing for 20,000 on-site workers.

Amsterdam Airport Schiphol, through its Schiphol Real Estate Group, has been involved for more than a decade in landside commercial development which includes business office complexes, hotels, meeting and entertainment facilities, logistics parks, shopping and other commercial activities branded under the AirportCity name. More than 60,000 people are employed at Schiphol, which integrates multi-modal transportation, regional corporate headquarters, retail and entertainment, logistics and exhibition space to form a major economic growth pole for the Dutch economy.

Further extending their reach, some airports are even buying and/or operating other airports through special investment management divisions. Schiphol Group, Malaysia Airports Holdings Berhad, Frankfurt Airport, Spain's Ferrovial Group (including its new subsidiary, British Airports Authority), and Singapore Changi Airports International are among those pursuing such ventures.

Since airport commercial revenue flows are rising and relatively predictable, there is emerging private-sector interest in securitizing them for major up-front capital. This, together with airport monopoly or oligopoly position in major markets, have made them favorite venture targets of investment firms such as the Blackstone Group and Macquarie Bank, which typically upgrade and expand airport retail, food and beverage and hospitality to meet both user and shareholder expectations.

The Rise of the Aerotropolis

Airports are undergoing a significant transformation, taking on commercial functions previously reserved for private enterprise and spatial forms previously reserved for shopping malls and cities. Many airports also have the density of highway and railway connections that are usually associated with central business districts, reinforcing their new role of driving business location and urban development over an extended area. With the airport itself serving as a region-wide multi-modal transportation and commercial nexus, strings and clusters of airport-linked shopping centers, business parks, information and communications technology complexes, hotel and entertainment centers, industrial parks, logistics parks, wholesale merchandise marts and mixed-use developments are forming along airport arteries up to 20 miles outward.

Large, contemporary airport-oriented "edge cities" are also evolving as new anchors of post-modern suburban development. For example, the city of Las Colinas, just east of DFW, hosts five Fortune 1000 corporate headquarters and 2,000 other companies with signature shopping, residential, hospitality, and recreational complexes.

Amsterdam Zuidas, which is six minutes from Schiphol's terminal, provides 10 million sq ft of class-A office, retail and hospitality real estate, as well as 9,000 multi-family residences. Zuidas houses the world headquarters of ABN Amro and ING banks, as well as numerous regional corporate headquarters.

New Songdo City, near South Korea's Incheon International Airport, is being developed by New York's Gale International and Posco (South Korea's largest steel producer). This 1,500 acre, US$30 billion mixed-use project is the largest private-sector development in the world, following in scale the US$82 billion government-sponsored Dubai World Central that is being developed around the new Al-Maktoum International Airport.

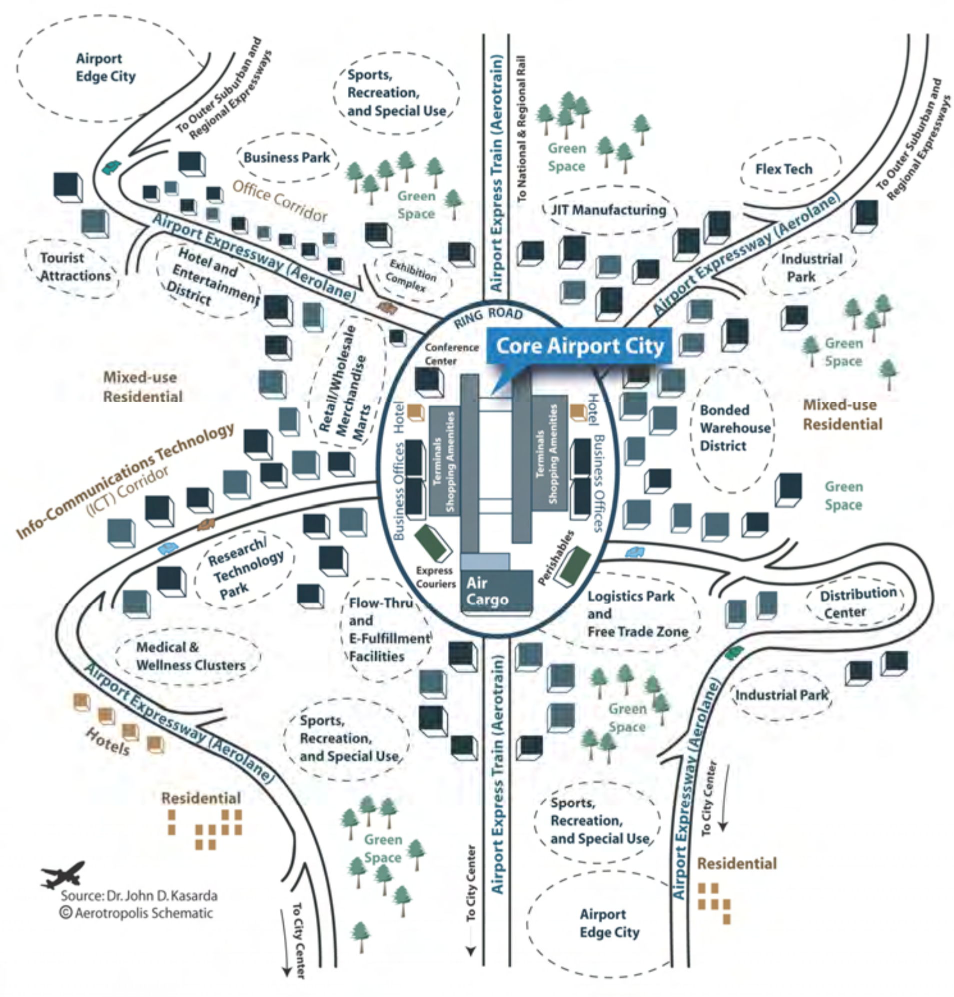
Evolving airport edge cities, together with substantial other airport-centric commercial development, are giving rise to a new urban form—the aerotropolis. Similar in shape to the traditional metropolis, made up of a central city core and its commuter-linked suburbs, the aerotropolis consists of an airport city core and extensive outlying areas of aviation-oriented businesses and their associated mixed-use residential developments. A synthesized rendering of the aerotropolis based on functions forming around major international airports is illustrated in Figure 11-1.

Reflecting the new economy's demands for connectivity, speed and agility, the aerotropolis is optimized by corridor and cluster development, wide lanes and fast movement. In other words, form follows function. Airport expressway links complemented by airport express trains bring cars, taxis, buses, trucks and rail together with air infrastructure at the multi-modal commercial core, the airport city. Aviation-linked business clusters and associated residential developments radiate outward from the airport city, forming the greater aerotropolis.

Destination shopping mall complexes and merchandise marts have formed along airport corridors both to leverage airport connectivity and capitalize on the regional surface accessibility that such locations provide. In some cases, such as the Mall of America (MOA) near Minneapolis-St. Paul International Airport (MSP) and the Dolphin Mall near Miami International, a substantial portion of shoppers come from as far as Asia, Europe and South America.

Figure 11-1

Schematic of an Aerotropolis



Source: Author

Canada's Triple Five Group, the developer of the 4.2 million sq ft MOA, has forged a close relationship with MSP and its hub airline, Northwest, to bring in over one million international passengers annually. Here, they shop, dine, are entertained, meet and sleep at MOA and its associated hotels, conference centers and leisure attractions. A light rail line completed in 2004 quickly connects air passengers from MSP's terminals to MOA.

The extended commercial reach of airports is likewise illustrated by Market Center, located on the I-35 corridor to DFW. This cluster of six large buildings, containing nearly seven million feet of display space for fashion clothing and home furnishings is the world's largest wholesale merchandise mart. Developed by Trammell Crow, Market Center attracted buyers and vendors from all 50 states and 84 countries who, in 2007, purchased 300,000 airline seats and filled

720,000 nearby hotel rooms while conducting an estimated US$7.5 billion in transactions.[8]

The business services sector is also increasingly finding airport areas to be attractive locations. Airport areas have thus become magnets for regional corporate headquarters, conference centers, trade representative offices and information-intensive firms that require executives and staff to undertake frequent long-distance travel. Business travelers benefit considerably from quick access to hub airports, which offer a greater choice of flights and destinations and flexibility in rescheduling, as well as often avoiding the costs of overnight stays.

Firms specializing in information and communications technology and other high-tech industries consider air accessibility to be especially crucial. High-tech professionals travel by air 400% more frequently than workers in general,[9] giving rise to the term "nerd birds" in the U.S. for commercial aircraft connecting "techie" capitals such as Austin, Boston, Raleigh-Durham and San Jose. Many high-tech firms are locating along major airport corridors, such as along the Washington-Dulles Airport access corridor in Northern Virginia and the expressways leading to Chicago's O'Hare International Airport.

Restaurants, superstores, factory outlets and consumer services of all types are locating along airport corridors in order to attract a dual customer base of air travelers and locals, further fueling aerotropolis development. Athens International Airport, for example, has a large IKEA and Kotsovolos Megastore, as well as a major factory outlet complex in an airport retail park less than two miles from its main terminal.

Lastly, airport regions are even developing their own brand or location identities. Examples here include the "Amsterdam Airport Area," "the O'Hare Area" and "Dulles." The Dulles area, surrounding Washington, D.C.'s international airport in the Northern Virginia suburbs, contains almost as much class-A office and retail space as there is in downtown District of Columbia.

Aerotropolis Planning and Development Needs

To date, most aerotropolis areas have evolved largely in a spontaneous, haphazard and sometimes unsightly manner. Growing highway traffic associated with airports and airport area developments often create arterial bottlenecks. Strategic infrastructure and business site planning and development are required to reduce this congestion while generating greater returns to business and the region.

Positive aerotropolis development will require bringing together airport planning, urban planning and business site planning in a synergistic manner so that development is economically efficient, aesthetically pleasing, and environmentally and socially sustainable. To accomplish these objectives requires not only good external infrastructure but also the creation of an effective aerotropolis working and living environment through integrated planning and development. An improved physical and social environment can be created that (1) facilitates traffic flows in and out of the airport, (2) aligns businesses in proximity to the airport in relation to their frequency of use of the airport, (3) promotes fast airport access to both the downtown and enterprises located throughout the region, (4) locates commercial and residential developments that are sensitive to noise and aircraft emissions outside high-intensity flight contours and (5) creates mixed-use commercial/residential clusters where airport and airport-area employees can commute easily to work while residing in human-scale communities that are supported by adequate retail, service and community facilities.

The airport city and its broader aerotropolis are still in their earliest stages of evolution. Management, planning and development strategies are just beginning to catch up to what has largely been an organic process. The challenge now becomes to design and implement future airport city and aerotropolis development in a manner that brings about the greatest returns to the airport, its users, business and the larger community it serves.

For commercial real estate developers, there is a noteworthy caveat. Airport property investment tends to be far more complicated than broader "outside the fence" aerotropolis investment. The former typically requires extensive negotiation with multiple levels of government, as well as with airport management; long-term land leases (rather than fee-simple ownership) in which all structures eventually revert back to the airport; and innovative financial partnering instruments with the airport to share risk and returns. Despite these challenges, developers with vision and persistence have remarkable opportunities to successfully leverage what is likely just the beginning of the "aviation century."

[8] "DMC Overview," dallasmarketcenter.com. Retrieved August 6, 2008, from http://www.dallasmarketcenter.com/dmc/v40/index.cvn?ID=10121&stab=2.

[9] Steven P. Erie, John D. Kasarda, Andrew McKenzie and Michael A. Molloy, "A New Orange County Airport at El Toro: Catalyst for High-Wage, High-Tech Economic Development," Irvine, CA: Orange County Business Council. September 1999.

John Kasarda, Ph.D., is Kenan distinguished professor of management and director of the Kenan Institute of Private Enterprise at the University of North Carolina's Kenan-Flagler Business School (john_kasarda@unc.edu). He advises airports, developers and government officials around the world on airport city and aerotropolis planning and implementation. For further information, go to http://www.aerotropolis.com.