

# AEROTROPOLI: AIRPORT CITIES

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*Brief from the Conference Chairman:*

*“Contributor, competitor, misunderstood or misused. What is the role of aerotropolises in the future of our cities? How do they impact on the structure of our cities? Understanding and embedding the changing nature of airports and their role in the broader urban form is a challenge which needs to be better understood. In national capitals, airports are also major gateways to the city which influence accessibility, perceptions and tourism.”*

## **The Rise of the Aerotropolis**

Last month the New York Times nominated the “aerotropolis” as one of the “Ideas of 2006”.

It seems that everyone is talking aerotropoli or aerotropolises: it is an idea whose time has come.

The term “aerotropolis”, literally “airport city”, has been popularised by the American academic, Dr John Kasarda, to explain the fact that airports are much more than they used to be.

He uses the term aerotropolis to recognise the fact that in addition to their traditional aviation services, major airports have developed significant non-aeronautical commercial facilities, services and revenues. They are now multi-functional urban centres.

Because of this, and other changes in the global economy, airports are extending their reach and impact well beyond traditional airport boundaries.

An academic urban planner, Dr Kasarda’s point is that in a globalised economy, major airports are a decisive factor in an economy’s success, and their importance is driving the development of cities in the 21<sup>st</sup> century.

Dr Kasarda has predicted that because of the combination of globalisation and time based competition, the 21<sup>st</sup> century is set to become an aviation century.

## **Aerotropoli and the City States**

The most developed examples of aerotropoli are to be found in the rising economies of Asia and the Middle East – and typically in city states such as Hong Kong, Singapore, and Dubai.

- Hong Kong International Airport opened in the 1990s with a total project cost of US\$20 billion. The airport features a 550,000 square meter terminal with a high quality retail focus on international brands. The airport features hotels, extensive commercial and freight facilities, as well as highway, express train and ferry links to Kowloon, Hong Kong Island and mainland China. Also included are residential housing, leisure and entertainment facilities including a golf course and a convention-exhibition centre.
- Once its latest upgrade is complete, Singapore’s Changi Airport will have the capacity to handle 64 million passengers a year – which is 16 times Singapore’s population. The airport features supermarkets, a 350 room hotel, cinemas, swimming pool, saunas and a rooftop cactus garden. It is linked to the city of Singapore by a new trainline. There is also a strong focus on industry with the extensive Changi Airfreight Centre and a Free Trade Zone called the Airport Logistics Park of Singapore located alongside the airport.
- Ten years ago, Dubai International Airport handled 8 million passengers annually. Since then, it has grown by 300% to 25 million passengers. By 2025, there are forecasts that it will have 100 million passengers – making it the busiest airport in the world. It is the centre of significant economic activity, including the Dubai

Airport Free Zone and the Dubai Cargo Village. There is major investment underway with a new passenger terminal featuring a hotel, casino, health club and retail facilities, a “Mega Cargo Terminal”, and a rail connection to the city beyond all under construction.

These aerotropoli have some common features underpinning their growth and success.

Firstly, they are hub airports that are used by airlines to transfer passengers from one flight to another to get to their destination. Hong Kong’s ambition is to be Asia’s ‘superhub’, while Dubai’s goal is to be the ‘most advanced aviation hub, not just in the region, but in the world.’

Second, each is also home base to their national carrier: Hong Kong has Cathay Pacific, Dubai has Emirates and Changi has Singapore Airlines.

Third, the airports are also of great economic value to their city states. Changi Airport is estimated to generate around 9% of Singapore’s GDP.

Fourth, each airport is essentially controlled and developed by the relevant government.

These four factors are not a coincidence. They highlight the fact that these major airports are central to explicit strategies of national economic development. The aim is to capture the benefits of trade, of the movement of large numbers of people and cargo, to the benefit of their relatively small local populations.

The airports are “national champions” and are being developed by those governments as part of strategies for national economic development.

Singapore’s Lee Kuan Yew has said that Changi’s

“air hub status did not come about by chance. We were handicapped by our small domestic base and not especially favoured by geographical position. To succeed, we offered better services than our competitors and better connectivity.”

These airport city states are obviously creatures of the aviation age, but in another respect they are following the familiar historical patterns of cities arising along trade routes, at harbours and ports, and along rail-lines.

### **Different Reasons in Europe**

The rise of the aerotropolis began in Europe in the 1980s and airports across Europe have continued to develop and grow since then.

Europe is home to the busiest international airport in the world, BAA’s London Heathrow. BAA was privatised in the mid-1980s and now owns and operates 7 airports in the UK and has airport management contracts at airports around the world.

Heathrow is a major economic entity – indeed its new Terminal 5 is the largest construction project in Europe. Its intense connectivity with destinations across the world has made it a highly attractive location for logistics and time critical manufacturing. It is for this reason that the most expensive industrial real estate in the world is located alongside Heathrow. However there are problems emerging with congestion at Heathrow.

Elsewhere in Europe, the aerotropolis is being developed in ways which reflect national circumstances:

- Amsterdam's Schiphol airport has developed office complexes, hotels, and a logistics park. It also has a museum and a Dutch Masters Gallery. 58,000 people are employed on the grounds of the airport. It is one of the 10 busiest airports in the world. National and regional governments maintain ownership of Schiphol, which has also taken ownership stakes in other airports, including in Australia.
- Frankfurt Airport is a major European hub and is also one of the 10 busiest airports in the world. It already has extensive office, cargo and commercial development and last year it acquired facilities that were previously home to the United States military. Massive new investments are planned for this land bank.

In Asia and the Middle East, the role of government in owning and building the airports as "global champions" of national economic development has been critical.

In Europe, the trend is different. Instead of being dependent on government, it has been largely government's decision to withdraw from their legacy of direct 100% ownership that is driving the development of large airports. Across Europe, governments have either partially or fully privatised a host of airports including: Vienna, Frankfurt, Rome, Brussels, Hamburg, Dusseldorf, Copenhagen, Budapest, Heathrow and the other BAA airports.

Of course, Macquarie Airports has been significantly involved in these European developments. In addition to its majority ownership of Sydney Airport, MAp has purchased stakes in airports at Brussels, Copenhagen and Rome; and Birmingham and Bristol in the UK.

The airports' new private owners, having purchased the assets from the Government at a commercially competitive price, have an unambiguous incentive to further develop the airports to recover their investment and earn a good return.

Private owners have the motivation to look for new opportunities to provide the services that people want. If they can do this successfully they will generate increasing returns. This involves looking anew at assets and facilities that have been under-developed, and acting to realise their inherent potential.

All of this innovation involves risk – some of the investments will be a commercial success, and some others won't. These are commercial risks that the government sector does not need to fully carry, and hence the decision to privatise.

In America, most airports are owned or controlled by local or regional authorities.

The United States, like Australia, is a Federal system. The U.S. Government regulates and basically underwrites the funding of U.S. airports. While America has some of the largest airports in the world they are generally not seen as being at the cutting edge in terms of their economic development.

They neither enjoy the status and benefits that accrue from being the national champion, but nor do they get the benefits that arise from having active and willing private sector owners who operate with a clear set of incentives.

Recently there are some signs that airport managements in certain U.S. cities are seeking to provide more commercially related ancillary services. Moreover, a few smaller city airports are being considered for privatisation. In the case of the U.S. I think we have to “watch this space”.

### **Sydney as a Global City**

So, how does this concept of the aerotropolis fit Sydney and Australia?

Firstly, remember that in a global population of 6.7 billion, Sydney’s population of 4.3 million is relatively small.

Sydney is also located many thousands of kilometres away from the major economies of Europe and North America, although closer to developing Asian economies.

In the modern globalised economy, Sydney’s economic importance and success is therefore not determined by its demographic significance nor its central location.

While Sydney Airport acts as a mini-hub for the Australasian market, it is not a true hub like Changi or Heathrow. The routes to Australia are too long and thin for it to be suitable as a global hub. Instead, the market in Australia is characterised by origin and destination flights.

Increasingly however, Sydney’s economic success does depend on the quality of its connections to other populations and economies.

This goes some way to explain the fact that, despite the limits of a relatively modest sized population base and the fact that it is not a genuine hub, Sydney Airport usually ranks among the 30 busiest airports in the world.

Sydney is the capital of New South Wales. It is also the largest city in Australia with about 20% of all Australians calling it home.

While Canberra is formally the national capital, Sydney is the finance and business capital and Australia’s leading city. It is the economic powerhouse of the nation and Australia’s only global city. Some key statistics underline this point:

- Sydney is the regional headquarters to more than 500 global corporations operating in the Asia Pacific region.
- Sydney’s economy is estimated to account for almost one quarter of Australia’s GDP.
- Sydney is Australia’s premier tourist destination with 2.93 million international visitors each year and globally recognised attractions such as the Sydney Opera House and the Sydney Harbour Bridge

- The Gross State Product of New South Wales is \$310 billion, meaning that the regional economy is larger than those of Hong Kong, Thailand, Singapore, Malaysia, New Zealand or the Philippines.
- Sydney's multicultural workforce is ideally suited to the global economy with 180 different ethnic groups and over 140 languages spoken.

Sydney Airport handles 46% of all Australian international traffic - some 9.8 million passengers in the last financial year.

In total, last financial year Sydney Airport managed 282,649 aircraft movements and 29.1 million passengers. It serves 43 airlines and connects to:

- 50 international destinations
- 21 domestic destinations and
- 27 regional destinations

The airport is a major economic contributor to Sydney. It provides direct employment for more than 60,000 people and makes a contribution of \$6.6 billion to the Gross State Product of NSW.

As an airport serving what is an essentially origin/destination market, it is well placed to benefit from the growth of the low cost carriers that are emerging around the world and particularly in Asia. So far, low cost carriers have not had the equipment to service long haul destinations such as Sydney. However this equipment is starting to become available.

By increasing the affordability and accessibility of international flying the advent of the low cost carrier is democratising the entire industry and opening the world up to many more people than could previously afford to travel regularly.

### **Is Sydney Airport an Aerotropolis?**

While Sydney Airport has an undoubted economic importance, can it be understood as one of Dr Kasarda's aerotropoli?

One of the criteria Dr Kasarda lays out for an aerotropolis is that it has significant non-aeronautical commercial facilities, services and revenues.

This is certainly the case at Sydney. For the financial year 2005-06 revenues from non-aeronautical sources, such as retail, property, car parking and commercial trading accounted for 52% of Sydney Airport's business.

This is expected to grow in the future as new developments, like the \$20 million redevelopment of our T2 terminal comes on stream. This work is nearly complete, and involves increasing the number of retail outlets from 23 to 53, including a pub. The modern flyer is not a camel.

This diversification is important for airports as a reliance on one revenue stream leaves an airport extremely vulnerable to the external shocks that have, unfortunately, been a characteristic of the aviation industry over recent years. The diversification of activities and revenues means that an airport has the commercial resilience to withstand the shocks caused by terrorism, the Ansett collapse, SARS, and bird flu.

One of the other criteria for an aerotropolis that Dr Kasarda has set out is that it extends its reach and impact well beyond airport boundaries.

This is also certainly the case for Sydney Airport.

In just the last 8 years billions of dollars have been spent on new transport infrastructure that has closely integrated Sydney Airport to both Sydney's CBD and its greater metropolitan region.

- 1999: The Airport Motorway Company opened the Eastern Distributor to give the CBD and suburbs of the north shore express access to the airport.
- 2000: The Airport Rail Link was opened providing, for the first time, rail access to the airport from the CBD through the East Hills line.
- 2001: The NSW Government opened the M5 East providing motorway access to the airport from the rapidly expanding south western suburbs, the M5 and Hume Highway.
- 2005: The Cross City Tunnel opened, providing improved access to the airport from the increasingly affluent suburbs of the inner west.
- 2005: The Westlink M7 opened providing uninterrupted motorway access to the airport for hundreds of thousands of people in the western suburbs of Sydney, including the logistics hubs around Eastern Creek, Erskine Park and Wetherill Park.
- 2007: Next month the Lane Cove Tunnel will open providing an uninterrupted trip to the airport from the fast growing business parks around Ryde, Macquarie University and Norwest.

The completion of the Lane Cove Tunnel also marks the completion of the Sydney Orbital motorway network. The airport is a key destination served by the orbital – which in fact passes right under the main runway.

In just eight years, the airport has become more connected, more interlinked, with the workings of Sydney than many would have considered achievable in the mid-1990s.

The scale of the change is dramatic. In 1995, the M5 South West Motorway carried an average of 45,000 vehicles each day. By 2005, this figure had more than doubled to 105,000.

A major expansion of Port Botany has recently been approved and there are other transport projects still on the drawing board:

- M4 East to improve access from Parramatta and the western suburbs to the airport and Port Botany.
- F6 North to improve access to the airport and CBD from the Illawarra and Sydney's southern suburbs.
- The proposed Southern Sydney Freight Line from Macarthur to Sefton to facilitate the increased use of rail for the movement of freight from Port Botany – and relieve congestion around the airport.

### **Future Developments**

This accessibility and connectedness is determining the patterns of development around the airport and around Sydney. There are other major projects either already underway, or well advanced in their planning stage:

- North Arncliffe Redevelopment: Already well underway, this is a major urban renewal project located within easy jogging distance of the airport. It is planned to create a community of approximately 8,000 residents.
- Cooks Cove: This redevelopment is across the Cooks River from the International Terminal and involves developing a 22 hectare "commerce and technology gateway" that is projected to provide employment for 11,500 people
- Green Square Urban Renewal Area: This project aims to redevelop Green Square, located between the Airport and the CBD, so that by 2021 it will be home to more than 33,000 people, with more than 28,000 people expected to be working in the area. The total commercial and retail floor space is estimated at 900,000 square metres.

In addition, the future development of Sydney Airport itself will further boost the economic contribution that the airport makes to Sydney. Sydney Airport will invest \$1.256 billion of capital expenditure in the years 2007-11.

There will be a significant expansion of the International Terminal, as well as \$300 million for non-aero commercial and property investments.

Sydney Airport has a range of key development opportunities. There are 70 hectares suited to, and master planned for, non-operational land uses, including:

- International Precinct: 120,000 square metres of floor space for office/hotel sites
- Domestic Precinct: 120,000 square metres of floorspace across 12 sites
- Southern Precinct: Business Park opportunities
- Northern Precinct: Freight development
- A Major Development Proposal for a retail development in the southern sector is currently being considered by the Federal Government.

Given the airport's strategic location, just 8 kilometres from Sydney's CBD and served by multiple modes of transport, this is an impressively strategic and highly attractive landbank for development that will further support the multi-functional character of the airport.

This is all in accord with Dr Kasarda's prescriptions of an aerotropolis. With the airport at the core and business and residential developments radiating outwards, all supported by the improved suite of transport facilities, the key driver is not "location, location, location" – but "accessibility, accessibility, accessibility".

### **Regulation of the Aerotropolis of the Future**

As part of a federal system of government, all developments, both aeronautical and non-aeronautical, at Australian airports are regulated and controlled through national legislation. The Airports Act 1996 has as one of its objects:

"To promote efficient and economic development and operation of airports"

The legislation made by the national Parliament explicitly supports the economic development of airports.

To achieve this the Act provides for extensive public consultation through the Master Plan, Major Development Plan and Environment Strategy processes, with these documents being available for public and stakeholder comment for periods of 90 days. The Federal Minister for Transport has the approval power for these plans and the Australian Government's Department of Transport and Regional Services has the responsibility for enforcement of the Act and Regulations.

Given the economic resources that are at stake – and the way airports link cities around the nation, and around the world, - this is as it should be.

I ask anyone to seriously contemplate an alternative regulatory model that involved local and state government participation in the supervision of airports. The regulatory confusion

would paralyse the process and create uncertainty. It would undermine investment confidence and stifle the economic development that the national Parliament wants to see.

Unfortunately one of the corollaries of a federal system is that state and local governments generally do not see the value of economic activity generated by major airports. They are much more concerned by local interests who see airports as principally providing services to local and regional travellers.

In a way it is more the honouring of a uniquely Australian tradition: non-cooperative federalism. Its most famous product was, of course, the Australian railway system with its multiplicity of gauges.

Mark Twain certainly enjoyed the joke. In 1897, he visited Australia and travelled between Sydney and Melbourne and got to experience the joys of a national transport system that was not nationally regulated:

*Now comes a singular thing: the oddest thing, the strangest thing, the most baffling and unaccountable marvel that Australasia can show. At the frontier between New South Wales and Victoria our multitude of passengers were routed out of their snug beds by lantern-light in the morning in the biting-cold of a high altitude to change cars on a road that has no break in it from Sydney to Melbourne!*

*Think of the paralysis of intellect that gave that idea birth; imagine the boulder it emerged from on some petrified legislator's shoulders.*

*It is a narrow-gauge road to the frontier, and a broader gauge thence to Melbourne. The two governments were the builders of the road and are the owners of it. One or two reasons are given for this curious state of things. One is, that it represents the jealousy existing between the colonies - the two most important colonies of Australasia. What the other one is, I have forgotten. But it is of no consequence. It could be but another effort to explain the inexplicable.*

In a globalised world, there is no case to be made for a retreat to parochial 19<sup>th</sup> century regulation of major transport and economic infrastructure.

## **Working Together**

The term aerotropolis is a useful one to capture attention and to describe the economic benefits that a major airport produces for the community.

A successful airport is clearly a driver of a city's and region's economic performance. This is the thinking that has underpinned the development of airports in Singapore, Hong Kong and Dubai.

But equally, a successful and productive city will determine to a significant degree, an airport's performance. The need for a mutually supportive relationship between the airport and Sydney has been recognised in the NSW Metropolitan Strategy's 'City of Cities' which has identified Sydney Airport as a 'specialised centre' that performs vital economic and employment roles.

But more than that, the Strategy also identifies 'Sydney's global arc', - a corridor that runs from Macquarie Park, to North Sydney, to the CBD that is linked to the Airport - as a critical feature of Sydney's and Australia's economy. The Strategy describes Sydney's global arc as being:

“built on the benefits that businesses involved in such areas as finance, legal services, information technology, engineering and marketing have derived from being near to each and to *transport infrastructure such as the airport.*”

Co-operation and consultation between airport operators, aviation regulators and government planning agencies is an increasingly important requirement if the aerotropolis of the future is to meet its full potential to drive high technology services oriented development. Private capital is an essential element of the Australian model. Given the demands on Government in most developed nations for increasing levels of service, I do not see a reversion to state ownership of major privatised airports.

The challenge is to ensure that an appropriate balance is found to enable owners/shareholders to achieve commercial returns while providing an appropriate range of economic services to airport users and related industries.

Thank you.