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# **Competition between airports in the new Millennium: what works, what doesn't work and why**

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## **A. Introduction**

Until the 1980s, the traditional view of airports, held by many governments, industry operators and academics, was that airports were monopolies (a view still held by many today). Airports were seen as, and generally operated as, monopoly providers of services to both airlines and passengers. Airports were not perceived as being subject to competitive forces. As such, there was little an airport could do to increase demand for its services or divert demand from other airports. Airport marketing was viewed as an oxymoron.<sup>1</sup> Airports were largely passive service providers. The job of marketing and identifying new air service opportunities was left to the airlines.

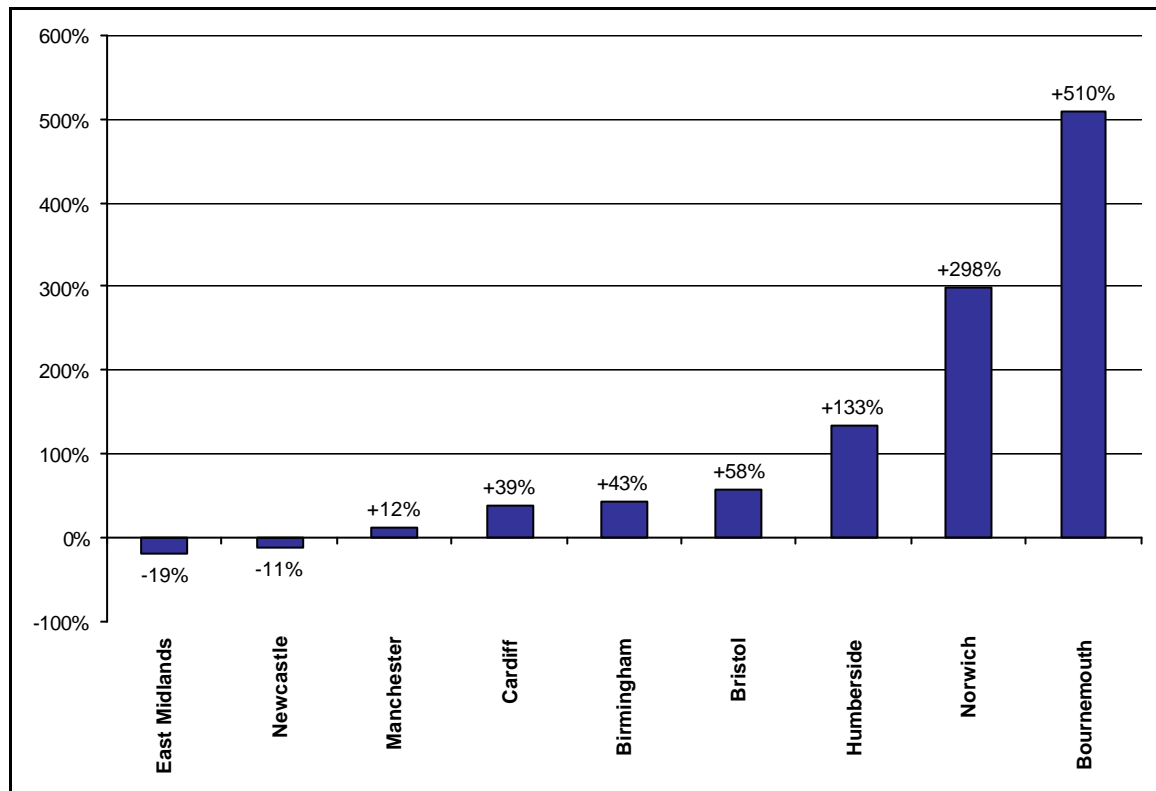
The deregulation of the aviation industry in many parts of the world led to a change in the way airports were operated. Deregulation was largely focussed on the airlines, although many countries, notably the UK, Australia, New Zealand and Canada, have also divested or privatised their airports and air traffic control services. As a result of deregulation, airlines have become much freer to operate out of any airport of their choosing. Deregulation led to development of Low Cost Carriers (LCCs), in many cases operating out of secondary, uncongested, lower cost airports, challenging the monopolist approach of the traditional airports. The aggressive expansion of the LCCs and their frequent choice of secondary airports has resulted in airports, both primary and secondary, discovering that there may be great payoffs to more sophisticated and aggressive marketing strategies.

The increasingly competitive nature of the airport market is reflected in the increase in staff and resources employed in marketing functions for the airport. For example, as shown in **Figure 1**, a recent study of

<sup>1</sup> See M.W. Tretheway "Airport Marketing: An Oxymoron?" in G. Butler (eds.), Handbook of Airline Marketing, McGraw Hill, 1998.

airport management illustrates the increase in marketing staff per passenger at selected regional airports in the UK between 1991 and 1997.<sup>2</sup>

**Figure 1: Percentage change in marketing staff per passenger at selected UK airports 1991 - 1997**



Source: *Managing Airports: An International Perspective*, Anne Graham, Butterworth Heinemann, 2001.

This paper discusses the nature of competition faced by airports in many of the areas in which they operate. It then discusses strategies airports can adopt (and have already adopted) in the new millennium to compete with other airports.

## **B. Airports operate in a number of competitive markets**

Many of the services provided by airports fall within competitive markets, and airports are (or should be) active players in competing for customers. Airports compete in the following ways:

<sup>2</sup> *Managing Airports: An International Perspective*, Anne Graham, Butterworth Heinemann, 2001. Although the marketing staff per passenger ratios fell at East Midlands and Newcastle airports between 1991 and 1997, the absolute level of staffing at both airports did increase over this period.

- competition for serving a shared local market;
- competition for connecting traffic;
- competition for cargo traffic;
- destination competition;
- competition for non-aeronautical services (retail, food & beverage, etc);
- competition with other modes (e.g., Eurostar, TGV, etc).

The latter two forms of competition relate less to competition between airports. For example, airports compete for retail and food & beverage spending largely with non-airport providers of these services. The first four types of competition between airports are discussed in more detail below.

### ***Competition for shared, local markets***

Where airports are located in close proximity of each other, they compete for both passengers and air service. Many cities have two or more airports through which passengers can access air service.

Examples include:

- Chicago: O'Hare and Midway.<sup>3</sup>
- New York: JFK, Newark, La Guardia, Islip (Long Island) and Westchester County.
- Washington: DC: Dulles, Reagan National and Baltimore/Washington.
- Brussels: Brussels Zaventem and Charleroi.
- Hamburg: Hamburg and Lübeck.
- London: Heathrow, Gatwick, Stansted, London City, Luton.<sup>4</sup>
- Paris: CDG and Orly.

In many cases, the airports have focussed on different market segments. For example, Heathrow dominates the long haul market from London, while Luton and Stansted in particular have become Low Cost Carrier (LCC) airports. However, many airports serving a single region offer competing services; all of the five London airports listed above have air service to Paris. There is increasing evidence that consumers will substitute between airports. A business traveller from London may choose to use London City airport to travel to Paris due to its location and ease of check-in. That same traveller, when travelling for leisure purposes to Paris, may choose Luton instead to take advantage of lower fares offered there. Travellers will select the airport based on a number of factors, some of which the airport cannot control (e.g., distance),<sup>5</sup> and some over which can exert some control or influence – price, service levels, check-in processes, etc.

<sup>3</sup> In addition, Milwaukee County airport, roughly 90 minutes north of Chicago, claims it is the '3<sup>rd</sup>' Chicago airport, as do Gary Indiana and Rockford Illinois.

<sup>4</sup> Heathrow, Gatwick and Stansted are all owned by BAA Plc.

<sup>5</sup> Even here, airports which invest in or advocate for highway or rail access projects may be able to reduce travel time to their airport, thereby influencing consumer choice.

The growth of the LCCs have provided smaller airports with increased opportunities to compete with more established airport competitors. The common view of these airports is that they are generally more remote than the established airport, and travellers choose to fly from the airport primarily due to the lower price offered.<sup>6</sup> However, it is our view that this only one dimension of how consumers choose airports. Perhaps more important is that many of these secondary airports have 'primary' catchment areas of their own, for which the secondary airport is much more convenient than the region's primary airport. As an example, Hamilton International (YHM) Airport in Ontario, used by LCCs such as WestJet and CanJet has developed as an alternative to Toronto's Lester B. Pearson International Airport (YYZ). The primary catchment area of YHM has a population of approximately 850,000, for whom YHM is closer than any other airport. When populations roughly equidistant from YHM and YYZ are considered, the catchment area increases to just under 3 million population. This is a population size greater than that of Vancouver, Canada's second busiest airport market. Prior to development of passenger air service at YHM, travellers in this catchment area had to travel to YYZ. They now have a more convenient alternative. Development of air service at Hamilton is resulting in attracting passengers from its primary catchment area due to its locational advantage, not due to low fares. Another example, is the rise of U.K. airports such as Nottingham East Midlands, Leeds Bradford and Liverpool John Lennon. These airports now provide air service to serve their own immediate local markets, where previously Manchester Airport had been the dominant (and sometimes the only) choice of airport.

### ***Competition for connecting traffic***

At many major airports, connecting traffic is a major component of the total traffic handled. At a number of major hubs, connecting traffic makes up more than half of the total passenger traffic handled by the airport. A number of secondary airports also participate in the connecting traffic market. Southwest Airlines' major connection points are almost all secondary airports such as Houston Hobby Airport, Dallas Love Field, Baltimore/Washington Airport, Chicago Midway, etc.

For almost all connecting traffic there are alternative connecting points. A traveller flying from Los Angeles in the U.S. to Mauritius in the Indian Ocean can travel there via a point in Asia (Hong Kong, Singapore, Kuala Lumpur), Europe (London, Paris, Frankfurt, Zurich), the Middle East (Dubai) or Australia (Sydney). A passenger travelling from Aberdeen, Scotland to Rome can get there via London, Paris, Amsterdam, and so forth.

Connecting traffic can easily shift from one airport to another if cheaper, faster and/or more convenient connections become available. For example, Dubai has emerged as a major connecting airport, as a result of Emirates' rise as a 6<sup>th</sup> freedom carrier. While it may be tempting to view connecting traffic as fairly stable, shocks can occur which result in a quantum change in an airport's traffic. Consider the following:

- As a restructured US Airways reduced service at its traditional hub, Pittsburgh, that airport has lost noticeable levels of connecting traffic.

<sup>6</sup> E.g., Charleroi is 46 kms from the centre of Brussels while Brussels Airport is about 15 kms.

- KLM and Northwest have indicated that Paris may be developed as the major intercontinental connecting point for their combined networks.<sup>7</sup>
- Hypothetically, if United Airlines were to enter into Chapter 7 bankruptcy (i.e., liquidation), Washington Dulles airport, which United has developed as a substantial connecting hub, could lose much of its connecting traffic to another hub, such as Philadelphia.
- Hypothetically, if American Airlines were to enter Chapter 7 bankruptcy, Houston Airport could emerge as the major connecting point for South American traffic from the U.S., through Continental's network, supplanting American's hub at Miami Airport.<sup>8</sup>

While hub airports are clearly dependent on the operating strategies of the airlines, they influence these strategies through pricing, runway/terminal capacity and other factors.

### ***Competition for cargo traffic***

Cargo traffic can make up a major proportion of an airport's traffic base. ACI estimates that cargo accounts for approximately 17% of annual airport revenue, on average.<sup>9</sup> Cargo traffic, both origin/destination (O/D) and transshipment/connecting traffic, is highly competitive. Today, much of the North American courier traffic to the Greater Toronto region flies to nearby Hamilton Airport and is then trucked to/from Toronto. Hamilton airport handles approximately 100,000 tonnes of cargo each year that otherwise would likely have passed through Toronto International Airport. As Hamilton has lengthened its runway it is now competing for intercontinental cargo flights as well.

Cargo traffic is highly price sensitive and can easily shift to alternative routings. If cargo rates for direct service from Amsterdam to Tokyo are too high, or if capacity at Amsterdam is limited, then the cargo can be trucked and flown via Brussels, Frankfurt, Paris, or Liege. It can also be flown from Amsterdam to Hong Kong, Vancouver, San Francisco, and so forth for onward carriage to Tokyo. Air cargo is notorious for being "gateway competitive", and airports must view much of their cargo traffic, even O/D cargo traffic, as subject to vigorous competition.

### ***Destination Competition***

Airports have a role in competing for destination traffic, as they are part of the overall tourism package offered by a destination. The quality, cost and scope of service offered at by an airport impacts on the overall attractiveness of a destination. As the scope and frequency of air service to and from an airport increases, so does the overall attractiveness of the destination served by the airport.

One area where this is particularly important is the convention market. Convention planners consistently rank air service to a community as one of the top two criteria in choosing a site for a convention. Another

<sup>7</sup> The carriers have indicated that Amsterdam is expected to remain a connecting point, but somewhat more focussed on intra-Europe traffic.

<sup>8</sup> American Airlines acquired Eastern Airline's routes to South America in 1989 following the latter airline's collapse. American chose to continue using Miami as the hub for these services, as Eastern had been doing, rather than shift operations to one of its existing hubs.

<sup>9</sup> www.aci-na.org.

example of destination competition is the cruise line market, one of the fastest growing tourism markets globally. Cruise line decisions on embarkation point will often depend on factors such as how well integrated the airport is with the cruise port, as well as with the scope and competitiveness of air services. A number of cruise lines in the Mediterranean operate circle itineraries, and any port of call could be used by the cruise line as the itinerary embarkation point. As another example, via airport marketing investment, the Vancouver International Airport was able to move roughly 500,000 annual passengers to it from Seattle for the Alaska cruise.

## C. The Four P's of Marketing

The previous sections have argued that airports provide services in many markets that are competitive. This is not say that there are no airports services that should be considered to be monopolies, but there are many airports and many airport services that are demonstrably subject to competition. Having discussed the nature of airport competition, we move on to examine strategies that airports can utilise to compete with other airports. To do this the familiar paradigm used in the marketing field will be used. This involves strategies related to the classic "four P's of marketing", familiar to students of business administration and marketing:

- product;
- price;
- promotion;
- physical distribution.

The first area of this marketing paradigm is defining the **product** to produce and sell. This includes issues such as the functionality, styling and quality of the product, as well as the support and accessories provided for the product. Ultimately, 'product' is about developing a good or service which will be useful and attractive to the market. For example, a few years ago Boeing developed the Sonic Cruiser as a product which provided shorter travel times than current aircraft. However, Boeing found that the market (i.e., the airlines) did not so much want a faster aircraft, but rather a more cost effective one, and switched development to the 787.

**Price** is the second dimension of marketing. Here the marketing issue is what price (or prices) the chosen products will be sold at, or alternatively, what price segments of the market to pursue. Pricing the product too high could result in loss of sales to less expensive products that are reasonable substitutes. For example, if a burger chain prices its meals too high, it may lose sales to other, lower-priced burger chains, to alternative products (subway sandwiches), or families may decide to save money by eating home-cooked meals. Equally, pricing too low can result in sub-optimal revenue levels. There may also be different consumers at different price points, and choosing which to serve is an important strategic decision.

**Promotion**, the third area, involves creating awareness of the product and price with potential consumers. Some claim that promotion itself can create "image" value, such as the image created by advertisements for certain sports cars.

The last P, **physical distribution**, has to do with getting the product to the consumer. A manufacturer may offer a great product at a great price and may have succeeded in creating awareness in the consumer and getting the consumer to commit to a purchase, but if the product cannot be delivered where and when the

consumer wants it, the sale will be lost. Traditionally physical distribution has been thought of as a "place" value, but today the time value must also be considered. Physical distribution is relevant not only to manufacturing industries but also to service industries. For example, in the airline industry the product needs to be made available to consumers where and when they want it via computer reservations systems (CRS), websites and the like.

## D. Applying the Four P's: Airport Strategies for Competing

### D1. The Airport Product

Each airport provides a product to air carriers and passengers with certain physical and operational characteristics. These characteristics can have a major impact on the type and quantity of traffic handled by the airport. Just like any consumer product, airports need to examine the package of features they want to provide in order to develop a product attractive to the market. Consider the package of features (both positive and negative) presented by a typical primary and secondary (low cost) airport:

Primary Airport	Secondary Airport
Closer to the city	More remote location to the central city(not always the case), but closer location to some parts of the metro region
High frequencies	Lower frequency
Wide range of non-stop destinations	Limited non-stop destinations
Enables connecting traffic	Focused on point-to-point traffic
Higher fares	Low fares
Wide range of retail and food & beverage	Limited retail and food & beverage offered
Capacity constrained (due to physical or political limitations)	Ample capacity, uncogested
May be subject to night curfew or noise quotas	Typically 24 hour operations
Wide range of handling equipment and facilities	Some handling equipment may be unavailable (E.g., wide body main deck cargo loaders)
Higher airline operating costs due to long taxi times, congestion, higher labour rates	Lower airline operating costs due to short taxi times, lack of congestion, lower labour rates

Both types of airports may be attractive to different customers (both airlines and passengers), depending how the air carriers weigh the trade-offs offered. The task for the airport management is ensuring that their product fits the market(s) they are targeting, and provides a competitive edge over rival airports.

**Infrastructure.** The core element of the airport product is its infrastructure: runways, taxiways, terminal, etc. This infrastructure impacts on the airport's competitive position, and the level of provision of this infrastructure should reflect the marketing strategy of the airport. A number of regional airports in British Columbia, such as Cranbrook and Kamloops, are seeking government and private funding to extend their runways or construct other infrastructure that would allow the airport to accommodate longer range aircraft. This infrastructure upgrade is an important part of strategy to further develop these regions as international ski destinations (the current Dash 8 air service does not provide sufficient baggage capacity to meet the needs of heavily laden ski visitors or a sufficient low cost per seat).

Many airports are currently facing the decision as to whether upgrade their facilities in order to accommodate the A380. Failure to do so could result in the loss or delay of connecting and O/D traffic. However, making this major upgrade when there is little likelihood of receiving A380 service also has a cost, as the investment would have to be recouped from existing traffic, reducing price competitiveness.

**Passenger facilitation.** Passenger facilitation is an increasingly important area in which airports can achieve a competitive advantage. Airport design and processes affects the amount of time required for passenger connections. As well, nowadays, passengers at nearly all airports must pass through rigorous security screening as must their baggage, and international passengers must clear customs and immigration. Meeting these requirements while ensuring the efficient movement of passengers and their baggage through the airport is receiving increased attention from airport managers.

Airports that manage to improve passenger facilitation processes to reduce processing and connection time can enhance their competitive position for attracting both O/D and connecting passengers. The airport will be more attractive to passengers, due to the reduced time and hassle involved, particularly for connecting passengers. (This can also have an impact on passenger or travel agent booking choices, as discussed in the physical distribution section, below). The airport will also be more attractive to airlines as it may achieve faster turnarounds and fewer missed connections for passengers, which have both customer service and cost benefits for the airline.

In Canada, a number of major airports provide preclearance services, namely Vancouver, Calgary, Edmonton, Winnipeg, Toronto, Ottawa, Halifax and Montreal. Preclearance involves U.S. customs, immigration and other inspection processes taking place at the Canadian origin airport rather than at the U.S. destination.<sup>10</sup> For originating passengers, there is a real convenience with U.S. Customs preclearance, as once they arrive in the U.S., they are processed the same as a U.S. domestic passenger, without any need for an international arrivals process. If the passenger is connecting at a U.S. airport, their connection time will be considerably shorter. Destinating passengers can immediately leave the airport rather than queue up for U.S. customs and immigration.<sup>11</sup> An important attraction of U.S. Preclearance for

<sup>10</sup> In Canada, air traffic between Canada and the U.S. is referred to as *transborder* traffic.

<sup>11</sup> The programme also enables air service between a Canadian preclearance airport and a U.S. airport that does not have customs and immigration facilities. To date, no U.S. airport has asked for the establishment of a Canadian preclearance facility.

Canadian airports is in regards to connecting traffic. Without preclearance, an international passenger connecting through a Canadian airport to a U.S. destination would have to clear Canadian customs and immigration at the connecting Canadian airport and then clear U.S. customs and immigration at the U.S. airport. Preclearance removes the need to pass through two sets of customs and immigration, putting Canadian airports on a level competitive footing with U.S. airports for competing connecting traffic.

As a further product develop, Vancouver pioneered a 'transit preclearance' process, whereby international connecting travellers are able to go directly to Vancouver's U.S. preclearance facility, without needing to clear Canadian customs and immigration. This eliminated one whole customs process, simplifying and reducing cost for baggage handling, and allowed the removal of almost a half hour of connection time. The latter improved the airport's CRS rankings for connections, resulting in increased traffic volumes. The increase was equivalent to adding roughly two 747 flights per day.

Baggage processing is another area in which an airport can achieve a competitive edge. Airports are starting to explore the use of Radio Frequency Identification (RFID) tags to track baggage as it makes its way through the airport. This technology enables security officials to quickly identify and locate baggage that they wish to inspect further. If implemented effectively, RFID tags could allow aircraft-to-aircraft movement of baggage for international arriving passengers connecting to a domestic flight. By eliminating the need for customs hall delivery of baggage, there is considerable savings in airport capital cost (baggage delivery systems and space requirements) and connection times. Typically customs inspection authorities only wish to inspect a small fraction of the baggage of such connecting passengers. With RFID deployment, it is possible to quickly find and deliver the small amount of baggage to the customs inspector without the need to deliver all connecting baggage to the customs facility.

Another example of improved passenger and baggage processing enhancing destination competition is for the cruise line market. The maritime cruise ship operators make choices of embarkation city in part depending on factors such as how well integrated the airport is with the cruise port. Vancouver International Airport, working with the cruise lines, the Vancouver Port Authority, airlines, and Canadian and U.S. customs and immigration, has developed a number of unique and innovative schemes to enhance cruise passenger processing. These include:

- *Straight to ship baggage transfer.* Passengers arriving by air to Vancouver for purposes of boarding a cruise ship, can check-in their bags at their home airport and the bags will be transferred all the way to their ship.
- *On-ship check-in.* Towards the end of their cruise, passengers who will fly out using the Vancouver airport can check-in their bags while still on ship. Vancouver Airport has invested in technology that transfers check-in information from the ship to the airport which is then routed to the airlines. Once the ship docks, the bags are transferred directly to the aircraft at the airport. Passengers are then free to make their way (either directly, or they can sight-see in Vancouver) to the airport unencumbered by their baggage.
- *Sterile transfer.* This summer, Vancouver is piloting a scheme that, allows passengers to be transferred from ship to the airport bypassing both Canadian and U.S. customs and immigration. In effect, the passengers are "bonded" when transferred from the ship in the port to the airport. The ship is arriving from a U.S. port, and the flights are to a U.S. destination. Without sterile transfer, the passengers would have to be admitted into Canada at Port Vancouver, and then admitted back into the U.S. at the U.S. preclearance facility at Vancouver Airport. With the sterile transfer process, the passengers effectively stay within the U.S. for customs and immigration purposes. As approximately

80% of the cruise ship market in Vancouver are U.S. citizens, this provides much more streamlined process for many passengers.

Vancouver Airport has lead the way in developing these processes and has invested considerable amounts of money in technology and facilities to enable the processes. This has allowed Vancouver to enhance its competitiveness with U.S. cruise embarkation/disembarkation ports, and has enabled the airport to handle large volumes of cruise passengers over the summer months while minimising the pressure on terminal capacity. Roughly one-half million passengers have been diverted to Vancouver Airport who otherwise would have used a U.S. airport as their air gateway to the Alaska cruise.

A final example of passenger facilitation is use of dedicated or streamlined facilities for shuttle or commuter air services. Typically these facilities have dedicated ticket counters with aircraft gates immediately behind to minimise walking time and baggage transfer time. These facilities result in shorter dwell times for passengers (particularly attractive to business travellers) and shorter turnaround times for airlines. By doing so, the airport positions itself in the market as the commuter or business airport. Airports can augment this with other conveniences for business travellers such as curbside valet parking or remote check-in.

**Flexible airport design.** Airports can design their terminal and other facilities to allow them to be adapted to new and changing traffic demands. In this way the airport can respond to changing market conditions in a cost effective manner and ensure that its product stays relevant to the changing market. For example, newly expanded Ottawa Airport has developed a system that enables it to adjust the number of gates provided for domestic and international air service, simply by opening an closing partitions, moving the wall that separates the two types of traffic.

**Service provision and third party vendors.** Airlines require a number of services when using an airport: a runway to land on, a terminal to process passengers, a warehouse to hold and process cargo, ground handling, fuelling, maintenance, etc. An airport must decide how it is going to provide these services. One option would be for the airport to provide all of these services, as a one-stop shop for the airline. It may be perceived that there is some kind of economy of scale in the airport providing all the services required by the airline. However there may also be the temptation to extract monopoly rents as the sole provider of, say, ground handling services.

Increasingly though, airports are recognising the benefits of allowing third party providers of services such as ground handling, fuelling, warehousing, etc. In doing so, the airport can create a competitive market for the provision of these services, resulting in lower rates and higher service levels for the airlines. This can be achieved either through allowing two or more providers to actively compete or through a contract with a sole third party provider that is subject to regular review. In addition, this strategy allows the airport to focus on those services in which it specialises, and in which has a comparative advantage, e.g., landings and passenger processing.<sup>12</sup> As discussed in the price section below, this is another strategy in which the airport competes by attempting to minimise the airline's cost.

<sup>12</sup> The airport normally still obtains some revenues from these third party services, through rents, fees or royalties paid by the third party provider to the airport.

**Curfews and noise quotas.** Night curfews on airport operations clearly impact on the airport product. In particular, curfews can limit an airport's ability to handle certain types of long haul traffic. E.g., carriers like to operate late night flights from North America to Asia in order to allow passengers to connect onto the morning bank of flights out of Asian airports. Curfews also makes the airport far less attractive to cargo operators and integrators, who require night operations. In some regions, airports at more remote locations which are not subject to a curfew have exploited this advantage by positioning themselves as 24-hour airports, and have successfully attracted cargo operations from noise constrained major airports; for example, Hamilton Airport which has attracted cargo operations away from Toronto Airport.

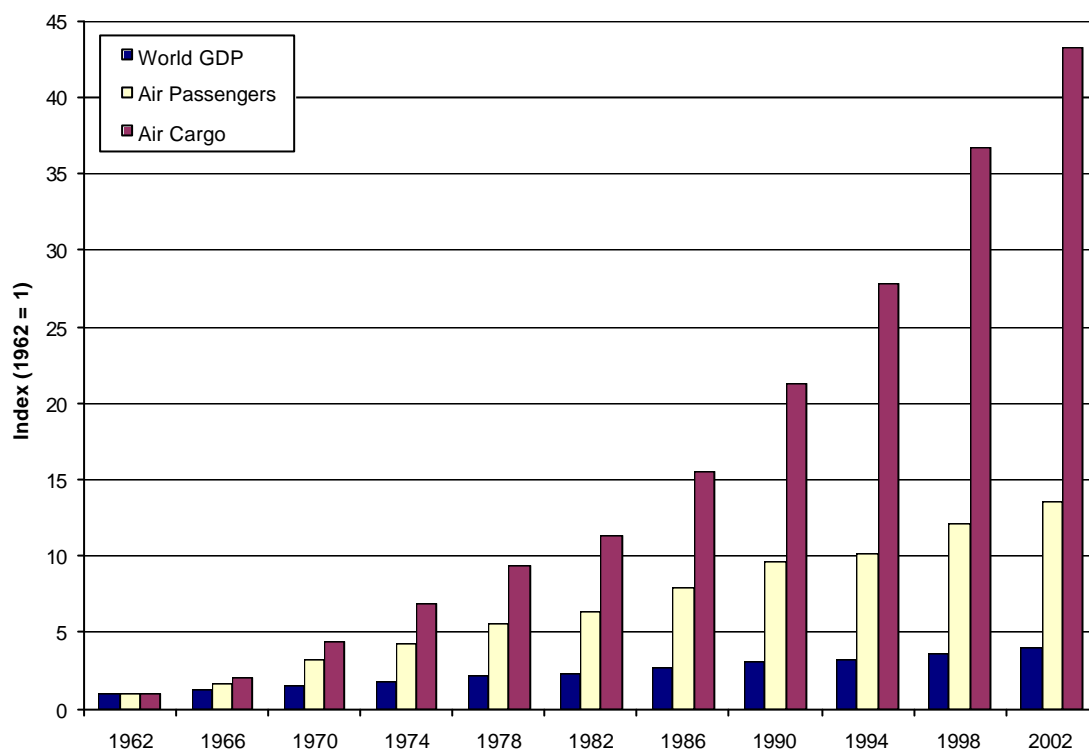
While there may be little an airport can do once a curfew has been imposed, there are strategies airports can adopt to avoid have one imposed. Since the pressure for a noise curfew generally comes from communities living close to the airport, cultivating good relations with the local community can go some way to mitigating this pressure. Open days, educational visits and sponsorships are used by some airports as part of this strategy, as is developing good links with local and national press. Airports will often conduct economic impact studies as a means to demonstrate the economic and employment contribution of the airport to the community. These approaches are used, in part, to gain support for future development and reduce pressure for limits on the airport's operations. Additionally, an airport can attempt to communicate and work with local government to avoid residential or commercial developments being located in areas that may conflict with current or future airport operations. Reconsidering flight paths and profiles for night operations can reduce the number of households impacted by night noise, both reducing the noise impact as well as improving community relations.

Airports subject to noise quotas face an interesting dilemma as how to best maximise value within the quota. Generally, these quotas give greater weight to night flights than daytime flights: one nighttime cargo flight may be weighted the same as two daytime passenger flights. At first glance, this would appear to favour allocating as much of the quota as possible to daytime flights in order to maximise the total number of flights. However, the airport may find that a smaller number of night-time flights are more lucrative, or provide the airport with a competitive edge over rival airports, and chose to devote more of their quota to night operations, even if it results in a smaller number of total flights.

**Cargo traffic.** Historically, air cargo has grown at a significantly faster rate than air passenger traffic (see **Figure 2**). This trend is expected to continue, and even accelerate, as air freight rates continue to decline and the world economy further integrates. Air cargo has its own particular set of needs based on the market characteristics and economics, which an airport needs to address if it is to attract cargo operations.

The airport's air cargo product can be enhanced in the following ways:

- *24-hour operations.* As discussed above, air cargo often requires 24-hour operations in order to achieve overnight delivery and to meet the needs of clients in different time zones, who themselves may have 24-operations.
- *Customs processing.* The development of facilities that can process and hold cargo requiring customs clearance can attract cargo operations to an airport.

**Figure 2: Growth in World GDP, Passenger Traffic and Cargo Traffic**

Source: World Bank and ICAO.

- Transshipment facilities.* As mentioned previously, transshipment cargo is highly time sensitive. A recent study by Ohashi, Kim, Oum and Yu examined the factors affecting the choice of transshipment airport for air traffic to/from Northeast Asia.<sup>13</sup> They found that the connecting time was the most important factor in the choice of transshipment airport, more so than landing fees and other airport charges. A one hour reduction in the connecting time at the transshipment airport was found have the same impact as a US\$1,361 reduction in the total airport charges (based on a 747-400 cargo aircraft). Therefore, airports wanting to attract transshipment air cargo traffic need to focus on minimising connect times.
- Value-added/distribution/Free Trade Zones.* By developing value-added or distribution facilities on airport grounds, an airport can generate a critical mass of operations that enable the airport to become a major air cargo player. This strategy has been adopted by airports such as Amsterdam and Hong Kong who encouraged the development of a wide range of business activities at or near the airport (this strategy also provides the airport with a diversified revenue base).

Airports such as Hong Kong, Amsterdam and Frankfurt (Fraport) have developed facilities and related activities in order to establish themselves as major players in the cargo market for both O/D and

<sup>13</sup> *Choice of Air Cargo Transshipment Airport: an application to air cargo traffic to/from Northeast Asia*, Ohashi, H., Kim, T., Oum, T. and Yu, C., CIRJE series, Faculty of Economics, University of Tokyo, July 2004.

transshipment cargo. Other airports, such as Anchorage, Alaska have specialised in transshipment cargo, which is exploiting its unique geographic position between Asia and North America. Some airports have developed niche products to attract a specific segment of the market. For example, Calgary Airport has invested in facilities for handling of livestock. These facilities are designed to minimise the stress on the livestock, and avoid the animals becoming "spooked", which greatly increases the reliability of the air service (for safety reasons, aircraft cannot take-off if the animals are deemed to be unsettled). As well, it has a processing configuration which allows veterinary inspection and segregation of animals. This prevents shipments from being delayed because a diseased animal has been mixed into a herd. As a result, Calgary airport attracts livestock shipments from markets all across North America.

## **D2. Price**

Pricing is another tool airports use to compete with other airports. When considering airport pricing, not only should the airport's own fees and charges be considered, but other charges paid by the airline should also be considered. Any means of reducing costs for the airlines are a means to lower the 'price' they pay for using the airport.

**Airport fees and charges: two stage pricing?** The general consensus is that airlines are price inelastic for airport services.<sup>14</sup> This would suggest that it may be irrational for airports to reduce fees and charges as a means of competing with other airports. However, it may be useful to consider whether airline elasticities are different for different services or at different times. In particular, they may be price elastic when choosing a new destination to add to their network, but once that service is established and the airline has sunk marketing and facility costs at the chosen airport, the airline may become price inelastic with regard to airport fees and charges.

This suggests that the pricing of airport services (landing fees, terminal charges, etc) should be viewed as following a similar pattern to that of services associated with durable goods. E.g., at the time an individual is considering purchasing an automobile, he may be fuel price elastic, but once the durable good (the auto) is purchased, the consumer becomes fuel price inelastic. Some have suggested that computer printer manufacturers understand this phenomena all too well. Printers are sold for very low prices, possibly below cost, with the manufacturer expecting to exploit the post-purchase inelasticity with respect to the price of printer ink cartridges and toner.<sup>15</sup>

When starting a new air service, airlines can be highly price sensitive (price elastic, in economic terminology), as the economics of the route can initially be marginal. Even modest changes in fees and charges can have a major impact on route viability and thus strongly influence airline service decisions. As a result, it may be good economics for airports to discount their fees and charges, as well as provide other incentives (such as contributions to marketing costs, free office space, assistance with pilot training and staff accommodation, etc.) to attract new air carriers or new routes. However, once the service has established itself and becomes profitable (the airline is "locked in"), the airline appears to become less price

<sup>14</sup> Very few studies have been conducted which examine the price elasticity of airlines with respect to landing fees. One study, *Airport Pricing Policies: An Application to Canadian Airports*, Gillen, D., Oum, T. and Tretheway, M., Transport Research Forum, Volume XXIX No. 1, 1988, estimated the elasticity to be between -0.02 and -0.08, considerably below unity.

<sup>15</sup> Another example all too familiar to parents would be gaming systems such as the Playstation and Xbox, where the consoles are virtually given away, but the games themselves are priced at a premium.

sensitive (i.e., price inelastic). The airport is then able to increase its charges (i.e., return charges to normal) without losing the air service to a competitor airport. Such airports are necessarily acting in an underhand manner. This behaviour can be consistent often the two-stage elasticity phenomena. Even the European Commission ruling on the agreement between Ryanair and Charleroi airport allowed the carrier to keep to keep some of the discounts and incentives for a limited period.<sup>16</sup>

The issue for the airport is at what point the airline starts to become price inelastic, the degree of inelasticity, and whether elastic behaviour applies to some all airlines all the time (i.e., are LCCs such as Ryanair willing to abandon a successful route). Also, the success of two stage pricing is dependent on whether the airport is being under-cut by another airport. Does the airport risk losing the air service to another airport if it attempts to increase the rate?<sup>17</sup>

**Facilitating airline efficiency to reduce 'price'.** Airport design, layout and processes play a critical role in airline operating costs. For example, measures that enable airlines to achieve faster turnaround times can have a major impact on an airline's bottom line and ultimately enhance the airport's competitive position. Faster turnarounds can have major benefits for the airlines:

- *Lower unit costs.* Increased utilisation of aircraft enabled by faster turnarounds mean that the capital and fixed costs of the aircraft are distributed over a greater number of passengers.
- *Higher revenue distribution.* Faster turnarounds enable an airline to increase the amount of the time the aircraft in the air, generating greater revenue.

There are a number of ways in which airports can facilitate airline efficiency:

- *Dual boarding bridges.* These bridges allow for much faster loading and unloading of passengers from aircraft. In April 2003, WestJet installed a dual boarding bridge (also known as an over-the-wing bridge) at Calgary Airport to be used for WestJet's 737 aircraft, reducing unloading/boarding times by roughly ten minutes.
- *Taxiway design.* Airports can design the runway and taxiway layouts in order to minimise time spent taxiing.
- *Swing gates.* Airports can design terminal facilities and gates (or at least some gates) that can be switched from domestic to international services, enabling airlines to switch an aircraft from one service to another without towing the aircraft between gates.
- *At-gate hydrant fuelling.* This enables the airline to reducing fuelling times relative to a fuel bowser system.
- *Ground power.* This can reduces the airlines' fuel costs while at gate.
- *Dedicated facilities for shuttle services (or other types of services).* As already mentioned in the product section, dedicate facilities can reduce aircraft turnaround times.

<sup>16</sup> The February 2005 European Commission guidelines on state aid for airport services is also consistent with this economic phenomena.

<sup>17</sup> Airports must also be wary of not upsetting existing airline customers by offering discounts to new entrants, from both a business and legal point of view.

**Incentive pricing.** Airports can become more creative in how they charge for services, and develop pricing schemes that meet the needs of the airlines and incentivise airlines to make better use of airport facilities. For example, rather than charging airlines a standard charge per use of a gate, the airline could be offered the option to rent the gate for the whole day for a fixed daily amount. Doing so would incentivise airlines to increase utilisation of the gate in order to reduce unit costs – spreading the fixed daily charge of the gate over a greater volume of traffic. If designed properly, the airport would still receive the same revenue per day from the gate, but will have enabled the airline to reduce its unit costs. Incentive pricing would allow better use of airport capacity, reducing the need to expand capacity (or at least delaying it). The latter outcome has cost benefits for both the airport and the airlines. As well, lower unit cost may eventually be passed on in lower fares, stimulating the airport's traffic.

This pricing scheme may not be attractive to all airlines for all services. For example, an airline operating a long haul service that uses the gate once in a day may prefer to pay per use, while a LCC operating a short haul service may prefer a daily gate rental. The important point is for airports to provide its customers with a greater choice of pricing options in order that the airline can match the pricing scheme with its own economics.<sup>18</sup>

### **D3. Promotion**

In the increasingly competitive environment that airports operate in, promotion has become an essential part of airport marketing.

**Air Service Development.** Many airports now have very active Air Service Development (ASD) programs to attract new air carriers to the airport, and expand existing air services. ASD programs are a very targeted approach which connect an individual airline's needs and opportunities with the offerings of the airport. These programs attempt to demonstrate to air carriers that there is sufficient demand, and suitable airport facilities, to profitably operate a route from the airport. In effect, airports are attempting to divert airline capacity from other possible routes or airports.

**Passenger Marketing.** While many airports now commit resources to promoting the airport to airlines, it is also necessary to ensure passenger, travel agency and shipper awareness of available airport services. This is especially important for secondary airports in a region, and for secondary international gateways.

For secondary airports, residents in the airport's primary catchment area may have a general awareness that some services are available, but may continue to patronise the major regional airport due to lack of awareness of the full spectrum of flights. They may not be aware of expanding range of destinations, increased frequency on existing routes, and especially of one stop/connection opportunities. Consider a major airport (AAA) in City A with hourly flights to City B and flights to many other destinations. A secondary airport (let us call it AAZ) may only have three daily flights to B. However, when ground travel time and longer check-in/parking/etc. time required for using AAA is considered, the flights from AAZ may be of similar convenience -- the passenger may wait longer to obtain the flight, but saves the drive time, parking time, longer check in and security check time, etc. As well, the three flights from AAZ to B may

<sup>18</sup> A parallel, if imperfect, example would be mobile phone providers who offer a wide range of pricing schemes in order to attract a greater range of customers.

have convenient connections to destinations C, D, etc. making AAZ a competitive choice to driving to AAA for a non-stop flight to C, etc.

Secondary airports must communicate flight options to tour operators, convention planners, travel agents, freight forwarders and the general public. This can involve sending representatives to aviation industry and tourism conferences, putting on road shows, and advertising in the trade, local and national press. The aim of these efforts is to create an awareness of the airport's specific flight opportunities. Often this promotion will focus on the attractive characteristics of the airport. For example, a secondary airport may place an advertisement in the local paper highlighting the airport's short drive time (perhaps to combat the perception that it is remote) or the availability of lower cost and more convenient parking.

Airports need to create awareness not just in the local market but also at the spoke-ends. This is a more challenging task but is particularly important for secondary airports and those attempting to establish themselves as secondary international gateways. Continuing the City A to City B example, the challenge for Airport AAZ is to create awareness among consumers and travel agents in City B that AAZ is a) an option they might not have been aware of for getting to City A, and b) more convenient for certain parts of the City A region.

For secondary international gateways, the challenge is to create awareness of connection opportunities at spoke ends on another continent. For example, Vancouver Airport routinely conducts visits with travel agents and major businesses in Asia to make them aware of the benefits of using Vancouver as an alternative to Los Angeles or San Francisco for onward travel to destinations in North America. (Vancouver provides a shorter routing to many North America destinations than airports further South such as LAX and SFO.)

**Integrated marketing approaches.** For nearly all air passengers, the aviation product is just one part of the total travel experience. Therefore, it makes sense for the airport to integrate its marketing efforts with those of other members of the travel supply chain, such as national and local tourism authorities, airlines, hoteliers, cruiseship lines and other relevant players.

One opportunity is for the airport to take a role in co-ordinating the marketing approach of the various market players. For example, the tourism authority may be focussing its resources on attracting more tourists from the North American market, while the air carriers are increasing capacity in the Asian market. These two efforts do not mutually reinforce each other. Greater impact could be obtained if the tourism authority were to direct advertising and marketing dollars in those markets to which air carriers have deployed new capacity. The airport can work with the two groups in order to ensure that all parties are working in the same direction.

**Naming the airport.**<sup>19</sup> Considerable attention is paid by some airport management to the name of the airport. The name gives an immediate indication of the type of service and major city served by the airport. The most common manifestation of this is the use of the word "International" in the airport's name to demonstrate the scope of the airport's services, even if it only serves one international destination. For

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<sup>19</sup> Some of this discussion is based on Chapter 7 (The Role of Airport Marketing) in *Managing Airports: An International Perspective*, Anne Graham, Butterworth Heinemann, 2001.

secondary airports, another approach is to include the name of the nearby major city, even if it is some distance away, for example:

- *London* Heathrow (the same for Gatwick, Luton and Stansted);
- *Brussels* South Charleroi Airport;
- *Baltimore/Washington* International Airport;
- *Hamburg* Lübeck Airport.

As discussed below, this naming convention, when combined with how the airport is linked to city names, can also have implications for reservation systems. The naming of airports is, of course, controversial. In 2003, Ryanair was ordered by a German court to refrain from using the word "Düsseldorf" for Weeze/Niederrhein airport, 70 kms from the city of Düsseldorf.<sup>20</sup>

**Branding.** Airport branding has also developed as a practice used by some airports over the last few years. Through naming, logos, styling and merchandising, airports have attempted to develop a consistent and recognisable brand for the airport. However, there is little evidence that this branding gives the airport any competitive edge. As pointed out by Anne Graham, this branding may actually confuse the consumers due to the prevalence of airline and airline alliance brands that also exist in the industry.<sup>21</sup>

#### **D4. Physical Distribution**

Even with an outstanding product that is competitively priced and effectively promoted, airport still needs to ensure that its product gets to the final consumer.

**Computer Reservation Systems.** Whether through a travel agent, the airline or through the internet, virtual all airline tickets are booked through a Computer Reservations Systems (CRS). When a user makes a search for a flight, the CRS will rank the available flights based on a number of factors including price, flight times and connections. Ranking can have a major impact on consumer decisions as to which flight to book as, typically, travellers select from only the top few flights listed. The CRS will generally increase the ranking of connecting flights with shorter connect times.

As has already been discussed above, airports can adopt a number of strategies to minimise passenger connect times and thereby move their airport up the rankings on the CRS. For any airport wanting to compete for connecting traffic, minimising connect times must be a core focus. Airport naming and registration can also have an impact in CRS systems. If a traveller searches for flights from Washington, DC to New York on Travelocity.com, options appear for flights from Reagan National, Dulles and Baltimore/Washington, despite the latter airport being 53 kms from Washington, DC.

**Travel agents.** Despite the increased use of the internet, travel agents still book a considerable share of airline tickets. As a result, secondary airports need to promote the airport to travel agents and develop close relations with them. Unless a local travel agent is aware of the service provided by a secondary airport, they are highly unlikely to direct travellers to use that airport. Airports will routinely send out

<sup>20</sup> We note that both Ryanair and the airport itself continue to use the word "Düsseldorf" for this airport.

<sup>21</sup> *Managing Airports: An International Perspective*, Anne Graham, Butterworth Heinemann, 2001, page 170.

information on routes, fares, facilities and timetables to travel agents. Some airports have gone even further, and taken matters entirely into their own hands by buying up travel agents; both Cardiff and Norwich Airports in the UK, have followed this strategy.

**Airport websites.** For many travellers, and even travel agents, the internet has become the primary source for obtaining information relating to their travel and making bookings. Although airport websites play a part in airport promotion, they also can also have a role in distribution. The website can be used to direct travellers to the airlines operating from the airport so that they can make bookings. Some more sophisticated sites (such as that for Hamburg Airport) actually allow the user to make flight bookings on the airport website, acting a mini-Travelocity for flights from the airport.

Airport websites can also act as a 24-hour information source on the airport. As well as flight information, they tell travellers how to reach the airport, parking arrangements and the range of services provided at the airport.

For secondary airports, a major target must be to obtain status as serving the major metro market. This is especially important as a vehicle for accessing the difficult to reach travellers who originate at spoken ends

## Conclusions

This paper has attempted to show that airports do compete with each other in a number of major business segments. The emergence of secondary airports has created intense competition for some major airports. As well, major airports compete among themselves for connections, for gateway traffic and even for destination.

The paper outlined a number of dimensions in which airports can compete. The product offered by an airport will affect both carrier and consumer choice. Of special importance is designing the airport product to reduce operating or capital costs for air carriers. Price competition was discussed, with emphasis on a) the two stages of air carrier price elasticity – leading to different pricing policies for the different stages; b) finding means to lower airline costs, such as through competitive choices for various services; and c) investigating use of incentive prices which allow air carriers to lower their unit costs by making more efficient use of the airport's infrastructure. Promotion of the airport is especially important for secondary airports in a region and for secondary international gateways. Promotion does not imply airports should simply advertise. Rather, promotion should focus on creating awareness of specific services at an airport and advantages such as reduced driving times for some parts of the region. Finally, physical distribution was discussed, i.e., the means by which the airport's services are delivered to consumers and carriers. Airports must pay attention to how they appear in CRS systems and on the internet so as to access the greatest number of passengers possible.