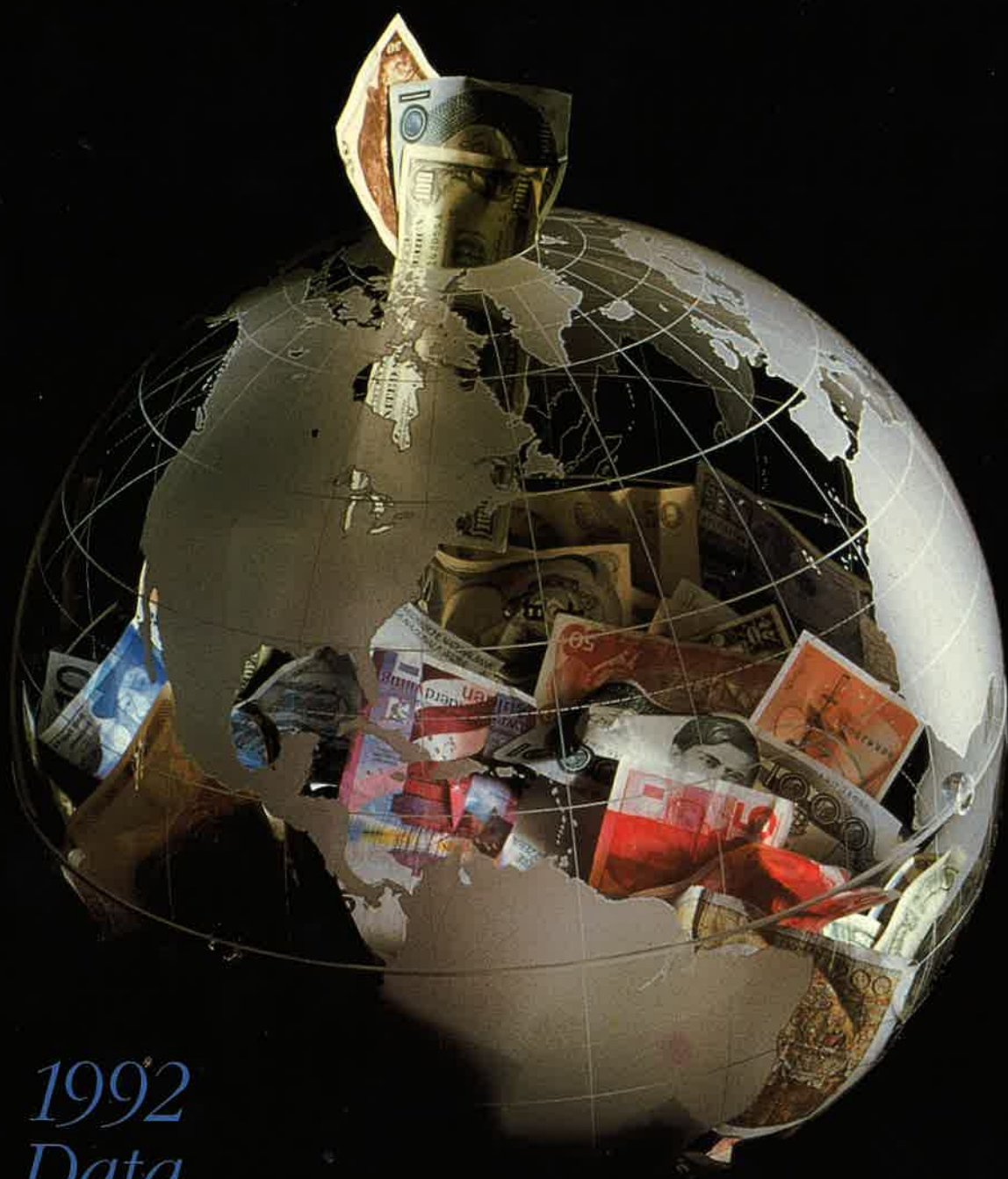


THE ECONOMIC BENEFITS OF AIR TRANSPORT



1992
Data

The Air Transport Action Group (ATAG) is a coalition of organisations which have joined forces to press for aviation infrastructure improvements on a world-wide basis. To achieve this goal, ATAG:

- works with government officials, legislators and other leaders to help develop, finance, approve and implement solutions to existing and projected infrastructure bottlenecks.
- ensures that the economic benefits of air transport are recognised and reflected in public policy.
- provides support for the expansion of air traffic control capabilities to meet industry needs.
- assists in the development of airport support groups.
- supports the development of improved ground access to airports.
- develops and promotes policies which balance environmental concerns with the need for greater capacity.
- promotes public awareness of the short- and long-term solutions required.
- provides research and analysis in support of its objectives.

In 1993, ATAG asked the International Air Transport Association (IATA) to prepare an update of their 1991 report on the role of aviation in the international economy and the economic benefits resulting from it. The report that follows draws on recent research undertaken by a number of consultants and other specialists world-wide. Since their assumptions and methodologies vary - and thus can alter the conclusions significantly - we have consistently sought to be conservative in any claims about the benefits realised.

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SUMMARY

A Major World-wide Business

The air transport industry plays a major role in world economic activity.

- *Over 1.25 billion passengers per year* rely on the world's airlines for business and vacation travel.
- *Approximately a quarter of the world's manufactured exports* (by value) are transported by air.

An Economic Catalyst

In every region of the world, countries large and small depend on the aviation industry to fuel their economic growth and their financial strength. In 1992 the industry provided at least:

- *22 million jobs for the world's workforce*
- *US\$1,000 billion in annual gross output.*

Air transport drives economic progress and in turn benefits from it. It acts as an economic catalyst, promoting leisure and business activities, contributing to growth and increasing efficiency.

A Growth Industry

Air transport remains *one of the fastest growing sectors of the world economy.*

- Passenger and freight traffic are expected to increase at an average annual rate of 5-6% between 1994 and 2010 - significantly greater than the growth of global GDP.
- By 2005 the number of people travelling by air could exceed 2.5 billion each year.

In an increasingly global society, the contribution of the industry to the world's economies is growing more important every day.

- *By the year 2010 aviation's economic impact could exceed US\$1,700 billion with over 30 million jobs provided.*

A Need for Investment

Congestion is a serious obstruction to the growth of air transport and under-investment in aviation infrastructure is taking billions of dollars from the world economy.

- The cost of aviation congestion in Europe alone was calculated at US\$5 billion per year in 1989. In the US, air traffic control delays are now estimated to cost more than US\$3 billion per year. Similar sums could be lost in the Asia/Pacific region without early concerted aviation infrastructure planning.

Future economic growth will be jeopardised unless governments and other authorities invest substantially more money in the infrastructure necessary to support the air transport industry.

THE AIR TRANSPORT INDUSTRY

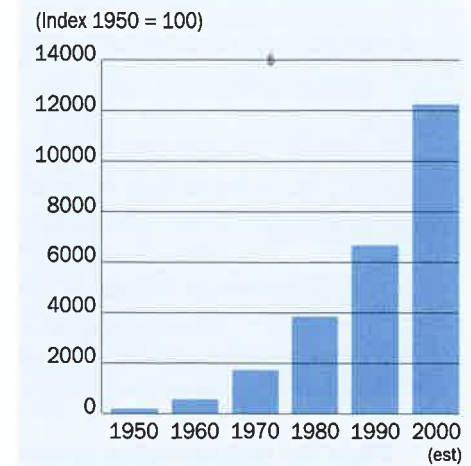
Air transport is one of the world's most vital resources. Its development as an industry and its technical and service achievements rank air transport as one of the greatest contributors to the advancement of modern society.

Since the first jet airliner flew in 1949, use of commercial aviation has grown more than sixty-five-fold. This is a rate of progress unmatched by any other major form of transport.

Air transport is essential to economic progress. In an increasingly global community and marketplace, air transport makes possible the rapid movement of millions of people and billions of dollars worth of goods to markets around the world.

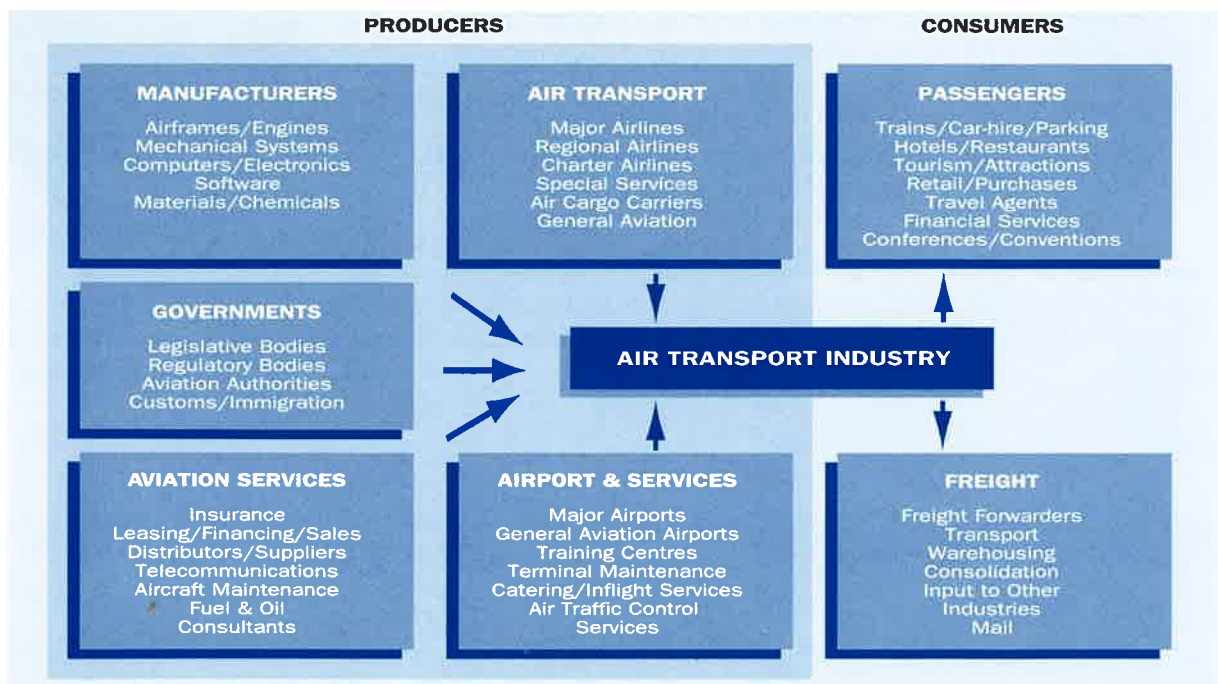
The industry plays a decisive role in the work and leisure of hundreds of millions of people. It includes the suppliers and operators of aircraft, engine manufacturers, fuel suppliers, airports and air traffic control systems. Its customers represent every sector of the world's economy and every segment of the world's population.

Growth in World Domestic & International Revenue Passenger kms



Source: ICAO

The Air Transport Industry Today

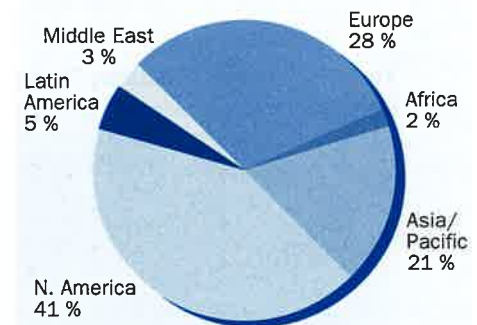


THE SIZE OF THE INDUSTRY

By virtually any measure air transport is a major economic force and a source of enormous wealth:

- More than *1.25 billion passengers* were served by the world's airlines in 1992.
- Over *22 million tonnes of freight* were transported by air in 1992, representing approximately *a quarter of the value of the world's manufactured exports*.
- North American airlines fly about 41% of the world's total traffic, whilst European carriers account for 28% and carriers in the Asia/Pacific region - the fastest growing region of the world - 21%.
- *US\$230 billion in annual turnover* was generated by the airlines alone in 1992, a figure higher than the GNP of most national economies.
- More than *3 million people* are directly employed by the industry throughout the world. In the United States alone, nearly 1 million people are employed by the industry.
- The world's airlines have a total fleet of about *17,000 aircraft* operating over a route network of approximately 15 million kilometres and serving nearly *15,000 airports*.
- Air transport provides the foundation for international tourism, with *over half of all international tourists*, except for those travelling within Europe, arriving by air.

1992 Passenger kilometres by World Region



Source: ICAO

GROWTH IN AIR TRANSPORT

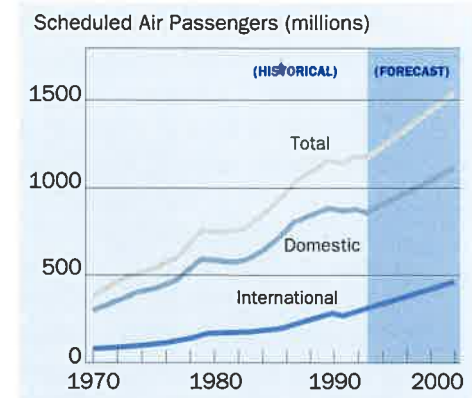
The demand for air transport has increased steadily over the years, averaging 6% per annum during the 1980s. In 1991 the volume of passenger and freight traffic carried by the airlines declined slightly (-2%), primarily due to the war in the Persian Gulf and world recession, but rebounded the following year (+10%), thereby returning to the average annual growth rate of 6%. Industry sources now expect demand to continue growing at around 6% per annum to the year 2000. This is roughly twice the expected growth rate of global GDP for this period. If this rate of growth were to remain steady the volume of traffic would double every 12 years. Air transport thus remains one of the world's fastest growing economic sectors.

The growth of air travel is expected to be led by travel to, from and within Asia. Demand for air transport in the region is expected to grow by an average of 8.6% per annum between 1990 and 2010 and the region's share of world-wide scheduled passenger traffic is expected to grow from about 25.2% in 1985 to 51.1% in 2010. Within North America and Europe, an average annual growth rate of roughly 4-5% per annum is expected.

These rapid rates of growth are mainly the result of increasing disposable incomes and decreasing fares. Air fares today are 70% less in real terms - after adjusting for inflation - than they were in 1970. Cheaper and more efficient air transport has been the driving force behind the globalisation of business and the development of long distance tourism.

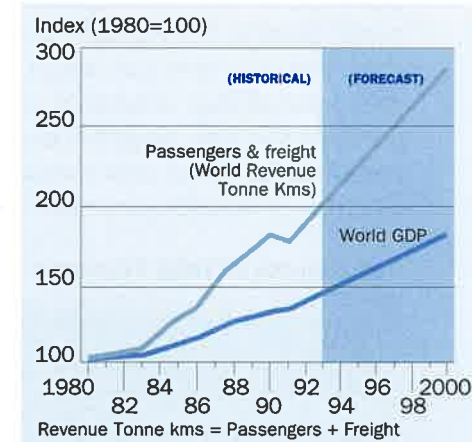
Consumers around the world have benefited from the easing of government regulation of the air transport industry. Increased competition has led to greater efficiency and vastly increased service levels, offering consumers more choice and value for money.

Growth in Scheduled Air Passenger Services World-wide



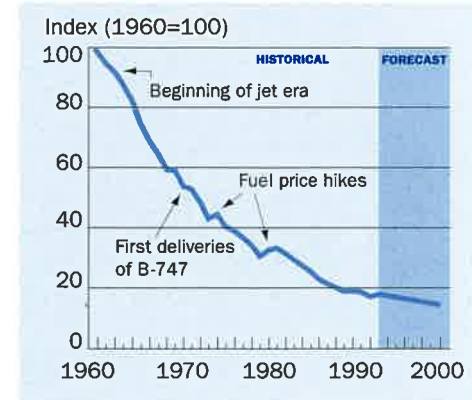
Source: ICAO

Growth in Passengers & Freight versus World Economic Growth



Source: ICAO

World Air Fare Trends - in Real Terms



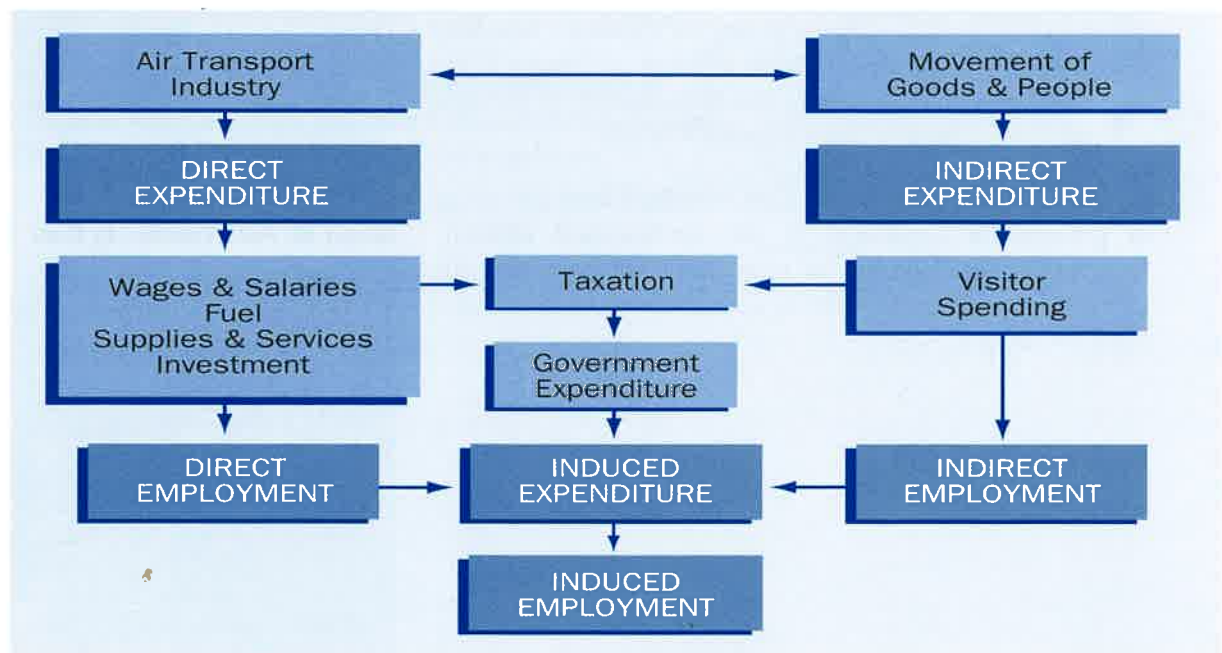
THE ECONOMIC BENEFITS OF AIR TRANSPORT

Methodology

The economic benefits of air transport are assessed by looking at the full extent of the industry's impact on the global economy, from the actual movement of passengers and freight, to the stimulation of economic growth that the industry's presence can cause in a local situation. In technical terms, these are called direct, indirect, and induced impacts.

The direct economic impact is obtained by measuring the values of the activities of airlines, airports and businesses located at airports, including everything from fuel suppliers to hot-dog stands. *The indirect economic impact* is derived from the off-airport activities of passengers and shippers, such as expenditures at travel agencies, hotels and restaurants, and tourist attractions. *The induced impact* is calculated with the help of a multiplier which estimates the successive rounds of spending generated by all of the recipients of the direct and indirect economic benefits. For example, airline employees spend part of their salaries on new cars, which leads car dealer employees to spend part of their salaries on groceries and so on. Values for the multiplier have ranged from 0.4 to 2.4. Values at the lower end of this range are used throughout this study to ensure that all claims of benefits are conservatively estimated.

Components of Total Economic Impact



Aviation Generates Wealth

The total economic impact of aviation on gross world output amounted to at least *US\$1,000 billion* in 1992. This figure includes US\$250 billion in direct impact, US\$250 billion in indirect impact, and US\$500 billion in induced impact.

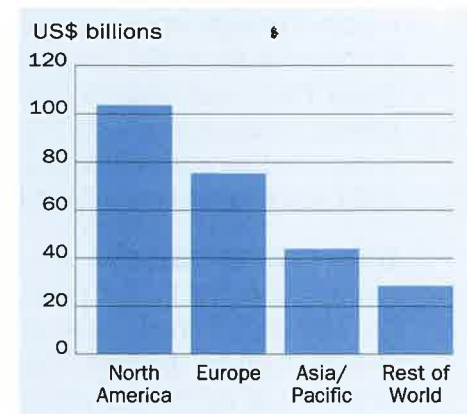
Aviation Generates Employment

The total economic impact of aviation on the labour market is estimated at more than *22 million jobs*. This total includes the direct employment of about 3 million people in the industry, another 7 million people who are employed indirectly by the industry - 2/3 of them in Europe and North America alone - and an induced impact estimated at more than 12 million people.

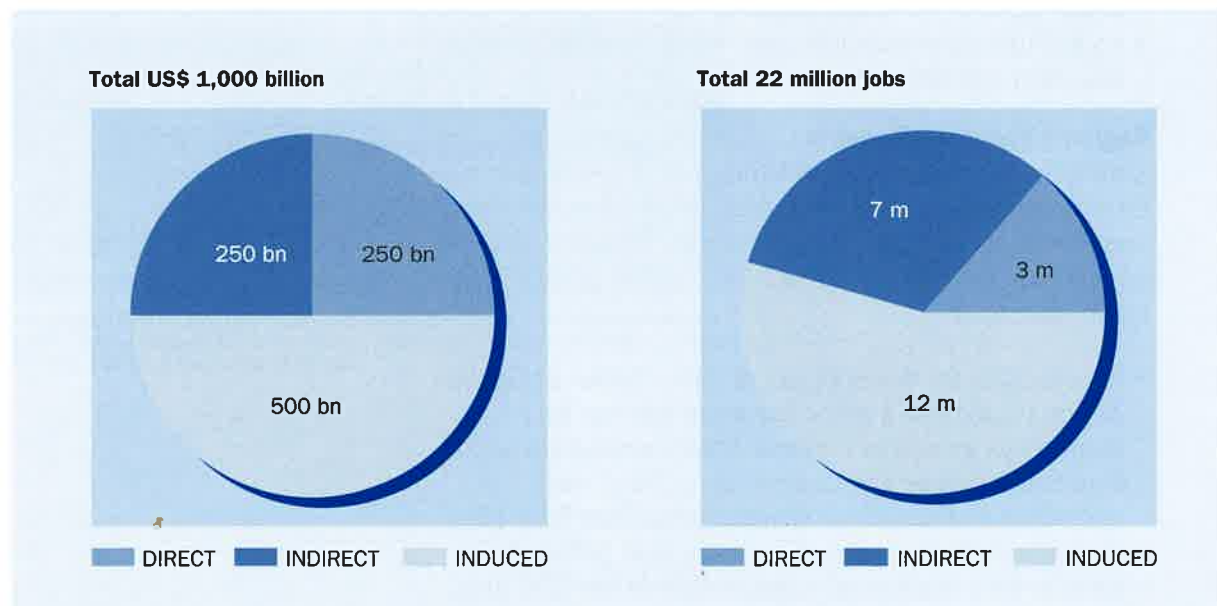
Aviation Generates Taxes

The air transport industry is also a good citizen, paying substantial amounts of taxation to local, provincial and national governments around the world. Travellers and shippers pay taxes on their air transport, whilst aviation employees pay income taxes on their salaries. In the United States alone, for example, the annual federal user taxes and fees paid by airlines are now estimated at more than US\$5 billion. In 1992 airline employees in the US paid US\$7 billion in taxes. Taxes on air fares alone generated an additional US\$4.6 billion.

Air Transport's Direct Economic Impact by World Region 1992



Air Transport's Impact on World Economic Activity & Employment 1992



Aviation Generates Travel and Tourism

Aviation is at the heart of the travel and tourism sector, now the world's largest industry. By 1994 travel and tourism is expected to support roughly 204 million jobs or 1 out of every 9 workers in the world. According to figures compiled by the World Travel and Tourism Council for 1994, the travel and tourism sector, with around 500 million customers each year, is expected to generate an annual gross output of roughly *US\$3,400 billion*-about 10% of the world's total GDP.

Wider "Spin-Off" Benefits

Above and beyond all of these quantifiable economic benefits, commercial aviation also generates a whole host of less tangible "spin-off" benefits. These include reducing the costs of trade and movement, attracting new businesses to locations with good air service links to the rest of the world, and support for the development of new technology and distribution processes based on the rapid movement of people and goods.

In addition, there are equally significant fringe benefits, including :

- the strengthening of ethnic and cultural links between continents.
- the stimulation of innovative research and development which benefits the whole economy.
- a significant contribution to rapid relief of natural disasters and other emergencies.

Regional Economic Benefits

Airports act as magnets to a wide range of industrial and commercial enterprises. Many industries locate close to airports specifically to gain easy access to air transport and the ground-based infrastructure, such as road and rail links, created to serve them.

- For example, the development of Paris Charles de Gaulle Airport (CDG) into a major European hub has led to a tremendous growth in business activity around the airport. Warehouse storage and distribution facilities, retail operations and numerous manufacturing firms have been established. Aviation-related activities have provided the stimulus for a number of major projects in the CDG area,

including the Villepinte Exhibition Centre, the GARONOR transport terminal and distribution centre, and the Paris Nord Industrial Park. One firm recently attracted to the area is Federal Express, the international freight operator, which has established its European hub operations out of CDG. The excellent transport links offered by CDG were a key factor in Federal Express deciding to locate there.

In another example, Japanese investment in the Washington Metropolitan area was reported to have increased 2000% following the introduction of All Nippon Airways service to Washington Dulles Airport.

Airports are the chief asset of regions wishing to attract new industries. Their presence offers the strongest inducement to companies to set up in a particular location. A region cannot be marketed as a centre for establishing major new businesses without an efficient air transport infrastructure, nor will it attract major investment.

Many studies have examined the specific impact of airport activity on the local economy. Whilst the conclusions have varied widely, the range of potential economic benefits would appear to be as follows:

Typical Economic Impacts of Airports

Per 1 million Passengers				
Estimate	Jobs		Economic Impact (US\$ Millions)	
	"Direct"	Total	"Direct"	Total
High	2,000	8,000	225	1600
Medium	1,500	6,000	75	650
Low	750	2,500	35	130

The High, Medium and Low estimates reflect the mix of international/national traffic, the assessment method used, consideration of regional versus national effects, and the importance of hubbing.

Air Transport as an Economic Catalyst

In addition to the quantitative and qualitative contributions of the air transport industry, aviation also acts as *an economic catalyst* by :

- providing a new and faster *mechanism for distributing goods and services* throughout the world.
- contributing to *growth in existing industries*.
- increasing overall *economic efficiency*.

Air transport *reduces the cost of trade and opens up new market opportunities* by moving products and services quickly over long distances.

- Entirely new industries have been created by the availability of air transport, such as the export of fresh tropical fruits from Latin America and the Caribbean to Europe.
- Air transport has generated an enormous increase in tourism to remote and developing regions. For example, in Asia, countries such as China, Indonesia, Thailand, and more recently Vietnam are experiencing significant growth in income from visiting tourists.

Economic efficiency is increased by the ability of airlines to deliver stock, equipment and personnel anywhere in the world within 24 hours.

- *Just-in-time manufacturing practices* would be unthinkable without air transport, particularly for companies which incorporate foreign-sourced components and materials in their products.
- Companies operating significant regional sales and after-sales service and support functions would be severely constrained without ready access to air transport.
- International business opportunities are enhanced by facilitating *personal contact* with dispersed operations and long-distance markets.

PROSPERITY AND AIR TRANSPORT

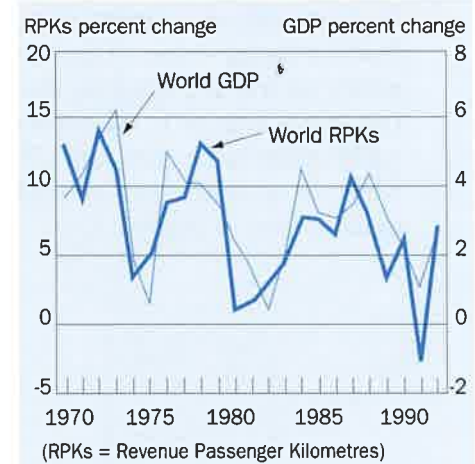
All the available evidence suggests a close synergy between economic growth and airline activity. Growth in air transport drives economic progress and in turn benefits from it.

As world economic growth has accelerated and slowed since 1970, the air transport sector has reflected these changes (see chart), thus confirming the link between airline activity and global prosperity.

The close relationship between economic prosperity and air transport activity can be further demonstrated by comparing per capita GNP with per capita demand for air travel.

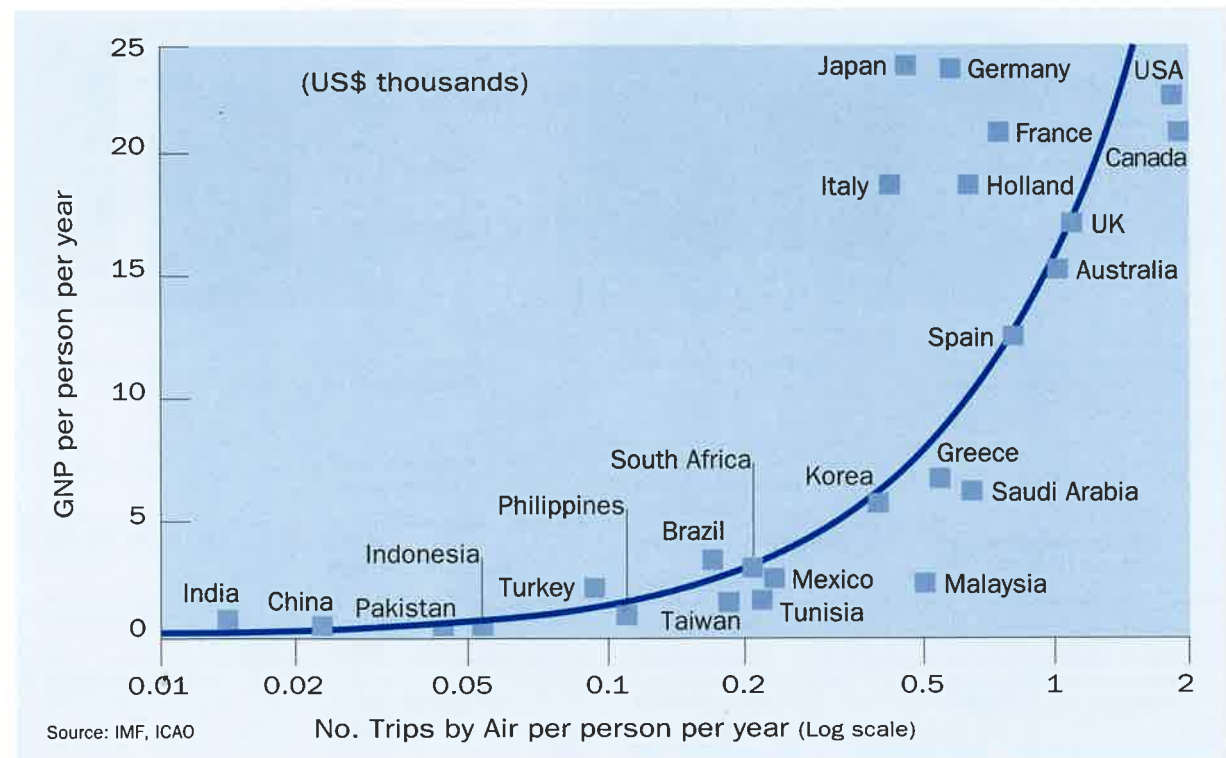
Countries with developed economies exhibit higher levels of air transport activity. In these countries, the relatively higher disposable per capita incomes increase the propensity of people to spend on air travel. An increase in airline activity thus provides a useful indicator that a nation's economy is flourishing.

World Air Travel Growth versus World Economic Growth



Source: ICAO

Economic Growth and Air Transport Activity



The Future

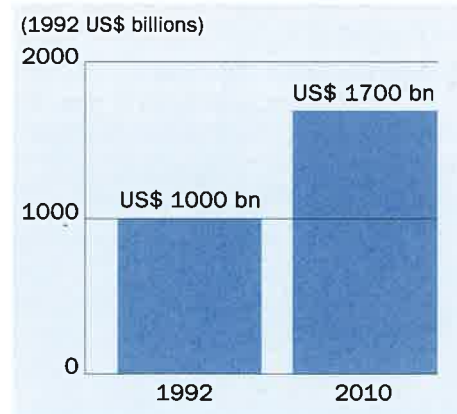
Provided the current and forecast congestion problems can be overcome, air transport is expected to remain one of the fastest growing sectors of the world economy. As the industry grows, so will its impact on the world economy. Absent any constraints to growth, aviation's measurable economic impact could reach more than US\$1,700 billion by the year 2010, whilst the number of jobs affected by the industry may increase to more than 30 million.

Factors Driving World Air Traffic Growth

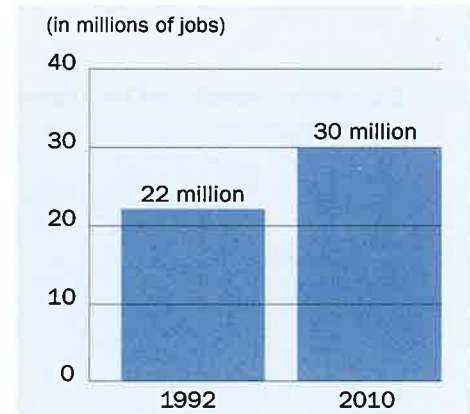
- Falling real cost of air travel
- Increasing economic activity
- Intensifying international trade
- Increasing disposable incomes
- Political stability/instability
- Relaxation of travel restrictions
- Expanding ethnic ties
- Increased leisure time
- Tourism promotion
- Air transport liberalisation
- Emerging regions and countries with low base traffic growth

Air
Traffic
Growth

Aviation's Projected Impact on World Economic Activity 1992 - 2010



Aviation's Projected Impact on World Employment 1992 - 2010



THE IMPACT OF CONGESTION

Congestion is now air transport's biggest long-term challenge. It causes delays and unreliability for passengers, reduced efficiency for airline and airport operators, and a massive waste of energy and materials.

In Europe, air traffic delays peaked most recently in June 1991 with 30% of flights delayed an average of 23 minutes. Since then, there has been some improvement and in the 12 months to December 1993 just 11% of flights incurred an average ATC delay of 16 minutes. While a number of factors account for this improvement, the existing levels remain unacceptable and future growth will be hampered without further increases in system capacity.

In the USA, the ATA estimated that the average delay between January and September 1993 was 8.4 minutes per departure. Since there were 4.4 million departures by the major and national US carriers in that period, this produced

The Penalties of Inadequate Infrastructure

AFFECTED GROUP	NATURE OF IMPACT ON AFFECTED GROUP	ECONOMIC COST TO AFFECTED GROUP	ECONOMIC BENEFITS (TO OTHERS)
1. Airlines	Delays Curtailed growth	Higher operating costs Loss of business (revenues, profit, employment)	Gains by substitutes to air travel
2. Airports	Curtailed growth	Loss of revenues	
3. Air travellers	Delays	Loss of productivity, especially to business people. Higher costs passed on by airlines (loss in real income)	
4. Tourist industry	Loss of revenue due to curtailed growth	Loss of inbound business	Increased revenue for other national economies when tourists change country of destination
5. Labour pool	Fewer jobs due to curtailed growth	Loss of income; concomitant personal social disruptions	
6. Business and industry	Loss of revenue Higher operating costs	Loss of profit to businesses	Increased business activity elsewhere when businesses relocate
7. Governments	Decreased tax and fee income	Loss of revenues	
8. Aircraft manufacturers	Decreased passenger demand resulting from congestion	Loss of production as fewer aircraft are required in a severely constrained environment	Gain as more aircraft are needed to offset moderate congestion

a total delay of 616,000 hours. At an average annual utilisation of 3,200 hours per aircraft, this total represents an amount equivalent to using nearly 200 aircraft for an entire year!

Congestion manifests itself in higher costs for the air transport industry. A 1990 study by the American consultancy SRI showed that in Europe alone, the annual cost of congestion was running at US\$5 billion. In the US, air traffic control delays are now estimated to cost the airlines and their customers more than US\$3 billion per year. Similar sums could also be lost in the Asia/Pacific region without early concerted aviation infrastructure planning and investment. These estimates do not take into account the related losses to commerce and industry, via increased distribution costs, and the need to maintain higher prices to pay for the inefficiencies of the system.

Continued improvements to aviation infrastructure are required just to keep pace with the growth in air traffic worldwide and significant levels of investment will be required if the current costs of congestion to the global economy are to be reduced.

CASE STUDIES

Some specific examples help to illustrate the economic benefits of air transport, and are also useful in highlighting the costs associated with congestion and under-investment in aviation infrastructure.

EUROPE

LONDON HEATHROW

Major Economic Benefits

Heathrow is the *world's busiest international airport*. In 1993, Heathrow:

- handled nearly *47.6 million passengers*, 86% of whom were arriving or departing on international flights.
- processed *847,000 tonnes of cargo*.
- experienced over *411,000 aircraft movements*.
- offered air links to *225 destinations*.

Heathrow is also one of Britain's largest business enterprises, generating major economic benefits for the country and the local community alike. The airport:

- pays about US\$40 million a year in business rates.
- handles 44% of all UK air passenger traffic.
- handles 75% of all UK air cargo by value, a figure equivalent to 16% of Britain's total international trade.
- employs around 50,000 people directly at the airport, and at least another 20,000 more in local businesses serving it.
- generated a turnover of approximately US\$800 million in the year 1992/93.

But Capacity Constraints

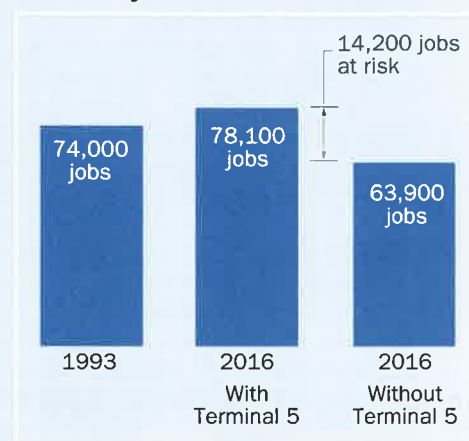
Heathrow's traffic is now approaching the limitations of a terminal capacity of 50 million passengers. Increasing congestion is already in evidence.

Economic Consequences

BAA have calculated that if terminal capacity at Heathrow is not increased, then by the year 2016:

- 14,000 local jobs would have been forfeited.
- up to 30 million passengers per year, equivalent to two-thirds of Heathrow's current passenger throughput, would have been forgone.

**London Heathrow Airport
BAA's Projections for Total Jobs**



Major Economic Benefits

Hong Kong is a major world centre of business and tourism, and an important hub for the Asia/Pacific region. In particular, Hong Kong acts as a key gateway to the emerging Chinese nation. Air transport's activities play an increasingly vital role in the territory's economy. In 1992 alone, Hong Kong's International Airport at Kai Tak:

- directly employed some 24,000 people.
- processed nearly 1 million tons of cargo.
- was gateway to 22 million arriving and departing passengers, including most of the 7 million tourists visiting the territory.

Average tourist spending whilst in Hong Kong was US\$908 per person, amounting to over US\$6 billion in total. More than half of this amount was spent on shopping.

Kai Tak has also been the driving force behind the establishment of a wide range of industrial and commercial business enterprises in Hong Kong:

- Arthur D. Little estimate that throughout Hong Kong there are currently about 75,000 airport-related industrial and commercial enterprises, occupying more than 160 million square feet of floor space, and employing about 900,000 people (excluding government and hotels).
- Forecasters predict that by the year 2011, a total net floor space of 470 million square feet (equivalent to an area measuring over 4 miles long by 4 miles wide) may be required in the territory to accommodate these businesses.

But Capacity Constraints

Capacity constraints at Kai Tak Airport are threatening to limit Hong Kong's growth potential in the mid-1990s.

- The airport is constrained by a single runway operation. This limits the number of aircraft movements and hence passenger and cargo capacities.
- Limited aircraft parking space, slot constraints and route congestion over PRC airspace compound the problem.
- By October 1993, Kai Tak reached its maximum annual capacity of 24 million passengers.

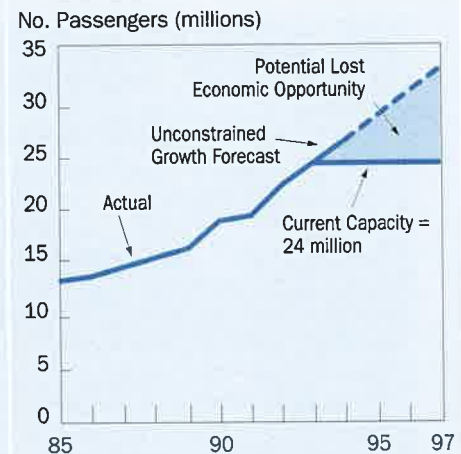
In response to this situation, the Hong Kong Government commenced a US\$13 billion improvement project which includes building a new airport at Chek Lap Kok Island:

Additional Benefits from New Airport

Chek Lap Kok will form an essential transportation hub for the continued growth of Hong Kong's economy:

- The two new runways at Chek Lap Kok will eventually be capable of handling 87 million passengers and 8.9 million tons of cargo annually.
- Airport operations alone are expected to generate an additional US\$1.3 billion in revenues within 3 years of opening.
- The extra capacity of Chek Lap Kok will allow Hong Kong to serve a forecast demand of 45 million passengers per year by the year 2010.
- A study by Arthur D. Little estimated that the new airport will create 12,700 new off-airport jobs on immediate opening, a figure expected to rise to 37,600 jobs by the year 2011.

Hong Kong Kai Tak Airport Demand versus Capacity



NORTH AMERICA

LOS ANGELES INTERNATIONAL AIRPORT

Major Economic Benefits

Los Angeles International Airport (LAX) is an integral and essential part of the regional economy. It creates, attracts and sustains a host of business activities within the Los Angeles area. With a quarter of the region's economic output now generated by international trade, LAX provides a primary gateway for US exports and imports, particularly to and from the growth markets of the Pacific Rim and Asia.

In 1993, the City of Los Angeles Department of Airports conducted an economic impact study to examine and measure the impact of airport activity on the local economy. Their findings showed that, on a typical day, in the Los Angeles region:

- 130,000 passengers and 4,000 tonnes of air cargo go through LAX on 1,850 arriving and departing flights.
- Visitors arriving through LAX spend about US\$18 million daily in the region.
- More than 400,000 workers report to jobs in the L.A. region that are directly or indirectly attributable to LAX.
- US\$29 million in payroll is paid to employees in jobs directly or indirectly related to LAX.
- About US\$5 million is generated in tax dollars due to LAX economic impacts.
- Over US\$100 million is pumped into the Los Angeles economy due to activity generated by LAX. This amounts to US\$37 billion per year in total impact.

NASHVILLE, TENNESSEE

Highlighting Regional Economic Benefits

In direct recognition of the economic benefits that aviation services can generate for local regions, the Metropolitan Nashville Airport Authority in 1990 declared its interest in securing an international route authority to London, providing the city with a daily B-767 service.

In 1993, when an international route authority to London became available, Nashville made two bids for it. One offer was to purchase the authority directly from an airline, with the city committing US\$5 million to this offer. The other offer was for a route award on the basis of merit. In late 1993, the U.S. Department of Transportation awarded a service between Nashville and London to a U.S. carrier on the basis of merit.

The basis for Nashville's bid was the findings of a specially commissioned report which showed that if Nashville was awarded the route:

- an additional US\$255 million annually would be injected into the region. This would include almost US\$25 million in direct impacts and more than US\$230 million in indirect impacts.
- around 3,500 new jobs would be created - over 300 directly and around 3,200 indirectly.
- exports from the region would increase by approximately US\$100 million per year.
- tax revenues to the county would grow by up to US\$6 million per year.

These positive benefits would arise primarily from increased foreign investment and increased travel and tourism. Air transport is seen as a mechanism for moving Nashville up a league as both a tourist destination and an international business centre.

AN URGENT NEED FOR INVESTMENT

The economic benefits of aviation can only be realised if the aviation industry is able to meet the demand for its services. To do so requires major capital investments.

The air transport industry is responding to the enormous growth in demand by investing in new technologies, larger and quieter aircraft and improved safety levels. Governments and private sector investors are also responding as exemplified by the new airports which have recently opened, or will open in 1994, in cities as diverse as Denver, Munich and Osaka. In the Asia/Pacific region alone, ten new airports are expected to open by the end of the century. In Europe the on-going strategy to harmonise and integrate the existing national air traffic management systems (EATCHIP) shows that investments in the industry's infrastructure are not restricted to airports alone.

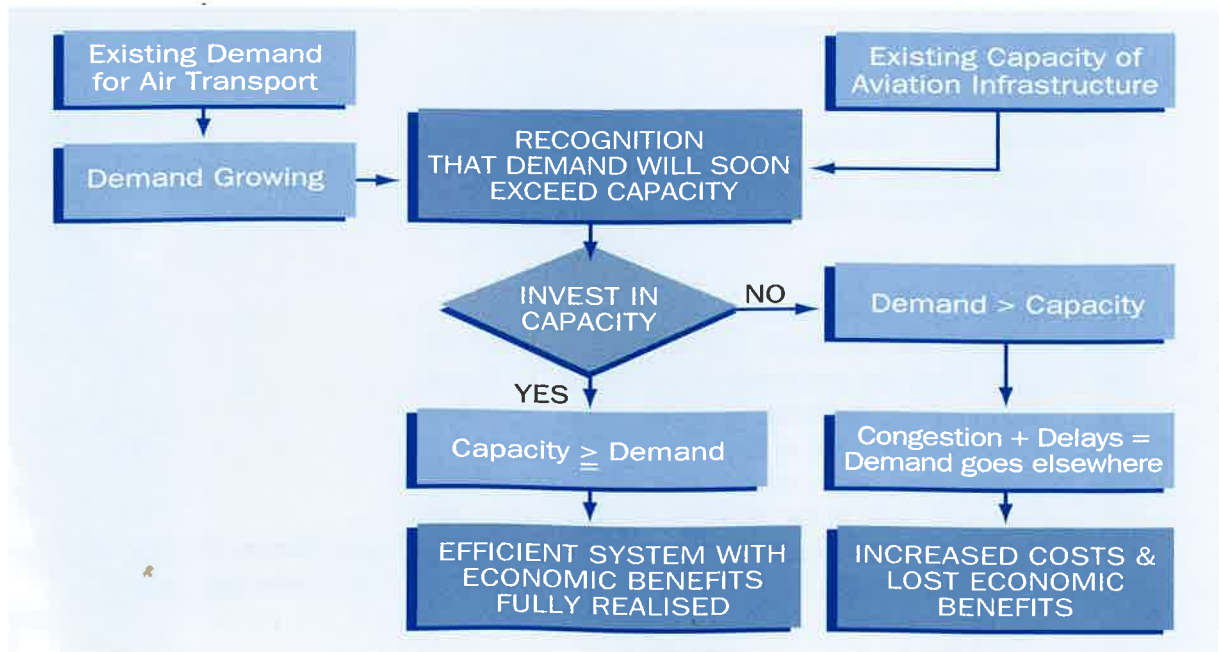
Even so, still greater investments will be needed in the decades ahead, especially in the key regions of Europe, North America and Asia. A 1991 ICAO study indicates that the cost of world-wide aviation infrastructure modernisation projects is expected to run as high as US\$250-350 billion in the period 1991-2010. Europe, North America and the Asia/Pacific region are expected to account for 75-80% of this total. If the projects needed do not go ahead, the resulting inaction will directly jeopardise the potential for both regional and global economic progress.

Substantial capital investments are required in all aspects of the aviation infrastructure. The most important priority for increasing the capacity of the world's airspace and airports is the timely and cost-effective introduction of ICAO's Future Air Navigation System (FANS). With its reliance on satellite-based technologies, FANS will dramatically improve an aircraft's communications, navigation, surveillance and air traffic management (CNS/ATM). Its impact on the industry can only be likened to the introduction of the jet engine. FANS will permit a reduction in aircraft separation without compromising safety requirements. It will provide more accurate navigation and tracking, and it will facilitate improved communications. Airport efficiency and capacity will also be enhanced as each aircraft's time in the immediate vicinity of the airport is minimised. Runway capacity at congested airports will be efficiently utilised and ground guidance will be enhanced at airports equipped for low visibility operations.

Airport capacity and ground transport links will also have to be enhanced in tandem with the expansion in the capacity of the world's airways. Ultimately, it will do little good to put more people and planes in the air unless there is sufficient runway and terminal capacity to allow them to land and disembark. And if surface access links are not also improved, runway and terminal congestion problems will not be solved but simply transferred to the roads and highways that link airports to the city centres and surrounding areas they serve.

Unlike airspace congestion and FANS, there is no single recipe for solving congestion on the ground. Good planning and close co-operative links between airport authorities and their local and national governments can help, but each location is unique and the solutions required must be carefully tailored to the needs of the region. The common theme is the need to maximise the efficient use of existing capacity and, where necessary, to provide additional capacity to meet the forecast rates of growth in demand for air transport. Otherwise, the congestion problems of today will steadily worsen, curtailing the substantial economic benefits that air transport brings to the world.

The Case for Investing in Aviation Infrastructure



FINAL WORDS FROM GOVERNMENT & INDUSTRY

The following statements, made by government and industry leaders, have been extracted from various published documents, speeches and reports:

“The availability of a high quality air transport system inside Europe and to and from Europe is an essential prerequisite for overall economic growth. Dynamic development of trade in general and tourism in particular heavily depends on possibilities to organise face-to-face business contacts and to travel efficiently to regions where other transport modes cannot provide an efficient alternative. Similarly, cost-efficient cargo transportation is essential for promoting trade, creating new markets and improving the productivity of manufacturing industries. “As a matter of utmost urgency, infrastructure bottlenecks must be removed. New provisions of the Maastricht Treaty should be activated to provide Community funds needed for establishing an efficient Single Air Traffic Management System and a truly European airport network.”

“Expanding Horizons: Civil Aviation in Europe, an action programme for the future”, European Commission's Comité des Sages

“The outmoded air traffic control system is costing airlines and consumers billions of dollars each year in delays, and it badly needs to be modernised. Current air traffic control equipment is out of date, overworked and incapable of providing the full range of services and efficiencies that could make our entire economy more competitive.”

“Change, Challenge & Competition”, The National Commission to Ensure a Strong Competitive Airline Industry

“Air transport is a fundamental part of our plan for creating jobs, raising incomes, reducing the (national) deficit and investing in our nation's future.”

Federico Pena, US Department of Transportation Secretary

“The current scarcity of runways, terminal gates and air traffic slots have now very much reduced the possibilities for new entrants. Thus, the environmental constraints of airport and airways, are not only driving up airlines' costs - therefore fares - but may also serve to reduce competition.

“The long-term view must...extend beyond manufacturing. We need to invest more in the infrastructure of aviation - the airports, the transport links between the airports and the cities and the air traffic highways in the sky.”

Jean Pierson, President and CEO Airbus Industrie

“Implementing FANS in a rational value-added way will improve capacity, reduce delays and reduce operating costs, while improving safety. It will also be good for the environment. Put another way, without FANS, we can't provide the capacity nor service demanded by passengers and shippers.

“On the other hand, if we don't get our act together as a global community, FANS could be all cost and little benefit. No one company, no one country, can make the decisions for us. Collectively, the choice is ours.

“...There's no room for a 'European solution' nor for an 'American solution'. FANS implementation must be global and seamless.”

*Robert A. Davis, Vice President
Engineering and Product Development
Boeing Commercial Airplane Group*

“Air traffic delays and constraints arising from congestion are a symptom of governments not having 'got it right' for infrastructure planning. Future economic growth will be jeopardised unless governments and other authorities invest substantially more in the infrastructure necessary to support the air transport industry.”

*Pierre Jeanniot,
Director General IATA*

“Congested airports and airways would seriously hamper the future growth of air traffic in Europe that is planned to double by the year 2000, reaching a total of 500 million passengers.

“Airlines are investing billions of dollars in equipment and facilities to cater to the needs of today's and tomorrow's passengers - to provide the efficient service they expect as paying customers. As we make these massive investments, as prudent businessmen we need reasonable guarantees that both ground and air infrastructure will be capable of satisfying the growing traffic demand. We do not yet have those guarantees.”

*Giovanni Bisignani, Amministratore
Delegato Alitalia*

“Governments everywhere should provide adequate air traffic control facilities.... and (governments) should follow fiscal and monetary policies designed to encourage, rather than impede, investment and growth.”

*Robert Crandall, Chairman,
President and CEO American Airlines*

“ Industry forecasts suggest that Australia’s two-way traffic will be an incredible 38 million passengers every year by 2010. “At the same time the government is giving a high priority to the expansion of our infrastructure The Sydney bottle-neck, through which nearly 60% of all visitors to Australia pass, is getting a third runway and a new airport has been given the go-ahead The Government has got the message. ”

*John Schaap, Managing Director and
CEO Australian Airlines*

“ Air transport is the flywheel for the engine of the world’s industry. It must be unfettered and encouraged to grow..... (Governments) owe it to themselves and their economies to support this, because an efficient air transport system is the only way to fulfil the promise of twice the number of travellers by 2005. ”

*Sir Colin Marshall, Chairman &
Chief Executive British Airways*

“ Noise and emission levels, fuel consumption and usage of scarce material in the airline industry can be reduced by at least 10% if adequate infrastructure facilities were to be made available for airports, access roads and air traffic control. ”

*Pieter Bouw, President KLM
Royal Dutch Airlines*

“ Technological and economic changes throughout the world mean that today’s commercial aviation sector has come a long way from its founding under the 1944 Chicago Convention. Modern aircraft move more people further, faster and more cheaply than ever before. The integration of national economies into a global market has reinforced the importance of efficient air links and ease of access for passengers and cargo. Aviation policy is a conduit for economic growth Policy in the year 2005 must be geared to providing the world with the most efficient and competitive international air transport system possible. ”

*Dr. Cheong Choong Kong, Managing
Director Singapore Airlines Limited*

“ Government policies need to be redirected toward producing an environment that will allow the air transport industry to achieve its enormous potential for generating long-term economic benefits.

“By providing constant computerised positioning of aircraft, FANS holds the key to simultaneously resolving the over-water and crowded corridor problems. Although the technology to make FANS a reality is currently available, achieving FANS’ full potential awaits the required political will from the relevant national governments..... the stakes are simply too high to wait. ”

*Stephen Wolf, Chairman, President
and CEO United Airlines*

“ The evidence in this booklet shows just how important a catalyst air transport is for an area’s economic growth. All partners in this vital and dynamic industry need to make constant efforts to educate the public and decision-makers about the benefits for the whole population, in terms of increased prosperity and opportunities, of not restricting its growth. Moreover, the “channel” for these benefits to flow into the economy is the airport - no airport, no benefit! In order to maximise these benefits, it is necessary to have sufficient airport and airspace capacity to avoid congestion. ACI believes that there should be greatly improved cooperation between all agencies responsible for infrastructure development. ”

*Oris W. Dunham Jr.,
Director General ACI*

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