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“Meeting the Global Challenge of Sustainable Airport Infrastructure”

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It is a pleasure for me to address this distinguished aviation audience today here in Singapore. This is a nation where aviation singularly has been an integral component of economic success and its leadership role in the region. Changi Airport has won numerous accolades from industry partners and customers, including top rankings in the ACI airport customer service benchmarking programme. Singapore's great airline and other air transport related businesses – in the areas of engineering, aircraft leasing, training of personnel, airport construction and management, ground handling – have also brought substantial benefits to this aviation-intensive city. Put very simply, Singapore does aviation right. It is fitting that we are here to look into our future opportunities and challenges.

Elsewhere in the Asia Pacific region we see similar signs of responding decisively and proactively to growth potential. China has recognized that rapidly developing international and domestic air traffic require fast track airport construction, announcing this year plans to construct 48 new airports in addition to the work underway in Beijing in preparation for the Olympic Games.

In India, which over the next 20 years is forecast to be the fastest growing global market at over 10% increase per year, we will inevitably see new strains on airport capacity.

Minister of Civil Aviation Patel has given a clear indication that he will favour the development of new routes on new city pairs to help relieve congested airports.

These examples highlight the fact that airports are serious about building much needed airport capacity at the same time that we have no choice but to optimise use of available capacity.

As all of us here are well aware, our industry's success requires great planning, judicious investments and continuous analysis of the steadily expanding demand for air transport services. We must understand our customers' expectations—airlines, passengers, and shippers—and we must deliver on them. Today, I would like to cover the perspectives of the over 1660 airports worldwide which are members of ACI on why we think a global capacity shortfall will be a serious problem if we don't work urgently—all of us as partners--and why it is vital that we shape a well balanced approach to airport development. I will discuss three areas:

- ACI's forecast for future traffic, worldwide and regional
- Barriers to airport development and the ways in which they must be overcome.
- Global issues that may directly influence airport growth, operations and costs

FACTS ABOUT INDUSTRY GROWTH

Let's start by looking at the current traffic picture and then the forecasts. In 2005, some 4.2 billion passengers used the world's airports. And traffic figures through August 2006 indicate a 7% increase when compared to the same 8 months in 2005.

Now let's look at forecasts. Seven billion passengers will use the world's airports by 2020. But given the current pace of construction and constraints on airport capacity, airports globally are likely to be equipped to handle only 6 billion passengers. A one billion shortfall in passenger capacity means extreme congestion, or turning away customers, at certain airports--a poor choice indeed for a vital industry.

I will also give you a sneak preview of the latest ACI forecast to be released later this month, which extends our forecasts through 2025. The new forecasts also provide

analysis of specific passenger traffic trends and figures. Let's look at a few that illustrate the impact on capacity provision.

Passenger Traffic

The projected number of passengers will reach over 9 billion by 2025, with an average 4% growth curve over the 20 year period. These are overwhelming figures-- based on very real airport input. What industry would not be pleased to see such steady expansion in the future. But is our airport infrastructure robust enough to avert an even greater shortfall? The answer may be no if we do not react quickly.

International markets will continue to outpace the domestic markets in growth. The growth trend will gradually slow over the 20 year period as the high growth markets mature . Nevertheless the total domestic traffic will remain larger than the international market (5.1 versus 4.0 billion). In Asia Pacific, the domestic market is predicted by 2025 to surpass the North American domestic market, always the largest market since the outset of commercial aviation. For the next five years, the strongest growth curve is predicted for airports with less than 5 million passengers, which indicates that smaller airports are poised to take advantage of low cost carrier expansion and regional airline development. They will need the capacity to handle this growth.

Transfer traffic is also predicted to grow at medium and smaller airports, as their networks are extended with new route development...whereas large hubs predict a slight decline in transfers, which may also be linked to congestion issues and constraints on expansion, such as we have seen at Heathrow.

I would just highlight from this table a shift over the next 20 years in market share. As you can see, Asia Pacific will take the lead.

And here is a list of the top ten countries in terms of future growth. In many cases, airports will need to develop targeted expansion plans or risk losing the market opportunity. With the most recent Routes Conference in Dubai drawing 2,000 participants, we can say with certainty that the aviation market is booming and seeking innovative new development possibilities.

Freight

Air freight trends are linked to the health of the global economy, closely following GDP growth and contraction. Freight results are also very sensitive to tariffs in other modes of transportation, as we have seen illustrated in the US market where rising fuel costs created a strong diversion to trucking as a more cost-effective option. Nonetheless we recently have seen a strong rebound in air freight traffic worldwide, in particular in international shipping. Airports compete fiercely for hub operations of major freight carriers both as a means to maximize use of scarce capacity through optimum facilities use in non-peak hours and for the important benefits to regional economies. Again, airports will be assessing their capacity needs in order to attract new business and make operations increasingly cost-efficient.

Looking at regional air freight results, Asia Pacific is on top, averaging 6.5% growth per annum, followed in second position by the Middle East. And North America may well see its traditionally leading position surpassed by Asia by 2025.

Aircraft Movements

A last important measure of growth is in aircraft movements. Many major hubs, like Singapore, have already made important investments to receive very large aircraft as one way to handle increased capacity. Although it is difficult to make precise predictions about the composition of the world's fleets over time, we know that some parameters will affect choices: the impact of environmental pressure to retire older aircraft, new point to point route development, and new aircraft from mainframe manufacturers. We predict that aircraft movements will nearly double by 2025. This implies the need not only for new airport infrastructure, but also for investments in en-route and terminal air traffic control systems.

Now I think I have fully made the case for growth. Time is short and the clock is ticking. We need to move urgently!

BARRIERS TO AIRPORT DEVELOPMENT

That brings me to my second focus concerning the impediments to capacity and infrastructure development.

I mentioned earlier that governments in Singapore, China and India have shown support for industry growth and have proactively promoted new projects. In the Middle East, twenty years ago no one could have imagined the tremendous development and creation of new competitive hubs with government direction and full support. Other governments need to take note of these energetic approaches. The approval processes in the mature aviation markets of North America and Europe severely impede the building of new airports. In the US, Denver is the only major new airport to be built in the past 30 years. In Europe, only Athens and Oslo obtained new airports in the last decade.

In this year's forecast we asked airports to provide a breakdown of capacity constraints. This chart represents the responses of those airports, about 35% of the full sample, who responded to the survey question. The main limiting factors were noise, ATC, runway, apron, terminal constraints, and a general category of "other". As you can see, the responses from European airports indicate that noise constraints are particularly significant, and in North America terminal capacity constraints were the top concern.

Regulatory inflexibility frequently holds back airport capacity building. We have seen this in locations around the world. In the UK, the government inquiry required before construction was begun on Terminal 5 at Heathrow London took six years, and countless hours of testimony. In Auckland, it took 7 years to get approval for a second runway. In Narita it took over a decade for a new runway, and when it was finally approved, it was too short for movements of any aircraft larger than a Boeing 767. In Seattle, it took 23 years to get through approvals and protracted lawsuits.

How can we alleviate this situation?

ACI recognizes that oversight of airports by governments is to be expected, but we consistently call for **light-handed regulation**. Regulation that distorts market forces or creates expensive, time-consuming bureaucratic hurdles to airport development impedes airport operators from carrying out their core mission of serving the community and region in a cost-effective and efficient manner, providing gateways for economic development, trade and tourism.

Liberalisation of market access is another part of the solution. Favoured by both ACI and ICAO, prudently implemented liberalisation provides an opportunity to ease capacity shortfalls. It facilitates creation of new international point to point services, alleviating pressure on congested hubs and spreading growth more evenly over entire national airport systems. Consider the example of Tiger Airways in India where liberalisation allowed low-cost services to move into previously unserved city pairs, providing a boost to tourism and opening up international air transport to previously untapped large markets. To ensure that liberalisation proceeds along these lines, and does not simply create more congestion, airport requirements need to be specifically considered at every step in bilateral and multilateral air transport negotiations. Indeed, the best scenario for realistic liberalisation is for airports to have a seat at the negotiating table.

Innovation at the ownership level is a third factor that can ease airport capacity development constraints. Many airports suffer from a legacy of government ownership characterized by bureaucratic inertia and a general lack of innovation and entrepreneurial spirit. Privatisation can be a remedy for some of these inefficiencies, but many governments also have shown that they can adopt new approaches. Aer Rianta in Ireland pioneered duty free sales and exported their expertise worldwide. The rise in non-aeronautical revenues has contributed new models for financing airport development. And governments can act to encourage private capital, to accelerate environmental studies, to change regulations that facilitate development and solicit world financial institutions such as the IMF and World Bank to increase the number of projects in developing nations, where international commitment to aviation is much needed.

Other governments have encouraged **commercialisation** of their airports by creating a system of independent airport authorities, which are established outside the heavy bureaucracy that often is the hallmark of government departments. Canada took this step some 20 years ago, with excellent results. Strong public and private partnerships are another effective way to build new capacity for the aviation sector. International partnerships with airports such as Copenhagen, Zurich, Malaysia Airports, Frankfurt, and the Airports Company of South Africa are helping to inject the needed philosophy of entrepreneurship and commercialisation in developing or upgrading facilities. In this way, best practices can be quickly spread across the globe, and the difficult business of changing the corporate culture toward a more entrepreneurial approach can be

accelerated. And as you know from recent events in the aviation marketplace, there is no shortage of private financing for well-reasoned airport developments worldwide.

GLOBAL ISSUES

Let me move now to a final perspective on capacity building, which is the impact of key external factors on airports: economic stability, climate change, terrorism and health.

Globalisation is driving strong aviation growth, as we have clearly seen. But our aviation sector is sensitive to **economic swings**, and this fact drives two management imperatives for airport operators.

First, airports must work closely with their airline customers to determine growth potential and future service requirements. An open and transparent planning process is key to good decision making in terms of airport expansion and the definition of services to be offered, including for the booming low cost carrier sector.

Second, airports are actively engaged in benchmarking. As the maxim says, "You cannot improve what you cannot measure." An increasing number of airports have adopted financial and quality of service benchmarking as a tool to enhance efficiency, drive down costs, and improve service. ACI encourages these measures as a means to help in planning for well-tailored and sustainable growth.

Concerns about climate change have put aviation growth in the spotlight, and although aviation represents only a small percentage of emissions today, our industry has been identified as a major contributor. The public will not tolerate inaction on climate change. They perceive aviation as a prime culprit. It is up to us to change that perception.

At the same time, the positive economic contribution of airports to local, national and regional economies must be recognised. Airports worldwide employ over 350,000 people directly and over 4.5 million in airport related jobs. So the solution can not be to put a clamp on air transport, or tax it, but rather to continue the good progress to date in reducing the impact of air transport on the environment. In Europe, airports have called for air transport industry participation in emissions trading schemes. We need to look for

solutions, not regulatory shackles. Stephen Nelson, CEO of BAA, recently summed up, “We sit between passengers and the airlines, and the politicians and planners who determine whether or not we can expand our facilities. We also live alongside our neighbours, who have to live with the direct consequences of airport expansion. That is why BAA continues to place such a heavy emphasis upon managing a close dialogue with all its stakeholders.”

The ability of airports to serve passengers is being severely degraded by the threat of **terrorism**. Governments are obliged to respond by enforcing stringent security measures at airports worldwide. The most recent EU directive restricting liquids and gels onboard aircraft to 100 millilitres contained in clear plastic bags required fast footwork at all European airports to implement these measures. At the same time, it has raised the issue of standardising and harmonising requirements worldwide, otherwise passengers will be confused and annoyed by varying requirements that complicate the travel process, especially for international and transfer passengers.

On a commercial level, the recent rules impact duty free sales of liquids for any transfer passenger in the EU, and the US has similar constraints in place. If duty free and food and beverage sales drop so will airport revenues, and the impact will be felt by our airline customers. It is in our interest to work together to ensure the smoothest process for passengers.

On a practical level, it must be remembered that it takes time and money to recruit, train and put security personnel in place. Vast security investments have placed an additional burden on airports and airlines, and in the end the passenger’s ticket price. We must work together to ensure that these measures are appropriate, well adapted and sustainable.

Public health questions also heavily impact our industry. SARS slashed traffic results in this region not so long ago. Good coordination between airports, airlines, travel associations and national and global health authorities helped to mitigate aviation’s losses and promote a rapid rebound. In fact, Singapore and Hong Kong were the first to employ innovative techniques, including remote detection of fevers in passengers, that were rapidly adopted at other airports during the SARS crisis. We have learned a lesson,

and we are working constantly to prepare for any future health emergencies. We cannot wait for a future pandemic to put a protective process in place. Again, coordination will be the key to managing any future health threat.

Let me conclude today by emphasizing that our industry will prosper if we respond proactively and decisively to our growth potential. The full airport development process can take over 20 years – planning, designing, winning community and airline agreement, going through the government approval hoops, not to mention completing the actual construction. And in some cases much more time is required when opposition delays the process. In order to serve our customers, and that must remain a top priority, we need urgently to address how we will continue to provide adequate, well-adapted airport infrastructure in a timely manner.

It will be a daunting challenge for us all to find the right balance between new capacity, new routes, and new services. We must be flexible, innovative and proactive in devising solutions, and if we work cooperatively across the industry and with governments, we will be better equipped to make the right decisions. Our efforts must be pursued with real urgency.

Thank you.