

Air Transport: Networking For the Future

By Hisayasu Suzuki

The demand for air transport has expanded rapidly in recent years and is expected to maintain its rapid growth, whether measured in terms of domestic or international transport or in terms of passenger or cargo transport (Table 1). This outcome will result from the rising need for high-speed transportation by time-consciousness Japanese as well as from the growing demand for all forms of travel.

A number of factors, however, will act to restrain the growth of air transport. The concentration of air routes to and from Tokyo and Osaka has congested airports in those areas to the point of maximum capacity, precluding route expansion by domestic and foreign carriers. Furthermore, regional hub airports are beset with crowded terminal areas, and they lack adequate domestic and international air links.

The development of air transport reached a new stage with the starting in November 1991 of the Sixth Five-Year Airport Development Plan. This plan grew out of discussions taking place since March 1990 within the Council for Civil Aviation, an advisory body of the Ministry of Transport. A new perspective discussed by the council was the importance of developing an air-transport network appropriate for the 21st century.

The development of Japan's air-transport network has tended to concentrate on the Tokyo and Osaka regions. As a result, the diversification of air routes is lagging.

The airport development plan places priority on three major airport projects: (1) the development of New Tokyo International Airport (Narita), (2) the offshore development of Tokyo International Airport (Haneda), and (3) the start of operations at the Kansai International Airport (Osaka). In addition, the plan calls for building additional airports around Tokyo and Osaka, building regional hub airports, increasing the functionality of international hub airports, and improving

the international links of major airports in areas other than Tokyo and Osaka.

Domestic network

Japan is nearing the completion of a core air-transport network that provides domestic jet services between Tokyo and Osaka and regional airports. However, the severe congestion of Haneda and Itami (Osaka) airports is hampering the expansion of connecting flights from regional airports.

This situation requires the development of a domestic air-transport network appropriate for the 21st century. The first step is to relieve capacity constraints by building additional airports around Tokyo and Osaka. This should also be accompanied by the improvement of the core air-transport network centered on Japan's two major metropolitan areas. In addition, the diversification of Japan's overall air-transport network should not be overlooked. This can be advanced by developing a network around regional hub airports in the northern island of Hokkaido (New Chitose Airport) and the southern island of Kyushu (Fukuoka Airport), both regions with a high dependence on air travel. Measures such as these to foster an integrated, national air-transport network will go far in increasing the convenience of air travel in Japan.

1. Building new airports around Tokyo and Osaka

Taking into account the medium- and long-term growth of air-transport de-

mand, the use of larger aircraft alone will not suffice in overcoming existing capacity constraints in the Tokyo and Osaka regions. In the Tokyo area, first priority should go to the completion of Haneda Airport's offshore development. Haneda is Japan's largest domestic air-transport hub, with about 510 daily flights to and from 39 domestic airports as of the summer of 1992. Forty million passengers passed through Haneda Airport in fiscal 1991.

Offshore development currently under way consists of building a new runway on a landfill site of the Tokyo metropolitan government. The project will not only enable Haneda to respond to future air-transport demand but will also help solve existing noise pollution problems. The three-stage project is scheduled for completion around 1995. Currently stage-two efforts are under way, which entail the building of a new terminal area. Stage three will involve actual runway site development.

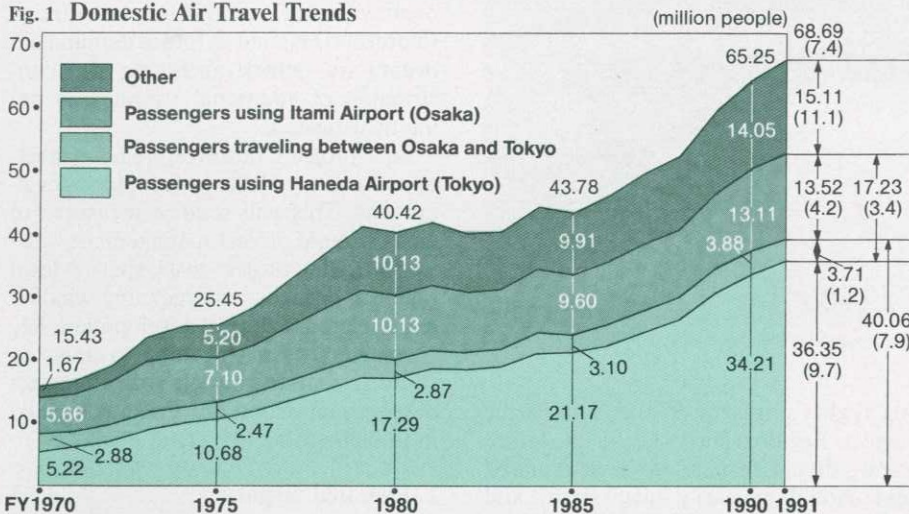
The completion of the offshore development project will increase Haneda Airport's runway capacity from the current 180,000 to 230,000 landings or takeoffs per year. This, combined with the use of larger aircraft, will allow Haneda to meet the growth of air-transport demand for a certain period. However, since such demand is forecast to soar in the future, Haneda is expected to reach a capacity bottleneck at the turn of the century even if larger aircraft are employed to the maximum extent possible. Expanding the air-transport capacity of the Tokyo region will be indispensable over the medium to

Table 1 Outlook for Air Transport Demand

(million people; 1,000 tons)

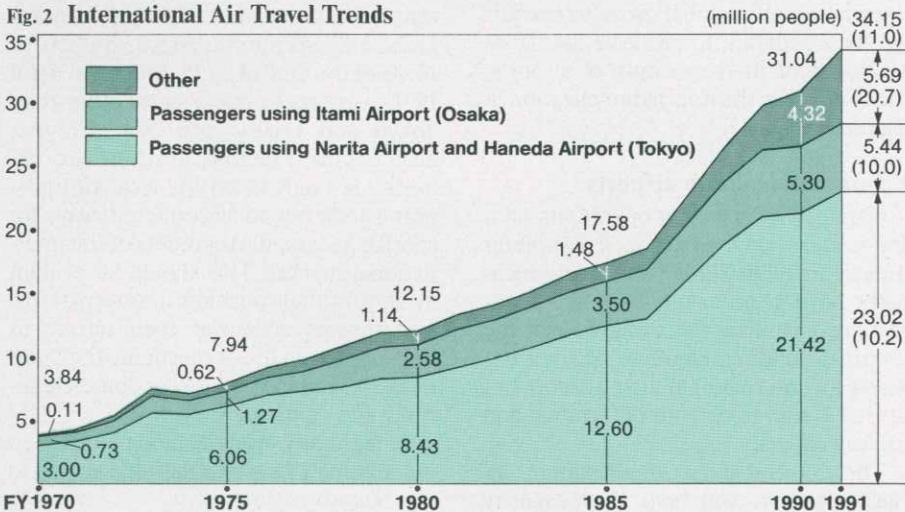
	FY 1975	FY 1980	FY 1985	FY 1991	FY 1995 (estimate)	FY 2000 (estimate)
International routes						
Passengers	7.94	12.15	17.58	34.15	45.00	57.00
Cargo	298	531	873	1,542	2,400	3,100
Domestic routes						
Passengers	25.45	40.42	43.78	68.69	88.00	103.00
Cargo	165	300	470	684	950	1,250

Fig. 1 Domestic Air Travel Trends



Note: Figures in parentheses represent percentage change from FY 1970 to 1991 as an annual average.

Fig. 2 International Air Travel Trends



Note: Figures in parentheses represent percentage change from FY 1970 to 1991 as an annual average.

long term. Considering lead times required, expeditious action is needed.

Nonprofit organizations, companies and research groups in the private sector are making various proposals about this situation, in which the issue is frequently described as the need for a third airport in the metropolitan Tokyo area. The mass media is also taking up the issue from different angles. In most cases, the third airport is viewed as principally serving the international market.

This is not an unreasonable proposal in light of Narita Airport's current congestion. However, the completion of Narita's

second-stage development, the start of operations at the Kansai International Airport, and the expansion of international services from regional airports will do much to meet Japan's international air-transport needs. The remaining issue will be Haneda Airport's capacity bottleneck, or the demand for domestic flights serving the Tokyo area.

Both land and air space are already in heavy use in the Tokyo region. Extensive and coordinated surveys by responsible authorities will be necessary whether considering the use of existing airports or the construction of new airports. Begin-

ning in the current fiscal year, the issues associated with various airport plans are being analyzed. At the moment, a survey is being taken of the entire Tokyo region to see if appropriate land and air space exists to construct a new airport.

Resolving capacity constraints and responding to the growing demand for air transport are issues for the Osaka region as well. One response has been to push forward with the stage-one plans for Kansai International Airport to ensure that operations begin in the summer of 1994. The offshore landfill for the airport has already been completed, and construction is proceeding with a passenger terminal and other airport facilities as well as with road and rail access routes.

Itami Airport will become a hub for domestic flights when the use of Kansai International Airport begins, and the number of daily flights to and from Itami will remain about 370.

2. The diversification of the air-transport network

In view of the medium- to long-term capacity constraints of Tokyo and Osaka airports, it will be difficult to add new direct routes or to increase the flights of existing routes to Tokyo and Osaka from low-demand regional airports.

More recently, such regional hubs as New Chitose and Fukuoka airports have been developing direct, medium- and long-distance routes to other regional airports, supplementing their heavily used routes to Tokyo and Osaka. The use of such direct, regional routes is expected to grow strongly in the future. As the air-transport network centered on regional hub airports diversifies and as the number of regional flights increases, the number of routes and flights of the overall air-transport network will also increase by means of regional feeder networks.

3. Regional airport development

The core network centered on Tokyo and Osaka offers jet services to nearly all major regional cities. Regions without easy access to high-speed air or rail transportation systems have relatively smaller



No. 2 Passenger Terminal Building at Narita Airport. The terminal, designed to reduce capacity bottlenecks, is scheduled for completion in December 1992.

populations. In building new airports in such areas, strong local support to generate requisite demand is necessary if jet services are to be realized.

On the other hand, building new airports in regions with ready access to Tokyo or Osaka through the *shinkansen* railroad will be difficult if conceived in terms of providing flights to Japan's two major metropolitan areas. However, building such airports is not out of the question if conceived in terms of developing a diversified air-transport network. Establishing routes with distant regional hubs like New Chitose and Fukuoka airports, for example, would be worthy of consideration.

International network

The growth of Japanese tourism is prompting many foreign airlines to request connecting routes through such major-city airports as Narita and Itami. This development is based on the fact that most Japanese traveling abroad leave from or arrive at the airports of Narita and Itami. However, capacity constraints at Narita and other major-city airports make it impossible to honor these requests. As a result, it will be necessary to actively promote international flights from regional airports free from capacity constraints. Regional airports still do not serve international markets.

Narita Airport and Kansai International Airport should therefore serve as international hubs in terms of developing international air-transport networks. They should offer frequent flights to all destinations and should provide connect-

ing flights primarily to the Asia-Pacific region. Regional airports, on the other hand, should respond to area demand and should primarily offer short- and medium-distance international flights. Their purpose should be to increase the convenience of regional users, to encourage local tourism, to promote industrial development in the vicinity of airports, and to advance the internationalization of regional cities.

1. International hub airports

Narita Airport began operations on a 550-hectare site with one 4,000-meter runway in 1978. Since then, many measures have been taken to relieve congestion, including the expansion of the terminal building. However, soaring demand for international air transport has caused Narita to run out of terminal and runway capacity.

The second-stage development of Narita Airport will help allay capacity constraints. Construction of relevant facilities is fully under way in order to complete second-stage development as quickly as possible, with the exception of facilities on land not yet purchased. The remaining hurdle in completing second-stage development is the purchase of land.

Work is proceeding with Kansai International Airport in order to permit the start of operations in the summer of 1994. The airport will be the first in Japan capable of round-the-clock operation. It is expected to become an international air-transport hub, for which an adequate number of domestic feeder routes will be established. The airport, however, will

open with only one 3,500-meter runway. In order to respond to future demand, an overall framework, including the construction of additional runways, is being investigated.

Such projects, however, are not expected to be as profitable as first-stage development. This will require measures to ensure sound project management, such as controlling project costs, sharing local financial burdens, and recycling windfall gains related to project development. Responsible parties will need to draw up concrete plans to promote smooth project development based on what was learned in implementing first-stage plans.

2. Regional airports

Currently 14 regional airports offer scheduled international flights. Overseas travelers arriving at or departing from regional airports numbered 5.62 million, or 16.4% of the total of 34.15 million, in fiscal 1991. Airports in major cities other than Tokyo and Osaka (e.g. New Chitose, Nagoya and Fukuoka airports) are expected not only to service local air-transport needs but to become gateways for specific geographic segments of the international market. This should be evident in light of their position in international air-transport networks, their nature as hub airports in the domestic air-transport network, and the outlook for domestic air-transport demand.

A feasibility study is being conducted on building a new international airport in the Nagoya region.

International air services will also be promoted for other regional airports in line with the level of demand. Demand, however, must be sizable to support regular international flights. In moving in this direction, local efforts to foster demand will be indispensable. This can be achieved by establishing a record for international flights through chartered operations and by developing international facilities and undertaking community development in a manner that will attract foreign travelers to the region. ■

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