



## Keio Business School

# Kansai International Airport Co.,Ltd.

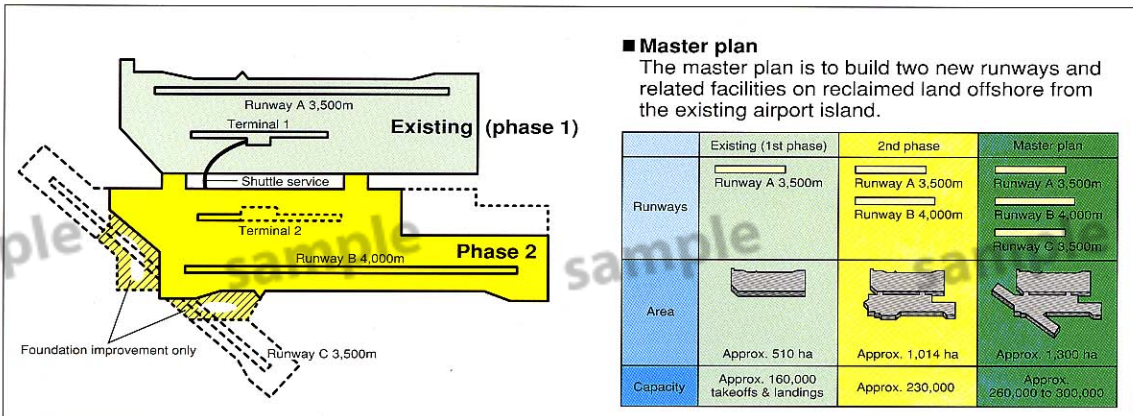
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Reference1 : Overall view of Kansai International Airport



## Reference 2: History of Kansai International Airport

- 1968 : The Ministry of Transport (MOT) began surveying eight potential sites for the new airport - on the Osaka-Wakayama prefectural border near Osaka Port; in the waters off the shores of Sennan, Kishiwada, Nishinomiya, Rokko, Port Island and Akashi; and on Awaji Island.
- 1974 August : The Council for Civil Aviation submitted a report recommending five kilometers offshore from Senshu as the most suitable location (after a comparative study on the three areas of Senshu offshore, Kobe offshore, and Harima Sea).
- 1978 January : MOT began meteorological and tidal surveys in the Senshu offshore area.
- 1980 September : The Council for Civil Aviation submitted its plan for the airport (examining size, air corridors, placement of facilities, construction methods, etc.).
- 1981 May : MOT presented a set of three proposals (Airport Plan for Kansai International Airport, Kansai International Airport Environmental Impact Assessment and Regional Development Plan) to the three prefectural governments (Osaka, Hyogo and Wakayama) concerned to obtain local support for the airport construction.
- 1982 July : Osaka Prefecture agreed to the proposals.
- 1984 February : Cabinet meeting on the Kansai International Airport was held (endorsed the first phase of the airport master plan incorporating the phased development based on the master plan).
- October : Kansai International Airport Co., Ltd. (KIAC) was founded to carry out the first phase of the airport master plan.
- 1985 December : The Cabinet meeting on the Kansai International Airport approved the general plan for the construction of the airport facilities.
- 1986 February : The Kansai International Airport Environmental Monitoring Group (consisting of the Osaka governor and the mayors of eight cities and five towns in Senshu) was established.
- April : KIAC entered into a compensation agreement with the Osaka Federation of Fishermen's Association.
- June : KIAC presented an environmental impact assessment report to the Osaka government (with this the necessary environmental assessment procedures were finalized).
- December : The Osaka government approved the plan for the development of the airport site.
- 1987 January : The governor of Osaka Prefecture licensed KIAC to carry out reclamation work for construction of the airport.
- January : Construction work on the airport began (airport island sea wall).
- December : Expenditure for the study into the master plan (10 million) was approved for the first time in the fiscal 1988 budget.

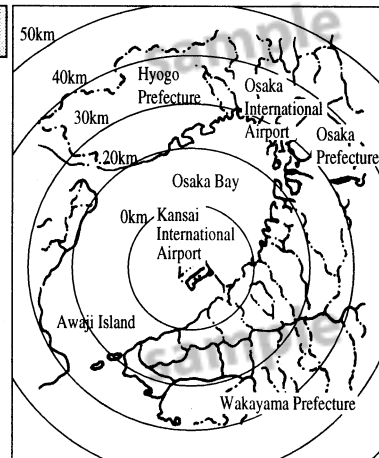
- 1988 December : The airport sea wall was generally completed and reclamation work began.
- 1989 January : Transportation of the soil and sand used for reclamation from Hannan Hills in Osaka Prefecture began (soil was also transported from Awaji Island, and Kata in Wakayama City).
- June : The association for the early realization of the Kansai International Airport master plan was established (comprising the heads of local governments and business leaders in the Kansai region).
- 1991 December : Reclamation work on the airport island was completed.
- 1992 November : Control tower was completed.
- 1993 April : The Kansai International Airport Promotion Council was established (comprising the heads local governments and business leaders in the Kansai region, and the president of KIAC).
- December : Construction of runway, apron and other key facilities was completed.
- 1994 June : The passenger terminal building was completed.
- August : Boring surveys began in the proposed new sites under the master plan.
- September 4: The airport was opened.
- 1995 May : An examination committee in the Kansai International Airport Promotion Council submitted a report on measures to realize the Kansai International Airport master plan.
- August 24 : The Council for Civil Aviation released its interim report on the 7th 5-year Airport Development Program (the report noted the urgent need to begin work on the second phase of the master plan).
- December 18: After budget talks between the Finance Minister and Transport Minister, it was announced that the second phase of the airport master plan would begin in fiscal 1996 (appropriation of funds for design and survey expenditure and establishment of the corporation to conduct the land reclamation work).
- 1996 February 27: Cabinet agreed on the level of funding indicated in the seventh 5-year airport development plan.
- April 26 : A bill amending a part of the Kansai International Airport Company Law was passed by the upper house.
- May 9 : The Law Amending the Kansai International Airport Company Law came into force.
- May 10 : The Diet approved the fiscal 1996 budget.

### Reference 3: Kansai International Airport (phase 1)

#### Characteristics

- ① Ocean airport that gives full consideration to pollution prevention and the natural environment.
- ② Japan's first 24-hour airport.
- ③ Ease of transfer between international and domestic flights.
- ④ Convenient access with two rail links, expressway and high-speed ferry service.

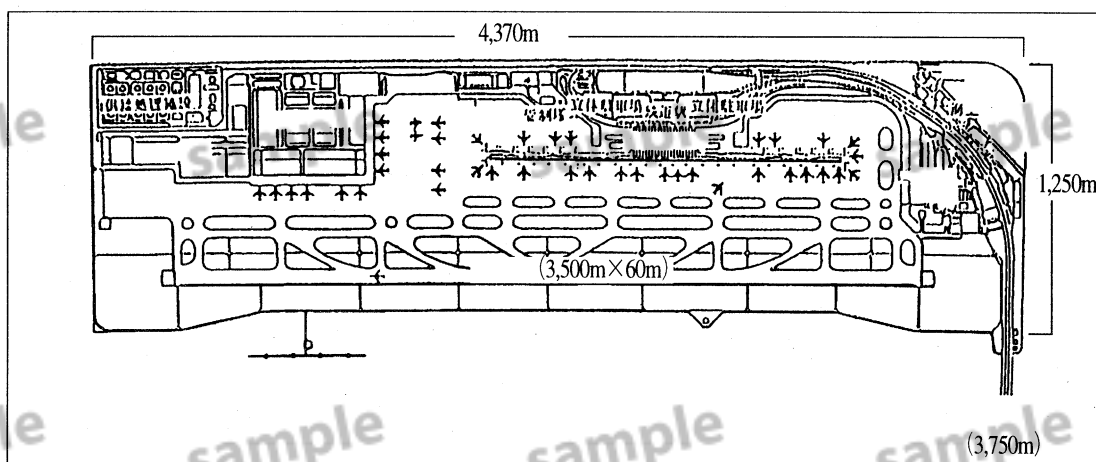
#### Location



#### Size

- Opened: Sunday, September 4, 1994
- Construction/management: Kansai International Airport Co., Ltd.
- Area: 511 ha (about 1.6 times as large as the 317 ha of Osaka International Airport)
- Runway: single runway of 3,500m (Osaka International Airport has two runways, 3,000m and 1,828m)
- Capacity: about 160,000 takeoffs and landings a year (about 440 a day) (currently about 120,000 a year)
- Passenger terminal: floor area - about 300,000m<sup>2</sup>; 41 aircraft parking spots (currently 33 being used)
- Total construction cost: ¥1,458.1 billion (20% national government, 5% regional governments, 5% private sector, remaining 70% raised through loans)

#### Facilities



## Reference 4: Regular flights at Kansai and Osaka international airports

As of April 1, 1996

### International flights

#### Kansai International Airport

Classification	Period	Connecting countries and cities (passenger flights)	Flights per week	Airline companies
Osaka Airport before opening of Kansai Airport	1994 summer season, Aug. 1 - Sep. 3	13 countries, 24 cities	194 (28 a day), of which 12 are freight	Japanese - 2 Foreign - 13
On opening	1994 summer season, Sep. 4 - Oct. 29	21 countries, 39 cities	338 (about 48 a day), of which 26 are freight	Japanese - 4 Foreign - 25
1996 summer season	Sep 1-30 1996	34 countries, 60 cities	560 (about 80 a day), of which 70 are freight	Japanese - 5 Foreign - 40

#### Osaka International Airport

- International flights were all transferred to Kansai Airport on opening. Since then, there have been no regular or special international flights at Osaka Airport.

### Domestic flights

#### Kansai International Airport

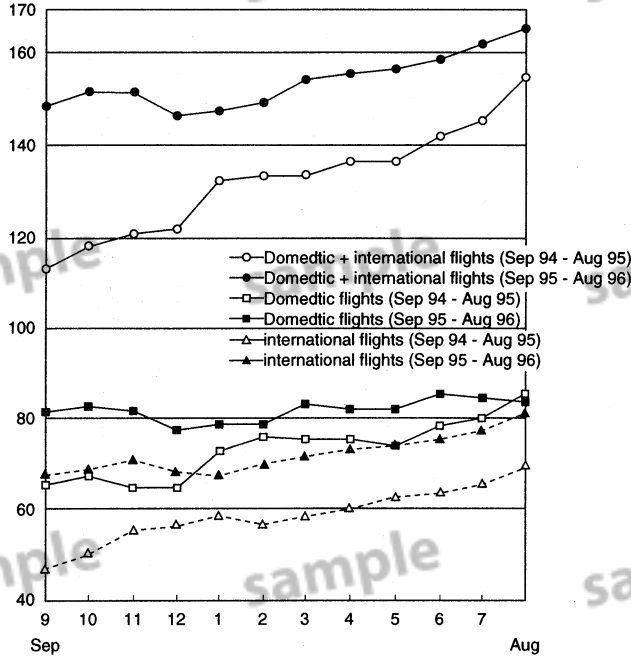
Classification	Period	Routes	Flights per day	Airline companies	Remarks
On opening	Sep. 4-30 1994	24	67	6	Jet - 65 Propeller - 2
September 1996	Sep 1-26 1996	33	84	7	Jet - about 77 Propeller - 3

#### Osaka International Airport

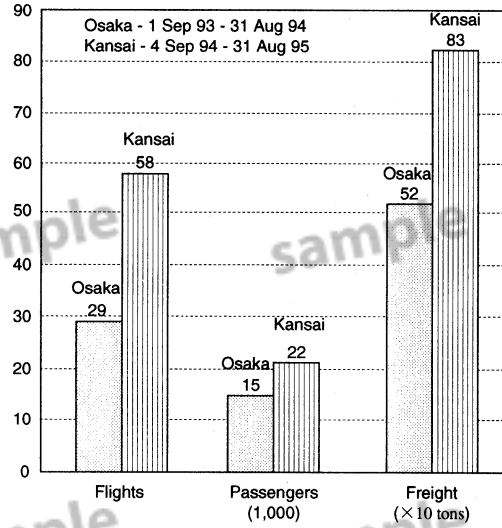
Classification	Period	Routes	Flights per day	Airline companies	Remarks
Before opening of Kansai Airport	Aug. 1 - Sep. 3 1994	38	148	5	Jet - 125 Propeller - 23
Before opening of Kansai Airport	Sep. 4 - 30 1994	31	121	5	Jet - 100 Propeller - 21
September 1996	Sep. 1-26 1996	29	114	5	Jet - 100 Propeller - 14

## Reference 5: Flight and transportation data at Kansai International Airport

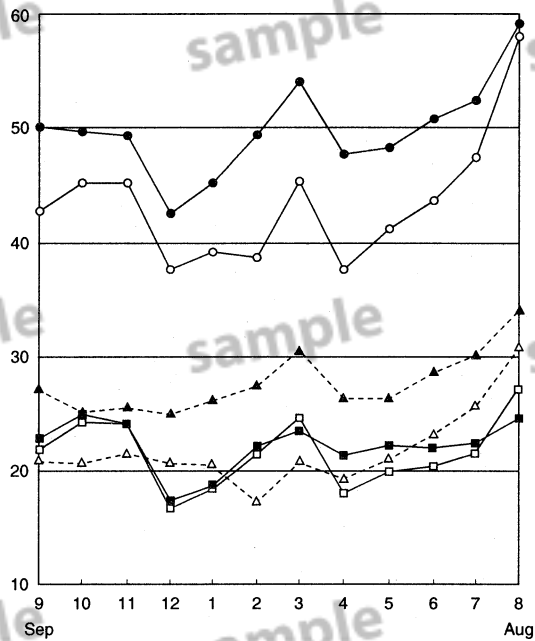
### 1. Flights per day



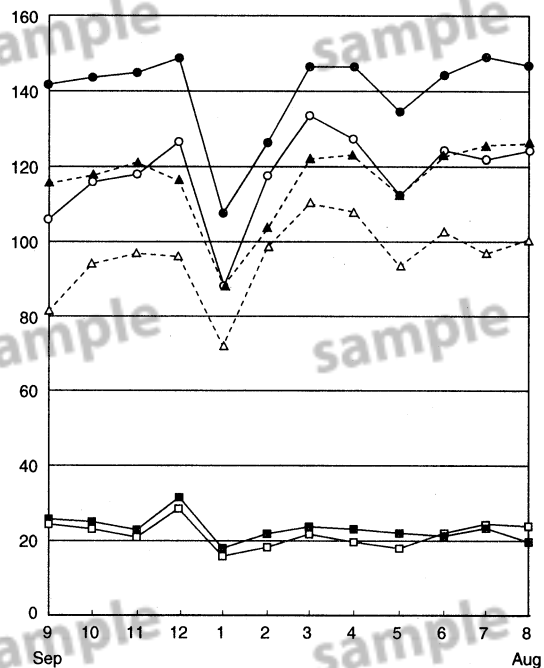
□ Comparison with Osaka Airport (same period, previous year; international flights per day)



### 2. Passengers per day (1,000 persons)



### 3. Freight handled per day (× 10 tons)



Note: Figures include special flights. International freight data are customs figures, other data are KIAC figures.

Reference 6: Countries and cities connected with Kansai and Narita international airports

(April 1996 flight schedule)

- Countries and cities connected by regular direct passenger flights both ways.
- Countries and cities connected by regular direct (one-way) or non-direct passenger flights.

Asia			
Countries /regions	Cities	Kansai	Narita
South Korea	Seoul	●	●
	Pusan	●	●
	Cheju	●	○
	Kwangju	○	
	Taegu	○	
China	Beijing	●	●
	Dalian	●	●
	Shanghai	●	●
	Qingdao	●	
	Guangzhou	●	
Taiwan	Taipei	●	●
	Kaohsiung	○	○
Hong Kong	Hong Kong	●	●
Mongolia	Ulan Bator	●	
Philippines	Manila	●	●
	Cebu	●	●
Vietnam	Ho Chi - Minh City	●	
Thailand	Bangkok	●	●
	Phuket		○
	Chenmai		○
Malaysia	Kuala Lumpur	●	●
	Penang	○	○
	Langkawi	○	
	Kuching		●
	Kota Kinabalu		●
Singapore	Singapore	●	●
Brunei	Bandar Seri Begawan	●	
Indonesia	Jakarta	●	●
	Denpasar	○	○
The Union of Myanmar	Yangon	●	
India	Delhi	●	●
	Bombay	●	○
	Calcutta		○
Nepal	Kathmandu	●	
Sri Lanka	Colombo		●
Bangladesh	Dhaka		○
Pakistan	Islamabad		○
	Karachi		○
Kansai Airport; 15 countries/regions; 29 cities			
Narita Airport; 13 countries/regions; 28 cities			

North/South America			
Countries /regions	Cities	Kansai	Narita
USA	Honolulu	●	●
	Seattle	●	●
	Los Angeles	●	●
	San Francisco	●	●
	Detroit	●	●
	New York		●
	Washington		●
	Chicago		●
	Atlanta		●
	Minneapolis		●
	Dallas		●
	San Jose		●
	Portland		●
Kona			○
Canada	Vancouver	●	●
	Toronto		●
	Calgary		●
Brazil	SanPaulo	○	○
	Rio de Janeiro		○
Mexico	Mexico City		○
Peru	Lima		○
Kansai Airport; 3 countries; 7 cities			
Narita Airport; 5 countries; 21 cities			

Oceania			
Countries /regions	Cities	Kansai	Narita
Australia	Cairns	○	●
	Brisbane	●	●
	Sydney	○	●
	Melbourne	○	○
	Darwin		○
	Perth		●
New Zealand	Auckland	●	●
	Christchurch	○	○
Fiji	Nadi	●	●
(USA)	Guam	●	●
	Saipan	●	●
(France)	Noumea		●
	Papeete		●
Kansai Airport; 4 countries; 9 cities			
Narita Airport; 5 countries; 13 cities			

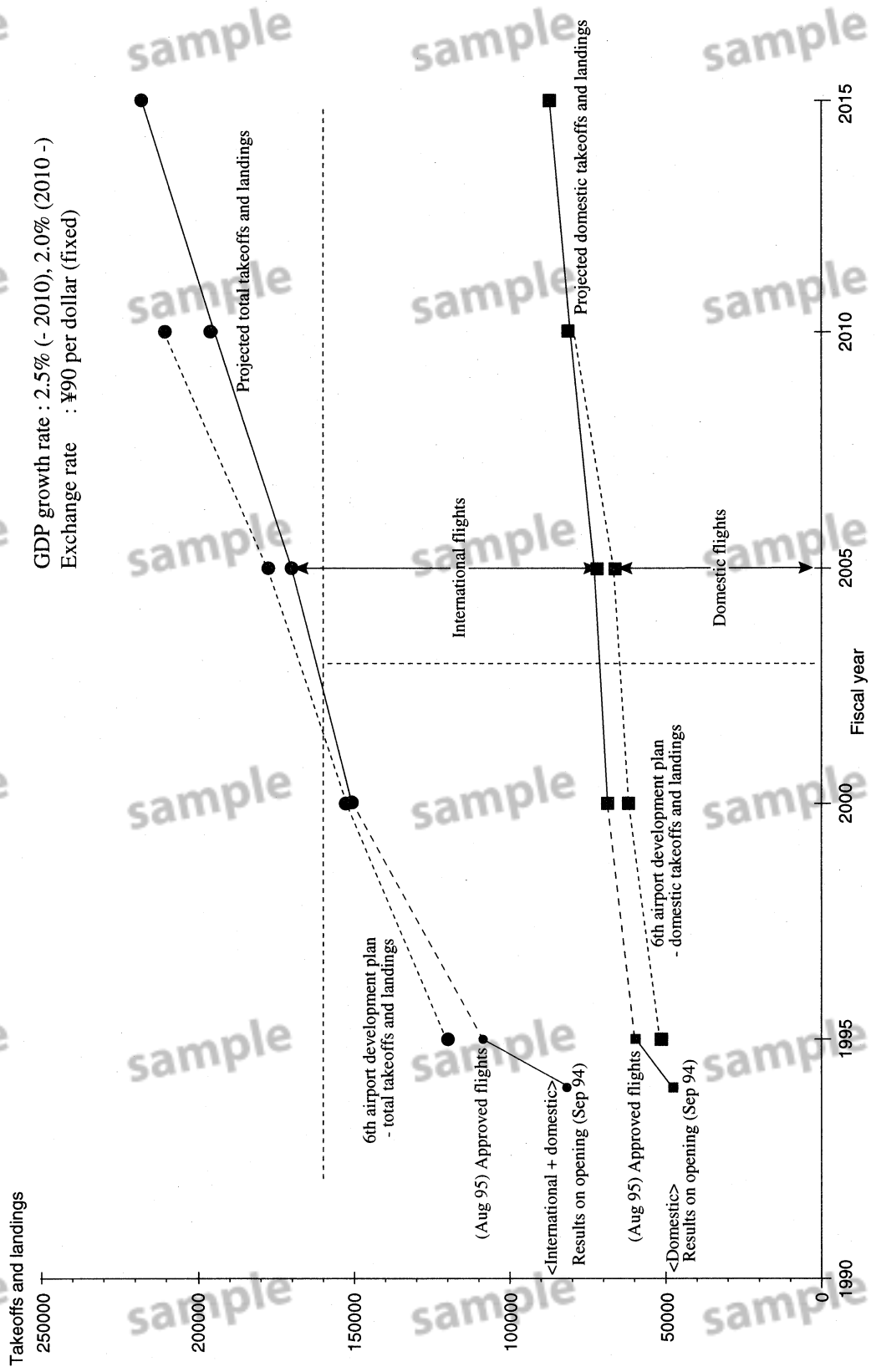
Europe			
Countries /regions	Cities	Kansai	Narita
UK	London	●	●
Germany	Frankfurt	●	●
	Munich	●	
Netherlands	Amsterdam	●	●
France	Paris	●	●
Switzerland	Zurich	●	●
Italy	Rome	●	●
	Milan	●	●
Austria	Vienna	●	●
Sweden	Stockholm	●	●
Denmark	Copenhagen	●	●
Finland	Helsinki	●	●
Russia	Moscow	●	●
Belgium	Brussels		●
Spain	Madrid		○
Kansai Airport; 11 countries; 13 cities			
Narita Airport; 13 countries; 14 cities			

Middle East			
Countries /regions	Cities	Kansai	Narita
Turkey	Istanbul	●	●
Egypt	Cairo	●	○
Iran	Tehran		○
Kansai Airport; 2 countries; 2 cities			
Narita Airport; 3 countries; 3 cities			

Total			
Kansai Airport; 34 countries/regions; 60 cities			
Narita Airport; 38 countries/regions; 79 cities			



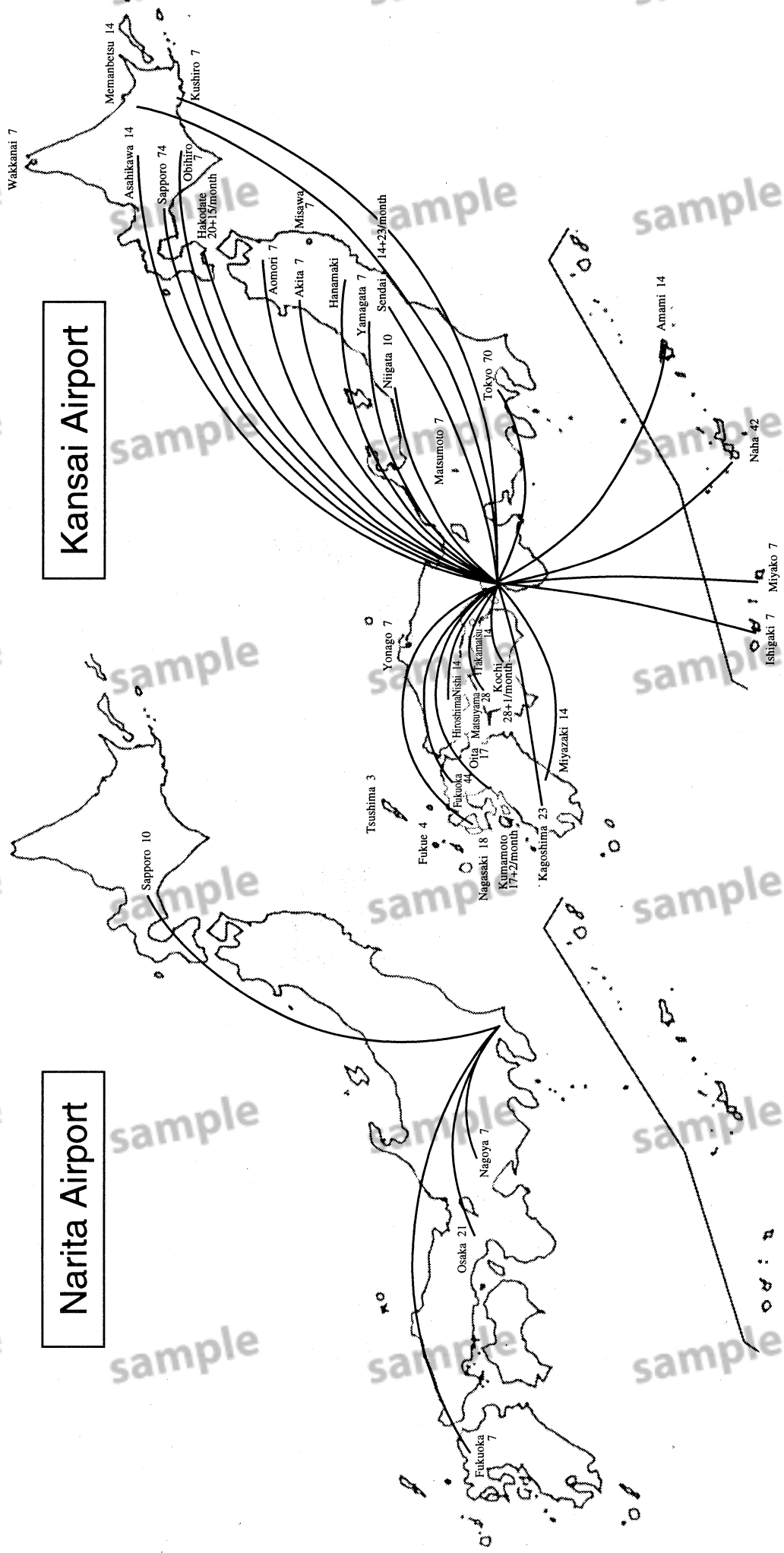
Reference 7: Takeoffs and landings based on projections in the 7th 5-year airport development plan



Reference 8: Rail access to airports

Airport	Railway	Opening (scheduled)	Length of line	Remarks
Shin-Chitose Airport	JR Hokkaido	Jul 92	2.6km	Rail tunnel constructed under the runway and other basic airport facilities as a airport development project.
New Tokyo International Airport	JR East	Mar 91	8.7km	} Rail facilities maintained by Narita Express Co. as a category 3 railway operator, however the tunnel connecting to Keisei Railway is maintained by the New Tokyo International Airport Corporation.
	Keisei Railway	Mar 91	2.1km	
Tokyo International Airport	Tokyo Monorail (phase I)	Sep 93	5.1km	Scheduled for fiscal 1999; Construction of the tunnel under the basic airport facilities as an airport development project, construction of P-line supplementary tunnel as a airport development project, and construction of the P-line supplementary tunnel within the airport as an airport development project.
	Tokyo Monorail (phase II)	On opening of the east building	0.8km	
	Keihin Express		3.2km	
Osaka International Airport	Osaka rapid transit (monorail)	Scheduled for Mar 97	6.7km	Infrastructure development assistance from the road improvement special account. Extension of the Fukushima Line is also being examined.
Kansai International Airport	JR West	Jun 94	11.1km	} Section between Rinku Town and Kansai Airport is owned by KIAC as a category 3 railway operator.
	Nankai Railways	Jun 94	8.8km	
Fukuoka Airport	Fukuoka City	Mar 93	3.3km	Assistance for subway development.
Miyazaki	JR Kyushu	Scheduled for fiscal 1996	1.0km	Elevated bridge in the airport built as an airport development project with Miyazaki Prefecture assistance.

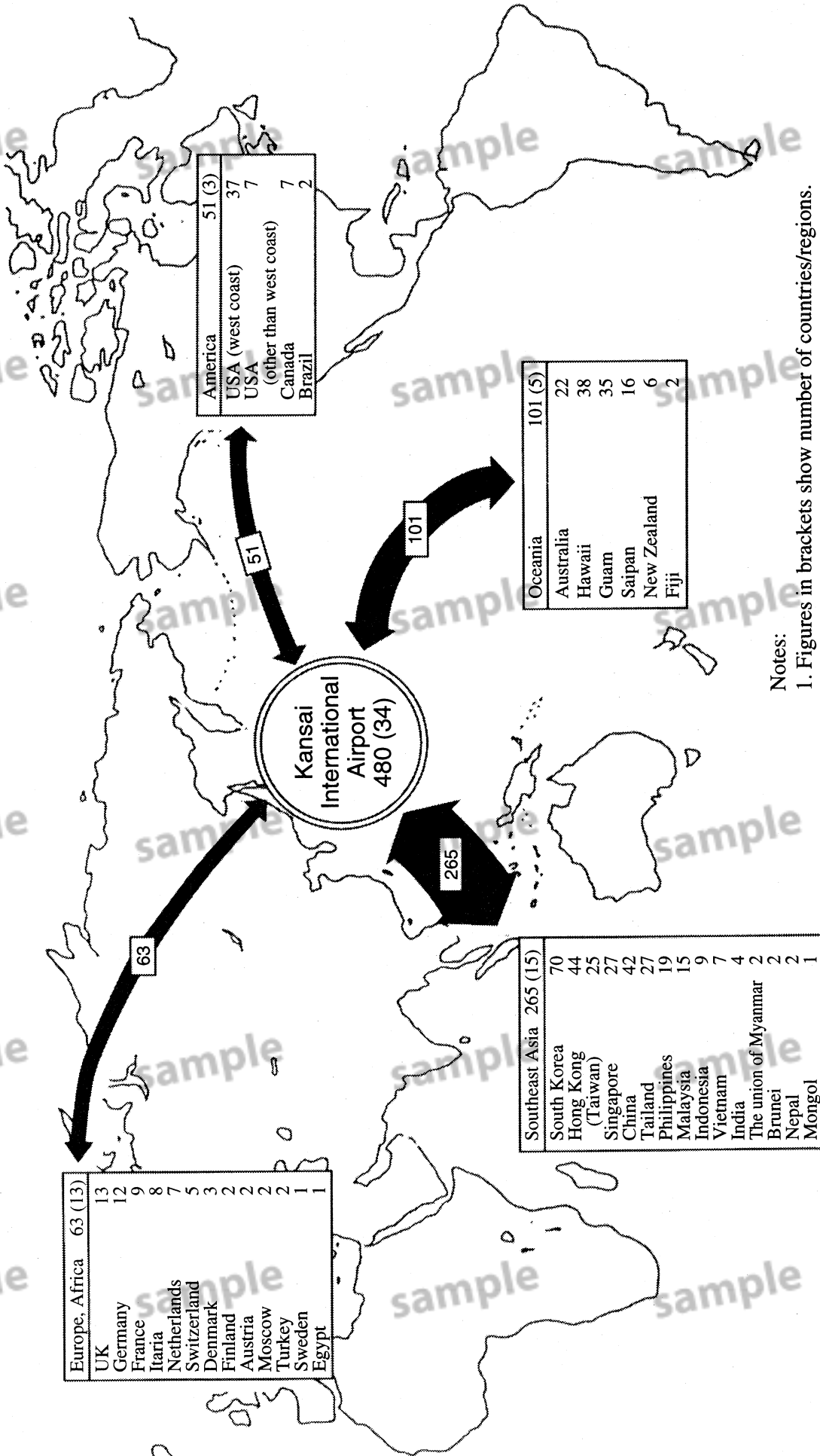
Reference 9: Domestic air networks of Narita and Kansai international airports



Notes:

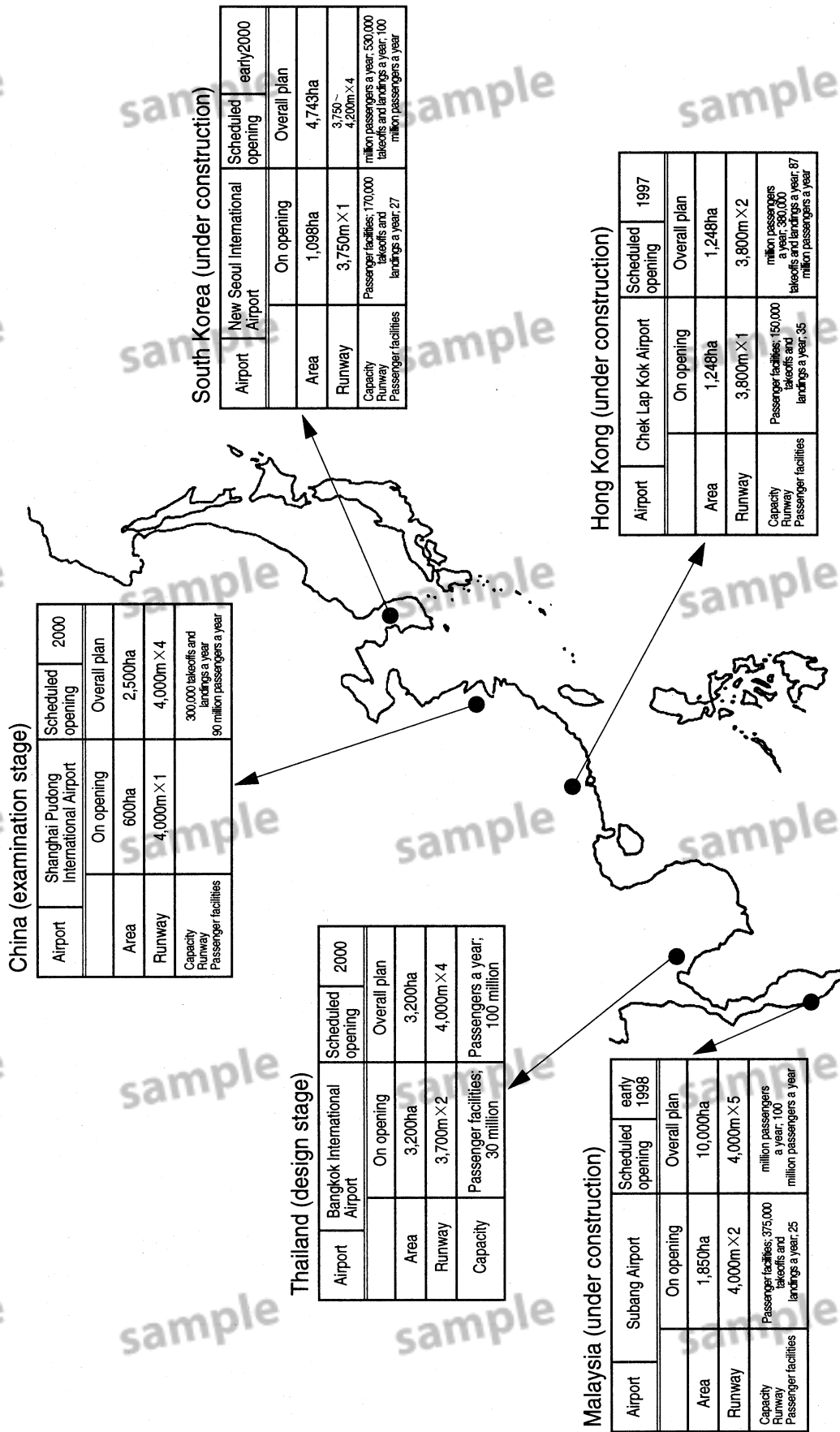
1. Figures show number of flights a week for each route.
2. Based on the May 96 flight schedule (as of approval on Feb 9, 1996)

Reference 10: International air network of Kansai Airport (flights per week)



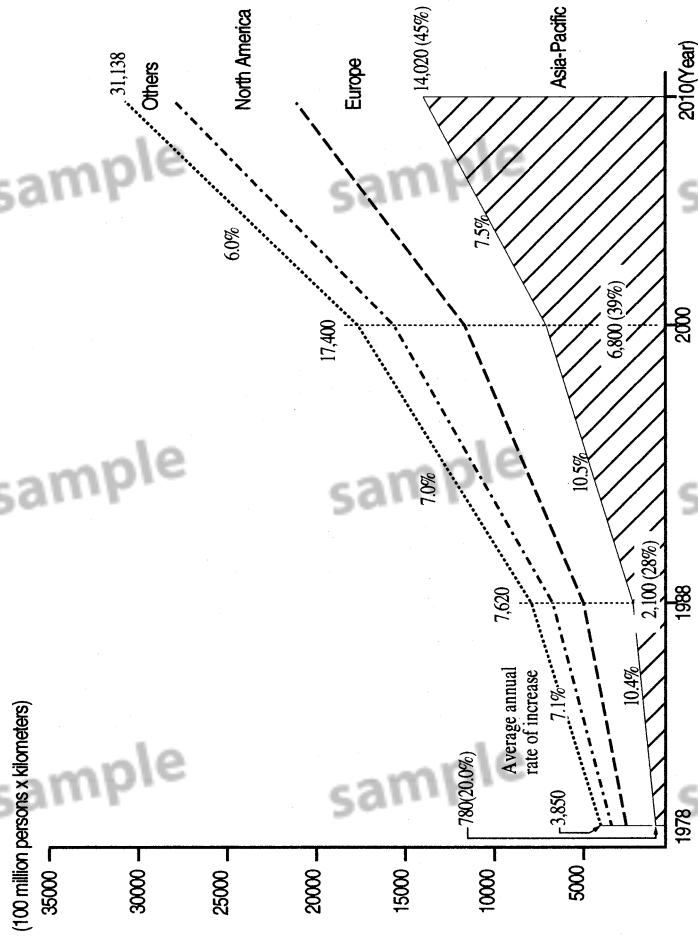
- Notes:
1. Figures in brackets show number of countries/regions.
  2. Based on the summer 96 flight schedule
  3. Excludes cargo flights.
  - 4.

Reference 11: International airport development in neighboring Asian countries



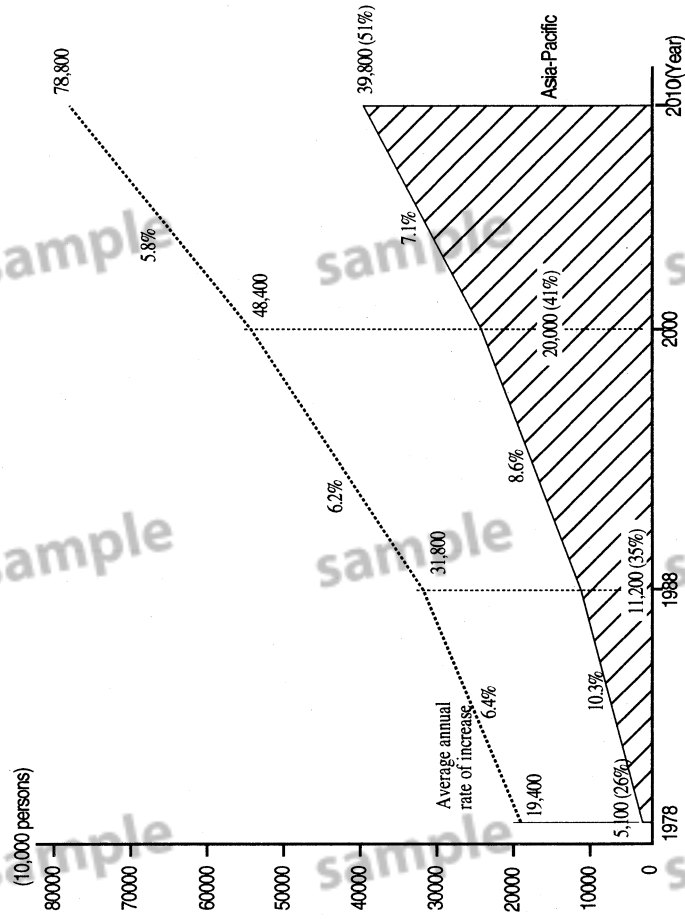
Reference 12: Growing world demand for international air transportation

Projected international passenger demand (person/kilometer base)



Source: ICAO, Investment requirements for aircraft fleets and for airport and route facility infrastructure to the year 2010, (1992)

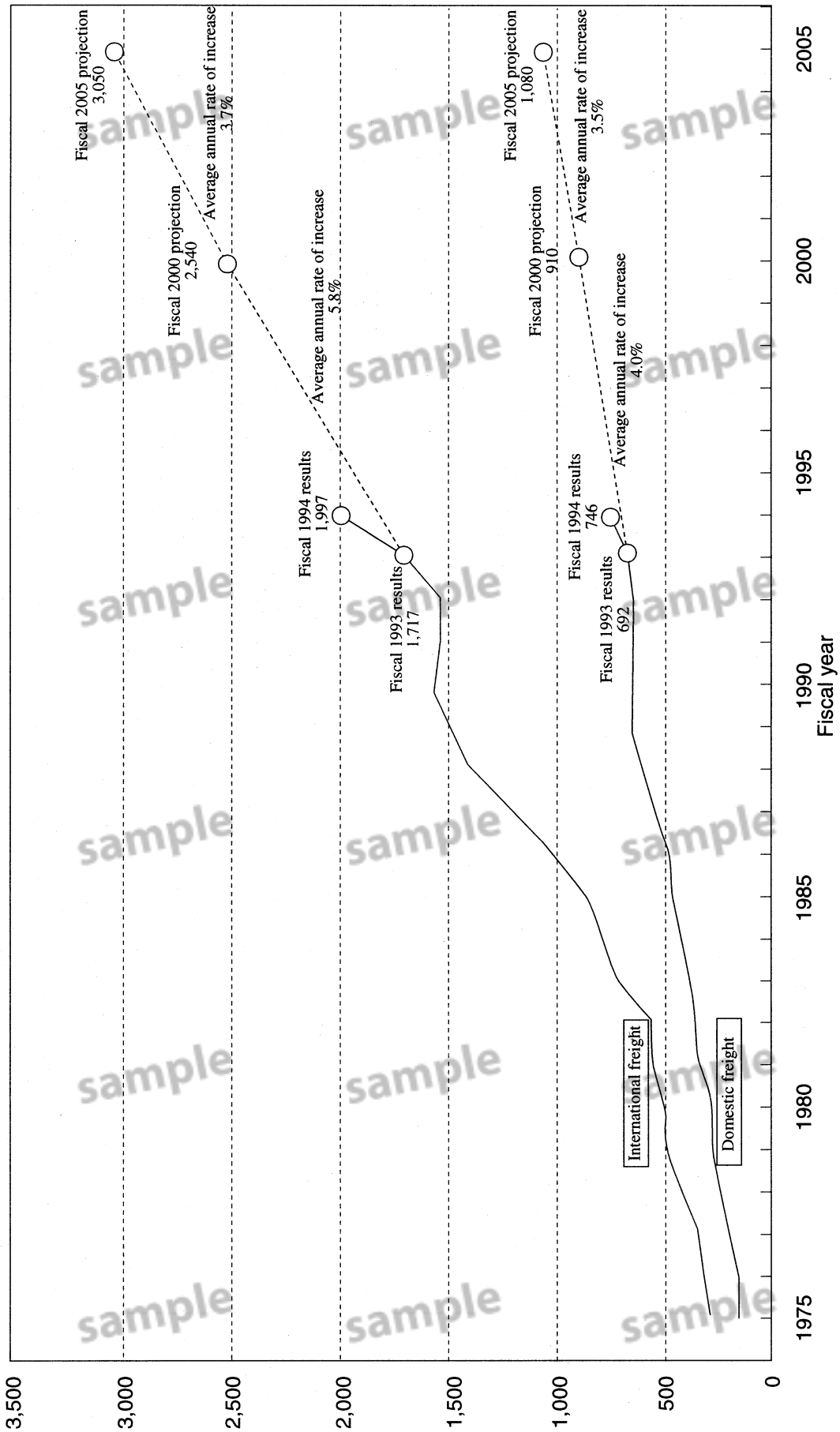
Projected international passenger demand (no. of passengers)



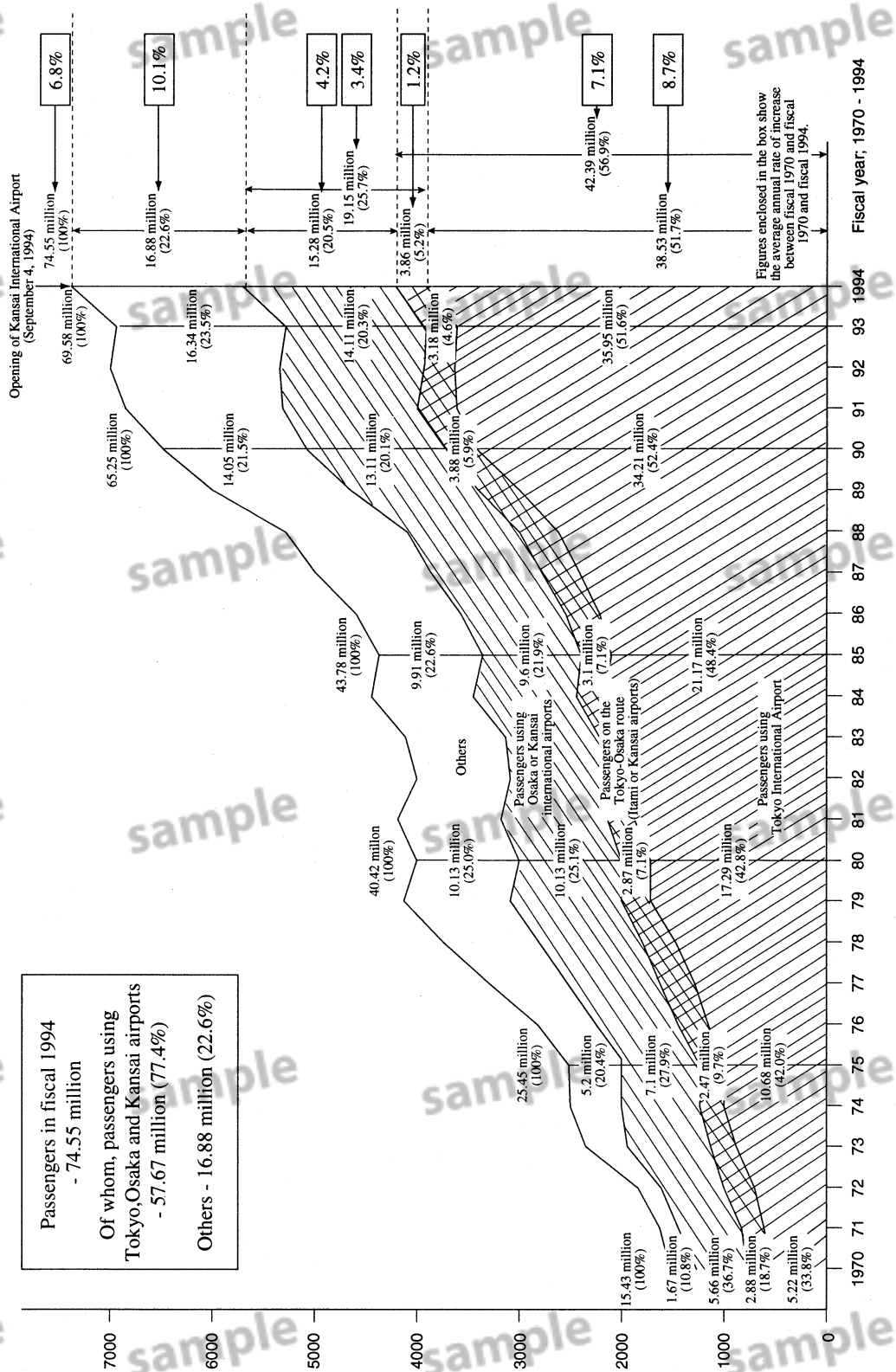
Source: IATA, Asia-Pacific Air Transport Forecast, (1995)

Reference 13: Air freight results and projections

(1,000 tons)

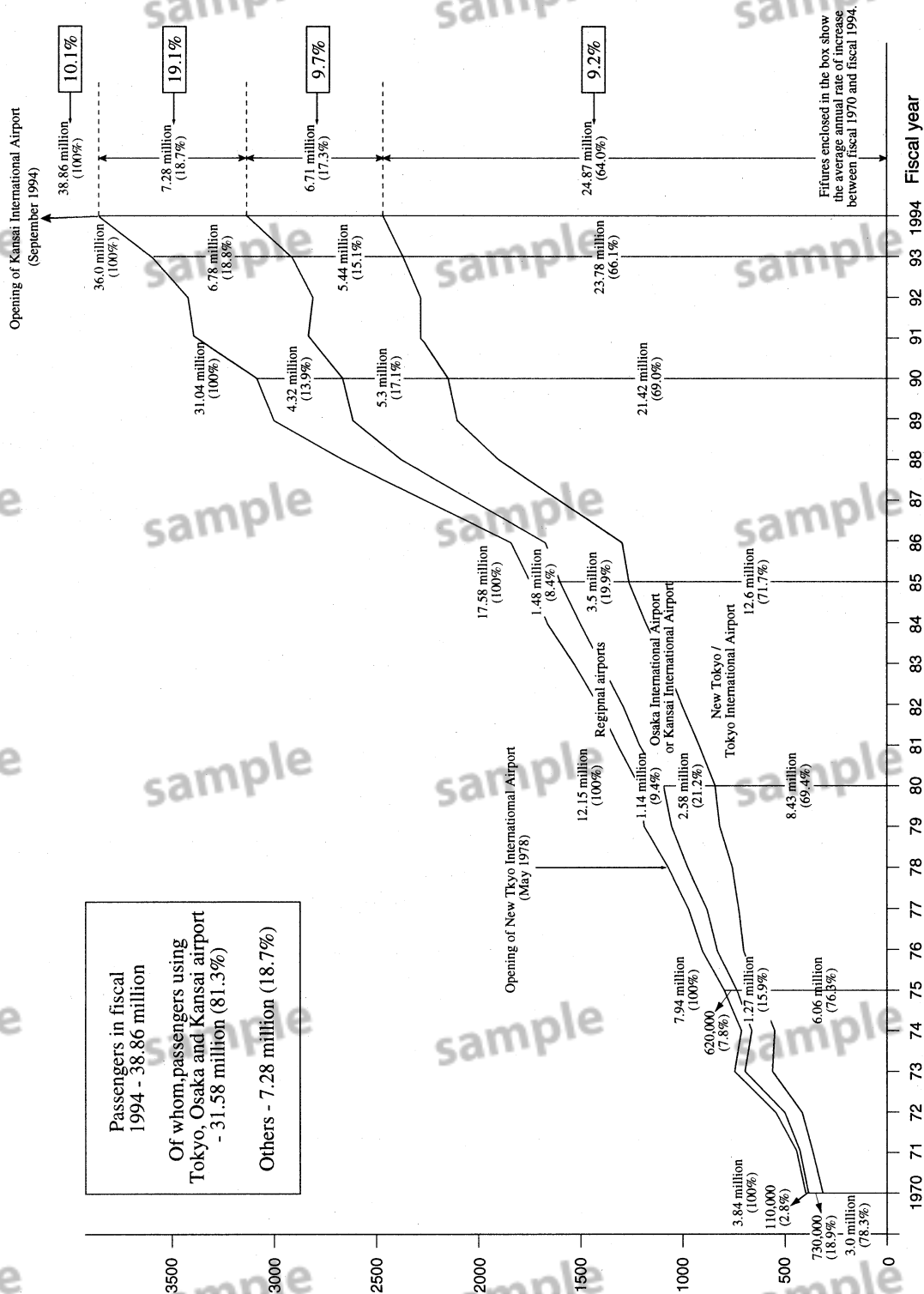


Reference 14: Domestic passenger trends





Reference 15: International passenger trends

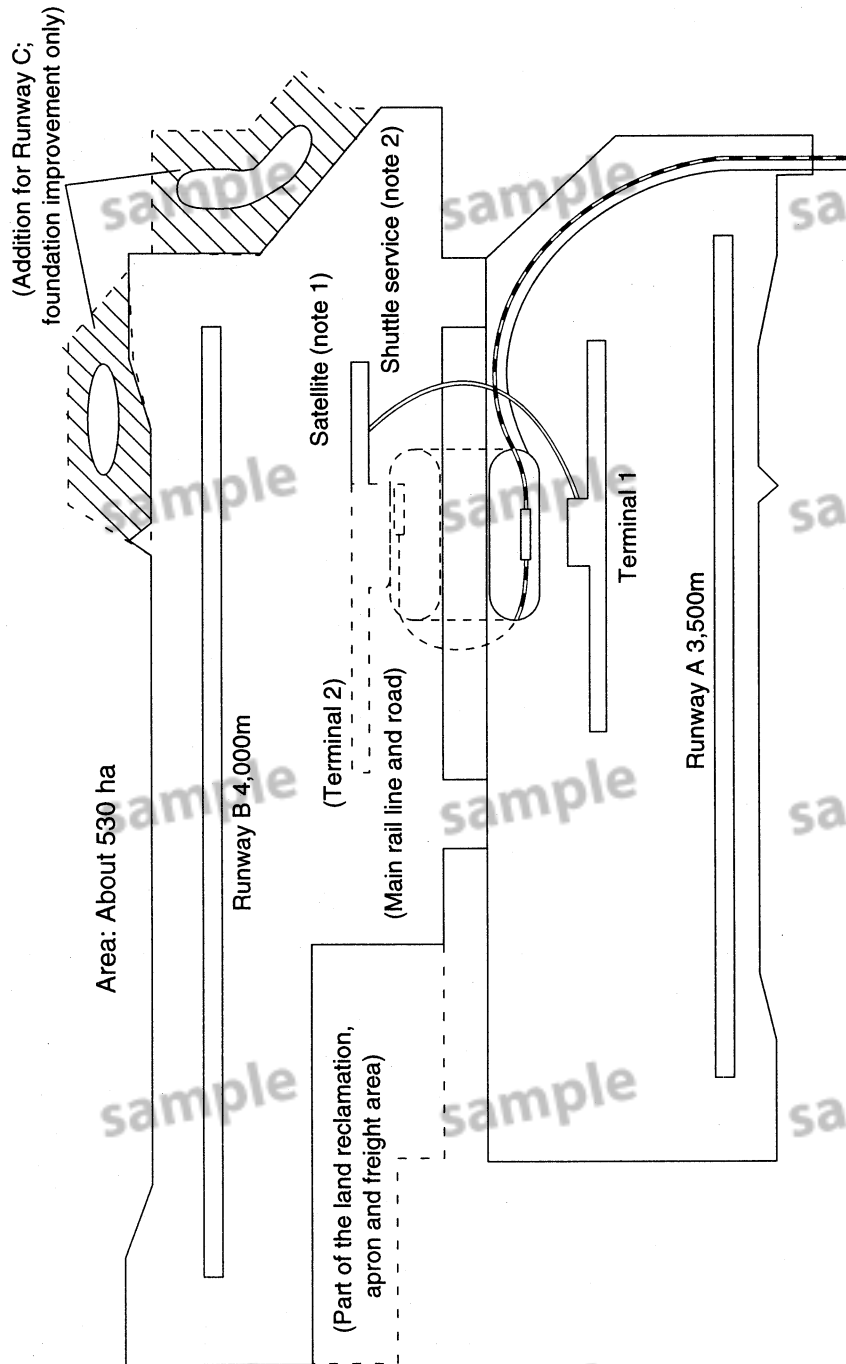


Reference 16: Major new airport plans in Asia (construction/extension)

Figures in brackets show specifications on plan completion

	Airport	Scheduled opening	Airport area, PTB (floor area of passenger terminal building)	Runway length x number	Annual capacity	
					Takeoffs and landings	Passengers/freight
Construction under way	Seoul Metropolitan	2000(2020)	1,174ha (5,615ha) PTB - 358,000m <sup>2</sup>	4,000m × 2 (4,000m × 4)	170,000 (530,000)	Passengers - 27 million (100 million) Freight - 1.7 million tons (7 million tons)
	Hong Kong Chek Lap Kok	1998	1,248ha PTB - 490,000m <sup>2</sup> (1,248ha)	3,800m × 1 (3,800m × 2)	150,000 (370,000)	Passengers - 3.5 million Freight - 3 million tons
	Malaysia Kuala Lumpur	1998	1,850ha PTB - 240,000m <sup>2</sup>	4,000m × 2 (4,000m × 5)	370,000	Passengers - 25 million Freight - 1 million tons
	Thailand Bangkok Nong Ngu Hao	2000(2020)	3,200ha(3,200ha)	3,700m × 2 (4,000m × 4)		Passengers - 30 million Freight - 1.45 million tons
Extension under way	Singapore Changi	Opened 1981	1,663ha PTB - 500,000m <sup>2</sup>	4,000m × 1 3,355m × 1	1994 - 155,000	No.3 passenger terminal building is under construction.
	Taiwan Chang Kai-shek	Opened 1979	1,200ha	3,660m × 1 3,350m × 1 2,752m × 1	1993 - 70,000	No.2 passenger terminal building is under construction (60 million)
	China Shen Fanchin	2002	800ha (1,200ha)	3,400m × 1 (4,000m × 2)		Passengers - 10-14 million Freight - 350,000-400,000 tons.
Extension planned	Kansai International Airport Phase 2	Opened 1994 Phase 2 2007-2011 (not yet fixed)	Phase 1 approx .510 ha PTB - 290,000m <sup>2</sup> Phase 2 approx .530 ha (1,300ha)	Phase 1 3,500m × 1 Phase 2 + 4,000m × 1 (+3,500m × 1)	Phase 1 - 160,000 Phase 2 - 180,000-230,000 (260,000)	Phase 1 Passengers - 25 million Freight - 1.75 million tons
	New Tokyo International Airport (Narita)	Opened 1978 (Not fixed)	700ha (1,065ha)	4,000m × 1 (+2,500m × 1) (+3,200m × 1)	1994 - 120,000 (180,000-220,000)	
	Indonesia Jakarta Soekarno-Hatta	Opened 1985 (2013)	1,800ha	3,660m × 1 3,600m × 1 Increase 1 runway in 2003 Increase 1 runway in 2013	Jul 93 - Jun 94 130,000	Rail access being planned.
Construction planned	China Shanghai Pudong	Target opening in 2005	600ha PTB - 200,000m <sup>2</sup> (3,000ha)	4,000m × 1 (4,000m × 4)	102,000	Passengers - 20 million Freight - 750,000 tons

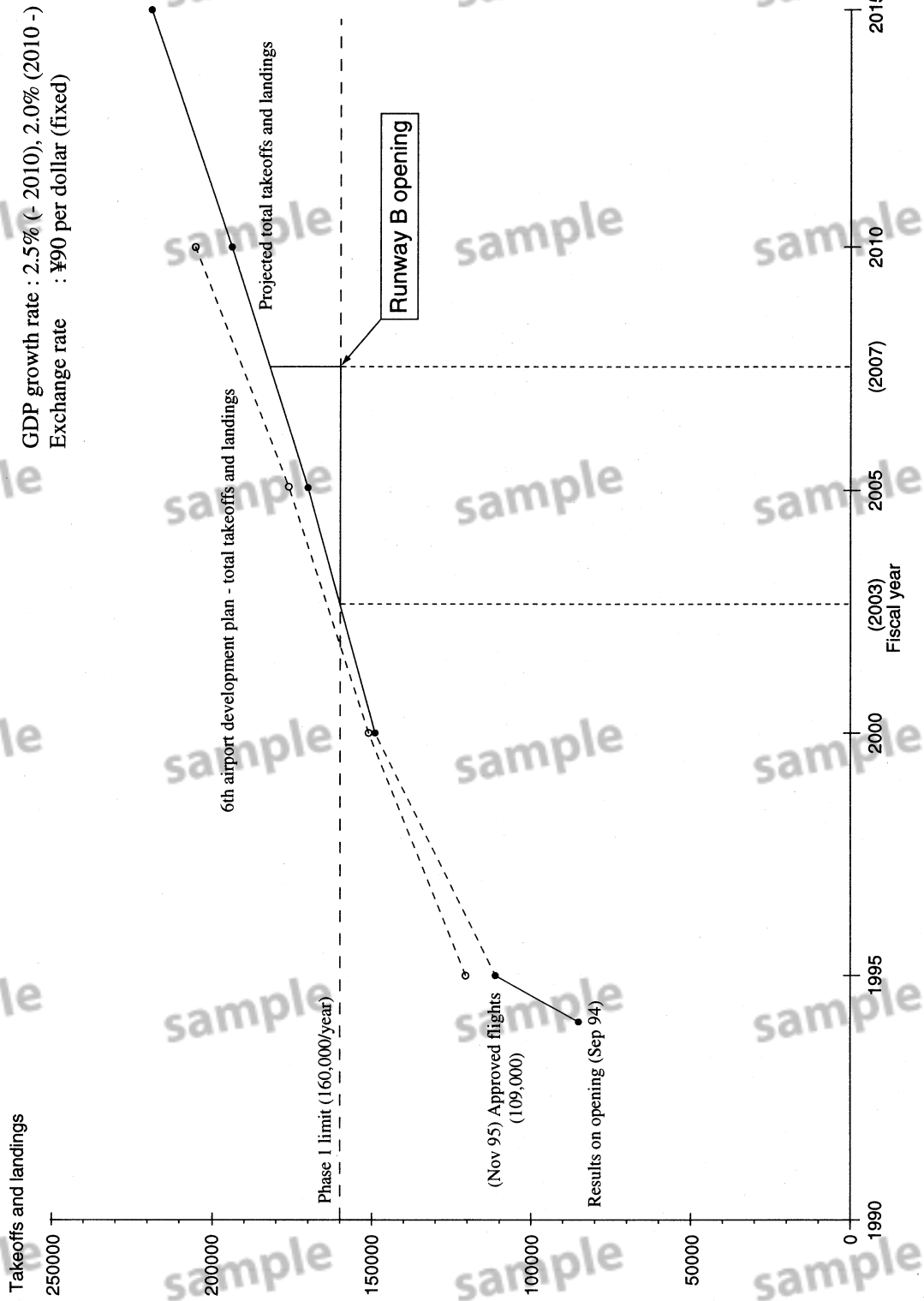
Reference 17: Land reclamation plan



Note 1 : Satellite: Half of the terminal will serve as a passenger lounge (boarding procedures are done in Terminal 1).

Note 2 : Shuttle service: Service to transfer people from Terminal 1 to the satellite.

Reference 18: Takeoffs and landings based on projections in the 7th 5-year airport development plan



## Reference 19: Economic effect

### 1. Economic effect

#### 1) About ¥660 billion in first year of operation

We calculated the economic effect of the first year of operation of the Kansai International Airport using the industrial input-output tables. Reference 1 shows the calculation flow, while the following are the conditions and assumptions on which the calculations were based.

- (i) We used the "1990 Kinki Industrial Input-Output Tables," the latest edition released last year.
- (ii) We based the calculations on the outcome of the first year's operation of the Kansai International Airport.
- (iii) The economic effect survey focused on the Kansai region (Osaka, Kyoto, Hyogo, Nara, Wakayama, Shiga and Fukui prefectures).
- (iv) The economic effect in these calculations is from Kansai International Airport alone, and does not include any economic benefit generated from the Osaka (Itami) Airport.
- (v) We used regional added value output as the primary indicator of regional activities.
- (vi) We have not included the cost of airport maintenance.

Our calculations indicated that the airport generated ¥657 billion in the region in its first year. This can be broken down into:

- |  |
|--|
| <ol style="list-style-type: none"><li>(a) ¥500 billion from the flow of people (commercial activities)</li><li>(b) ¥22 billion from the flow of goods; and</li><li>(c) ¥135 billion from airport-related projects.</li></ol> |
|--|

#### (1) ¥500 billion from commercial activities

The benefit from commercial activities was calculated according to the flow shown in Reference 1, and came to ¥500 billion (added value output within the region).

The following is an outline of the figures used in the calculations.

- (i) We calculated that spending by airport users totaled ¥294 billion yen by multiplying the number of airport users for the year (Osaka Immigration Bureau data) by the corresponding spending unit for each category of user.

Airport user category		Number (10,000 persons)	Spending unit (¥1,000/person)	Total spending (¥100 million)
International flights				
Departure	Japanese	303.0	24.84	753
	Foreigners	76.5	134.31	1,028
Arrival	Japanese	300.3	3.76	113
	Foreigners	76.7	2.68	21
Domestic flights				
Departure	One way	312.5	5.32	166
	Return	78.1	27.55	215
Arrival		390.6	2.00	78
	Visitors	937.0	3.93	368
	Airport workers	724.0	2.73	198
T o t a l				2,940

(Spending units were obtained from the results of a survey conducted by the Osaka Civil Aviation Bureau of the Ministry of Transport at Osaka (Itami) Airport in September 1986, and taking into account commodity price and transportation fare rises.)

- (ii) We assumed that the spending total of ¥294 billion would be converted into output, equally split among commerce, services and transport.
- (iii) We obtained the figure of ¥262.1 billion by converting the output of each of the three divisions into added value output using the industrial input-output tables.
- (iv) The output figure includes ¥159.6 billion in employee income that has been converted back into output by being spent. Income of ¥62.7 billion for 15,400 employees within the services division (employees in government offices, airline companies, aircraft service and maintenance, and passenger services) who are responsible for the maintenance and management of the airport and who are not directly connected with spending by passengers is also converted into spending, which in turn flows on to output. These two lots of income amount to ¥222.3 billion.
- (v) About 61% of income is spent on consumption, so about ¥135.6 billion of income can ultimately be translated into output. From this we have obtained an added value output figure of ¥237.9 billion using the industrial input-output tables.
- (vi) We then totaled added value output of ¥262.1 billion obtained at (iii) and ¥237.9 billion obtained at (v) for a total added value output (economic effect) of ¥500 billion.

(2) ¥22 billion from the flow of goods

A total of ¥15.6 billion of spending was generated by the land transportation of freight, and from this we calculated the economic effect (added value output within the region) using the same flow used in commercial activities calculations. The figure came to ¥22 billion.

We used the figures in the table below for our calculations. For freight weight we subtracted the freight that was landed temporarily from the total freight loaded and unloaded at the

airport (KIAC data). The basic charges for transporting freight for loading or landed freight between Osaka City and the airport were set using the charges tables of the major forwarding agents.

Item	Weight (tons)	National average weight per forwarding order (kg)	No. of forwarding orders (1,000)	Average forwarding charge (¥/order)	Total charges (¥100 million)
Freight for export	138,600	162.7	852	2,800	23.9
Freight from import	208,800	162.7	1,283	5,800	74.4
Outgoing domestic freight	39,400	18.7	2,107	950	20.0
Incoming domestic freight	39,500	18.7	2,112	1,800	38.0
T o t a l					156.3

\* Calculating added value output generated by the air freight itself requires details on the destination and content of the imported or exported freight, so we worked out the economic effect brought about by spending connected with the land transportation of freight that is processed through Kansai International Airport.

(3) ¥135 billion from airport-related projects

In the first year of Kansai International Airport's operation, roughly ¥108.5 billion was invested in the major airport-related projects (excluding land purchase).

Airport-related projects	Investment for the year (¥100 million)
Rinku Town	660
World Trade Center building	125
Hannan Sky Town	300
Total	1,085

Using the same method, we calculated that spending in this area resulted in an economic effect (added value output within the region) of ¥135 million.

2) ¥4.597 trillion since construction began

Investment in the airport amounts to ¥3.734 trillion, and we calculate that this has generated a total economic effect of ¥4.597 trillion.

The following table gives a breakdown of investment in the major airport projects (excluding land purchase).

Project	Amount invested (¥100 million)	Project	Amount invested (¥100 million)
Airport construction	14,440	Construction of access roads, rail lines, K-CAT and K-ACT	12,680
Rinku Town	6,700		
World Trade Center building	1,000		
Asia-Pacific Trade Center	1,000		
Hannan Sky Town	1,520		
		Total	37,340

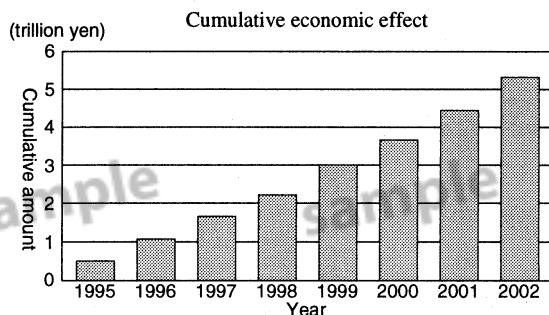
(Wangan Route of the Hanshin Expressway, No.2 Hanna route, and the Kaisen North route)

### 3) Economic effect projections

#### (1) Cumulative economic effect

Spending by airport users and on the land transportation of freight will continue for the life of the airport, and from the results over the past ten years, we forecast the rate of increase of passengers at 6.8% and freight at 7.6%. We then used these figures to estimate the future economic effect of the airport.

From our calculations, the economic effect that the airport will generate from the increase in airport-related spending and demand for domestic transportation services alone in 1997 will exceed the airport construction costs of ¥1.444 trillion.



#### (2) International passenger potential of ¥133.8 billion

We divided Japan from Hokkaido to Kyushu into nine regions, and grouped Kanto and the regions north of Kanto into the eastern Japan region and Kinki and those west of Kinki into the western Japan region, while Chubu and Hokuriku regions were generally split down the middle. We then surveyed people departing Narita and Kansai airports on international flights to ascertain the region in which they normally reside, and by comparing figures for the two airports, we were able to estimate the potential demand for Kansai airport.

##### (i) Shift from other airports

Seventy-eight percent of international passengers living in the eastern Japan region use Narita Airport, while 46% of international passengers living in the western Japan region use Kansai Airport (figures from the New Tokyo International Airport Corporation's November 1993 survey "Change in airport use by international passengers following the opening of the Kansai International Airport"). And there is every reason to be optimistic that the figure for Kansai will eventually rise to roughly the same level as the figure for Narita.

The number of international passengers from the western Japan region is about 5,126,000 a year, so a lift in the percentage of users can be expected to bring an extra 1,640,000 passengers a year to Kansai airport.



(ii) Increase in the ratio of people traveling abroad in the western Japan region

The ratio of people traveling abroad (number who depart the country per 100 population) in the eastern Japan region currently stands at 12.4, compared to 8.8 in the western Japan region.

From these figures, we calculated the increase in international passengers after raising the western Japan ratio to the national average of 10.7. This resulted in a passenger increase of 1,107,000 based on the population of 58,286,000 in the western Japan region.

Calculation of economic effect

The combined passenger increase from (i) and (ii) is 2,747,000. As shown in 1) (1) above, the amount spent by each Japanese departing the country is on average ¥24,840, and if we add to this the average of ¥3,760 that each of those Japanese spends on return, the spending unit for every Japanese traveling abroad comes to ¥28,600. So from this, we calculated that the increase in spending generated by the increase in passengers would be ¥78.6 billion.

From this spending figure and using the method detailed in Reference 1, we calculated an economic effect (added value output) of ¥133.8 billion.

Reference 20: Trends in Japanese traveling abroad via Seoul

(Persons/fortnight)

Departure airport	1989			1991			1993		
	Passengers to South Korea	Transit passengers	Transit percentage	Passengers to South Korea	Transit passengers	Transit percentage	Passengers to South Korea	Transit passengers	Transit percentage
Narita	16,659	822	4.9	16,693	1,068	6.4	22,549	1,389	6.2
Osaka	11,054	1,641	14.8	10,084	1,451	14.4	11,063	1,667	15.1
Regional airports	19,734	1,278	6.5	26,723	2,041	7.6	36,735	3,748	10.2
New Chitose	545	187	34.3	699	135	19.3	820	94	11.5
Sendai	-	-	-	1,348	6	0.4	1,503	42	2.8
Niigata	1,296	14	1.1	909	141	15.5	966	185	19.2
Nagoya	6,801	384	5.6	9,156	704	7.7	11,814	1,567	13.3
Komatsu	493	0	0.0	496	0	0.0	422	13	3.1
Okayama	-	-	-	946	0	0.0	1,603	173	10.8
Hiroshima	-	-	-	1,874	0	0.0	1,764	195	11.1
Fukuoka	10,009	693	6.9	10,503	1,028	9.8	12,981	1,129	8.7
Kumamoto	389	0	0.0	159	0	0.0	606	67	11.1
Nagasaki	201	0	0.0	270	24	8.9	934	0	0.0
Oita	-	-	-	-	-	-	531	53	10.0
Kagoshima	-	-	-	363	3	0.8	507	22	4.3
Naha	-	-	-	-	-	-	398	57	14.3
Total	47,447	3,741	7.9	53,500	4,560	8.5	70,347	6,799	9.7

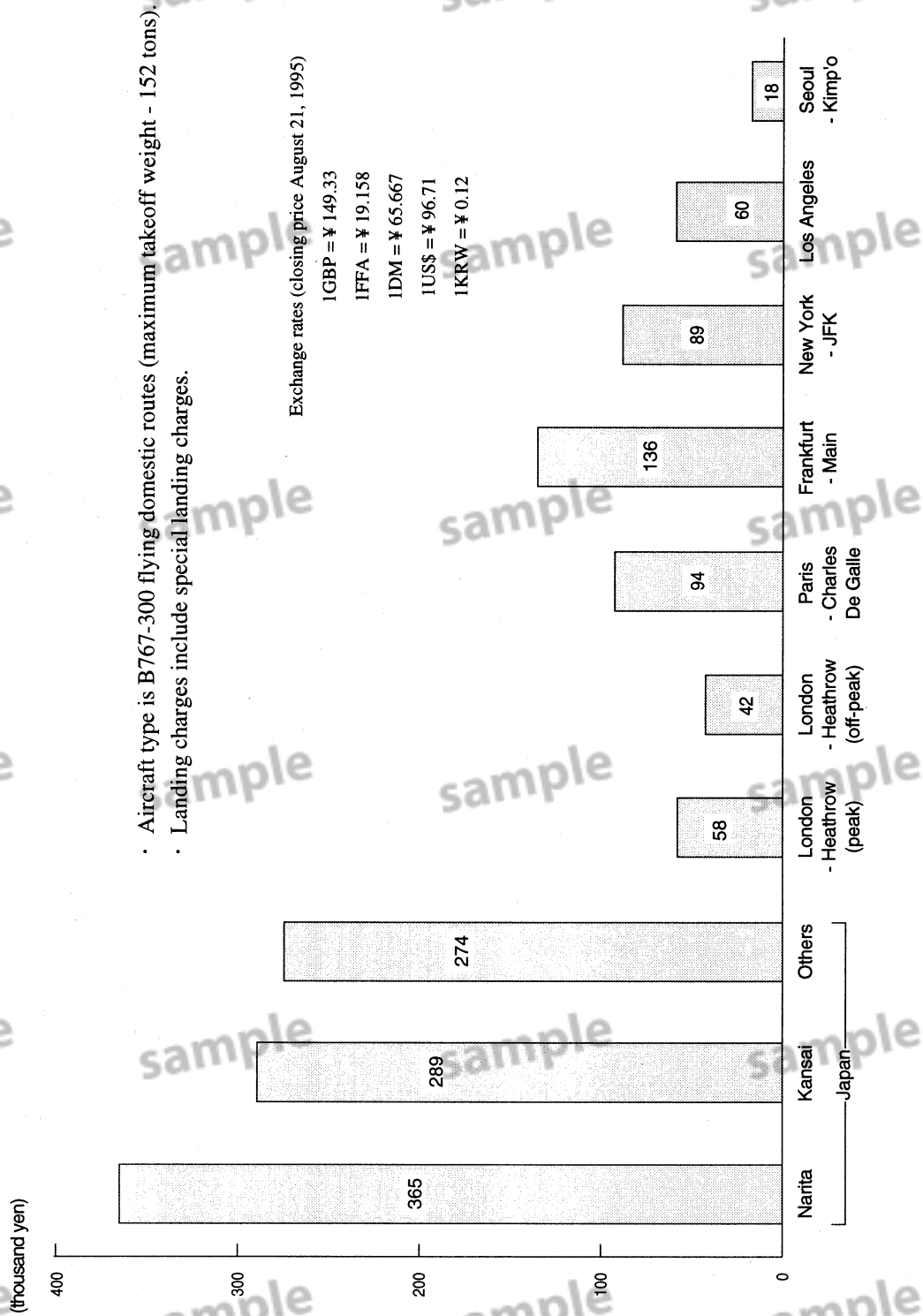
Notes:

1. Source: Ministry of Transport (fortnight data from sample surveys during peak and off-peak seasons (estimate)).

2. "Passengers to South Korea" show the number of Japanese passengers who boarded a flight to Seoul, while "Transit passengers" show the number from among them who passed through South Korea to other overseas destinations.

Reference: Number of Japanese passengers to South Korea - 1,610,000 (fiscal 1993)

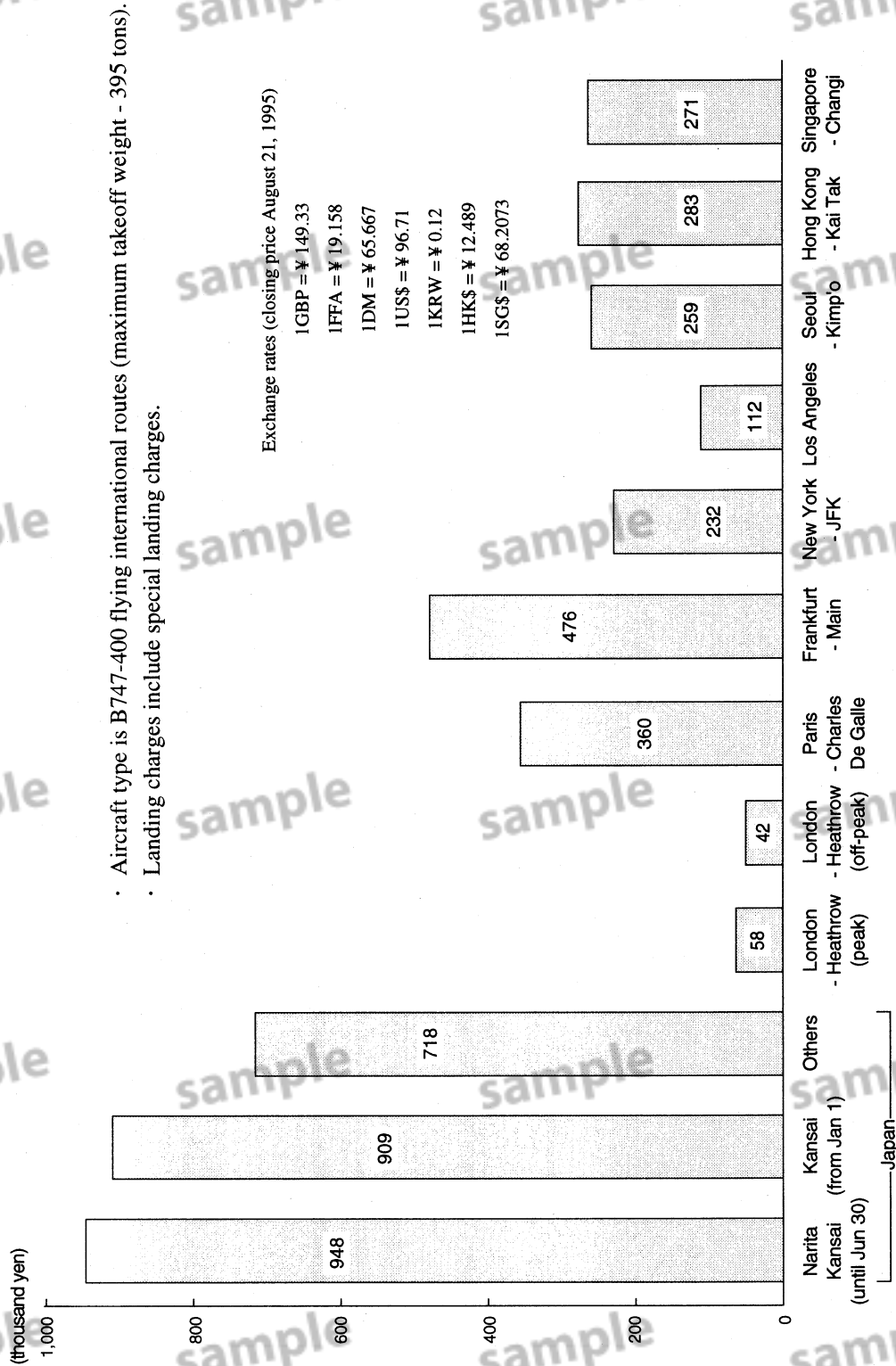
Reference 21: Domestic landing charges in selected countries (1995)



- Aircraft type is B767-300 flying domestic routes (maximum takeoff weight - 152 tons).
- Landing charges include special landing charges.

Note: In the U.S. a ticket tax of 10% of the domestic air fare is collected for airport and air route maintenance.

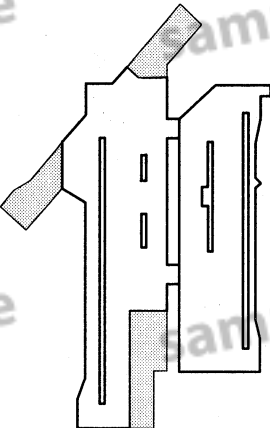
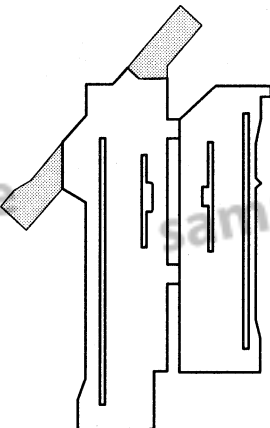
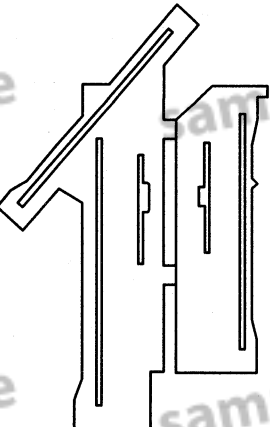
Reference 22: International landing charges in selected countries (1995)



Note: In the U.S. a departure tax of \$6 from each passenger departing the country is collected for airport and air route maintenance.

Reference 23: Process of phased development

(from the report by the Kansai International Airport Master Plan Realization Committee)

		Phase 2 (Phase 3)		
Phase	Stage 1	Stage 2	Stage 3	
Opening (Development period)	2007 (fiscal 1996-2006)	2016 (fiscal 2007-2015)	2031 (fiscal 2016-2030)	
General plan				
Reclaimed area	approx. 1,100 ha	approx. 1,200 ha	approx. 1,300 ha	
Development plan	<ul style="list-style-type: none"> <li>• Construction of all sea walls except the southern sea wall facing the area developed under phase 1</li> <li>• Construction of runway B</li> <li>• Foundation improvement for the areas where reclamation work has not been completed</li> <li>• Development of the north side taxiway</li> <li>• Development of the satellite and freight area</li> </ul>	<ul style="list-style-type: none"> <li>• All land reclamation and construction of all sea walls in the area facing the area developed under phase 1</li> <li>• Construction of half of Terminal 2</li> <li>• Development of the south side taxiway</li> </ul>	<ul style="list-style-type: none"> <li>• Completion of all reclamation work</li> <li>• Construction of runway C</li> <li>• Construction of the remainder of Terminal 2</li> </ul>	

## Reference 24: Outline of phase 2 development work

- Phase 2 development work on the Kansai International Airport (December 18, 1995, preliminary discussions between the Ministers of Finance and Transport)

### Phase 2 development work on the Kansai International Airport

- The fiscal 1996 budget for development of the Kansai International Airport shall contain funding for work to begin on phase 2 development, for which the developer of airport facilities and the developer carrying out land reclamation work are to be separate entities (separating work above and below sea level), for the necessary construction survey expenditure, and for the establishment of a land development company.
- The funding plan for phase 2 development shall be as follows:
  - Total project cost - ¥1.56 trillion.
  - Percentage of funds for airport facilities (above sea level) that are interest-free - 30%.
  - Percentage of funds for land reclamation (below sea level) that are interest-free - 55%.
- The national and local governments shall share the burden of interest-free funds for the second phase construction on a two to one ratio.
- Further examinations are to be carried out on future Kansai International Airport demand trends and securing the operational soundness of Kansai International Airport Co., Ltd. by the time construction work begins (scheduled for fiscal 1998).

December 18, 1995

Masayoshi Takemura : Minister of Finance  
Takeo Hiranuma : Minister of Transport

## Outline of phase 2 development

Item	Details
1. Development details	<p>2007</p> <p>Start of use of runway B (4,000m), enabling 180,000 takeoffs and landing a year.</p> <ul style="list-style-type: none"> <li>Construction of the satellite corresponding to one side of the terminal wing (construction of passenger terminal 2 will be examined in the future in the light of demand trends)</li> <li>Development of access facilities (trunk roads and railway lines) and shuttle service between Terminal 1 and the satellite built under phase 2.</li> </ul> <p>2011</p> <p>Begin use of facilities that can handle 230,000 takeoffs and landing a year <math>\Rightarrow</math> the remaining 30,000 to take the airport to full planned capacity will be examined in the future in the light of demand trends.</p>
2. Area of reclamation	<p>About 530 ha (as well as about 70 ha of foundation improvement)</p> <p>Reclamation work will not begin on the land for the cross-wind runway, only foundation improvement work.</p>
3. Project costs	<p>¥1.56 trillion</p> <p>Above sea level - ¥420 billion</p> <p>Below sea level - ¥1.14 trillion</p>
4. Percentage of interest-free funds	<p>Above sea level - 30% (investment)</p> <p>Below sea level - 55% (investment 30%; interest-free loans 25%)</p>

## Reference 25: Local government share of expenditure in phase 2 development

### 1. Amount to be borne by local governments

Of the phase 2 development cost of ¥1.56 trillion, the amount local government share of investment and interest-free loans for the ¥1.14 trillion cost of land reclamation work, and investment for the ¥500 million cost of setting up the land reclamation company is as follows:

(1) Investment	¥114 billion
(2) Interest-free loans	¥95 billion
(3) Investment in setting up the land reclamation company	¥250 million

### 2. Proportion to be borne by local governments

The proportion of phase 2 investment local governments are expected to contribute is as follows, and takes into account the proportion contributed in phase 1, and geographical considerations.

- (1) The twelve local governments concerned will contribute the same proportion of investment in KIAC that they contributed during phase 1.
- (2) As for interest-free loans to KIAC:
  - (i) the twelve local governments will contribute one quarter of the funds for the loans at the same rate as in phase 1; and
  - (ii) Osaka Prefecture and Osaka City, in view of the close links they have with the airport, will contribute three quarters of the funds for interest-free loans at the same rate as in phase 1.
- (3) The funds for setting up the land reclamation company will be provided by Osaka, Wakayama and Hyogo prefectures and Osaka and Kobe cities at the same rate as in phase 1.

Reference 26: Financial contribution to phase 2 development by the 12 local governments concerned

(¥100 million)

	Facilities development	Phase 2 development								Total
		Land reclamation				Investment in new company				
Development cost	4,200	11,400				5.0				15,605.0
National govt.	840	4,180				2.5				5,022.5
KIAC	2,940	-				-				2,940
Third sector	-	5,130				-				5,130
Private sector	420	-				-				420
Local governments	-	2,090				2.5				2,092.5
		Financial contribution 1,140		Interest-free loans 950						
		%		%	%		%			
Osaka Pref.		50.59	576.61	50.59	120.13	66.7	475.00	55.2	1.38	1,173.12
Osaka City		25.29	288.31	25.29	60.06	33.3	237.50	26.8	0.67	586.54
Wakayama Pref.		7.03	80.14	7.03	16.70			7.2	0.18	97.02
Hyogo Pref.		7.03	80.14	7.03	16.70			7.2	0.18	97.02
Kobe City		3.51	40.01	3.51	8.34			3.6	0.09	48.44
Nara Pref.		0.94	10.72	0.94	2.23					12.95
Kyoto Pref.		1.17	13.34	1.17	2.78					16.12
Kyoto City		0.70	7.98	0.70	1.66					9.64
Shiga Pref.		0.94	10.72	0.94	2.23					12.95
Mie Pref.		0.47	5.36	0.47	1.12					6.48
Fukui Pref.		0.47	5.36	0.47	1.12					6.48
Tokushima Pref.		1.87	21.32	1.87	4.44					25.76

Note: Contributions for land reclamation and interest-free loans are rounded to the nearest million yen, so there are slight variations in the actual amount that each local government contributes.



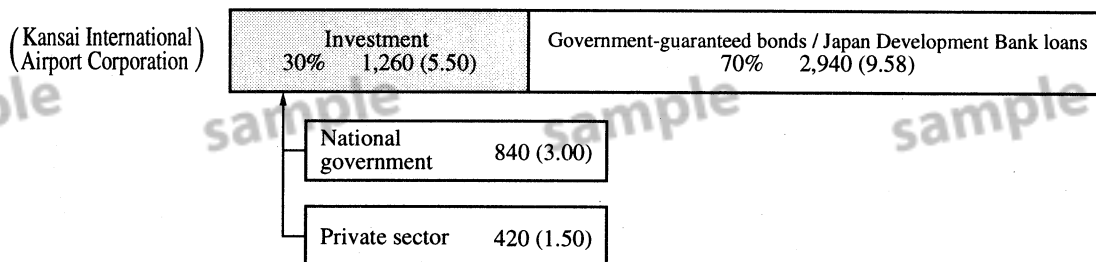
Reference 27: Phase 2 development entity and development cost

(Unit: ¥100 million)

**Airport facilities**

Figures in brackets are development costs for fiscal 1996

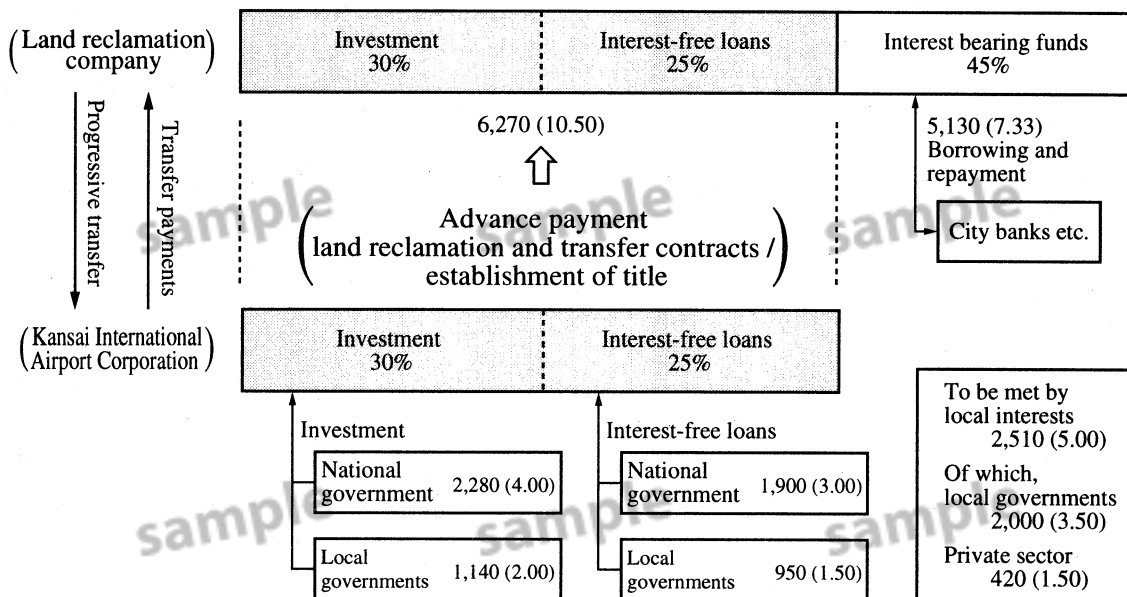
- Development entity: Kansai International Airport Co., Ltd. (KIAC)
- Development costs: ¥420 billion (¥1.408 billion)



**Airport land**

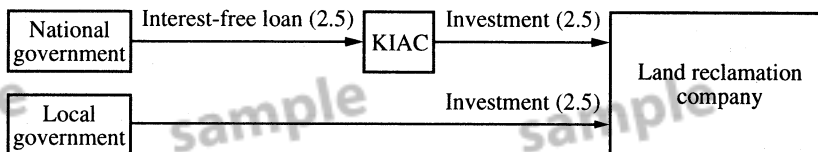
Figures in brackets are development costs for fiscal 1996

- Development entity: Land reclamation company
- Development costs: ¥1.14 trillion (¥1.783 billion)



**Establishment of land reclamation company**

- Scheduled establishment: Fiscal 1996
- Capital: ¥500 million



Reference 28: Kansai International Airport phase 2 development schedule

Fiscal 1994	Fiscal 1995	Fiscal 1996	Fiscal 1997	Fiscal 1998	Fiscal 1999	Fiscal 2000	Fiscal 2001-
Sixth 5-year Airport Development Program							
<p>March: Consultation with Civil Aviation Council</p> <p>August: Civil Aviation Council (interim report)</p> <p>March: Cabinet agreement on the 7th 5-year airport development plan</p> <p>Establishment of land reclamation company (third sector)</p> <p>About November: Civil Aviation Council (interim report)</p> <p>Cabinet approval of the 7th 5-year airport development plan</p>							
Seventh 5-year Airport Development Program							
<p>Reclamation permit</p> <p>Airport construction approval</p>							
<p>General surveys</p> <ul style="list-style-type: none"> <li>• Airport planning survey</li> <li>• Survey on construction methods</li> <li>• Soil survey (boring etc.)</li> <li>• Basic environmental assessment survey</li> </ul>		<p>Planning and implementation surveys</p> <ul style="list-style-type: none"> <li>• Airport planning survey (examination of the airport master plan and individual facilities development methods)</li> <li>• Survey on construction technology (development of general conditions for design and execution, construction plan)</li> <li>• Environmental assessment survey (survey of current situation, assessment of future forecasts)</li> </ul> <p>Various procedures including environment assessment</p>		<p>Construction</p> <p>Foundation improvement, sea wall construction</p> <p>Reclamation work</p> <p>Facilities construction</p> <p>Runway B opening (2007)</p>		<p>Environmental monitoring →</p>	
General developments		Surveys on phase 2 development					

Reference 29: Outline of fiscal 1994 accounts statement

(¥100 million)

	Fiscal 1994 (Apr 94 - Mar 95)	
	December 1994 projections (plan on opening) Note 1	Outcomes Note 2
Aeronautical revenue	220	227
Non-aeronautical revenue	360	325
Total revenue (A)	580	552
Depreciation (D)	190	176
Operating expenditure	340	262
Interest payments	320	315
Total expenditure (B)	850	753
Non-operating revenue (C)	-	30
Profit/loss (A)-(B)+(C)	▲270	▲171
Ordinary profit/loss before depreciation A-(B-D)+C	▲80	+5

Note 1: Flight numbers in the airport opening plan were calculated at 50 international and 70 domestic flights a day.

Note 2: Actual numbers were 54.4 international and 69.5 domestic flights a day.

Reference 30: Outline of fiscal 1995 accounts statement

	(¥100 million)
	Fiscal 1995 accounts (Note) (Apr 95 - Mar 96)
Aeronautical revenue (e.g. landing/parking charges, fuel facilities charges, PSFC)	461(43%)
Non-aeronautical revenue (e.g. land and building lease charges, toll fees for access bridge and roads, revenue from directly managed business)	622(57%)
Total revenue (A)	1,083
Depreciation (D)	329
Operating expenditure	590
Interest payments	531
Total expenditure (B)	1,451
Non-operating revenue (C)	10
Ordinary profit/loss (A)-(B)+(C)	▲358
Profit/loss before depreciation A-(B)+(C)+(D)	▲30

Note: Actual flight numbers (passenger flights and freight flights only) were 64.7 international and 78.8 domestic flights a day.

Remarks: The fiscal 1995 forecast (announced in June 1995 - fiscal 1995 business planning base) estimated operating revenue of ¥123.7 billion and an ordinary loss of ¥38.8 billion.

(Initial flight forecasts were 64 international and 71 domestic flights a day)

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