(6) Number of freighter parking positions

The number of parking positions for freighter aircraft is estimated as follows:

1 position for B-707 class aircraft
1 position for DC-9 class aircraft

5.2 Passenger Terminal Building

5.2.1 Hourly distribution of passengers expected to be staying in the terminal building

Average stay time of each passenger in the building estimated as follows is applied to the projected passenger movements according to the daily flight schedule established above, in order to obtain the hourly distribution of passengers staying in the terminal building as shown in Appendix 5C.

Table 5-6 AVERAGE STAY TIME OF PASSENGERS

Passenger Category	Stay Time per Passenger
International	
Departing	60 minutes until departure
Arriving	30 minutes after arrival
Domestic	
Departing	30 minutes until departure
Arriving	15 minutes after arrival

5.2.2 Passenger processing capacity requirements

Based on the hourly distribution of passengers staying in the terminal building as estimated above, the number of passengers to be processed during the peak half hour period are calculated as follows.

Table 5-7 PASSENGER PROCESSING CAPACITY REQUIRED

Passenger Category		Number of Passengers	
		Pedregal	Talanga
International Passengers	Departing	250	250
	Arriving	230	230
	Transit	240	240
	Sub Total	720	720
Domestic Passengers	Departing	160	140
	Arriving	160	140
	Sub Total	320	280
Total		1,040	1,000

5.2.3 Terminal concept

Based on the aircraft parking position and passenger processing capacity requirements as estimated above, it is considered suitable to provide centralized passenger processing facilities and a linear terminal configuration.

5.2.4 Floor area required

Through analyses of all relevant factors, the following floor area of the passenger terminal building is deemed necessary.

Table 5-8 FLOOR AREA OF PASSENGER TERMINAL BUILDING

(m²)

Service Category	Pedregal	Talanga
International	15,800	14,400
Domestic	3,750	3,450
Total	19,550	17,850

5.3 Cargo Terminal Building

5.3.1 Busiest day cargo tonnage to be processed

Daily cargo processing capacity required is estimated as shown in Table 5-9 based on the projected busiest day cargo traffic.

Table 5-9 CARGO PROCESSING CAPACITY

(tons/day)

Cargo Category		Pedregal	Talanga
International Cargo	Outbound	48	44
	Inbound	216	208
	Sub Total	264	252
Domestic Cargo		10	9
Total		274	261

5.3.2 Cargo processing concept

Cargo processing of the proposed new airport is to be basically manual, and the processing concept is established based on the following conditions:

(1) Processing of international cargo

Outbound cargo shall be processed on the same day as received. Inbound cargo shall stay for seven days in bonded warehouse.

(2) Processing of domestic cargo

All domestic cargo both inbound and outbound shall be processed on the same day as received.

5.3.3 Floor area required

Following is the floor area requirements of the cargo terminal building including the bonded warehouse.

Table 5-10 FLOOR AREA OF CARGO TERMINAL BUILDING

(m²)

Service Category	Pedregal	Talanga
International	11,500	11,000
Domestic	190	185
Total	11,700	11,200

5.4 Access Road and Car Parking

5.4.1 Access road

Access road traffic of passengers and well-wishers to and from the airport occurs with certain time difference in relation to the corresponding flight schedule. Taking this time difference into consideration, the hourly distribution of passengers and well-wishers passing through the airport entrance and exit is estimated, and is converted into hourly distribution of road traffic volume in terms of the number of cars, to which is added the commuter traffic of airport employees to obtain the total access road traffic to be expected.

The peak hour road traffic volume thus obtained is summarized as follows:

Table 5-11 PEAK HOUR ROAD TRAFFIC VOLUME

(cars/hour)

Traffic Categories		Pedregal	Talanga
Private Car	Passengers & Wellwishers	325	267
	Employees	237	231
Taxi		199	0
Bus	Passengers	3	8
	Employees	17	16
Total		781	522

The number of lanes of the access road shall be one for each direction.

5.4.2 Car parking

Number of cars expected to stay within the airport at any given point in time is obtainable from the cumulative differences of the incoming and outgoing access traffic. In this study, the number of cars existing on airport during every half-hour period is calculated from the half-hourly distribution of the peak day incoming and outgoing car traffic already projected above, and the peak half-hour cars of the peak day thus obtained is adopted as the car parking capacity to be accommodated at the new airport.

Table 5-12 NUMBER OF PARKING SPACES AND AREA REQUIEMENTS

Parking Requirements		Pedregal	Talanga
		Cars	Cars
Parking Spaces	Passenger & Well-wishers	500	400
	Employees	360	350
	Total	860	750
Total Area of Parking Lots		30,100m²	26,250m²

5.5 Fire Fighting and Rescue Facilities

The number of fire fighting vehicles requires is determined in conformity with the requirements of Aerodrome Category 7 of the ICAO recommendations (Table 5-13), and the total area needed to accommodate the facilities are estimated as given in Table 5-14.

Table 5-13 NUMBER OF FIRE FIGHTING VEHICLES REQUIRED

Type of Vehicles	Number	Remarks
Rapid Intervention Vehicle	1	
Crash Fire and Rescue Truck	3	Capacity of 1,890 l/min/tranck
Water Supply Truck	1	Capacity 6,000 liters

Table 5-14 FIRE STATION AREA REQUIRED

(m^2)

Pedregal	Talanga
550	550

5.6 Fuel Storage Facilities

The amount of aviation fuel supply required per day is calculated based on the projected daily flight schedule. Since it is planned to provide the airport with a 7-day supply capacity, the fuel storage requirements amount to as shown in Table 5-15.

Table 5-15 FUEL STORAGE REQUIREMENTS

Item	Pedregal	Talanga
Amount of Daily Fuel Consumption	540 kl	540 kl
7-day Storing Capacity	3,800 kl	3,800 kl
Area Required	7,500 m^2	7,500 m^2

5.7 Radio Navigational Aids, Telecommunications and Meteorological Service Facilities

In order to ensure safe and efficient operation of aircraft landing and taking off at the proposed new airport, the facility requirements of the radio navigational aids, telecommunications, and meteorological service facilities are determined so as to be in line with the ICAO Air Navigation Plan, and also based on the assumption of providing a dual equipment system, or a system with standby units as far as the principal equipment of the facilities are concerned.

5.8 Airfield Lighting System

Airfield lighting system is to satisfy the requirements of precision approach runway CAT-I as specified in Annex 14, ICAO.

CHAPTER 6. PLANNING OF AIRPORT FACILITIES AND INSTRUMENT LANDING/DEPARTURE PROCEDURES

CHAPTER 6 PLANNING OF AIRPORT FACILITIES AND INSTRUMENT LANDING/DEPARTURE PROCEDURES

The airport layout plan and facility plans for each site are developed so as to satisfy the basic facility requirements established in the previous chapter as well as to suit the topographical and geological conditions. On the basis of the facilities so planned, instrument landing and departure procedures are then established in respect of each alternative site.

6.1 Airport Layout Plan

6.1.1 PEDREGAL site

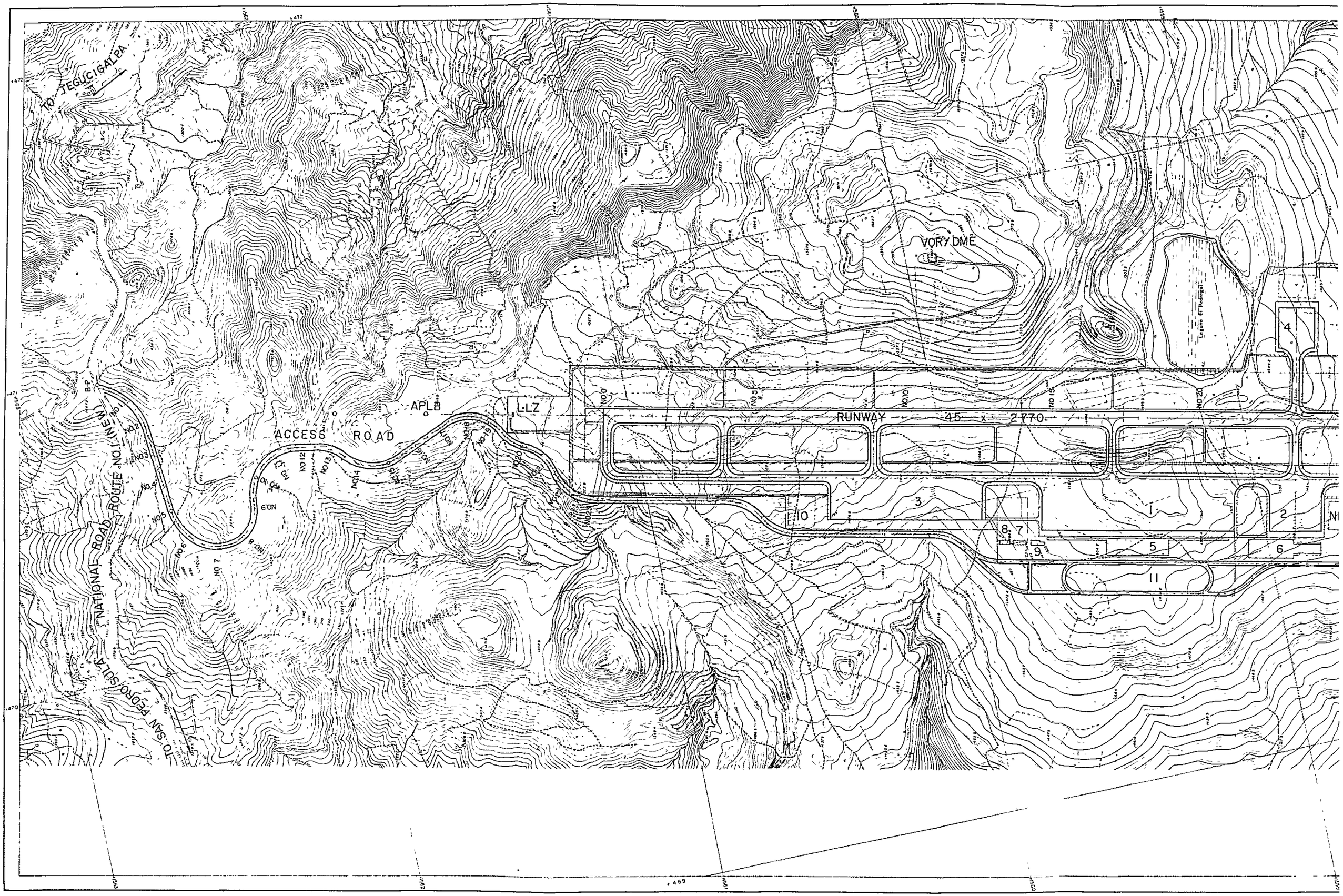
The runway is to be oriented N12°E, duly taking into consideration the meteorological, topographical and airspace conditions. The only area found suitable for siting of the runway is a small tableland which, however, is not quite large enough and which is extremely steep-sloped on the northern end and relatively moderately graded on the southern end. The runway, therefore, is placed as close to the northern edge of the tableland as possible, so that any necessary embankment work needed to acquire sufficient land area for accommodating the planned length of runway is concentrated on the southern end of the tableland, in order to minimize the amount of earthwork involved. Facilities such as passenger terminal building, cargo terminal building, general aviation facilities, etc. are concentrated on the west side of the runway for the sake of better functional coordination between these facilities. Aircraft maintenance area is located on the east side of the runway, where again there is just barely large enough area for isolated siting of this facility. This arrangement contributes to minimizing the amount of earthwork and is considered acceptable from the operationsl point of view since this facility is

functionally independent from the others. The proposed layout plan is illustrated in Fig. 6-1.

6.1.2 TALANGA site

Since weather observation at this site was started in March 1978, there hardly is sufficient wind data at this writing to constitute a design factor of runway orientation. The topographical conditions of this area, however, are suggestive of bringing winds from the east or from the west, and the limited observation data on hand also show such tendency. The runway is, therefore, to be oriented N73°E with due consideration also for the topographical and air-space requirements of the site.

Topography of TALANGA site is less rugged than that of PEDREGAL site, but is covered with entangling network of rivers and small water veins. Most of the airport facilities such as passenger terminal building, cargo terminal building, aircraft maintenance facility, etc. are located on the south side of the runway in an area clear of the river crossing the runway and close to the approach road. The proposed layout plan is illustrated in Fig. 6-2.


TO TEGUCIGALPA
VOR/DME
Laguna El Pedregal
APLB
LLZ
ACCESS ROAD
RUNWAY 45 x 2770
NATIONAL ROAD ROUTE
TO SAN PEDRO SULA
B.P.
NO 1
NO 2
NO 3
NO 4
NO 5
NO 6
NO 7
NO 8
NO 9
NO 10
NO 11
NO 12
NO 13
NO 14
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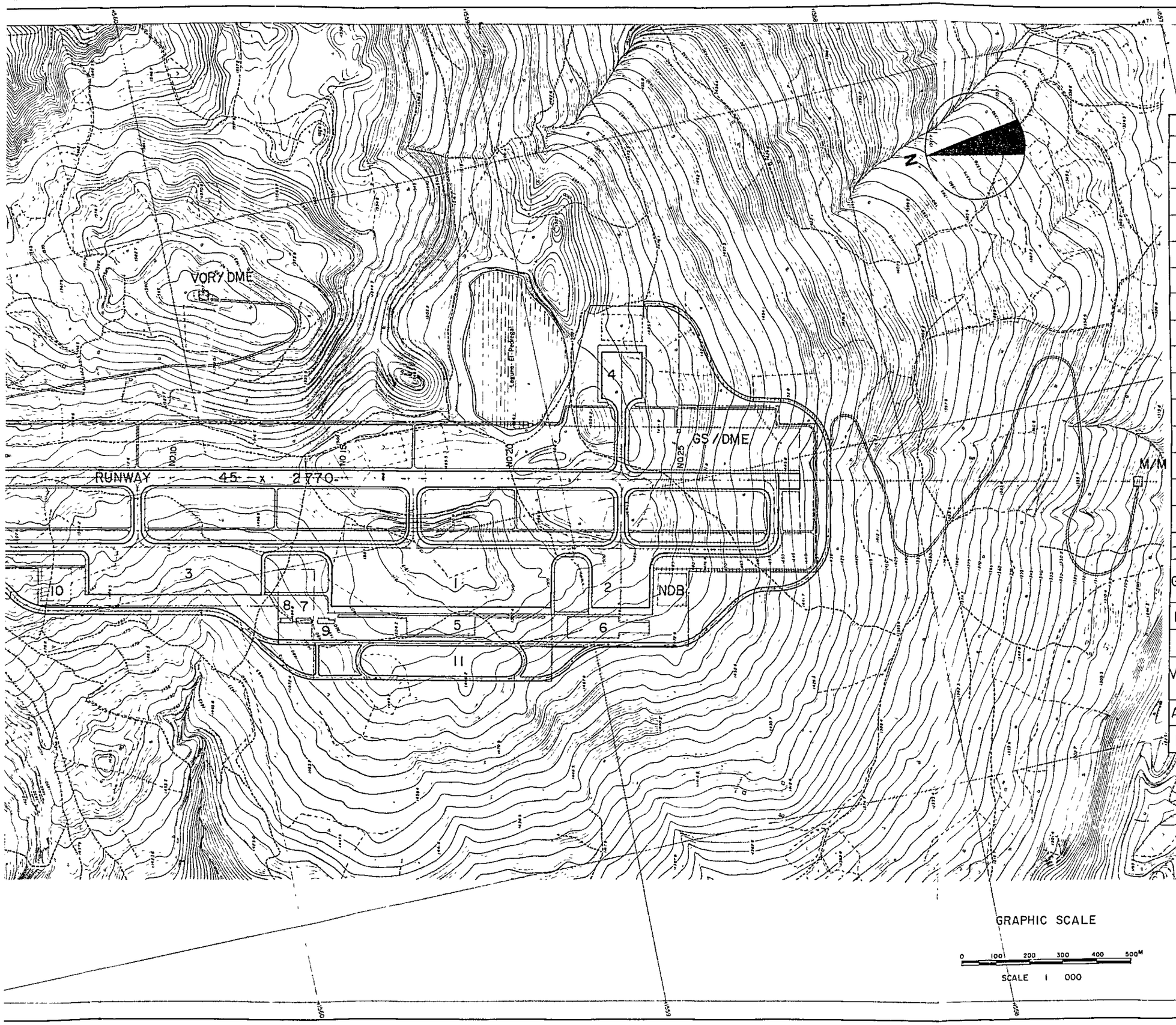

LEGEND	
1	PASSENGER LOADING APRON
2	CARGO LOADING APRON
3	GENERAL AVIATION APRON
4	AIRCRAFT MAINTENANCE APRON
5	PASSENGER TERMINAL BUILDING
6	CARGO TERMINAL BUILDING
7	TECHNICAL BLOCK AND CONTROL TOWER
8	FIRE FIGHTING AND RESCUE STATION
9	MAIN POWER SUBSTATION
10	FUEL STORAGE FACILITIES
11	PARKING LOT
———	AIRPORT AREA TO BE GRADED
GS/DME	ILS GRIDE SLOPE AND DISTANCE MEASURING EQUIPMENT
LLZ	ILS LOCALIZER
M/M	ILS MIDDLE MARKER
VOR/DME	VHF OMNI-DIRECTIONAL RADIO RANGE AND DISTANCE MEASURING EQUIPMENT
APLB	APPROACH LIGHT BEACON
NDB	NON-DIRECTIONAL RADIO BEACON

Fig. 6-1
AIRPORT LAYOUT PLAN
(PEDREGAL SITE)

REPUBLICA DE HONDURAS
SECRETARIA DE COMUNICACIONES
OBRAS PUBLICAS Y TRANSPORTE

NEW TEGUCIGALPA AIRPORT DEVELOPMENT

PEDREGAL SITE
AIRPORT LAYOUT PLAN
SITE SELECTION STUDY

SEP 1978

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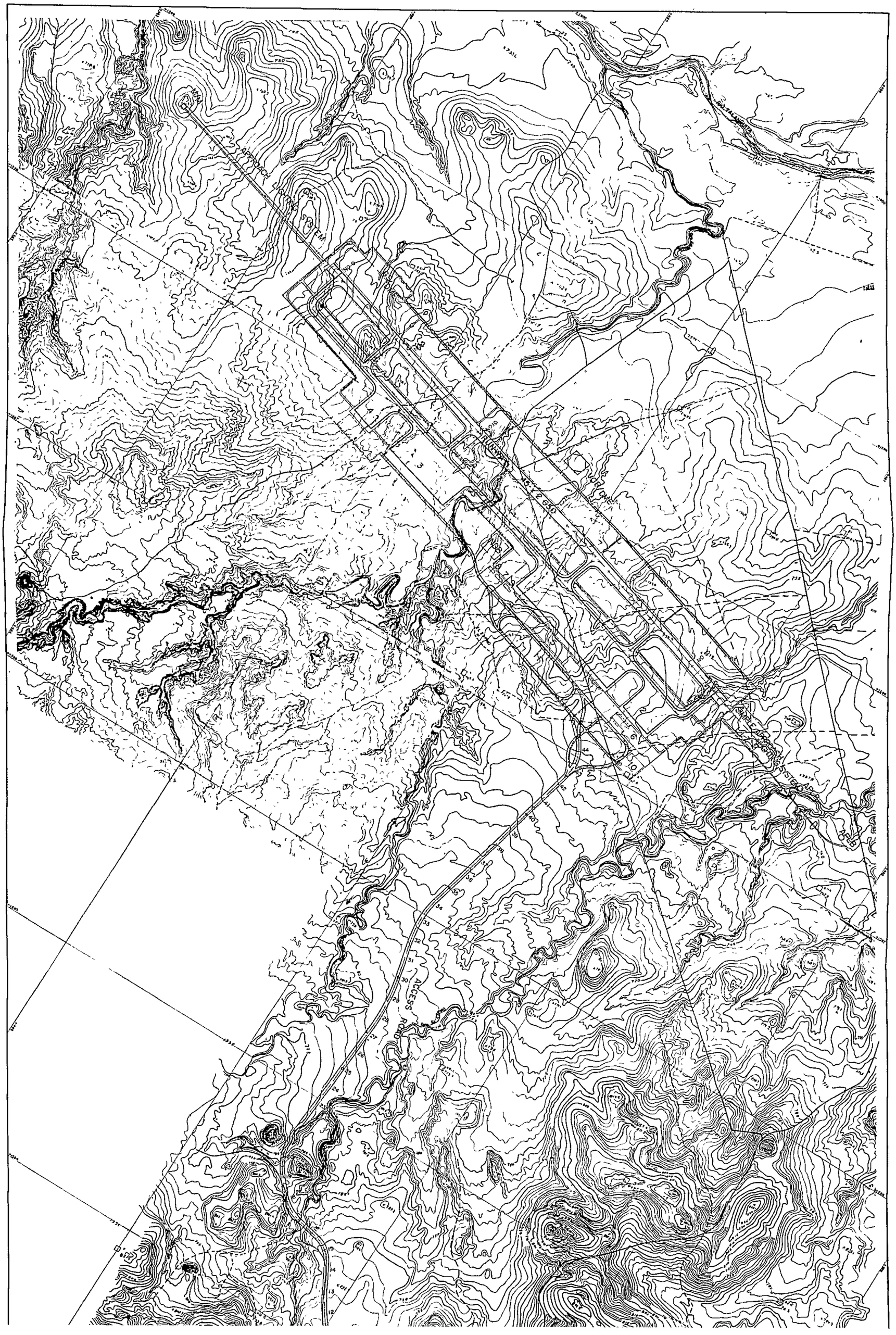
APPROACH LIGHTING SYSTEM
ACCESS ROAD
RUNWAY 13
RUNWAY 30
RUNWAY 6
RUNWAY 24
RUNWAY 12
RUNWAY 18
RUNWAY 36
RUNWAY 7
RUNWAY 25
RUNWAY 19
RUNWAY 31
RUNWAY 1
RUNWAY 10
RUNWAY 28
RUNWAY 4
RUNWAY 22
RUNWAY 16
RUNWAY 34
RUNWAY 2
RUNWAY 20
RUNWAY 14
RUNWAY 32
RUNWAY 8
RUNWAY 26
RUNWAY 5
RUNWAY 23
RUNWAY 17
RUNWAY 35
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RUNWAY 11
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RUNWAY 13
RUNWAY 31
RUNWAY 6
RUNWAY 24
RUNWAY 12
RUNWAY 30
RUNWAY 18
RUNWAY 36
RUNWAY 7
RUNWAY 25
RUNWAY 19
RUNWAY 1
RUNWAY 10
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RUNWAY 4
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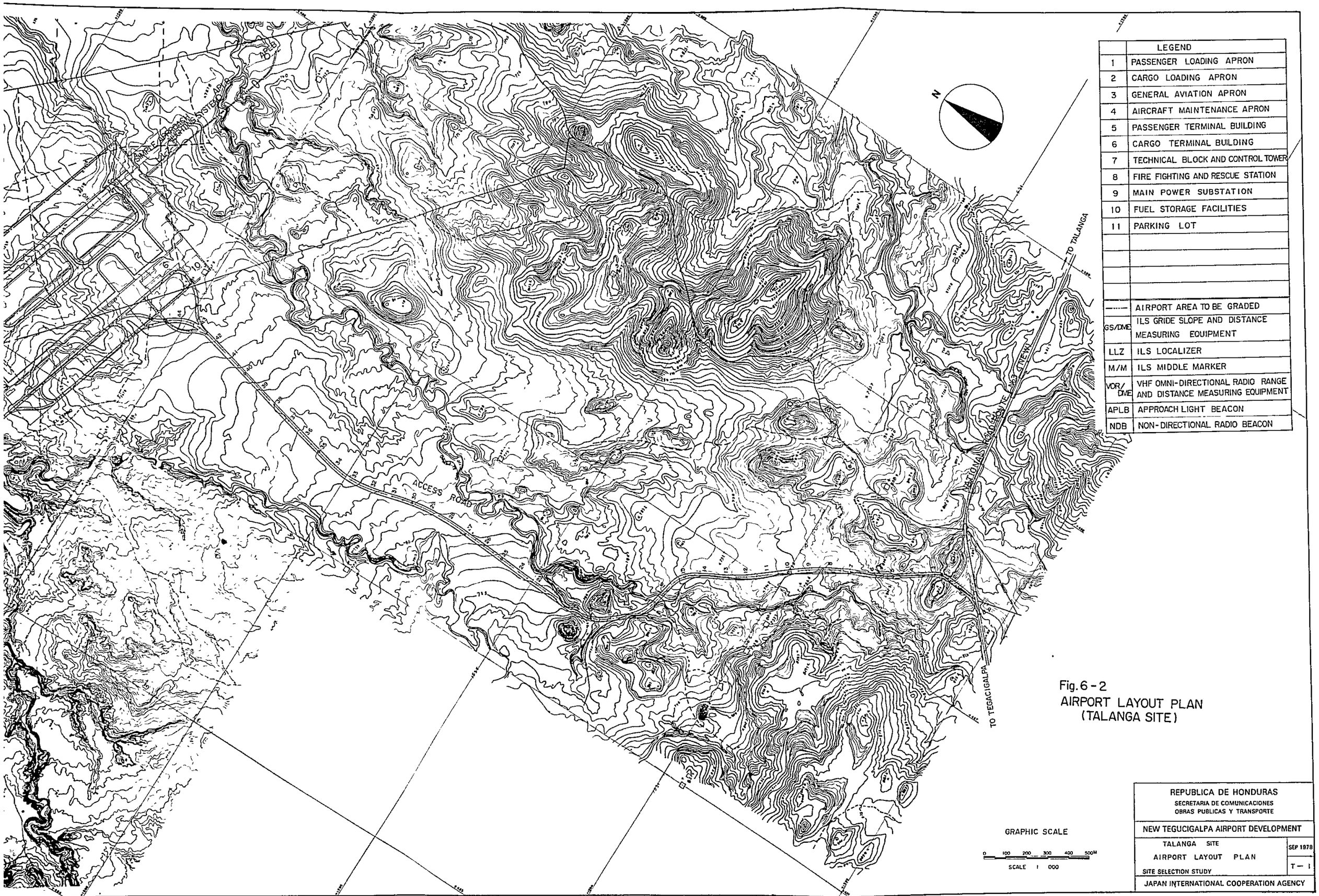
RUNWAY 11
RUNWAY 29



	LEGEND
1	PASSENGER LOADING APRON
2	CARGO LOADING APRON
3	GENERAL AVIATION APRON
4	AIRCRAFT MAINTENANCE APRON
5	PASSENGER TERMINAL BUILDING
6	CARGO TERMINAL BUILDING
7	TECHNICAL BLOCK AND CONTROL TOWER
8	FIRE FIGHTING AND RESCUE STATION
9	MAIN POWER SUBSTATION
10	FUEL STORAGE FACILITIES
11	PARKING LOT
------	AIRPORT AREA TO BE GRADED
GS/DME	ILS GRIDE SLOPE AND DISTANCE MEASURING EQUIPMENT
LLZ	ILS LOCALIZER
M/M	ILS MIDDLE MARKER
VOR/DME	VHF OMNI-DIRECTIONAL RADIO RANGE AND DISTANCE MEASURING EQUIPMENT
APLB	APPROACH LIGHT BEACON
NDB	NON-DIRECTIONAL RADIO BEACON

Fig. 6-2
AIRPORT LAYOUT PLAN
(TALANGA SITE)

REPUBLICA DE HONDURAS
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NEW TEGUCIGALPA AIRPORT DEVELOPMENT

TALANGA SITE
AIRPORT LAYOUT PLAN
SITE SELECTION STUDY

SEP 1978

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6.2 Facility Planning

The major airport facilities planned for each of the two alternative sites are illustrated in the self-explanatory drawings under Appendix 6A. Table 6-1 presents a listing of these drawings.

Table 6-1 LIST OF FACILITY PLAN DRAWINGS

Title of Drawings	Pedregal Site		Tálanga Site	
BASIC AREA REQUIREMENTS	Appendix	6A-1	Appendix	6A-13
GRADING PLAN	"	6A-2	"	6A-14
RUNWAY PROFILE	"	6A-3	"	6A-15
RUNWAY STRIP TYPICAL CROSS SECTION	"	6A-4	"	6A-16
AIRPORT DRAINAGE PLAN	"	6A-5	"	6A-17
AIRFIELD PAVEMENTS PLAN	"	6A-6	"	6A-18
ACCESS ROAD PLAN	"	6A-7	"	6A-19
AIRPORT NAVIGATIONAL AIDS FACILITY PLAN	"	6A-8	"	6A-20
TERMINAL AREA LAYOUT PLAN AND PROFILE	"	6A-9	"	6A-21
PASSENGER TERMINAL BUILDING PLAN	"	6A-10	"	6A-10
CARGO TERMINAL BUILDING PLAN TECHNICAL BLOCK AND CONTROL TOWER PLAN	"	6A-11	"	6A-11
FIRE FIGHTING AND RESCUE STATION PLAN MAIN POWER SUBSTATION PLAN	"	6A-12	"	6A-12

6.3 Planning of Instrument Landing and Departure Procedures

6.3.1 PEDREGAL site

(1) Basic conditions

a. Runway designation

Since the proposed runway is orientated N12°E and the magnetic variation at Tegucigalpa is 5°E, the runway designation shall be 01/19.

b. Precision approach runway

CAT-I ILS installation is planned only for Runway 01 on account of the direction of the prevailing wind.

c. VOR/DME site

VOR/DME is proposed to be located at the point about 1,100 m to the south from the end of Runway 19 and about 520 m to the east from the runway center line.

d. NDB site

NDB is proposed to be located at the point about 300 m to the west from the runway center-line and 250 m to the north from the extended end line of Runway 01.

e. Touchdown zone elevation (TZE)

Runway 01: 4,920 ft (1,500 m)
Runway 19: 4,953 ft (1,510 m)

(2) Instrument approach procedures

a. ILS approach

Shown in Appendix Figs. 6B-1 through 6B-2

b. VOR approach

Shown in Appendix Figs. 6B-3 through 6B-5

c. NDB approach

Shown in Appendix Figs. 6B-6 through 6B-9

(3) Instrument departure procedures

Shown in Appendix Fig. 6B-10

(4) Weather minima

Shown in Tables 6-2 and 6-3

Table 6-2 WEATHER MINIMA FOR LANDING

(Pedregal Site)

Approach Procedures		Runway	Straight-in			Circling		
			Ceiling (feet)	-	Visibility (meter)	Ceiling (feet)	-	Visibility (meter)
ILS		01	200	-	1200	---		
		19	---			600	-	3200
VOR		01	1300	-	7100	700	-	3200
		19	700	-	3700	700	-	3200
NDB	Airport NDB	01	1300	-	7100	700	-	3200
		19	700	-	3700	700	-	3200
	Hule NDB	01	---			1300	-	3200
		19	---			1300	-	3200

Table 6-3 WEATHER MINIMA FOR TAKE-OFF

(Pedregal Site)

Runway	Ceiling (feet)	-	Visibility (meter)
01	0	-	600
19	300	-	800

Note: Runway Center Line Light is not installed

It is also to be noted that since the PEDREGAL site is surrounded by the control zone of the existing Toncontín Airport and the "danger area" as shown in Appendix Fig. 6B-11, appropriate coordination with the authorities concerned will be necessary to establish safe and efficient airspace utilization at the site.

6.3.2 TALANGA site

(1) Basic conditions

a. Runway designation

Since the proposed runway is oriented N73°W and the magnetic variation at Tegucigalpa is 5°E, the runway designation shall be 10/28.

b. Precision approach runway

Due to lack of the necessary wind data at this writing, both Runway 10 and Runway 28 are assumed to be the approach runway, and precision approach by ILS CAT-I operation is studied for

the purpose of the present site selection study for both approach runways based on the assumed prevailing wind directions of east and west as the topography of the site suggests.

c. VOR/DME site

VOR/DME is to be located at 250 m to the north from the runway center.

d. NDB site

NDB is to be located at the point 350 m to the south from the runway centerline and 1,500 m to the east from the extended end line of Runway 10.

c. Touchdown zone elevation (TZE)

Runway 10: 2,480 ft (756 m)
Runway 28: 2,480 ft (756 m)

(2) Instrument approach procedures

a. ILS approach

Shown in Appendix Figs. 6B-12 through 6B-15

b. VOR approach

Shown in Appendix Fig. 6B-16

c. NDB approach

Shown in Appendix Fig. 6B-19

(3) Instrument departure procedure

Shown in Appendix Fig. 6B-18

(4) Weather minima

Shown in Tables 6-4 and 6-5

Table 6-4 WEATHER MINIMA FOR LANDING

(Talanga Site)

Approach Procedures	Runway	Straight-in			Circling		
		Ceiling (feet)	-	Visibility (meter)	Ceiling (feet)	-	Visibility (meter)
ILS	10	200	-	800	600	-	3200
	or						
	28	200	-	800	600	-	3200
VOR	10	---			1000	-	3200
	28	---			1000	-	3200
NDB	10	---			1500	-	3200
	28	---			1500	-	3200

Table 6-5 WEATHER MINIMA FOR TAKE-OFF

(Talanga Site)

Runway	Ceiling (feet)	-	Visibility (meter)
01	300	-	800
28	300	-	800

Note: Runway Center Line Light is not installed

CHAPTER 7. CONSTRUCTION SCHEDULE AND COST ESTIMATE

CHAPTER 7 CONSTRUCTION SCHEDULE AND COST ESTIMATE

Estimate of the construction cost is made on the basis of the construction schedule established for each of the two alternative sites after calculating the quantities of all work items of construction based on the facility plans made in the preceding chapter, as well as through analyses of the information obtained by the Survey Mission during February and March 1978 on the topographical and geological conditions of the two alternative sites and all other cost factors involved.

7.1 Summary of Construction Conditions

7.1.1 PEDREGAL site

Almost entire area of this site is covered with hard andesite, requiring major blasting work for excavation. The site also requires substantial embankment work on the southern end of the runway so as to develop sufficient space for the new airport. Appropriate slope stabilization works are required especially on the banked portions. Coarse aggregate for the concrete works and base material for the asphalt pavement work will be available at the site. The trafficability of the site under rainfall is expected to be good enough so as not to affect the construction workability. The natural topography of the site is such that no particular problems are anticipated in the drainage works. Gunite shootings will be made for stabilizing the high bank slopes. Water shall be supplied through pumping up from the existing reservoir at Los Laureles.

7.1.2 TALANGA site

This site is located on the alluvial plain of the Rio de Lajas. The earthwork will mostly be on alluvial soil and decomposed tuff. Hard tuffs are encountered in a limited area, where minor blasting work may be required for excavation. The alluvial soil as well as the decomposed tuff are expected to turn muddy when disturbed and saturated with water. It is, therefore, recommended that earthwork be executed primarily during the dry season. Limestone deposites existing along the New National Road Route No. 3 about 10 Km to the south of the site are considered to be a suitable source both of the coarse aggregate of concrete and of the base material of asphalt pavement. Fine aggregate of concrete can be obtained from the river beds of El Espino, El Camalotal, La Tuna and Poza Redona. It will be necessary to bore several deep wells for water supply since it is impracticable to depend on surface water in dry seasons.

7.2 Construction Schedule

The construction schedules for the two alternative sites of PEDREGAL and TALANGA are established as shown in Tables 7-1 and 7-2 respectively, based on the various site conditions summarized in the foregoing, with the timing of construction being set for opening of the airport to traffic in 1986.

7.3 Construction Cost Estimate

The construction cost is estimated as tabulated in Table 7-3. The present cost estimate is meant only for comparison purposes of the two alternative sites, and is based on the following conditions.

a. Unit prices are estimated mostly based on the prices actually being used in construction projects under way in Honduras as of March 1978.

b. Costs of items not available in Honduras are estimated based on the market prices in Japan as of March 1978.

c. Conversion between Yen and Lempira is based on the exchange rate as of March 1978 of Ll = US$0.5 = ¥120.

d. Cost escalation is not included in the estimates.

It is recommended that after the decision on the selection of the site is reached by the Government of Honduras, a detailed cost estimate be made based on the master plan of the project which is to be prepared including a study on staged construction, and detailed investigation on the availability of construction materials and equipment in and outside of Honduras, etc.

Table 7-1 CONSTRUCTION SCHEDULE - PEDREGAL SITE

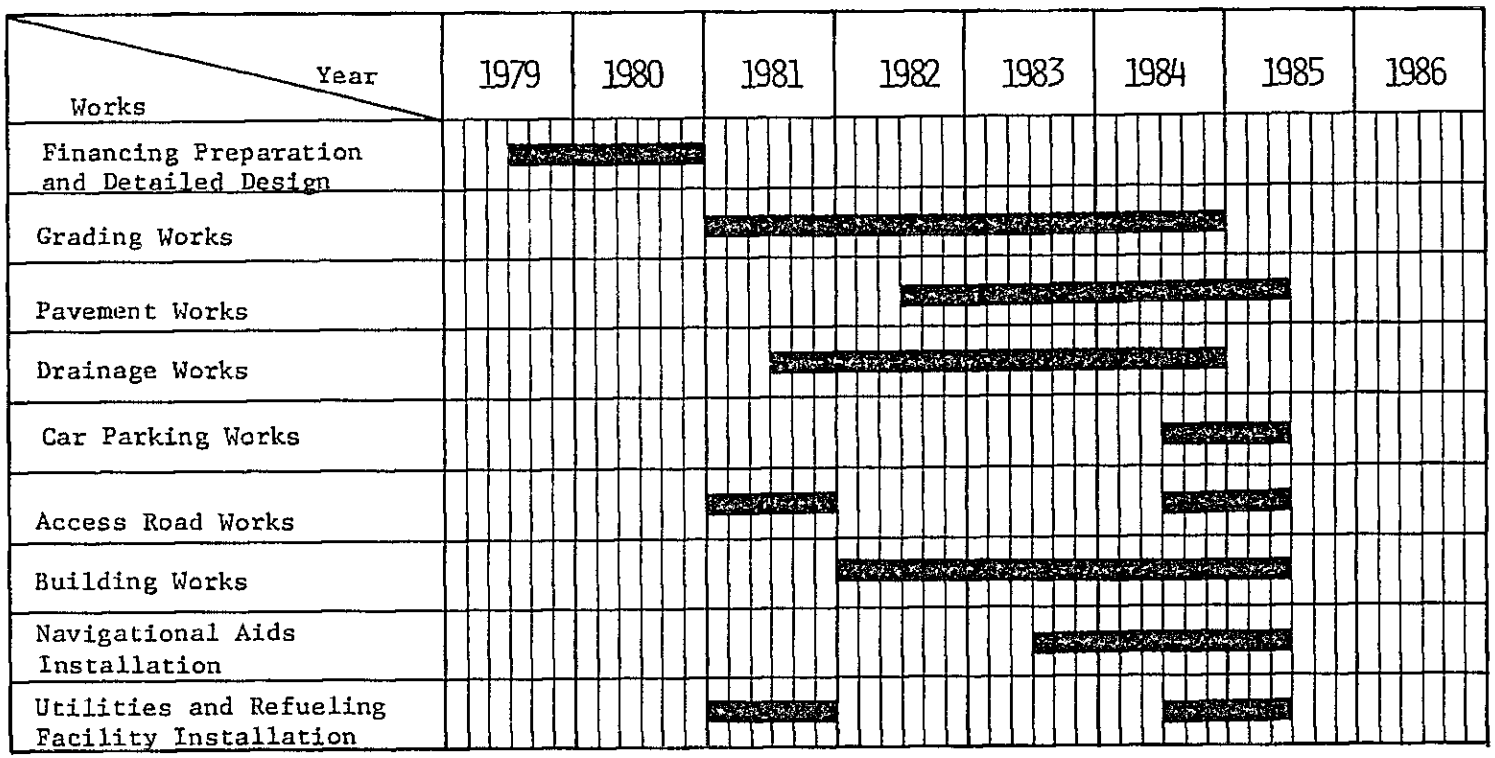


Table 7-2 CONSTRUCTION SCHEDULE - TALANGA SITE

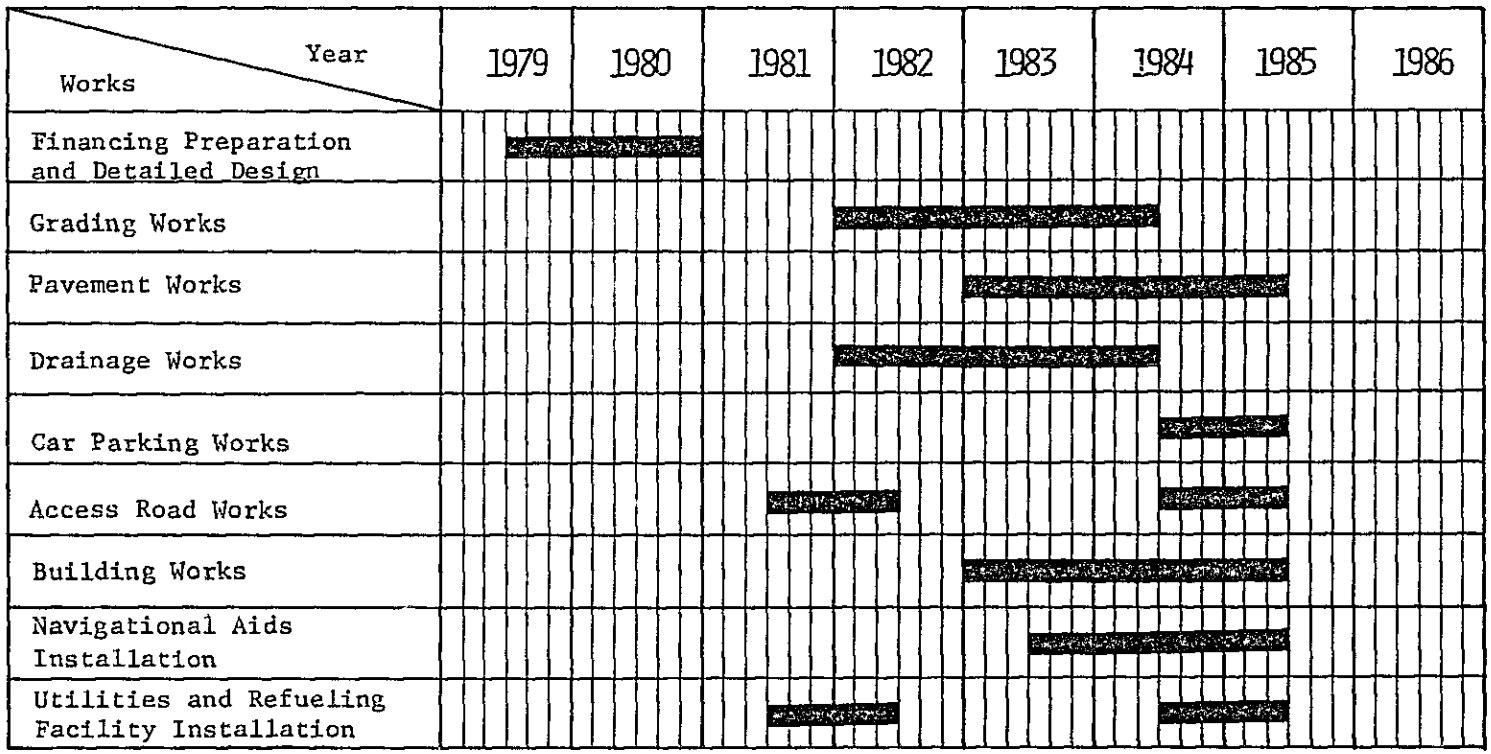


Table 7-3 CONSTRUCTION COST ESTIMATE

(Unit: Thousand Lempiras)

Works	Cost	
	Pedregal	Talanga
1. Civil Engineering Works	350,740	76,780
2. Building Works	42,100	42,080
3. Lighting Works	7,740	7,600
4. Radio Nav-Aids, Telecommunications Aids, Meteorological Facilities	4,660	4,660
5. Utilities and Refueling Facilities	18,460	17,460
6. Sub Total	423,700	148,580
7. Engineering Services	25,420	14,860
8. Land Acquisition	240	4,000
9. Contingency	44,940	16,360
10. Grand Total	494,300	183,800

Note: 1) Costs of items available in Honduras are estimated based on the market prices in Honduras as of March 1978.

2) Costs of items not available in Honduras are estimated based on the market prices in Japan as of March 1978.

3) Conversion between Yen and Lempira is based on the exchange rate as of March 1978 of: L1 = US$0.5 = ¥120.

CHAPTER 8. COST-BENEFIT ANALYSIS

CHAPTER 8 COST-BENEFIT ANALYSIS

The purpose of the present cost-benefit analysis is to make a comparative economic evaluation of the two alternative sites of PEDREGAL and TALANGA.

Generally speaking, a cost-benefit analysis is made on the principle of "with and without test", that is to say, comparing the case where the Project is implemented with the case where the project is not to be implemented. In this study, the case "without project" is defined as the Base Case in which utilization of the existing Toncontín airport is continued at the present facility level as described in Subsection 2.3.3 of Chapter 2.

The cost-benefit analysis is made by comparing the Base Case with the new airport construction assumed to take place either at PEDREGAL or at TALANGA site.

8.1 Premises

a. The project life is set for a period of 20 years after the inauguration of the new airport.

b. Calculation of the costs and benefits are to be based on the actual market prices as of March 1978. In this analysis no distinction is made between the foreign and the local portions of the costs, and between the wages of skilled and unskilled labor, nor is any deduction of indirect taxes from the costs made.

c. Construction cost is estimated on condition that the facilities to meet the air traffic of the ultimate design year of 2005 is to be initially constructed. In other words, staged construction is not taken into account.

d. Evaluation is made primarily by the internal rate of return (IRR), but the net present value and the cost-benefit ratio are also calculated based on the social discount rate in Honduras of 12%.

e. Sensitivity analysis is made for the cases of ±30% of the estimated cost. Sensitivity analysis against changes in estimated benefits, however, is not made because they equally influence both of the two alternative sites.

8.2 The Base Case

8.2.1 Basic thinking

The Base Case assumes on the continued utilization of the existing Toncontín airport at the present facility level, and is made the basis in the calculation of the costs and benefits to be expected. It is anticipated that, in accordance with the air traffic forecast made in Chapter 4 above, the existing Toncontín airport facilities will reach their capacity limits at a certain point in time, and that thereafter the potential traffic will have to overflow. Projection of such a year by facility, as well as estimate of the overflowing traffic are made in the following subsections.

8.2.2 Timing of traffic saturation beyond capacity

(1) Passenger loading apron

The passenger loading apron at the existing Toncontín airport measures 50 m x 210 m, and is

capable of accommodating two B-737s and one L-188 to park simultaneously.

Daily aircraft movements calculated on the basis of the traffic forecast made in Chapter 4 are as shown in Table 8-1.

In order to calculate the maximum possible daily handling capacity of the passenger apron, theoretically optimum peak day flight schedules are prepared based on the passenger traffic forecasts, in which flight movements are spread over the hours of operation to an extent feasible considering such matters as the time of departure/ arrival at origin/destination, etc., so that the existing gate positions may be utilized with maximum efficiency.

On the basis of such flight schedules, and also assuming that the smaller one of the gate positions are primarily used for domestic flights and the larger two for international flights, the passenger apron is found to be capable of accommodating up to 22 domestic and 41 international flights a day. This means that the passenger loading apron at the existing Toncontín airport will reach its handling capacity limits in 1987, and the aircraft movements after that year will overflow as Fig. 8-1 illustrates.

Table 8-1 DAILY PASSENGER FLIGHT MOVEMENTS AT TONCONTIN

Origin ⟷	Via ⟷	Destination	Movements 1980	1985	1990	1995
TGU	BZE	-	1	1	1	1
		MIA	4	6	9	13
		MSY	3	5	7	11
		IAH	3	4	5	7
			11	16	22	32
TGU	GUA	-	1	2	2	3
		MEX	1	2	2	3
			2	4	4	6
TGU	SAL	-	2	3	4	6
		GUA	2	2	2	2
			4	5	6	8
TGU	MGA	-	2	2	3	4
		SJO	3	3	5	7
		PTY	2	3	4	6
			7	8	12	17
TGU	ADZ	-	1	1	3	4
Sub Total			25	34	47	67
TGU	SAP	-	4	5	8	10
"	LCE	-	3	5	7	9
"	OAN	-	2	4	5	7
"	PLD	-	1	1	2	2
Sub Total			10	15	22	28
Total			35	49	69	95

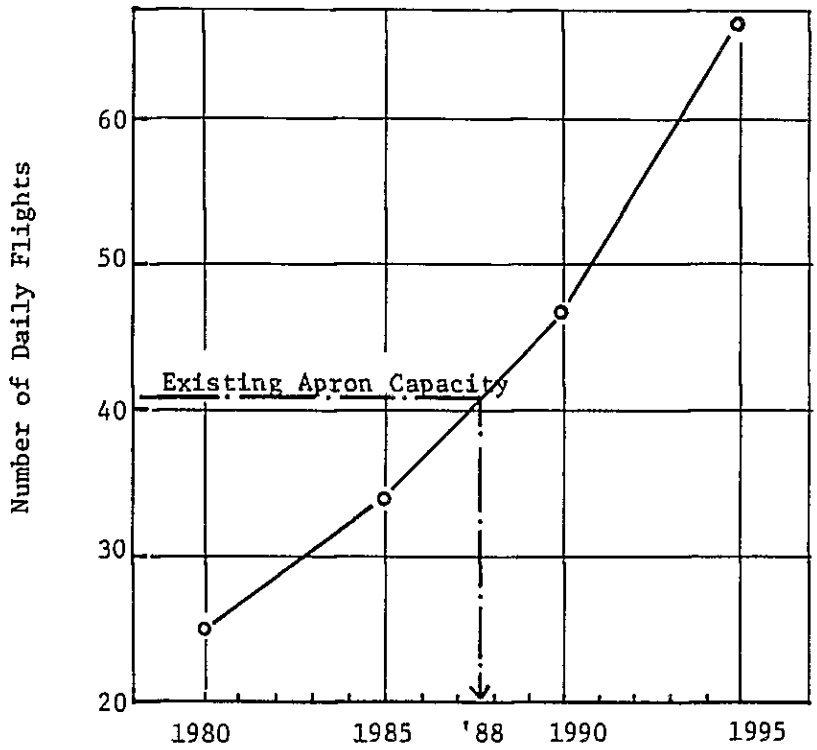


Fig. 8-1 PROJECTED DAILY INTERNATIONAL PASSENGER FLIGHT MOVEMENTS AT TONCONTIN AIRPORT

(2) Passenger and cargo terminal buildings

Hourly capacity of the existing passenger terminal building is estimated at 230 passengers as shown in Table 8-2. By the time the passenger loading apron is assumingly utilized to its capacity throughout the hours of operation in 1987 as seen in Paragraph (1) above, the passenger terminal building also will almost reach its capacity limits.

Capacity of the international cargo handling facilities, including the new cargo terminal presently under construction, is estimated at 7,800 tons per annum as shown in Table 8-3, and, therefore,

from the year 1980 on, the international cargo traffic is expected to overflow. As for the domestic cargo, however, the existing facilities can accommodate the projected cargo traffic up to the year 2005 as shown in Table 8-3.

Table 8-2 HOURLY HANDLING CAPACITY OF THE EXISTING PASSENGER TERMINAL BUILDING

Facility	Area	Hourly Handling Capacity
	m^2	person/hour
Departure Facility	820	130
Arrival Facility	325	100
Total	1,125	230

Table 8-3 ANNUAL HANDLING CAPACITY AT THE EXISTING CARGO TERMINAL BUILDINGS

Facility	Area	Annual Handling Capacity
	m^2	tons/year
International Cargo	2,800	7,800
Domestic Cargo	924	4,800
Total	3,724	12,600

8.2.3 Estimate of overflowing traffic

Forecasts of annual passenger and cargo traffic by site calculated on the basis of the results of Chapter 4 for each year of the project life are shown in Tables 8-4 and 8-5. According to the results of Section 8.2 above, the air passenger traffic at Toncontín airport is expected to overflow starting from 1988, and the international cargo traffic from 1980 on, as shown in Fig. 8-2. Therefore, the Base Case transport demand and the overflowing traffic to be accommodated at the new sites are shown in Tables 8-6 and 8-7 respectively for the passenger and the international cargo traffic respectively.

8.3 Estimate of Costs

8.3.1 Annual construction cost

The annual construction costs of the new airport at the alternative sites are estimated as shown in Table 8-8 based on the construction schedules presented in Tables 7-1 and 7-2.

Table 8-8 ESTIMATE OF ANNUAL CONSTRUCTION COST OF NEW AIRPORT AT PEDREGAL SITE AND TALANGA SITE

(In 1978 thousand lempiras)

Year	Pedregal Site	Talanga Site
1979	4,260	2,400
1980	10,040	9,690
1981	105,730	7,320
1982	104,300	21,330
1983	113,620	53,070
1984	130,270	59,070
1985	26,080	30,920
Total	494,300	183,800

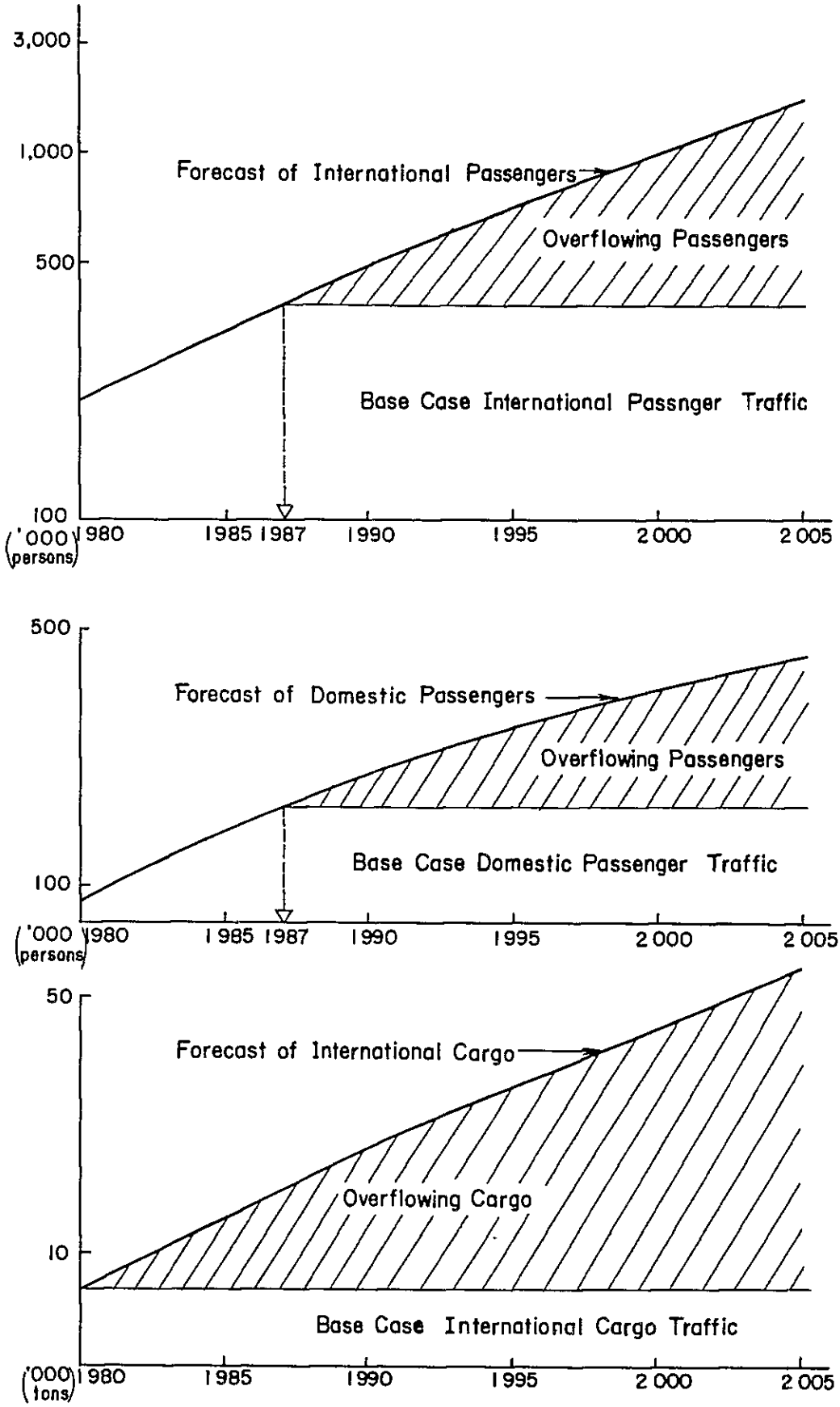


Fig.8-2 BASECASE DEMAND AND OVERFLOWING TRAFFIC AT TONCONTIN AIRPORT

Table 8-4 FORECASTS OF ANNUAL EMBARKING & DISEMBARKING PASSENGERS BY SITE

(In thousand persons)

Year	Toncontín Airport			Pedregal Site			Talanga Site		
	International	Domestic	Total	International	Domestic	Total	International	Domestic	Total
1985	325	147	472	325	139	464	312	123	435
1986	353	157	510	353	149	502	339	132	471
1987	383	169	552	383	159	542	369	141	510
1988	416	181	597	416	170	586	401	151	552
1989	452	193	645	452	181	633	436	162	598
1990	491	207	698	491	194	685	474	174	648
1991	527	219	746	527	205	732	509	184	693
1992	566	231	797	565	216	781	547	195	742
1993	608	244	852	607	229	836	587	206	793
1994	653	258	911	652	241	893	630	218	848
1995	701	272	973	700	255	955	677	230	907
1996	752	285	1,037	751	267	1,018	726	240	966
1997	806	298	1,104	805	279	1,084	779	251	1,030
1998	864	312	1,176	863	292	1,155	835	263	1,098
1999	927	327	1,254	925	306	1,231	895	275	1,170
2000	994	342	1,336	992	320	1,312	960	287	1,247
2001	1,066	356	1,422	1,063	333	1,396	1,029	299	1,328
2002	1,143	370	1,513	1,139	347	1,486	1,102	311	1,413
2003	1,225	385	1,610	1,221	361	1,582	1,181	324	1,505
2004	1,313	400	1,713	1,308	376	1,684	1,265	337	1,602
2005	1,408	416	1,824	1,402	391	1,793	1,356	351	1,707

Table 8-5 FORECASTS OF ANNUAL INTERNATIONAL LOADED & UNLOADED CARGO TRAFFIC BY SITE

(In tons)

Year	Toncontín Airport	Pedregal Site	Talanga Site
1980	8,100	8,350	8,000
1981	8,830	9,090	8,730
1982	9,620	9,910	9,520
1983	10,480	10,790	10,380
1984	11,420	11,750	11,320
1985	12,450	12,800	12,350
1986	13,610	13,980	13,500
1987	14,880	15,270	14,750
1988	16,270	16,680	16,120
1989	17,790	18,220	17,610
1990	19,400	19,900	19,250
1991	20,980	21,530	20,800
1992	22,690	23,290	22,470
1993	24,540	25,200	24,280
1994	26,540	27,270	26,240
1995	28,700	29,500	28,350
1996	30,930	31,790	30,560
1997	33,330	34,270	32,950
1998	35,910	36,930	35,520
1999	38,700	39,800	38,300
2000	41,700	42,900	41,290
2001	44,920	46,220	44,460
2002	48,390	49,800	47,880
2003	52,130	53,660	51,560
2004	56,160	57,820	55,530
2005	60,500	62,300	59,800

Table 8-6 FORECASTS OF BASE CASE DEMAND AND OVERFLOWING PASSENGER TRAFFIC ACCOMMODATED AT ALTERNATIVE SITES

(In thousand persons)

Year	Base Case Passenger Traffic			Overflowing Passengers Handled at Pedregal Site			Overflowing Passengers Handled at Talanga Site		
	International Passenger	Domestic Passenger	Total	International Passenger	Domestic Passenger	Total	International Passenger	Domestic Passenger	Total
1985	325	147	472	0	0	0	0	0	0
1986	353	157	510	0	0	0	0	0	0
1987	383	169	552	0	0	0	0	0	0
1988	383	169	552	33	1	34	18	0	18
1989	383	169	552	69	12	81	53	0	53
1990	383	169	552	108	25	133	91	5	96
1991	383	169	552	144	36	180	126	15	141
1992	383	169	552	182	47	229	164	26	190
1993	383	169	552	224	60	284	204	37	241
1994	383	169	552	269	72	341	247	49	296
1995	383	169	552	317	86	403	294	61	355
1996	383	169	552	368	98	466	343	71	414
1997	383	169	552	422	110	532	396	82	478
1998	383	169	552	480	123	603	452	94	546
1999	383	169	552	542	137	679	512	106	618
2000	383	169	552	609	151	760	577	118	695
2001	383	169	552	680	164	844	646	130	776
2002	383	169	552	756	178	934	719	142	861
2003	383	169	552	838	192	1,030	798	155	953
2004	383	169	552	925	207	1,132	882	168	1,050
2005	383	169	552	1,019	222	1,241	973	182	1,155

Table 8-7 FORECASTS OF BASE CASE DEMAND AND OVERFLOWING CARGO TRAFFIC ACCOMMODATED AT ALTERNATIVE SITES

(In tons)

Year	Base Case Cargo Traffic	Overflowing Cargo Handled at Pedregal Site	Overflowing Cargo Handled at Talanga Site
1986	8,100	5,880	5,400
1987	8,100	7,170	6,650
1988	8,100	8,580	8,020
1989	8,100	10,120	9,510
1990	8,100	11,800	11,150
1991	8,100	13,430	12,700
1992	8,100	15,190	14,370
1993	8,100	17,100	16,180
1994	8,100	19,170	18,140
1995	8,100	21,400	20,250
1996	8,100	23,690	22,460
1997	8,100	26,170	24,850
1998	8,100	28,830	27,420
1999	8,100	31,700	30,200
2000	8,100	34,800	33,190
2001	8,100	38,120	36,360
2002	8,100	41,700	39,780
2003	8,100	45,560	43,460
2004	8,100	49,720	47,430
2005	8,100	54,200	51,700

8.3.2 Annual maintenance and operation cost

Estimates of the annual maintenance and operation costs of the proposed new airport are shown in Tables 8-9 and 8-10 respectively for PEDREGAL site and TALANGA site. The calculation is made as follows:

a. Maintenance cost of the civil works, building, utility and fuel supply facilities is estimated at 1% of their respective construction costs, the cost of grading works being excluded from the construction cost of civil works in this calculation.

b. Maintenance cost of the navigational aids facilities is estimated at 5% of the construction cost.

c. As for the personnel cost of airport operation, 10% of the total employees forecast at the new airport (See Supplement 2 of Chapter 4) is assumed to belong to the airport authority, and the cost is estimated based on an average annual payroll cost of 6,000 lempiras per employee.

d. Other costs to be incurred in operation of the new airport are estimated as a lump sum at 5% of the sum of the maintenance cost and the personnel cost.

Table 8-9 ESTIMATE OF MAINTENANCE & OPERATION COST AT PEDREGAL SITE

(In 1978 thousand lempiras)

Year	Maintenance				Operation		Total
	Civil Works	Building	Nav-Aids	Sub Total	Wages	Others	
1986	516.4	605.6	620.0	1,742	706	122	2,570
1987	516.4	605.6	620.0	1,742	755	125	2,622
1988	516.4	605.6	620.0	1,742	808	128	2,678
1989	516.4	605.6	620.0	1,742	864	130	2,736
1990	516.4	605.6	620.0	1,742	924	133	2,799
1991	516.4	605.6	620.0	1,742	976	136	2,854
1992	516.4	605.6	620.0	1,742	1,030	139	2,911
1993	516.4	605.6	620.0	1,742	1,087	141	2,970
1994	516.4	605.6	620.0	1,742	1,148	145	3,035
1995	516.4	605.6	620.0	1,742	1,212	148	3,102
1996	516.4	605.6	620.0	1,742	1,274	151	3,167
1997	516.4	605.6	620.0	1,742	1,339	154	3,235
1998	516.4	605.6	620.0	1,742	1,407	157	3,306
1999	516.4	605.6	620.0	1,742	1,479	161	3,382
2000	516.4	605.6	620.0	1,742	1,554	165	3,461
2001	516.4	605.6	620.0	1,742	1,631	169	3,542
2002	516.4	605.6	620.0	1,742	1,712	173	3,627
2003	516.4	605.6	620.0	1,742	1,797	177	3,716
2004	516.4	605.6	620.0	1,742	1,886	181	3,809
2005	516.4	605.6	620.0	1,742	1,980	186	3,908

Table 8-10 ESTIMATE OF MAINTENANCE & OPERATION COST AT TALANGA SITE

(In 1978 thousand lempiras)

Year	Maintenance				Operation		Total
	Civil Works	Building	Nav-Aids	Sub-total	Wages	Others	
1986	505.2	595.4	613	1,714	675	119	2,508
1987	505.2	595.4	613	1,714	723	122	2,559
1988	505.2	595.4	613	1,714	774	124	2,612
1989	505.2	595.4	613	1,714	829	127	2,670
1990	505.2	595.4	613	1,714	888	130	2,732
1991	505.2	595.4	613	1,714	938	133	2,785
1992	505.2	595.4	613	1,714	992	135	2,841
1993	505.2	595.4	613	1,714	1,048	138	2,900
1994	505.2	595.4	613	1,714	1,107	141	2,962
1995	505.2	595.4	613	1,714	1,170	144	3,028
1996	505.2	595.4	613	1,714	1,230	147	3,091
1997	505.2	595.4	613	1,714	1,292	150	3,156
1998	505.2	595.4	613	1,714	1,358	154	3,226
1999	505.2	595.4	613	1,714	1,427	157	3,298
2000	505.2	595.4	613	1,714	1,500	161	3,375
2001	505.2	595.4	613	1,714	1,576	165	3,455
2002	505.2	595.4	613	1,714	1,656	169	3,539
2003	505.2	595.4	613	1,714	1,739	173	3,626
2004	505.2	595.4	613	1,714	1,828	177	3,719
2005	505.2	595.4	613	1,714	1,920	182	3,816

8.4 Estimate of Benefits

8.4.1 Benefits of satisfied trip demand of overflowing passengers

As discussed in Section 8.2 the new airport either at PEDREGAL site or at TALANGA site satisfies the trip demand of the passengers to overflow the existing facilities of Toncontín airport, which the Base Case is unable to satisfy. Generally speaking, air passengers may be considered to be individuals with a high enough time value that justifies the cost of utilization of air transport, namely the air fare, which they willingly pay in exchange for such utilities of air transport as time saving, comfort and safety. Therefore, each overflowing passenger whose trip demand is satisfied by the new airport at either of the two alternative sites is considered to get the benefits which may be quantified as being equal, at least, to the air fare payable by him.

Air fares by route currently in effect are shown in Table 8-11. Assuming that the shares of traffic of different categories as shown in Table 8-6 are equal to those of Tables 4-3 and 4-4, the estimated benefits derived from the satisfied trip demand of the overflowing passengers by route are summarized as shown in Table 8-12. Calculation is also based on an assumed ratio of 1:1 between the resident and the non-resident passengers in international service, and 9:1 in domestic service. The benefits, however, are calculated only of the resident passengers.

8.4.2 Benefits of satisfied transport demand of overflowing international cargo

The new airport, to be constructed either at PEDREGAL or at TALANGA, satisfies the transport demand of the international cargo expected to overlow in the Base Case. Airlifted goods usually are valuables or perishables having high freight

Table 8-11 INTERNATIONAL & DOMESTIC AIR FARE BY ROUTE

(In 1978 lempiras)

Route	Fare
International Route	
Tegucigalpa - Miami	250
Tegucigalpa - Mexico	250
Tegucigalpa - Panama	240
Tegucigalpa - San Andres	132
Tegucigalpa - San José	144
Tegucigalpa - Managua	76
Tegucigalpa - Guatemala	100
Tegucigalpa - Belize	110
Tegucigalpa - New Orleans	250
Tegucigalpa - Houston	250
Tegucigalpa - San Salvador	76
Domestic Route	
Tegucigalpa - San Pedro Sula	30
Tegucigalpa - La Ceiba	40
Tegucigalpa - Roatán	55
Tegucigalpa - Trujillo	55
Tegucigalpa - Olanchito	35
Tegucigalpa - Puerto Lempira	60

Source: TAN & SAHSA (As of March 1978)

Table 8-12 ESTIMATE OF BENEFITS OF SATISFIED TRIP DEMAND OF OVERFLOWING PASSENGERS

(In 1978 thousand lempiras)

Year	Pedregal Site					Talanga Site				
	International Passenger			Domestic Passenger	Total	International Passenger			Domestic Passenger	Total
	Existing Routes	New Routes	Total			Existing Routes	New Routes	Total		
1986	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0
1988	2,568	324	2,892	39	2,931	1,388	193	1,581	0	1,581
1989	5,432	649	6,081	425	6,506	4,156	531	4,687	0	4,687
1990	8,942	906	9,848	891	10,739	7,619	757	8,376	185	8,561
1991	11,982	1,181	13,163	1,283	14,446	10,454	1,089	11,543	538	12,081
1992	15,035	1,497	16,532	1,674	18,206	13,614	1,422	15,036	931	15,967
1993	18,584	1,862	20,446	2,140	22,586	16,959	1,755	18,714	1,344	20,058
1994	22,352	2,223	24,575	2,565	27,140	20,521	2,134	22,655	1,756	24,411
1995	26,933	2,490	29,423	3,075	32,498	24,960	2,414	27,374	2,200	29,574
1996	31,271	2,888	34,159	3,505	37,664	29,098	2,830	31,928	2,558	34,486
1997	35,803	3,335	39,138	3,845	42,983	33,631	3,248	36,879	2,961	39,840
1998	40,743	3,777	44,520	4,400	48,920	38,385	3,713	42,098	3,390	45,488
1999	46,015	4,269	50,284	4,899	55,183	41,443	4,221	45,664	3,820	49,484
2000	52,432	4,602	57,034	5,394	62,428	49,714	4,527	54,241	4,236	58,477
2001	58,583	5,121	63,704	5,858	69,562	55,658	5,068	60,726	4,669	65,395
2002	65,042	5,731	70,773	6,358	77,131	61,914	5,659	67,573	5,099	70,672
2003	72,124	6,336	78,460	6,855	85,315	68,677	6,295	74,972	5,582	80,554
2004	79,627	7,112	86,739	7,392	94,131	75,985	6,926	82,911	6,030	88,941
2005	88,473	7,463	95,936	7,955	103,891	84,491	7,450	91,941	6,565	98,506

bearing capacity or requiring safe, speedy or careful handling. Consignors of such commodities use air transport by paying, in the form of air freight charges, the extra cost for such utilities as time-saving, emergency response and safety, etc. that air transport can provide. Therefore, when the transport demand of the overflowing international cargo is satisfied at the new sites, the consignors of such cargo are considered to get the benefits that may be quantified as being equal at least to the air freight charges involved.

Air cargo rates are primarily based on weights, but the charges structure, comprising general cargo rates, commodity classification rates, and specific commodity rates, etc., is more complicated than that of passenger fares. In this calculation, therefore, the minimum charge by route as shown in Table 8-13 is adopted assuming on an average cargo weight of 45 Kg. The shares by route of the cargo traffic shown in Table 8-7 are assumed to be the same as those of Tables 4-11 and 4-12. Based on these assumptions, calculation is made of the benefits derived from the overflowing international cargo transport demand satisfied at the new sites, with the results as shown in Table 8-14.

Table 8-13 MINIMUM CHARGES OF INTERNATIONAL AIR CARGO BY ROUTE

(In 1978 lempiras)

Route	Minimum Charge
Tegucigalpa - Miami	52
Tegucigalpa - Mexico	46
Tegucigalpa - Panama	46
Tegucigalpa - San Andres	46
Tegucigalpa - San José	46
Tegucigalpa - Managua	46
Tegucigalpa - Guatemala	46
Tegucigalpa - Belize	46
Tegucigalpa - New Orleans	52
Tegucigalpa - Houston	52
Tegucigalpa - San Salvador	46

8.4.3 Increased Value-added of Tourism Income

As stated above, the new airport constructed either at PEDREGAL or at TALANGA, is able to accommodate international passengers expected to overflow the existing Toncontín airport. About one half of such passengers being assumed to be non-residents, the tourism income of Honduras is expected to incraease significantly if and when the new airport is constructed.

The nominal value consumed per tourist in Honduras has grown at an annual rate of 10% during the 4-year period of 1972 - 1976 as shown in Table 8-15. Assuming that the

Table 8-14 ESTIMATE OF BENEFITS OF SATISFIELD TRANSPORT DEMAND OF OVERFLOWING INTERNATIONAL CARGO

(In 1978 lempiras)

Year	Pedregal Site			Talanga Site		
	Existing Routes	New Routes	Total	Existing Routes	New Routes	Total
1986	4,936	789	5,725	4,699	638	5,337
1987	5,878	931	6,809	5,643	759	6,402
1988	7,000	1,098	8,098	6,778	903	7,681
1989	8,337	1,296	9,633	8,140	1,075	9,215
1990	9,928	1,529	11,457	9,776	1,279	11,055
1991	11,160	1,734	12,894	11,007	1,446	12,453
1992	12,545	1,967	14,512	12,393	1,634	14,027
1993	14,101	2,230	16,331	13,953	1,847	15,800
1994	15,851	2,530	18,381	15,710	2,087	17,797
1995	17,818	2,869	20,687	17,688	2,359	20,047
1996	19,618	3,173	22,791	19,511	2,612	22,123
1997	21,599	3,509	25,108	21,521	2,891	24,412
1998	23,780	3,881	27,661	23,738	3,201	26,939
1999	26,182	4,292	30,474	26,184	3,544	29,728
2000	28,826	4,747	33,573	28,882	3,923	32,805
2001	31,455	5,213	36,668	31,511	4,312	35,823
2002	34,323	5,725	40,049	34,380	4,739	39,119
2003	37,453	6,287	43,740	37,509	5,209	42,718
2004	40,868	6,905	47,774	40,924	5,725	46,649
2005	44,595	7,583	52,178	44,649	6,292	50,941

same tendency will continue, the nominal value consumed per tourist in 1978 is estimated to be 285 lempiras. According to the National Tourism Development Plan, average length of stay per tourist in 1974 is given at 4.2 days, and with the development of the tourism infrastructure, it is expected to increase by 0.5 day each year and, therefore, the average nominal value consumed per tourist is estimated to increase at an average annual growth rate of 5% through the year 2005. Assuming on the value-added ratio of Honduran tourism industry at 50% which is equal to the average of that of all the industries of the country estimated by the World Bank, calculation is made of the increased value-added of the tourism income brought about by the increase in arriving non-resident air passengers, with the results as shown in Table 8-16.

Table 8-15 VALUE CONSUMED PER VISITORS

Year	Number of Visitors	Total Income of Tourism (thousand lempiras)	Value Consumed Per Tourist (lempiras)
1972	61,923	9,841	159
1973	74,857	14,665	196
1974	90,815	16,337	180
1975	80,850	17,655	218
1976	98,906	23,200	235

Source: INSTITUTO HONDURENO DE TURISMO

Table 8-16 ESTIMATE OF INCREASED VALUE-ADDED OF TOURISM INCOME

(In 1978 prices)

Year	Pedregal Site				Talanga Site			
	Number of Increased Arriving Non-resident Passengers	Value Consumed per Passenger (lempiras)	Increased Tourism Income (thousand lempiras)	Value-Added Increase of Tourism Income (thousand lempiras)	Number of Increased Arriving Non-resident Passengers	Value Consumed per Passenger (lempiras)	Increased Tourism Income (thousand lempiras)	Value Added Increase of Tourism Income (thousand lempiras)
1986	0	421	0	0	0	421	0	0
1987	0	442	0	0	0	442	0	0
1988	8,250	464	3,828	1,914	4,500	464	2,088	1,044
1989	17,250	487	8,401	4,201	13,250	487	6,453	3,226
1990	27,000	512	13,824	6,912	22,750	512	11,648	5,824
1991	36,000	537	19,332	9,666	31,500	537	16,916	8,458
1992	45,500	564	25,662	12,831	41,000	564	23,124	11,562
1993	56,000	592	33,152	16,576	51,000	592	30,192	15,096
1994	67,250	622	41,830	20,915	61,750	622	38,409	19,204
1995	79,250	653	51,750	25,875	73,500	653	47,996	23,998
1996	92,000	686	63,112	31,556	85,750	686	58,825	29,412
1997	105,500	720	75,960	37,980	99,000	720	71,280	35,640
1998	120,000	756	90,720	45,360	113,000	756	85,428	42,714
1999	135,500	794	107,587	53,794	128,000	794	101,632	50,816
2000	152,250	834	126,977	63,489	144,250	834	120,305	60,152
2001	170,000	875	148,750	74,375	161,500	875	141,313	70,656
2002	189,000	919	173,691	86,846	179,750	919	165,190	82,595
2003	209,500	965	202,168	101,084	199,500	965	192,518	96,259
2004	231,250	1,013	234,256	117,128	220,500	1,013	223,367	111,683
2005	254,750	1,064	271,054	135,527	243,250	1,064	258,818	129,409

8.4.4 Benefits derived from improved runway usability

The Instrument Landing System can and will be installed at either of the alternative sites of PEDREGAL and TALANGA, resulting in an improved runway usability as estimated below, as compared with that of the existing Toncontín airport.

Toncontín airport	:	80%	(Record)
PEDREGAL site	:	95%	(Estimate)
TALANGA site	:	95%	(Estimate)

The above figures indicate that at the new site runway inoperability due to bad weather conditions is reduced by 15%, meaning that the passengers whose destination is Tegucigalpa can be said to enjoy the benefits of saved time and cost of road transport all the way from the alternate airport of San Pedro Sula by not being forced to land there. The benefit derived from the improved runway usability is calculated by the following formula, and the result is shown in Table 8-17.

$$B = (v \cdot Tr + Cr)\ n$$

where: B = The benefit derived from the improvement of the runway usability

Tr = Travel time by bus between San Pedro Sula and Tegucigalpa

Cr = The travel cost by bus between San Pedro Sula and Tegucigalpa

v = Time value of air passengers

n = Number of air passengers benefited

Travel time above is assumed to be 4 hours, and the travel cost at 6 lempiras based on the actual rate as of 1978. Number of passengers benefited is assumed at 15% of the arriving resident air passengers of the Base Case demand.

Table 8-17 ESTIMATE OF BENEFITS DERIVED FROM IMPROVEMENT OF RUNWAY USABILITY AT NEW SITES

Year	Number of Passengers Benefited ('000)			Benefit (In 1978 thousand lempiras)
	International	Domestic	Total	
1986	13.2	10.7	23.9	837
1987	14.4	11.4	25.8	955
1988	14.4	11.4	25.8	1,006
1989	14.4	11.4	25.8	1,032
1990	14.4	11.4	25.8	1,084
1991	14.4	11.4	25.8	1,122
1992	14.4	11.4	25.8	1,162
1993	14.4	11.4	25.8	1,203
1994	14.4	11.4	25.8	1,246
1995	14.4	11.4	25.8	1,290
1996	14.4	11.4	25.8	1,329
1997	14.4	11.4	25.8	1.369
1998	14.4	11.4	25.8	1,410
1999	14.4	11.4	25.8	1,452
2000	14.4	11.4	25.8	1,496
2001	14.4	11.4	25.8	1,553
2002	14.4	11.4	25.8	1,613
2003	14.4	11.4	25.8	1,675
2004	14.4	11.4	25.8	1,739
2005	14.4	11.4	25.8	1,806

The time value of the passenger is estimated as shown below based on the value-added per worker in the industrial and the services sectors of Honduras in 1976, and on an assumption that the time value will increase at the same annual growth rate as that of the GDP.

(In 1978 lempiras)

Year	Time Value
1978	5.0
1980	5.5
1985	7.0
1990	9.0
1995	11.0
2000	13.0
2005	16.0

8.4.5 Benefits of saved cost of aircraft noise countermeasures

As stated in Subsection 2.4.4 of Chapter 2, in the case of continued use of the existing Toncontín airport, aircraft noise countermeasures will become necessary, whereas such a cost will be saved at the proposed new airport constructed either at PEDREGAL or at TALANGA.

In accordance with the recommendations of ICAO Annex 16, the expected aircraft noise was calculated in terms of the WECPNL based on the aircraft movements forecast for 1987, when the existing Toncontín airport is estimated to reach its capacity limits. Fig. 8-3 shows the WECPNL contours expected in the year 1987.

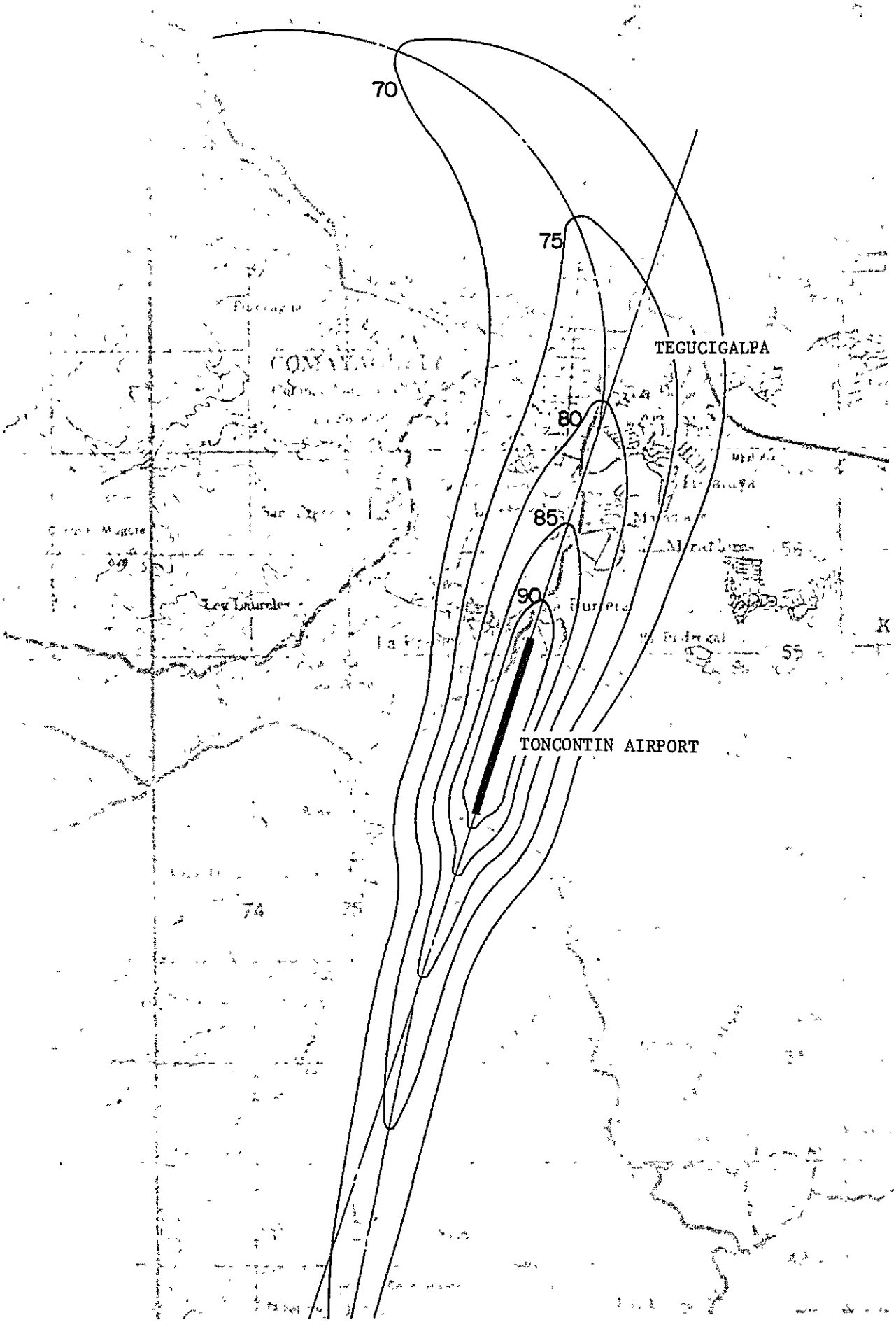


Fig. 8-3 WECPNL NOISE CONTOURS (YEAR 1987)

In the absence of any established standards for aircraft noise-related compensation in Honduras, the following standard is set for the purpose of this study based on the statutory standards of compensation for damages caused by aircraft noise presently in effect in Japan and in other countries.

WECPNL 80 - 90	Compensation of the costs of noise insulation work
WECPNL 90 and above	Compensation of the costs of house relocation

Area of the noise-affected zones according to the 1987 noise contours is calculated using the city map in scale of 1:10,000, and the number of households existing in such zones as of 1978 is estimated based on the 1974 census. Compensation for the households to be moving into the noise effected zones after the year 1978 is not taken into account in this calculation.

Table 8-18 shows the estimated cost of aircraft noise countermeasures at the existing Toncontín airport in 1987 calculated on the above basis. Since the Base Case is unable to accommodate flight movement increases beyond the year 1987 as mentioned earlier, counter-noise costs will not be incurred beyond that year.

Table 8-18 ESTIMATE OF COUNTER NOISE COST

	Number of Households	Unit Cost	Total Cost
		(In 1978 lempiras)	
Cost of Noise Insulation Work	1,601	4,000	6,404,000
Cost of House Relocation	141	35,000	4,935,000
Total	1,742		11,339,000

8.4.6 Benefits of maintenance and operation cost saved

When the new airport at PEDREGAL or at TALANGA is opened to traffic, the maintenance and operation costs of the existing Toncontín airport will not be required, and this saving is considered to constitute benefits accruing from the construction of the new airport. The annual amount of the maintenance and operation cost so saved is conservatively estimated to be 90,000 lempiras based on the records of the last 7-year period of 1971 - 1977 at Toncontín which do not include personnel costs.

8.5 Results of Cost-Benefit Analysis

Results of the cost-benefit analysis of the new airport construction made with the costs and benefits calculated in Sections 8.3 and 8.4 are shown in Tables 8-20 and 8-21 respectively for the PEDREGAL and TALANGA sites. The results lead to a conclusion that TALANGA site with the internal rate of return of 16.9% is definitely more advantageous economically than PEDREGAL site with the IRR 9.2%. Furthermore, the internal rate of return calculated of the differences in cash flows between those of construction at PEDREGAL site over TALANGA site shows a minus value, again indicating the advantage of TALANGA site over PEDREGAL site (Table 8-22).

Sensitivity analysis is made for the cost fluctuations of up to ±30% of the cost estimated in Chapter 7, with the results as shown in Table 8-19, indicating that TALANGA site could still be more advantageous than PEDREGAL site even if the cost at TALANGA were to be increased by 30% while the cost at PEDREGAL, on the contrary, were reduced by 30%, due to changes in technical conditions of the original estimate.

Table 8-19 SENSITIVITY ANALYSIS

Cost Fluctuation	IRR	
	Pedregal Site	Talanga Site
+30% of Estimated Cost	7.3%	14.6%
-30% of Estimated Cost	11.9%	20.4%

Table 8-20 COST-BENEFIT ANALYSIS OF NEW AIRPORT CONSTRUCTION AT PEDREGAL SITE

(In 1978 thousand lempiras)

No.	Year	Costs			Benefits							Present Value Discounted at 12%	
		Construction Cost	Maintenance & Operation Cost	Total Costs	Accommodated Overflowing Passengers	Accommodated Overflowing Cargo	Increased Value-Added of Tourism Income	Improved Runway Usability	Counter-Noise Cost Saved	Maintenance & Operation Cost Saved	Total Benefits	Total Costs	Total Benefits
0	1978	0	0	0	0	0	0	0	0	0	0	0	0
1	1979	4,260	0	4,260	0	0	0	0	0	0	0	3,804	0
2	1980	10,040	0	10,040	0	0	0	0	0	0	0	8,002	0
3	1981	105,730	0	105,730	0	0	0	0	0	0	0	75,280	0
4	1982	104,300	0	104,300	0	0	0	0	0	0	0	66,335	0
5	1983	113,620	0	113,620	0	0	0	0	0	0	0	64,423	0
6	1984	130,270	0	130,270	0	0	0	0	0	0	0	66,047	0
7	1985	26,080	0	26,080	0	0	0	0	0	0	0	11,788	0
8	1986	0	2,570	2,570	0	5,725	0	837	0	90	6,652	1,038	2,687
9	1987	0	2,622	2,622	0	6,809	0	955	11,339	90	19,193	947	6,929
10	1988	0	2,678	2,678	2,931	8,099	1,914	1,006	0	90	14,040	862	4,521
11	1989	0	2,736	2,736	6,506	9,633	4,201	1,032	0	90	21,462	785	6,160
12	1990	0	2,799	2,799	10,739	11,457	6,912	1,084	0	90	30,282	719	7,782
13	1991	0	2,854	2,854	14,446	12,894	9,666	1,122	0	90	38,218	654	8,752
14	1992	0	2,911	2,911	18,206	14,512	12,831	1,162	0	90	46,801	597	9,594
15	1993	0	2,970	2,970	22,586	16,331	16,576	1,203	0	90	56,786	544	10,392
16	1994	0	3,035	3,035	27,140	18,381	20,915	1,246	0	90	67,772	495	11,047
17	1995	0	3,102	3,102	32,498	20,687	25,875	1,290	0	90	80,440	453	11,744
18	1996	0	3,167	3,167	37,664	22,791	31,556	1,329	0	90	93,430	412	12,146
19	1997	0	3,235	3,235	42,983	25,108	37,980	1,369	0	90	107,530	375	12,473
20	1998	0	3,306	3,306	48,920	27,661	45,360	1,410	0	90	123,441	344	12,838
21	1999	0	3,382	3,382	55,183	30,474	53,794	1,452	0	90	140,993	315	13,112
22	2000	0	3,461	3,461	62,428	33,573	63,489	1,496	0	90	161,076	287	13,369
23	2001	0	3,542	3,542	69,562	36,668	74,375	1,553	0	90	182,248	262	13,486
24	2002	0	3,627	3,627	77,131	40,049	86,846	1,613	0	90	205,729	239	13,578
25	2003	0	3,716	3,716	85,315	43,740	101,084	1,675	0	90	231,904	219	13,682
26	2004	0	3,809	3,809	94,131	47,774	117,128	1,739	0	90	260,862	202	13,826
27	2005	0	3,908	3,908	103,891	52,178	135,527	1,806	0	90	293,492	184	13,794
Total		494,300	63,430	557,730	812,260	484,544	846,029	26,379	11,339	1,800	2,182,351	305,612	211,912

Internal Rate of Return = 9.2%	Net Present Value -93,700
	Benefit-Cost Ratio 0.693

Table 8-21 COST-BENEFIT ANALYSIS OF NEW AIRPORT CONSTRUCTION AT TALANGA SITE

(In 1978 thousand lempiras)

No.	Year	Costs			Benefits							Present Value Discounted at 12%	
		Construction Cost	Maintenance & Operation Cost	Total Costs	Accommodated Overflowing Passengers	Accommodated Overflowing Cargo	Increased Value-Added of Tourism Income	Improved Runway Usability	Counter Noise Cost Saved	Maintenance & Operation Cost Saved	Total Benefits	Total Costs	Total Benefits
0	1978	0	0	0	0	0	0	0	0	0	0	0	0
1	1979	2,400	0	2,400	0	0	0	0	0	0	0	2,143	0
2	1980	9,690	0	9,690	0	0	0	0	0	0	0	7,723	0
3	1981	7,320	0	7,320	0	0	0	0	0	0	0	5,212	0
4	1982	21,330	0	21,330	0	0	0	0	0	0	0	13,566	0
5	1983	53,070	0	53,070	0	0	0	0	0	0	0	30,091	0
6	1984	59,070	0	59,070	0	0	0	0	0	0	0	29,948	0
7	1985	30,920	0	30,920	0	0	0	0	0	0	0	13,976	0
8	1986	0	2,508	2,508	0	5,337	0	837	0	90	6,264	1,013	2,531
9	1987	0	2,559	2,559	0	6,402	0	955	11,339	90	18,786	924	6,782
10	1988	0	2,612	2,612	1,581	7,681	1,044	1,006	0	90	11,402	841	3,671
11	1989	0	2,670	2,670	4,687	9,215	3,226	1,032	0	90	18,250	766	5,238
12	1990	0	2,732	2,732	8,561	11,055	5,824	1,084	0	90	26,614	702	6,840
13	1991	0	2,785	2,785	12,081	12,453	8,458	1,122	0	90	34,204	638	7,833
14	1992	0	2,841	2,841	15,967	14,027	11,562	1,162	0	90	42,808	582	8,776
15	1993	0	2,900	2,900	20,058	15,800	15,096	1,203	0	90	52,247	531	9,561
16	1994	0	2,962	2,962	24,411	17,797	19,204	1,246	0	90	62,748	483	10,228
17	1995	0	3,028	3,028	29,574	20,047	23,998	1,290	0	90	74,999	442	10,950
18	1996	0	3,091	3,091	34,486	22,123	29,412	1,329	0	90	87,440	402	11,367
19	1997	0	3,156	3,156	39,840	24,412	35,640	1,369	0	90	101,351	336	11,757
20	1998	0	3,226	3,226	45,488	26,939	42,714	1,410	0	90	116,641	336	12,131
21	1999	0	3,298	3,298	49,484	29,728	50,816	1,452	0	90	131,570	307	12,236
22	2000	0	3,375	3,375	58,477	32,805	60,152	1,496	0	90	153,020	280	12,701
23	2001	0	3,455	3,455	65,395	35,823	70,656	1,553	0	90	173,517	256	12,840
24	2002	0	3,539	3,539	70,672	39,119	82,595	1,613	0	90	194,089	234	12,810
25	2003	0	3,626	3,626	80,554	42,718	96,259	1,675	0	90	221,296	214	13,056
26	2004	0	3,719	3,719	88,941	46,649	111,683	1,739	0	90	249,102	197	13,202
27	2005	0	3,816	3,816	98,506	50,941	129,409	1,806	0	90	280,752	179	13,195
Total		183,800	61,898	245,698	748,763	471,071	797,748	26,379	11,339	1,800	2,057,100	112,322	197,705

Internal Rate of Return = 16.9%

Net Present Value	85,383
Benefit-Cost Ratio	1.760

Table 8-22 CASH FLOW DIFFERENCES BETWEEN NEW AIRPORT CONSUTRUCTION AT PEDREGAL OVER TALANGA

(In 1978 thousand lempiras)

No.	Year	Costs			Benefits							Present Value Discounted at 12%	
		Construction Cost	Maintenance & Operation Cost	Total Costs	Accommodated Overflowing Passengers	Accommodated Overflowing Cargo	Increased Value-Added of Tourism Income	Improved Runway Usability	Counter Noise Cost Saved	Maintenance & Operation Cost Saved	Total Benefits	Total Costs	Total Benefits
0	1978	0	0	0	0	0	0	0	0	0	0	0	0
1	1979	1,860	0	1,860	0	0	0	0	0	0	0	1,661	0
2	1980	350	0	350	0	0	0	0	0	0	0	279	0
3	1981	98,410	0	98,410	0	0	0	0	0	0	0	70,068	0
4	1982	82,970	0	82,970	0	0	0	0	0	0	0	52,769	0
5	1983	60,550	0	60,550	0	0	0	0	0	0	0	34,332	0
6	1984	71,200	0	71,200	0	0	0	0	0	0	0	36,098	0
7	1985	-4,840	0	-4,840	0	0	0	0	0	0	0	-2,188	0
8	1986	0	62	62	0	388	0	0	0	0	388	25	157
9	1987	0	63	63	0	407	0	0	0	0	407	23	147
10	1988	0	66	66	1,350	418	870	0	0	0	2,638	21	849
11	1989	0	66	66	1,819	418	975	0	0	0	3,212	19	922
12	1990	0	67	67	2,178	402	1,088	0	0	0	3,668	17	943
13	1991	0	69	69	2,365	441	1,208	0	0	0	4,014	16	919
14	1992	0	70	70	2,239	485	1,269	0	0	0	3,993	14	819
15	1993	0	70	70	2,528	531	1,480	0	0	0	4,539	13	831
16	1994	0	73	73	2,729	584	1,711	0	0	0	5,024	12	819
17	1995	0	74	74	2,924	640	1,877	0	0	0	5,441	11	794
18	1996	0	76	76	3,178	668	2,144	0	0	0	5,990	10	779
19	1997	0	79	79	3,143	696	2,340	0	0	0	6,179	9	717
20	1998	0	80	80	3,432	722	2,646	0	0	0	6,800	8	707
21	1999	0	84	84	5,699	746	2,978	0	0	0	9,423	8	876
22	2000	0	86	86	3,951	768	3,337	0	0	0	8,056	7	669
23	2001	0	87	87	4,167	845	3,719	0	0	0	8,731	6	646
24	2002	0	88	88	6,459	930	4,251	0	0	0	11,640	6	768
25	2003	0	90	90	4,761	1,022	4,825	0	0	0	10,608	5	626
26	2004	0	90	90	5,190	1,125	5,445	0	0	0	11,760	5	623
27	2005	0	92	92	5,385	1,237	6,118	0	0	0	12,740	4	599
Total		310,500	1,532	312,032	63,497	13,473	48,281	0	0	0	125,251	193,258	14,210

Internal Rate of Return = Minus	Net Present Value	- 179,048
	Benefit-Cost Ratio	0.074

CHAPTER 9. OVERALL EVALUATION OF ALTERNATIVE SITES

CHAPTER 9 OVERALL EVALUATION OF ALTERNATIVE SITES

As a result of the foregoing site selection study the overall evaluation of the two alternative sites is made both from the technical and the economic points of view as summarized hereunder.

9.1 Technical Evaluation

More technical difficulties and consequently a considerably longer construction period are anticipated at PEDREGAL site than at TALANGA site due mainly to the significant differences both in nature and amount of earthwork involved at the two sites.

Slightly less restrictions need to be imposed on aircraft operation procedures at PEDREGAL site, where, however, the runway placed on a barely large enough and steeply sloped tableland may well cause pilots considerable uneasiness. Besides, if the Toncontín Airport continues to operate as an air force or general aviation airport, appropriate adjustments between the control zones of the existing and the new airport will be necessary, resulting in reduced runway capacity for the new airport at PEDREGAL.

TALANGA site is free from restrictions as regards future expansion of the airport facilities should if become necessary, while PEDREGAL site suffers from its extreme limitations in this respect.

The above considerations lead to a conclusion that from engineering points of view TALANGA site is more suitable for the new airport construction than PEDREGAL site.

9.2 Economic Evaluation

Results of the cost-benefit analysis obviously indicate the advantage of TALANGA site over PEDREGAL site.

9.3 Overall Evaluation

Based on the foregoing, the present site selection study concludes that TALANGA site is the most desirable of all sites considered for the new airport construction in Tegucigalpa.

APPENDIX

LIST OF APPENDICES

APPENDIX 1A

SCOPE OF WORKS

SCOPE OF WORK

THE FEASIBILITY STUDY

FOR

THE NEW INTERNATIONAL AIRPORT CONSTRUCTION PROJECT

IN

TEGUCIGALPA, HONDURAS

I. INTRODUCTION

In response to the request of the Government of the Republic of Honduras, the Government of Japan has decided to conduct a feasibility study for the New International Airport in Tegucigalpa in accordance with laws and regulations in force in Japan, and the Japan International Cooperation Agency(JICA), the official agency responsible for the implementation of technical cooperation programs of the Government of Japan, will carry out the study.

The present document sets forth the scope of work in regard to the above mentioned study which is to be carried out in close cooperation with the Government of the Republic of Honduras and authorities concerned.

II. OBJECTIVE

The objective is to study technical and economic feasibility of the New International Airport construction project in Tegucigalpa so as to contribute to optimum planning.

III. OUTLINE OF THE STUDY

This feasibility study will be divided into two stages as shown below.

First Stage: New airport site selection

Second stage: New airport basic planning

The second stage study will be started after the New airport site is selected by the Government of Honduras.

First stage study consists of the following:

1) Narrow down of choice of airport potential sites
2) Aviation demand forecasts
3) Facility requirements & planning criteria
4) Tentative airport layout planning
5) Aeronautical & engineering analysis
6) Economic analysis
7) Evaluation & conclusion as to sites

Second stage study consists of the following:

1) Airport layout plan
2) Air Navigation planning
3) Schedule & cost estimates
4) Financial analysis

IV. REPORTS

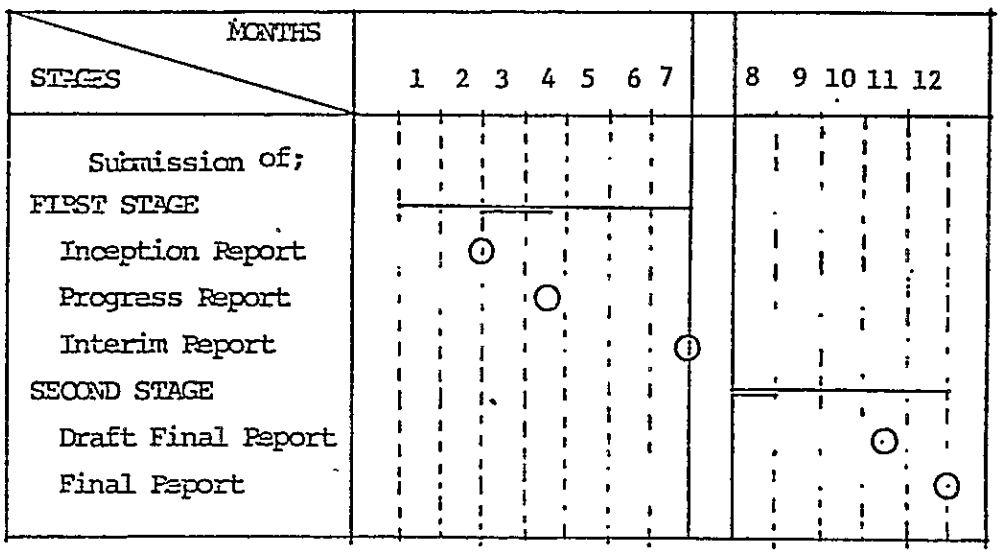
JICA will prepare and submit the following reports in course of the study. All documents are written in English and with Metric System.

1) Inception Report
2) Progress Report
3) Interim Report
4) Draft Final Report
5) Final Report

V. UNDERTAKING OF THE GOVERNMENT OF THE REPUBLIC OF HONDURAS

1) to provide the study team with data and information necessary for the study, including soil boring information and topographical maps as required scale.
2) to exempt the taxes and duties on the materials and personal effects which the study team will bring into the Republic of Honduras.
3) to assign the counterpart officials for the study team.
4) to provide suitable office spaces for the team.
5) to collaborate in collecting the necessary data and reference material, and also in ensuring that such documents are smoothly carried out of the country.
6) to make necessary arrangements for visiting the authorities and facilities concerned.
7) to provide the necessary means or equipments for the study team, for their business such as vehicles, airplane (use for evaluation flight), etc.

VI. TIME SCHEDULE



Notes: ○ indicates the submission of Report.
——— indicates Home work in Japan.
═══ indicates Field work in Honduras.

APPENDIX 2A

ECONOMIC AND TRANSPORT DATA

Table 2A-1 PAST DEVELOPMENT OF GROSS DOMESTIC PRODUCT, POPULATION AND PER CAPITA GDP IN THE REPUBLIC OF HONDURAS

Year	Gross Domestic Product*1 (Milliones of Lempiras in 1966 Prices)	Population*2 (thousand)	Par capita GDP (Lempiras in 1966 Prices)
1960	797	1,943	410
1961	819	2,020	405
1962	861	2,096	411
1963	889	2,169	410
1964	942	2,238	421
1965	1,039	2,304	451
1966	1,100	2,384	461
1967	1,151	2,466	467
1968	1,235	2,552	484
1969	1,239	2,638	470
1970	1,278	2,639	484
1971	1,351	2,717	497
1972	1,406	2,801	502
1973	1,469	2,892	508
1974	1,478	2,990	494
1975	1,486	3,093	480
1976	1,584	3,203	495
1977	1,709	3,318	515

* 1 Source: BANCO CENTRAL DE HONDURAS

* 2 Source: DIRECCION GENERAL DE ESTADISTICA Y CENSOS

Table 2A-2 POPULATION OF HONDURAS BY DEPARTMENT

Department	1961 Census						1974 Census					
	Total	%	Urban*	%	Rural	%	Total	%	Urban*	%	Rural	%
TOTAL	1,884,765	100.0	437,818	23.2	1,446,947	76.8	2,656,948	100.0	909,848	34.2	1,747,100	65.8
Francisco Morazán	284,428	15.1	140,375	49.4	144,053	50.6	453,597	17.1	297,844	65.7	155,753	34.3
Atlántida	92,914	4.9	39,645	42.7	53,269	57.3	148,285	5.6	63,371	42.7	84,914	57.3
Colón	41,904	2.2	4,499	10.7	37,405	89.3	77,750	2.9	15,142	19.5	62,608	80.5
Comayagüa	96,442	5.1	14,466	15.0	81,976	85.0	136,619	5.1	42,958	31.4	93,661	68.6
Copán	126,183	6.7	12,241	9.7	113,942	90.3	151,859	5.7	39,507	26.0	112,352	74.0
Cortés	200,099	10.6	106,992	53.5	93,107	46.5	369,616	13.9	207,138	56.0	162,478	44.0
Choluteca	149,175	7.9	17,933	12.0	131,242	88.0	193,336	7.3	37,426	19.4	155,910	80.6
El Faraíso	106,823	5.7	13,770	12.9	93,053	87.1	140,793	5.3	26,052	18.5	114,741	81.5
Gracias a Dios	10,905	0.6	0	0.0	10,905	100.0	20,738	0.8	0	0.0	20,738	100.0
Intibucá	73,138	3.9	6,027	8.2	67,111	91.8	81,815	3.1	8,309	10.2	73,506	89.8
Islas de la Bahía	8,961	0.5	2,844	31.7	6,117	68.3	13,194	0.5	6,185	46.9	7,009	53.1
La Paz	60,600	3.2	6,533	10.8	54,067	89.2	66,046	2.5	11,190	16.9	54,856	83.1
Lempira	111,546	5.9	1,854	1.7	109,692	98.3	127,782	4.8	6,255	4.9	121,527	95.1
Ocotopeque	52,540	2.8	5,702	10.9	46,838	89.1	51,038	1.9	7,749	15.2	43,289	84.8
Olancho	110,744	5.9	14,048	12.7	96,696	87.3	151,436	5.7	29,387	19.4	122,049	80.6
Santa Bárbara	146,909	7.8	17,101	11.6	129,808	88.4	186,106	7.0	35,349	19.0	150,757	81.0
Valle	80,907	4.3	8,119	10.0	72,788	90.0	91,901	3.5	21,069	22.9	70,832	77.1
Yoro	130,547	6.9	25,669	19.7	104,878	80.3	195,037	7.3	54,917	28.2	140,120	71.8

* Refers to localities with 1,000 or more inhabitants.

Source: POBLACION Y VIVIENDA POR DEPARTAMENTO Y MUNICIPIO, 1976

Table 2A-3 POPULATION OF PRINCIPAL CITIES IN HONDURAS

(In Census year)

City	1961	1974	Average Annual Growth Rate (%)
Tegucigalpa	134,075	273,894	5.6
San Pedro Sula	58,632	150,991	7.5
La Ceiba	24,863	38,788	3.5
Choluteca	11,483	26,152	6.5
Puerto Cortés	17,048	25,817	3.2
Tela	13,619	19,055	2.6
Comayagua	8,473	15,941	5.0
Siguatepeque	5,993	12,456	5.8
Santa Rosa de Copán	7,946	12,413	3.5
Danlí	6,325	10,825	4.2

Source: DIRECCION GENERAL DE ESTADISTICA Y CENSOS

Table 2A-4 GROSS DOMESTIC PRODUCT OF HONDURAS BY INDUSTRIAL ORIGIN

(In millions of current lempiras)

Item	1973	1974	1975	1976 P	1977 P
Agriculture, Forestry, Fishing and Hunting	563	578	562	687	852
Mining	44	64	53	50	58
Manufacturing	244	280	314	375	457
Construction	73	96	108	118	142
Electricity, Gas and Water	27	27	36	39	46
Transport and Telecommunications	114	124	138	159	194
Trade	197	216	242	280	341
Banking, Insurance & Real Estate	53	64	68	74	90
Ownership of Dwellings	118	127	137	148	161
Public Administration and Defense	58	62	68	79	95
Services	153	157	166	176	212
GDP at Factor Cost	1,644	1,795	1,892	2,185	2,648
Net Indirect Taxes	169	200	220	253	292
GDP at Market Prices	1,813	1,995	2,112	2,438	2,940
Annual Growth Rate (%)	-	10.0	5.9	15.4	20.6
(As percentage of GDP at factor cost)					
Agriculture, Forestry, Fishing and Hunting	34.2	32.2	29.7	31.4	32.2
Mining	2.7	3.6	2.8	2.3	2.2
Manufacturing	14.8	15.6	16.6	17.2	17.3
Construction	4.4	5.3	5.7	5.4	5.4
Electricity, Gas and Water	1.6	1.5	1.9	1.8	1.7
Transport and Telecommunications	6.9	6.9	7.3	7.3	7.3
Trade	12.0	12.0	12.8	12.8	12.9
Banking, Insurance and Real Estate	3.2	3.6	3.6	3.4	3.4
Ownership of Dwellings	7.2	7.1	7.2	6.8	6.1
Public Administration and Defense	3.5	3.5	3.6	3.7	3.4
Services	9.5	8.7	8.8	7.9	8.1
GDP at Factor Cost	100.0	100.0	100.0	100.0	100.0

P: Preliminary Estimate

Source: BANCO CENTRAL DE HONDURAS

Table 2A-5 GROSS DOMESTIC PRODUCT OF HONDURAS BY INDUSTRIAL ORIGIN

(In millions of 1966 lempiras)

Item	1973	1974	1975	1976 P	1977 P
Agriculture, Forestry, Fishing and Hunting	468	427	401	440	476
Mining	34	45	33	28	30
Manufacturing	192	190	195	218	243
Construction	58	72	76	80	83
Electricity, Gas and Water	15	16	17	18	20
Transport and Telecommunications	83	84	84	90	97
Trade	166	174	176	188	200
Banking, Insurance and Real Estate	34	38	39	43	47
Ownership of Dwellings	96	100	105	111	116
Public Administration and Defense	43	42	45	50	55
Services	143	142	158	160	177
GDP at Factor Cost	1,332	1,330	1,329	1,426	1,544
Net Indirect Taxes	137	148	157	158	165
GDP at Market Prices	1,469	1,478	1,486	1,584	1,709
Annual growth rate (%)	-	0.6	0.5	6.6	7.9
(As percentage of GDP at factor cost)					
Agriculture, Forestry, Fishing and Hunting	35.1	32.1	30.2	30.9	30.8
Mining	2.6	3.4	2.5	2.0	1.9
Manufacturing	14.4	14.3	14.7	15.3	15.7
Construction	4.4	5.4	5.7	5.6	5.4
Electricity, Gas and Water	1.1	1.2	1.3	1.2	1.3
Transport and Telecommunications	6.2	6.3	6.3	6.3	6.3
Trade	12.5	13.1	13.2	13.2	13.0
Banking, Insurance and Real Estate	2.6	2.9	2.9	3.0	3.0
Ownership of Dwellings	7.2	7.5	7.9	7.8	7.5
Public Administration and Defense	3.2	3.1	3.4	3.5	3.6
Services	10.7	10.7	11.9	11.2	11.5
GDP at Factor Cost	100.0	100.0	100.0	100.0	100.0

P: Preliminary Estimate

Source: BANCO CENTRAL DE HONDURAS

Table 2A-6 VALUE OF PRINCIPAL EXPORTS OF HONDURAS

(In thousands of current lempiras)

Item	1972	1973	1974	1975	1976
Bananas	181,312	187,983	159,415	122,932	213,366
Coffee	54,505	95,636	88,009	113,845	200,631
Lumber	54,218	78,176	81,481	77,602	76,053
Beef	31,921	43,566	33,415	36,472	51,168
Silver	10,399	13,886	26,209	22,063	27,090
Lead	8,182	8,269	12,914	8,000	12,719
Zinc	7,540	14,624	20,982	32,160	23,836
Shrimps & Lobsters	4,680	4,460	8,138	20,580	24,506
Cotton	1,342	2,922	6,273	9,007	8,730
Sugar	4,098	24	9,044	13,836	4,415
Soap	307	2,481	5,314	7,941	13,229
Tobacco	4,394	5,720	8,503	11,138	11,794
Wooden Products	1,944	2,811	3,844	3,029	7,245
Others	44,246	56,924	112,104	107,920	108,880
Total	409,088	517,482	575,645	586,525	783,662
Annual growth rate(%)	-	26.5	11.2	1.9	33.6
	(As percentage of Exports)				
Bananas	44.3	36.3	27.7	21.0	27.2
Coffee	13.3	18.5	15.3	19.4	25.6
Lumber	13.3	15.1	14.2	13.2	9.7
Beef	7.8	8.4	5.8	6.2	6.5
Silver	2.5	2.7	4.6	3.8	3.5
Lead	2.0	1.6	2.2	1.4	1.6
Zink	1.8	2.8	3.6	5.5	3.0
Shrimps & Lobsters	1.1	0.9	1.4	3.5	3.1
Cotton	0.3	0.6	1.1	1.5	1.1
Sugar	1.0	0.0	1.6	2.4	0.6
Soap	0.1	0.5	0.9	1.4	1.7
Tobacco	1.1	1.1	1.5	1.9	1.5
Wooden Products	0.5	0.5	0.7	0.5	0.9
Others	10.9	10.9	19.4	18.3	14.0
Total	100.0	100.0	100.0	100.0	100.0

Source: BANCO CENTRAL DE HONDURAS

Table 2A-7 VALUE OF PRINCIPAL IMPORTS OF HONDURAS

(In thousand of current lempiras)

	1972	1973	1974	1975	1976
Food	34,749	44,483	62,338	90,371	74,424
Beverage and Tobacco	1,457	1,916	2,890	2,790	4,493
Raw Materials	6,588	5,374	11,235	12,460	17,129
Fuel and Lubric	38,351	52,139	126,862	136,996	96,417
Oil & Grease of Vegetables and Animals	3,634	4,301	9,331	8,880	11,199
Chemical Products	62,007	79,422	112,350	116,505	148,017
Intermediate Goods	111,639	150,879	209,180	172,805	236,097
Machinery & Material of Transport	100,789	151,475	204,637	213,510	261,725
Other Manufacturing Goods	25,060	32,629	38,183	43,250	54,172
Others	1,312	1,868	6,293	2,451	2,491
Total	385,586	524,486	783,299	800,018	906,164
Annual growth rate (%)	-	36.0	49.3	2.1	13.3
(As percentage of Imports)					
Food	9.0	8.5	8.0	11.3	8.2
Beverage and Tobacco	0.4	0.4	0.4	0.3	0.5
Raw Materials	1.7	1.0	1.4	1.6	1.9
Fuel and Lubric	9.9	9.9	16.2	17.1	10.6
Oil & Grease of Vegetables and Animals	0.9	0.8	1.2	1.1	1.2
Chemical Products	16.1	15.1	14.3	14.6	16.3
Intermediate Goods	29.0	28.8	26.7	21.6	26.1
Machinery & Material of Transport	26.1	28.9	26.1	26.7	28.9
Other Manufacturing Goods	6.5	6.2	4.9	5.4	6.0
Others	0.4	0.4	0.8	0.3	0.3
Total	100.0	100.0	100.0	100.0	100.0

Source: BANCO CENTRAL DE HONDURAS

Table 2A-8 PAST DEVELOPMENT OF LENGTH OF ROADS IN HONDURAS

(1960 - 1976) (km)

Year	Total	Paved Road	All-Weather Road	Road only for Dry Season
1960	3,229	110	2,184	935
1961	3,385	345	2,097	943
1962	3,406	380	2,106	920
1963	3,437	380	2,125	932
1964	3,595	382	1,805	1,408
1965	3,639	407	1,852	1,380
1966	4,048	407	1,982	1,713
1967	4,349	416	1,978	1,955
1968	4,570	472	2,120	1,978
1969	4,728	622	2,102	2,004
1970	4,940	745	2,162	2,033
1971	5,589	1,168	2,988	1,433
1972	5,746	1,228	3,028	1,490
1973	5,943	1,228	3,225	1,490
1974	6,136	1,240	3,406	1,490
1975	6,595	1,327	3,670	1,598
1976	7,249	1,408	4,121	1,720

Source: ANUARIO ESTADISTICO 1975 & SECOPT

Table 2A-9 PAST DEVELOPMENT OF NUMBER OF REGISTERED CARS IN HONDURAS

(1960 - 1976)

Year	Total	Automobile	Bus	Truck	Others
1960	10,989	5,505	1,269	3,914	301
1961	11,338	5,680	1,334	4,001	323
1962	11,606	5,850	1,407	4,025	324
1963	14,329	7,476	1,661	4,881	311
1964	16,002	8,759	1,217	5,909	117
1965	18,797	10,273	1,526	6,682	316
1966	21,609	11,786	1,784	7,871	168
1967	22,570	12,042	1,704	8,784	40
1968	24,748	11,045	1,982	11,617	104
1969	27,527	12,254	2,198	12,950	125
1970	28,706	12,630	2,296	13,492	288
1971	30,733	13,765	2,066	14,874	28
1972	34,139	16,701	2,399	15,039	-
1973	33,982	15,713	2,690	15,567	12
1974	37,661	16,077	4,323	17,194	67
1975	43,838	18,152	5,103	20,583	-
1976	47,337	...	...	...	...
Average Annual Growth Rate (%)					
1960 - 1970	10.1	8.7	6.1	13.2	-0.4
1970 - 1975	8.9	7.5	17.3	8.8	-

Source: ANUARIO ESTADISTICO 1975

(...) : NOT AVAILABLE

Table 2A-10 PAST DEVELOPMENT OF INTERNATIONAL PASSENGERS TRAFFIC AT INTERNATIONAL AIRPORTS IN CENTRAL AMERICA

(1960 - 1975) (persons)

	Guatemala *1	El Salvador *1	San Pedro Sula *2	Tegucigalpa *2	Managua *1	San Jose *1	Total
1960	111,265	82,800	13,814	49,583	45,298	89,793	392,553
1961	120,232	91,500	13,668	45,342	49,017	93,609	413,368
1962	110,777	85,000	14,206	45,130	52,977	94,840	402,930
1963	122,714	94,500	26,510	39,116	61,588	101,858	446,286
1964	134,744	90,000	19,493	43,434	68,212	101,072	456,955
1965	156,197	98,509	25,514	48,650	78,025	122,008	528,903
1966	180,372	128,215	38,516	46,744	92,841	139,568	626,256
1967	199,851	127,939	36,808	46,622	95,166	155,476	661,862
1968	208,723	144,590	49,547	65,922	101,468	166,400	736,650
1969	244,362	139,824	56,708	70,804	113,497	197,024	822,219
1970	246,250	148,930	61,775	70,654	140,566	225,168	893,343
1971	260,422	156,516	54,910	75,957	148,922	252,130	948,857
1972	292,374	162,782	52,743	80,440	161,738	278,050	1,028,127
1973	347,462	186,160	62,201	85,308	150,718	336,054	1,167,903
1974	380,952	211,052	65,945	91,777	178,496	382,564	1,310,786
1975	406,490	224,968	66,313	95,885	177,806	409,428	1,380,890
Average Annual Growth Rate (%)							
1960 - 1970	8.3	6.1	16.2	3.6	12.0	9.6	8.6
1970 - 1975	10.5	8.6	1.4	6.3	4.8	12.7	9.1

Source: *1 ESTUDIO CENTROAMERICANO DE TRANSPORTE
*2 DIRECCION GENERAL DE AERONAUTICA CIVIL, REPUBLICA DE HONDURAS

Table 2A-11 PAST DEVELOPMENT OF DOMESTIC PASSENGERS TRAFFIC AT INTERNATIONAL AIRPORTS IN CENTRAL AMERICA

(1965 - 1975) (persons)

	Guatemala*1	San Pedro Sula*2	Tegucigalpa*2	Managua*1	San Jose*1	Total
1965	42,350	55,591	63,171	31,882	94,154	287,148
1966	44,900	70,561	77,935	32,733	97,887	324,016
1967	47,812	75,262	86,432	34,006	103,850	347,362
1968	42,535	87,515	101,789	19,234	122,000	373,073
1969	36,432	110,585	112,255	18,954	130,893	409,119
1970	29,464	138,591	133,126	25,991	150,651	477,823
1971	24,043	94,952	93,739	30,252	185,259	428,245
1972	34,808	56,126	64,532	22,477	196,950	374,893
1973	47,754	40,973	57,436	20,324	202,332	368,819
1974	66,670	42,769	56,486	24,309	212,507	402,741
1975	79,500	35,591	42,899	27,963	242,817	428,770
Average Annual Growth Rate (%)						
1965 - 1970	-7.0	20.0	16.1	-4.0	9.9	10.7
1970 - 1975	22.0	-23.8	-20.3	1.5	10.0	-2.1

Source: *1 ESTUDIO CENTROAMERICANO DE TRANSPORTE
*2 DIRECCION GENERAL DE AERONAUTICA CIVIL, REPUBLICA DE HONDURAS

Table 2A-12 PAST DEVELOPMENT OF INTERNATIONAL CARGO TRAFFIC AT INTERNATIONAL AIRPORTS IN CENTRAL AMERICA

(1965 - 1975) (tons)

	Guatemala*1	El Salvador*1	San Pedro Sula*2	Tegucigalpa*2	Managua*1	San Jose*1	Total
1965	7,991	4,154	1,514	1,433	5,748	3,430	24,270
1966	7,927	5,004	2,251	1,811	6,008	3,821	26,822
1967	8,975	4,605	1,798	2,439	5,881	9,081	32,779
1968	10,166	4,667	2,496	2,678	11,086	6,086	37,179
1969	13,128	6,502	4,093	3,400	7,264	6,466	40,853
1970	9,788	9,656	3,333	3,874	10,159	8,818	45,628
1971	9,995	7,020	3,609	3,059	10,508	9,569	43,760
1972	17,192	7,995	3,342	2,764	11,078	10,511	52,882
1973	13,065	7,083	3,193	2,753	14,094	11,157	51,345
1974	14,455	11,232	3,326	3,409	16,565	13,690	62,677
1975	15,407	11,098	3,523	3,182	16,552	15,300	65,062
Average Annual Growth Rate (%)							
1965 - 1970	4.1	18.4	17.0	22.0	12.1	20.8	13.5
1970 - 1975	9.5	2.8	1.1	-3.9	10.3	11.7	7.4

Source: *1 ESTUDIO CENTROAMERICANO DE TRANSPORTE

*2 DIRECCION GENERAL DE AERONAUTICA CIVIL, REPUBLICA DE HONDURAS

Table 2A-13 PAST DEVELOPMENT OF DOMESTIC CARGO TRAFFIC AT INTERNATIONAL AIRPORTS IN CENTRAL AMERICA

(1965 - 1975) (tons)

	Guatemala*1	San Pedro Sula*2	Tegucigalpa*2	Managua*1	San Jose*1	Total
1965	3,647	1,832	2,404	3,327	6,400	17,610
1966	4,477	2,897	3,107	3,547	6,430	20,458
1967	4,533	2,922	4,338	3,336	6,040	21,169
1968	4,611	2,770	4,202	3,560	6,680	21,823
1969	3,955	3,887	4,829	3,483	8,100	24,254
1970	3,840	4,288	4,304	4,708	10,880	28,020
1971	2,453	3,340	3,581	3,267	8,200	20,841
1972	1,567	1,926	2,216	2,264	4,460	12,433
1973	855	1,275	1,873	2,292	5,430	11,725
1974	830	900	1,491	2,880	4,960	11,061
1975	...	550	859	...	...	...
Average Annual Growth Rate (%)						
1965-74	-15.2	-7.6	-5.2	-1.6	-2.8	-5.0

Source: *1 ESTUDIO CENTROAMERICANO DE TRANSPORTE

*2 DIRECCION GENERAL DE AERONAUTICA CIVIL, REPUBLICA DE HONDURAS (....) Not Available

Table 2A-14 PAST DEVELOPMENT OF INTERNATIONAL EMBARKING & DISEMBARKING PASSENGER TRAFFIC IN THE REPUBLIC OF HONDURAS

(1960 - 1977) (persons)

Air-port / Year	Tegucigalpa	San Pedro Sula	La Ceiba	Total
1960	49,583	13,814	-	63,397
1961	45,342	13,668	-	59,010
1962	45,130	14,206	-	59,336
1963	39,116	26,510	30	65,656
1964	43,434	19,493	68	62,995
1965	48,650	25,514	1,235	75,399
1966	46,744	38,516	1,717	86,977
1967	46,622	36,808	1,590	85,020
1968	65,922	49,547	1,784	117,253
1969	70,804	56,708	1,848	129,360
1970	70,654	61,775	2,119	134,548
1971	75,957	54,910	2,765	133,632
1972	80,440	52,743	6,066	139,249
1973	85,308	62,201	9,062	156,571
1974	91,777	65,945	8,224	165,946
1975	95,885	66,313	7,886	170,084
1976	98,032	74,396	7,857	180,285
1977	112,473	77,580	12,897	202,950
Average Annual Growth Rate (%)				
			('65- '70)	
1960 - 1970	3.6	16.2	11.4	7.8
1970 - 1977	6.9	3.3	29.4	6.0

Source: DIRECCION GENERAL DE AERONAUTICA CIVIL

Table 2A-15 PAST DEVELOPMENT OF DOMESTIC EMBARKING & DISEMBARKING PASSENGER TRAFFIC IN THE REPUBLIC OF HONDURAS

(1960 - 1977) (persons)

Year \ Airport	Tegucigalpa	San Pedro Sula	La Ceiba	Others	Total
1960	41,857	36,942	23,629	29,679	132,107
1961	41,077	35,717	21,577	27,648	126,019
1962	39,155	30,706	18,845	29,701	118,407
1963	47,045	40,063	29,593	34,036	150,737
1964	54,284	45,478	31,479	40,275	171,516
1965	63,171	55,591	44,421	45,601	208,784
1966	77,935	70,561	49,668	48,223	246,387
1967	86,432	75,262	48,612	48,565	258,871
1968	101,789	87,515	55,531	44,320	289,155
1969	112,255	110,585	83,962	75,122	381,924
1970	133,126	138,591	123,452	111,976	507,145
1971	93,739	94,952	94,576	98,264	381,531
1972	64,532	56,126	74,065	93,547	288,270
1973	57,436	40,973	73,483	106,362	278,254
1974	56,486	42,769	70,921	97,467	267,643
1975	42,899	35,591	54,011	69,483	201,984
1976	44,753	38,064	75,126	90,645	248,588
1977	53,275	38,979	87,806	102,468	282,528
Average Annual Growth Rate (%)					
1960 - 1970	12.2	14.1	18.0	14.2	15.2
1970 - 1977	-12.3	-16.6	-4.8	-1.3	-8.0

Source: DIRECCION GENERAL DE AERONAUTICA CIVIL

Table 2A-16 PAST DEVELOPMENT OF INTERNATIONAL LOADED & UNLOADED CARGO IN THE REPUBLIC OF HONDURAS

(1960 - 1977) (tons)

Airport / Year	Tegucigalpa	San Pedro Sula	La Ceiba	Total
1960	1,545	651	-	2,196
1961	1,396	972	-	2,368
1962	1,587	1,127	-	2,714
1963	1,477	2,281	-	3,758
1964	1,589	1,345	-	2,934
1965	1,433	1,514	25	2,972
1966	1,811	2,251	26	4,088
1967	2,439	1,798	22	4,259
1968	2,678	2,496	54	5,228
1969	3,400	4,093	54	7,547
1970	3,874	3,333	56	7,263
1971	3,059	3,609	103	6,771
1972	2,764	3,342	188	6,294
1973	2,753	3,193	192	6,138
1974	3,409	3,326	263	6,998
1975	3,182	3,523	148	6,853
1976	4,665	4,384	289	9,338
1977	5,112	5,261	397	10,770
Average Annual Growth Rate (%)				
			('65-'70)	
1960 - 1970	9.6	17.7	17.5	12.7
1970 - 1977	4.0	6.7	32.3	5.8

Source: DIRECCION GENERAL DE AERONAUTICA CIVIL

Table 2A-17 PAST DEVELOPMENT OF DOMESTIC LOADED & UNLOADED CARGO IN THE REPUBLIC OF HONDURAS

(1960 - 1977) (tons)

Year \ Airport	Tegucigalpa	San Pedro Sula	La Ceiba	Others	Total
1960	2,307	1,706	2,274	1,199	7,486
1961	2,267	1,756	1,925	1,226	7,174
1962	2,157	1,581	2,179	952	6,869
1963	2,288	2,137	2,382	915	7,722
1964	2,641	2,110	2,446	1,242	8,439
1965	2,404	1,832	2,478	1,225	7,939
1966	3,107	2,897	2,997	1,203	10,204
1967	4,338	2,922	2,785	840	10,885
1968	4,202	2,770	2,589	2,931	12,492
1969	4,829	3,887	3,588	9,763	22,067
1970	4,304	4,228	3,639	3,154	15,325
1971	3,581	3,340	3,762	2,835	13,518
1972	2,216	1,926	2,065	5,804	12,011
1973	1,873	1,275	1,719	3,128	7,995
1974	1,491	900	1,446	3,592	7,429
1975	859	550	870	1,411	3,690
1976	759	426	837	1,214	3,236
1977	578	338	868	1,440	3,224
Average Annual Growth Rate (%)					
1960 - 1970	6.4	9.5	4.8	10.2	7.4
1970 - 1977	-25.0	-30.3	-18.5	-10.6	-20.0

Source: DIRECCION GENERAL DE AERONAUTICA CIVIL

Table 2A-18 INTERNATIONAL EMBARKING, DISEMBARKING & TRANSIT PASSENGERS BY ROUTE AT TONCONTIN AIRPORT

(1970 - 1977) (persons)

Route		1970	1971	1972	1973	1974	1975	1976	1977
Toncontín - Miami	Embarking & Disembarking	11,405	11,492	14,605	16,245	17,698	18,626	19,705	23,069
	Transit	-	-	-	-	-	-	-	-
	Total	11,405	11,492	14,605	16,245	17,698	18,626	19,705	23,069
Toncontín - Mexico	Embarking & Disembarking	6,774	6,944	7,404	7,493	7,344	7,817	7,611	8,943
	Transit	6,057	6,000	5,900	5,412	5,343	5,506	5,340	4,770
	Total	12,831	12,944	13,304	12,905	12,687	13,323	12,951	13,713
Toncontín - Panama	Embarking & Disembarking	2,478	4,199	5,074	5,823	7,195	8,033	9,561	10,793
	Transit	690	1,254	1,732	2,005	3,281	3,310	3,546	3,922
	Total	3,168	5,453	6,806	7,828	10,476	11,343	13,107	14,715
Toncontín - San Andres	Embarking & Disembarking	1,721	2,110	2,076	2,553	2,597	3,015	4,023	4,260
	Transit	1,885	2,264	2,261	2,720	3,954	5,531	4,565	4,472
	Total	3,606	4,374	4,337	5,273	6,551	8,546	8,588	8,732
Toncontín - San Jose	Embarking & Disembarking	10,436	10,087	9,482	10,457	11,327	10,671	10,242	11,693
	Transit	7,201	9,942	9,649	9,907	13,104	12,866	12,967	14,258
	Total	17,637	20,029	19,131	20,364	24,431	23,537	23,209	25,951
Toncontín - Managua	Embarking & Disembarking	9,017	10,359	10,281	7,199	8,806	9,619	9,759	10,342
	Transit	3,629	3,113	2,783	1,966	5,038	6,001	6,845	8,287
	Total	12,646	13,472	13,064	9,165	13,844	15,620	16,604	18,629
Toncontín - Guatemala	Embarking & Disembarking	21,652	22,650	22,871	25,258	25,029	24,386	22,684	26,072
	Transit	7,987	8,014	6,548	7,823	12,738	9,044	6,653	5,576
	Total	29,639	30,664	29,419	32,081	37,767	33,430	29,337	31,648
Toncontín - Belize	Embarking & Disembarking	1,193	1,207	1,599	1,660	1,928	1,961	1,760	1,188
	Transit	2,089	1,913	1,947	1,656	1,821	2,125	1,962	1,356
	Total	3,282	3,120	3,546	3,316	3,749	4,086	3,722	2,544
Toncontín - New Orleans	Embarking & Disembarking	5,972	6,903	7,000	7,859	9,019	11,724	12,627	15,895
	Transit	2,393	3,127	3,768	3,115	5,053	8,704	10,525	12,467
	Total	8,365	10,030	10,768	10,974	14,072	20,428	23,152	28,362
Non-Scheduled	Embarking & Disembarking	6	6	48	761	834	33	60	218
Total	Embarking & Disembarking	70,654	75,957	80,440	85,308	91,777	95,885	98,032	112,473
	Transit	31,931	35,627	34,588	34,604	50,332	53,087	52,403	55,108
	Total	102,585	111,584	115,028	119,912	142,109	148,972	150,435	167,581

Source: DIRECCION GENERAL DE AERONAUTICA CIVIL

Table 2A-19 DOMESTIC EMBARKING, DISEMBARKING & TRANSIT PASSENGERS BY ROUTE AT TONCONTIN AIRPORT

(persons)

Route		1970	1971	1972	1973	1974	1975	1976	1977
Toncontín - San Pedro Sula	Embarking & Disembarking	78,751	49,349	25,698	22,260	20,914	20,353	21,922	23,720
	Transfer*	10,902	10,999	9,750	11,618	13,782	15,019	15,320	16,435
	Total	89,653	60,348	35,448	33,878	34,696	35,372	37,242	40,155
" - La Ceiba	Embarking & Disembarking	23,860	17,305	15,233	12,548	13,353	10,035	11,377	16,126
	Transfer *	113	198	304	1,132	674	786	803	1,241
	Total	23,973	17,503	15,537	13,680	14,027	10,821	12,180	17,367
" - Tela	Embarking & Disembarking	2,383	1,880	761	34	145	54	4	-
" - Utila	"	85	400	503	578	314	216	342	603
" - Roatan	"	1,709	786	1,427	1,846	2,103	1,428	1,754	2,635
" - Guanaja	"	1,009	811	911	1,185	836	792	682	824
" - Tocoa	"	292	361	947	1,083	988	861	953	1,221
" - Trujillo	"	1,524	1,241	1,575	1,618	1,347	928	899	1,013
" - Coyoles	"	628	2,517	2,584	2,591	1,812	377	1,552	3,390
" - Victoria	"	998	886	902	1,069	988	397	197	-
" - Sulaco	"	1,000	800	570	877	725	223	-	-
" - Yoro	"	1,047	1,040	698	642	903	150	-	-
" - Juticalpa	"	2,461	2,170	2,423	2,685	2,596	1,557	1,053	-
" - Catacamas	"	1,276	1,354	1,134	1,087	1,053	662	453	-
" - San Esteban	"	220	249	233	249	357	156	113	-
" - Limas	"	-	-	103	80	68	17	-	-
" - La Union	"	40	44	36	39	34	36	74	20
" - Olanchito	"	1,809	1,055	748	624	1,157	1,141	667	422
" - Gualaco	"	66	93	47	84	50	8	-	-
" - Ahuas	"	307	383	320	347	457	376	189	53
" - Brus Laguna	"	575	643	662	946	912	706	549	679
" - PTO. Lempira	"	1,275	1,273	1,170	1,237	1,411	1,268	1,388	1,582
" - Isletas	"	278	137	53	50	-	-	-	-
" - Occidente	"	6,484	3,317	1,068	148	20	-	-	176
Non-Scheduled	"	5,049	5,645	4,726	3,529	3,943	1,158	585	811
Total	Embarking & Disembarking	113,126	93,739	64,532	57,436	56,486	42,899	44,753	53,275
	Transfer*	11,015	11,197	10,054	12,750	14,456	15,805	16,123	17,676
	Total	144,141	104,936	74,586	70,186	70,942	58,704	60,876	70,951

* Transfer Passengers to/from International Route

Source: DIRECCION GENERAL DE AERONAUTICA CIVIL

Table 2A-20 INTERNATIONAL LOADED & UNLOADED CARGO BY ORIGIN/DESTINATION AT TONCONTIN AIRPORT

(1970 - 1976) (tons)

Origin/Destination	1970	1971	1972	1973	1974	1975	1976
Toncontín/Miami	2,132.5	1,646.4	1,520.9	1,572.0	1,717.0	1,599.6	2,115.0
" /Mexico	161.0	258.0	216.7	193.8	245.9	223.5	240.2
" /Panama	428.5	358.5	340.8	190.9	510.2	570.9	881.5
" /San Andres	44.0	30.7	17.4	6.9	2.5	12.3	64.1
" /San José	189.4	145.8	152.8	175.8	173.6	113.1	217.2
" /Managua	69.9	44.3	56.2	28.9	51.4	48.5	55.9
" /Guatemala	628.2	451.2	368.5	374.9	497.6	388.6	720.9
" /Belize	7.6	11.7	12.9	29.4	9.4	19.6	7.2
" /New Orleans	212.3	112.7	78.1	180.3	201.6	205.7	363.4
Total	3,873.4	3,059.3	2,764.3	2,752.9	3,409.2	3,181.8	4,665.4

Source: DIRECCION GENERAL DE AERONAUTICA CIVIL

Table 2A-21 INTERNATIONAL LOADED CARGO BY ORIGIN-DESTINATION AT TONCONTIN AIRPORT

(1970 - 1976) (tons)

Origin - Destination	1970	1971	1972	1973	1974	1975	1976
Toncontín - Miami	569.7	366.7	288.6	379.3	429.4	312.0	366.0
" - Mexico	11.1	7.1	16.5	16.1	12.6	7.7	9.1
" - Panama	52.8	52.4	39.9	23.0	46.4	19.6	40.4
" - San Andres	24.2	10.5	10.3	3.5	2.5	1.0	63.8
" - San José	41.6	28.3	26.2	21.4	44.6	30.6	45.0
" - Managua	38.9	20.3	13.7	21.5	31.1	33.5	29.5
" - Guatemala	160.4	37.4	31.2	35.7	31.8	30.5	40.1
" - Belize	5.0	7.6	11.1	28.2	7.1	16.6	3.0
" - New Orleans	12.6	8.8	9.6	10.2	13.0	21.9	12.1
Total	916.3	539.1	447.1	538.9	618.5	473.4	609.0

Source: DIRECCION GENERAL DE AERONAUTICA CIVIL

Table 2A-22 INTERNATIONAL UNLOADED CARGO BY ORIGIN-DESTINATION AT TONCONTIN AIRPORT

(1970 - 1976) (tons)

Origin - Destination	1970	1971	1972	1973	1974	1975	1976
Miami - Toncontín	1,562.8	1,279.7	1,232.3	1,192.7	1,287.6	1,287.6	1,749.0
Mexico - "	149.9	250.9	200.2	177.7	233.3	215.8	231.1
Panama - "	375.7	306.1	300.9	167.9	463.8	551.3	841.1
San Andres - "	19.8	20.2	7.1	3.4	-	11.3	0.3
San Jose - "	147.8	117.5	126.6	154.4	129.0	82.5	172.2
Managua - "	31.0	24.0	42.5	7.4	20.3	15.0	26.4
Guatemala - "	467.8	413.8	337.3	339.2	465.8	358.1	680.8
Belize - "	2.6	4.1	1.8	1.2	2.3	3.0	4.2
New Orleans - "	199.7	103.9	68.5	170.1	188.6	183.8	351.3
Total	2,957.1	2,520.2	2,317.2	2,214.0	2,790.7	2,708.4	4,056.4

Source: DIRECCION GENERAL DE AERONAUTICA CIVIL

Table 2A-23 DOMESTIC LOADED & UNLOADED CARGO BY ORIGIN/DESTINATION AT TONCONTIN AIRPORT

(1970 - 1976) (tons)

Origin/Destination	1970	1971	1972	1973	1974	1975	1976
Toncontín/San Pedro Sula	2,033.4	1,362.7	776.1	523.8	294.4	146.8	174.9
" /La Ceiba	1,035.4	972.4	426.7	304.0	303.1	176.5	155.2
" /Tela	60.4	68.5	41.8	3.8	13.9	4.8	2.3
" /Utila	0.9	2.7	2.4	5.6	4.0	3.4	11.1
" /Roatan	11.6	16.0	27.9	23.5	29.6	21.1	39.0
" /Guanaja	26.6	23.0	32.9	55.2	63.2	37.5	39.2
" /Tocoa	15.6	19.1	31.8	57.5	37.1	20.9	17.6
" /Trujillo	54.1	70.1	86.7	82.1	72.3	37.3	26.5
" /Coyoles	5.0	37.4	30.9	39.1	32.2	20.0	61.1
" /Victoria	114.3	107.9	100.4	85.4	67.9	41.6	17.4
" /Sulaco	39.1	24.1	11.4	24.0	10.0	3.4	-
" /Yoro	44.5	38.6	31.5	35.6	33.9	8.7	-
" /Juticalpa	130.8	129.0	104.9	91.0	64.1	44.8	27.9
" /Catacamas	63.7	75.0	63.6	75.0	54.6	35.2	19.7
" /San Esteban	72.1	78.9	49.1	39.8	46.3	19.0	10.1
" /Limas	1.9	8.0	4.1	6.5	3.3	0.4	-
" /La Union	6.2	5.4	3.3	1.9	1.2	1.2	2.6
" /Olanchito	125.3	123.1	121.2	164.3	146.9	101.8	73.5
" /Gualaco	28.2	33.7	31.2	24.3	12.4	0.3	-
" /Ahuas	71.0	59.3	52.7	76.9	51.0	42.3	19.5
" /Brus Laguna	45.9	35.1	33.4	37.2	43.6	17.4	7.3
" /PTO. Lempira	84.4	107.5	66.7	87.5	94.4	66.6	45.8
" /Isletas	1.6	1.4	0.3	6.0	7.0	8.6	8.5
" /Occidente	233.2	181.1	85.2	22.9	4.8	-	-
Total	4,305.2	3,580.0	2,216.2	1,872.9	1,491.2	859.6	759.2

Source: DIRECCION GENERAL DE AERONAUTICA CIVIL

Table 2A-24 DOMESTIC LOADED CARGO BY ORIGIN/DESTINATION AT TONCONTIN AIRPORT

(1970 - 1976) (tons)

Origin - Destination	1970	1971	1972	1973	1974	1975	1976
Toncontín - San Pedro Sula	1,020.3	698.1	439.7	238.7	162.2	76.3	112.3
" - La Ceiba	641.6	532.4	267.1	182.3	151.3	101.5	125.1
" - Tela	33.5	45.4	27.8	3.1	9.4	2.4	1.9
" - Utila	0.0	1.8	1.0	2.0	1.6	0.8	6.2
" - Roatan	7.8	11.2	15.3	13.2	15.6	13.1	26.3
" - Guanaja	13.8	10.1	16.2	20.2	29.0	19.0	28.3
" - Tocoa	8.8	14.3	25.9	44.6	19.3	8.8	7.1
" - Trujillo	36.0	51.2	67.7	61.1	48.1	22.3	17.1
" - Coyoles	2.1	12.7	16.0	21.1	12.7	7.4	23.6
" - Victoria	85.6	67.7	64.8	61.4	41.2	28.9	13.8
" - Sulaco	34.1	16.6	8.9	19.8	8.8	3.2	-
" - Yoro	32.0	29.3	23.2	25.3	26.6	6.8	-
" - Juticalpa	62.5	64.1	68.7	65.1	52.4	39.3	25.4
" - Catacamas	34.3	23.2	22.5	43.6	26.9	17.1	14.2
" - San Esteban	34.3	30.8	23.8	27.4	15.1	9.7	8.7
" - Limas	0.8	3.3	3.2	4.4	2.2	0.2	-
" - La Union	6.1	3.8	2.5	1.6	1.0	1.1	2.2
" - Olanchito	98.3	92.8	91.9	103.0	67.0	53.7	35.1
" - Gualaco	18,8	13.2	15.5	13.4	11.2	0.2	-
" - Ahuas	52.0	47.8	40.9	61.1	43.4	24.9	13.1
" - Brus Laguna	36.9	27.0	27.8	27.9	29.0	13.1	6.2
" - PTO. Lempira	61.4	72.2	59.9	53.0	68.1	42.1	40.3
" - Isletas	-	-	-	4.1	7.0	8.6	8.5
" - Occidente	173.6	135.8	74.1	20.2	4.5	-	-
Total	2,494.6	2,007.8	1,404.4	1,117.6	853.6	500.5	515.4

Source: DIRECCION GENERAL DE AERONAUTICA CIVIL

Table 2A-25 DOMESTIC UNLOADED CARGO BY ORIGIN-DESTINATION AT TONCONTIN AIRPORT

(1970 - 1976) (tons)

Origin - Destination	1970	1971	1972	1973	1974	1975	1976
San Pedro Sula - Toncontín	1,013.1	664.6	336.4	285.1	132.2	70.5	62.6
La Ceiba - "	393.8	440.0	159.6	121.7	151.8	75.0	30.1
Tela - "	26.9	23.1	14.0	0.7	4.5	2.4	0.4
Utila - "	0.9	0.9	1.4	3.6	2.4	2.6	4.9
Roatan - "	3.8	4.8	12.6	10.3	14.0	8.0	12.7
Guanaja - "	12.8	12.9	16.7	35.0	34.2	18.5	10.9
Tocoa - "	6.8	4.8	5.9	12.9	17.8	12.1	10.5
Trujillo - "	18.1	18.9	19.0	21.0	24.2	15.0	9.4
Coyoles - "	2.9	24.7	14.9	18.0	19.5	12.6	37.5
Victoria - "	28.7	40.2	35.6	24.0	26.7	12.7	3.6
Sulaco - "	5.0	7.5	2.5	4.2	1.2	0.2	-
Yoro - "	12.5	9.3	8.3	10.3	7.3	1.9	-
Juticalpa - "	68.3	64.9	36.2	25.9	11.7	5.5	2.5
Catacamas - "	29.4	51.8	41.1	31.4	27.7	18.1	5.5
San Esteban - "	37.8	48.1	25.3	12.4	31.2	9.3	1.4
Limas - "	1.1	4.7	0.9	2.1	1.1	0.2	-
La Union - "	0.1	1.6	0.8	0.3	0.2	0.1	0.4
Olanchito - "	27.0	30.3	29.3	61.3	79.9	48.1	38.4
Gualaco - "	9.4	17.5	15.7	10.9	1.2	0.1	-
Ahuas - "	19.0	11.5	11.8	15.8	7.6	17.4	6.4
Brus Laguna - "	9.0	8.1	5.6	9.3	14.6	4.3	1.1
PTO. Lempira - "	23.0	35.3	6.8	34.5	26.3	24.5	5.5
Isletas - "	1.6	1.4	0.3	1.9	-	-	-
Occidente - "	59.6	45.3	11.1	2.7	0.3	-	-
Total	1,810.6	1,572.2	811.8	755.3	637.6	359.1	243.8

Source: DIRECCION GENERAL DE AERONAUTICA CIVIL

Table 2A-26 INTERNATIONAL TRANSIT PASSENGER TRAFFIC BY ORIGIN/DESTINATION AT TONCONTIN AIRPORT

(1977) (persons)

O \ D	MGA	SJO	PTY	ADZ	GUA	MEX	MSY	MIA	SAP	LCE	BZE	TOTAL
MGA				108	167		2,600		1,280	160	34	4,349
SJO					728		4,331		2,350	224	32	7,665
PTY					121		87		1,642	112	52	2,014
ADZ	148				1,537		115		558	142	36	2,536
GUA	131	476	237	1,240			4		757	65		2,910
MEX									2,113		395	2,508
MSY	2,078	3,186	52	14								5,330
MIA												
SAP	1,398	2,604	1,345	511	90	1,787						7,735
LCE	143	242	69	63	21							538
BZE	40	85	205	-	2	475						807
TOTAL	3,938	6,593	1,908	1,936	2,666	2,262	7,137		8,700	703	549	36,392

Source: DIRECCION GENERAL DE AERONAUTICA CIVIL

Table 2A-27 PRESENT AIRLINES' OPERATIONS BY ROUTE TO/FROM TONCONTIN AIRPORT

	Route	Aircraft Type	Number of weekly Operations by Route	Number of weekly Aircraft Movements at Toncontin Airport
1.	SJO⇄MGA⇄[TGU]⇄SAP⇄BZE⇄MSY	B 737	10	20
2.	SJO⇄MGA⇄[TGU]⇄LCE⇄SAP⇄MSY	B 737	4	8
3.	[TGU]⇄MGA⇄SJO	L-188	6	6
4.	GUA⇄[TGU]⇄PTY	L-188	4	8
5.	GUA⇄[TGU]⇄ADZ⇄PTY	L-188	10	20
6.	MIA→BZE→[TGU]→MEX	B 737	3	6
7.	MEX→[TGU]→SAP→BZE→MIA	B 737	3	6
8.	MIA⇄SAP⇄LCE⇄[TGU]	B 737	4	4
9.	MIA⇄BZE⇄SAP⇄LCE⇄[TGU]	B 737	2	2
10.	MIA→SAP→[TGU]→LCE→SAP→MIA	L-188	1	2
11.	MIA⇄BZE⇄[TGU]	B 737	2	2
12.	[TGU]⇄LCE⇄SAP	CV-580	8	8
13.	[TGU]⇄LCE⇄SAP⇄[TGU]	CV-580	2	4
14.	LCE⇄OAN⇄[TGU]	DC-3	2	2
15.	[TGU]⇄AHU⇄BRL⇄PLP⇄[TGU]	DC-3	2	2
16.	LCE⇄COY⇄[TGU]	DC-3	8	8
	Total		71	108
		B 737	28	48
		L-188	21	36
		CV-588	10	12
		DC-3	12	12

Source: Flight Schedules of TAN, SAHSA, AHNSA & LANSA as of February 1978

Table 2A-28 PRESENT AIRCRAFT MOVEMENTS BY TIME PERIOD AT TONCONTIN AIRPORT

Time Period	Sunday			Monday			Tuesday			Wednesday			Thursday			Friday			Saturday			Total		
	Arr.	Dep.	Total	Arr.	Dep.	Total	Arr.	Dep.	Total	Arr.	Dep.	Total	Arr.	Dep.	Total	Arr.	Dep.	Total	Arr.	Dep.	Total	Arr.	Dep.	Total
7:00 - 7:59	1	1	2	1	2	3	1	2	3	1	2	3	1	3	4	1	1	2	1	1	2	7	12	19
8:00 - 8:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1	1
9:00 - 9:59	2	1	3	2	-	2	3	-	3	2	-	2	2	-	2	-	-	-	2	-	2	13	1	14
10:00 - 10:59	-	1	1	2	3	5	2	2	4	1	3	4	2	2	4	2	1	3	1	2	3	10	14	24
11:00 - 11:59	-	-	-	-	1	1	-	1	1	-	-	-	-	1	1	-	2	2	-	1	1	-	6	6
12:00 - 12:59	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	1	-	1
13:00 - 13:59	-	-	-	-	1	1	-	1	1	-	1	1	-	-	-	-	-	-	-	-	-	-	3	3
14:00 - 14:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15:00 - 15:59	-	-	-	4	2	6	-	-	-	4	2	6	-	-	-	-	-	-	1	1	2	9	5	14
16:00 - 16:59	2	2	4	1	1	2	2	2	4	1	1	2	2	2	4	3	2	5	2	2	4	13	12	25
17:00 - 17:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1	-	1
Total	5	5	10	10	10	20	8	8	16	9	9	18	8	8	16	6	6	12	8	8	16	54	54	108

Source: FLIGHT SCHEDULES OF TAN, SAHSH, AHNSA & LANSA AS OF FEBRUARY, 1978

Table 2A-29 MONTHLY EMBARKING & DISEMBARKING INTERNATIONAL PASSENGERS AT TONCONTIN AIRPORT

(1975 - 1977) (persons)

	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
1975													
Embarking	4,086	3,695	3,632	3,532	3,474	4,228	4,369	4,308	3,799	3,659	4,015	4,894	47,691
Disembarking	4,654	3,646	3,881	3,440	3,632	4,179	4,386	4,880	4,049	3,566	3,694	4,187	48,194
Total	8,740	7,341	7,513	6,972	7,106	8,407	8,755	9,188	7,848	7,225	7,709	9,081	95,885
Monthly Coefficient*	1.094	0.919	0.940	0.873	0.889	1.052	1.096	1.150	0.982	0.904	0.965	1.137	12.000
1976													
Embarking	3,845	3,903	3,288	3,729	3,621	3,877	4,834	4,904	3,767	3,764	3,819	5,662	49,013
Disembarking	4,211	3,669	3,300	3,705	3,910	4,417	4,947	4,904	4,043	3,604	4,060	4,246	49,016
Total	8,056	7,572	6,588	7,434	7,531	8,294	9,781	9,808	7,810	7,368	7,879	9,908	98,029
Monthly Coefficient*	0.986	0.927	0.806	0.910	0.922	1.015	1.197	1.201	0.956	0.902	0.964	1.213	12.000
1977													
Embarking	4,447	4,128	4,256	4,186	3,680	4,751	5,475	5,191	4,104	4,241	4,749	6,271	55,479
Disembarking	4,752	4,278	4,790	4,298	3,955	4,757	5,781	5,679	4,600	4,226	4,917	5,737	57,770
Total	9,199	8,406	9,046	8,484	7,635	9,508	11,256	10,870	8,704	8,467	9,666	12,008	113,249
Monthly Coefficient*	0.975	0.891	0.959	0.899	0.809	1.008	1.193	1.152	0.922	0.897	1.024	1.272	12.000
Averaged Monthly Coefficient	1.018	0.912	0.902	0.894	0.873	1.025	1.162	1.168	0.953	0.901	0.984	1.207	12.000

* Average Number of Monthly Passengers = 1.000

Source: DIRECCION GENERAL DE AERONAUTICA CIVIL

Table 2A-30 MONTHLY EMBARKING & DISEMBARKING DOMESTIC PASSENGERS AT TONCONTIN AIRPORT

(1975 - 1977) (persons)

	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
1975													
Embarking	2,619	2,210	2,040	2,140	1,857	1,569	1,813	1,955	1,861	1,998	1,816	1,887	23,765
Disembarking	2,308	2,089	2,196	2,107	1,813	2,046	2,046	1,940	1,864	1,906	1,994	2,193	24,502
Total	4,927	4,299	4,236	4,247	3,670	3,615	3,859	3,895	3,725	3,904	3,810	4,080	48,267
Monthly Coefficient*	1.225	1.069	1.053	1.056	0.912	0.899	0.959	0.968	0.926	0.971	0.947	1.014	12.000
1976													
Embarking	1,628	1,769	1,880	1,840	2,127	1,977	1,921	2,007	1,845	1,698	1,962	2,114	22,768
Disembarking	1,659	1,938	1,919	1,834	2,288	2,069	2,127	2,033	1,852	1,740	1,905	2,462	23,826
Total	3,287	3,707	3,799	3,674	4,415	4,046	4,048	4,040	3,697	3,438	3,867	4,576	46,594
Monthly Coefficient*	0.847	0.955	0.978	0.946	1.137	1.042	1.042	1.040	0.952	0.885	0.996	1.178	12.000
1977													
Embarking	2,237	2,221	2,366	2,310	2,313	2,314	2,339	2,498	2,360	2,438	2,638	2,623	28,657
Disembarking	1,789	2,082	2,183	1,832	2,043	2,101	2,154	2,399	2,123	2,201	2,391	2,698	25,996
Total	4,026	4,303	4,549	4,142	4,356	4,415	4,493	4,897	4,483	4,639	5,029	5,321	54,653
Monthly Coefficient*	0.884	0.945	0.999	0.910	0.957	0.969	0.987	1.075	0.984	1.019	1.104	1.168	12.000
Averaged Monthly Coefficient	1.985	0.990	1.010	0.971	1.002	0.970	0.996	1.028	0.954	0.958	1.016	1.120	12.000

* Average Number of Monthly Passengers = 1.000

Source: DIRECCION GENERAL DE AERONAUTICA CIVIL

Table 2A-31 PAST DEVELOPMENT OF NUMBER OF SMALL AIRCRAFT REGISTERED AT TONCONTIN AIRPORT

Year	Number
1966	41
1967	48
1968	53
1969	54
1970	56
1971	64
1972	68
1973	71
1974	76
1975	85
1976	102

Source: DIRECCION GENERAL DE AERONAUTICA CIVIL

Table 2A-32 NUMBER OF EMPLOYEES AT TONCONTIN AIRPORT

(As of March 15, 1978)

Name of the Office	Number
General Direction of Civil Aviation	221
COCESNA	65
TAN-SAHSA	42
AEROSERVICIOS	16
LANSA	2
Post Office	7
Public Health Office	2
Police	23
Immigration Office	11
Customs	48
Quarantine Office	4
Turism Office	4
Cargo Agent	11
Airport Radio Service	3
Gift Shop	7
Restaurant	6
Total	472

Source: DIRECCION GENERAL DE AERONAUTICA CIVIL