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# Honduras

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NATIONAL INTELLIGENCE SURVEY

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Transportation and  
Telecommunications

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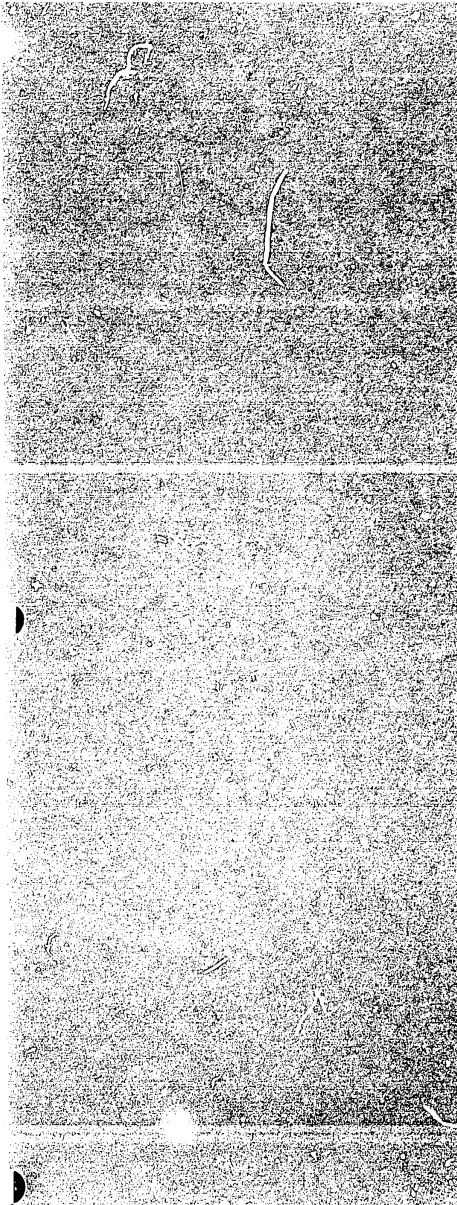
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*This chapter was prepared for the NIS by the Defense Intelligence Agency. It includes a contribution on airfields from the Defense Mapping Agency, Aerospace Center, and a contribution on merchant marine from the Department of the Navy. Research was substantially completed by February 1973.*



# Honduras

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# Transportation and Telecommunications

## A. Appraisal (C)

All significant transportation and telecommunication (telecom) facilities of Honduras are located in the western part of the country, the area of greatest development and population density. The backbone of the economy is agriculture, particularly the production of bananas, coffee, and timber. Built to serve the needs of agriculture and government, the transportation system basically consists of three rail lines, none of which extend farther than 65 miles inland; a sparse but improving highway network, which provides the only transport serving large parts of the country; three major ports, all located on the Caribbean coast; 12 foreign-owned Honduran-registered merchant ships; three significant airfields; and an increasingly important civil aviation industry. Except for one large and a few small airfields, the entire eastern half of Honduras is virtually without transportation media.

Highways are the principal means of surface transportation. Four paved roads which connect all the major cities with ports and agricultural areas form the heart of the network. Highway handle a larger share of the freight load, especially heavy goods and machinery, and most transportation projects and plans concentrate on the development of a more extensive highway network. Railroads are the main carriers of bananas, the country's chief export. Civil aviation is also important to the economy, and in many areas the airplane is the usual means of conveyance for passengers and priority-type freight. Except in a few areas where there is no other means of transport, inland waterways have no importance. There are no significant pipelines. Telecommunications have been improved by the completion of a nationwide radio-relay system, but there has been no corresponding increase in local telephone facilities. Because of poor planning and an ineffective telecom administration, the total system is still inadequate to meet the country's requirements.

Transportation and telecommunications are controlled by agencies of the Ministry of Communications, Transport, and Public Works. International connections are made with all neighboring countries

via highways and with Nicaragua via the limited navigability of the Rio Coco,<sup>1</sup> the boundary river.

## B. Strategic mobility (C)

Support of sustained military operations in Honduras would be greatly restricted by the inadequacies of the transportation and telecom system. The railroads would have only marginal value because of their limited size and extent. However, the main rail lines in the northwest which connect the ports of Puerto Cortes and Tela with through highways to Tegucigalpa and the Pacific coast can be operated simultaneously at full capacity with the rolling stock and motive power on hand. The lines in the north-central area serve banana plantations. There are no international rail connections.

Movement of military forces by highway would be limited to the western half of the country; eastern Honduras has only a few unpaved low-capacity roads. Most bridges on the main highways have adequate load capacity and clearance, but on secondary roads generally they are narrow and of low capacity. Steep grades and sharp curves are common on secondary roads in mountainous areas. Roads and bridges built on steep hillsides are subject to landslides, and roads in the lowlands and stream valleys are often flooded and washed out.

Inland waterways would be of little help in military operations, but the major maritime facilities are adaptable to military use. The 12 oceangoing merchant ships registered in Honduras are all foreign owned. Their military support potential would depend on seizure of or negotiation for those ships which were in local ports at the time of an emergency.

Except in the northeast, the 120 usable airfields are fairly evenly distributed. However, only four fields have paved runways and only two, Toncontin International and La Mesa International could support sustained military operations. In a time of crisis, the aircraft and indigenous personnel of the Honduran airlines, including 145 pilots, would be available.

<sup>1</sup>For diacritics on place names see the list of names on the apron of the Terrain and Transportation map and the map itself.

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The telecom system would provide only limited service in large-scale operations. The rugged mountainous terrain, coupled with dense vegetation over large areas, has impeded the complete development of an efficient wireline system. There are many alternate wireline routes, but many are in very bad condition because of poor maintenance. Nearly all key telecom facilities are concentrated in either Tegucigalpa or San Pedro Sula, and interruption of service in either locality would seriously hamper both domestic and international communications.

### C. Railroads (C)

The railroads of Honduras, totaling 357 route miles, are single track, narrow gage, nonelectrified, and in good condition. The network, which is distributed along the coastal plain in the northwestern and north-central parts of the country, is composed mainly of banana feeder lines extending no more than 65 miles inland. This part of the country along with Tegucigalpa, the capital, is the area of greatest development and population density. There are no international rail connections with neighboring countries.

The railroads consist of three connected systems. The Honduras National Railroad (FNH) is a state enterprise owned and operated by the government under the control of the Ministry of Communications, Transport, and Public Works. The 106-route-mile, 3'6"-gage system extends from Puerto Cortes southward through San Pedro Sula to El Llano. The other two rail systems are owned and operated by U.S. fruit companies and serve their plantations. One is the 96-route-mile, 3'6"-gage Tela Railroad Company (TR) owned by the United Fruit Company and consisting of two main lines. One extends from Baracoa to Bufalo; connections are made at both points with the FNH. TR uses the Baracoa-Puerto Cortes section jointly with the FNH. The other TR main line extends between Tela and Santa Rita. The third railroad is the 155-route-mile, 3'0"-gage Standard Fruit Railroad (SFR) owned by the Standard Fruit and Steamship Company. It extends eastward from Tela through La Ceiba to a point beyond Los Planes and then swings back to the west, terminating at San Lorenzo. At Tela a transloading platform is situated between parallel tracks of the 3'6"-gage SFR and the 3'6"-gage TR.

Most of the terrain traversed by the rail lines is level; grades are slight (1.5% or less) and curves moderate. The steepest grade (2%) and the sharpest curve (287-foot radius) are located on the SFR near Los Planes on a mountainous section of the La Ceiba-San Lorenzo line.

Maintenance procedures on the FNH and TR give roadmasters responsibility for maintenance-of-way

operations. On the SFR a superintendent is in charge of maintenance, and his immediate subordinate, an engineer, is responsible for maintenance-of-way projects. All the rail lines are divided into sections, and most maintenance work is done by laborers living in the area. Roadbed and track inspection is a continuous process. Individual bridges are given thorough annual inspections, and all structures are kept under continuous observation. The SFR and TR have mechanized the maintenance-of-way work. There is a vegetation control problem on lines in the coastal plains, where grasses which grow taller than the trains encroach on the right-of-way. Traffic interruptions are caused chiefly by terrain and weather conditions, which combine to cause floods. The coastal plains and inland valleys are walled by precipitous mountain ranges; during heavy rainfalls, particularly from May through October, water from mountain streams chokes the large rivers, flooding the lowlands and causing washouts and damage to bridges and tracks. These interruptions, however, are generally of short duration; repair crews are highly experienced and quickly remedy the damage.

The 91 bridges on the FNH and TR have a total length of 11,926 feet; information is not available on the length of the 410 bridges on the SFR. Timber trestle construction predominates, but there are also some steel through-truss structures. The Quemado Tunnel, located on the SFR between La Ceiba and San Lorenzo, is the only railroad tunnel in Honduras. It is 236 feet long and is partially lined with reinforced concrete.

Track structure is light. Rails are of the T-section type in standard lengths of 30 and 33 feet and ranging in weight from 30 to 75 pounds per yard. Treated and untreated timber cross-ties of local pine, measuring 7' x 8" x 6", are laid 2,640 per mile on the FNH and 2,600 per mile on the TR. The SFR uses creosoted timber ties laid 2,640 per mile. Rails are fastened to cross-ties by cut spikes on all lines. Tie plates, which are used on some sections of the FNH and TR, are not used on the SFR except in one instance where a trestle is on a curve. Rails and spikes are imported from the United States. Ballast on all lines is obtained locally and consists of broken stone, river gravel, crushed rock, and sand. All lines are kept in good condition, and abundant supplies of track materials are kept on hand.

Train operations are based on schedules. The manual block system of train control is used on all lines, and communication between stations is by telephone. Signaling is accomplished by flags, lanterns, and train whistles or bells. All switches are operated manually.

Locomotives and rolling stock range in condition from good to excellent and are adequate in quantity for requirements. The railroads have been replacing the older equipment gradually with diesel locomotives



and more capacious freight cars. Freight cars are chiefly 4-axle types, and most are box, banana, and flat cars. Most equipment is fitted with standard U.S. automatic couplers and air brakes. Locomotives and rolling stock are imported from the United States, West Germany, and Spain. The equipment inventory is as follows:

	FNH	TR	SFR
Locomotives:			
Steam	0	1	0
Diesel	0	25	0
Diesel electric	8	0	16
Diesel mechanical	0	0	5
Railcars (gasoline)	0	23	0
Railbuses	3	0	0
Passenger cars	17	77	25
Freight cars	514	1,419	681
Work cars	77	108	71

Locomotives are powered by fuel oil and diesel oil, both imported from the United States. Water used for the steam locomotive is untreated, and adequate supplies are available from local streams.

Bananas are the principal item of railroad freight traffic; other important commodities are lumber, agricultural products, and manufactured goods. All lines are common carriers. Current freight and

passenger statistics are not available. All three railroads operate at a profit.

Each railroad has one primary facility which includes a flat classification yard and a major repair yard adequate for all levels of equipment maintenance and repair. They are located in Puerto Cortes (FNH), Tela (TR), and La Ceiba (SFR).

The personnel strength of the FNH is about 430; the TR employs 556. No information is available on the number of employees on the SFR. Except for a course given to SFR employees in diesel maintenance and industrial safety and a training program available to supervisory personnel, none of the railroads have formal education or training programs. Employees do receive on-the-job training for specific types of work. It has been characteristic of the three railroad companies to invest whatever is necessary for maintaining good standards of service. The FNH recently negotiated loans for purchasing new rolling stock and repair-shop equipment and to finance studies covering future development and possible line extension. Plans include the possible use of containers and extension of a line into the valley of the Rio Sulaco.

Characteristics of selected rail lines are given in Figure 1.

FIGURE 1. Characteristics of selected Honduran rail lines (C)  
(Except where noted, 14-short ton maximum axleload on all lines)

TERMINALS AND ROUTE MILES	GAGE	MAXIMUM GRADE		MINIMUM RADIUS OF CURVA- TURE	PASSING TRACKS		REMARKS
		Going	Coming		Maximum Interval	Minimum Length	
		Percent		Feet	Miles	Feet	
Puerto Cortes-Potreros (60 miles).	3'6"	1.55	1.40	492	6	1500	Honduras National RR. (FNH). Connection at Baracoa (MP 13) and Bufalo (MP 45) with Tela RR. 21-ton maximum axleload
Baracoa-Tela (36 miles) . . . .	3'6"	*1.5		478	14	1500	Puerto Cortes--Baracoa. Banana feeder lines continue to El Llano. Tela RR. (TR). Uses FNH track
La Junta-Bufalo (35 miles) . .	3'6"	*1.5		na	14	1500	Baracoa (MP 0)--Puerto Cortes (13 miles). Branch lines La Junta (MP 5)--Bufalo and La Fragua (MP 7)--El Progreso. Transloading facilities at Tela with
La Fragua-El Progreso (26 miles).	3'6"	*1.5		na	14	1500	3'0"-gauge Standard Fruit RR.
Tela-La Ceiba-San Lorenzo (155 miles).	3'0"	*2.0		287	17	422	Connects with FNH at Bufalo. Banana feeder lines continue to Santa Rita. Standard Fruit RR. Transloading facilities at Tela with 3'6"-gauge TR.

na Data not available.

\*Direction unknown.

#### D. Highways (C)

The highway network of Honduras is sparse but is the only means of surface transport serving much of the country. Considerable progress in the development of the highway system has been accomplished during the past decade, but the lack of vehicle load limits and inadequate maintenance is detrimental to the network. The system is adequate to meet normal requirements; however, many potentially productive areas remain undeveloped because of inadequate transportation. An effort to provide access roads to some virtually isolated villages is in progress.

Highways are concentrated almost entirely in the western half of the country. The basic network consists of four paved highways connecting productive agricultural areas and the major cities, including the capital, commercial centers, and seaports; roads provide international connections with adjacent countries. The Inter-American Highway extends through the southern part of the country from El Salvador to Nicaragua; The North Road extends from Puerto Cortes on the north coast through San Pedro Sula and Tegucigalpa to the Inter-American Highway; the Western Highway links San Pedro Sula with El Salvador and Guatemala by way of Santa Rosa de Copan and Nueva Ocotepeque; and the North Coast highway connects San Pedro Sula with the ports of Tela and La Ceiba via El Progreso. The rest of the network consists of interregional and farm to market roads, access roads to small villages, and additional connections with adjacent countries.

Honduras has about 3,500 miles of highways; 750 miles are paved (bituminous surfaced), 1,850 miles are gravel surfaced or improved earth, and about 900 miles are unimproved earth roads. The road density of 0.08 mile of highway per square mile of area is low in comparison with most other Central American countries. El Salvador has 0.65 mile of highway per square mile of area, and Guatemala and Nicaragua have 0.18 and 0.16, respectively. The bituminous-surfaced roads, which generally are in good condition, range from 20 to 30 feet in width and have either a gravel or crushed stone base. Widths of gravel and earth roads, which vary from poor to good condition, range from 10 to 20 feet. Some of the earth roads are graded and drained, but many sections become impassable during wet weather. Shoulders, where they exist, range from 1 to 10 feet in width. Main routes have been reconstructed during the past decade, but some segments of original construction still exist.

Most common bridge types are timber stringer, concrete beam or slab, steel truss, and masonry arch.

Timber bridges are common, are generally one-lane wide, and have a load capacity of less than 5 tons. Newer bridges on the Inter-American and Western Highways and on the North Road are of concrete beam or slab or steel through-truss construction. These bridges are in good condition and have load capacities of 20 tons. Some unbridged streams on secondary roads necessitate the use of fords.

The primary responsibility for planning, construction, and maintenance of the highways rests with the General Roads Administration of the Ministry of Communications, Transport, and Public Works, but other government agencies are also engaged in road construction. Agricultural development agencies and the Honduran Army Engineers also build some rural access roads. Problems in construction and maintenance spring primarily from the nature of the terrain and from weather conditions. Road construction in mountainous areas is difficult and expensive; the rugged terrain necessitates considerable cutting and blasting through rock to afford suitable grades and alignments, and roads along steep hillsides require retaining walls. During the wet season (May through October) fords become impassable because of high water, and many roads in low-lying areas become impassable; heavy rains also cause occasional washouts and landslides in the highlands. Poor planning and inadequate equipment hamper road construction and maintenance. Most of the maintenance effort is expended on the main roads while feeder roads are neglected, with the result that many of the latter deteriorate and become overgrown with vegetation. The number of competent engineers, technicians, and machine operators is small. Volunteer unskilled labor pools drawn from the local population are used on some feeder road projects. Construction materials such as timber, gravel, rock, and portland cement are readily available from local sources. Reinforcing bars and structural steel must be imported, but adequate stocks are usually kept on hand by local suppliers. The development and rehabilitation of highways are important parts of the overall national economic program. Because of disputes with El Salvador, Honduras has reoriented its highway development program in such a way as to encourage trade with Guatemala and Nicaragua and at the same time bypass El Salvador. Projects intended to accomplish this include construction of a road to connect Santa Rosa de Copan on the Western Highway to Siguatepeque on the North Road via Gracias and La Esperanza. A new road connecting Guatemala to the Western Highway at Nueva Ocotepeque is complete, and another road connecting

the Western Highway with Guatemala near Copan is to be built. A new road connecting Choluteca on the Inter American Highway with Nicaragua via El Triunfo is under construction, and a new bridge at the border is already complete. Another road is to connect Tegucigalpa with Nicaragua via El Zamorano, Danli and El Paraiso. The existing road between Tegucigalpa and Danli is to be realigned and reconstructed, and construction is underway between Danli and the border. Improvement of the road between Puerto Cortes and Guatemala is in progress, but unless Guatemala agrees to build a connecting road, this project may be abandoned. A farm to market road is under construction through the Valle del Aguan (Aguan Valley) between Olanchito and the north coast port of Trujillo; some existing segments are to be reconstructed and realigned, but most of the road is to be newly constructed.

Principal highway bottlenecks are sharp curves and steep grades in the predominantly mountainous terrain, low-capacity timber bridges, narrow bridges, and numerous fords. During heavy rains many stretches of road become impassable because of floods and washouts. Most highway transport services are provided by independent truckers, but some industries maintain vehicles to serve their own needs. Generally, trucks move commodities directly from the areas of

production, usually in outlying communities, to marketplaces, ports, processing plants, and neighboring countries. Among the products transported are sugarcane, tobacco, coffee, henequen, livestock, minerals, and lumber. Exports transported to nearby countries include such items as cigars, matches, beverages, soap, vegetable oils, and wood products. Imports distributed by truck are foodstuffs and manufactured items, including machinery. Traffic on the highways is increasing, particularly in the vicinity of Tegucigalpa. International travelers are permitted freedom of movement, but freight traffic originating in or bound for El Salvador is not permitted to pass through Honduras. Such traffic between El Salvador and Nicaragua uses a ferry across the Gulf of Fonseca. A draft development plan of the National Planning Council includes a provision to establish a Transportation Agency to regulate schedules, rates, weight limits, etc.; at present no controls exist.

In 1971 the 30,700 vehicles in Honduras comprised 13,800 passenger cars; 14,800 trucks, including 10,200 pickups, jeeps, and panel trucks; and 2,100 buses. All vehicles are imported, mostly from the United States, Western Europe, and Japan.

Characteristics of selected highways are given in Figure 2.

FIGURE 2. Selected highways (C)

ORIGIN AND DESTINATION	DISTANCE	SURFACE TYPE	SURFACE SHOULDER		REMARKS
			WIDTH	WIDTH	
	<i>Miles</i>		<i>Feet</i>		
El Salvador border near Gouscoran to Nicaragua border via Nacaome, Choluteca.	94	Bituminous treated ...	20	2-6	Inter-American Highway.
Jicaro Galan (Junction with Inter-American Highway) to Puerto Cortes:	258				
Jicaro Galan to Tegucigalpa....	62	...do.....	20-24	2-4	Sharp curves, steep grades.
Tegucigalpa to San Pedro Sula..	161	...do.....	20	5	First 19 miles N. of Tegucigalpa has steep grades, sharp curves; pavement in poor condition. Next 114 miles (built 1971) has good alignment, good pavement. Last 28 miles in poor to fair condition.
San Pedro Sula to Puerto Cortes..	35	...do.....	20	3	Pavement in poor to fair condition. Some poor alignment.
El Salvador border S. of Nueva Ocotepeque to Chamelecon via Santa Rosa de Copan.	154	Bituminous.....	20	4-6	Paving completed Feb. 1972.
Guatemala border to Nueva Ocotepeque.	13	...do.....	20	4-6	
San Pedro Sula to La Ceiba via El Progreso, Tela.	118	Bituminous treated...	20	4-6	

**E. Inland waterways (C)**

Inland waterway transport, of little importance in Honduras, exists primarily in areas devoid of other modes of transportation. Traffic on the 750 miles of waterways is generally limited to small shallow-draft craft which carry native produce to local markets. There is no demand for any greater interregional waterway transport.

The streams in the Caribbean watershed are more suitable for navigation and extend greater distances than those on the Pacific side. The Rio Ulua, Rio Patuca, and Rio Coco, all on the Caribbean side, are suitable for navigation for 140, 220, and 150 miles, respectively. However, small steamers and powered craft use only the lower reaches of these rivers. None of the rivers in the Pacific watershed are navigable for more than 25 miles. These streams are narrow and are too shallow and silted for entrance and navigation by vessels of more than shallow draft. Except in the lower reaches, craft throughout the country do not exceed 35 to 40 feet in length, 3 to 4 feet in draft, and 10 to 15 tons in capacity. The streams in the interior highlands are too swift to be used, even by native craft.

There are no river fleets of any size and no significant inland waterway ports; facilities at the few existing landings are old and primitive. No structures hinder the passage of native craft.

The government exercises no control over operations and is not involved with maintenance of the waterways. Because of its insignificance, no attempt is likely to be made to improve or develop water transport.

**F. Ports (C)**

The ports of Honduras, small but adequate, owe their initial development to the mainstays of the economy, bananas and coffee. The three major ports, Puerto Cortes, Tela, and La Ceiba and seven of the nine minor ports, all located on the Caribbean coast, have traditionally handled these crops. The other two minor ports, Amapala and San Lorenzo, located in the Golfo de Fonseca on the Pacific, are primarily lightering ports. Puerto Cortes, the largest port, handles three-quarters of the nation's total cargo receipts and is about equal in size to the other major ports of Central America.

Recent port developments have advanced Puerto Cortes beyond its traditional, almost exclusive, reliance on banana, coffee, and lumber exports. A new general cargo quay was constructed in late 1970, doubling the port's transfer capabilities. Plans call for

further construction at Puerto Cortes during the 1970's. There is no deep-water facility on the Pacific coast, but a new port is to be constructed at Henecan on the Golfo de Fonseca. Honduras is heavily dependent on foreign trade, and completion of these projects will provide the necessary additional wharfage to support the proposed economic expansion.

All major and minor ports are administered and operated by the *Empresa Nacional Portuaria*, a government-owned statutory body. Although the ports are adequate for meeting current import/export requirements, they have only limited capabilities for military use.

Details of the major ports are tabulated in Figure 3.

**G. Merchant marine (C)**

In 1943 the Honduran Government established a "flag of convenience" as a source of ready income by opening Honduran registry to foreign shipowners and offering incentives of maximum freedom from taxes and minimum interference in operations. By 1955, 69 ships of 1,000 gross register tons (g.r.t.) and over totaling about 545,200 deadweight tons (d.w.t.) and owned by U.S. and Greek shipping interests had been registered under the Honduran flag. Because the laws governing ship registration were liberal and enforcement and inspection lenient, many Honduran-flag shipowners did not comply with pertinent regulations. As a result of tightening enforcement procedures, the government canceled a large number of ship registrations between 1959 and 1961.

In October 1972, Honduran-flag ships of 1,000 g.r.t. and over comprised 12 refrigerator units totaling 56,792 g.r.t. or 53,594 d.w.t. These ships range between 2,000 and 7,000 d.w.t. and are from 12 to 20 years old. Six units are diesel powered, and six have oil-fired boilers; seven units have operating speeds of 14 to 17 knots, and five have speeds of 18 knots.

Two foreign beneficial owners (entities which take the profit or loss from operations) control the 12 ships. United Fruit Company, New York, owns 10 units, eight of which, totaling 41,846 d.w.t., are operated by *Empresa Hondurena de Vapores, S.A.*, Puerto Cortes, and two of which, totaling 6,966 d.w.t., are operated by Balboa Shipping Company, Inc., Panama. F. Lacisz, Hamburg, owns two units totaling 4,782 d.w.t.

Most Honduran international seaborne trade is carried by foreign-flag ships; however, United Fruit Honduran-flag ships transport a considerable volume of the banana exports to ports of Western Europe, Eastern Europe, including Yugoslavia, Central and

FIGURE 3. Major ports (C)

NAME; LOCATION; ESTIMATED MILITARY PORT CAPACITY*	ACTIVITIES	HARBOR	BERTHS
Puerto Cortes..... 15°48'N., 87°56'W. 2,000	Commercial center and outlet for surrounding area. Main port of entry for general cargo. N. terminus of Honduras National RR. and an interoceanic highway. Other industrial facilities: small consumer goods factories, shops. Shipments—bananas, coffee, lumber. Receipts—general cargo, raw materials, crude and refined petroleum products. In emergency, RR. shops can make minor repairs to oceangoing vessels. Coast guard headquarters.	Natural coastal; semicircular bay; good natural protection; exposed only to W.; water area about 4 sq. miles; general depths 24-42 ft.	Alongside—3 large, 1 small ocean-type cargo vessels; 1 large ocean-type tanker. Anchorage—2 large, 13 standard ocean- and numerous standard coaster-type cargo vessels.
La Ceiba..... 15°47'N., 86°50'W. 1,100	Principal shipments—bananas, lumber. Principal receipts—general cargo, raw materials, manufactured goods, refined petroleum products. In emergency, RR. shops can make floating repairs to oceangoing vessels.	Open, exposed roadstead; no defined limits; protection only from landward side; general depths 29-54 ft.	Alongside—2 small ocean-, 1 standard coaster-type cargo vessels; 1 standard coaster-type tanker. Anchorage—2 large ocean-, 7 standard coaster-type cargo vessels.
Tela..... 15°44'N., 87°27'W. 1,600	Serves as outlet for area banana plantations; minor fishing activities. EXXON has petroleum storage terminals in area. Shipments—bananas, coffee, lumber. Receipts—general cargo, raw materials, refined petroleum products. In emergency, RR. shops can make floating repairs to oceangoing vessels.	Open roadstead; no defined limits; a bight about 15 miles wide E-W.; protection from all but N. winds; general depths 42-60 ft.	Alongside—2 standard ocean-type and 1 standard coaster-type cargo vessels, 1 lighter; 1 large ocean-type tanker (offshore pipeline). Anchorage—For large number of ships of all sizes.

\*The estimated military port capacity is the maximum amount of general cargo—expressed in long tons—that can be unloaded onto wharves and cleared from the wharf aprons during a period of one 24-hour day (20 effective cargo-working hours). The estimate is based on static cargo-transfer facilities of the port existing at the time the estimate is prepared and is designed for comparison rather than operational purposes; it cannot be projected beyond a single day by straight multiplication.

South America, the east and west coasts of the United States, and the east coast of Canada.

The only merchant ship of 1,000 g.r.t. and over on order for Honduran-flag registry is a 3,600-d.w.t. refrigerator ship ordered by *Compania Naviera Aguila*, Tegucigalpa, a shipping company established in June 1971 with 98% of the capital shares owned by a U.S. shipping company and 2% by Honduran private interests. This ship is being built in Spanish shipyards for delivery in 1973 and is intended for the transport of Honduran trade between domestic ports and Miami, Florida.

In addition to the ships of 1,000 g.r.t. and over, there are about 20 merchant ships of 100 to 999 g.r.t. employed in the carriage of domestic trade. In July 1971, 16 oceangoing fishing vessels of 100 g.r.t. and over totaled about 2,100 g.r.t.

Ship registry is available at relatively low cost, but a substantially higher annual tax rate is applied on Honduran-flag ships that do not serve domestic ports during the year. Government regulations provide for the carriage of all coastal trade in Honduran-flag ships. No direct or indirect government subsidies are offered Honduran-flag shipowners for shipping operations.

Honduras is a member of the Inter-Governmental Maritime Consultative Organization (IMCO) and is a party to the IMCO Convention for the Safety of Life at Sea, 1960.

Merchant marine laws originally stipulated that 50% of the crews of Honduran-flag ships must be nationals, but the number of Hondurans presently employed on ships of Honduran registry is not available. Although provided for in merchant marine

laws, a merchant marine training school has not been established.

## H. Civil air (C)

Domestic civil aviation is becoming increasingly important and in many areas of the country is the usual means of conveyance for passengers and freight. International air services also play a vital role in the development of the economy.

The 24 major civil transport aircraft of at least 20,000 pounds gross weight registered in Honduras are as follows:

2 Convair 340	10 Douglas DC-3
2 Convair 440	1 Douglas DC-6
2 Convair 580	1 Douglas DC-7
2 Curtiss C-45	4 Lockheed L-188 Electra

Of the approximately 400 persons engaged in civil aviation activities, about half are pilots. About 55 are foreign pilots based in Honduras, and the remainder are indigenous personnel.

Regularly scheduled international flights are provided by three foreign airlines and three Honduran airlines. These carriers, operating through La Ceiba, San Pedro Sula, and Tegucigalpa, link Honduras with 13 cities in nine countries.

*Servicio Aereo de Honduras, S.A.* (SAHSA) is the largest of the Honduran airlines. The privately owned carrier provides scheduled services to 22 domestic points and to the United States, British Honduras, Costa Rica, Panama, Columbia, Guatemala, and Nicaragua. Its fleet includes four DC-3's, two C-46's, one DC-6, six Convairs, and two Lockheed Electras.

*Transportes Aereos Nacionales, S.A.* (TAN) is a privately owned company founded in 1947 for the operation of contract cargo flights. Since 1947 it has expanded operations and now provides scheduled international passenger and freight service. TAN operates out of its home base in Miami, Florida, with two Lockheed Electras and one DC-7.

A third carrier, *Lineas Aereas Nacionales, S.A.* (LANSA) has four DC-3's and operates a network of scheduled services in the northern coastal regions of Honduras and also to the Islas de la Bahia (Bay Islands) in the Gulf of Honduras. It also provides scheduled international service to Mexico. Another small airline, *Aero Servicios*, flies scheduled services between Tegucigalpa and San Pedro Sula.

In addition to these airlines, several private companies and individuals own light aircraft and provide unscheduled domestic service.

Civil aviation is administered by the Director General of Civil Aviation in the Ministry of Communications, Transport, and Public Works.

Most major overhaul work is performed abroad. TAN has a maintenance facility at Miami, and SAHSA's Electras are maintained at the Eastern Airlines facilities there. The services of *Cooperativa de Servicios Aero Industriales, R.L.* in Costa Rica have also been used for major aircraft overhaul. Minor maintenance for SAHSA and LANSA aircraft is performed at Tegucigalpa.

There is little training activity except that conducted by the military. The only known facility for civilian training is conducted by *Alas Hondurenas*, a private pilot school.

Honduras is a member of the International Civil Aviation Organization (ICAO). Formal or informal agreements or arrangements on air services are in effect with seven nations.

## I. Airfields<sup>2</sup> (C)

The air facilities system of Honduras is composed of 216 airfields and two seaplane stations. Of this total, 120 are usable; 50 are civil, 66 are private, two are army support landing strips, one is jointly operated by military and civil authorities, and one is abandoned. There are 96 unusable airfield sites.

The coastal areas are more favorable than the mountainous interior for airfield construction and use; nevertheless, airfields are rather evenly distributed. An exception is in the northeast portion of the country, near the Nicaraguan border, where the relatively low, sparsely settled coastal plain has very few airfields.

With the exception of Toncontin International, La Mesa International, and Goloson International, the airfield system consists of small municipal, private, or company airfields used for charter, agricultural, mining, or lumber operations. Most runways have earth surfaces, either graded or sodded. The maximum capacity of most of these airfields is a C-47 or a similar light transport aircraft. Use is severely reduced during wet weather.

The most important facility is Toncontin International, located near Tegucigalpa. The only joint military and civil airfield and headquarters and primary home station for the Honduras Air Force, Toncontin International has runway lights, a VHF omnidirectional range, a radio beacon, air to ground voice facilities, land telecommunications, airfield maintenance, and personnel accommodations. Mountainous terrain adjacent to the airfield makes instrument approaches very hazardous. La Mesa

<sup>2</sup>For detailed information on airfields in Honduras see Volume 3, *Airfields and Seaplane Stations of the World*, published by the Defense Mapping Agency, Aerospace Center, for the Defense Intelligence Agency.

FIGURE 4. Selected airfields (C)

NAME AND LOCATION	LONGEST RUNWAY: SURFACE; DIMENSIONS; ELEVATION ABOVE SEA LEVEL	ESWL*	LARGEST AIRCRAFT NORMALLY SUPPORTED	REMARKS
	<i>Feet</i>			
Choluteca..... 13°18'N., 87°11'W.	Graded Earth..... 3,000 x 150 150	14,200	DC-3.....	Civil. Used by domestic airlines. No POL.
Goloson International..... 15°44'N., 86°51'W.	Asphalt..... 4,920 x 150 32	26,180	DC-4.....	Civil. International airport. Avgas storage.
La Ceiba..... 15°46'N., 86°48'W.	Graded Earth..... 2,800 x 80 20	14,200	DC-3.....	Civil. Drum POL storage hangar.
La Mesa International.... 15°27'N., 87°55'W.	Asphalt..... 7,650 x 150 88	52,000	Boeing 707.....	Civil. International airport. Avgas, jet fuel storage.
Puerto Lempira..... 15°18'N., 83°48'W.	Graded Earth..... 4,400 x 50 40	14,200	C-47.....	Government. Used by domestic airlines, military aircraft. Drum, POL storage.
Rus Rus..... 14°45'N., 84°20'W.	Graded Earth..... 6,000 x 200 500	35,500	C-130.....	Government. Used by domestic airlines, military aircraft. Area access. No POL.
Tela..... 15°46'N., 87°29'W.	Asphalt..... 4,194 x 98 10	25,883	Curtis Commando.....	Civil. Avgas available.
Toncontin International.... 14°04'N., 87°13'W.	Asphalt..... 6,135 x 150 3294	35,500	C-130.....	Joint. International airport, air force headquarters. Underground storage of avgas, jet fuel.

\*Equivalent Single-Wheel Loading: Capacity of an airfield runway to sustain the weight of any multi-wheel landing-gear aircraft in terms of the single-wheel equivalent.

International, located near San Pedro Sula, has runway lights, a VHF omnidirectional range, a radio beacon, air to ground voice facilities, land telecommunications, and airfield maintenance. This all-weather facility has instrument approach procedure and is the airfield used by the major international air carriers.

Four airfields, Toncontin International, La Mesa International, Goloson International, and Tela have permanent-surface runways, but only Toncontin and La Mesa have facilities capable of supporting sustained aircraft operations. The remaining airfields have natural or graded earth runways, and most of these are 2,000 to 3,000 feet in length. Among these are two facilities operated by the military as a logistical support facility for army garrisons in remote areas.

The two seaplane stations, Puerto Cortez on the northwestern coast and Puerto Castilla on the north-central coast, are in usable condition but have little in the way of support facilities. The airfield sites provide little potential in their present state and would require considerable rehabilitation to make them usable.

The operational capability of the airfields is severely limited by the surrounding terrain and lack of all-weather runways, navigational aids, communications, and support facilities. Obtaining POL products is a major problem. Except for Tela and the international airfields, few have jet or aviation fuel storage facilities. Occasional airfields in remote areas have limited POL drum storage for emergency use.

Construction and improvement projects are in progress at major air facilities. Periodic studies are made on various fields and include recommendations for runway extension and modernization work. However, action on these studies seldom materializes, primarily because of limited capital.

Details on the most important airfields are given in Figure 4.

## J. Telecommunications (C)

The telecommunications (telecom) network (Figure 5) ranks below those of Costa Rica and El Salvador but is on a level with the remaining Central American countries in system development and effectiveness of

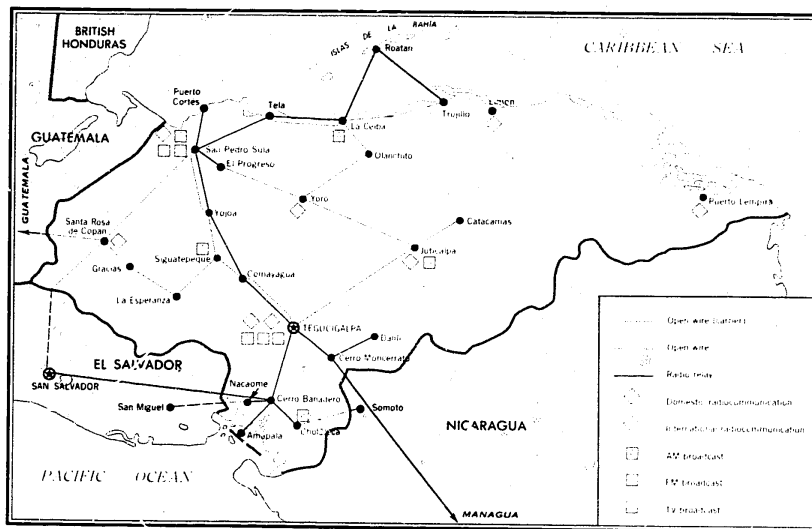


FIGURE 5. General telecom pattern, 1972 (C)

facilities. Facilities continue to improve but remain inadequate to meet domestic requirements. Radio-relay and open-wire telephone and telegraph networks are concentrated in the central and western parts of the country; very limited facilities serve the largely unpopulated eastern region. The key telecom centers are Tegucigalpa and San Pedro Sula. The radio-relay system, while important, has performed poorly, forcing the radiocommunication network to play a continued vital role. The open-wire networks are extensive but in poor condition. Government and private concerns offer effective international communication services. AM radiobroadcast covers major population centers; FM and TV services are much more limited.

The government either operates or regulates all telecom facilities through the Directorate General of Electrical Communications (DGCE), under the Ministry of Communications, Transport, and Public Works. DGCE public facilities include the National Telegraph and Radio System and the National Telephone System. It also handles the important international radio-relay links in the *Comision Tecnica Regional de Telecomunicaciones*—COMTELCA network and regulates operations of the commercial broadcast stations. The Tropical Radio Telegraph Co. (TRT) provides international HF

radiocommunication service, and there are several important privately owned telephone networks. Domestic intercity traffic is routed over a radio-relay system and extensive open-wire telephone and telegraph networks, supplemented by a HF radiocommunications network. A greatly expanded radio-relay system was completed in 1969 using Oki Electric Company (Japan) equipment. The main route between Tegucigalpa and San Pedro Sula has equipment operating in the 6-GHZ range and a capacity for 960 channels; between San Pedro Sula and La Ceiba, the system has 300 channels, and spur routes to towns on the northern coast and in the far south have VHF or UHF equipment suitable for 24 telephone channels. Only a fraction of the stated capacity is used on any of these routes. Interconnected telephone and telegraph wirelines extend throughout most of the country. Some important routes have been improved with carrier equipment for up to 12 channels, but most consist only of poorly maintained single-wire circuits. Government-owned *Radio Nacional* furnishes generally dependable nationwide HF radiocommunications service to the departmental capitals. Local automatic telephone exchanges are located only in Tegucigalpa, San Pedro Sula, and La Ceiba; some 30 manual exchanges provide telephone service for the rest of Honduras. As of mid-1972, an



estimated 15,200 telephone sets were in use, of which about 10,000 were in the Tegucigalpa telephone district. The bulk of the telephone equipment was provided by Oki Electric or Bell Telephone (Belgium).

Most international telecom traffic is now routed over the COMTELECA network, which was inaugurated late in 1971. Using Nippon Electric Company (Japan) equipment, which has a planned capacity of 960 telephone channels and one TV circuit, the system is operated by the DGCE and connects Tegucigalpa with other Central American countries via three key repeater stations. TRT operates public radiotelephone and radiotelegraph circuits to seven foreign countries from stations at Tegucigalpa and La Lima (near San Pedro Sula); this includes direct telex service with the United States. The DGCE operates low-capacity wirelines into Guatemala, El Salvador, and Nicaragua. It is expected that the traffic on the present HF circuits to Central America will be switched over fully to the COMTELECA network.

Government and private agencies operate special-purpose wire and radiocommunication facilities for administrative, railroad, agricultural, industrial, police, and aeronautical traffic. Some organizations offer their facilities for public service; among the largest are the Tela Railroad Company and Standard Fruit Company. The Special Security Corps (CES) has a radiotelephone network interconnecting every departmental capital; Honduras has radioteleprinter circuits in the Central America regional air navigation (COCESNA) and police security (CAP) networks.

Generally good AM broadcast coverage is provided to the western two-thirds of Honduras by 102 AM stations. Seven stations have transmitters rated at 10 kilowatts, all of them in Tegucigalpa and San Pedro Sula; nearly all of the other AM stations have power outputs of one kilowatt or less. All stations are privately owned, and many are associated with one of the principal broadcast chains, such as *Emisoras Unidas*. Four low-power FM stations in Tegucigalpa and six in San Pedro Sula provide very limited

coverage. TV broadcasts are also limited to the central part of the country and to the northern coastal towns. The *Compania Televisora Hondurena S.A.* operates channel 5 in the capital city and repeaters near Siguatepeque and in San Pedro Sula. Two other stations in Tegucigalpa operate on channels 3 and 11, and in San Pedro Sula, channel 7, with the help of a repeater station, transmits to the northern coastal region. In mid-1972, the number of radiobroadcast receivers was estimated to be 300,000, the number of TV sets, 35,000.

Honduras has no facilities for the manufacture of telecom equipment. All such materials are imported, the principal suppliers being Japan and the United States. Belgium and West Germany also periodically supply significant quantities.

Japan has been the most important source for radiobroadcast receivers, and the United States has been the major supplier of television transmission and reception equipment. Wire-line equipment has been provided by several countries, but Japan has again been the major source, having supplied equipment for the country's only telex system. Radiocommunications equipment, which in recent years has constituted the largest portion of telecom equipment imports, has been provided almost exclusively by Japan and the United States. Imports from Japan have consisted mainly of radio-relay equipment; imports from the United States have been two-way radiocommunications equipment.

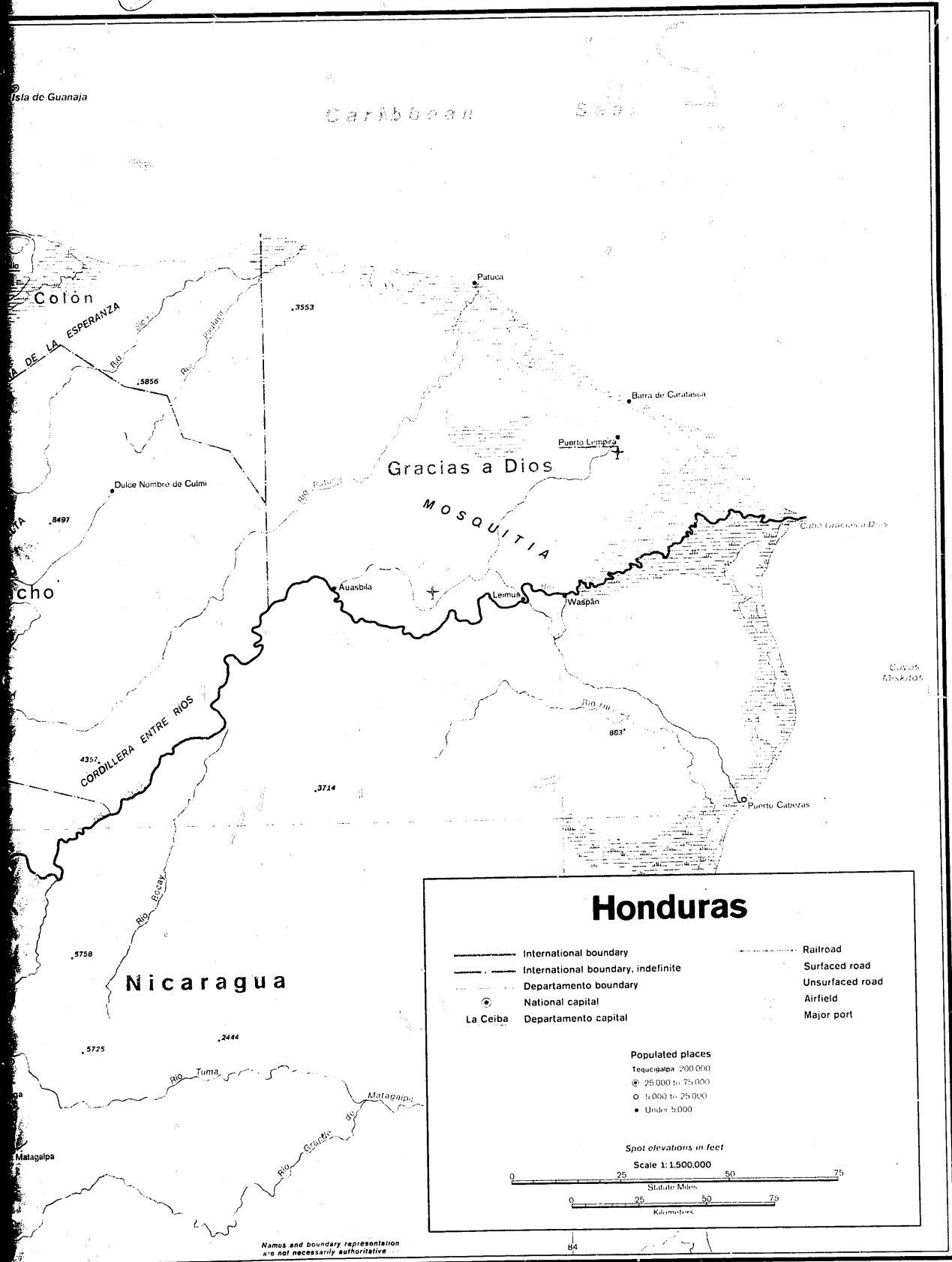
A national transmission plan prepared for the DGCE includes development of a bi-level traffic switching scheme and construction of new automatic telephone exchanges in 10 key cities. More specific plans call for construction of a 960-channel radio-relay link between San Pedro Sula and Puerto Barrios, Guatemala, completion of a 120-channel link to Santa Rosa de Copan and a 24-channel link to Limon, construction of several open-wire carrier systems, and doubling of the telephone exchange capacity in the Tegucigalpa area to 20,000 lines.





(2)

(1)

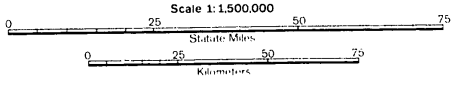


### Honduras

- International boundary
- - - International boundary, indefinite
- - - Departamento boundary
- National capital
- La Ceiba Departamento capital
- Railroad
- Surfaced road
- - - Unsurfaced road
- ✈ Airfield
- ⚓ Major port

Populated places  
 Tequigalpa 200,000  
 ⊕ 25,000 to 75,000  
 ○ 5,000 to 25,000  
 • Under 5,000

Spot elevations in feet



Terrain and Transportation Figure 6

2

3



Only