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STUDIES
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San Salvador, July 5, 1995

Mr. Ernesto Girón, CTO
USAID Mission in El Salvador
San Salvador.

Ref.: Intermodal Transportation Study
Contract No. 519-0384-C-00-4112-00
Final Report, Task 6

Dear Mr. Girón:

In compliance with section C.3.5 of above referenced contract enclosed herewith are 10 (ten) copies, in English, of the **Final Report of Task 6, "Air Transport Studies"**. We are sorry about the delay due to printing problems.

We are calling it Final Report rather than Final In-Depth Report because we are now incorporating in one single volume phases. 1 (Assessment) and 2 (Analysis) of the Study.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Cosío".

José H. Cosío, P.E.
Team Leader

PJ-ABX-454

TASK 6

AIR TRANSPORT STUDIES

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GLOSSARY OF TERMS

AIES	El Salvador International Airport
CEPA	Autonomous Executive Port Commission
COCESNA	Central American Corporation of Air Navigation Services
DGTA	General Directorate of Air Transport
DUA	Directorate of Urbanism and Architecture
MOP	Ministry of Public Works
NAFTA	North American Free Trade Agreement
OACI	International Organization of Civil Aviation
TACA	Central American Air Transport
TAES	El Salvador Air Taxi

6. Air Transport Studies

This report presents an assessment and analysis of the air transport situation in El Salvador, focusing on the air cargo component of the industry.

The report focus into institutional, traffic, operations financial and regulatory aspects; future cargo planning scenarios, review of the 1979Cuscatlán Master Plan, planning of the cargo sector and financial projections, possible privatization of cargo service; conclusions and recommendations for the Air Transport Subsector.

6.1 Air Transport Assessment

This report focus on aspects institutional, traffic, operational, financial, and regulatory; future Cargo Planning Scenarios, Review of 1979 Master Plan Cuscatlán, Air Cargo Sector Planning, and Financial Projections; posible privatization of the services; conclusions and Air Transport Recommendations.

The key thrust of this task is to capitalize on El Salvador's potential comparative advantage in air cargo, especially by enhancing the private sector's role in cargo handling, and potentially in facility construction, rmanagement and operations.

Included in this task has been an assessment of various prior studies of aviation institutions, procedures, and facilities in El Salvador; these are listed below, with the principal conclusions:

- **CEPA's August, 1992 Study of the Cargo Services Available at the International Airport of El Salvador:**

This study examined the operations of the CEPA-managed cargo terminal at the International Airport of El Salvador, in light of the general interest in privatizing operations nationwide (CEPA/AUG-1992, p.1).

The study concluded that the cargo terminal was not a prospect for privatization because the current operation is efficient; because annual income has continued to increase at a greater rate than costs, leading to substantial profits; and because the cargo terminal could still (as of 1991) absorb a 30% increment in cargo volume (CEPA/AUG-1992, p. 10).

- **CEPA's November, 1992 Study of the Potential for an El Salvador-Based Consolidated Air Cargo Facility Serving Central America:**

This study had as its objectives the expansion of services at the International Airport of El Salvador (CEPA/NOV-1992, p.4), ultimately focusing on

regional air cargo consolidation, with a view towards developing improved direct European services.

The study concluded that the continued growth of air cargo in El Salvador - and the specific interest expressed in implementing a privatized cargo handling and warehousing operation - warranted a feasibility study of a regional cargo center along with a market study of regional demand and possible new air routes. However, the November, 1992 study did not include specific justification for such a center, or statistics specifically identifying the actual or potential traffic (CEPA/NOV-1992, pp. 39-41).

- CEPA's 1994 Review of Procedures for Handling and Processing Air Cargo Imports at the International Airport of El Salvador:

This study had as its objective the definition of the current procedures utilized by CEPA in administering the import component of the air cargo terminal at AIES.

No specific conclusions are drawn. Twenty-nine steps are outlined, tracing the flow of cargo from its initial check by the delivering airline, to storage awaiting customs check, through customs, and ultimately to the consignee.

6.1.1 Institutions

The primary task here is to develop an understanding of the manner in which the various aviation-related entities have been reorganized under the Vice-Ministry of Transport within the Ministry of Public Works.

At present, there are several independent components:

- At the National Level:
 - Ministry of Public Works (MOP)/Vice-Ministry of Transport
 - Ministry of Economics
 - Executive Commission of Autonomous Ports (CEPA)
 - General Directorate for Air Transport (DGTA)
 - The Salvadorean Air Force, based at Ilopango, and occupying most of the former civil airport facilities at that location, as well as a smaller area at the AIES, and the Los Comandos base.
- At the Multi-National Level:
 - COCESNA (responsible for en route traffic control);

- **Within the Private Sector:**
 - TACA (the privately-owned Salvadorean airline, which also has interests in AVIATECA of Guatemala and SAHSA of Honduras) and other airline companies operating to El Salvador;
 - TAES, an air taxi operator of both domestic and international services;
 - Flight training schools, of which there are three, all at Ilopango;
 - Private aircraft owners/operators.

Recently, CEPA and DGTA have been brought under the umbrella of the Vice Ministry of Transport within the Ministry of Public Works. The consultants are in full agreement with this action, as it allows the government to better integrate the diverse activities of the air transport sector. This is particularly relevant in view of the limited impact of aviation beyond the International Airport of El Salvador.

Figure 6.1.1 illustrates the restructured organization of the Ministry of Public Works and its components, with emphasis on the air transport sector, and including the DGTA and CEPA. Figure 6.1.2 illustrates the current organization of the General Directorate for Air Transport. Figure 6.1.3 illustrates the current Cargo Terminal staff structure at the International Airport of El Salvador.

DGTA is an agency in charge of all the needed actions corresponding to the Authority of Civil Aviation and those derived from the law or code of civil aviation in force. At the present it has trained and experienced personnel to perform their functions. However, due to the decrease in volume of operations at the Ilopango Airport, this personnel capacity is not being fully utilized and represents a potential for aeronautical activities of the Country.

CEPA is responsible for planning, administration and operation of El Salvador International Airport. Its responsibility covers the operational aspects and must comply with DGTA and International Organisms rules.

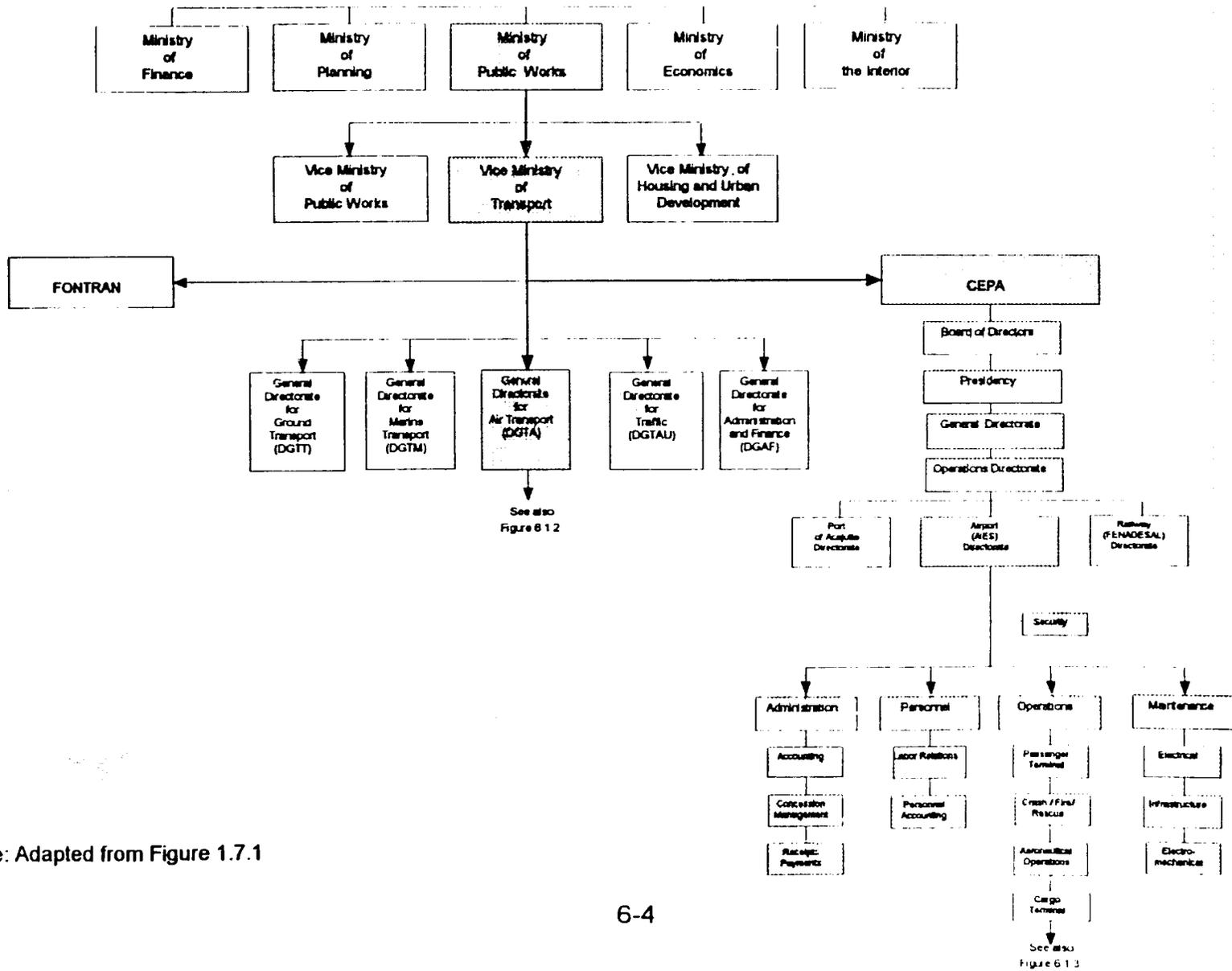
6.1.2 Traffic

This section describes the historic and present air passenger and cargo flow to/from El Salvador.

a. Passengers

Passenger traffic is concentrated at the International Airport of El Salvador, with only limited regional and national traffic at Ilopango and other Salvadorean airfields.

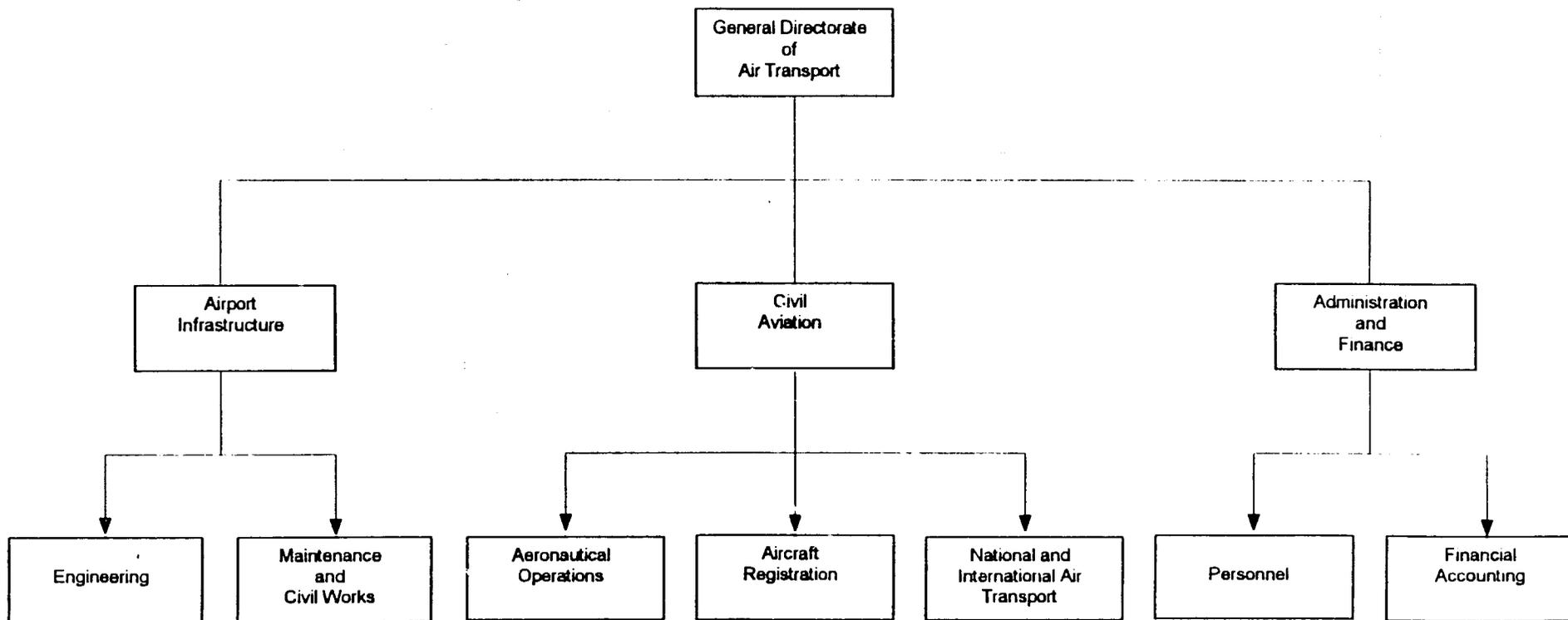
FIGURE 6.1.1
Air Transport Within the Ministry of Public Works



Source: Adapted from Figure 1.7.1

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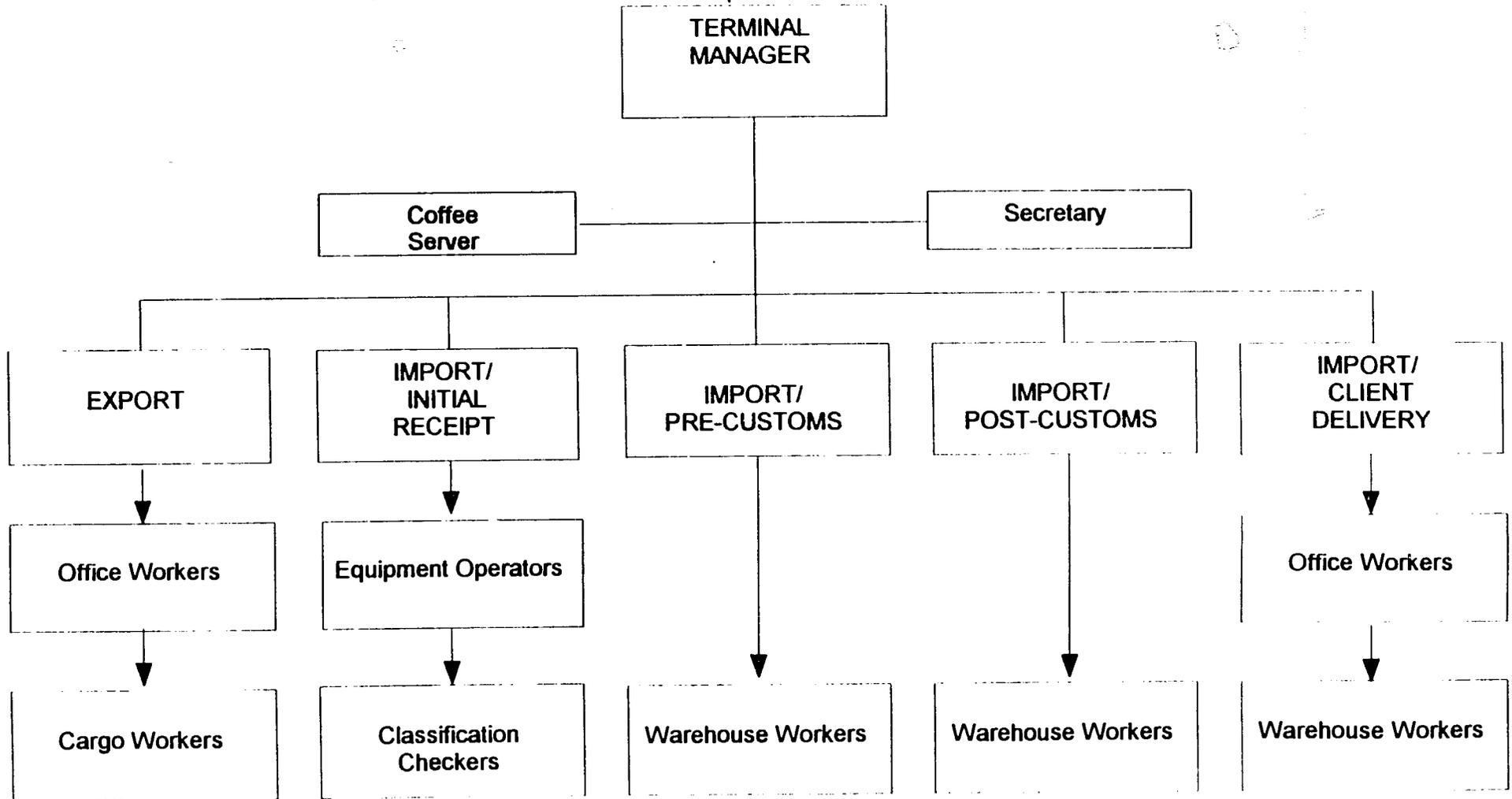
FIGURE 6.1.2
General Directorate of Air Transport (DGTA)
Organization Chart



Source: DGTA

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FIGURE 6.1.3
Cargo Terminal Organization Chart
International Airport of El Salvador



Source: CEPA, Cargo Terminal Study, August, 1992, page 4

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- International Airport of El Salvador (AIES)

Passenger traffic at the International Airport of El Salvador has grown rapidly in recent years (Table 6.1.1). International and regional passenger traffic is concentrated in several markets (Table 6.1.2). The dominant markets are those of Salvadoreans residing in the United States, hence the particular importance of Los Angeles and Miami.

Regional passenger traffic, though still a minority, is relatively more important than regional cargo traffic; 15% of all passengers are carried to/from bordering countries.

TABLE 6.1.1
Arriving/Departing Passengers, International Airport of El Salvador
1988-1993

YEAR	ARRIVALS	DEPARTURES	TOTAL
1,988	220,897	211,875	432,772
1,989	212,938	233,946	446,884
1,990	264,193	240,600	504,793
1,991	270,491	267,470	537,961
1,992	368,478	356,858	725,336
1,993	387,039	394,642	781,681
1,994	427,835	403,451	831,286

Source: CEPA, Anuario Estadístico 1993, Cuadro No.1

TABLE 6.1.2
Total International and Regional Passengers
International Airport of El Salvador
(in descending rank order by 1993 arriving/departing traffic, by group)

Group	International		Regional	
Atlantic 44% 343,057	Miami	155804	None	
	Houston	89226		
	New York	46035		
	Washington	36929		
	Europe/Mad	8138		
	New	5483		
	Chicago	1310		
	San Juan	132		

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TABLE 6.1.2 (continued...)
Total International and Regional Passengers
International Airport of El Salvador
(in descending rank order by 1993 arriving/departing traffic, by group)

Group	International		Regional	
	Eastern 16% 122,333	San Jose	41329	Tegucigalpa
Panama		24958	Managua	17946
All Other		1607	San Pedro	14769
Pacific 29% 229,462	Los Angeles	199602	None	
	San	29860		
Western 11% 86,829	Mexico City	27439	Guatemala	53237
	All Other	189	Belize	5964
Total 731,681				
		85%	668041	0.15
				113640

Source: CEPA, Anuario Estadístico 1993, Cuadro No.6

Transit passengers - a measure of the through-flow and/or connecting traffic of an airport - have diminished sharply in recent years (Table 6.1.3). Transit passengers in 1994 represented only 11% of arriving/departing passengers - down from 38% only five years ago, and down by more than 80,000 in absolute terms.

TABLE 6.1.3
Transit Passengers International Airport of El Salvador 1988 - 1993

Total Transits Arriving/Departing		Passengers In Transit	As a % of Total
Year	Passengers		
1.988	432.772	115.001	27%
1.989	446.884	168.908	38%
1.990	504.793	160.858	32%
1.991	537.961	128.782	24%
1.992	725.336	79.497	11%
1.993	781.681	121.109	15%
1994	831.286	88.099	11%

Source: CEPA, Anuario Estadístico 1993, Cuadro No. 1

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- Ilopango

Passenger traffic at Ilopango is minimal, and has declined sharply in recent years (Table 6.1.4). While current statistics are not available, the pattern of domestic passenger flow in 1991 reflected the dominance of just one airfield (Pajaros de Acero, now abandoned) near the city of San Miguel; traffic at all other locations was only one or fewer air passengers each way per day, assuming an average of two passengers per aircraft movement (Table 6.1.5).

TABLE 6.1.4
Total Arriving/Departing Passengers, by Aircraft Category
Ilopango Airport 1986-1993

Category	1986	1987	1988	1989	1990	1991	1992	1993
Commercial*	123,766	85,719	54,944	36,474	16,848	11,043	8,687	5,310
Various*	11,997	7,464	6,960	7,941	8,933	9,209	17,395	13,402
Civil*	16,407	10,852	10,507	10,284	9,577	9,724	8,548	8,595
Training	412	308	232	163	136	382	287	460
Total	152,582	104,343	72,743	54,862	35,494	30,358	34,917	27,767

*Commercial = paying passengers on domestic flights

Various = private aircraft on international flights

Civil = non-paying passengers on domestic flights

Source: Operations Department, Statistics Section, General Directorate of Air Transport.

TABLE 6.1.5
Total Domestic Aircraft Movements, by Origin/Destination
Ilopango Airport
1989-1991

AIRPORT	DEPARTMENT	1,989	1,990	1,991
Cangrejera	La Libertad	9	0	3
Las Cachas	La Libertad	19	2	2
A.I. El Salvador (AIES)	La Paz	910	880	759
Entre Rios	La Paz	32	32	5
Las Micas	La Paz	425	125	187
Belen	La Union	1,640	194	236
El Tamarindo	La Union	23	10	38

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TABLE 6.1.5 (continued...)
Total Domestic Aircraft Movements, by Origin/Destination
Ilopango Airport
1989-1991

AIRPORT	DEPARTMENT	1,989	1,990	1,991
Sta. Rosa de Lima	La Union	1,321	673	380
Los Comandos	Morazan	473	215	22
El Papalon	San Miguel	170	188	437
El Platanar	San Miguel	95	1	0
Monte Grande	San Miguel	80	53	9
Pajaros de Acero	San Miguel	5,470	4,002	2,487
La Cabaña	San Salvador	2,845	1,401	251
El Ronco	Santa Ana	145	87	89
Ostua	Santa Ana	72	57	155
La Carrera	Usulután	1,322	697	692
Other	Various	7,679	3,367	2,438
Local	Ilopango	0	5,918	7,585
	Total	22,730	17,902	15,775

Note: Local means both departure and arrival at Ilopango

Movements means landings and take offs combined.

Data since 1991 not available.

Source: Operations Department, Statistics Section, General Directorate of Air Transport.

● **Other Salvadorean Airports**

Passenger traffic at and between other Salvadorean airports has not been tabulated, in part because there are no personnel stationed, or control towers provided at these airfields. Given negligible movements between airports other than Ilopango, one can generally conclude that the arriving/departing traffic levels were equivalent to those shown above.

b. Cargo

Cargo traffic is also concentrated at the International Airport of El Salvador, with negligible or non-existent regional and national cargo traffic at Ilopango and other Salvadorean airfields.

- International Airport of El Salvador (AIES)

Several key points should be noted at the outset:

- Growth over the past fourteen years has been significant, with total tons handled having increased almost 400% between 1981 and 1994 (Table 6.1.6). This growth has been substantially more pronounced in the case of export air cargo (530%) than import (315%);

TABLE 6.1.6
Import and Export Air Cargo, in Tons, International Airport of El Salvador
1981-1994

YEAR	IMPORTS	EXPORTS	TOTAL
1981	4,830.43	2,966.53	7,797.01
1982	4,585.05	2,659.14	7,244.18
1983	5,254.77	3,677.15	8,931.92
1984	6,362.65	4,795.70	11,158.30
1985	6,174.03	4,428.31	10,602.30
1986	5,676.82	3,159.80	8,836.62
1987	6,784.06	4,747.39	11,531.40
1988	6,868.64	6,259.53	13,128.10
1989	6,825.57	5,408.78	12,234.30
1990	7,829.09	6,530.24	14,359.30
1991	8,936.26	7,871.36	16,807.60
1992	11,187.20	11,703.90	22,891.10
1993	12,696.50	13,441.80	26,138.40
1994	15,233.40	15,672.60	30,906.10

Source: AIES Cargo Consolidation Center Study, November, 1992, p.11

- 58% of the Salvadorean air cargo is carried by airlines that transport both, passengers and cargo in regular flights, and only 42 percent by enterprises operating cargo flights exclusively.

- Table 6.1.7 shows the moved cargo by airline. Regarding TACA, its volumes include both, cargo aircraft and mixed aircrafts; however, given the features of its fleet, normally transports cargo in mixed flights from-and-to El Salvador to different origins and destinies in central America.

TABLE 6.1.7
Estimated Mixed/All-Cargo Aircraft, Import/Export Breakdown
International Airport of El Salvador 1993

Air Carrier	Imports (Tons)	Exports (Tons)	Percent of Combined Total
SCHEDULED/MIXED			
TACA (1)	5,626	5,655	43%
Others (United/SAHSA/ COPA/American/LACSA/etc.) (2)	1,052	2,926	15%
NON-SCHEDULED/ALL-CARGO			
Challenge Air Cargo	2,588	2,728	20%
Aeropuma	1,436	771	8%
Aerial Transit	945	1,099	8%
Others	1,050	263	6%
TOTAL	12,697	13,442	100%

(1) This cover transport in cargo planes plus mixt planes.

(2) All mixt air cargo craft.

Source: CEPA, Anuario Estadístico 1993. Cuadros 21/23.

- Overall volumes are not constrained by airport runway capacity or airline services. Assuming an average all-cargo jet capacity of 50 tons, the present total annual national air cargo volume could be carried in less than six round-trip flights per week, or one per day excluding Sundays.
- As is always the case, overall volume is reduced from the theoretical maximum because shippers often do not want to pay the price airlines expect/demand in order to provide the desired airlift capacity.
- Air cargo imports consist largely of manufactured goods, especially equipment, machinery and pharmaceuticals.

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- Imports are clearly focused on Miami, Florida, from which flowed more than 9,000 of the 13,000 tons of air cargo imported in 1993, or 73% (see Table 6.1.8). Perhaps most significantly, only 375 tons (3%) flowed from adjacent Central American countries, as CEPA records shows.

TABLE 6.1.8
International and Regional Import Air Cargo
International Airport of El Salvador
(in descending rank order by 1993 inbound tons, by group and origin)

Group	International		Regional	
Atlantic 83% 10,555	Miami	9,217	None	
	New Orleans	1,103		
	New York	130		
	Houston	68		
	Washington	34		
	Other	3		
Eastern 10% 1,191	Panama	759	Tegucigalpa	91
	San Jose	179	San Pedro Sula	49
	Other Latin Amer.	106	Managua	7
Pacific 4% 553	Los Angeles	546	None	
	San Francisco	7		
Western 3% 395	Mexico City	167	Guatemala	228
Total	12,694	97%	12,319	3% 375

Source: CEPA, Anuario Estadístico 1993, Cuadro No.17

- Air cargo exports consist largely of "maquila," or locally manufactured goods.

Exports are also focused on Miami, Florida, to which flowed nearly 9,000 of

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the 13,000 tons of air cargo exported in 1993, or 66% (see Table 6.1.9). Perhaps most significantly, only 437 tons (3%) flowed to adjacent Central American countries.

TABLE 6.1.9
International and Regional Export Air Cargo
International Airport of El Salvador
 (in descending rank order by 1993 outbound tons,
 by group and destination)

Group	International		Regional	
	Destination	Tons	Destination	Tons
Atlantic 87% 11,642	Miami	8,820	None	
	Houston	1,665		
	New Orleans	1,076		
	New York	63		
	Washington	18		
Eastern 8% 1,048	Panama	504	Managua	150
	San Jose	199	Tegucigalpa	101
			San Pedro Sula	94
Pacific 4% 554	Los Angeles	549	None	
	San Francisco	5		
Western 1% 200	Mexico City	108	Guatemala	82
			Belize	10
Total 13,444		97% 13,007	3% 437	

Source: CEPA, Anuario Estadístico 1993, Cuadro No.18

6.1.3 Operations

This section summarizes the present operations of passenger and cargo services in El Salvador, based on:

- Numerous examinations of actual practices
- Visits to the passenger and cargo terminal facilities of the International Airport of El Salvador/Comalapa, including detailed examination of the flow and procedures related thereto.

- Discussions with CEPA and Customs management.
- Discussions with cargo managers and/or their departmental representatives from TACA, AeroG26puma, and Challenge Air Cargo.
- Visits to the airfield at Ilopango, including the areas designated for general aviation and the domestic operations of TAES, the flight schools, and the military facilities occupying the former passenger terminal and cargo warehouses of the Ilopango Airport.
- Discussions with key personnel of the General Directorate for Air Transport.

a. International Airport of El Salvador (AIES)

Based on a general examination of the cargo operations at AIES, air cargo problems appear to relate to both space needs and utilization, and the speed (or lack thereof) related to the processing of imports.

For both imports and exports, the overall flow is straightforward:

In the case of exports, there is little involvement of the airport authorities. Cargo is brought to the airport (little is pre-palletized) and sorted by the airlines for shipment. CEPA rents space to the various airlines in a section of the cargo terminal; TACA has by far the largest such section, an area divided by airport of destination.

In the case of imports, goods are off-loaded from the aircraft to the ramp, where they remain awaiting forwarder and CEPA clearance.

Pallets are broken down in a staging area with the capacity to process only one unit at a time. Once checked, cargo is placed in the CEPA holding section, a multi-aisled, tri-level shelving area that includes both cool and cold storage lockers.

There are several space problems: many pallets and/or containers remain exposed to the elements on the open apron due to lack of storage space under cover. The breakdown area is physically limited, so that only one pallet at a time can be disassembled. And, once disassembled, the cargo must be placed in the interim storage area awaiting customs processing, an average wait of 15 days, according to CEPA studies on this matter.

Cargo shipments are then physically transferred from CEPA's interim storage area to an adjacent customs inspection area; the latter is congested, and all processing is manually implemented. Once checked, the cargo shipments are delivered directly to waiting clients at the CEPA's expedition warehouse.

In order to expedite the delivery of imported cargo, CEPA has established the procedure of DIRECT DELIVERY, by which CUSTOMS authorizes the importer to take the cargo

away directly from the aircraft to the transport vehicles, making all the process under CEPA supervision.

There could clearly be improvement in the customs processing efficiency. Any or all of three methods are possible:

- Computerization of import duty calculation and manifest review, possibly through down-line retrieval of previously-computerized airline waybill information;
- Reduction of customs processing time through random selection of a fractional percentage of total shipments, thus not only alleviating overall processing time expended, but concurrently reducing required warehouse space.
- Extension of customs hours of operation to provide for both additional effort and a schedule comparable to that of the CEPA portion of the cargo flow.

While overall space requirements will be discussed in more detail subsequently, overall the export facilities occupy about one-fourth the space required for import air cargo processing, although their respective annual volumes are virtually identical.

Table 6.1.10 shows the overall trend in aircraft operations at AIES from 1988 to 1993. Commercial aircraft movements have risen sharply (nearly 50%) over the last two years.

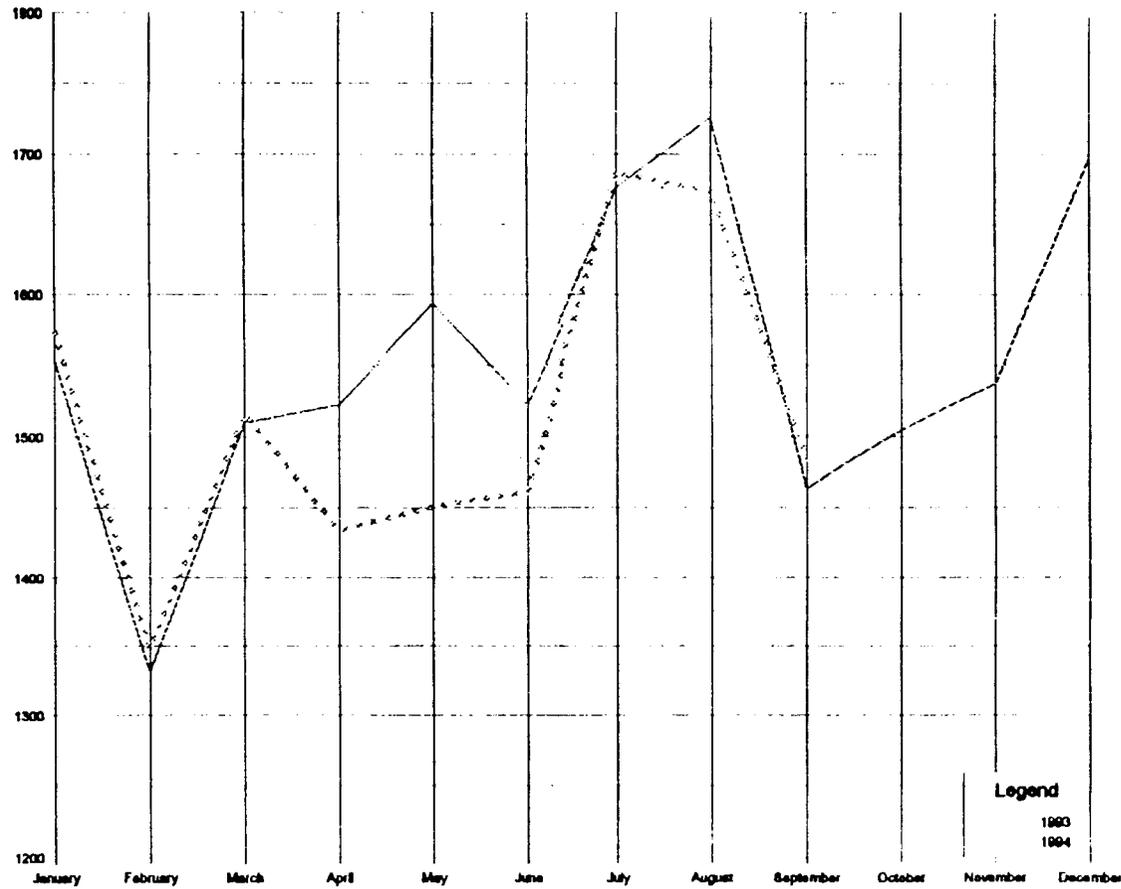
TABLE 6.1.10
Total Aircraft Movements, by Aircraft Category International Airport of El Salvador
1988-1993

Category	1988	1989	1990	1991	1992	1993
Commercial Aircraft	11,430	12,308	12,694	12,529	15,931	18,630
General Aviation	1,436	1,591	1,534	1,516	1,089	1,550
National Aviation	106	28	70	216	282	530
Air Taxis	1,160	1,622	1,248	970	1,084	754
Total	14,132	15,549	15,546	15,231	18,386	21,464

Source: CEPA, Anuario Estadístico 1993, Cuadro No.1

Figure 6.1.4 presents the monthly trend in these commercial aircraft movements for 1993-94.

FIGURE 6.1.4
Commercial Aircraft Movements, by Month, International Airport of El Salvador
1993-1994



Source: CEPA, anuario estadístico, 1993, Cuadro N°11

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There was a 30% difference between the February low (1,332) and the August high (1,720). Results for 1994 (superimposed on the same graph) are roughly similar through October.

b. Ilopango

There are only limited commercial air operations at Ilopango; mos. of this former commercial airport is used for military purposes. The eastern portion of the airfield is used for general aviation purposes, including flight training, itinerant private flying operations, and charter services (TAES for domestic passenger services, and Helica helicopter operations).

Table 6.1.11 shows the declining trend in aircraft movements at Ilopango, the dominance by the military, and the limited presence of commercial activity. Table 6.1.12 shows international aircraft movements at Ilopango by origin and destination, clearly illustrating the airfield's use for regional flying (55% Guatemala, 41% other Central America and Mexico; only 4% non-regional).

TABLE 6.1.11
Total Aircraft Movements, by Aircraft Category, Ilopango Airport
1986-1993

Category	1986	1987	1988	1989	1990	1991	1992	1993
Commercial*	30,253	23,314	14,999	10,880	6,300	4,828	3,935	2,521
Various*	4,963	3,137	2,827	3,129	3,509	3,714	11,093	7,403
Civil*	6,501	5,426	5,227	4,881	4,414	5,459	5,775	6,180
Training	5,518	4,646	3,802	7,390	6,145	6,251	7,217	6,978
Official/Nat	329	488	272	66	58	143	131	163
Agricultural	249	58	82	99	141	147	81	48
Military	N/A	N/A	26,043	26,254	24,459	15,874	10,477	12,333
TOTAL	47,813	37,069	53,252	52,704	45,026	35,876	38,709	35,676

Commercial = paying passengers on domestic flights

Various = private aircraft on international flights

Civil = non-paying passengers on domestic flights

Includes landings and takeoffs

Source: Operations Department, Statistics Section, General Directorate for Air Transport.

TABLE 6.1.12
Total International Aircraft Movements, by Origin/Destination Ilopango Airport
1989 - 1991

COUNTRY	1989	1990	1991
BELIZE	15	24	27
COLOMBIA	5	2	22
COSTA RICA	287	144	295
ECUADOR	1	0	3
GUATEMALA	2,101	1,995	2,343
HONDURAS	615	233	724
CAYMAN I.	0	0	3
MEXICO	156	104	214
NICARAGUA	20	87	147
PANAMA	299	11	332
VENEZUELA	2	1	9
USA	219	64	109
TOTAL	3,720	2,665	4,228

Includes landings and takeoffs.

Source: Operations Department, Statistics Section,
 General Directorate of Air Transport

This present reality of the Ilopango Airport allows to state the following:

All the terminal facilities, for passengers and cargo, are used exclusively for military purposes.

There is an important decrease in passenger traffic in commercial aircrafts from 123,766 in 1986, to 5,310 in 1993. Air cargo transported is practically unexisting.

Based on a special regime of National Security, there is Executive Decree number 422, dated October 1987, which limits the weight to 15,000 pounds and the capacity to 12 passengers for private aircrafts, operating at the Ilopango Airport.

The San Bartolo Free Zone Industrial Park and its industries, are practically adapted to the cargo international operations of the El Salvador Airport and at present, according to the volumes they handle, their cost structures are settled to this reality.

c. Other Salvadorean Airports

There are no significant operations at any other Salvadorean airfields at present.

6.1.4 Financial Position

a. International Airport of El Salvador (AIES)

The International Airport of El Salvador makes a substantial profit, based on available information, sufficient to provide for the costs of periodic rehabilitation and/or expansion (Table 6.1.13).

TABLE 6.1.13
Financial Results
International Airport of El Salvador 1991-1993
(in thousands of colones)

ITEM	1.991,00		1.992,00		1.993,00	
INCOME						
Aeronautical	12.550.00	18.3%	15.703,0	16.7%	20.947.00	16.9%
Non-aeronautical	43.015.00	62.7%	58.416,0	62.0%	74.862.00	60.5%
Concessions	9.210.00	13.4%	11.157,0	11.8%	12.197.00	9.9%
Various	2.830.00	4.1%	7.872,00	8.4%	13.528.00	10.9%
Internal Services	999.00	1.5%	1.105,00	1.2%	2.196.00	1.8%
Total Income	68.604.00	100.0%	94.253,0	100.0%	123.730.00	100.0%
EXPENSE						
Operating Expense						
Salaries	9.609.00	19.5%	10.787,0	15.4%	12.858.00	21.3%
Severance	1.171,00	2.4%	4.647,00	6.6%	1.516.00	2.5%
Other Salary Benefits	2.957,00	6.0%	3.497,00	5.0%	4.241,00	7.0%
Other Benefits	894.00	1.8%	1.331,00	1.9%	1.444,00	2.4%
Materials and Consumables	3.811,00	7.7%	4.067,00	5.8%	5.523,00	9.1%
Remuneration for External Services	10,227.00	20.8%	10,849.0	15.5%	11,034.00	18.3%
Depreciation and Amortization	4,777.00	9.7%	5,091.00	7.3%	5,358.00	8.9%
Travel Expense	203.00	0.4%	350.00	0.5%	347.00	0.6%
Services Rendered	4,609.00	9.4%	5,317.00	7.6%	5,559.00	9.2%

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TABLE 6.1.13 (continued...)
Financial Results
International Airport of El Salvador 1991-1993
(in thousands of colones)

ITEM	1,991.00		1,992.00		1,993.00	
Total Operating Expense	38,258.00	77.7%	45,936.0	65.6%	47,880.00	79.3%
Prior Expense	1,111.00	-2.3%	12.00	-0.0%	0.00	0.0%
Financial Cost	12,073.00	24.5%	24,074.0	34.4%	12,504.00	20.7%
Total Expense	49,220.00	100.0%	69,998.0	100.0%	60,384.00	100.0%
PROFIT/LOSS	19.38		24.26		63.35	

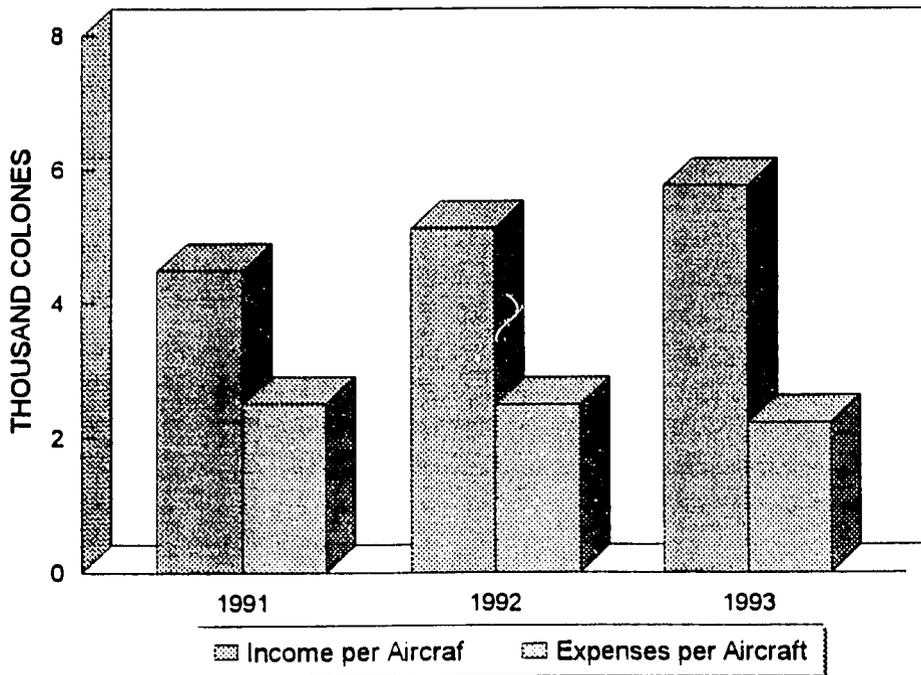
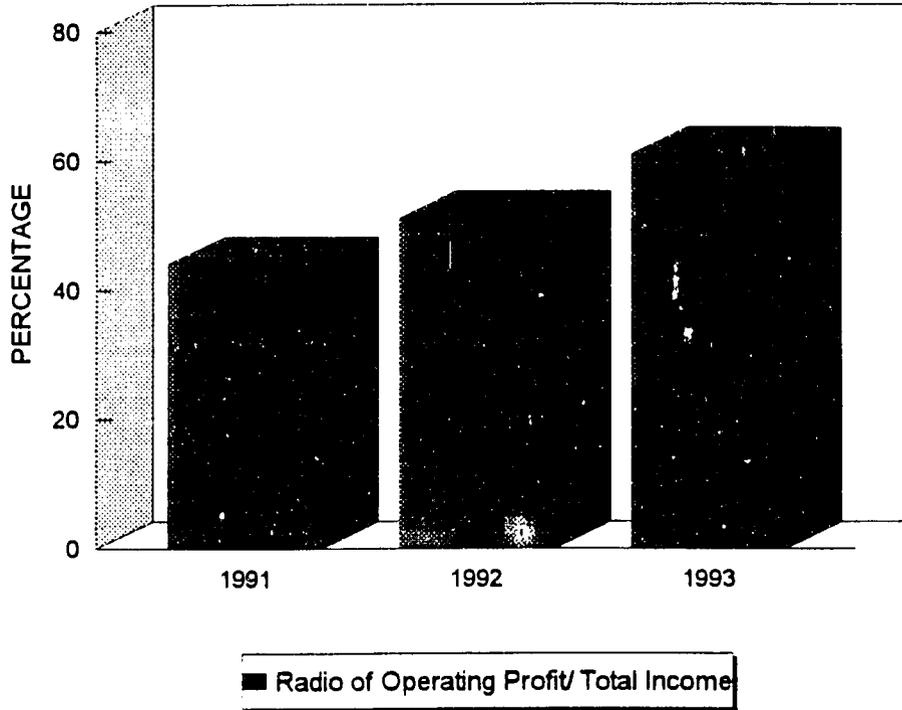
Source: CEPA

In terms of income, there has been an increase of more than 80 per cent between 1991 and 1993. There has been a relatively greater increase in variable income, as a result of substantial increases in bank interest. Items directly related to the movement of passengers and cargo increased at approximately the same rate.

In terms of expense, the various items remained relatively proportional over the years 1991-1993. Expenses for personnel, salaries, and benefits rose slightly, from 29.7% in 1991 to 33.2% in 1993. Financing expense, following the payment of extraordinary interest in 1992, returned in 1993 to a value similar to 1991, reducing its percentage slightly from 24.5% in 1991 to 20.7% in 1993.

Overall, AIES expenses rose 22.7%, which - when considering the 80% increase in income - resulted in a growth in profits from 19.4 million colones in 1991 to 63.3 million colones in 1993. As a result, the indicators of financial viability for AIES improved significantly from 1991 to 1993 (see Figure 6.1.5 following). For 1992 and 1993, operating profits of greater than 50% were realized, which is highly favorable for airport operations. Also of interest is the increase in income (and decrease in expense) per aircraft handled, over the period 1991-1993 (Figure 6.1.5 following).

FIGURE 6.1.5
Financial Results, International Airport of El Salvador



Note: Aircraft means takeoff and landing
 Source: CEPA

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AIES has strengthened its structure of NON- AERONEUTICAL revenues. This commercial strategy allows to stimulate the operation of commercial airlines at a regional level. According to the available information in terms of operational expenses, is not possible to determinate the return of the services from the cargo terminal exclusively (duties on the imported cargo, warehousing, renting of cargo terminal areas). Nevertheless, its participation is 11.1 percent of the revenues sturcture, contributing to the favorable financial situation that AIES is experiencing at the present.

b. Ilopango Airport

It should not be surprising that, given the extremely low levels of commercial activity at Ilopango, the revenues derived from this activity would be limited. Table 6.1.14 presents various categories of DGTA income, including that from Ilopango operations, totalling only about US\$34,000 in 1992.

TABLE 6.1.14
DGTA and Ilopango Airport Income (in Colones), by Category
1988-1992

Income Category	1988	1989	1990	1991	1992
Land rental	88,005	47,299	74,585	82,937	90,217
Airport services	55,441	69,052	42,907	44,055	75,343
Departure taxes	13,748	12,277	10,905	14,355	12,293
Technical services	41,335	44,855	34,670	34,755	40,285
Issuance/ revalidation of pilot licenses	20,665	36,840	23,955	36,965	31,190
Professional and technical licenses	3,790	7,600	3,195	8,504	5,795
Other charges	29,928	37,399	32,393	56,814	40,703
Fines and confiscations	16,300	18,100	7,550	-	-
TOTAL	269,212	273,422	230,160	278,385	295,826

Source: General Directorate of Air Transport

Expense figures for the period 1990-1994 indicate a continually-increasing budget level, reaching 5 million colones in 1994, nearly all of which was expended on salaries and other personal services (Table 6.1.15 following).

✓
✓

TABLE 6.1.15
Designated Budgets, General Directorate for Air Transport 1990-1994
(in thousands of colones)

ITEM	YEARS				
	1990	1991	1992	1993	1994
Salaries	¢1.564	¢1.611	¢1.958	¢2.014	¢2.745
Other Personal Services	690	710	1.596	1.952	2.319
Other Than Personal Services	85	78	68	76	53
Materials and Supplies	143	126	345	299	212
Machinery and Equipment	12	109	70	56	
Current Transfers				1	3
TOTAL	¢2.495	¢2.534	¢4.038	¢4.398	¢5.332

Source : DGTA

c. Other Salvadorean Airports

There are no financial results from any other Salvadorean airports, as no fees are collected.

d. Tariffs

- For the Intenational Airport of El Salvador

Aspects related to air cargo tariffs include the following:

- Clear definitions of cargo and dangerous merchandise.
- Procedures to follows for handling dangerous merchandise from notification to identification and storage.

Table 6.1.6 shows CEPA's tariffs for imported air cargo.

TABLE 6.1.16
CEPA's Tariffs Over Imported Air Cargo (in ¢/kg)

	BG (1)	BR	BC	BS
INITIAL PERIOD: 10 days	0.36	0.6	0.72	2.4
Additional Periods for General Merchandise (2)				
First 7 days	0.08	0.22	0.34	0.42
From the 8th to the 15th day	0.17	0.42	0.67	0.84
From the 16th to the 30th day	0.23	0.58	0.91	1.14

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TABLE 6.1.16 (continued...)
CEPA's Tariffs Over Imported Air Cargo (in ¢/kg)

	BG (1)	BR	BC	BS
More than 31 days	0.3	0.76	1.2	1.5
Additional Periods for Cargo on Special Regime (3)				
First 7 days	0.07	0.18	0.28	0.35
From 8th to 15th day	0.14	0.35	0.56	0.7
From the 16th to the 30th day	0.19	0.48	0.76	0.95
More than 31 days	0.25	0.63	1	1.25

(1) BG General Warehouse

BR Frozen Warehouse

BC Container Warehouse

BS Security Vault

(2) After basic warehousing period of 10 days, merchandise in general, will pay an extra charge per kilogram for every additional day or fraction.

(3) Charge per warehousing service for the imported cargo protected by the Law of Regime of Free-Zones and Treasury Precincts; also for the importation of raw materials to produce medicines, and medicines themselves.

Source: AIES, CEPA, Regulation of Tariffs 1993.

Once a period of over 30 days goes by, from arrival date of the merchandise, CEPA has the right of moving the cargo out of the airport to warehouses authorized by customs, being the consignee bound to pay the accumulated costs at the airport, plus transportation expenses and an extra charge for the use of warehouses outside the airport.

These are also special tariffs:

- Tariffs for imported cargo of cattle (live bovine) with direct withdrawal.
- Tariffs for exported cargo: Should the cargo to be exported require facilities used for storing of imported cargo, tariffs established for imported cargo will be applied.
- Leasing cannons, per month, applicable to airlines at the cargo terminal, for office area and storage.
- For overtime services given at the cargo terminal to receive imported cargo the rate is ¢295.00 per hour on fraction.

These are the tariff rates for air cargo at AIES. They are in general complete enough; their last revision was made on July, 1993, as indicated in the corresponding by law.

- For Ilopango Airport and DGTA

The regulations do not include tariffs for moved cargo. Only mentions monthly leasing cannons per square meter for warehouses, as follow:

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- Inside of the terminal building ¢ 3.00
- Outside of the building ¢ 1.50
- Airlines pay ¢ 3.00

This tariff regulation was established and modified according to the following decrees:

- Executive Decree No. 88, dated October, 1974.
- Executive Decree No. 109, dated December, 1974
- Executive Decree No. 46, dated July, 1975

The tariff levels in this case are outdated and must be reviewed.

The DGTA includes within its tariff regulations. "Rates for Aeronautical Technical Services" and "Aeronautical Technical Registration Rates". Although these rates have not been modified since 1975 and require review, some samples of these rates follows.

Technical Aeronautical Services:

- Inspection of landing strips construction ¢50.00
- Aircraft inspection to get navigation certificate and registration ¢25.00
- Inspection of Hangar Construction ¢15.00

Salvadorean Aeronautical Registry:

- Aircraft registration, per each engine ¢300.00
- Registry of licenses or training certificates:
 - Flight crew ¢25.00
 - Student Pilot ¢10.00
 - Land crew ¢10.00
 - Trainee ¢ 5.00

● For Air Cargo Transport

To give panoramic view of air cargo transport tariffs, following are, by type of products the ones used by challenge Air Cargo Inc., in the Salvadorean-Miami route. (Table 6.1.17).

CUADRO 6.1.17
Sample of Current Air Cargo Transport Tariffs
San Salvador - Miami

		RATE US \$
GENERAL AIR CARGO TARIFFS (\$/Kg.)		
MINIMUM CHARGE		50.0
Less than 45 Kg.		1.44
More than 45 Kg.		1.09
More than 100 Kg.		1.09
More than 300 Kg.		0.85
More than 500 Kg.		0.85
SPECIFIC CARGO RATES (\$/Kg. More than 500Kg)		
<u>CATEGORY N°</u>	<u>DESCRIPTION</u>	
SCR 0009	Foods, spices and beverages	0.59
SCR 0300	Fish and Molluscos excluding live fish	0.44
SCR 1024	Live fish not for human consumption	0.59
SCR 1439	Cut flowers and leaves	0.44
SCR 1475	Plants	0.44
SCR 2200	Clothes and partly manufactured clothes	0.48
SCR 2415	Shoes and parts	0.66
SCR 9513	Arts and crafts	0.48
Container LD7	--	USD 965.00

Source: Challenge Air Cargo Inc.

According to the DGTA, the air cargo tariffs for the USA are deregulated, based on bilateral agreement. However, the air cargo tariffs for any other country must have the approval of the Ministry of Economy.

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6.1.5 Regulations

This section briefly describes the regulatory framework of Salvadorean air transport.

The primary applicable laws are those of December, 1962, creating the General Directorate of Civil Aviation, and June, 1974, assigning to CEPA the direction, administration, maintenance, and expansion of all facilities at the International Airport of El Salvador.

Also of significance is Executive Decree 422 of 1987, limiting operations at Ilopango to private aircraft of less than 15,000 pounds weight, and 12 passengers capacity.

Of greater significance in the context of this study are laws limiting or regulating the tariffs for air transport. Given that the majority of traffic is carried to/from the United States, and given the overall trend towards deregulation in air transport, passenger and cargo tariffs have been totally deregulated in El Salvador. This is both a benefit (as it enables free-market competitive influences to apply), and a limitation (as regulated tariffs in adjacent Guatemala apparently attract additional aircraft capacity that El Salvador is at a disadvantage to influence).

6.1.6 Facilities and Capacity Constraints

This section summarizes the available aviation facilities in El Salvador, and identifies existing capacity constraints. This analysis is based on the following activities:

- Visits to the passenger and cargo terminal facilities of the International Airport of El Salvador/Comalapa, including detailed examination of the flow and procedures related thereto;
- Visits to the airfield at Ilopango, including the areas designated for general aviation and the domestic operations of TAES, the flight schools, and the military facilities occupying the former passenger terminal and cargo warehouses of the Ilopango Airport;
- Discussions with key personnel of the General Directorate for Air Transport;
- Landings at the Tamarindo, Papalon, Los Comandos, and Santa Ana airstrips, as well as at Ilopango; overflights of Punta San Juan, Belen, El Ronco and La Atalaya.

a. International Airport of El Salvador (AIES)

The facilities at the International Airport of El Salvador are the most complete and most important in the country; in reality, there is only this one air facility in terms of activity, income, and investment. In summary, this facility includes:

- A central passenger terminal with ground-level arrival hall (airline counters are parallel to the terminal facade), six second-level departure/ arrival lounges with corresponding jetways, a second-level arrival hall for immigration processing, and a ground-level baggage claim/customs check area;
- A separate cargo terminal with adjacent parking and truck docks, including air cargo agent offices and the areas described under Operations section 6.1.3 above. Table 6.1.18 provides a summary of the cargo terminal areas, and the 1992 equipment inventory;

TABLE 6.1.18
Cargo Terminal Facilities
International Airport of El Salvador

Cargo Storage (Registration and Expedition)	3422.5 M2
Metal shelving (3 x 1.4 x 4 mt.)	225 sections
Cargo Registration Area	980.0 M2
Storage area with cyclone fencing	841.0 M2
Cold Storage	63.9 M2
Other Area (Aisles, Storage)	80.0 M2
Cargo Receiving Storage	610.0 M2
Secure Storage	21.0 M2
Administration	70.0 M2

TABLE 6.1.18 (continued...)
Cargo Terminal Equipment,
International Airport of El Salvador

4 Hoists, with a capacity of	2.0 Tn.
1 Hoist, with a capacity of	3.0 Tn.
9 Hydraulic lifts, with a capacity of	2.0 Tn.
4 Manual lifts, with a capacity of	300.0 kgs.
5 Mobile platforms, with a capacity of	1.0 tn.
3 Mobile scales, with a capacity of	1,000.0 kg.
	500.0 kg.
	90.0 kg.
1 Electronic scale, with a capacity of	10,000.0 kgs
Cargo pallets or platforms	970 Units

Source: CEPA, Cargo Terminal Study, August, 1992, pp. 2-3

- Airline maintenance building, used exclusively by TACA for its routine aircraft maintenance;
- Miscellaneous airport operations buildings, including a Crash/Fire/Rescue building, workshop, warehouse, and airport maintenance building.

Present facilities are limited as follows:

- **Export Cargo Area**

This area is limited if excess cargo accumulates and must be stored outside. This will be corrected by the planned construction of a roofed area encompassing the area now occupied by the employee cafeteria, a separate cement-block building on the cargo ramp.

- **Import Cargo Area**

This area is limited in terms of the unavailability of alternate breakdown space; any problems may be alleviated by providing such an area in the proposed roofed section.

This area is also limited by congestion in the CEPA inbound storage area where goods await customs processing. The area could be improved in two ways: one, by expansion, possibly into the proposed roofed area; or two, by speedup of customs processing (by any or all of the methods noted above).

Major airport expansion plans are being implemented by CEPA as of this writing, including runway rehabilitation and significant passenger terminal expansion. This activity will be addressed in section 6.3 following.

b. Ilopango

As noted above, the former international airport at Ilopango has limited commercial activity (with no scheduled service).

The facilities at Ilopango formerly used for commercial passengers and cargo are no longer used for these purposes. The Salvadorean Air Force is using the former passenger terminal building for offices and training facilities, and the former cargo hangars/warehouses (some 12,000 m²) for military dormitories.

The apron areas adjacent to the passenger terminal (35,000 m²) and cargo terminal (20,000 m²) are used only by occasional military aircraft.

Any re-conversion of this space to civil use will be justified only by a projected re-use of Ilopango for commercial operations. Proposals for using Ilopango as an exclusive cargo airport, for example, need to consider the complications resulting from the significant use of mixed passenger/cargo aircraft noted previously.

A small terminal building (120 m²) serves as the immigration/customs control point at Ilopango, serving the infrequent itinerant aircraft.

c. Other Salvadorean Airports

Beyond these two airports, there are only 17 other licensed airfields. Only two of these are fully paved, and none has any active facilities or scheduled service at the time of this writing; these are listed in Table 6.1.19.

TABLE 6.1.19
Airports in the Republic of El Salvador Authorized through April 30, 1995
 (listed essentially west to east)

NAME	DEPARTMENT	LENGTH/WIDTH	TYPE
1. La Barra de Santiago	Ahuachapan	1007/33	GM
2. El Ronco	Santa Ana	805/26	GM
3. La Cabaña	San Salvador	845/28	GM
4. La Cangrejera	La Libertad	900/29	GM
5. Las Micas	La Paz	750/35	GM
6. Entre Rios	La Paz	750/35	GM
7. El Playon	San Vicente	1000/33	GM
8. La Carrera	Usulután	920/30	GM
9. Casas Nuevas	Usulután	1000/32	GM
10. La Bomba	Usulután	1110/30	GM
11. Corral de Mulas	Usulután	800/26	GM
12. Punta de San Juan	Usulután	700/33	GM
13. La Isla Espiritu Santo	Usulután	800/40	GM
14. El Platanar	San Miguel	700/23	GM
15. El Papalon	San Miguel	960/31	GM
16. Los Comandos	Morazan	1000/33	AS
17. El Tamarindo	La Union	1400/46	AS

Length in meters, width in feet.

GM = gravel; AS = asphalt pavement

NOS. 1-15 are privately owned/maintained,

but are licensed by DGTA, for a C225 annual inspection fee.

NOS. 16 and 17 are owned/maintained by DGTA.

SOURCE: General Directorate of Air Transport

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6.1.7 Sector Assessment Conclusion

Conclusions with respect to the air transport sector can be summarized as follows:

- Largely because of the effective concentration of air transport at the single International Airport of El Salvador, institutional consolidation under the Vice-Ministry of Transport is a valid proposition. Further consolidation of operating responsibilities within CEPA is advisable.
- While domestic air passenger traffic is virtually non-existent, international passenger traffic, largely in the form of Salvadorians residing in the United States, has grown rapidly in recent years.
 - International air cargo growth has also been significant, particularly for exports. Nearly 60% of cargo is carried on scheduled passenger/cargo flights. Both imports and exports are concentrated on Miami, regardless of true origin/ultimate destination.
 - Export cargo handling at AIES is unconstrained, largely because of "just in-time" delivery of exports prior to flight departure. Imports are more problematic, however, because of lengthy delays in custom processing necessitating extended storage in the on-airport cargo terminal. Export cargo requires about one-fourth the space of imports, but their volumes are virtually identical.
 - The International Airport realizes substantial operating profits, but all other air facility operations are non-compensatory.
 - There do not appear to be significant air transport regulatory issues at present.

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6.2 Air Transport Analysis

6.2.1 Introduction

This report section addresses three elements of the air transport sector in El Salvador:

- Future air cargo growth and analysis of institutional, operational, financial, regulatory, and facility constraints, based on four scenarios;
- A review of the 1979 Cuscatlán (Comalapa) Airport Master Plan, and Subsequent implementation.
- Summary recommendations with respect to air transport institutions (including privatization and reorganization), operations, regularion, facilities requirements, and financing alternatives.

6.2.2 Future Cargo Planning Secenarios

This section discusses the air cargo situation in El Salvador. Passenger operations and presente CEPA plans for the passenger complex are considered in another section.

In order to best analyze the numerous possible alternatives, the following scenarios (decribed in Table 6.2.1) have been adopted for evaluating air cargo flow and capacity; the plans will focus on the period 1995-2015, with emphasis on the years 1995-2000, based on assessment of potential for imports, exports, and transit cargo:

- Scenario 1:** assume existing air cargo volume (i.e. improve existing facilities to accommodate existing flow)
- Scenario 2:** assume growth only in existing Salvadorean air cargo supply/demand sectors (i.e. plan for growth, but no diversification, and only in Salvadorean sectors)
- Scenario 3:** assume growth in both existing and future Salvadorean air cargo supply/demand sectors (i.e. plan for growth and diversification, but only in Salvadorean, as opposed to both Salvadorean and regional sectors)

Scenario 4: assume growth in both Salvadorean and regional existing and future supply/demand sectors (i.e. assume that the concept of Salvador as a regional cargo hub comes to fruition, and that diversified growth occurs in conjunction). This scenario is quite possible having into consideration the central geographic location of El Salvador within the Central American region, the excellent infrastructure and navigation facilities of the International Airport of San Salvador (AIES).

However, it should be noticed that the Caribbean area is not such a good prospect for AIES to be also a hub for this region for the distance, geographic position and airlines serving the area.

A summary of these scenarios is presented below as table 6.2.1

TABLE 6.2.1
Scenarios of Cargo Demand

SCENARIO	GROWTH	DIVERSIFICATION	CONSOLIDATION
1,00	No	No	No
2,00	YES	No	No
3,00	YES	YES	No
4,00	YES	YES	YES

Air cargo forecasts, developed in accordance with each of the above scenarios, were presented in chapter 2. The summary projections from this forecast development, presented in chapter 2, are repeated below as table 6.2.2. It must be noted that due to lack of data, cargo projections do not include courier services.

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TABLE 6.2.2
Air Cargo Projections by Type and Scenario (in 1,000 tons)

SCENARIO/YEAR	IMPORTS	EXPORTS	TRANSIT	TOTAL
Scenario 1: 1994	15	15	4	34
Scenario 2				
2000	23	30	2	55
2005	35	54	3	92
2010	51	99	5	155
2015	74	177	8	259
Scenario 3				
2000	26	33	2	61
2005	46	63	3	112
2010	70	131	6	207
2015	114	256	11	381
Scenario 4				
2000	26	33	17	76
2005	46	63	30	139
2010	70	131	56	257
2015	114	256	104	474

Source: Frederic R. Harris, Inc.

In each scenario, the following issues are considered:

- ✓ Institutions
(review of possible future institutional problems)
- ✓ Operations
(review of possible future operational problems/constraints)
- ✓ Financial Results
(projection of financial results)
- ✓ Regulations
(review of possible future regulatory problems/constraints)
- ✓ Facilities
(review of possible future facility needs)

6.2.3 General Commentary on Forecast Methodology

This section analyzes the impact of forecast air cargo demand in El Salvador, as presented above and in Chapter 2.

Forecast air cargo demand is that demand which results from the effect(s) of sector constraints on unconstrained demand (that flow which would be realized in the absence of sector constraints).

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Potential sector constraints include:

- ✓ The availability of air cargo transport, its costs, and tariffs, relative to available alternatives,
- ✓ The tonnage of imports amenable to air cargo transport at these tariffs,
- ✓ The tonnage of exports amenable to air cargo transport at these tariffs,
- ✓ The physical facilities provided for accommodating air cargo transport, and
- ✓ The organizational, regulatory, and procedural structure that invigorates or impedes the sector's viability and growth.

6.2.4 Demand Issues and Projections

Demand for air cargo transport is the principal issue for analysis. The airport(s) of El Salvador, and the airlines serving them are for the most part responding to identified or envisioned demand.

This demand ultimately needs to be considered in terms of actual air cargo carried:

- ✓ In terms of weight vs. volume limits,
- ✓ In terms of imports vs. exports,
- ✓ In terms of urgent vs. general,
- ✓ In terms of secure vs. general, and
- ✓ In terms of refrigerated vs. general.

a. The Role of Competing Transport Modes

There is clearly a role for the competing transport modes in the carriage of both present and future air cargo commodities; this is particularly true in the case of highway transport to Santo Tomás de Castilla, Guatemala, for transshipment. Some of El Salvador's maquila trade moves via that routing. Given that another portion is carried by air from AIES, it remains to be seen how the modal split will eventuate in future planning periods. Poor and/or insufficient performance on the part of either road or air transport could tip the balance in the favor of the more effective participant.

b. The Role of Organizations, Regulations, and Procedures

CEPA as the principal government entity concerned with air cargo, CEPA's role in its development is critical. At present, CEPA plays largely a passive role: collecting fees for the handling of import air cargo at AIES, renting space to the airlines for the handling of export air cargo at AIES, and generally assuming responsibility for the future planning of AIES facilities. But CEPA should do much more.

CEPA should strive to adopt a more marketing-oriented approach, not commercial which should be done by the airlines, but institutional, acting to promote the services and facilities of the airport regionally and internationally, as well as domestically. In effect, CEPA should market its services as a facilitator of transportation. To fulfill this critical mission, CEPA should understand clearly:

- **Who is shipping what, by air, to whom, and to where, worldwide**
- **Who is shipping what, by other than air, but susceptible to conversion to air transport, to whom, and to where, worldwide**

The key words above are "understand" and "marketing." CEPA should understand all key flows, even where they cannot control or even influence all possible favorable outcomes. This means understanding the nature of the various industries the airport is serving, so that the airport works as a partner in developing the use of AIES and its airlines, and not just as a passive provider of airport services.

As discussed above, the respective air carriers will presumably also be undertaking aggressive commercial marketing, and the CEPA marketing effort should be viewed as complementary. This signifies to offer in the market opportune and adequate facilities and services to attract larger operations from the airlines. However, to the extent that participating airlines are not aggressive, the leadership position of CEPA as the airport facility marketer must provide an inspiring example.

This signifies to offer in the market opportune and adequate facilities and services to attract larger operations from the airlines.

Therefore, CEPA should obtain and analyze cargo flow information by product, by group (imports, exports, and transit), and by destination, with an emphasis on promoting the use of air transport (via AIES) in cargo movements. To implement this, an individual or even a small unit should be assigned the marketing function as a primary responsibility. Based on the Consultants' assessment of available data it should not be difficult to obtain a basic understanding of air cargo flows by product, assuming data inconsistencies are identified and overcome.

Present CEPA regulations, concerning the management of the AIES, only airport under

CEPA's jurisdiction, and its legal relationship with the , General Direction of Air Transport. (DGTA) requires some revisions and modifications that will allow these two agencies to function harmonically in order to provide fast services to airlines using or wishing to use the AIES facilities.

Also CEPA, Customs, the Corte de Cuentas (the General Auditing Office) and the Civil National Police, are all involved in the handling of imported air cargo, must simplify their procedures, coordinate working hours and systematize the handling of the cargo to expedite it.

6.2.5 Facilities Issues

The requirements for air cargo facilities in El Salvador are a secondary issue for analysis, since they are clearly derivative of the aforementioned demand. As noted, the airports of El Salvador, and the airlines serving them, are for the most part responding to identified or envisioned demand.

The required facilities ultimately need to be designed to accommodate actual air cargo carried:

- In terms of weight vs. volume limits,
- In terms of imports vs. exports,
- In terms of urgent vs. general,
- In terms of secure vs. general, and
- In terms of refrigerated vs. general.

a. Physical Facilities Development

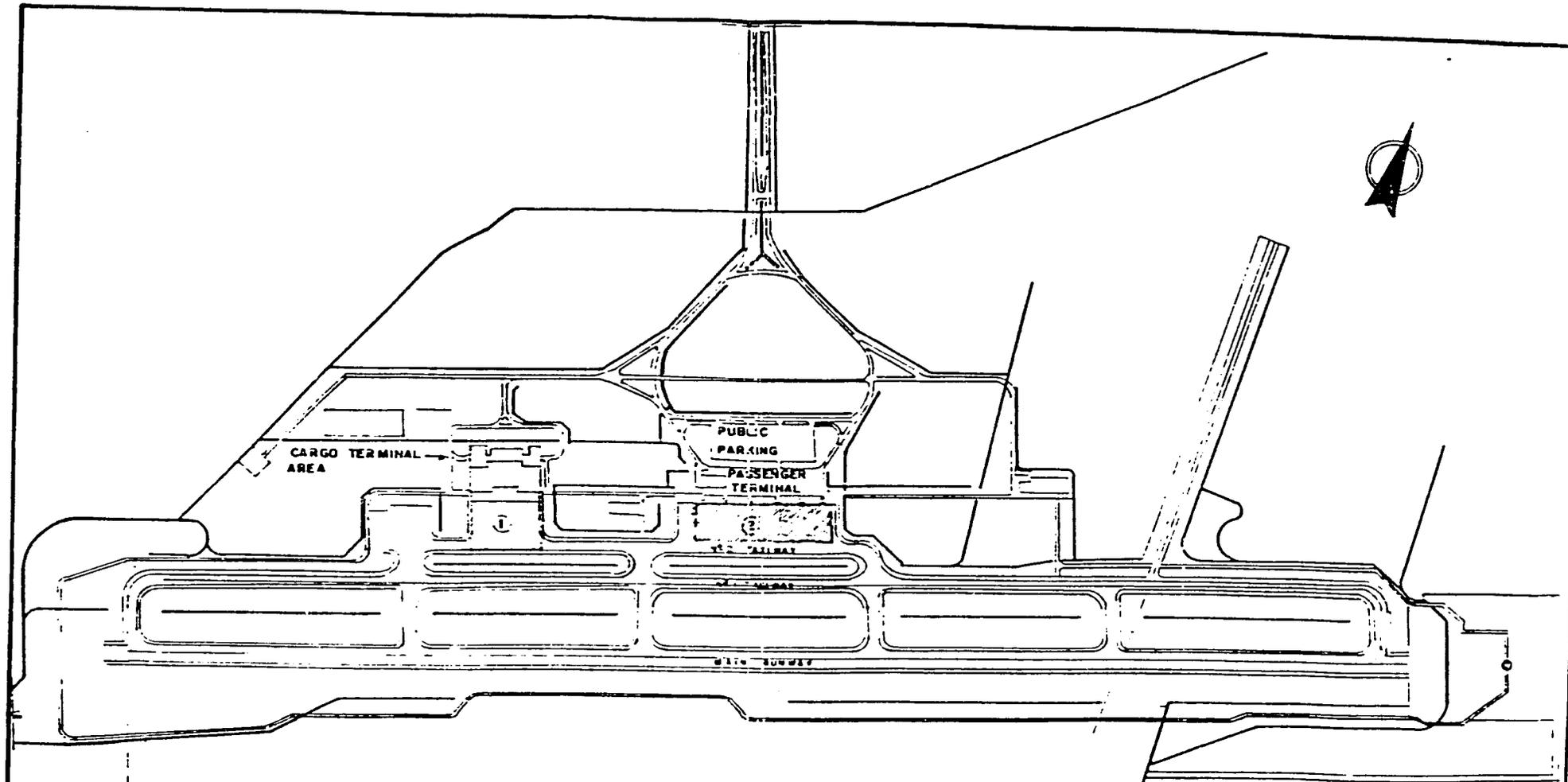
Space requirements should not be predicated on total cargo growth.

There are, at present, major differences in space requirements for export and import cargo. If these differences are to prevail in the future, cargo terminal space needs will rise disproportionately for the two categories of traffic. In addition, transit cargo - which now passes without CEPA record or handling - would be expected to increase substantially under any scenario envisioning use of AIES as a cargo "hub."

Figure 6.2.1 shows the general layout of the AIES, while Figure 6.2.2 presents the interior layout of the present air cargo terminal at AIES, showing approximate areas allotted to various terminal functions.

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FIGURE 6.2.1
International Airport Of El Salvador - General Plan



- 1- CARGO TERMINAL AND ALL-CARGO AIRCRAFT APRON
- 2- MIXED AIRCRAFT APRON AT PASSENGER TERMINAL

<p>FIGURE 6.2.1 International Airport of El Salvador General Plan</p>	<p>INTERMODAL TRANSPORTATION STUDY EL SALVADOR</p> <p>— ■ —</p> <p>USAID-GOES</p>	<p>Source CEP-</p> <p>Date Mar. 1955</p>
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SCALE 1:10,000

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FIGURE 6.2.2
Air Cargo Terminal - AIES

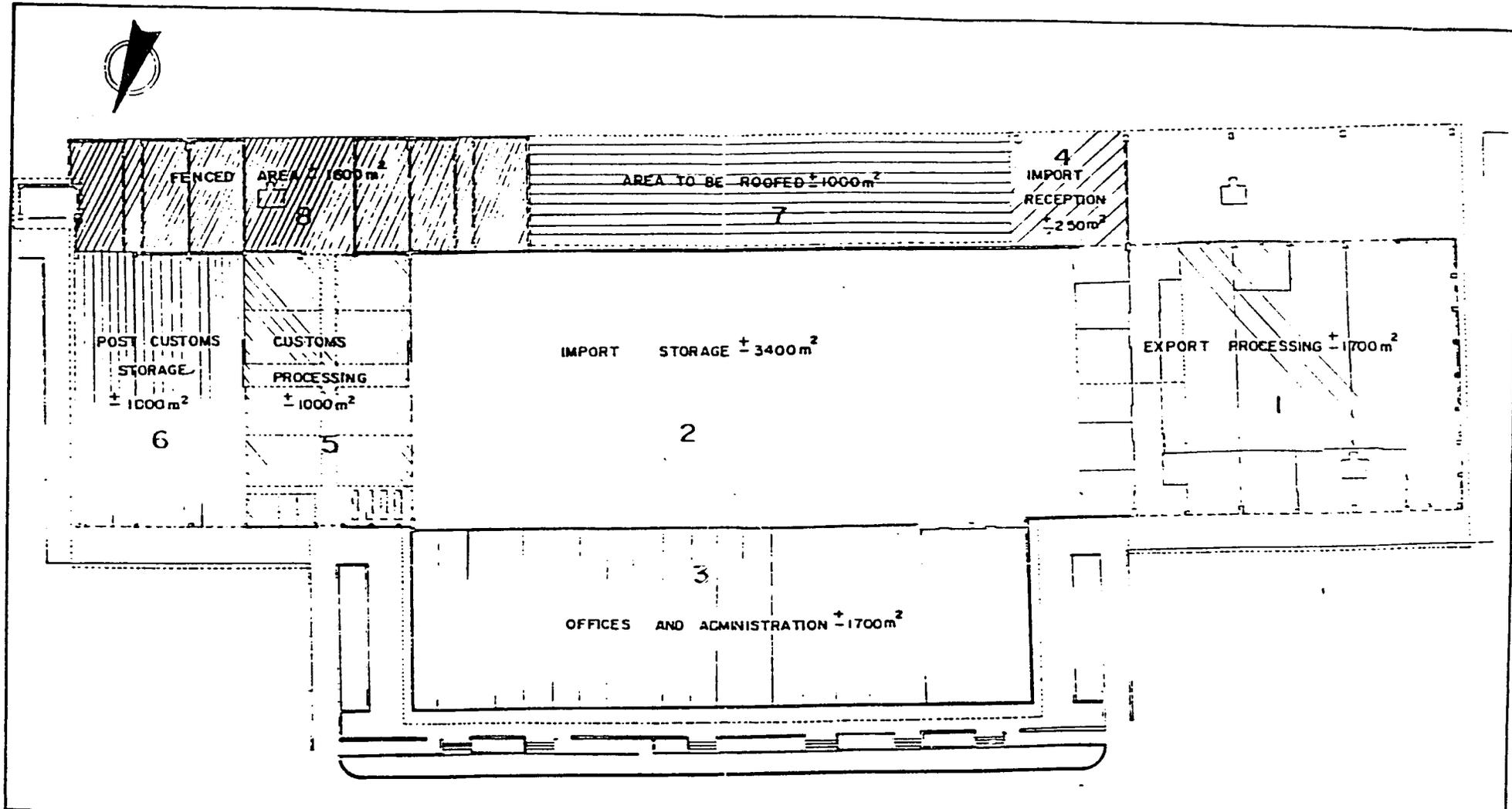


FIGURE 6.2.2
Air Cargo Terminal
International Airport
of
El Salvador

INTERMODAL
TRANSPORTATION STUDY
EL SALVADOR

USAID-GOES

Source
Frederic R. Harris
Inc.

Date
May 1988

NOT TO SCALE

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Assuming office space (area #3 - 1,700 M²) to be equally allocated to both functions, the export cargo function at AIES requires less than 20% of the remaining area (area #1 - 1,700 m²), and the import function requires more than 80% (areas #2, #4, #5, and #6 - 5,650 m²).

Thus, even though imports and exports now (1994 data) are roughly equal in tons, imports require approximately four times the airport space of exports.

Cargo terminal "capacity" is highly subjective, being based on:

- Assumed average weight per unit of space or volume (e.g. assuming an average weight of 160 kgs./m³, instead of an average weight of 110 kgs./m³, (per CEPA calculations of a study made in 1992), yields 45% "more" total space)
- Assumed use or non-use of aisle space (e.g. assuming 28% of total space used, as at present, instead of 50-60% of total space used, yields roughly 100% "more" total space)
- Assumed "cycle" time (e.g. assuming 2 days per cycle, instead of 15 days, yields 750% "more" total space)

These variations have a significant cumulative effect as well. The difference between the minimum and maximum in the above examples translates into more than 20 times the annual capacity of the terminal. Tables 6.2.3 and 6.2.4 following present the calculations of both import and export terminal "capacity."

TABLE 6.2.3
Calculation of Import Air Cargo Terminal Capacity - AIES

Assume 225 spaces of 3m (width) x 1.4m (depth) x 4.5m (height)
 (although CEPA airport plan shows 206 spaces)

= 18.9 m³ per space
 (945 m² floor area covered: 28% of 3,400 m² total floor area)
 225 x 3 x 1.4 = 945 m² → 945 ÷ 3,400 = 28%

= 4,252.5 m³ total for storage: excludes aisles, outdoors,
 breakdown area, cold storage, secure storage, or customs/post-customs areas

@ 7.18 m³ per ton handled (4,252.5 m³/592 tons terminal capacity, per CEPA
 calculations made in the 1992 study).

= 2.6 tons per space, or 0.14 tons per m³, or .62 tons per m²

Import Capacity

Average days per turnover	Cycles per year	Annual Capacity @ 592 tons per cycle
10	36.5	21,600 (existing capacity with present procedures)
8	45.6	27,000
6	60.8	36,000
4	91.3	54,000
2	182.5	108,000
1	365	216,200

TABLE 6.2.4
Calculation of Export Air Cargo Terminal Capacity - AIES

Assume 50% of floor area is "used"
 (compared to 28% of import area);
 = 1,700 m² x .50 = 850 m²

Assume storage only 2 meters high;
 = 1,700 m³ total for storage

@ 7.18 m³ per ton handled (per Table 6.2.3)

= 236 tons "capacity" per cycle

Export Capacity

Average days per turnover	Cycles per year	Annual Capacity @ 236 tons per cycle
10	36.5	9,000
8	45.6	11,000
6	60.8	14,000
4	91.3	21,500
2	182.5	43,000(existing capacity at current use)
1	365.0	86,000(existing capacity at intensive "just- in- time use")



Under each scenario following, space requirements have been calculated, and possible expansion alternatives proposed when needed. However, CEPA should complete the updating of a comprehensive AIES master plan prior to developing any additional cargo facility independent of such plan.

b. Cargo Handling Procedures

CEPA should expedite the proposed development of a computerized method of preparing its existing documentation, working with Customs and the Court Accounts so that data items, many of which are redundant, are passed electronically rather than rewritten manually as is now the case.

Further, CEPA should interface with the airlines - particularly TACA and Challenge, because of their dominant volume (but also with other computer-based systems such as those of American and United on a lower priority because of lesser volume) - to access manifest/waybill information already available in electronic form.

CEPA should also implement a more efficient overall processing flow in conjunction with the Customs and Court of Accounts authorities. Instead of sorting cargo by product type as is now the case, cargo should be stored by machine-generated internal control number and storage location, enabling ready retrieval. Legislation is currently in the US Congress which will provide the opportunity for El Salvador and other countries early access to NAFTA if they implement improved customs procedures, thus providing incentive for their adoption.

The aforementioned facility requirements disparity (for imports and exports) can superficially be explained by the lack of CEPA/Customs involvement in exports, and these agencies' total involvement in imports, with the resulting need for storage and work space.

However, there would not seem to be any rationale for assuming a lesser urgency for imports than for exports; neither wants to encounter delay. What seems to be clear is that when the client and/or forwarder and/or airline is/are responsible for pre-flight export storage, such storage time is minimized or non-existent. When CEPA, Customs and Court of Accounts import processing is involved, storage time increases to days. Therefore, a major improvement in procedural efficiency is warranted before any physical facility development is undertaken.

c. Import Cargo Handling Tariffs

CEPA should revise its fee system for cargo processing and storage, providing - in conjunction with the Customs and Court of Accounts authorities - expedited service within 24 hours for the highest fee, and regular service within 72 hours for the regular fee, replacing the current 10-day basic charge (see Table 6.1.16). Ten days of storage in an

on-apron structure represents not only inefficient use of prime space, but also a period of time inconsistent with the aforementioned urgency of air cargo ipso facto.

After 72 hours, air cargo should be sent to an off-apron storage facility (i.e. not in the present terminal) and additional fees - including charges for transfer/handling and per diem storage - should be charged. Cargo left after one month should be considered abandoned and sold to the highest bidder.

While exact charges should be determined only after more detailed study, the present fees (noted in Table 6.1.16) serve as the basis for the following recommendations. These fees, even as low as they are, as we will see later on provide enough funds to cover projected operating and investment costs.

Basic handling fees:

*Expedited clearance service
(within 24 hours):*

1.50 colones/kg.
(or a flat graduated rate)

*Routine clearance service
(24-72 hours):*

0.36 colones/kg.
(or a flat graduated rate)

Storage fees:

Up to 72 hours:

No additional charge

After 72 hours:

1.00 colones/kg. per day or fraction thereof, plus transfer and handling fees (or a flat graduated rate).

d. Transit Cargo Handling Tariffs

While present transit cargo volume does not appear to be critical, in the near future CEPA should levy a per-kilo charge for transit cargo handled, since this cargo occupies airport space and affects facility availability. It is true that any additional charges to the airlines for the handling of transit cargo will be passed to the users of the services, but it is matter of fairness to pay for them.

e. Regulatory Constraints

In order for El Salvador to be competitive, regulations that would impede air cargo development should be modified.

The legal framework between CEPA operation of the AIES and the DGTA must be smoothed to allow the best possible services to the airlines which in turn will result in better business for the AIES and consequently for CEPA.

f. The Future Role of Ilopango Airport

It has been assumed throughout this analysis that Ilopango Airport will not be reactivated as a commercial international airport, but rather maintained as a general aviation/air taxi facility only, with military use dominating as at present.

Notwithstanding this general conclusion, it is tempting to envision a more substantial domestic/regional passenger operation at Ilopango (i.e. to San Miguel, Guatemala City, Tegucigalpa, or any other point about one hour's flight time from San Salvador).

This is a relatively obvious conclusion, since the ground distance and travel time to AIES are not justified for short regional flights. Assuming a high flight frequency could be maintained at comparatively low fares, using commuter-type 15-20 passenger turbo-prop aircraft, although present regulations limit to 12 passenger aircraft a domestic/regional passenger operation at Ilopango should not totally be eliminated from consideration.

In any case, aside from small packages incidental to the above service, no air cargo role is envisioned for Ilopango. Yes, the Free Zone of San Bartolo is virtually adjacent, but the cargo is not so keenly time- or cost-sensitive that the slight additional time and cost to reach AIES with the same cargo is unjustified. It is unlikely that sufficient cargo loads could be developed based on San Bartolo alone to warrant separate air cargo flights at Ilopango, let alone handling and Customs facilities.

The former Ilopango hangars are, as noted in the assessment report, presently serving as military dormitories, and their reconversion to commercial cargo use is not warranted. Moreover, the surface congestion on routes to/from Ilopango is notorious, and would only be exacerbated by additional air cargo ground transport flows. While road investment plans might reduce this congestion in the future, these same investment plans would likely reduce travel time from San Bartolo to AIES as well.

The DGTA should be relieved of responsibility for operating Ilopango, and all operating responsibilities and costs therefore should be transferred to CEPA.

g. Courier Operations

At present these services are served at the AIES both at the passengers and cargo terminals depending on the size of the shipments. By the end of June 1995, all the courier services will be consolidated at the recently noofed old cafeteria area (approx. 1,000 m²), in order to facilitate the handling of this now voluminous cargo, that her not been taken into account in the cargo projections.

This recent CEPA decision affects our recommendations for future cargo terminal expansions, since we were counting on this area as usable to satisfy some of the cargo projection demads.

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This shows the urgent need to prepare a Master Plan for the future development of AIES infrastructure.

6.2.6 Analysis of Scenario 1: Existing Cargo Volume

This scenario reviews historic and existing cargo volume, and proposes improvements to existing facilities to accommodate existing flow. Naturally, any constraints identified under this scenario will be even more limiting in the event of the greater volume realized under the more expansive scenarios.

The forecast for this scenario assumes that the 1994 annual air cargo volume of 34,000 tons (imports, exports and transit) will remain constant over the forecast period. This status quo applies to both imports and exports, which are roughly equal in tonnage as of this writing (Table 6.2.5).

TABLE 6.2.5
Air Cargo Planning at AIES Under Scenario 1
(assume only existing cargo volume)

Existing Terminal Capacity (per Tables 6.2.3 and 6.2.4)

	Imports	Exports	+ Transit
	108,000 tons	38,000 tons	5,000 tons
Required Terminal Capacity (per Table 6.2.2)			
Year			
2000	15,000	15,000	4,000
2005	15,000	15,000	4,000
2010	15,000	15,000	4,000
2015	15,000	15,000	4,000
Excess/Shortfall of Capacity (in tons handled)			
2000	93,000	23,000	1,000
2005	93,000	23,000	1,000
2010	93,000	23,000	1,000
2015	93,000	23,000	1,000

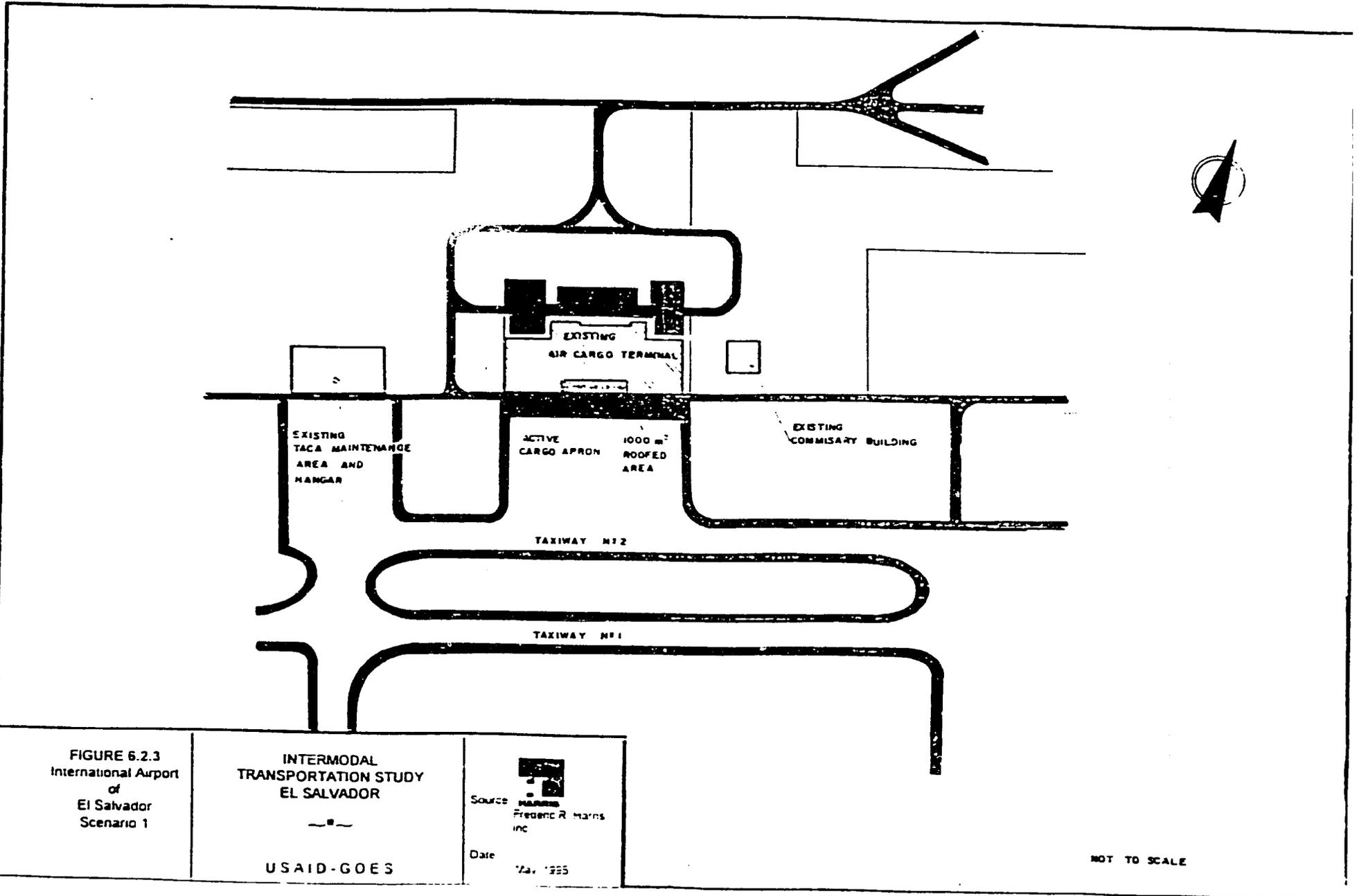
No further facility improvements are required, since capacity is greater than demand in all periods. (Figure 6.2.3)

However, internal procedural enhancements to sharply reduce overall processing time and virtually eliminate long-term on-airport/on-apron cargo storage will be useful, if only to clients served by the facility.

This plan does not include estimates of the allocation among the different types of cargo specified above, but these must be considered in any detailed plan developed.

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FIGURE 6.2.3
International Airport of El Salvador - Scenario 1



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6.2.7 Analysis of Scenario 2: Growth only in Existing Salvadorean Air Cargo, without Diversification

This scenario assumes growth, but only in existing Salvadorean air cargo supply/demand sectors (i.e. planning for growth, but no diversification, and only in Salvadorean sectors).

The forecast for this scenario assumes that the 1994 annual air cargo volume of 34,000 tons (imports, exports and transit) will increase to 259,000 tons over the forecast period (Table 6.2.2 above).

Imports will increase nearly 500% to 74,000 tons, and exports will increase nearly 1,200% to 177,000 tons. Clearly, imports and exports will no longer be in parity as at present. Further, transit cargo will increase 100% (Table 6.2.2 above).

The scenario, as well as the following scenarios 3 and 4, envisions the following institutional and operational actions:

- ✓ CEPA to adopt a more Institutional marketing-oriented approach, acting to promote the services of the airport regionally and internationally, as well as domestically;
- ✓ CEPA to obtain and analyze cargo flow information by product, by group (imports, exports, and transit) with a view towards promoting the use of air transport (via AIES) in cargo movements;
- ✓ CEPA to implement improved computerized cargo documentation, as well as improved flow within terminal.

In addition, to properly compensate for the impact of such activity on its facilities, CEPA should begin to charge the airlines for transit cargo handled, by levying a charge per kilo for all cargo actually unloaded from any aircraft for any reason.

It is also assumed that there will be no government regulations that will impede cargo development.

Despite all of the above actions, prior to 2010 there will be a need for expansion of export cargo terminal facilities by some 400 m² (18,000 tons/182.5 cycles per year @ .62 tons/m² @ 40% area utilization = 400 m² - Table 6.2.6). Expanding the existing terminal by this relatively small amount is not likely warranted; off-airport capacity (probably in private/freight forwarder hands) or interior space reallocation seem preferable.

Prior to 2015, however, an expansion of 2,200 m² will be required (99,000 tons/182.5 cycles @ .62 tons/m² @ 40% area utilization = 2,200 m² - Table 6.2.6). Expansion to the north or to the west of the present export processing facility is recommended, with the

interior reallocated overall as required to provide for the necessary import and export space needs (Figure 6.2.4).

It is possible that one or more individual airlines would seek to develop their own facilities in line with their participation in handling the significantly-increased cargo volumes under scenario 2. If this occurs, CEPA should regard favorably any such proposal, assuming that it would benefit from the lease of any land for such private development of a cargo terminal on its property. Apron location should be particularly controlled.

In all scenarios, CEPA should complete the updating of a comprehensive AIES master plan prior to developing any additional cargo facility independent of such plan.

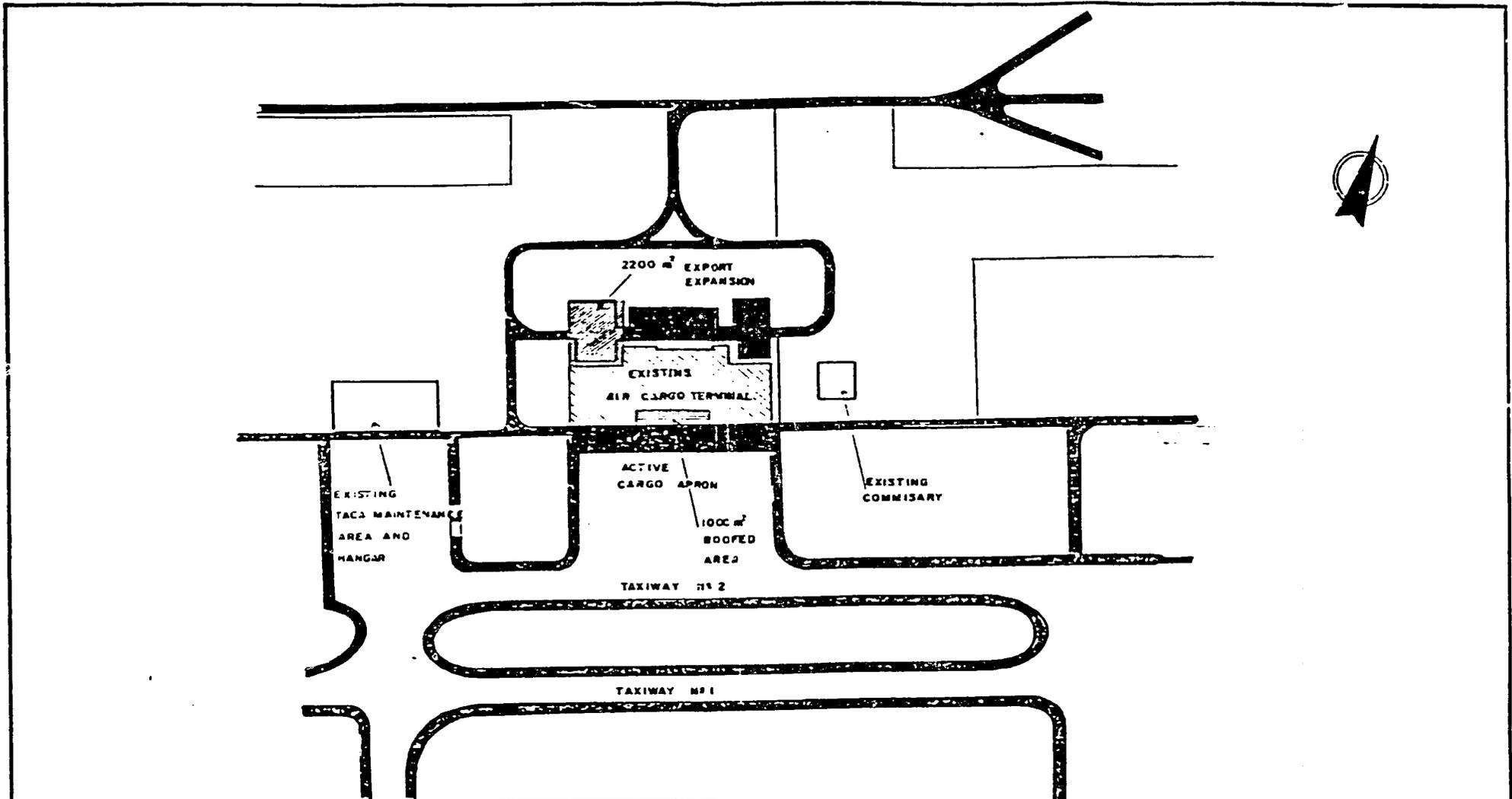
TABLE 6.2.6
Air Cargo Planning at AIES Under Scenario 2
(growth without diversification)

Existing Terminal Capacity (per Tables 6.2.3 and 6.2.4)

	Imports	Exports	+Transit
	108,000 tons	81,000 tons	5,000 tons
(The above assumes utilization/cycles as in Tables 6.2.3/4)			
Required Terminal Capacity (per Table 6.2.2)			
Year			
2000	23,000	30,000	2,000
2005	35,000	54,000	3,000
2010	51,000	99,000	5,000
2015	74,000	177,000	8,000
Excess/Shortfall of Capacity (in tons handled)			
2000	85,000	51,000	3,000
2005	73,000	27,000	2,000
2010	57,000	(18,000)	-
2015	34,000	(96,000)	(3,000)
() SHORTFALL			

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FIGURE 6.2.4
International Airport of El Salvador - Scenario 2



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<p>FIGURE 6.2.4 International Airport of El Salvador Scenario 2</p>	<p>INTERMODAL TRANSPORTATION STUDY EL SALVADOR</p> <p>USAID-GOES</p>	<p>Source: MAPS Prepared by: [unclear] Date: [unclear]</p>	<p>NOT TO SCALE</p>
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6.2.8 Analysis of Scenario 3: Growth and Diversification in Salvadorean Air Cargo

This scenario assumes growth in both existing and future Salvadorean air cargo supply/demand sectors (i.e. planning for growth and diversification, but only in Salvadorean, as opposed to both Salvadorean and regional sectors).

The forecast for this scenario assumes that the 1994 annual air cargo volume of 34,000 tons (imports, exports and transit) will increase to 381,000 tons over the forecast period (Table 6.2.2 above).

Imports will increase nearly 800% to 114,000 tons, and exports will increase more than 1,700% to 256,000 tons. Clearly, imports and exports will no longer be in parity as at present. Further, transit cargo will increase by almost 300% (Table 6.2.2 above).

This scenario also takes into consideration that CEPA envisions the aforementioned institutional and operational actions:

- ✓ CEPA to adopt a more institutional marketing-oriented approach;
- ✓ CEPA to obtain and analyze cargo flow information by product;
- ✓ CEPA to implement improved computerized cargo documentation, as well as improved flow within terminal.
- ✓ CEPA to charge the airlines for transit cargo handled.

It is also assumed that there will be no government regulations that will impede cargo development.

Despite all of the above actions, prior to 2010 there will be a need for expansion of export/transit cargo terminal facilities by some 1,100 m² (51,000 tons/182.5 cycles per year @ .62 tons/m² @ 40% area utilization = 1,100 m² - Table 6.2.7). Expansion to the north or the west of the present export processing facility is recommended, with the interior reallocated overall as required to provide for the necessary import and export space needs (Figure 6.2.5).

Prior to 2015 there will be a need for major expansion. Import requirements are a modest 130 m², and can be accommodated by internal reallocation, but export/transit requirements are far greater (181,000 tons/182.5 cycles @ .62 tons/m² @ 40% area utilization = 4,000 m² - Table 6.2.7).

Expansion to the north of the present air cargo facility is recommended. The existing cargo terminal interior also must be reallocated to provide for the necessary import and

export space needs. There will also be a need for additional apron space to accommodate the increased number of cargo aircraft. This seems to be possible extending to the west the present apron.

It is possible that one or more individual airlines would seek to develop their own facilities in line with their participation in handling the significantly-increased cargo volumes under scenario 3. If this occurs, CEPA should regard favorably any such proposal, assuming that it would benefit from the lease of any land for such private development of a cargo terminal on its property. Again, apron location should be particularly controlled.

In any case, CEPA should complete the updating of a comprehensive AIES master plan prior to developing any additional cargo facility independent of such plan.

TABLE 6.2.7
Air Cargo Planning at AIES Under Scenario 3
(growth and diversification)

Existing Terminal Capacity (per Tables 6.2.3 and 6.2.4)

	Imports	Exports	+ Transit
	108,000 tons (The above assumes	81,000 tons utilization/cycles	5,000 tons as in Tables 6.2.3/4)
Year			
2000	26,000	33,000	2,000
2005	46,000	63,000	3,000
2010	70,000	131,000	6,000
2015	114,000	256,000	11,000
<u>Excess/Shortfall of Capacity</u> (in tons handled)			
2000	82,000	48,000	3,000
2005	62,000	18,000	2,000
2010	38,000	(50,000)	(1,000)
2015	(6,000)	(175,000)	(6,000)
() Shortfall			

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FIGURE 6.2.5
International Airport of El Salvador - Scenarios 3 and 4

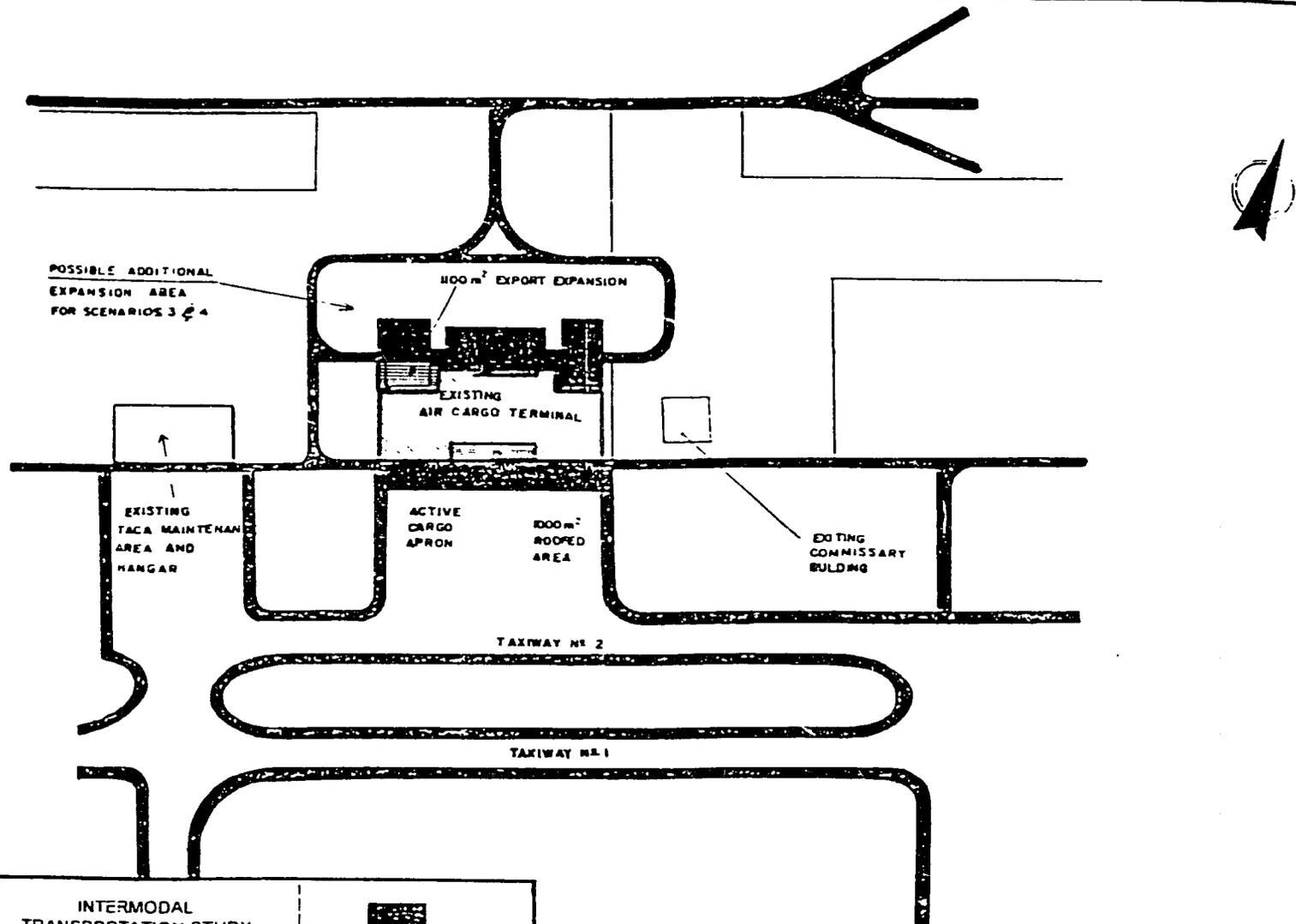


FIGURE 5.2.5
International Airport
of
El Salvador
Scenarios 3 and 4

INTERMODAL
TRANSPORTATION STUDY
EL SALVADOR

USAID-GOES

Source
HARRIS
Frederic R. Harris
Inc

Date
May, 1988

NOT TO SCALE

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6.2.9 Analysis of Scenario 4: Growth in both Salvadorean and Regional Demand

This scenario assumes growth in both Salvadorean and regional existing and future supply/demand sectors (i.e. the concept of Salvador as a regional cargo hub comes to fruition, and diversified growth occurs in conjunction).

The forecast for this scenario assumes that the 1994 annual air cargo volume of 34,000 tons (imports, exports and transit) will increase to 474,000 tons over the forecast period (Table 6.2.2 above).

Imports will increase nearly 800% to 114,000 tons, and exports will increase more than 1,700% to 256,000 tons. Clearly, imports and exports will no longer be in parity as at present. However, in this scenario, transit cargo will increase by more than 2,000%, as the cargo hub brings substantial flow through AIES (Table 6.2.2. above).

This scenario also takes into consideration that CEPA envisions the aforementioned institutional and operational actions:

- ✓ CEPA to adopt a more institutional marketing-oriented approach;
- ✓ CEPA to obtain and analyze cargo flow information by product;
- ✓ CEPA to implement improved computerized cargo documentation, as well as improved flow within terminal.
- ✓ CEPA to charge the airlines for transit cargo handled. This recommendation particularly applies in this scenario 4, when transit cargo significantly impacts on facility use.

It is also assumed that there will be no government regulations that will impede cargo development.

Despite all of the above actions, prior to 2010 there will be a need for expansion of export/transit cargo terminal facilities (before that time, transit shortfalls can be accommodated by export excesses and modest interior reallocation, since at most an additional 150 m² are involved - Table 6.2.8).

This pre-2010 expansion should be some 2,200 m² (101,000 tons/182.5 cycles per year @ .62 tons/m² @ 40% area utilization = 2,200 m² - Table 6.2.8). Expansion to the north of the present export processing facility is again recommended, as in Scenario 2, with the interior reallocated overall as required to provide for the necessary import and export space needs (Figure 6.2.5).

Prior to 2015 there will be a need for further expansion. Import requirements remain a modest 130 m², and can be accommodated by internal reallocation, but export/transit requirements are far greater (274,000 tons/182.5 cycles @ .62 tons/m² @ 40% area utilization = 6,000 m² - Table 6.2.8).

TABLE 6.2.8
Air Cargo Planning at AIES Under Scenario 4
(growth, diversification, and hub development)

Existing Terminal Capacity (per Tables 6.2.3 and 6.2.4) As per scenario 3

	Imports	Exports	Transit
	108,000 tons	81,000 tons	5,000 tons
Required Terminal Capacity (per Tables 6.2.3 and 6.2.4)			
2000	26,000	33,000	17,000
2005	46,000	63,000	30,000
2010	70,000	131,000	56,000
2015	114,000	256,000	104,000
Excess/Shortfall of Capacity (in tons handled)			
2000	82,000	48,000	(12,000)
2005	62,000	18,000	(25,000)
2010	38,000	(50,000)	(51,000)
2015	(6,000)	(175,000)	(99,000)
() Shortfall			

Expansion to the north or the west of the present air cargo facility is again recommended. The cargo terminal interior must be relocated to provide for the necessary import and export space needs. There will also be a need for additional apron space to accommodate the increased number of cargo aircraft.

It is virtually certain under scenario 4 that one or more individual airlines would seek to develop their own facilities in line with their participation in handling the significantly-increased cargo volumes. CEPA should regard favorably any such proposal, assuming that it would benefit from the lease of any land for such private development of a cargo terminal on its property. Again, apron location should be particularly controlled, recognizing that apron space would be especially desirable in a transit operation where aircraft and storage/handling should be closely situated.

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However, under an expansive cargo scenario, one in which extensive use of all-cargo aircraft is envisioned, a less-central (i.e. non-apron) location for the additional capacity may be acceptable.

This is the only circumstance which might envision the conversion of the existing remote military base near the runway 25 threshold for commercial use (see Figure 6.2.7). Prior and/or mixed aircraft use of this area is not recommended, for three reasons:

- The area's present use by the military, which may not want to vacate;
- The area's relative inaccessibility; there would be a need to cross (or inconveniently circumvent) an active crosswind runway, albeit a little-used one at present, for direct surface access; and
- The area's extreme distance from the other terminal facilities.

Alternatively, areas may be designated to the north of the cargo terminal access road, because although the area is not contiguous to the active apron, the total surface travel distance to the active apron is minimal.

In any case, CEPA should complete the updating of a comprehensive AIES master plan prior to developing any additional cargo facility independent of such plan.

6.3 Review and updating of Cuscatlán Master Plan

The key thrust of this section is to review the 1979 Cuscatlán Master Plan for the airport now known as the International Airport of El Salvador (AIES), and propose a plan to update requirements. This plan should also capitalize on El Salvador's potential comparative advantage in air cargo, by enhancing the private sector's role.

The updating task involves both sector planning and financial analysis, and review of various existing plans and their related facilities (e.g. the 1979 Cuscatlán Master Plan, subsequent CEPA studies related thereto and plans for the former international airport at Ilopango).

6.3.1 General Description of the Master Plan

The Cuscatlán Master Plan was conceived to meet the development pressures to be generated around the new El Salvador International Airport (AIES), to contribute to a Country's regional planning and more specifically to a planned development of the area surrounding the new airport. The Master Plan Study was prepared between 1979 and 1982, by a consortium of local and international firms.

The scope of this study was oriented to a development plan of the influence area of the new airport; it did not include any detailed planning of the airport infrastructure.

The study, in general terms, had the following characteristics and scope:

a. Main Objective

To utilize to a maximum the potential of the airport itself and its influence area, to promote national economic and social objectives.

b. Sectorial Objectives

- **Industrial Sector:** Take advantage of the airport localization to attract new industrial development.
- **Business Sector:** Take advantage of the airport premises to locate business centers for the national and international markets.
- **Agricultural Sector:** Forecast and innovate means to expand national and international markets for industries related to agriculture and fisheries.
- **Tourism Sector:** Take advantage of the promotional value of the proximity of the airport to the Tourism Center defined in the Tourism Development Plan of the Coastal Zone, as well as other tourist attractions.
- **Infrastructure Sector:** Develop all those public services, community facilities and transport systems needed by the development generated by the Airport, as well as nearby communities to the influence area.
- **Housing and Urban Development Sector:** Develop patterns to locate housing for people working in the area.
- **Environmental Sector:** Minimize the negative environmental impact of the Airport and its facilities to the natural environment of the surrounding area.

c. Geographic Area Covered

The study covered an area approximately 15 Km in radius, with center at the Passenger Terminal Building; in addition it included large towns beyond that radius such as Zacatecoluca and Olocuilta.

d. Elements Taken into Consideration

Once the study area was defined, the following elements were taken into consideration to ascertain the development capabilities of the area, positive and negative impacts of such development, etc.

- **Natural and Environmental Characteristics:** A study was made of the agricultural soils, since some of them, if not all, will be lost to agriculture; natural resources to be affected, flora and fauna of the area; it is to be noted that historical or archeological sites would not be affected.
- **Economic and Social Aspects:** An economic analysis was made of the then existing agricultural products of the area, shrimp exports, tourism and commercial development, the influence of the Ilopango airport free zone, population affected by the project, etc.
- **Actual and Potential Land Use:** An analysis was made of the land use and ownership at the time of the study, both as agricultural and residential. As well as the changes that the project will bring to the use of this land.
- **Transport and Public Services:** A study was made of the existing road network and future needs as well as the provision of adequate public services to the area, such as transportation, water, sewerage, electricity, etc.
- **Community Facilities:** The provision of adequate community facilities were discussed, such as educational and health centers, recreational areas, etc.
- **The Airport as Such:** An analysis was made of the new airport facilities already existing at that time: its location, size, runways, terminals, environmental impacts due to noise, constraints to development due to the noise, safety, possible expansion of the airport facilities, with passengers and cargo projections only to 1990. Figures are given for future facility expansions in very general terms. Additional land is set aside for the expansion of the runways and taxiways.
- **Legal, Administrative and Institutional Aspects:** The study analyzes CEPA and other institutions which would have participation in the development of the Cuscatlán Master Plan, and all legal and administrative requirements for such development.

e. Economic Development Impact

The study analyzes the economic development impact of the AIES. The impacts due to the airport are defined as:

- **Direct Impact:** Due to the creation of new work and income from the operations of the airport itself and related facilities.
- **Indirect Impact:** Due to expenditures made because of the direct impact and any additional income due to other business established in the area.
- **Induced Impact:** Investments whose occurrence depend in the development of a certain key event. This is the most important impact. Thus, due to the construction of the new airport the following could be considered as induced impacts:
 - ✓ Potential increase in tourism;
 - ✓ Potential increase in industry: maquila, free zone industry, construction, etc.;
 - ✓ National and international commerce.

f. Special Opportunities

Only in this section of the Cuscatlán Master Plan is a direct relationship made about the use of its cargo facilities as a possible hub facility for Central America and the benefits that such occurrence would have for El Salvador. The following two are mentioned:

- **Central America Fair:** Making use of the already existing international fairground facilities and good hotel accommodations in San Salvador.
- **Storage and Distribution Center:** The airport facilities could easily become a central point for immediate delivery of merchandise, such as spare parts, to any Central American country.

Other special opportunities are mentioned in the study such as the installation of other industries, among them, maintenance and repair of aircraft, aircraft rental services, etc.

6.3.2 Potential Development Alternatives

The Cuscatlán Master Plan Study develops alternatives looking for the highest benefit derived from the construction and operation of the AIES stating that the one which provides more employment is the best. The alternatives vary from the one that makes the airport only a transport facility to the use of the airport itself as a Development Pole of great importance. The following alternatives were studied. Advantages and disadvantages are shown for each of them.

a. Zacatecoluca as the Central Pole of Regional Development

Zacatecoluca, located at 29 Km from the AIES, is the regional economic capital of the La Paz department. As such serves as an administrative, social, cultural and economic center as well as a transport and distribution center. If Zacatecoluca became the central pole, all investment policies for infrastructure would have to be directed towards this city, including the construction of free zones and a good connecting road system.

The advantages of this alternative would be to maintain the already programmed investment for Zacatecoluca as a Development Pole. It would avoid duplication of already existing infrastructure. It would have social benefits for the city and generation of employment. On the other hand, because of the distance, transportation costs would be very high, starting from the need to build an excellent connecting road.

b. AIES as the Development Pole

The airport itself, being a large public investment, could be the Development Pole. Under this alternative, the policy would be to direct other large investments towards the airport. At the site it could have an important Industrial Park with a Free Zone, Commercial Fair Grounds, large warehouses and other facilities to provide for the needs of the population rendering services in the area.

The advantages of this alternative would be to maximize in one location the economic impact of AIES. It would create a large amount of job opportunities where there are otherwise few. On the other hand, it would cause large growth at the AIES site, but could detain the growth of other areas such as Zacatecoluca and San Bartolo (free zone next to Ilopango) may be diminished. Also it would duplicate infrastructure already existing in other areas and it would utilize valuable agricultural land.

c. Do not Establish a Development Pole

This alternative proposes AIES as a means of national rather than only regional economic development. As such, the economic orientation is towards San Salvador, instead of

Zacatecoluca or the airport itself. Otherwise, it is similar to Alternative (a), described above.

The major advantage of this alternative is to reduce infrastructure costs to a minimum. On the other hand, this alternative does not make total use of the potential growth of the airport; it also tends to direct growth towards San Salvador and produces congestion on the airport access road from San Salvador.

The evaluation of each of these alternatives took into consideration:

- Environmental aspects such as soils, water availability, air contamination due to the operations of the aircraft and industries to be established, waste disposal, etc.
- Community aspects, such as the presence of populated centers near by, impact on Zacatecoluca for Alternative (a), the creation of a new community for Alternative (b), regional impacts, etc.
- Financial and economic considerations

Upon the evaluation of the three alternatives, Alternative (b) - AIES as a Development Pole was selected as the one having the highest regional and national benefits. Once this alternative was chosen, the consultants of the Cuscatlán Master Plan proceeded with the detailed design of the project. Later it will be noted that the plan was not implemented.

6.3.3 Detailed Design of the Master Plan

The detailed design of the Cuscatlán Master Plan took into consideration the following elements.

a. Land Use Planning

The Area of Influence was redefined with more precision. It was stated that all the area of influence, with the exception of areas assigned to other specific uses, could be used as agricultural land. Along the coast, a strip of land, about 1,000 m wide was assigned to Tourism Development. Also land assignments were made for urban and industrial development, conservation and preservation, as well as road improvements, public utilities, etc.

b. Urban Development Plan

In this section of the Master Plan, in the areas assigned above for urban development, a detailed design was made, defining the locations of the free zone, industrial park, housing,

recreation, health and educational centers, hotel, fair grounds, civic center, police and fire stations, water, sewer, electricity and telephone facilities, etc.

c. Financing Plan

It considered that the implementation of the Master Plan would take 20 years. It would be carried out in two stages the first one covering about 49% of the total area to be developed, that is about 250 Ha. The first stage estimated that about 2,400 new jobs would be generated. Investments for the first stage were estimated on the order of 438 million colones at 1980/81 prices. Options were given to distribute these investments between the public and the private sector. An inter-institutional Coordinating Unit with high managerial capacity was recommended. Finally, an investment plan was developed to carry out the first stage in a term of five years.

d. Organizational Model

The implementation and the operation of the Master Plan necessitated that decisions be taken and managerial actions at high government and public administration levels. The study proposed many high offices participate, from the Presidency to almost all the Ministries, as well as CEPA and other autonomous institutions. It also gave institutional alternatives for the promotion and development of the Master Plan: (i) an inter-ministerial organism; (ii) CEPA duly strengthened; (iii) the Ministry of Public Works through DUA. It recommends CEPA as the chosen alternative. It was decided to give the direction and administration of the project to the MOP/DUA and the promotion to CEPA.

e. Regulations Plan

In this section the Master Plan consultants reviewed the existing legal framework under which the project could be carried out, regulations and controls for urban development, installation of other facilities and recommended pertinent regulations and controls under which the Plan should operate.

f. Implementation Plan

The implementation of a project such as the Master Plan needs a series of mechanisms and instruments appropriate to its objectives. This implies a broad and complicated labor of control and coordination that should go hand in hand with the financial and legal aspects. In this section, the consultants propose an implementation plan that synchronizes its legal, financial and organization aspects as well as the programming of the many activities involved in the construction of the project.

6.3.4 Present Development Status

The Cuscatlán Master Plan has neither been used as a guide for the development of the AIES infrastructure nor has it been utilized as a planning tool for the development of the areas surrounding the airport.

The actual development of the airport area and the terminals (passenger and cargo) obey the needs of each of the institutions related to and in charge of social and economic development of the country. It is not due to the implementation of a plan to place the different components that would be part of a development process.

Presently, the configuration of the airport and its surrounding areas could be described as follows:

a. Airport Infrastructure

The AIES is located in the central zone of the Country, about 35 Km south-east of San Salvador to which it is connected by a four lane expressway. The airport facilities are fully described in the Assessment part of this report.

The AIES plays an important role in the economic and social development of the Country and has, in recent years, experienced large growth in its volume of operations. In consequence, since its inauguration in 1980, both its passenger and cargo terminals have been expanded.

At present, CEPA as the Port Authority for the AIES, is implementing a new large expansion of its facilities consisting of:

- Extending, widening and repaving its main and secondary runways.
- The apron in the passengers terminal area is being expanded from its present capacity of six (6) aircraft to a first stage of 9 aircraft and a final capacity of 15.
- Accordingly, the passenger terminal will be expanded to accommodate the new capacity of aircraft operations.
- Expansion of the cargo facilities. The area where courier services will be consolidated is close to completion.
- Expansion of the parking facilities to accommodate the growth of operations.

- Construction of CEPA's security personnel and the National Civilian Police quarters.

While the ongoing and planned future passenger and cargo facilities expansions are completed, some operational improvements are under consideration, or have taken place, to expedite passenger and cargo processing. Among them are:

- Expansion of the lobby for passenger check-up. This can be done by restricting lobby access to other than passengers.
- Eliminate immigration check-up for departing passengers. This would reduce operation time and eliminate immigration counters, adding space for other needs.
- Expansion of customs baggage check-up area for incoming passengers. This was accomplished by only moving a glass wall.
- Immigration counters layout modification for arriving passengers, and establishment of a computerized passenger control. This results in additional check-in positions, and reduces passenger processing time.
- Installation of a fiscal light, which takes aleatory check-up of arriving passengers with light baggage.

These improvements have not been a major investment expense for CEPA. However, they have made passenger processing operation faster and comply with all the international regulations established by the Organization of the International Civil Aviation (OACI).

b. Infrastructural Development Within the Influence Area

The new airport has certainly caused development in its area of influence, even if that development has not occurred accordingly to the Master Plan designed for that purpose. Actually, it has generated important growth and development that can be grouped as follows:

- Along the Expressway. Eating facilities of all kinds, from typical dishes to fairly good quality restaurants.
- Zoning. Business areas and housing developments are sprouting along the road. As a consequence land prices have increased substantially.
- Public transportation has been established, although not in an orderly way.

c. Free Zones

Southeast of the airport, the new El Pedregal Free Zone has been established. This is an extensive area, with numerous, modern, spacious facilities, with already a large operating capacity and all the necessary services.

Also, in San Marcos, a town near the expressway to the airport, close to San Salvador, another Free Zone has been built . This free zone is operating almost to full capacity mainly in the making of clothes.

The existing San Bartolo Free Zone, close to Ilopango, has now to direct almost all of its industry to AIES, since the Ilopango airport no longer handles heavy commercial aircraft.

d. Tourism Zone

The tourism infrastructure around Costa del Sol, south of the airport, continues developing, although not at a good pace. Most of the area has been taken over by private beach housing.

Within the tourism infrastructure of Costa del Sol, there are few first class hotels and restaurants, which serve international tourists and local weekender.

e. Investments Under Construction and Budgeted

As stated above, CEPA at present is carrying out large expansion works at the airport and has others in the planning stage. It is important to note that the present expansion work is fully financed by CEPA, out of resources generated by the operations of the AIES.

The list of projects shown in following Table 6.3.1 gives a better view of the different types of projects being implemented to expand airport facilities, showing the cost of those projects and status of implementation. The table also shows future expansion projects still under study.

TABLE 6.3.1
List of Projects
International Airport of El Salvador (AIES)

PROJECT	DESCRIPTION	AREA M2			COST ¢	EXECUTION TIME	EXECUTION PERIOD
		ACTUAL	PROJECTED	TOTAL			
Expansion of the Terminal Building.	Phase I Customs & Check in area	15.784	5.921	21.705	60,500,000	10 Months	Mar 95-Jan 96
	Phase II Expansion of boarding area Platform Boarding Bridge	21.705 97.835	12.670 52.700	34.375 150.535			
	Total	6	9	15	220,000,000	10 Months	Jan 95 - Jun 96
Employee Cafeteria	Provide fit facilities for personnel				926,281	4 Months	Oct 94 - Jan 95
Expansion of the Cargo Storage Room.	Expansion of actual storage room.				1,750,000	4 Months	Jan 95 - Apr 05
Expansion for vehicle parking	More parking space for visitors				3,000,000	4 Months	Feb - Mar 95
PENDING PROJECTS OF STUDY A. Build Administrative offices for CEPA B. Rehabilitation, operation and maintenance of highway in San Salvador C. Actualize Plan Maestro Cuscatlán D. Acquisition of additional land Hacienda Astoria							

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6.3.5 Conclusions and Recommendations

The Cuscatlán Master Plan Study carried out from 1979 to 1982, does not respond to the needs for growth in AIES infrastructure, but to the presence of a new airport in the area. The Master Plan does not make any specific recommendations related to future airport traffic demands beyond 1990.

The Master Plan has not been utilized as a development instrument of the airport's area of influence, as it was its objective.

The ongoing and future expansion projects, are based on specific studies made outside the Master Plan Study, responding to impending needs. Additional airport infrastructure expansion projects, such as the ones recommended under this Intermodal Study, should take into consideration the ongoing expansion projects.

The Cuscatlán Master Plan should be reviewed and updated to establish long term strategies for the development of the airport's influence area. In general terms the following aspects should be taken into consideration:

- Review the design of the influence area development and regulatory plan to establish orderly growth.
- Budgets and investment programs for each of the developing plans and establishment of their priorities.
- Carry out the financial and economic evaluation of the development plans in consideration.
- Legal, administrative and institutional aspects.

At present, a matter of urgent attention is the preparation of a Master Plan for the future development of the AIES infrastructure.

This plan must take into consideration the following aspects:

- Inventory of existing airport infrastructure facilities and ongoing expansion projects.
- Design of the airport infrastructure development, based on identified operational and demand parameters. Schedule and priorities of implementation of the expansion works.
- Financial and conomic evaluations of future expansions.

- Review legal, administrative and institutional aspects to obtain maximum efficiency of services provide by AIES.

The updating of the Cuscatlan Master Plan and the one recommended for the orderly development of the AIES infraestructure could be combined into a single Master Plan.

6.4 Financial Projections

Tables 6.4.1 to 6.4.4 show the cash flow forecast for each of the four scenarios presented in Section 6.2. The key elements considered in preparing the aforementioned scenarios are the following:

- ◆ **Forecast.** Air cargo forecast for each of the scenarios are those presented for the years 2000, 2005, 2010 and 2015 in Section 6.2 linearly interpolating for the other years and considering Scenario 1 air cargo forecast applicable for the 1994 as the base year.
- ◆ **Air cargo terminal area.** Base air cargo terminal area is presented in the section 6.1 and figure 6.2.2 and additional warehouse space is as required in each scenario, as presented in Section 6.2.
- ◆ **Tariffs and revenues.** Import cargo tariffs and revenues are based on the graduated fees proposed in Section 6.2. These are the following:

<i>Basic handling fees:</i>	<i>Storage fees:</i>	<i>Additional transfer and handling fees:</i>
Expedited service (within 24 hours): 1.50 colones/kg	Basic time (up to 72 hours): No charge	At cost (no additional transfer and handling revenues or costs are considered in the cash flow forecast).
Regular service : 0.36 colones/kg	Additional time (after 72 hours) : 1.00 ¢/kg. per day or fraction thereof	
It is assumed that 25% of the import cargo will require expedited service and the remaining 75% will require regular service.	It is assumed that 25% of the import cargo requiring regular service will also require an average of two days of additional storage time.	

TABLE 6.4.1
Scenario 1 - Existing Cargo Volume - Cash Flow Projections 1995-2015

ITEM	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CARGO (TONS)																					
IMPORT	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
EXPORT	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
TRANSIT	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
TOTAL CARGO	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000
CARGO AREA (SQ M)																					
ACTUAL	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100
ADDED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TARIFFS																					
EXPEDITED SERVICE (PER TON)	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
REGULAR SERVICE (PER TON)	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360
STORAGE (PER DAY-TON)	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
WAREHOUSE RENTAL (PER SQ M)	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384
REVENUES (MILLION COLONES)																					
IMPORT CARGO																					
EXPEDITED SERVICE (25%)	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63
REGULAR SERVICE (75%)	4 05	4 05	4 05	4 05	4 05	4 05	4 05	4 05	4 05	4 05	4 05	4 05	4 05	4 05	4 05	4 05	4 05	4 05	4 05	4 05	4 05
STORAGE (AVERAGE OF TWO DAYS)	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63	5 63
25% OF REGULAR SERVICE TONS)																					
TOTAL IMPORT CARGO	15 31	15 31	15 31	15 31	15 31	15 31	15 31	15 31	15 31	15 31	15 31	15 31	15 31	15 31	15 31	15 31	15 31	15 31	15 31	15 31	15 31
EXPORT & TRANSIT CARGO																					
RENTAL OF CURRENT CARGO AREA	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81
RENTAL OF ADDED CARGO AREA	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
TOTAL EXPORT & TRANSIT CARGO	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81
TOTAL REVENUES	16 12	16 12	16 12	16 12	16 12	16 12	16 12	16 12	16 12	16 12	16 12	16 12	16 12	16 12	16 12	16 12	16 12	16 12	16 12	16 12	16 12
OPERATING COSTS																					
FIXED (MILLION COLONES)	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76
PER SQ M OF CARGO AREA	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560
PER TON OF IMPORT CARGO	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
TOTAL COSTS (MILLION COLONES)																					
INFORMATION SYSTEM																					
WAREHOUSE EXPANSION																					
OPERATING COSTS	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93
TOTAL COSTS	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93	13 93
NET CASH FLOW (MILLION COLONES)	2 19																				

SOURCE FREDERIC R. HARRIS INC

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TABLE 6.4.2
Scenario 2 - Growth Without Diversification - Cash Flow Projections 1995-2015

ITEM	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CARGO (TONS)																					
IMPORT	16,333	17,667	19,000	20,333	21,667	23,000	25,400	27,800	30,200	32,600	35,000	38,200	41,400	44,600	47,800	51,000	55,600	60,200	64,800	69,400	74,000
EXPORT	17,500	20,000	22,500	25,000	27,500	30,000	34,800	39,600	44,400	49,200	54,000	63,000	72,000	81,000	90,000	99,000	114,600	130,200	145,800	161,400	177,000
TRANSIT	3,667	3,333	3,000	2,667	2,333	2,000	2,200	2,400	2,600	2,800	3,000	3,400	3,800	4,200	4,600	5,000	5,600	6,200	6,800	7,400	8,000
TOTAL CARGO	37,500	41,000	44,500	48,000	51,500	55,000	62,400	69,800	77,200	84,600	92,000	104,600	117,200	129,800	142,400	155,000	175,800	196,600	217,400	238,200	259,000
CARGO AREA (SQ M)																					
ACTUAL	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100
ADDED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,200
TARIFFS																					
EXPEDITED SERVICE (PER TON)	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
REGULAR SERVICE (PER TON)	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360
STORAGE (PER DAY-TON)	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
WAREHOUSE RENTAL (PER SQ M)	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384
REVENUES (MILLION COLONES)																					
IMPORT CARGO																					
EXPEDITED SERVICE (25%)	6.13	6.63	7.13	7.63	8.13	8.63	9.53	10.43	11.33	12.23	13.13	14.33	15.53	16.73	17.93	19.13	20.85	22.58	24.30	26.03	27.75
REGULAR SERVICE (75%)	4.41	4.77	5.13	5.49	5.85	6.21	6.86	7.51	8.15	8.80	9.45	10.31	11.18	12.04	12.91	13.77	15.01	16.25	17.50	18.74	19.98
STORAGE (AVERAGE OF TWO DAYS)	6.13	6.63	7.13	7.63	8.13	8.63	9.53	10.43	11.33	12.23	13.13	14.33	15.53	16.73	17.93	19.13	20.85	22.58	24.30	26.03	27.75
25% OF REGULAR SERVICE TONS)																					
TOTAL IMPORT CARGO	16.67	18.03	19.39	20.75	22.11	23.47	25.92	28.37	30.81	33.26	35.71	38.97	42.24	45.50	48.77	52.03	56.71	61.41	66.10	70.80	75.48
EXPORT & TRANSIT CARGO																					
RENTAL OF CURRENT CARGO AREA	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
RENTAL OF ADDED CARGO AREA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.84
TOTAL EXPORT & TRANSIT CARGO	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	1.65
TOTAL REVENUES	17.48	18.84	20.20	21.56	22.92	24.28	26.73	29.18	31.62	34.07	36.52	39.78	43.05	46.31	49.58	52.84	57.52	62.22	66.91	71.61	77.13
OPERATING COSTS																					
FIXED (MILLION COLONES)	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76
PER SQ M OF CARGO AREA	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560
PER TON OF IMPORT CARGO	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
TOTAL COSTS (MILLION COLONES)																					
INFORMATION SYSTEM	3.00	3.00																			8.25
WAREHOUSE EXPANSION																					
OPERATING COSTS	14.26	14.59	14.93	15.26	15.59	15.93	16.53	17.13	17.73	18.33	18.93	19.73	20.53	21.33	22.13	22.93	24.08	25.23	26.38	27.53	29.91
TOTAL COSTS	17.26	17.55	14.93	15.26	15.59	15.93	16.53	17.13	17.73	18.33	18.93	19.73	20.53	21.33	22.13	22.93	24.08	25.23	26.38	35.78	29.91
NET CASH FLOW (MILLION COLONES)	0.22	1.25	5.27	6.30	7.33	8.35	10.20	12.05	13.89	15.74	17.59	20.05	22.52	24.98	27.45	29.91	33.44	36.99	40.53	35.83	47.22

SOURCE: FREDERIC R. HARRIS, INC.

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TABLE 6.4.3
Scenario 3 - Growth Without Diversification - Cash Flow Projections 1995-2015

ITEM	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CARGO (TONS)																					
IMPORT	16,833	18,667	20,500	22,333	24,167	26,000	30,000	34,000	38,000	42,000	46,000	50,800	55,600	60,400	65,200	70,000	78,800	87,600	96,400	105,200	114,000
EXPORT	18,000	21,000	24,000	27,000	30,000	33,000	39,000	45,000	51,000	57,000	63,000	76,600	90,200	103,800	117,400	131,000	156,000	181,000	206,000	231,000	256,000
TRANSIT	3,667	3,333	3,000	2,667	2,333	2,000	2,200	2,400	2,600	2,800	3,000	3,600	4,200	4,300	5,400	6,000	7,000	8,000	9,000	10,000	11,000
TOTAL CARGO	38,500	43,000	47,500	52,000	56,500	61,000	71,200	81,400	91,600	101,800	112,000	131,000	150,000	169,000	188,000	207,000	241,800	276,600	311,400	346,200	381,000
CARGO AREA (SQ M)																					
ACTUAL	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100
ADDED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,100	1,100	1,100	1,100	1,100	4,000
TARIFFS																					
EXPEDITED SERVICE (PER TON)	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
REGULAR SERVICE (PER TON)	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360
STORAGE (PER DAY-TON)	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
WAREHOUSE RENTAL (PER SQ.M)	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384
REVENUES (MILLION COLONES)																					
IMPORT CARGO																					
EXPEDITED SERVICE (25%)	8.31	7.00	7.69	8.38	9.06	9.75	11.25	12.75	14.25	15.75	17.25	19.05	20.85	22.65	24.45	26.25	29.55	32.85	36.15	39.45	42.75
REGULAR SERVICE (75%)	4.55	5.04	5.54	6.03	6.53	7.02	8.10	9.18	10.26	11.34	12.42	13.72	15.01	16.31	17.60	18.90	21.28	23.65	26.03	28.40	30.77
STORAGE (AVERAGE OF TWO DAYS, 25% OF REGULAR SERVICE TONS)	6.31	7.00	7.69	8.38	9.06	9.75	11.25	12.75	14.25	15.75	17.25	19.05	20.85	22.65	24.45	26.25	29.55	32.85	36.15	39.45	42.75
TOTAL IMPORT CARGO	17.17	19.04	20.92	22.79	24.65	26.52	30.60	34.68	38.76	42.84	46.92	51.82	56.71	61.61	66.50	71.40	80.38	89.35	98.33	107.30	116.28
EXPORT & TRANSIT CARGO																					
RENTAL OF CURRENT CARGO AREA	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
RENTAL OF ADDED CARGO AREA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.42	0.42	0.42	0.42	1.54
TOTAL EXPORT & TRANSIT CARGO	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	1.23	1.23	1.23	1.23	1.23	2.35
TOTAL REVENUES	17.98	19.85	21.73	23.60	25.46	27.33	31.41	35.49	39.57	43.65	47.73	52.63	57.52	62.42	67.31	72.63	81.61	90.58	99.56	108.53	118.63
OPERATING COSTS																					
FIXED (MILLION COLONES)	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76
PPF, SQ M OF CARGO AREA	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560
PPF, TON OF IMPORT CARGO	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
TOTAL COSTS (MILLION COLONES)																					
INFORMATION SYSTEM	3.00	3.00																			
WAREHOUSE EXPANSION															4.13					10.88	
OPERATING COSTS	14.38	14.84	15.30	15.76	16.22	16.68	17.68	18.68	19.68	20.68	21.68	22.88	24.08	25.28	26.48	28.29	30.49	32.69	34.89	37.09	40.92
TOTAL COSTS	17.38	17.84	18.30	18.76	19.22	19.68	21.68	23.68	25.68	27.68	29.68	31.68	33.68	35.68	37.68	42.42	45.29	48.16	51.03	53.90	59.84
NET CASH FLOW (MILLION COLONES)																					
	0.60	2.01	6.43	7.84	9.24	10.65	13.73	16.81	19.89	22.97	26.05	29.75	33.44	37.14	36.71	44.34	51.12	57.89	64.67	60.56	77.71

SOURCE: FREDERIC R. HARRIS, INC.

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TABLE 6.4.4
Scenario 4 - Growth Without Salvadorean and Regional Demand
Cash Flow Projections 1995-2015

ITEM	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CARGO (TONS)																					
IMPORT	16,833	18,667	20,500	22,333	24,167	26,000	30,000	34,000	38,000	42,000	46,000	50,800	55,600	60,400	65,200	70,000	78,800	87,600	96,400	105,200	114,000
EXPORT	18,000	21,000	24,000	27,000	30,000	33,000	39,000	45,000	51,000	57,000	63,000	76,600	90,200	103,800	117,400	131,000	156,000	181,000	206,000	231,000	256,000
TRANSIT	6,167	8,333	10,500	12,667	14,833	17,000	19,600	22,200	24,800	27,400	30,000	35,200	40,400	45,600	50,800	56,000	65,600	75,200	84,800	94,400	104,000
TOTAL CARGO	41,000	48,000	55,000	62,000	69,000	76,000	88,600	101,200	113,800	126,400	139,000	162,600	186,200	209,800	233,400	257,000	300,400	343,800	387,200	430,600	474,000
CARGO AREA (SQ M)																					
ACTUAL	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	8,300	8,300	8,300	8,300	8,300	12,100
ADDED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,200	2,200	2,200	2,200	2,200	6,000
TARIFFS																					
EXPEDITED SERVICE (PER TON)	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
REGULAR SERVICE (PER TON)	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360
STORAGE (PER DAY-TON)	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
WAREHOUSE RENTAL (PER SQ M)	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384
REVENUES (MILLION COLONES)																					
IMPORT CARGO																					
EXPEDITED SERVICE (25%)	6 31	7 00	7 69	8 38	9 06	9 75	11 25	12 75	14 25	15 75	17 25	19 05	20 85	22 65	24 45	26 25	29 55	32 85	36 15	39 45	42 75
REGULAR SERVICE (75%)	4 55	5 04	5 54	6 03	6 53	7 02	8 10	9 18	10 26	11 34	12 42	13 72	15 01	16 31	17 60	18 90	21 28	23 65	26 03	28 40	30 78
STORAGE (AVERAGE OF TWO DAYS)	6 31	7 00	7 69	8 38	9 06	9 75	11 25	12 75	14 25	15 75	17 25	19 05	20 85	22 65	24 45	26 25	29 55	32 85	36 15	39 45	42 75
25% OF REGULAR SERVICE TONS)																					
TOTAL IMPORT CARGO	17 17	19 04	20 92	22 79	24 65	26 52	30 60	34 68	38 76	42 84	46 92	51 82	56 71	61 61	66 50	71 40	80 38	89 35	98 33	107 30	116 28
EXPORT & TRANSIT CARGO																					
RENTAL OF CURRENT CARGO AREA	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81
RENTAL OF ADDED CARGO AREA	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 84	0 84	0 84	0 84	0 84	2 30
TOTAL EXPORT & TRANSIT CARGO	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	0 81	1 65	1 65	1 65	1 65	1 65	3 11
TOTAL REVENUES	17 98	19 85	21 73	23 60	25 46	27 33	31 41	35 49	39 57	43 65	47 73	52 63	57 52	62 42	67 31	73 05	82 03	91 00	99 98	108 95	119 39
OPERATING COSTS																					
FIXED (MILLION COLONES)	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76	6 76
PER SQ M OF CARGO AREA	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560
PER TON OF IMPORT CARGO	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
TOTAL COSTS (MILLION COLONES)																					
INFORMATION SYSTEM	3 00	3 00																			
WAREHOUSE EXPANSION																8 25					14 25
OPTIMATING COSTS	14 38	14 84	15 30	15 76	16 22	16 68	17 68	18 68	19 68	20 68	21 68	22 68	24 08	25 28	26 48	30 14	32 34	34 54	36 74	38 94	45 40
TOTAL COSTS	17 38	17 84	15 30	15 76	16 22	16 68	17 68	18 68	19 68	20 68	21 68	22 68	24 08	25 28	34 73	30 14	32 34	34 54	36 74	38 94	53 19
NET CASH FLOW (MILLION COLONES)	0 60	2 01	6 43	7 84	9 24	10 65	13 73	16 81	19 89	22 97	26 05	29 13	33 44	37 14	42 91	49 69	56 46	63 24	70 02	76 80	83 58

SOURCE: FREDERIC R. HARRIS & C.

Currently, there are no export and transit cargo fees. Instead, airlines rent terminal space at 32 colones per Sq. m. per month. While it is proposed in Section 6.2 to assess a basic tariff for export and transit cargo, for the purposes of the cash flow projections presented in this report, it is assumed that no basic fees are levied in export and transit cargo. Increases in rental space and revenues to accommodate export and transit cargo growth are considered for Scenarios 2 through 4.

- ◆ **Operating costs.** Operating cost forecasts are based on a simple operating cost model, which determines fixed costs, variable cost per Sq. m. of air cargo terminal and variable cost per ton of import cargo. The model was developed using the 1993 CEPA Cost Center Report, updating to 1994 cost levels based on the proportion of total 1994 costs to total 1993 costs. The model is based on simple cost allocation formulas, using the basic cost center costs for allocation of shared costs. Table 6.4.5 presents the cost allocation process and results. Fixed costs are estimated at 6.76 million colones per year; variable costs per sq. m. are estimated at 560 colones per Sq. m.; and variable costs per ton of imported cargo are estimated at 250 colones per ton.
- ◆ **Total costs.** Total costs are based on projections operating costs, and investment cost estimates for the operating improvements and information system, included in all scenarios, except Scenario 1, and warehouse construction, as required in each scenario. Investment costs associated with the operating improvements and information system are estimated at 6 million colones, to be expended in two years, and warehouse construction costs are estimated at 3,650 colones per Sq. m., both in 1994 prices.

Table 6.4.6 summarizes the financial indicators resulting from the Tables 6.4.1. through 6.4.4. Based on these results, the following conclusions are drawn:

- ◆ **Overall financial performance.** All the scenarios show positive net cash flows at a 12% annual discount rate. Therefore, even if no increase in air cargo traffic is attained, and with the proposed tariffs, air cargo services would provide financial benefits to AIES. With increased air cargo movement, particularly import cargo, as predicated in Scenarios 2 through 4, financial benefits increase substantially.
- ◆ **Availability of funds for investments.** Based on the proposed tariffs and estimates presented in this section, air cargo services generate enough funds in all Scenarios to cover any operating and investments fund needs.
- ◆ **Tariffs.** Import cargo revenues presented in the financial forecast are based on a graduated tariff structure, assumed air cargo movement and

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TABLE 6.4.5
Estimation of Service to Air Cargo Expenses

DEPARTMENT/FUNCTION/COST CENTER	TOTAL COST	ALLOCATED TO OPE. DPT	ALLOCATED TO ING. & MTCR DPT	SERVICES TO AIRCRAFT	SERVICES TO PAX	SERVICES TO CARGO			
						TOTAL	FIXED	VARIABLE PER SQ M	VARIABLE PER TON
CENTRAL EXPENSES	21,080,620	6,493,497	14,587,123	10,170,308	6,359,007	4,561,306	3,649,044	456,131	456,131
GENERAL MANAGEMENT	6,481,540	1,989,415	4,472,125	3,115,880	1,948,211	1,397,449	1,117,959	139,745	139,745
ADMINISTRATION Y PERSONNEL	3,865,502	1,180,132	2,675,370	1,864,020	1,165,483	835,999	668,799	83,600	83,600
OPERATIONS DEPARTMENT									
ENERGY AND OTHER EXPENSES	3,364,052			1,883,684	131,894	1,348,474		1,348,474	
ADMINISTRATION	117,413			233,560	16,354	167,199	83,599		83,599
SERVICES TO AIRCRAFT	2,874,795			2,874,795	0	0			
SERVICES TO CARGO	2,057,681			0	0	2,057,681			2,057,681
SERVICES TO PAX	201,291			0	201,291	0			
ENGINEERING AND MTCR DPT									
ENERGY AND OTHER EXPENSES	1,796,127			804,025	751,128	240,974		240,974	
CHIEF OFFICE	403,264			180,518	168,642	54,103	27,052	27,052	
MAINTENANCE SECTION									
GENERAL	67,398			8,556	41,958	16,884	8,442	8,442	
SUPERVISION	177,943			27,580	110,777	44,578	22,288	22,288	
CHAIN LABORERS	447,564			134,269	223,762	89,513		89,513	
PLUMBING AND MASONRY	826,011			31,301	832,109	62,601		62,601	
CARPENTRY AND PAINTING	701,933			35,038	586,690	70,195		70,195	
LABORERS	48,333			2,321	34,801	9,307		9,307	
CARPENTERS	741,010			0	656,908	74,101		74,101	
CLEARING	864,119			0	777,707	86,412		86,412	
AUTOMOTIVE SHOP	830,503			187,301	250,951	416,252			416,252
EQUIPMENT 1900	278,427			278,427	0	0			
EQUIPMENT 1900	906,978			48,849	327,942	562,187			562,187
OTHERS	5,682			720	3,525	1,420			1,420
INSTALLATIONS SECTION									
GENERAL	77,132			25,374	24,868	26,089		26,089	
ADMIN PAX BUILDING	128,419			0	128,419	0			
ADMIN CARGO BUILDING	135,816					135,816		135,816	
RESCUE BUILDINGS	137,300			137,300					
MAINTENANCE BUILDINGS	248,892			126,130	618,520	248,892	248,892		
SYSTEMS SECTION									
ENERGY	91,856			36,182	45,978	9,196		9,196	
WATER	14,474			14,474		14,474		14,474	
AIR CONDITIONING	64,770			0	58,283	6,477		6,477	
TERMINAL SERVICES	39,381			1,869	29,536	7,878		7,878	
AUDIO VISUAL	84,205			0	84,205	0		0	
COMMUNICATIONS	82,077			0	73,869	8,208		8,208	
SPECIAL SYSTEMS	58,223			58,223	466,785	58,223		58,223	
RADIO ASSISTANCE TOWER	77,878			77,878	0	0		0	
SECONDARY ELECTRICITY	97,067			4,853	8,498	9,706		9,706	
AIRDRONE ILLUMINATION	709,135			709,135	0	0		0	
OTHER SYSTEMS	4,688,349			6,088,184	2,188,447	433,297		433,297	
TOTAL	60,373,680			29,113,509	18,203,284	13,057,187	5,826,075	3,428,197	3,802,915
TOTAL 1994 (16% INCREASE)							6,758,247	3,976,709	4,411,382
1994 VARIABLE UNITS (SQ M AND TONS OF IMPORT CARGO)								6,100	15,233
FIXED AND PER UNIT VARIABLE COSTS							6,758,247	566	250

NOTES: CENTRAL EXPENSES, GENERAL MANAGEMENT AND ADMIN AND PERSONNEL EXPENSES ARE ALLOCATED TO OPERATIONS AND ENGINEERING AND MAINTENANCE DEPARTMENTS BASED ON THE DEPARTMENTS' EXPENSES. THE DEPARTMENTS' GENERAL EXPENSES ARE DISTRIBUTED TO THEIR SECTIONS BASED ON THE SECTIONS' EXPENSES. THE SECTIONS' GENERAL EXPENSES ARE DISTRIBUTED TO THEIR COST CENTERS BASED ON THE COST CENTERS' EXPENSES. THE COST CENTERS' EXPENSES ARE DISTRIBUTED TO SERVICES TO AIRCRAFT, PAX, AND CARGO BASED ON ESTIMATED ALLOCATION PERCENTAGES.

SOURCE: TOTAL COSTS: CEPA'S 1989 COST CENTER EXPENSES REPORT. ALL OTHER VALUES: FREDERIC R. HARRIS, INC.

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TABLE 6.4.6
Financial Indicators of Scenarios

FINANCIAL INDICATORS	SCENARIO 1	SCENARIO 2	SCENARIO 3	SCENARIO 4
PRESENT VALUE OF REVENUES	121.90	226.79	282.29	282.63
PRESENT VALUE OF COSTS	105.31	136.87	151.72	154.23
NET PRESENT VALUE	16.59	89.92	130.57	128.40
REVENUES/COSTS RATIO	1.16	1.66	1.86	1.83

SCENARIO 1 - EXISTING CARGO VOLUME - CASH FLOW PROJECTIONS 1995 - 2015

SCENARIO 2 - GROWTH WITHOUT DIVERSIFICATION - CASH FLOW PROJECTIONS 1995 - 2015

SCENARIO 3 - GROWTH AND DIVERSIFICATION IN SALVADOREAN CARGO - CASH FLOW PROJECTIONS 1995 - 2015

SCENARIO 4 - GROWTH IN BOTH SALVADOREAN AND REGIONAL DEMAND - CASH FLOW PROJECTIONS 1995 - 2015

SOURCE: FREDERIC R. HARRIS, INC.

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characteristics. **As previously noted, exact charges should be determined only after more careful study** to better understand operating costs, cargo characteristics, and client preferences. **The tariffs used in the financial forecast which (in our opinion) are low, provide enough funds to cover projected operating and investment costs.**

In a previous section the levy of a per-kilo is recommended charge on transit cargo handled, commensurate to its use and impact on AIES facilities, such as apron space, taxiway and access roads. **The same argument applies to export cargo.** Such per-kilo charge would require that current procedures be modified to allow CEPA to receive information on export and transit cargo movements.

Export and transit cargo revenues presented in the financial forecast assume that, in keeping with current procedures, no per-kilo fees are applied to export and transit cargo. Even if no such fees are applied, the current per Sq. m. rental fee needs to be reassessed. At its current levels, it is not financially profitable, for AIES to increase export and transit cargo movements. Based on the limited cost analysis developed in this study, fees would need to be increased by 50% from its current level of 32 colones per Sq. m. per month, just to cover its direct costs. Higher increases would be needed to make a positive contribution to covering fixed costs.

- ◆ **Investment needs.** AIES should go ahead and introduce the required operational, information systems, and tariff structure changes to improve cargo flow and minimize on airport cargo storage time. These improvements will delay facility investments to future years.

6.5 Privatization

6.5.1 The Privatization of AIES services

a. Introduction

The Terms of Reference of the Intermodal Transportation Study of El Salvador places special emphasis on the analysis that the Consultants should make of the role of the private sector in providing new facilities and in the managing of existing facilities for air cargo and to define what it could be the complete privatization of the AIES services.

The cargo projections and the study of each of the development scenario by cargo demand, show that only after the year 2005 there will be real expansion needs of the cargo terminal infrastructure. This taking already into consideration the new facilities that CEPA is presently building for the handling of courier services. However, it is necessary to Consultants describe the present status of the privatization of Acajutla, examine the

immediately expedite the handling of the general cargo to avoid the need of cargo terminal infrastructure expansion before the year 2005. The private sector (airlines or cargo handle enterprises) could be interested in getting concessions for the new facilities and for the expediting of the cargo handling.

To provide these services, the operator should receive from CEPA land concessions to build the new facilities or storage warehouses and other facilities where the operators would receive, storage and deliver the cargo.

Concessions would be awarded for:

- Construcción de nuevas instalaciones de carga (teóricamente después del año 2005), su manejo y procesamiento de la carga que llegará a esas nuevas instalaciones. Esto significaría estar en competencia directa con CEPA.
- El manejo de las instalaciones de carga actuales y su procesamiento. Esto probablemente daría lugar a acelerar el movimiento de la carga, pero aún así se debe resolver el problema de los retrasos aduaneros.

Es la opinión de los consultores, que al menos hasta después del año 2005, CEPA debe continuar manejando la carga, pero siguiendo las recomendaciones dadas en este informe para acelerar el manejo de la carga de importación que actualmente es la más afectada por retrasos injustificados.

Sin embargo, si CEPA decide privatizar toda la gestión de sus instalaciones de carga y operaciones, las siguientes son las ideas básicas y pautas que deben tomarse en cuenta para la privatización de este tipo de operaciones.

Posibles concesiones que podrían otorgarse:

- aerolíneas individuales o aerolíneas asociadas.
- Empresas especializadas en el manejo de carga aérea.

b. Estado de la Privatización de AIES

Debe notarse que actualmente, aunque casi todas las instalaciones de AIES pertenecen a CEPA, **los servicios de transporte de carga están en manos privadas (aerolíneas)**. Además, la carga de exportación es totalmente manejada por las aerolíneas una vez llega al aeropuerto. La carga de importación es entregada por las aerolíneas a CEPA quien maneja su almacenamiento, el despacho aduanero y la entrega en el aeropuerto, al destinatario.

Hasta ahora, CEPA ha manejado bastante bien la expansión de las instalaciones de AIES en respuesta a las necesidades debidas al aumento de la demanda (tanto de pasajeros como de carga), pero sin

having a Development Master Plan. The airlines have authorization for the use of the CEPA facilities such as landing strips, taxiways, offices and some other facilities. However, there is not any privatization related to the handling of the import general cargo, once it arrives to the airport.

c. General Concepts

- Competition

Privatization of airports in the countries that have tried it has taken different forms that respond to political and national considerations or institutional restrictions, but always intend to reach the same objective:

- ✓ To allow the free play of the market forces so that competition acting on for profit enterprises, lower costs and optimize the assignment of airport resources.

Here the key concept is competition. This is the prod that stimulates different enterprises offering their services to reduce their costs and to increase the level of satisfaction of their clients, for the purpose of capturing the largest possible share of the market. To this end, entrepreneurs program new investments, try advanced work methods, develop intensive marketing and, as a result, the port becomes more efficient, reduces its costs and attracts a larger volume of cargo. This is the environment of competition that has promoted the development of the large international airports.

- CEPA as the Airport Authority

CEPA having received the total responsibility for the AIES, could give in concession the cargo services of the airport.

The responsibilities of the CEPA, in addition to administering in the best manner the assets of the state, include:

- ✓ The promotion of the airport as the link in the total transportation system and as generator of economic activity related to its own airport function.
- ✓ The promotion of a maximum of competition among concessionaires and the rejection of monopolistic

practices or activities that tend to reduce competition.

- ✓ The exercise of the authority received from the state over the airport facilities in the assignment of aprons, enforcement of environmental regulations, conservation and maintenance of the airport property and the furnishing of common services to concessionaires or to third parties, when such services cannot be awarded in concession.
- ✓ The preparation and execution of the Master Plan of Development of the AIES which would be approved by the Central Government.
- ✓ The construction, maintenance and administration of the airport infrastructure not included in the concessions.
- ✓ The formulation and enforcement of operating rules of the airport and the vigilance over requirements that must be fulfilled by the concessionaires of its services.
- ✓ The operation of general security services, control of access and traffic in the airport proper, without interfering with the responsibilities of the DGTA, Navigation Controls, Customs, the Court of Accounts, and other authorities involved in airport activities.
- ✓ The award of concessions, by Public Tender or as required, including the activities of advertising Tenders; preparing Prospectus and the Terms of Reference for the Tender; evaluating proposals; awarding concessions and entering into contracts with the concessionaires.
- ✓ The vigilance over the satisfaction and fulfillment of all contracts on the part of concessionaires and operators.

CEPA should Continue to be autonomous financially and operationally and its policies should be those dictated by its own governing authorities.

CEPA as a directing and administrating agency but not as an airport operator, would require a small staff, made up of very high level personnel promoting the activity of the airport and working with the operators to achieve effective service with financial success.

The income of CEPA comes from payments from the operators of the concessions, often including a participation on a per ton basis of cargo moved, and fees for the use of certain airport facilities.

● The Concessions

For a service to be susceptible to privatization it should fulfill at least some of the following requirements:

1. Obviously it should be profitable in the sense that the tariff of the service should be sufficient to pay its costs and leave a profit for the operator.
2. The service must be integral, meaning that one operator, and only one, assumes full responsibility for a complete process, in this case the handling of the import cargo from its arrival to the airport to its delivery to the consignee.

The convenience of integral service, from the point where the airline delivers the cargo to the point where the user receives it in the warehouse, is obvious since responsibility is not diluted, paper work is simplified and the operator has full control on the chain of activities, which lets him better coordinate and optimize his operation.

● The Concessionaire

The profile of the ideal concessionaire depends on the service to be privatized, but the following characteristics should be found in any prospective candidate:

1. He must know his profession. He must have successfully operated similar concessions and should possess experience, connections and relationships in his work environment that would facilitate the successful operation of the concession.
2. The concessionaire must be an entrepreneur accustomed to the evaluation and taking of risks,

desirous of competing in the market to obtain its largest share. The concessionaire must have, or should be able to obtain, the capital needed by the operation and should have financial capacity to qualify for insurance and bonds required by his contract with CEPA.

3. The concessionaire should be able to guarantee the greatest competence in the conduct of his operation. Certain operators, because of other outside activities may try to reduce competition offering advantages to certain users at the expense of others, or in various ways, restricting the access to the service to certain users.

● Regulation of the Concessionaire

CEPA has regulatory authority over the AIES to establish rules of operation, safety measures and protection of environment, persons and cargo. In addition, it must prevent the establishment of discriminatory or monopolistic practices and must promote competition as amply as possible.

In operations where this competition is not possible, CEPA must regulate the operation of the concession establishing maximum tariffs and minimum levels of service. The regulation of these tariffs should not prevent the operator from offering lower tariffs when he deems it desirable to meet competition or to promote his service.

In general, regulations must be effective, but should not encroach excessively in the freedom of the operator to promote his business and bring more traffic to the airport.

d. The Concession Process

The concession process must follow transparent and open procedures that would guarantee that the award would be made without favoritism and that only the public interest will prevail in the selection and contracting of the operator.

Consequently the steps of Public Tendering are normally preferred which include the following phases:

Publication of the Tender

The announcement and promotion of the Tender, or public bidding, in the country as well as overseas, when foreign companies are acceptable, is normally done through the media, the specialized publications and press and the Embassies of the country. Frequently a Prospectus of the concession is prepared containing sufficient information for interested parties to decide on their participation.

Prequalification Phase

In this phase, interested proponents submit their qualifications, experience and financial capacity in documentation that allow CEPA to judge their background and permit the selection of those that meet the requirements of the Tender. The requirements for tendering must be those really pertinent to the success of the operation and the safeguard of the public interest, but without limiting excessively the participation of proponents since it is important that a high degree of competition exist in the whole process.

Documents for the Proposal

As is customary in Public Tenders the Proposals must contain all information needed to judge the merits of the Proposal and such information must be submitted in formats that would facilitate the analysis and evaluation of the aspects needed for the selection of the most favorable Proposal. For this purpose CEPA should prepare clear and precise Terms of Reference, observing the legal customs of the country but, including as well, concepts and procedures that internationally are considered common for this type of tender.

One of the most important documents in the Proposal is the Business Plan where the prospective operator presents his own evaluation of the future demand for services of the concession, the capital resources necessary,

and the equipment and installations that the operator is willing to furnish to satisfy such demand. Also he must include a projected cash flow indicating the ability of the concession to pay concession rights and other payments required by CEPA. Often the business plan includes a program of commercialization and promotion that the operator will carry out to promote increased traffic to the airport.

The documents for the bidders should include a proforma of the contract containing the main clauses that CEPA wishes to incorporate in the concession contract.

Opening of Tenders

On the date stipulated in the Terms of Reference in public act the proposals are opened and the selection phase commences. For this purpose CEPA must have established a technical process with precise criteria of qualifications that would permit the proper comparison of the significant aspects of each proposal.

Award of the Concession

A committee named by CEPA and the DGTA would normally make a technical evaluation of the proposals and submit its recommendations for final decision. The proceedings, from initial announcement of the Tender, to award of the concession, is a delicate process that should be carefully designed since, in part, the initial success of the privatization of a public service depends on the transparency and proper handling of the Tender.

In Annex 6.5.1, the Consultants present the principal aspects of the concession that should be dealt with in the Tender and the main clauses that normally are part of concession contracts.

6.6. Air Transport Recommendations

The purpose of this task is to summarize the study's recommendations relative to air transport, including:

- Improved institutions (including privatization alternatives)
- Improved operations
- Improved regulations
- Facilities requirements
- Investment needs/Financing alternatives

6.6.1 Institutional/Privatization Recommendations

This section provides recommendations as to possible future institutional alternatives, and methods of participation, qualification, and evaluation of all private entities to be involved in the handling of air cargo in the AIES..

The primary recommendation in this regard is that CEPA and/or the DGTA minimize restrictions on the private sector when such private companies indicate a willingness to invest in air transport facilities or services.

With respect to air cargo, there is much the private sector can accomplish, since the airline and freight forwarder components are already privatized.

6.6.2 The Role of the Airlines Serving El Salvador:

a. TACA

TACA: Obviously, one of the most important participants in the air cargo transport sector is the "national," privately-held airline, Transportes Aereos de Centro América (TACA). As discussed at length in the Diagnostic Section of this report, TACA at present carries more than 40% of Salvadorean air cargo imports and exports (11,000 of 26,000 tons in 1993), and transits an additional 4,000 tons of air cargo as well.

The role of TACA in the growth of air cargo in El Salvador cannot be overstated. Much has been stated and written about the role of El Salvador as a cargo "hub" for Central America and Caribbean Area, much has also been stated and written on the "ideal" situation of AIES as an air transport facility.

As noted previously, TACA did not acknowledge repeated efforts to discuss their views on the air transport sector during the months of this study mission; therefore, their opinions and plans can only be theorized. But it seems clear that there is little or nothing impeding TACA from assuming a larger role in the development of air cargo than is now the case.

TACA can implement a "Central American cargo hub" more easily than any other likely competitor, assuming the demand for such a hub exists.

TACA flows some 4,000 tons of cargo annually through AIES to/from other Central American points, thus already utilizing AIES as a "hub" for cargo transfer. Whatever further potential exists for the expansion of such carriage will be a function of the cost of indirect TACA air cargo services via AIES (even if these are not promoted as such) versus the cost of direct other air cargo services to/from these regional points. TACA's ownership interest in other Central American carriers must be assumed to play a role (although this could not be confirmed during this study's investigations); these ancillary TACA interests will undoubtedly influence the degree of use of AIES as a TACA transit point.

b. Other Airlines

Other airlines - both scheduled/mixed and all-cargo - also serve El Salvador, and are expected to continue to do so in the future. While the role of these participants individually is less critical than the role of TACA, collectively they handle the majority of cargo tonnage carried.

It is also entirely possible that one or more airlines other than TACA might express an interest in developing airport facilities at their own expense. CEPA and/or the DGTA should minimize restrictions on the private sector when and if such private companies indicate a willingness to invest in air transport facilities or services. Once again, any such investment should be approved only in the context of a broadly-based master plan for AIES that envisions a specific role for each land area on the airport proper.

c. The Roles of CEPA and DGTA:

CEPA should assume all airport operating responsibilities at both AIES and Ilopango, avoiding inefficient duplication of effort at the latter facility, whose traffic levels do not warrant independent management. Naturally this CEPA Ilopango responsibility must be carefully coordinated with that of the primary military operations and with the DGTA as the main regulatory agency of air transport. At present it seems there are some legal and regulatory discrepancies between the CEPA and DGTA functions that must be reviewed and solved.

Operations at airports other than AIES and Ilopango should be entirely private or made the responsibility of local authorities established for that specific purpose. DGTA should license each of these airports under internationally accepted standards, and no aircraft landing facility should be permitted in El Salvador without DGTA oversight and approval.

Most importantly, CEPA should strive to adopt a more institutional marketing-oriented approach, as described before, acting to promote the services of the airport

regionally and internationally, as well as domestically. As stressed repeatedly above, CEPA should aggressively market its services as a facilitator of transportation.

d. The Role of Customs, Court of Accounts and Policía Nacional Civil

Customs processing, including the participation that the Court of Accounts has in controlling customs at the AIES, should be sped up to reduce the of goods stored at the airport terminal.

Since customs processing is the major reason air cargo does not move more swiftly from aircraft to consignee, it is the obvious starting point for a program of improved flow. Automation of the manifest information (which already exists in large part in electronic form) will enable Customs and the Court of Accounts simply to verify this information and visually inspect the air cargo as necessary, with dutiable amounts also determined automatically, subject to Customs and the Court of Accounts verification and/or adjustment.

The role of the Policía Nacional Civil at the time the cargo goes out of the Delivery Store Room to the consignee, theoretically is only a check out function and should not cause delays if carried out efficiently.

6.6.3 Improved Operations and Regulations

The primary recommendation in this regard is that air cargo processing time should be greatly reduced through procedural enhancements focused on computerized manifest transfer.

Secondary recommendations relate to regulations inhibiting free-market competition in air cargo rates between El Salvador and points other than the United States, and limits on the size and ownership of aircraft allowed to use Ilopango Airport.

a. Minimization of Storage Time by Improved Cargo Flow:

Improved cargo flow should be a priority objective for CEPA in order to minimize on-airport cargo storage time.

Such improved cargo flow will serve several purposes. First, it will be a benefit to the users of air cargo service - both shippers and consignees - who do not want to wait unduly for delivery to be effected. Second, it will reduce the need for space, particularly in terms of constructing new terminals or expanding the present one before such costly construction/expansion is absolutely necessary. Third, it should reduce the probability of on-airport loss due to damage or theft, since the on-airport time for each shipment will be reduced significantly. And fourth, it should improve, rather than diminish CEPA revenues from cargo handling, since more cargo can be accommodated and more fees collected more rapidly.

b. Liberalization of Air Cargo Rates to points other than the U.S.:

Effort should be made to liberalize air cargo tariffs to/from points other than the United States (where free-market rates already apply). Such liberalization should effect a greater balance between demand and capacity, and should contribute to a perception of El Salvador as a competitive hub for cargo shipments that might not otherwise route via the country.

c. Adjusting the Limits of Aircraft that can use Ilopango:

It is recommended that Ilopango Airport should remain restricted to limited passenger operations of a regional nature, including non-commercial international flights by private aircraft.

Decree 422 of 1987, however, provides for a maximum capacity of 12 persons per aircraft. It is suggested that this be reviewed in light of possible regional passenger shuttle operations (particularly to Guatemala City and/or Tegucigalpa or San Pedro Sula) utilizing, and benefiting from the close-in facilities of Ilopango for short-haul flights. If such operations might best be carried out by the so-called commuter aircraft of up to 20 passengers, the 12 - passenger limit should be revised.

In no case, however, should large-scale commercial cargo operations be permitted again at Ilopango. Even though the existing runway is capable of accommodating a limited number of such flights, and even though facilities now used by the military could conceivably be returned to commercial use, a strong recommendation is made to avoid such split use unless absolutely necessary, primarily for safety and environmental reasons. It is virtually certain that none of the scheduled carriers at AIES would be in favor of permitting non-scheduled charters to use Ilopango, and it is similarly certain that none of these AIES carriers would advocate split operations even if authorized.

6.6.4 Facilities Requirements

The primary recommendation in this regard is that air cargo facilities should be constructed as necessary to accommodate demand, recognizing that improved air cargo processing must be enhanced in conjunction, thus greatly reducing space - and hence facilities - requirements.

It is essential that any expansion or improvement of the AIES infrastructure be done following a comprehensive detailed Master Plan.

a. Expansion as required by attained/projected growth:

Air cargo facility expansion (and all airport facility development for that matter) **should be expanded as required by attained or projected growth**. Sufficient land should be set aside under the comprehensive Master Plan to provide for likely space needs; most

importantly, individual functions should not be constrained by inappropriate adjacent or surrounding development of other maintenance hangar complex, and the air cargo terminal finger and the cargo terminal.

- b. Private Facility Development consistent with overall objectives as defined by the Master Plan to be developed;

There should be no constraint on private development of airport facilities, subject to the understable constraints of a) the overall airport Master Plan envisioned throughout this discussion, and b) a provision for removal of any private facilities whose use is found to be inconsistent with overall airport operations.

- c. All Development Based on the completion of the comprehensive Airport Master Plan, following internationally-accepted airport planning practices:

In any case, all of the above facility planning should only be accomplished on the basis of the comprehensive overall Master Plan focusing on the airport facilities as well as the environs. Such Master Plan should be implemented on a priority basis, incorporating improvements already scheduled for implementation, but encompassing all of the internationally-accepted practices of major airport facility planning.

This will, therefore, include a comprehensive inventory of existing facilities; extensive forecasts of passengers, cargo, and aircraft operations, incorporating the variables noted previously with respect to cargo weight/volume, imports, and urgent/secure/refrigerated/general as applicable; planning scenarios and their resulting requirements; cost and revenue projections; and environmental impact analysis.

6.6.5 Financial Aspects

The primary recommendation in this regard is that air cargo facilities should be constructed as necessary to accommodate demand, and that this demand should pay a fair price for the use of these facilities. The price should be set so as not to artificially depress demand, but nonetheless cover the costs of facility construction, maintenance, and operation.

- a. **Tariff Revisions to Minimize Storage Time:**

While the aforementioned improvements in physical flow, paperwork reduction, and customs processing time will all contribute greatly to a speed-up of cargo flow, tariff adjustment can also play a role. Therefore, it is recommended that a graduated scale of fees should be applied to encourage consignees to pick up their cargo quickly, but not to expect same day delivery for the standard fee. Thus, as noted above, a premium rate of 1.5 colones per kg. or similar charge will increase official revenues from shipments

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that may justify premium processing. Likewise, beyond the standard 24-72 hour clearance that will be possible after the implementation of revised procedures by both CEPA and Customs, a higher rate should apply, since the consignee is otherwise receiving free storage at a premium (i.e. on-apron) location.

b. Tariff Revisions to Cover Transit Cargo:

Transit cargo should be assessed a basic tariff to cover its use of AIES facilities.

Particularly if AIES air cargo is to grow along the lines of this report's forecasts, transit cargo - and its impact on AIES infrastructure - will increase significantly. Therefore, it is incumbent upon CEPA to charge fees for this transit cargo commensurate with such infrastructure use and impact. Although transit cargo may not pass through the CEPA/Customs process, it still occupies apron space, and still represents valid airport use for which a fee is justified.

This fee will be minimal if transit cargo occupies private facilities to be developed at AIES, but the tariff should fully cover any use of CEPA infrastructure, especially apron space or open land used for interim storage.

c. Tariff Revisions to Cover Ilopango Use:

Ilopango traffic (aircraft and passengers) should be assessed a fair tariff to cover its use of Ilopango facilities.

Based on the low fees now applicable to use of Ilopango airport, it appears that traffic at the airport is unjustifiably subsidized by the national treasury by its absorption of the overall operating losses at the airport. Therefore, it appears reasonable to review all such fees, in light of both the absolute demand and the level of fees actually levied, in order to let even the limited traffic make a reasonable contribution to the upkeep of this generally under-utilized facility.

6.6.6 Investment Need/Financial Alternatives

The conclusions drawn from the financial projections presented in Section of Financial Analysis indicate that AIES should start immediately to improve its cargo processing capabilities and information systems. Air cargo facility expansion should be constructed as necessary to accommodate demand, allowing private development of airport facilities when applicable.

Based on the financial forecast, in all scenarios, air cargo services generate enough funds to cover any operating and investments fund needs.

6.6.7 Probable Impacts of Recommended Policies

The implementation of the proposed policies are expected to have the following impacts upon the development of:

- The export of perishable and/or high-value products and
- The air cargo transport industry.

The terms of reference indicate possible export constraints due excessive airport fees and insufficient cold storage facilities. The Study found, on the contrary, that the AIES does not apply charges to cargo exports and, by permitting delivery at the time of departure, practically eliminates the need for airport cold storage facilities for exports. Therefore, the airport offers no significant constraints to exports.

The recommended policies promote exports via air as follows:

- Concessions to build and operate cargo terminals will permit competitive warehousing and transfer services exporters need.
- The study of and subsequent liberation of air cargo rates will reduce export costs.
- Faster customs and warehousing processes for imports will facilitate exports in that some of these imports are of inputs needed to produce exports.

These policies also promote competition and the development of the air cargo industry, as:

- Concessions for cargo terminal construction and operation will increase the supply of warehousing and transfer services, promote competition and the conditions for attracting transit cargo (as cargo concentration center).
- The study and subsequent liberation of air cargo rates will lead to more price competition.
- Faster cargo import processes will increase demand, indirectly strengthening air cargo firms.

ANEXO 6.5.1

Documentos de Concurso para la Licitación de una Concesión

ANEXO 6.5.1

LICITACION DE UNA CONCESION DOCUMENTOS DE CONCURSO

Por lo general los documentos principales para la licitación de una concesión son: El Prospecto, las Condiciones Generales, los Términos de Referencia y la Proforma de Contrato. Todos ellos aportan información a varios niveles de detalle sobre la concesión que se lícita y sus diversos requerimientos. En este Anexo se tratan algunos de los aspectos que deben ser incluidos en estos documentos.

El Prospecto

Tiene por objeto dar una idea general de las principales características y requisitos de la concesión para que personas o empresas interesadas decidan si desean participar en el concurso. El prospecto, además de describir la concesión, sus servicios y perspectivas, debe establecer claramente los requisitos de los participantes, las etapas que seguirá el proceso de licitación y las fechas en que se efectuarán sus principales eventos.

Las Condiciones Generales y los Términos de Referencia

Son documentos más detallados donde se especifican los aspectos de carácter legal, técnico y financiero de la concesión. Si bien en estos documentos deben quedar establecidos los requerimientos y condiciones de carácter obligatorio para los participantes, CEPA debe dejar a la opción del proponente los aspectos empresariales y operacionales de la concesión, limitándose a definir parámetros indicativos de calidad de los servicios.

En los Términos de Referencia Generalmente se incluyen, entre otros los siguientes puntos:

La Concesión

Aquí se describen las instalaciones y servicios que será sujeto de la concesión, su ubicación, propósito y condición. En esta sección debe haber lenguaje muy específico que describa la jurisdicción de CEPA sobre las instalaciones y su acceso a ellas.

Instrucciones Generales

Las instrucciones generales cubren los aspectos administrativos tales como etapas del Concurso y de las diferentes entregas, número de copias y requisitos de tipo administrativo.

Criterios de Evaluación y Plan de Selección del Concesionario

Los proponentes deben ser informados en cuanto a los criterios que se usarán para la selección y la forma en que las propuestas serán evaluadas. Un posible sistema de evaluación podría consistir en la asignación de valores numéricos para cada una de las diversas categorías de información que incluyen los proponentes en su propuesta.

Perfil del Proponente

Este bloque de información cubre la experiencia del proponente en la operación del terminal sujeto de la concesión, la composición de su empresa, sus recursos financieros y las actividades que actualmente tiene el proponente. A través de ella se desea establecer su trayectoria y capacidad para desarrollar su labor y también si el proponente puede tener conflictos de interés con la operación de la concesión que pudieran implicar que el proponente no está totalmente en capacidad de servir el interés público. En particular deben asignarse especial atención a aquellas actividades que pudieran redundar en una restricción de la competencia que es deseable mantener en la operación aeroportuaria.

Esta sección también puede incluir ciertos aspectos en que la CEPA tenga especial interés. Por ejemplo, aquí es posible definir ciertas ventajas que puede ofrecer el proponente desde el punto de vista de abrir el aeropuerto al tráfico internacional debido a relaciones que el proponente pueda tener con otros países y con otros aeropuertos. Es decir, la capacidad del proponente para ofrecer mejores perspectivas de tráfico y atraer carga al aeropuerto.

Plan de Negocios

Los proponentes deben proporcionar un plan de negocios detallado para el terminal. Este plan debe incluir proyecciones de carga para los próximos 5 años, monto de las inversiones que el concesionario desea hacer, naturaleza de los planes de mercadeo que el concesionario llevará a cabo para la venta de sus servicios y en general sus ideas en cuanto a la forma en que operará el terminal. El punto importante aquí es que el proponente debe describir en detalle en que forma mejorará y ampliará el comercio de carga aérea de El Salvador atrayendo tráfico y carga al aeropuerto en caso de que obtenga la concesión del terminal.

Precios

Esta sección cubre la propuesta económica del oferente en la cual se definen las cantidades y la oportunidad en que el concesionario hará los pagos a CEPA y los conceptos que estarán incluidos en estos pagos.

Los términos de referencia deben dar cierta flexibilidad en cuanto a la manera en que estos pagos deban ser estructurados de tal manera que los proponentes tengan diferentes opciones y usen su creatividad en la preparación de sus propuestas. Los proponentes deben proporcionar estimativos en cuanto al monto de los pagos que recibirá CEPA y los límites máximos o mínimos a que estén sujetos estos pagos según la variación en las proyecciones de carga que hace el proponente. Es importante recordar que el proponente debe hacer un estudio de tráfico para determinar por su propia cuenta y con sus propios recursos la cantidad de tráfico que manejará el terminal durante el período de concesión. Es sobre esta base y sobre su plan de negocios que los pagos a CEPA se calculan y se estiman sus posibles fluctuaciones.

Cargos Aeroportuarios

Los proponentes deben saber que CEPA continuará cobrando ciertos cargos por entrada y utilización de las instalaciones. También en esta sección debe describirse la reglamentación que las autoridades aeroportuarias impondrán en cuanto a las tarifas que los concesionarios puedan cobrar por los servicios ofrecidos en su terminal y los límites superiores o inferiores de dichas tarifas.

Referencias

CEPA puede pedir que los proponentes den los nombres de organizaciones que puedan dar referencias sobre la experiencia del proponente en la operación de terminales y sus recursos financieros. Esta información obviamente es de gran importancia para examinar la credenciales de los proponentes.

Puntos a Incluir en el Contrato:

Un contrato para la operación de una concesión normalmente tiene un gran número de cláusulas legales que tienen que ver con la legislación del país y cuya discusión está fuera del alcance de este estudio. Los puntos que se indican a continuación son únicamente aquellos que tienen una significación especial en la operación de un terminal de carga aérea.

1. **Desarrollo Futuro del AIES.** En esta cláusula debe aclararse que CEPA se reserva el derecho para construir otras instalaciones en cualquier lugar del AIES y en la

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época que CEPA lo considere conveniente. Normalmente el concesionario preferiría que no hubiera competencia en el futuro, sin embargo, como se ha explicado en varios puntos de este documento la bondad de una privatización de servicios públicos únicamente rinde beneficios cuando esta presente el más alto nivel de competencia.

2. **Informes.** CEPA debe exigir informes del concesionario a intervalos regulares, especialmente en cuanto a volúmenes de carga. Puede también incluirse una cláusula en la cual el operador del terminal otorga a CEPA el derecho de auditar e inspeccionar sus libros y documentos. Esta cláusula es conveniente particularmente cuando el concesionario está haciendo pagos a CEPA basados en la cantidad de carga que maneja.
3. **Derecho para Entrar en la Concesión.** CEPA debe reservarse este derecho y poder entrar en la concesión para cualquier propósito legítimo.
4. **Cambio de los Accesos al Terminal.** CEPA puede desear incluir una cláusula en la cual se reserva el derecho para cambiar el acceso de entrada al terminal. Esto puede ser importante si CEPA está desarrollando zonas contiguas al terminal y por lo tanto puede ser necesario cambiar la ubicación de la entrada al terminal.
5. **Mejoras Necesarias.** En esta cláusula deberán especificarse las mejoras que el proponente hará en las instalaciones que se concesionan. Esta cláusula debe especificar en el mayor detalle el tipo, alcance y especificaciones de las mejoras que el proponente se compromete a realizar en la concesión.
6. **Servicios Públicos.** El contrato debe especificar a cargo de quien estará la provisión de servicios públicos y conexiones de agua y alcantarillado y otros servicios al terminal.
7. **Alteraciones en las Instalaciones del Terminal.** El concesionario debe tener la obligación de obtener la aprobación de CEPA antes de hacer cualquier cambio en el terminal.
8. **Avisos.** CEPA puede reservarse la autoridad de reglamentar los avisos que el concesionario desee colocar en la concesión.
9. **Embargos.** Normalmente CEPA debe prohibir que los concesionarios permitan que existan embargos sobre sus propiedades o sus activos en el terminal.
10. **Indemnizaciones.** Normalmente en el contrato se incluye el compromiso del concesionario de que indemnizará y sacará libre a CEPA de cualquier reclamo que resulte de su operación del terminal.

11. **Traspaso.** Normalmente CEPA debe prohibir que el concesionario pueda asignar el contrato a otra entidad sin el consentimiento expreso de CEPA. Esta cláusula debe cubrir también otras transacciones tales como la venta de la empresa en la cual los derechos y obligaciones del contrato de concesionario pasan a nuevas manos.
12. **Arbitramento.** En el contrato debe existir una fórmula para zanjar y resolver disputas que resulten de la interpretación del contrato. Para este efecto existen diversas vías de arbitramento internacional que pueden adaptarse a este tipo de contratos.
13. **Impuestos.** El contrato debe especificar que impuestos debe pagar el concesionario.
14. **Restablecimiento de la Concesión.** CEPA debe exigir que el concesionario devuelva la concesión y sus instalaciones en la condición original en que la recibió, una vez que el contrato termina.
15. **Terminación del Contrato.** En estas cláusulas CEPA debe proteger su interés en caso de que el operador no cumpla las cláusulas y condiciones pactadas en el contrato. Normalmente en dicho contrato deben existir maneras de remediar fallas del concesionario o de terminar el contrato con todas las consecuencias que implica el rompimiento de contrato cuando el concesionario deja de cumplir cláusulas sustanciales o no acude a remediar fallas de operación cuando CEPA lo exige, de acuerdo con el contrato.
16. **Duración del Contrato.** El contrato debe definir el término de la concesión y también la forma en que la duración del contrato puede extenderse. Estas cláusulas varían según la inversión que el concesionario deba hacer, pues el término del contrato debe ser suficiente para que el concesionario pueda recuperar su inversión.
17. **Pagos.** Esta sección debe cubrir los pagos que el operador deba efectuar a favor de CEPA.
18. **Relaciones Laborales.** Esta sección especifica las responsabilidades que tiene el concesionario para conducir las relaciones con sus trabajadores. Debe hacerse hincapié en cuanto a que CEPA no tiene responsabilidad por relaciones con los trabajadores y, si es el caso, qué medidas puede tomar CEPA para impedir que se paraliquen las actividades aeroportuarias como resultado de una disputa laboral.
19. **Vigilancia.** En esta sección se estipulan los sistemas de vigilancia con que cuenta el aeropuerto y se especifica la responsabilidad en cuanto a este aspecto por parte del operador del terminal.

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20. **Protección contra incendios.** En esta sección se presenta el sistema y los procedimientos que el aeropuerto utiliza para protección contra incendios y la responsabilidad del concesionario en este aspecto.
21. **Seguros.** El concesionario estará obligado a mantener diversos seguros tanto de accidentes como de responsabilidad ante terceros. En esta sección se deben especificar las pólizas de seguros que deba tener el concesionario.
22. **Reparaciones y Mantenimiento .** Aquí se describe quién será responsable por las reparaciones y mantenimiento de los equipos y el mantenimiento de la infraestructura concesionada. Si el operador es el responsable por estas actividades el contrato debe establecer un estándar razonable para definir el cumplimiento de las cláusulas de mantenimiento.
24. **Actividades Prohibidas.** En esta sección se describen las actividades no permitidas en la Concesión y las multas y sanciones a que está sujeto el concesionario al incurrir en ellas.

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