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**HONDURAS**

**TRANSPORT SECTOR STRATEGY PAPER**

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List of Abbreviations

<i>DGC</i>	<i>Directorate General of Roads</i>
<i>DGCA</i>	<i>Directorate General of Civil Aviation</i>
<i>DGM</i>	<i>Directorate General of Roads and Airports Maintenance</i>
<i>DGPS</i>	<i>Directorate General of Sectoral Planning</i>
<i>DGT</i>	<i>Directorate General of Transport</i>
<i>ENP</i>	<i>National Port Company</i>
<i>FAA</i>	<i>Federal Aviation Administration</i>
<i>FNH</i>	<i>Honduran National Railways</i>
<i>GDP</i>	<i>Gross Domestic Product</i>
<i>GNP</i>	<i>Gross National Product</i>
<i>HDM III</i>	<i>Highway Design and Maintenance Model. Third Version</i>
<i>ICAO</i>	<i>International Civil Aviation Organization</i>
<i>IDA</i>	<i>International Development Agency</i>
<i>IDB</i>	<i>Interamerican Development Bank</i>
<i>PURC</i>	<i>Public Utilities Regulatory Commission</i>
<i>SECOPT</i>	<i>Secretariat of Communications, Public Works and Transport</i>
<i>SECPLAN</i>	<i>Secretariat of Planning, Coordination and Budgeting</i>
<i>TRR Co.</i>	<i>Tela Railway Company</i>
<i>UNDP</i>	<i>United National Development Company</i>



**HONDURAS**  
**TRANSPORT SECTOR STRATEGY PAPER**

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*This report is based on the findings of a mission composed of Messrs. and Mesdames M. Pokorny (Task Manager), J. Lethbridge (Sr. Airport Advisor), Z. Raanan (Ports Specialist), G. Ruan (Highway Engineer), J. Barbero and G. Guisarri (Consultants) who visited Honduras from March 11, 1991 to March 27, 1991, and a subsequent mission composed of Mrs. M. Pokorny and Mr. J. Tolisano (Consultant). Mesdames M. Leal and M. Quijada helped in the preparation of the report.*

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*Map IBRD 23072*





## HONDURAS

### TRANSPORT SECTOR STRATEGY PAPER

#### EXECUTIVE SUMMARY

##### Economic Adjustment Strategy and Development Goals

1. *The Callejas Government, which took office in late January 1990, has set out to implement a radical but long overdue economic reform program aiming at reducing the costly regulatory framework and subsidies which pervade the economy, and to encourage private sector investments through reform of the trade regime to open the economy, public sector management improvements to increase efficiency, changes in pricing and credit policies to eliminate subsidies, financial sector reforms to promote competition, and establishment of a long-term macroeconomic framework free of distortions.*

##### Objectives of the Sector Strategy Paper

2. *The Bank has not been involved in the transport sector of Honduras since 1980, when the Eighth Highway Project was approved by the Board of Directors. As a new lending cycle starts and the government embarks in a redefinition of the role of the state in the transport sector, an updated sector strategy is necessary to provide a basis for a dialogue on the issues that should be addressed as a matter of priority, and identify those areas that will require further studies. Consistent with the Bank's overall country strategy, the emphasis of this study is on:*

- o competition policies, including privatization and (de)regulation leading to the efficient provision of transport services;*
- o pricing policies ensuring allocative efficiency, cost-recovery and sound transport sector finances;*
- o investment policies providing for the necessary transport infrastructure to support economic growth;*
- o institutional development consistent with the evolving structural changes in the sector; and*
- o environmental management.*

3. *The final objective of the study is to help the Honduran Government in its efforts to achieve an efficient transport industry driven by market forces, enabling operational and investment decisions to be made on the basis of the costs and quality of service of the different modal and multi-modal alternatives. To achieve this, the main recommendations are that prices for competitive freight services should be freed across the sector, and appropriate pricing and taxation mechanisms should be established, for adequate cost-recovery and for allocative efficiency; regulatory remedies for non-competitive market segments should be established only where justified; and the trucking industry*

*should be freed of restrictive entry and service regulations. The railway under FNH should be concessioned to the private sector or liquidated. The ports system should be decentralized, with operational and investment responsibilities vested primarily at the local port administration level, and a number of privately-operated terminals should handle a significant share of the traffic at substantially lower costs. Some airport facilities and operations should be privatized. Urban transport policies should be geared toward the development of efficient and equitable transport services which meet the needs of the low-income groups, which have traditionally received less attention. The interface of transport policies and environmental issues, including rapid deforestation, soil erosion, and water and air pollution, should become an integral aspect of decisions in the sector.*

### **The Administration Initial Policies**

*4. The administration of President Callejas has already taken a number of important initial steps towards achieving these objectives. Private sector participation is being encouraged in the maintenance of the road network, in the administration of airports and in the leasing of port installations to the banana companies and to Petrotela. The government also is taking the first steps, albeit limited, to eliminate unwarranted regulations in the road transport industry. In the case of the railways, some contradictions remain in terms of the stated policies and the railways actions. Finally, investment policies emphasize rehabilitation and maintenance of existing assets, although some investments in the airport and port subsectors are being undertaken without a clear economic justification.*

### **Proposed Bank Group Strategy**

*5. In line with the Bank Group's overall lending strategy in Honduras, the Bank's main transport lending objectives are to promote sector efficiency and to enhance financial performance. This study will serve to expand and deepen a dialogue that is already ongoing on how they should be achieved. The Bank's strategy would seek, in particular to:*

- (a) expand the participation of the private sector in the provision of transport services where appropriate; e.g. supporting the contracting of road maintenance; encouraging operation and facility concessions in ports and airports; and restructuring railway services;*
- (b) improve fiscal performance – e.g. enhancing cost recovery in the sector; establishing road user charges in both interurban and urban roads that are based on economic criteria; improving bus fare pricing in urban transport; promoting the establishment of cost-based tariffs in the ports subsector;*
- (c) emphasize maintenance and rehabilitation of existing assets – e.g. preserving the present road network before undertaking further expansions in the highway subsector; rehabilitating airport infrastructure;*
- (d) strengthen investment selection – e.g. analyzing alternatives, undertaking system evaluations, and employing least cost analysis, where appropriate, within and between transport modes;*

- (e) *support institutional and policy reforms – e.g. encouraging the strengthening of planning and regulatory capabilities in the relevant agencies; assisting in the privatization process in the sector; and promoting the deregulation of the road transport industry; and to*
- (f) *promote environmental protection –e.g. supporting the strengthening of the environmental unit in SECOPT to better integrate environmental concerns in transport policy and investment decisions.*

6. *Close coordination among the various international donors supporting the development of the sector in Honduras is necessary to ensure an efficient division of labor and consistency of approaches.*

#### **Proposed IDA Lending**

7. *Bank Group lending should emphasize a sectoral approach benefitting from the enhanced policy dialogue IDA has developed with the Government. In particular, a proposed FY 93 sector investment loan with a substantial policy content should help the administration to design and implement the far reaching institutional measures that are still in its initial stages. Bank Group involvement should help in institutionalizing the formulation of sound pluri-annual investment programs and to limit the opportunity for investments being selected on ad-hoc basis. Strengthening the capabilities of DGPS for transport planning and project evaluation should be one of the main priorities of the proposed operation. The establishment of clearly defined pricing and regulatory policies addressing different efficiency and equity considerations, will require developing DGT's capabilities to properly discharge its normative and regulatory functions. The proposed operation should also help the newly created Environmental Unit in SECOPT to expand its role to all transport modes, a process that will require the clear definition of the functions of the different agencies involved in environmental issues. Finally, the Bank Group has developed considerable expertise in helping borrower countries to divest and/or privatize assets or operations in the transport sector. The Bank Group has therefore a strong comparative advantage to help the Government to implement its privatization/divestiture program in the ports, airports and railways subsector.*

#### **Future Sector Work**

8. *The major issues in the transport sector deserving further analysis are: (i) future financing of road maintenance operations; (ii) the constraints imposed to road transport by the present regulatory framework; and (iii) urban transport, both in terms of future infrastructure development needs and of pricing and regulatory policies. The first issue is being satisfactorily treated under the technical assistance component of the IDB's loan. With respect to the other two issues, it is proposed to include the relevant studies, including the implementation of their recommendations as part of a possible future IDA operation. Future sector work should include a Transport Sector Memorandum in FY 1995 to evaluate progress made in the implementation of the Government's sector policies and propose a course of action based on the studies to be undertaken during the intervening period.*

9. *The following policy matrix summarizes the proposed IDA role in supporting the transport sector of Honduras.*

## SUMMARY OF STRATEGY

Instrument	Priority	Proposed Bank Group Role
<p><b>A. Issue: Introducing market competition in the transport sector.</b></p> <ul style="list-style-type: none"> <li>. Increased role of the private sector.</li> </ul>	<ul style="list-style-type: none"> <li>. Increase road maintenance by contract.</li> <li>. Privatize management and/or operations of Puerto Castilla and Puerto San Lorenzo.</li> <li>. Increase the role of the private sector in the operation of Puerto Cortes.</li> <li>. Concession FHN's services and divest of non-concessionable assets.</li> <li>. Privatize management and/or operations of airport services.</li> </ul>	<ul style="list-style-type: none"> <li>. Support government's efforts to strengthen SECOPT's capabilities for contract management.</li> <li>. Assist the government in the design and implementation of a privatization strategy for the sector.</li> </ul>
<ul style="list-style-type: none"> <li>. Decentralization.</li> <li>. (De)Regulation.</li> </ul>	<ul style="list-style-type: none"> <li>. Decentralize port management.</li> <li>. Eliminate regulations in freight and inter-urban passenger transport.</li> <li>. Establish effective regulation of urban transport services.</li> </ul>	<ul style="list-style-type: none"> <li>. Assist government on the design of a reform package for the port subsector, including the transformation of ENP into a regulatory body.</li> <li>. Provide technical assistance as necessary to DGT for carrying out its regulatory functions.</li> </ul>
<p><b>B. Issue: Accountability in non-contestable markets.</b></p>	<ul style="list-style-type: none"> <li>. Establish mechanisms to increase the accountability of SECOPT in the area of road management.</li> </ul>	<ul style="list-style-type: none"> <li>. Provide technical assistance to establish in SECOPT accounting practices to increase the transparency of its performance.</li> </ul>
<p><b>C. Issue: Implementing measures to improve sector finances, and set prices on the basis of sound economic criteria and resource mobilization.</b></p> <ul style="list-style-type: none"> <li>. Set efficiency-based user charges.</li> </ul>	<ul style="list-style-type: none"> <li>. Charge to different types of vehicles the actual costs they impose on the road network.</li> <li>. Develop ENP's and PURC's capability for establishing and monitoring cost based tariffs.</li> </ul>	<ul style="list-style-type: none"> <li>. Support government efforts to establish and monitor adequate road user charges.</li> <li>. Provide TA as necessary.</li> </ul>

Instrument	Priority	Proposed Bank Group Role
<p><b>D. Issue: Carry out necessary investments to support export-led growth.</b></p> <ul style="list-style-type: none"> <li>. Reduce vehicle operating costs to increase competitiveness of exports.</li>   <li>. Upgrade airport infrastructure and safety.</li>   <li>. Reduce transport cost of containerized cargo.</li> </ul>	<ul style="list-style-type: none"> <li>. Carry out the necessary road rehabilitation and deferred maintenance to bring network to maintainable conditions.</li>   <li>. Rehabilitate runway in San Pedro Sula Airport.</li>   <li>. Carry out an airport master plan for future airport development including replacement of Toncontin in Tegucigalpa.</li>   <li>. Complete container terminal in Puerto Cortes.</li> </ul>	<ul style="list-style-type: none"> <li>. Provide financing for deferred road rehabilitation and maintenance works.</li>   <li>. Support government efforts for the establishment of a sustainable system of road management and financing.</li>   <li>. Provide financing.</li>   <li>. Help the government in the design and implement a master plan with the involvement of UNDP and ICAO.</li>   <li>. Finance investments.</li> </ul>
<p><b>E. Issue: Cross-Sectoral Issues.</b></p>	<ul style="list-style-type: none"> <li>. Establish adequate legal and institutional framework to address environmental aspects of transport projects.</li> </ul>	<ul style="list-style-type: none"> <li>. Provide technical assistance as needed.</li> </ul>



## HONDURAS

### TRANSPORT SECTOR STRATEGY PAPER

#### I. INTRODUCTION

##### Background

1. Honduras ranks among the least developed countries in the Western Hemisphere. Although some economic progress has been made over the last two decades, per capita GNP in 1990 was still low at an estimated US\$ 538. About 40% of the population over 10 years of age is illiterate, 72% of children under five years suffer from malnutrition, the infant mortality rate is nearly 79 per 1,000 live births, and 60% of the population is inadequately housed. About 75% of the population lives in poverty conditions.

2. Until recently, Honduras' development strategy was based on import substitution, industrialization behind high protective barriers and extensive Government intervention involving credit subsidies, price controls and tax incentives. The result of this strategy has been the development of an inefficient manufacturing sector, agricultural production increasingly departing from comparative advantage principles, high unemployment, low productivity, and a dramatic decline in national savings from an annual average of 12% of GDP before 1973 to only 6% of GDP in 1987-1988.

##### Economic Adjustment Strategy and Development Goals

3. The Callejas Government, which took office in late January 1990, has set out to implement a radical but long overdue economic reform program under which the role of the State is being redefined and increased reliance is being placed on the private sector as the driving force of economic growth. To achieve this, the costly regulatory framework and subsidies which pervade the economy are being dismantled. The program seeks to encourage private sector investments through reform of the trade regime to open the economy, changes in pricing and credit policies to eliminate subsidies, and establishment of a sustainable macroeconomic framework free of distortions. In addition, the efficiency of the public sector is to be improved.

4. In the short term, the emphasis is on reestablishing and maintaining a stable macro-economic environment while addressing the needs of the poorest segments of the population. Over the medium term, Honduras has to implement the basic structural adjustments needed to accelerate investment and promote economic growth. To do so, the country must rely heavily on more rapid export growth. Current trade liberalization measures should result in a shift of resources toward the production of exportable goods where Honduras is internationally competitive such as bananas, coffee, shrimp farming, vegetable production and fruit to be supplied in the Northern winter period.

5. The emphasis on export-led growth calls for an expanding role for the private sector. This in turn will require the elimination of excessive controls, revision of tax and investment regulations, and the provision of an adequate infrastructure (both public and private) to avoid constraints to the flow

of exports. The ultimate objective is to create a more favorable business climate conducive to both domestic and foreign private investment.

6. Along with the emphasis on liberalizing the economy and enhancing the private sector's contribution, comes the need to resolve serious public sector management and resource allocation issues. The principal need is to strengthen institutions and create a more efficient public sector that is able to focus more sharply on those areas, such as poverty alleviation, where there is the greatest need for public intervention. Increased decentralization of the management and financing of public services is important to enhance public sector efficiency and responsiveness to local needs. Decentralization potential, however, is limited (particularly in the short-run) by the technical weaknesses of local governments. Hence, public enterprise reform and privatization are also key elements of the public sector agenda.

7. Another important item in the Government's development agenda is the environment. Honduras faces increasingly serious environmental issues, including rapid deforestation, soil erosion, water and air pollution, and the disposal of contaminated waste. Establishing an appropriate institutional and legal framework and finding the resources needed to address these issues adds to the challenge of the country's economic recovery and adjustment efforts.

#### Objectives of the Sector Strategy Paper

8. The Bank<sup>1/</sup> has not been involved in the transport sector of Honduras since 1980, when the Eighth Highway Project was approved by the Board of Directors. As a new lending cycle starts and the government embarks in a redefinition of the role of the state in the transport sector, an updated sector strategy is necessary to provide a basis for a dialogue on issues that should be addressed as a matter of priority, and identify those areas that will require further analysis. Consistent with the Bank's overall country strategy, the emphasis of this study is on:

- o competition policies, including privatization and (de)regulation leading to the efficient provision of transport services;*
- o pricing policies ensuring allocative efficiency, cost-recovery and sound transport sector finances;*
- o investment policies providing for the necessary transport infrastructure to support economic growth;*
- o institutional development consistent with the evolving structural changes in the sector; and*
- o environmental management.*

9. The final objective of the study is to help the Honduran Government in its efforts to develop its own strategy to achieve an efficient transport industry driven by market forces, enabling operational and investment decisions to be made on the basis of the costs and quality of service of the different

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<sup>1/</sup> Throughout the paper references to the Bank should be understood to include IDA. For country reasons that do not belong in this paper, but which have been discussed in other documents, in the short term it is expected that the financial support from the Bank Group would primarily be in the form of IDA credits.



*modal and multi-modal alternatives. To achieve this, the main recommendations are that prices for competitive freight services should be freed across the sector, and appropriate pricing and taxation mechanisms should be established, for adequate cost-recovery and for allocative efficiency; regulatory remedies for non-competitive market segments should be established only where justified; the trucking industry should be freed of restrictive entry or service regulations. The railway under FNH should be concessioned to the private sector or liquidated. The ports system should be decentralized, with operational and investment responsibilities vested primarily at the local port administration level, and a number of privately-operated terminals should handle a significant share of the traffic at substantially lower costs. Airport facilities should be upgraded and their operation should be privatized. Urban transport policies should be geared toward the development of efficient and equitable transport services which meet the needs of the low-income groups, which have traditionally received less attention. The interface of transport policies and environmental issues, including rapid deforestation, soil erosion, and water and air pollution, should become an integral aspect of decisions in the sector. Close coordination among the various international donors supporting the development of the sector in Honduras will be necessary to ensure an efficient division of labor and consistency of approaches. In the short term, highest priority should be assigned for the implementation of those recommendations that are likely to have a significant fiscal impact and these primarily lie in the highway subsector. In particular, continued reduction of redundant labor in road maintenance, development of maintenance by contract and a strategic approach to allocate road funds over the network, and increased accountability of road organization with performance budgets are of paramount importance.*

## **II. THE TRANSPORT SECTOR AND THE ECONOMY**

### **General Background**

*10. The Honduran transport system is conceptually simple: it comprises a highway network which includes about 2400 km of paved roads and 9200 km of unpaved roads; a port system dominated by Puerto Cortes, followed by the increasingly used Puerto Castilla and the under-utilized Puerto San Lorenzo, the only Honduran port on the Pacific coast; a small agriculture-oriented railway system attending mostly the transport of banana in the north of the country and four international airports, two of them (in Tegucigalpa and San Pedro Sula) with significant international traffic (See attached map).*

*11. Development of the transport sector has largely taken place during the last three decades, mainly in the highways and port subsectors. The construction of the Inter-American Highway in the southern region was started in the mid-fifties, and an all weather road between Tegucigalpa and San Pedro Sula was completed in 1971. The corridor joining Tegucigalpa with San Pedro Sula and Puerto Cortes is the main conduit of the country's economic activities, mostly centered on agriculture production in the Sula Valley and the nearby Atlantic coastal strip. Recent growth in the production of perishable non-traditional exports in the southern part of the country is expected to result in the development of new transport corridors for the Pacific trade.*

*12. The transport sector is formally under the jurisdiction of the Secretariat of Communications, Public Works and Transport (SECOPT), which is directly responsible for highway and airport infrastructure development and maintenance, and indirectly, through the participation of the Minister in the Board of Directors, for approval of activities in the ports, railways and aviation sub-sectors.*

For highways there are two general directorates, namely construction (*Dirección General de Caminos - DGC*) and maintenance (*Dirección General de Mantenimiento - DGM*). The *Empresa Nacional Portuaria (ENP)* and *Ferrocarriles Nacionales de Honduras (FNH)* are parastatal organizations with a high degree of independence. However, they are under the jurisdiction of the Minister of *SECOPT* who has to give budgetary approval to their activities. The following paragraphs provide an overview of the different Transport Subsectors. The main issues in each subsector are further developed in Chapters III and IV of the report.

### The Road Subsector

13. Except for the unpopulated and ecologically fragile area of the Mosquitia, in the province of Gracias a Dios, where no roads have been built, the remainder of the country is reasonably well served by the national road system. Inadequate maintenance levels, weak institutional capabilities and relaxation of axle load regulations, however, led to the significant deterioration of the network and a reduction in the level of service. Only about 27% of the paved roads are in good condition, as compared to 61% in 1985 (fig. 1).

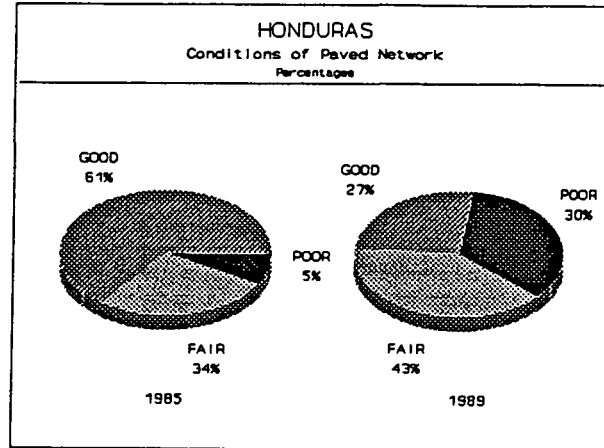


Figure 1

14. *SECOPT* has estimated that because of the poor state of the network the Honduran economy is incurring in avoidable costs amounting to about US\$123 million per year, of which about US\$100 million correspond to increased vehicle operating costs and the rest to avoidable road deterioration. These savings, amounting to about 3.5% of GNP, are in line with costs reductions estimated for countries implementing programs to eliminate the backlog in road maintenance. Because of high returns associated with improving the network, the Government with the help of bilateral and multilateral agencies, is embarking in an ambitious road rehabilitation program to bring the network to maintainable conditions (para. 90).

15. To a great extent, the poor state of the road network results from the inordinate amount of resources used to pay a bloated labor force. In part this may have served as a safety net to mitigate the effect of unemployment, as Honduras does not have an unemployment insurance system. The sectoral consequences, however, have been very negative, since the size of the wage bill, 70% of which was for administrative staff, left little for the purchase of materials and equipment needed for maintenance. The Government is taking important measures to redimension the size of the two highway directorates and increase the participation of the private sector in highway maintenance. The overall organizational structure of *DGC* has remained unchanged over the years, notwithstanding a 22% cut in personnel during 1990 (1800 employees). The *DGM*, on the other hand, is undergoing major changes. In terms of personnel, the target is to reach a staff of only 1200 by 1994 (down from 5000 in 1989). Already *DGM* has reduced its staff by 1000 during 1990, and 400 additional workers were eliminated from the payroll in 1991. This reduction, once completed, will free approximately L 20 million per year to be used for maintenance works, which represents about 40% of the 1990 total maintenance budget. At the same time, *DGM* intends to contract 80% of the road maintenance work with the private sector, with the remaining 20% to be done by force account. The government is

now in the process of evaluating different schemes to carry out road maintenance by contract in a way that encourages the absorption by the private sector of a part of DGM's redundant labor (para. 39).

16. Both freight and passenger transport in Honduras are in the hands of the private sector under Government regulation. The freight transport industry mostly comprises private operators organized as cooperatives for tax purposes. Entry to the industry requires licensing by the Directorate of Transport in SECOPT, which is also responsible for setting rates for the transport of fuels and cement (para. 59).

17. The Transport Directorate within SECOPT is responsible for enforcing axle-load regulations as well as vehicle dimensions and overall weight restrictions. Axle-load regulations were enacted in 1976. Annex 1, Table 6 provides details of authorized weights and loads. In 1986, because of pressures from the trucking industry, regulations were relaxed to permit truckers to carry a 15% excess load. This measure increased the overall permissible weights for articulated trucks by 4 to 5 tons. In December of 1990, however, the Government reinstated the 1976 legislation and reopened its 15 weighing stations throughout the country. The present static weighing system is obsolete and prone to evasion. Furthermore, much of the equipment is in a state of disrepair and requires replacement. The Government, with IDB financing, is in the process of updating its axle-load control system.

The Port Subsector

18. As already stated, the port system in Honduras is dominated by Puerto Cortes, a well equipped, modern port which handles about 2,800 million metric-tons, or 81% of the international traffic. Further East along Honduras' Caribbean coast is Puerto Castilla, constructed to be the principal port for the export of timber and wood products from the Olancho region, but now serving mainly the Standard Fruit Company for exports of banana and pineapple in containers through the lease of parts of the port area for its exclusive use. In 1990 Puerto Castilla handled 419 million metric-tons. The Port of San Lorenzo, on the Pacific Coast, is ample and well equipped but attracts little traffic, as most of the trade flows are with the east Coast of the United States and Europe. The table below summarizes the distribution of traffic in the port system.

Port	Ship Calls	Imports	Exports	Total
	(Vessels)	(in '000 Metric Tons)		
Puerto Cortes	1178	1546	1270	2816
Tela	51	65	52	117
La Ceiba	24	8	8	16
Puerto Castilla	200	117	302	419
San Lorenzo	107	59	44	103
Total	1560	1796	1677	3473

19. All the country's ports come under one central Port Authority, the Empresa Nacional Portuaria (ENP). Founded as an autonomous state entity by decree in 1965, it began operations in Puerto Cortes in August 1966. It reports to its own nine-members board of directors, the chairman of which

is the Minister of Commerce and Economic Affairs; other members are the Minister of Public Works and Transport (SECOPT), the Minister of Planning, Coordination and Budget (SECPLAN), and representatives of the Chambers of Commerce, the labor union and the national ship operators. Permanent invitees comprise a member of the Armed Forces and a representative of the superintendency of parastatal enterprises in the ministry of Finance. The chief executive of ENP is a Government appointee and also serves ex-officio as a secretary of the board, assisted by the internal auditor and a liaison officer.

20. Each port is managed by a Superintendent who responds to the deputy director of ENP. In all, ENP employs some 1100 permanent staff with which it gives most port services, with the exception of stevedoring, which is provided by private companies. In addition to the ports, ENP is also made responsible for the management of the country's Free Zones, where some 39 different enterprises (mainly foreign) conduct their duty free business, in buildings leased to them by ENP. By regional standards, ENP is a well-run organization. However, it lacks the dynamism to react to changing market forces both in terms of increasing its internal efficiency and in pursuing aggressive commercial policies to attract new traffic (para. 46).

21. Although all operations, including pilotage and the movement of ships in the ports are the responsibility of ENP, there are also Port Captaincies in each port, which report to the "Direccion General de Marina Mercante", which belongs to the Armed Forces. These captaincies have nominal responsibility for vessel safety and environmental issues, which sometimes overlap with that of the port authorities diffusing accountability and creating confusion. Neither the ENP nor the Port Captain is directly accountable to the Ministry of Transport which therefore has little involvement in matters of maritime transport. The growing interdependence of different modes of transport makes this an undesirable situation.

22. Although ENP as a whole has made reasonable profits in recent years, it is mainly Puerto Cortes itself which, by charging considerably more than the costs of its own operations, has managed to subsidize all the other ports in the system, including the free-zones under their responsibility. It is also managing to service the considerable debt burden caused by the construction of the Bank-financed Puerto Castilla and Puerto San Lorenzo, without recourse to fiscal assistance. In fact, port revenues contribute to the development of port municipalities or local councils, through a 4% levy on all ENP revenues (Fig. 2). As a result, there is no relation between port costs and charges. The newly created Public Utility Regulatory Commission (PURC) will be involved, inter-alia, in the regulation of port tariffs. While PURC is still not operational, it is expected to become a driving force in monitoring cost-based tariffs (para. 43). Annex 2 provides further details on ENP's financial situation.

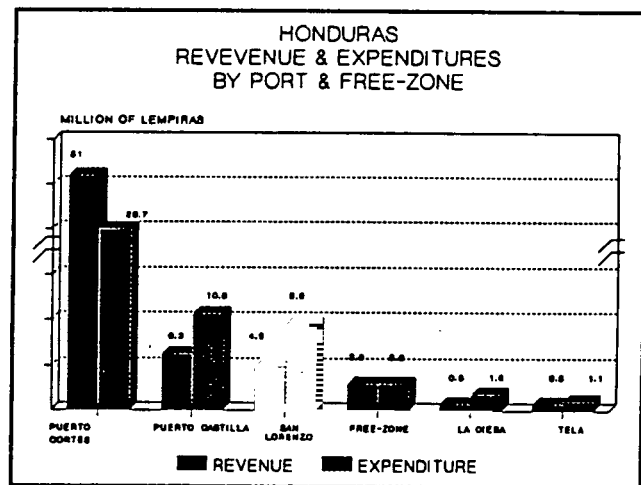


Figure 2

### The Railway Subsector

23. The railway system of Honduras comprises a total of 996 km, of which 224 km are currently operated by Ferrocarriles Nacionales de Honduras (FNH) in the Valle de Sula region, 336 km in the same region are concessioned to the Tela Railway Co. (TRR Co.), a subsidiary of the United Fruit Company, and 436 km serving the Ports of Tela and La Ceiba are out of service due to their deteriorated state and lack of demand. FNH was created in 1958, as a para-statal organization and is run by a board presided by the a representative of SECOPT and members of the Ministry of Economics, the Ministry of Finance, the Ministry of Planning, the Central Bank, the Chamber of Commerce of San Pedro de Sula and the railroad Union.

24. The system operated by FNH transports about 332,000 tn of freight per year, of which 45% are bananas. The Valle de Sula system employs a staff of 340 people, that is about one person per km and per thousand of tons moved. (The privately operated Tela Railway Company moves 1,000,000 tons of cargo per year with a staff of 423; that is, one person per 2,364 tons moved). FNH also provides passenger services. In 1990 FNH transported 165,000 passengers, generating 2.5 millions passenger-km, with an average distance per trip of only 25 km. As part of an agreement for public services, in 1990 the TRR Co. transported 590,000 passengers. In general the system is characterized by short distances (average 77.3 km) and low densities, which limit its economic viability. The average utilization of the equipment is high, with very little preventive maintenance. As a result, equipment is in very poor condition. This, coupled with the deteriorated state of the tracks, results in frequent derailments.

25. FNH is experiencing growing operating deficits, totaling about US\$ 1.9 million in 1990. About half of it corresponds to the La Ceiba line which, although not in operation, continues to have a staff of 200 in the payroll. FNH has been able to cover part of its operating deficits through the sale of land-assets. The labor union, however is pressuring FNH to use its land assets to cover future pension claims, for which the railway company has made no provisions. FNH is now embarking on a program to rehabilitate the railway system and attract new traffic. These efforts, however, may not be sustainable without substantial transfers from the Government. In view of this, the Government should consider privatizing those segments that may be commercially attractive, and closing down the remaining tracks and services. Clearly this is a sensitive issue, and the Government should develop a lay-off program complemented by retraining of the affected staff to minimize the social disruptions that these measures would cause.

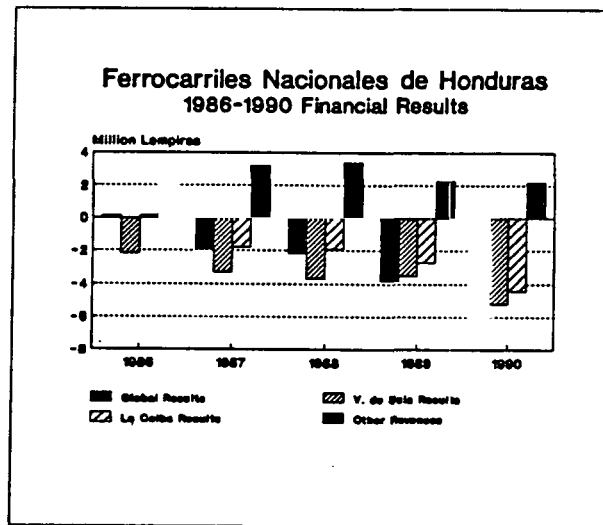


Figure 3

### The Aviation Subsector

26. Honduras currently has four international airports: (i) Tegucigalpa (Toncontin); (ii) San Pedro Sula (Ramon Villeda Morales); (iii) La Ceiba; and (iv) Roatan.

27. *Different Governments have recognized the urgent need to address the problem of Toncontin's inadequate service. The short runway and the obstructed approach to the airport limits the possibility to touch and take-off in the event of an aborted landing. The foreign carriers are the most affected by these conditions since they operate under the Federal Aviation Administration (FAA) rulings which will not permit landings without the possibility of abortion. This is not possible when the wind is blowing from the south; thus, a US carrier is expected to have some 20% of fly-overs per year with consequent landings in San Salvador or San Pedro de Sula. Other, non-FAA carriers, both national or Central American, land from both ends of the runway.*

28. *Alternatives to Toncontin have been seriously studied since 1968. The only acceptable alternative site is El Pedregal. This site, relatively close to the city, would require very extensive earthworks to build, at an estimated cost in excess of US\$ 150 million, including road access. None of these studies however, has considered the alternative to create a passenger terminal and ramps on the west side of the 3350 m military runway at Palmerola, some 75 km from Tegucigalpa. This excellent airfield, completed in 1984, has no restrictions and can handle the largest aircraft in existence. The road from Tegucigalpa to Palmerola is in very good condition and has sufficient capacity to handle the traffic that would be generated by a commercial airport.*

29. *Because of the vested interests and political pressures attached to each of the possible solutions, decisions have been postponed. Nevertheless, the government is engaging in remedial investments in Toncontin to allow departure of aircraft with higher occupancy. These investments will improve the profitability of the airlines operating in Toncontin, but will not affect their landing capacity. Meanwhile, air traffic continues to grow and the airport of San Pedro Sula is becoming the most likely candidate as the country's main international hub.*

30. *Honduras civil aviation activities, although under the jurisdiction of SECOPT, are split into three streams of management, administration and financial control:*

- o Dirección General de Aeronáutica Civil (DGCA) : Responsible for airport planning; meteorology; airport administration; air transport; setting tariffs and all technical services (Naviaids, communications, etc);*
- o Dirección General de Urbanismo y Obras Civiles, Departamento de Infraestructura Aeroportuaria: Responsible for the studies, engineering, costing and implementation of all new works in civil aviation infrastructure; and*
- o Dirección General de Mantenimiento: Responsible for all infrastructure maintenance.*

31. *Although much of the billing for services provided by the DGCA is made by them, the Treasury is responsible for their collection. Since there is no feed-back system, the DGCA has no way to know if its bills are being honored. This is a very poor system that leads to lack of commercial accountability. Several studies have been carried out addressing the need for institutional reform in the sub-sector. Current efforts concentrate in concessioning airport operations and in October 1990 a Law proposal to change the institutional setting of the subsector was presented to Congress (para. 56).*

### Transport Sector Issues

32. *As already stated, the focus of the proposed transport sector strategy is on (i) competition policies; (ii) pricing policies; (iii) investment policies; (iv) institutional development; and (v)*

environmental management. The following chapters provide a discussion of each of these subjects. The establishment of an agenda for reform, however, should take into consideration the relative magnitude of the problems discussed below. Figure 4 shows the relative importance of the different transport subsectors in terms of the financial resources they mobilize through the public sector. Public expenditures in the road subsector were about L 165 million in 1990, three times the expenditures in the port subsector and 15 times those in the railways. The relative importance of the road subsector is also evident in any consideration of adjustments of the labor force in the transport sector. The Directorate of Roads reduced its personnel by 1800 persons in 1990. The labor reduction program in the Directorate of Maintenance calls for a target reduction of 2800 people by 1994. In comparison, streamlining port operation, including the concession and/or closure of part of the system, would require labor reductions in the order of 450 persons, and liquidation of FNH would involve the dismissal of about 540 people. Although the evaluation of the importance of the proposed reforms for each transport mode proposed reforms cannot be made solely on the basis of a few variables, the latter give an indication of the relative impact that a given percentage change would have in the economy. In addition, the amount of redundant labor in the public sector for each transport mode sheds some light on the relative costs and benefits of implementing the proposed recommendations.

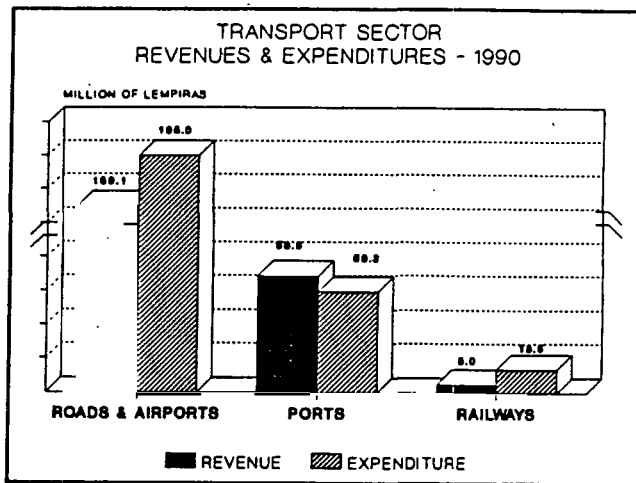


Figure 4

### III. IMPLEMENTING COMPETITION POLICIES IN THE TRANSPORT SECTOR

33. One of the main objectives of the proposed transport sector strategy is to increase transport efficiency by allowing competition and market forces to have a stronger bearing on sector activities. Privatization, (de)regulation and measures to increase the accountability of public agencies are the instruments chosen to incorporate market forces to the sector or to act as proxies where a true market does not exist and cannot be developed. In the case of Honduras, the strategy calls for increasing to the extent possible the role of the private sector in carrying out road maintenance and in operating ports, railways and airports; applying government regulations only when there are clear market failures; and, in those cases of quasi-pure public goods, enhancing the accountability of the public agency responsible for their provision.

#### A. Increasing the Role of the Private Sector

34. The Government has decided to increase the participation of the private sector in the provision of transport services. In particular, the Government wants to (a) continue to increase road maintenance by contract; (b) increase the role of private operators in selected ports; (c) concession the operation of the Tegucigalpa and San Pedro Sula airports; and (d) sell or liquidate FNH if it does not become financially self-sufficient in the medium-term.

35. *The extent and scope of the planned privatization is adequate both in terms of the problems being addressed as in the Government's assessment of the interest of the private sector in different divestiture schemes. A thin capital market combined with the long pay back period of most transport investments and perceived high risks of such investments due to policy uncertainties related to the lack of a clearly defined legal and regulatory frameworks, limits the interest of the private sector in investing in the transport sector, and makes schemes such as BOT (Build, Operate and Transfer) as means to mobilize resources for the sector unrealistic in the short run. An example of this is provided by the recent unsuccessful attempt to attract private investors to the airport subsector, in which interested parties could not engineer the financing. The sector, therefore, will still require public investments for that transport infrastructure that cannot be identified with particular beneficiaries. On the other hand, there are a number of areas where private management and operation may be brought in to increase efficiency and accountability.*

36. *Successful implementation of privatization policies will require substantial technical support. In particular, there will be a need to strengthen the Government's administrative capacity to plan, execute and monitor its privatization program. In this process, Honduras should be able to reap the benefits of the growing experience of developing countries that are more advanced in their privatization efforts. Honduran's limited experience is reflected in a proposed law for concession of airports (now in Congress), contemplating the inclusion of the private sector in airport management which, if approved unchanged, could lead to an inefficient operation and to vulnerability to manipulation by special interests. The Government should design a privatization program that, based on existing experience, will maximize potential benefits and ensure the transparency and credibility of the process. An important step in such a program should be the open discussion of privatization issues, since political opposition may be reduced if the reasons for the government actions are well understood. The Government should encourage the exchange of ideas on the subject through the organization of seminars or other types of fora to gather different economic actors with an interest on the problem (i.e. political parties, labor unions, business groups, transport users, etc.).*

37. **Increasing the Participation of the Private Sector in Road Maintenance.** *Road maintenance of the main road network is the responsibility of DGM and its 13 districts. Four districts, Tegucigalpa, Galeras, San Pedro Sula and Santa Rosa de Copan, are responsible for 50% of the network. Until very recently, all routine maintenance operations were carried out by force account. The new administration, however, is implementing an aggressive policy of staff reduction and increased maintenance by contract, with the intention of maintaining only 20% of the network by force account, which is reasonable. The main objectives of this policy are:*

- (a) **Increasing Cost-Effectiveness:** *Experience in countries adopting routine road maintenance by contract show that this modality may result in substantial cost savings. These reportedly range from 50% in Colombia to 15% in Brazil. SECOPT, as already mentioned, estimated its cost savings in 40%. These figures, however, should be taken with caution, since SECOPT does not have a reliable cost-accounting system for its force account operations;*
- (b) **Avoiding Misallocation of Funds:** *One of the reasons for the neglected road maintenance in Honduras is the allocation of funds to politically visible projects, such as road construction and maintaining redundant staff in the payroll. The award of contracts for two to four years (as is the case in Brazil, Chile, Colombia and Jamaica) "locks in" the funds for maintenance activities, reducing the potential for misallocation within the annual road budget; and*



- (c) *Improving the Quality of Works:* The adoption of road maintenance by contract is expected to result in a better quality of the works, since the performance standards under this modality are more clearly and closely set and their compliance better supervised than is the case for force account.

38. The shift from force account to maintenance by contract, however, requires the development within DGM of new administrative and managerial skills. In particular, the implementation of a sound system of maintenance by contract requires adequate preparation including: clear decisions on the activities to be contracted; the types, scope and sizes of contracts; the forms of bidding and the bidding documents to be used; the methods of payment; development of a work program and division of the program into contracts which will require substantial training of SECOPT staff in the preparation of bidding documents, bidding and award of contracts, in contract supervision and in cost accounting. For the planning of maintenance activities DGM is relying on an annual program and budget based on detailed road condition and evaluation using objective measurement-based ratings and traffic counts which was carried out in 5000 km of the network. The Bank's Highway Design and Maintenance Model III (HDM III) is being implemented, with the assistance of consultants, to assist in developing the maintenance strategies and budgets. These efforts will be further supported by the IDB, through a US\$110 million loan financing SECOPT's road rehabilitation program, under a technical assistance component to develop a reliable data bank, allowing the HDM to become a dynamic programming tool. This will include the development of a transit system (traffic counts, origin-destination surveys, and axle-loads); road condition inventories; pavement inspection; and unit costs of road maintenance. In addition, the IDB project includes technical assistance to review the roles of DGC and DGM and to establish operational and control systems consistent with the new policy of involving the private sector in road maintenance.

39. The privatization of road maintenance in Honduras is in its initial stages and continues to undergo periodic revisions. The present system involves micro-enterprises in which the entrepreneur (normally a civil engineer), is paid on unit-cost basis for carrying out routine maintenance works. Labor wages are set by SECOPT above the minimum wage, in order to encourage SECOPT's staff to resign and join the private sector. SECOPT intends to continue with this policy for a limited period of time, until it reaches the desired level of staffing. DGM is considering different alternatives to improve the existing scheme, including promoting the creation of micro-enterprises, under a cooperative system, to carry out routine maintenance work.<sup>2/</sup> This system has been tested and proved successful in Colombia. A possible course of action would be for DGM to implement pilot schemes to evaluate the merits of the different available options. In addition, efficient force account operations should provide "witness prices" to monitor the possible development of cartelization or collusion by the micro-enterprises.

40. Concurrently with staff reductions and privatization of maintenance operations, DGM is planning to reduce the size of its maintenance equipment fleet from the current 1116 units to 540. Forty three percent of the equipment is non-operational and of this, about 10 to 15% is scrap. DGM is seeking Government approval to use US\$ 25 million remaining in a Japanese credit to finance the purchase of new equipment to replace some of the older units to be kept by SECOPT. Surplus equipment will be auctioned or sold to the private sector. IDB intends to assist DGM in the process

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<sup>2/</sup> Typically these would comprise 10 to 14 persons, preferably living in the surrounding area, and would carry out manual routine maintenance in about 50 km of roads under contract with SECOPT. Contracts would be limited to one year, renewable. Under this arrangement, small enterprises would provide their own tools but, when required, mechanisms could be established for SECOPT to provide financial assistance for the purchase of tools which the micro-enterprise pay back through deductions from their monthly payment).

*of appraising and disposing of the existing equipment through the provision of short term specialists. Two fundamental policy decisions need to be addressed to permit a rational decision regarding the equipment fleet: (i) the degree of participation of the private contractors in road maintenance (major road maintenance activities as compared with minor routine maintenance ones); and (ii) the extent to which the maintenance districts can absorb responsibility for force-account operations given the reduction in personnel and equipment. With respect to the workshops and plants, the Government should consider selling them to the private sector.*

**Recommendations:**

- o Develop an explicit short and medium-term program for increasing road maintenance by contract, including the definition of: (i) the degree of participation of the private sector in road maintenance works; (ii) the implementation of alternative schemes to be tested for carrying road works; and (iii) the quantification of the necessary resources, in terms of labor and equipment consistent with the intended force account operations;**
- o Strengthen DGM's capability to:**
  - Implement a lean and efficient force account operation;**
  - Develop reliable road maintenance unit costs to serve as "witness prices" for private sector costs;**
  - Monitor and evaluate different pilot schemes to carry out routine maintenance by contract;**
  - Manage contracts; and**
  - Develop and implement a program of divestiture of workshops, crushing plants and asphalt plants.**

**41. Reorganization of the Port Subsector.** *Honduras port system, in addition to Puerto Cortes, Puerto Castilla and Puerto San Lorenzo, comprises also La Ceiba and Tela. La Ceiba serves as the main cabotage port for the bay islands, and used to serve as a major banana export facility for traffic arriving in railcars. A hurricane in 1987 severely damaged the shoreline forcing the banana traffic to be diverted by road to Puerto Castilla. In turn, the lack of a rail terminal in Puerto Castilla contributed to the decline in railway traffic and the reduced viability of the railways (para. 52). The Government is now engaging in a US\$6.7 million program to reconstruct the Port of La Ceiba in order to increase the safety of fishermen in the area. These investments, however, have not been properly evaluated and are of dubious merit. Tela, situated between La Ceiba and Puerto Cortes is no more than an unsheltered pier where the La Tela Railway Co., owned and operated by United Fruit Brands, delivers bananas to shipside. A relatively new development at Tela is the private construction of a pipeline to discharge petroleum from tanker ships to Petrotela, a private importer of petroleum products.*

**42.** *Demand for port services has not increased significantly over the last five years. About 1,400 ships were handled in 1985 compared to 1560 in 1990, a 2.2% average annual growth rate. Tonnage has increased during the same period at a rate of 3.1% per year, reflecting the larger size of*

*the ships calling at the Honduran ports. In spite of the small traffic growth, container traffic has been growing during the same period at a rate of 6.5% per year. About 77,333 containers were handled in 1985, as compared to 104,657 in 1990. Traffic forecasts indicate modest growth in the next few years, in line with the Bank's projected GNP growth of about 3% per year for the 1992-1995 period. These figures, however, may be on the conservative side since with the reduction or elimination of trade barriers future trade and demand for port services should grow at a faster rate than GNP. Also, Puerto Cortes has the potential to attract traffic from neighboring countries, especially exports from El Salvador, which are now using the more costly route to Puerto Barrios in Guatemala for the shipment of their products to the East Coast of the United States. In addition, increased efficiency in Puerto Cortes operations, coupled with the planned expansion of the container terminal, could make the port attractive for transshipment operations.*

43. *Although ENP as a whole has made reasonable profits in recent years, it is mainly Puerto Cortes itself which, by charging considerably more than the costs of its own operations, has managed to subsidize all the other ports in the system and the Free Zones. It is also managing to serve the considerable debt burden of the institution without Government assistance. In fact, ENP has to transfer 4% of its revenues to the port municipalities and in 1991 also transferred L 8.0 million to the central government. For 1992, this transfer has been set at L 15.0 million. As ENP has an absolute monopoly, it determines its tariffs not only to reflect its operating costs, but also to cover any other obligations the Government has thrust on it. As a result, there is no relation between port costs and charges. As already mentioned, the newly created PURC should monitor adherence to cost-based tariffs in the port system. The Commission, which is formed by political, technical and labor union representatives is still not operational, and its modus-operandi is in the process of being defined. Provided the port subsector is reorganized and there is sufficient competition between port operators, PURC should limit its role to solving users claims related to unjustified charges. As a first instance, however, monitoring port tariffs should remain ENP's responsibility.*

44. *ENP's balance sheets shows a precarious financial position. Working ratios in 1989 and 1990 were, respectively 0.55 and 0.60, while operating ratios for the same two years were 0.70 and 0.73. These operating ratios should be viewed with reservations, as depreciation (which accounts for the difference between the working and operating ratios) has not been adjusted to reflect the considerable recent devaluation of the Lempira. As depreciation does not reflect the updated values of the installations and equipment, profits are considerably overstated. Since assets have not been revalued, the apparent leverage (equity debt ratio) is also overstated. The enterprise has heavy debt service obligations, with short term interest payments accounting for about a third of total annual operating revenues.*

45. *ENP does not have data on productivity or on delays resulting from congestion. It has been estimated that Puerto Cortes has a spare capacity of about 23% (Annex 2), which, in view of the long lead time required to complete infrastructure projects, indicates the need to start evaluating port expansion requirements for the medium-term. Throughput, however, could be increased through the adoption of measures to improve operational efficiency. In particular, there is substantial room for improving the rate of discharge of bulk grain (now estimated at 1200 tons per day) and for reducing the time for handling containers. The port moves about 16 boxes per hour. While this rate compares favorably with some ports in the region (Cristobal, in Panama, moves about 7 boxes, and Santos, in Brazil, moves 10), it is still low for the industry standards. Efforts to improve the operational efficiency of the port will require specialized training for equipment operators and for preplanning ground operation of non-interchangeable containers.*

46. *The creation of a national port authority in 1965, was prompted by the perceived need for an umbrella organization to preside over the ambitious expansion of Honduras port capacity. The possible benefits of centralization for designing and implementing a comprehensive development strategy have now been exhausted. As the emphasis shifts toward operation and management of the existing capacity, the present centralized institutional setting, with its understandable bias toward Puerto Cortes, is becoming a constraint to the development of each port. In particular, the present institutional structure encourages cross-subsidization of activities, reduces the transparency of each port's performance, and inhibits commercially oriented decisions.*
47. *The present administration recognizes that the improved efficiency brought about by involving the private sector in the provision of public services, becomes more evident in those industries experiencing rapid technological changes and subject to competition. That is the case in the ports sector, in which many of those changes come about as a result of pressures from shipping lines, national shippers, trading partners and equipment manufactures seeking the advantages of through transport from origin to destination, including improved total transport speed, fewer inventory costs, more predictable collection and delivery, less packaging, and the expectation of reduced damages and lower insurance costs. This explains the continuous and rapid change towards containerization, which is being accompanied by the introduction of computers and the increased automatization of container terminals. These new technologies require managers with more computer knowledge as well as the ability to make sense of vast amounts of rapidly transmitted information and to respond to this by using information technology. It also requires higher levels of skills and training on the part of port workers, with special emphasis in developing greater self-reliance. As a result, decentralization and the promotion of the private sector in the operation of the system are high in the government's agenda for sector reorganization. In particular, the Government is aware that control, ownership of port area and operational activities in the ports need to be seen as separate functions. In fact, private stevedoring companies and the leasing of port space to the banana companies and Petrotela are already steps in that direction.*
48. *Priority for further action should include the formulation of a strategy and action plan for the port system, including the scope of private sector involvement, and the institutional reforms necessary for ENP to reduce its operational role in the subsector. Puerto Castilla and La Tela, both with clearly identified users, present a strong case for concessioning their operation, with ENP retaining a landlord role. In the case of Puerto Castilla, the United Fruit Company is practically the sole user of the port, making the possible concession of the port a straightforward operation. The same is true with United Fruit Brand and Petrotela in Tela.*
49. *In the case of San Lorenzo, because of the uncertainty surrounding its future demand, the road towards privatization requires a more comprehensive analysis of the available options. The future viability of this port will depend on a strong marketing effort and the development of a least-cost transport logistic to new markets for Honduras' non-traditional exports, a task that ENP, with its present structure, is ill-equipped to undertake. The future viability of Puerto San Lorenzo, however, is further weakened by the planned economic integration with El Salvador. The Presidents of both countries signed an agreement in late 1991 to develop a land-bridge joining the port of Acajutla (in El Salvador) and Puerto Cortes. With the improvement of the road network of El Salvador to join the North Road of Honduras through Comayagua, Acajutla, because of its better access, will become the natural Pacific port for the region. The effect of this integration, on the other hand, will increase the demand for Puerto Cortes, since it provides a less costly alternative to the transport of Salvadorean exports to the East Coast of the United States than the presently used Puerto Barrios in Guatemala.*

50. *With respect to Puerto Cortes there are opportunities for increasing operational efficiency through the concession of certain port services (as opposed to the concessioning of facilities proposed for Puerto Castilla and Tela), and performance incentives for the port's management. The increase of the private sector's role in the provision of services in Puerto Cortes, coupled with an overall system of commercially-run ports, will provide the opportunity for competition between Puerto Castilla and Puerto Cortes, which should help to increase the efficiency of both ports and reduce the need for government involvement in regulating the subsector.*

51. *ENP administers the Free Zone where 39 industrial and commercial enterprises carry out their activities. ENP invested L 25 million in the construction of the Free Zone infrastructure, of which L 11.6 million were financed with ENP's own resources and L 13.4 million with loans from national and international agencies. Revenues from the Free Zones are not sufficient to cover their cost, including debt servicing, and therefore contribute to weaken ENP's financial position. There is no technical and/or operational reasons to maintain the Free Zones under ENP, which should be concentrating in those matters directly related to port activities. A recent study prepared by ENP's management to evaluate possible ways of involving the private sector in the subsector, correctly singles out the need to separate the Free Zones from port activities. Possible alternatives would include transferring responsibilities to the Secretariat of Economy and Commerce or selling the installations to the private sector.*

#### **Recommendations:**

**In order to pursue its policy of increasing the role of the private sector in port operations and redefining the institutional framework of the subsector according to the new private-public mix, the government should carry out an evaluation of the available options and an action plan to implement the selected one. This should include:**

- o The creation of a Directorate General of Maritime Transport with responsibility over all aspects related to maritime transport and the regulation of the port subsector.**
- o The redefinition of ENP's role as primarily a landlord agency in the port subsector.**
- o Alternatives for increasing the role of the private sector in Puerto Cortes.**
- o The concession to private operators of Puerto Castilla, Puerto San Lorenzo and Tela.**
- o ENP's withdrawal from La Ceiba, giving the opportunity to the local council and/or Chamber of Commerce to operate it exclusively as a cabotage and fishing port.**
- o An analysis and subsequent action plan for the Government's divestiture from the Free Zones.**

52. **Divestiture in Ferrocarriles Nacionales de Honduras:** *The analysis of FNH's current situation and of the projected evolution of the market and of the enterprise shows that it is very unlikely that FNH could become a financially viable operation, since it cannot compete on an equal basis with the road transport system, even if the latter would be subjected to a policy of full cost recovery. It has been estimated that road transport costs about US\$0.05 per ton/km while rail transport is in the order of US\$0.09 per ton/km. The ongoing widening of the San Pedro Sula - Puerto Cortes road to four lanes will exacerbate the railways lack of comparative advantage. Because of its limited role, FNH*

*closure would not have a significant effect on the availability of transport capacity. In fact, a de-facto divestiture process has been taking place during the last decade. Freight traffic decreased from a peak of 705,200 tons in 1985 to 264,000 tons in 1990. Economic and natural reasons contributed to reduce the role of the railway in the economic life of Honduras. Demand growth concentrated in non-traditional high-value-low-volume exports not suitable for railway transport and exports of containerized bananas and pineapples shifted from la Ceiba to Puerto Castilla, which is not served by rail. As a result, only the 204 km section of Valle de Sula is now being operated by FNH.*

*53. SECOPT has expressed its willingness to close FNH if it cannot become financially self-sufficient in the medium-run. Meanwhile, FNH has started a campaign to attract traffic through heavily subsidized tariffs. Efforts are also being made to repair part of the rolling stock and improve services. These measures may deteriorate even further the medium-term financial position of FNH and raise false expectations in the labor force on the future of the enterprise, increasing the political cost of closing the railways. At the same time, land assets that could in the future finance FNH's pension obligations toward its staff, are being sold to finance current expenditures.*

*54. Measures to restructure or liquidate FNH will require political consensus, including Congressional approval. Therefore, it is proposed to first implement those actions that, within the existing framework, would help to reduce FNH's operating deficit. At the same time, SECOPT should evaluate different medium-term options for the railways in order to develop a strong case to "sell" the recommended policy to the rest of the Government, the public opinion and the railways.*

#### **Recommendations:**

- \* The Government should design and implement short-term and medium-term strategies to deal with the "railway problem".**

**In the short-term the Government should:**

- o Close down the La Ceiba line which, although it is not providing any services, continues to employ 200 people at an annual cost of about US\$ 550,000;**
- o Close down the La Tela-Ceiba line, which is also out of operation; and**
- o Implement immediate measures to reduce the funding needs of the FNH in the Valle de Sula area, such as:**
  - (i) discontinue passenger services allocating motive power to freight transport and releasing the shops from coach maintenance and increasing the maintenance and rehabilitation of locomotives and wagons;<sup>3/</sup>**
  - (ii) adjust charges and tariffs for yard services, empty containers and the transport of wheat and wood;**
  - (iii) adjust the compensation (canon) paid by TRR Co, in order to reflect the 1990 devaluation of the Lempira;**

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<sup>3/</sup> Passenger transport uses 17% of locomotive-km and contributes only 2.8% of the operational revenues.

- (iv) reduce staff and review "featherbedding" clauses in the labor contract;
  - (v) transfer rolling stock now in la Ceiba to the Valle del Sula region; and
  - (vi) run trains between Higuerito and Puerto Cortes using TRR Co's system, thus reducing the operating distances of the banana flows.
- o For the ~~medium-run~~, the Government should prepare an analysis of the economic/financial impact of the alternatives for the future of FNH. The preliminary set of options are seen to be:
- Sell FNH to a third party, (a banana company, another freight shipper, or an independent operator). The total assets could be sold to the operator, or the required assets sold to the operator and surplus equipment, land, etc. sold separately.
  - Maintain FNH as a government owned railway, making necessary changes in structure and organization, and/or in operations and expenses for it to become viable.
  - Close down FNH, selling all the assets including the land.

55. ***Restructuring the Airport Subsector:*** *The airport subsector in Honduras is characterized by a lack of clearly defined organizational and functional responsibilities among the various Government agencies that relate to it. Therefore, decisions lack consistency and many times run counter to the stated objectives. The present Government has recognized the need to increase airport efficiency and concluded that because of the intrinsic character of airports as revenue earning entities, the type of services that they provide are better delivered by decentralized airport authorities functioning as autonomous enterprises, and measuring their performance through productivity indicators and financial results.*

56. *The Government has taken the first steps towards involving the private sector in managing airport operations. A proposed law for concessioning the airport of Tegucigalpa to the local Chamber of Commerce was presented to Congress in October of 1990, but has not been brought to the floor yet. The law proposes the creation of a National Airport Council, formed by representatives from the private and the public sector, to oversee the activities of Airport Corporations (formed mainly by the Chamber of Commerce of the city in which the airport is located). The latter would operate the airports as non-profit organizations, without financial incentives for efficiency. Major commercial decisions, such as pricing and revenue utilization, would remain public sector responsibilities. The scheme, therefore, does not shield airport operations from the politically based decisions that exist today and that the Government wants to eradicate. The proposed law also raises several institutional questions, one of the most important being the future of the DGAC and its interface with the proposed Council and Corporations. The main advocates of the law are commercial interests in Tegucigalapa (retailers, hoteliers, restaurateurs, etc) who, because of their concern with the possible closure of Toncontin, volunteer to operate the airport through the Chamber of Commerce without direct financial rewards.*

57. *The process of involving the private sector in airport operations should be supported by a clearly defined Government plan for civil aviation development in Honduras. This plan should define*

*the appropriate institutional setting for the subsector, future infrastructure development, an analysis of the options to incorporate the private sector to airport management and a detailed action plan for implementing the alternative finally selected. This effort could be partially financed under an existing agreement between the Government of Honduras, UNDP and the International Civil Aviation Organization (ICAO). Both UNDP and ICAO have expressed their interest in participating in the development of the "master plan". Until this basic framework is in place, the Government should refrain from adopting piecemeal actions (such as investments and/or concession arrangements in Toncontin) that may run counter to the solutions finally adopted.*

**Recommendations:**

The Government should allocate the funds available under the existing UNDP-ICAO agreement to the preparation of a master plan for civil aviation development in Honduras. Until the results of the master plan are available and a clear definition of the Government's policy with respect to the subsector is in place, the administration should refrain from adopting piecemeal actions (such as investments and/or concession arrangements in Toncontin) that may run counter to the strategy finally adopted. The master plan should identify and make recommendations on the following:

- o Major infrastructure constraints to the development of civil aviation activities in Honduras, both passenger and freight;
- o The possible development of the potential for increased participation of the private sector in civil aviation activities, recommended legal and institutional framework, possible strategies and methods. A detailed action plan for implementing the selected scheme;
- o The development of one major international hub to limit the use of other airports to national or feeder traffic only;
- o A feasible economic and technical solution to replace Toncontin by an alternative safer airport for Tegucigalpa;
- o A policy for cost recovery throughout the civil aviation subsector on landing fees, airport taxes, airline and concession rentals, aircraft and car parking; and
- o Safety and security.

**B. Increasing Market Competition through Deregulation**

58. *The transport industry of Honduras is heavily regulated through a myriad of laws and administrative decrees which touch upon every aspect of its activities. The rationale for these regulations originate in the concern that economies of scale would lead to natural monopolies and that such monopolies would result in an inefficient allocation of resources. In addition, it was feared that unregulated competition could negatively affect quality, reliability and safety of service, and that it could lead to overinvestments in equipment, further weakening the foreign exchange position of the country. Experience has shown that regulations most of the time encouraged complacency and discouraged technological improvements, sheltered inefficiencies and "rent seeking" behavior (Box 2),*



and led to resource misallocations.<sup>4/</sup> The following paragraphs discuss those priority areas for the revision of the present transport regulatory framework. They concentrate on the regulations affecting the trucking industries and urban transport.

59. **The Freight Road Transport Industry.** The trucking industry in Honduras was largely unregulated until 1983, when the government formalized restrictions to the development of own-transport with the requirement to firms to contract out at least 70% of their transport needs, and the widespread implementation of restrictive measures to the entry of new trucking operators. Restrictions to entry have an extended scope, establishing minimum capacity levels for commercial trucking firms, and geographical limits to operation as well as the type of commodity carried. A freight transport contract is required to obtain a license. In practice, however, problems with the implementation of the operator's mandatory registry and limited means to enforce legislation suggest that the impact of these restrictions might be marginal. Nevertheless, the restrictions promote inefficiency and corruption contributing to create an environment that favors special interests and discourages new enterprises.

60. Present efforts for Central American economic integration will probably provide the driving force for increasing competition in the road transport. The industry's demand for protection points to more efficient unauthorized foreign operators (mainly from El Salvador) as one of the main challenges to the primacy of the local operators. Although the law requires that transport services be provided by Honduran nationals, it is only a matter of time for the opening of the industry to foreign competition. Meanwhile, at the urging of the trucking lobby, the government is considering measures to provide units an identification number in order to better enforce the ban on foreign and/or illegal

**Box 1 - Collective Action and Rent Seeking in the Transport Industry**

Transport associations in Honduras exercise considerable political influence and are quite successful in obtaining benefits from the different administrations in power. Large in size, these organizations show internal instability and frequent changes in their leadership, probably due to the problems of dealing with the "free riders" in the industry.<sup>1/</sup> A review of the trucker's demands, which continuously dominate the press, encompass practically the whole production function of the industry. It includes:

- Increasing the "Fondo de Fideicomiso", a subsidized line of credit for financing equipment renewal
- Including transport organizations in the management of the Fideicomiso;
- Including transport organizations in the design and operation of a transport insurance scheme in order to avoid "excessive prices that will have to be transferred to final consumers";
- Reducing the price of diesel and other fuels, since "the last price increase endangers the viability of some transport services";
- Reducing the price of vehicle licenses,
- Eliminating the illegal competition of non-licensed operators;
- Discontinuing the issue of permits in corridors that are "efficiently served".
- Increasing the number of passengers allowed to travel standing;
- Reviewing transport rates according to a basket of spare part prices;
- Including transport organizations in the design of axle-load regulations;
- Including transport organizations in the regulation of freight terminals.

<sup>1/</sup> Mancur Olson, in "The Logic of Collective Action" argues that small collective organizations have better probability of success than large ones, according to their possibilities of distributing their costs and benefits. Therefore, governments have historically intervened to repress small organizations (oligopolies, cartels, etc.) and to encourage big ones (labor unions, rural associations, industrial organizations, etc.).

<sup>4/</sup> Past experiences with regulatory policies suggest that the discrepancy between marginal cost and price, that is, the market failure that the regulation is trying to correct, is not necessarily corrected through the regulation, but is often appropriated by groups of collective action either private (interest groups) or public (bureaucracies). The mechanism is to increase marginal costs. That is, marginal costs are no longer minimum costs. In addition, the costs of maintaining a regulatory structure, often overlooked, can sometimes be quite significant. However, the main issue relates to the capacity of regulatory bodies to achieve the objectives for which they were set up; this is particularly important for those less developed countries, like Honduras, that have a weak civil service.

operators. Imposing limits to entry may restrict undesirable the supply of services in less dense markets, unattractive to larger existing firms.

61. Government regulations should be limited to axle-load controls and measures related to safety and the environment. As discussed in para. 17, this administration has reinstated its 1976 axle-load control legislation. The systems of controls and enforcement, however, is obsolete and prone to evasion. The Government, through a technical assistance financed under IDB's loan, will carry out an analysis and diagnosis of the present system, including its operational, administrative, financial and legal weaknesses. The final objective is: (a) to identify the needs in terms of fixed and mobile weighing equipment to control axle loads and to generate and process the necessary data for monitoring the system; and (b) to develop a program of fines consistent with the selected enforcement policy, e.g. punishment, deterrence, cost recovery, etc. The study will also evaluate the possibility for transferring axle load controls to the private sector.

62. Although in theory SECOPT has a system for vehicle inspection, DGT does not have the capability to implement it. There is no reliable road accidents data in Honduras. However, most accidents are more related to road than to vehicle conditions. Lack of vertical signalization, pavement markings and safety barriers are the main causes of road accidents. IDB's project is addressing the issue at the project level by including funds for vertical signs and road marking. SECOPT should expand these efforts on a network basis. As a first approach a study of "black points" in the network should be carried out to determine those areas that require immediate preventive measures. With respect to environmental concerns, vehicular emissions and air pollution in urban areas have not reached levels calling for immediate actions. The newly established Environmental Unit in SECOPT is giving priority to the integration of environmental considerations to road construction and upgrading. Its terms of reference, however, should be expanded to include a basic program of air quality control to eventually form the basis for an emission control program.

63. Lack of developed financial intermediation makes replacement of road transport equipment difficult. This may stem from Government imposed restrictions on interest rates which prevent lenders from internalizing the perceived risks. In addition, as most of the vehicles are uninsured, they are not accepted as collateral by the Banks.<sup>5/</sup> To address the lack of financing, the Government provided concessional funds for equipment renewal through a L 18 million five-year revolving fund (Fideicomiso). Because of the excess demand for the concessional financing, funds were allocated on a discretionary basis. Due to the devaluation of the Lempira and poor loan recovery, the fund's capital has been virtually depleted. The Government is considering replenishing the "Fideicomiso" and reviewing its terms and conditions. Based on the country's previous experience, however, subsidized financing will again result in an arbitrary allocation system.

64. Except for the rates for the transport of fuels and cement, which are set by the government, freight rates are the result of negotiations between the parties involved. It is not possible to assess the profitability of the industry as there is no reliable data. However, there are widespread reports of overcharging (charging for round trips and accepting unauthorized back-loads), and in some cases there is vertical integration (i.e. fuel transport firms that also own gasoline stations). In the case of fuel and cement, the government determines tariffs based on transport costs agreed upon with the industry. In general, the Government negotiates from a weak position, mainly because a lack of capacity to estimate costs. The government recently privatized the cement industry and is planning to

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<sup>5/</sup> Because of the high cost of insurance most truckers are self-insured. In turn, lack of a critical mass for spreading risks, increases the cost of insurance.

*open to competition the market for petroleum products thus, transport price regulations for those particular markets are likely to be eliminated. However, recent attempts to deregulate the transport of cement resulted in severe unrest and the measures were reversed.*

65. *As in the case in other countries, deregulation of the trucking industry is a political sensitive matter in Honduras. Its implementation would better be achieved by decisive action supported by an adequate information campaign based on reliable information showing the costs of the existing system. In fact, this administration, in several instances, was able to resist the unjustified demands of powerful groups by gathering public opinion support. To do the same in the trucking industry, the impact of the existing regulatory framework in the transport of key commodities should be quantified in order to provide the government with the necessary "ammunition" to support its deregulation policy.*

#### **Recommendation:**

- o Eliminate price and market entry regulations in the trucking industry that do not pertain to safety, security and/or environmental considerations;*
- o Review possible financial constraints to equipment renewal and propose possible mechanisms to encourage an optimal fleet size and age.*
- o Eliminate the Government's "Fideicomiso" that provides subsidized equipment financing.*

#### **Urban Transport.<sup>6/</sup>**

66. *Tegucigalpa. The capital city of Honduras had in 1990 an estimated population of 660,000. Tertiary activities are dominant. Residential land use represents 66% of the surface, and there are very few industrial activities. Urban densities are relatively low, with 35 to 235 people per hectare. Urban growth has been very intense in the last decades, about 5.6% per year, reflecting migration from the rural areas. The metropolitan area is located in a mountainous region, crossed by several rivers. This morphology generates several difficulties for the development of the urban transportation network. Bridges constrain traffic flows and high slopes only permit narrow and winding roads that make bus circulation difficult and costly.*

67. *Almost all commercial activities are concentrated in the city center. Government and private offices, stores and popular markets are located downtown. Residential areas are located in the city neighborhoods. As a result of this urban spatial structure, the origin-destination demand pattern is highly concentrated on radial trips. The more than 500 neighborhoods ("colonias") located in and around Tegucigalpa include population with different social and economic characteristics, although there is no clear pattern relating their distribution to the distance to the city center. The only clear geographical pattern is that the poor tend to be confined in areas of higher slopes, where buses do not circulate. Thus, they rely on the smaller, more expensive vehicles (para. 65).*

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<sup>6/</sup> *This section relates only to Tegucigalpa and San Pedro Sula, the two largest cities in Honduras. Because of their small size, other cities/towns have not been included in this report.*

68. *The public transportation service in Tegucigalpa is privately owned and operated by mostly small firms loosely associated in the form of cooperatives for tax-purposes. It includes: (i) 588 buses providing about 544,000 daily passenger-trips mostly, through radial routes crossing the city center; (ii) about 196 minibuses moving 60,000 passengers per day and usually linking to popular markets near the city center low income areas where, because of the topography, regular buses cannot enter; (iii) about 900 taxis operating on fixed routes and carrying about 90,000 passengers per day; and (iv) about 145 "taxis mixtos", typically small trucks originally conceived to carry people and goods but now providing an extremely poor service only for passengers. These "taxis mixtos" enter into the most marginal areas, carrying the lowest income people from their residences to connecting points where there are regular bus services.*

69. *Bus fares are a flat L 0.25, or about US 4.7 cents, considerably lower than any other Latinamerican city with similar average distances and topography. The Directorate of Transport (DGT) within SECOPT and bus operators agreed that, to cover the full cost of operation, the fare should be in the order of L 0.46. These figures, however, underestimates costs, since the methodology used presents serious flaws in its treatment of taxes and interest rates. Nevertheless, based in these calculations, and in order to keep fares at the present level, bus owners receive a subsidy amounting to about US\$8.4 million per year. In spite of the low calculated costs, firm profits are guaranteed by what appears to be a widespread practice of reporting higher than actual frequencies of services, thus increasing the subsidy they receive. Minibuses and "taxis mixtos", which serve the poorest areas, do not receive any subsidy. They charge respectively L 0.50 and L 1.00 which, their operators claim, is enough to cover their operating costs. The present subsidized fare system is highly regressive. To make a daily journey to their informal jobs or to the market, the poorest people of Tegucigalpa have to pay two transportation fares each way, or an amount about three times that paid by the rest of the population.*

70. *San Pedro Sula. Transportation problems in San Pedro Sula, the other major city in Honduras, are far simpler than those of Tegucigalpa. Its population is smaller (about 300,000 in 1989) and its urban morphology is definitely more favorable to vehicle flows. Streets are wide, following a regular grid, and a well organized system of priorities at the intersections eliminates the possibility of any significant congestion. The existence of a wide ring avenue helps to avoid traffic flows from crossing the city center. Because the wide streets and avenues, drivers ignore traffic rules and travel at high speeds. As a result, the rate of accidents in San Pedro Sula is very high. In 1988 there were 2800 accidents, with 403 injured people and 68 deaths. The government does not have the necessary capability to enforce traffic rules.*

71. *In San Pedro Sula there are 390 privately owned and operated buses organized in nine firms and cooperatives. They provide service over 16 routes with an average length of 26.6 km. Frequencies range from four minutes during rush hours to 15 minutes in off-peak periods. The utilization of the busses is low: 178 km and 950 passengers per day. As all the routes start and end in suburban areas, several kilometers must be run over unpaved roads, usually in bad conditions and even more deteriorated during the rainy season. The fleet is composed of old buses, most of them second hand school buses from the United States. The average age is 16 years. Their level of service is very deficient, mainly due to low reliability of the equipment and the resulting frequent service interruptions. There is a flat fee of L 0.30 which, and the government's subsidy to the bus owners amounted in 1990 to US\$2.7 million. Urban transport regulations such as route approvals, fees, etc. are centrally decided in Tegucigalpa, which reduces the flexibility of the system.*

- o *Carry out a study of urban transport in Honduras, including the adequacy of present costing, pricing and subsidization policies and the merits of transferring responsibilities for urban transport regulation to the municipalities. The study should also define the future normative role of DGT in a decentralized environment.*

### Institutional Aspects

72. *The Directorate General of Transport (DGT) within SECOPT is responsible for the planning, organization, regulation and control of freight and passenger road services (urban and interurban); the control of axle - loads and vehicle dimensions; and the administration of the "Fideicomiso" for financing the replacement of the vehicle fleet. In its present form, DGT does not have the necessary capacity to discharge its responsibilities in a satisfactory manner. Its main weakness is lack of qualified staff and of the basic information required to define and evaluate different transport policies. DGT is also unable to control and/or enforce their regulations. One of the main priorities for the present administration should be to develop DGT's ability for policy analysis and administration of transport regulations. A basic constraint, however, is that salaries in the public administration are not sufficient to retain high level professionals. Revision of the civil service scale, however, is unlikely to be considered to address sectoral needs. Until that problem is resolved, SECOPT should consider retaining consultants to carry out policy analysis and administration of transport regulations.*

### Recommendation:

#### **Strengthen DGT's capabilities to:**

- o *Develop suitable information systems on the physical, financial and economic aspects of the sector (freight and passenger movements, vehicle fleet, transport costs and prices, industry profitability, industry financing, etc.); and*
- o *Carry out policy analysis and the development and enforcement of a regulatory framework for road transport.*

## **C. Increasing Accountability in Non-contestable Markets**

73. *The importance of governance and accountability is increasingly being recognized for the achievement of public sector efficiency. Many of the proposed solutions to the problems of lack of accountability are of a pioneer nature, and should be addressed by the most innovative segments in the sector. The DGC and DGM within SECOPT are being extremely successful in tackling head-on a profound restructuring of the road subsector. Their staff reduction program is being hailed as a model in the country. Their commitment to change and their effectiveness in implementing it puts DGC and DGM in an unique position to put in place new mechanisms to enhance the sustainability of their reforms.*

74. *The Case of Highway Management.<sup>21</sup> Responsibilities for administering the country's road network are centralized in SECOPT. Because of inefficiencies in the system, namely an inflated wage*

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<sup>21</sup> This section draws heavily on PPR's draft paper "User Charging and Accountability for Roads: An Agenda for Reform".

bill, SECOPT finds itself unable to purchase the materials and equipment that are necessary to maintain the road network in good repair. As noted earlier, this has resulted in a deterioration of road conditions that has reached alarming levels. These inefficiencies are common to most state owned enterprises and the standard prescription for addressing them is to enhance competition and contestability. While this is feasible for public enterprises, it is more difficult for roads which, in the case of Honduras, have an important public goods aspect and will continue to be operated through government departments. The challenge is thus to find ways of using charging policies to create a surrogate customer-supplier relationship to help strengthen accountability for roads. Decentralization of road management responsibilities and road tolls, the most common mechanisms to achieve a closer relation between costs and benefits, are not suitable for Honduras. Because of the small size of some municipalities and their lack of technical and financial capabilities, decentralization is not a viable alternative in the medium-run, either. Also, low traffic densities throughout the network limit the efficiency of tolls as a user charge. Accountability therefore should rely on:

- (i) making SECOPT's performance more transparent;
- (ii) linking road expenditures to payments made for usage of roads; and
- (iii) defining management objectives and monitoring performance against those objectives.

75. Transparency requires that SECOPT's constituency have sufficient information to judge whether they are getting value-for-money. A number of interest groups have a vested interest in SECOPT's physical and financial road performance: industry and road users in general, road transport organizations and the Ministries of Finance and Planning. The information currently produced by SECOPT provides little transparency. It centers around expenditures lumped together into seldom differentiated line-items like labor, materials and equipment, which do not supply the relevant information on the physical and financial performance of SECOPT. To evaluate the efficiency of road management there is need for a set of performance measures related to: (i) the physical condition of the road network and the adequacy of road maintenance; (ii) the utilization of the road network in terms of capacity and overall level of service; and (iii) the use of labor, equipment and the relative cost of civil works. IDB's loan includes technical assistance for the development of management information systems providing the possibility of performance measures.

76. The present administration has made substantial progress in collecting and processing information on the volume and type of traffic using roads and the condition of the network. In collaboration with the Chilean Government, SECOPT is implementing the Highway Design Model and carrying out traffic and road serviceability surveys, while training local staff in the systematic use of these decision making tools. Also, increasing road maintenance by contract has contributed to clarify the relation between physical and financial programs and the relative costs of civil works.

77. The next step, in addition to the physical data discussed above, would be for SECOPT to develop basic financial indicators needed to evaluate its managerial performance. This should include accounting for their capital assets, rather than writing them off as a cash expense as soon as they are incurred. Inventories of material, spare parts and equipment are likewise not included in the agency's financial account, although they may be substantial and lock up significant sums of working capital. The pervasive failure to properly maintain public infrastructure is partly due to the fact that road agencies do not treat roads as part of the country's capital stock which needs to be efficiently managed and maintained if it is to continue producing benefits. Proper accounting for the capital invested in roads would show the relative importance of highways in the country's public capital stock

and would present a transparent picture showing whether SECOPT is keeping its capital intact or allowing it to erode through lack of maintenance.

78. The most conspicuous omission in current road accounting systems relates to the treatment of revenues. There are two main problems. First, revenues are credited to general revenues and, without a special analysis of the Government's revenues, it is impossible to identify those attributable to road users; and second, these aggregate revenues are not separated into general revenue taxes and specific user charges levied for roads. These reasons make it difficult to establish how much road users are paying for roads and hence whether user charges are too high or too low.

79. Transparency will not be complete, however, until there is a clear perceived linkage between expenditure on roads and what the user is charged. When payments on road users are de-linked from expenditures on roads, it undermines the customer-supplier relationship needed to ensure that SECOPT only undertakes expenditures which road users want and for which they are willing to pay. Instead, de-linking encourages both road users and SECOPT to press for ever increasing expenditures because they know it will not affect the level of user charges. Earmarking road user charges for road expenditures, a concept that has been treated with considerable ambivalence (see Box 2), should be an option in Honduras to establish the desired linkage. SECOPT, with IDB assistance, will carry out a study on road user charges and the possible establishment of a Road Fund to finance road maintenance. Road user charges are further discussed in paras. 83-86.

#### Recommendations:

- o Continue SECOPT's efforts to establish a sound road management information system providing the evolution of the physical condition of the network, and the prices and quantities of the annual works performed;
- o Develop within SECOPT an accounting system linking financial and physical results, including

#### Box 2 - The case for Earmarking

Earmarking refers to the assignment of particular government revenues for financing specific public expenditures. The practice of earmarking has been, and continues to be, a source of disagreement for experts in public finance. Critics of earmarking support the idea that government's engage in marginal decisions to produce budgetary allocations which maximizes some measure of "social welfare". Elizabeth Deran summarizes this criticism 1/.

"Earmarking hampers effective budgetary control.. ."

"Earmarking leads to a misallocation of funds, giving excess funds to some functions while other are undersupported."

"Earmarking imparts inflexibility to the revenue structure...."

It is interesting to note that even the critics of earmarking concede that highway financing is probably the only significant case in which earmarking encourages the principle of benefit taxation (i.e. there is a recognizable clientele who pay for services for which they derive net benefit).

The thrust of the pro-earmarking argument, however, comes from the proponents of the theory of public choice. As summarized by Oakland: " First, it is alleged that citizen preferences are too diverse to permit aggregation into a well-defined community preference relation. Second, even if it were, monitoring costs and asymmetries may enable public officials to pursue their own concept of public interest, or perhaps worst, their own public interest. Third, because the budgetary mechanism can be used to redistribute income among individual citizens, budget choices will not be based solely in the inherent costs and benefits of government services, but also upon the ability of one set of taxpayers to pass the cost of programs which benefit them to other group of taxpayers".

A close look at budgetary allocations and the "road maintenance problem" in the developing world gives strong support to the public choice argument. Governments' decision are more often than not influenced by political considerations which results in an inefficient use of resources. Staff redundancies and an inflated wage bill, a common element in road agencies, are an instance of rent seekers financed by road users. Earmarking, while clearly a second best, provides the possibility of linking costs and benefits in a way that encourages the translation of citizens' welfare into public action.

1/ Elizabeth Deran, "Earmarking and Expenditures: A Survey and a New Test," National Tax Journal, December 1965, as quoted by William Oakland, "Principles of Earmarking", World Bank Discussion Paper, June 1989.

changes in the agency's system of accounting for capital assets (i.e. the road network, the equipment fleet) and debt;

- o Organize the necessary data, and monitor, within SECOPT, key performance indicators to permit a regular assessment of its productivity; e.g. labor/output ratios, equipment utilization, equipment availability, etc; and
- o Analyze measures for linking revenues to expenditures, including the levy of taxes on fuels earmarked to a Road Fund.

#### **IV. SECTOR FINANCING: PRICING AND INVESTMENT POLICIES**

##### **A. Pricing Policies**

80. *The pricing of services, such as transport, provided by the public sector is often directed at a broad range of objectives such as revenue raising, the allocation of limited resources and income distribution. After years of using pricing for social objectives, the Government of Honduras is reviewing such policies in order to reduce or eliminate economic distortions and unwarranted subsidies. In addition, the fiscal difficulties that the Government is undergoing, which are likely to require continued austerity in the medium term, suggest that marginal cost pricing practices should be critically reviewed to determine where full cost pricing can be applied without distorting the utilization of resources. In transport, the main question in this regard is whether and in what way the capital costs and infrastructure costs, in particular, can be recovered. Where capacity is in short supply, as occurs in some urban roads, congestion charges should be set. When congestion pricing is inadequate to recover the full cost of properly designed infrastructure, due to indivisibilities or other reasons, charges to those benefiting should be made on the basis of equity considerations or other general taxation principles. Total charges should be set at a level sufficient to recover maintenance, the replacement cost of the facility and an adequate interest on capital. Full cost pricing, however, necessitates a clear definition of which assets are really needed to provide the services, what their real market value or replacement cost is, how much is required for adequate yearly maintenance and the elasticity of demand. Excess capacity from low demand or the "lumpiness" of capital investments will have to be recovered through general taxation. This is particularly relevant to the possible arrangements to incorporate the private sector to the operation of Puerto Castilla and Puerto San Lorenzo.*

81. *In a heavily regulated environment, as prevails in Honduras' transport sector, the implementation of pricing policies requires substantial information in order to simulate a competitive market as illustrated by the discussion in the previous paragraph. In addition, a high degree of flexibility is required in order to simplify government procedures and to permit the operators to respond to their own financial needs and to the market in a timely fashion. The proposed introduction of market forces in the port, railways and aviation subsector will result in better responses to a changing economic environment and improve the allocation of resources. In particular, future decentralization and concessioning of port operations and the free zones under ENP's responsibility will pave the way for efficiency pricing in Puerto Cortes and reduced transport costs for Honduras tradeable goods. The transfer of the operation of Puerto Castilla and Puerto San Lorenzo to the*



private sector should at least ensure that user charges will cover variable costs. The Government, however, should assume responsibility for servicing at least the debt generated by the construction of the port's excess capacity. Efficiency prices in the railways and airport subsectors should be the result of establishing commercially oriented enterprises. This will probably mean the closure of the railways and the introduction of competition among the two major airports in the country. Notwithstanding these qualifications, Honduras will have to develop the capability for monitoring prices in the airport subsector, since even in the best scenario there are considerable opportunities for cartelization of the industry.

82. In the case of the road subsector, because of its quasi-public good character, pricing policies will require continuous Government intervention to ensure that users contribute to the costs they impose to the road network. The following paragraphs, therefore, discuss Government efforts in that area.

83. Road User Charges. To eliminate the backlog of deferred maintenance and meet normal road maintenance requirements, substantial budgetary increases are needed. With road construction budgets already cut to the a minimum however, and budget resources restricted in the other subsectors, there are limited opportunities for resource transfers within the subsector. Given the Government's need to maintain a sound fiscal framework, then, the question arises as to whether road users are adequately covering the costs of expanding, upgrading and maintaining the network through various road-related taxes and whether there are opportunities for increasing revenues, minimizing the fiscal impact of the increase in the maintenance budget. A review of current road user charges in Honduras shows that total revenues from all road users are insufficient to cover total road construction and maintenance needs. More importantly, trucks were not even covering the marginal road costs (maintenance costs) attributable to their use of the highway network.

84. In determining the appropriate level of expenditures for the country's roads (excluding urban roads), an analysis was made of the need for expanding and rehabilitating the paved network. In addition, the normal annual maintenance expenditures required once the Government implement its road rehabilitation program and the network is in good condition were estimated using the optimal road maintenance policies derived from the application of the HDM model. (US\$49.2 million equivalent). These levels are well above past maintenance expenditures, which were approximately an average of US\$15 million per year during the 1988/1991 period. Against these estimates, the taxes paid by the users, mainly through taxes on fuel, new vehicles, annual registration fees, etc (but excluding general taxation), amount to US\$34.0 equivalent or 69% of the estimated needed maintenance expenditures. About 60% of the revenue are generated by automobiles and less than 30% by trucks in inverse proportion to the allocation in 1990 of road costs based on axle and vehicle equivalencies.

85. In allocating the costs to the various users, an estimate was made of the marginal costs which are variable with vehicle stress, as opposed to time and weather. Such vehicle-related marginal costs total US\$17.8 million equivalent. Tax revenues for all vehicles were sufficient to cover such marginal costs, especially on the main paved network but trucks, which account for US\$ 11.28 million of marginal costs, only contribute US\$8.9 million. (Tables 1-3).

86. With the present system of fuel taxes in Honduras, it is not possible to draw conclusions regarding the general level of user charges from the results in 1990. Since the Government controls fuel prices in the domestic market, tax revenues from oil products become a residual which fluctuates with the price of imported crude. In 1989, user charges from this "variable tax" amounted to 84% of all user charges. In 1990, because of the Gulf crisis and subsequent increase in oil prices, that share

dropped to 48%. In 1991 this percentage is likely to have increased, as domestic fuel prices were not lowered while world prices fell, but data is not available to quantify the increase. With respect to the tax structure, there is a differential tax rate which amounts to a diesel subsidy. The price of diesel is, in general, 8% below the price of regular gasoline, and 20% below the price of premium gas. The government is implementing a petroleum liberalization plan supported under the Energy Sector Structural Adjustment Credit, which should be substantially in place by the end of 1992. The plan calls for opening the oil market to competition and for the establishment of explicit taxes on petroleum products. These should incorporate appropriate user charges for the road network combined with vehicle licenses which vary with vehicle weight, in order to provide a more equitable charging instrument. SECOPT, with financing from the IDB's loan, will carry out a study to identify mechanisms to mobilize resources from road users and channel them for the maintenance of the road network. The study will include an assessment of road user charges and the evaluation of schemes to secure a continuous flow of funds for road maintenance.

## **B. Public Investment in the Sector**

87. During the three decades ending in the early 1980's, Honduras invested a substantial amount of resources in developing its basic transport infrastructure. Essentially a unimodal country, the road network in Honduras grew from about 3200 km of roads in 1960 (of which only 110 km were paved) to 6140 km in 1974 and 11,600 in 1990. The expansion of the road network was accompanied by Government investments to increase the capacity of the port system. Puerto Cortes was expanded and modernized in the 1970's to accommodate its growing demand, and two new ports (Puerto Castilla and San Lorenzo) were added to the system. Puerto Castilla was expected to serve important export development schemes in the Aguan Valley and the Olancho Forest Reserve, while Puerto San Lorenzo was to attend expected growth of trade through the Pacific, mainly exports of sugar and molasses. With hindsight, investments in Puerto Castilla were premature, while investments in Puerto San Lorenzo were unjustified.

88. A review of public expenditures in transport infrastructure during the past decade sheds very little light on the evolution of capital formation in the sector. Resources budgeted for transport infrastructure, amounting to about 5% of GDP, were to a great extent used to pay the wage bill, and a significant share of the sector's labor force was redundant. As a result, it is not clear how much of those funds actually reached the system. What is clear is that there was a net loss of the transport capital stock, as evidenced by the severe deterioration of the transport infrastructure, particularly in the last few years.

89. Transport sector investments for 1991 amount to L 459 million, representing about 45% of planned total public investments and 3% of the projected GDP, slightly over half the proportion of GDP invested in the sector during the 80s. About 83% of these investments correspond to the road subsector, and are targeted to the rehabilitation of the road network. These levels of public expenditures in the sector are expected to continue well into the 1990's, reflecting the need for the rehabilitation of the transport system, and the continuous role that the Government is expected to have in the provision of road infrastructure.

90. Public expenditures are critical for Honduras' transport infrastructure, mainly because the need to rehabilitate the road network will become increasingly pressing. As already mentioned, conditions in Honduras do not lend themselves to the direct participation of the private sector in the road subsector. The following table shows road expenditures during the 1982-1991 period and the investment and maintenance plan for 1992-1995. The program is based on a comprehensive Highway

Master Plan carried out in 1989 by Brazilian consultants with IDB financing, and updated by consultants retained by DGM to implement the Highway Design Model III. It identified the rehabilitation of about 2,700 km of roads during the period 1991-1997. Road expenditures in 1991, which more than doubled the 1990 levels, were channeled to reduce the existing maintenance backlog. Planned expenditures for the 1992-1995 period are expected to continue at an average of L 567 million per year, reflecting the rehabilitation efforts of SECOPT to upgrade the network to maintainable conditions. Annex 1, Table 8 provides details of the main works included in the rehabilitation program. The plan does not envisage investments in new construction. The above figure includes average annual maintenance expenditures of L 247 million, which reflects the maintenance expenditure levels required to provide periodic maintenance to approximately 1,600 km annually and routine maintenance to the entire network. Planned investments in the subsector are shifting from road construction and rehabilitation to road maintenance. This shift will require a continuous flow of funds and reduced reliance in external financing, which points out to the importance of implementing a scheme for the mobilization of domestic resources through appropriate user charges.

91. An important condition for export-led growth in Honduras, one of the objectives of the present administration, is the improvement of the present airport infrastructure. Economic activity, including the main tourist attractions, the Bay Islands and the Mayan Ruins of Copan, make traffic gravitate towards the northern airport of La Mesa in San Pedro Sula. The airport terminal has to be expanded and upgraded, at a cost of US\$ 25 - 30 million. The Government of Honduras is negotiating with the Government of Spain a loan on highly concessional terms to carry out those investments. In addition, the main airport's runway is in urgent need of rehabilitation, and SECOPT has approached the Bank for financing these works at an expected cost of about US\$ 10 million. An area that will deserve special attention is that of air transport of perishable products and other non-traditional exports. Air cargo traffic in Honduras is still negligible. In 1990, air cargo totalled about 10,000 kilos. However, considering the experience of other countries in the region with similar climatic conditions and access to US markets, they are expected to grow rapidly. In Costa Rica, for instance, air cargo grew about 35% per year during the last four years, reaching a total of about 60,000 kilos in 1991. Comparable developments in Honduras, will require investments in refrigerated storage facilities which should be undertaken by the private sector.

92. Priority should also be given to resolving the long standing issue of an adequate airport facility for Tegucigalpa. In particular, there is a need for a prompt definition of the Government's policy towards the replacement of Toncontin by a twenty-four hour all-weather facility. A promising solution, although still lacking supporting studies, would be the use of the modern military air base in Palmerola. Negotiations are being held in this regard with the military. There is already a successful past experience in sharing military and civilian air facilities in Toncontin, before the construction of Palmerola, and adequating Palmerola for civilian use would require investments in the order of US\$ 20-30 million, a cost considerably below the investments required for a new facility in El Pedregal.

93. Public investments in the port subsector should be limited to the expansion of the container terminal in Puerto Cortes and, depending on the arrangements regarding the terminal's management and the possible involvement of the private sector, in some container handling equipment. These investments are in the order of US\$ 10 million.

### Institutional Aspects

94. SECOPT lacks an effective system for planning and programming transport sector investments based in a clear relationship between national development strategies, economic planning, and

*criteria for selecting and prioritizing projects within the context of a transport development plan linked to a national program. What currently drives the system is a series of poorly coordinated investment decisions at the level of the agencies responsible for each transport mode. More often than not project selection criteria is determined by whether a project has assured financing or if it is of immediate urgency in response to a crisis. The first criterion makes the investment process supply driven, with the international donors, who themselves have limited coordination, selecting projects according to their own agendas. On the other hand, the little planning that exists is generally at the request of multilateral and bilateral financial agencies which require a satisfactory investment plan as a precondition for lending. This state of affairs is resulting in a misallocation of resources. For instance, to date, SECOPT continues making investments in Toncontin without a clear definition of the future of the airport. These include lengthening of the runway which requires the future relocation of a major highway at the end of the runway. ENP also has substantial discretionary power in port investments and is engaging in the acquisition of equipment and port improvements, such as works in La Ceiba, without a clear economic justification.*

95. *The General Directorate of Sector Planning (DGPS) within SECOPT lacks the capability to develop comprehensive pluri-annual investments plans for the sector, or to control the quality of the investments proposed by each executing unit. Poorly staffed, it has only a nominal role in the decision making process. There is therefore a need to upgrade the functions of DGPS and staff it with a small cadre of highly trained professionals. In particular, current efforts to fully develop the HDM as a planning tool for the road subsector should be fully institutionalized and the responsibility for its updating transferred to DGPS. This would result in a better coordination between DGC and DGM and ensure balanced expenditures in road construction, rehabilitation and maintenance. As already discussed in the context of DGT, the low Civil Service salaries are a major constraint to develop in DGPS the necessary capabilities to carry out its planning functions. Until that problem is addressed in a macroeconomic framework, DGPS should consider retaining long-term consultants to perform line functions and train the professional staff in the preparation of pluri-annual investment programs based on sound economic criteria.*

**Recommendations:**

- o Strengthen SECOPT's capability for transport planning and project evaluation;**
- o Design and evaluate possible infrastructure investments in the container terminal of Puerto Cortes;**
- o Postpone investments in the Port of La Ceiba until they are fully evaluated;**
- o Improve airport infrastructure in San Pedro Sula, including expansion of the passenger terminal and rehabilitation of the runway; and**
- o Postpone investments in other airports in the country until the recommendations of the airport master plan become available.**

## HONDURAS

### TRANSPORT SECTOR STRATEGY PAPER

#### Road Expenditures (1988-1991) and Investment Plan (1992-1995) (in million 1991 Lempiras)

	1988	1989	1990	1991	1988-91	1992	1993	1994	1995	1992-95
<b>A. ROAD CONST./REHAB.</b>	126.1	123.4	118.4	296.9	664.8	276.4	439.2	326.5	236.6	1278.7
- construction	60.6	65.6	43.6	60.4	230.2	230.2	4.2	1.1	-	22.2
- rehabilitation/improvements	62.2	55.4	71.2	216.8	405.6	405.6	424.0	309.0	228.3	1202.1
- bridge construction	2.1	0.9	0.8	16.8	20.6	20.6	8.3	8.3	8.3	41.5
- studies/technical assistance	1.2	1.5	2.8	2.9	8.4	8.4	2.7	2.7	-	12.9
<b>ROAD MAINTENANCE</b>	47.5 <sup>a/</sup>	47.1	47.2	102.2	244.0	251.8	217.6	254.5	264.1	988.0 <sup>b/</sup>
<b>TOTALS (A+B)</b>	173.6	170.5	165.6	399.1	908.8	528.2	656.8	581.0	500.7	2266.7

**SOURCE:** SECOPT

**a/** Excludes L 76.9 million expenditure on road maintenance equipment.

**b/** Annual maintenance expenditures for the period 1992-1995 reflect the maintenance expenditure levels required to provide periodic maintenance to approximately 1600 km and routine maintenance to the entire network.

## **V. THE TRANSPORT SECTOR AND THE ENVIRONMENT**

96. **General Background.** *The development of effective environmental management programs in Honduras is at an early stage, and this is also true within the transport sector. There is, however, a rapidly growing recognition by public officials, private enterprises, and non-governmental organizations that, in the long-term, healthy ecosystems are a necessary condition for sustained economic growth. The development of institutional, legal and administrative measures to address these concerns, however, lags behind the increasing technical understanding of the ecological risks involved in carrying out certain activities. Adverse environmental effects which could result from transport sector activities include: (i) soil erosion from poor road drainage; (ii) reducing soil productivity because of chemicals used in road, railways, ports and airports maintenance equipment; (iii) eliminating spawning areas for fish and other aquatic organisms because of sediments carried in runoff may alter the shape and flow patterns of rivers; (iv) chemicals used in transport maintenance equipment may contaminate water sources, killing aquatic organisms and limiting human uses of the water; (v) dredging of underwater land in ports may degrade the habitat of aquatic organisms and alter water chemical characteristics; and (vi) the construction of new roads or reconstruction of existing roads in areas of dense forest or biological diversity may cause human migration and clearing of forests, decline in species population, and habitat alteration through agriculture.*

97. *Poor road drainage can be common in Honduras, especially in unsealed roads in steep areas. This is largely the result of inadequately maintained road crowns and excessive vehicle weight for the road design capacity. Another problem prevalent in some areas of the country is severe damage from landslides in roads constructed on unstable volcanic soils which tend to absorb large quantities of water but maintain poor soil structure. Thus, the weight of the moisture tends to cause the soil to collapse on steep hillsides, especially when subject to additional weight from vehicles and when mechanical or vegetation reinforcement is not properly maintained. To address these problems it will be necessary to bring a watershed management perspective to road maintenance and rehabilitation. If the watershed areas surrounding a road are in poor conditions from improper land use or other degradations, then road works will continuously suffer the consequences of unstable soils, erosion, and hydrologically unstable runoff events. One of the important roles of the environmental impact analysis process within SECOPT will be to establish this "watershed perspective" in road works.*

98. *Pollution and contamination of port estuaries and harbors is also apparently occurring on a large scale in Honduras. There is no data to authoritatively document pollution conditions, but the dumping of raw sewage, potentially hazardous materials, and untreated refuse occurs regularly. In addition, contaminated rivers are emptying into these same coastal areas. Port authorities are concerned with water quality degradation in coastal areas. However, they lack the technical capability to address the problem. ENP will require technical assistance to establish a water quality monitoring program which, at the minimum, will enable ENP to determine the probable sources and magnitude of contamination problems in the harbors and estuary areas. In addition, Honduras should develop the necessary legal framework to inspect, fine, or otherwise enforce controls over suspected polluters. With respect to dredge operations, ENP appears to take extreme care to ensure that no coral or other sensitive marine ecological communities are disturbed in the process.*

99. **Legal and Institutional Setting.** *In recent years the Government of Honduras passed a considerable amount of legislation pertaining to natural resource and environmental management. Approximately, 37 laws with 420 articles exist that contain environmental measures. In spite of this*

*profuse legislation, public and private agencies have no clear environmental mandate to follow. There is no legislative act or policy which clearly defines the procedures or requirements for environmental impact analysis, preventative or mitigative actions which must accompany all nationally directed projects. The government is planning to introduce an environmental law addressing a wide range of technical and institutional issues.*

*100. At the present time, the analysis and implementation of watershed management strategies is primarily the responsibility of the Corporación Hondureña de Desarrollo Forestal (COHDEFOR). The Ministry of Natural Resources (MNR) also claims some jurisdiction over watershed management programs, as do several other national agencies. In order to avoid duplication of efforts, SECOPT should enter into an agreement with COHDEFOR and MRN to integrate watershed management and restoration activities in transport projects. This agreement should give SECOPT the opportunity to request technical assistance in stabilizing soils and runoff on upper watershed lands through COHDEFOR or MRN programs. COHDEFOR and MRN could provide planting stock and technical guidance to SECOPT's for revegetating cut and fill slopes. It may also consider the establishment of upland reforestation programs that will assist in stabilizing road and bridge networks upstream. COHDEFOR and MRN can also assist in public education efforts to emphasize the linkage between healthy watersheds and stable road systems.*

*101. SECOPT, with USAID assistance is in the process of developing an environmental program focusing on the environmental analysis of road works. This includes the establishment within SECOPT of an Environmental Unit to bring, inter alia, a watershed management perspective to road construction, rehabilitation and maintenance. The unit should have only a core group of professionals with the capacity to supervise environmental impact analyses carried out by private consultants. The unit's responsibilities, at present limited to aspects related to road works, should be expanded to include normative and regulatory functions in all transport activities, such as water contamination in the port areas and air pollution in urban areas. One of the main issues that the country in general, and SECOPT in particular, will have to face, is the lack of standards or norms which can be used to measure changes in environmental conditions. Without these standards, environmental analysis (EAs) will, by necessity, be general and qualitative in scope, without the depth and detail necessary to support strong and precise preventative or mitigative measures. Development of these standards should be based on empirical investigation of Honduras ecological conditions. International donors could play an important role in helping Honduras in these efforts, which will require substantial technical assistance and training. Annex 5 contains, inter alia, outlines proposed terms of reference for the Environmental Unit in SECOPT and temporary standards for performing environmental impact analysis.*

#### **Recommendations:**

- o Develop the necessary, institutional, legal and regulatory framework to ensure an adequate consideration of environmental policies by the transport sector. This should include a clear definition of COHDEFOR, MRN's and SECOPT's respective responsibilities;**
- o Develop procedures for classifying and categorizing projects according to their probable environmental impact. These classifications would be used to determine the type of environmental review required and level of detail which must be followed;**

- o Develop specific procedures for SECOPT staff to prepare, evaluate, and implement the recommendations from EAs;
- o Develop in ENP the capability to monitor water quality and enforce pollution controls;
- o Run workshops and training seminars for SECOPT staff, contractors, and consultants in methodologies for conducting, evaluating, and implementing the recommendations for EAs. These training activities should include exercises in data collection and interpretation, identification of impacts, ecological system analysis, preparation and implementation of mitigative measures. These training activities should enable a wide range of SECOPT staff and contractors to know when EAs are required, what must be included in an EA, how to evaluate a completed EA, and how to develop implementation plans for preventative and mitigative measures; and
- o Develop and implement a public education program that strengthens the understanding of interrelationships between transport sector activities, ecosystem and watershed management. Education programs should work to enhance SECOPT relations with rural communities affected by SECOPT projects and with other public or NGO agencies.

## **VI. THE BANK'S ROLE IN HONDURAS TRANSPORT SECTOR**

### **Past Bank Involvement in The Sector and Lessons Learned**

102. *During the period 1955-1981, the Bank Group approved eleven transport related loans to Honduras: eight for the construction and maintenance of the road network, and three for the expansion of the country's port infrastructure. The following paragraphs summarize the achievements under these projects and discuss those lessons that are relevant to future sector development.*

103. *The Highway Maintenance Project (Loan 135-HO; US\$ 4.2 million; 1955) concentrated in the reorganization of the Highway Department and in establishing and equipping a regional offices of an expanded road maintenance organization, considered at the time a weak link in the government program to expand the network. In addition , the project included the engineering studies for the improvement and construction of important segments of the Northern and Western Highways. The next six operations concentrated in developing Honduras basic road network and, on the institutional front, strengthening the local capabilities for highway planning and maintenance. These operations were:*

- \* *Highway Construction Project (Loan 195-HO; US\$ 5.5 million; 1958) which financed the construction of important segments of the Northern and the Southern Highways;*
- \* *Western Highway Extension Project (Credit 1-HO; US\$ 9.0 million; 1961) which helped complete the Western Highway connecting Santa Rosa de Copan with El Salvador;*
- \* *North Road Project (Loan 400/Credit 71-HO; US\$ 9.5 million; 1965) which financed the construction of the central portion of:*



- \* *The Fifth Highway Project (Loan 495-HO; US\$ 8.6 million; 1967) to complete and upgrade the Western Highway;*
- \* *The Sixth Highway Project (Loan 896-HO; US\$ 18.8 million; 1973) to improve the Tegucigalpa-Talanga Road and to strengthen planning and maintenance capabilities; and*
- \* *The Seventh Highway Project (Loan 1341-HO/1342-T-HO; US\$ 35.0 million; 1976) to reconstruct the Talanga-Juticalpa-Catacamas Road as part of the development of the Olancho region; to prepare a highway master plan and to establish a pilot road maintenance system.*

104. *With the completion of the Seventh Highway Project, the basic road network of Honduras was in place. Emphasis then shifted to the expansion of the secondary and tertiary road network and to continue the efforts initiated in the previous operations to strengthen road maintenance. Thus, the Eight Highway Project (Loan 1901-HO; US\$ 28.0 million; 1981) financed the construction of 350 km of feeder roads in the country's more productive agricultural valleys and the improvement of 159 km of secondary roads. The project included technical assistance for the implementation of a comprehensive road maintenance management system.*

105. *The three port operations comprised: the Puerto Cortes Project (Loan 463-HO; US\$ 4.8 million; 1967) to help finance the construction of two berths in Puerto Cortes; the Honduras Second Port Project (Loan 767-HO; US\$ 6.0 million; 1971) for the development of Puerto Cortes' container and roll-on/roll-off facilities and the construction of the first phase of Puerto San Lorenzo; and the Third Port Project (Loans 1395-HO/1396-T-HO and Credit 696-HO; US\$ 17.0 million; 1977) for the construction of Puerto Castilla and the second phase of Puerto San Lorenzo.*

106. *In retrospect, it is clear from the lessons contained in the PCRs and PPAR's that the objectives and designs of these projects reflect the priorities and views of the time on the main sectoral issues. In general, the highway projects were successful in developing the main road infrastructure of the country and, subsequently, in shifting the focus of attention from road construction to road maintenance. Progress in developing institutional capabilities for road planning and road maintenance, however, were always described as below expectations. This was systematically attributed to the long-term character of institutional development and the difficulties of implementing sophisticated systems in countries lacking the necessary absorptive capacity. With hindsight, those problems could better be viewed in terms of lack of accountability and strong political incentives to adopt inefficient schemes.*

107. *The experiences derived from the three port projects are mixed. The Bank had an important role in the development of ENP as an efficient organization presiding over the expansion of the port system. The Bank also supported the much needed expansion and modernization of Puerto Cortes. Participation in the construction of Puerto Castilla and Puerto San Lorenzo, however, proved to be unwise. Investments in Puerto Castilla were part of a large and ambitious scheme to develop the Olancho region. When it became evident that the projected demand was too optimistic, the original project was revised to substantially reduce the port's capacity.*

108. *The opposite is true with Puerto San Lorenzo. The port was planned to be built in two phases to support the export of sugar and molasses through the Pacific. Implementation of the second phase started even before the completion of the first one. The PPAR for the Third Port Project concluded that, at the time of the start of the second phase, there were already strong signals that the projected exports were not going to materialize. There are two important lessons to be learned from this experience. One refers to the propensity of the public sector to misallocate resources, which is*

*derived from the extreme separation of owners (when the shareholders are all the citizens of Honduras) and administrators (the bureaucracy). While there are countless instances of private sector failures, in our view a different public-private sector mix would have probably resulted in a sounder response to market signals. The other lesson deals with the difficulties inherent in forecasting demand and the criteria employed for investment decisions. Decisions based on expected values may result in high opportunity costs when conditions do not evolve as expected. In cases where large, lumpy investments are required, it could be less costly to await for some incipient congestion as the right signal to direct resources, than to risk long periods of overcapacity and deficitary operations.<sup>8/</sup>*

### Bank Group Strategy

109. *In line with the Bank Group's overall lending strategy in Honduras, the group's objectives in the transport sector are to promote sector efficiency and to enhance financial performance. To accomplish these objectives the strategy would seek, in particular to:*

- (a) encourage the participation of the private sector in the provision of transport services where appropriate; e.g. supporting the contracting of road maintenance; encouraging operation and facility concessions in ports and airports; restructuring railway services;*
- (b) improve fiscal management — e.g. enhancing cost recovery in the sector; analyzing road user charges in both interurban and urban roads and establishing; improving bus fare pricing in urban transport; promoting the establishment of cost-based tariffs in the ports subsector;*
- (c) emphasize maintenance and rehabilitation of existing assets — e.g. preserving the present road network before undertaking further expansions in the highway subsector; rehabilitating airport infrastructure;*
- (d) strengthen investment optimization and prioritization — e.g. analyzing alternatives, undertaking system evaluations, and employing least cost analysis, where appropriate, within and between transport modes;*
- (e) support institutional and policy reforms — e.g. encouraging the strengthening of planning and regulatory capabilities in the relevant agencies; assisting in the privatization process in the sector; promoting the deregulation of the road transport industry; and*
- (f) promote environmental protection —e.g. supporting the strengthening of the environmental unit in SECOPT to better integrate environmental concerns in transport policy and investment decisions.*

### The Administration's Initial Policies

110. *The administration of President Callejas has already taken initial steps which are in line with the above general strategy. Private sector participation is being encouraged in the maintenance of the road network, in the administration of airports and in the leasing of port installations to the banana companies and Petrotela. The government also is taking the first steps, albeit limited, to eliminate*

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<sup>8/</sup> *An alternative approach, which supports a similar type of conclusion, is provided by the growing body of literature on option valuation. C.F.C.W. Smith "Option Pricing: A Review", Journal of Financial Economics (III), 1976.*

unwarranted regulations in the road transport industry. In the case of the railways, some contradictions remain in terms of the stated policies and the railways' actions. Finally, investment policies emphasize rehabilitation and maintenance of existing assets, although some investments in the airport and port subsectors are being undertaken without a clear economic justification.

### Proposed IDA Lending

111. Bank Group lending should emphasize a sectoral approach benefitting from the enhanced policy dialogue IDA has developed with the Government. In particular, a proposed FY 93 sector investment loan with a substantial policy content should help the administration to design and implement the far reaching institutional measures that are still in its initial stages. Bank Group involvement should help to institutionalize the formulation of sound pluri-annual investment programs and to limit the opportunity for investments being selected on ad-hoc basis. Strengthening the capabilities of DGPS for transport planning and project evaluation should be one of the main priorities of the proposed operation. The establishment of clearly defined pricing and regulatory policies addressing different efficiency and equity considerations, will require developing DGT's capabilities to properly discharge its normative and regulatory functions. The proposed operation should also help the newly created Environmental Unit in SECOPT to expand its role to all transport modes, a process that will require the clear definition of the functions of the different agencies involved in environmental issues. Finally, the Bank Group has developed considerable expertise in helping borrower countries to divest and/or privatize assets or operations in the transport sector. The Bank Group has therefore a strong comparative advantage to support the Government to implement its privatization/divestiture program in the ports, airports and railways subsector.

### Future Sector Work

112. The major issues in the transport sector deserving further analysis are: (i) future financing of road maintenance operations; (ii) the constraints imposed to road transport by the present regulatory framework; and (iii) urban transport, both in terms of future infrastructure development needs and of pricing and regulatory policies. The first issue is being satisfactorily treated under the technical assistance component of the IDB's loan. With respect to the other two issues, it is proposed to include the relevant studies, including the implementation of their recommendations as part of a possible future IDA operation. Future sector work should include a Transport Sector Memorandum in FY 1995 to evaluate progress made in the implementation of the Government's sector policies and propose a course of action based on the studies to be undertaken during the intervening period.

### Coordination of External Assistance to the Sector

113. The international community, both its multilateral and bilateral agencies, have a strong presence in Honduras. The IDB is the main financier of the road subsector, with USAID playing an important role in the development of the rural road network. The German Government is financing labor-intensive road works and carrying out studies to define an investment strategy for urban transport in Tegucigalpa. The country's reliance in external financing and the many times "supply driven" character of the donors involvement have a strong effect in shaping sector investment policies.

114. Medium-term efforts to support export-led economic growth will require substantial external financing to upgrade transport services. In order to help minimize duplication and overlap and/or cross purposes with other multilateral and bilateral financing agencies, there is a need to strengthen

*the coordination of the external assistance to the sector. This study should provide the vehicle to discuss with other agencies and donors how to improve coordination and ensure an effective division of labor, as well as how to improve SECOPT's capability for monitoring programs or projects with external financing. The final objectives should be: (i) the development of a forum for coordinating the efforts of the international community at the sectoral level; and (ii) the development within the Transport Planning Directorate of SECOPT of the capability to coordinate external assistance to the sector.*

**HONDURAS**  
**TRANSPORT SECTOR STRATEGY PAPER**

**Characteristics of the Non-urban Road Network and Overall Vehicle Utilization**  
**(As of December 1990)**

(km and million veh-km/year)

Type of Road	Nominal $\bar{a}$ / ADT (veh/day)	Length of Road (km)			Amount of Travel (mill veh-km/yr)		
		Paved	Unpaved	Total	Paved	Unpaved	Total
Motorway	6000>	33	-	33	99.3	-	99.3
Primary	400 - 6,000*	2,089	75	2,164	114.7	10.9	1,115.6
Secondary	250 - 400	267	1,352	1,619	38.7	129.8	168.5
Tertiary (Feeder)	<250	-	7,789	7,789	-	278.6	278.6
	<b>Total</b>	<b>2,389</b>	<b>9,216</b>	<b>11,605</b>	<b>1,282.7</b>	<b>419.3</b>	<b>1,702.0</b>
	<b>Percent</b>	<b>21</b>	<b>79</b>	<b>100</b>	<b>75</b>	<b>25</b>	<b>100</b>

Source: SECOPT - December 1990

**HONDURAS**

**TRANSPORT SECTOR STRATEGY PAPER**

**Annual Expenditures on Roads Sub-divided into Main Cost Components  
(In Millions of US Dollars)**

ITEM	Total Annual Expenditures (1990)	Variable Costs			Fixed Costs
		(veh-km)	ESAI-km)c/	(gvm-km)d/	
<b>Costs of Operating and Maintaining Roads:</b>					
Policing (a)	0.37	0.11	-	-	0.26
Administration (b)	1.33	0.27	-	-	1.06
Routine Maintenance	5.9				
Maintenance Shortfall	10.3				
	17.9	5.37	-	-	12.53
Periodic Maintenance	11.3				
Maintenance Shortfall	2.8				
	14.1	-	11.28	-	2.82
<b>Total O &amp; M Costs</b>	<b>33.7</b>	<b>5.75</b>	<b>11.28</b>		<b>16.67</b>
<b>Costs of Improving and Extending Roads:</b>					
Extension	3.0		0.15	0.30	2.55
Improvement	3.0		0.15	0.30	2.55
Expansion	3.0		0.15	0.30	2.55
Sub-Total	9.0	0.00	0.45	0.90	7.65
<b>Financing Charges:</b>					
Debt Service/Repayment	7.5	-	-	-	7.50
Sub-Total	7.5	-	-	-	7.50
<b>Total Costs</b>	<b>50.2</b>	<b>5.75</b>	<b>11.73</b>	<b>0.90</b>	<b>31.82</b>

Notes: (a) An estimated 70 percent of these costs are taken to be fixed.  
 (b) Fixed costs of administration include all expenditures on buildings and 70 percent of salary costs. The remaining expenditures vary with traffic. This figure refers to optimal (not actual) levels.

**TABLE 3**

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**TRANSPORT SECTOR STRATEGY PAPER**

**Estimating the User Charges Required to Cover Variable Costs  
(US cents per vehicle km)**

	Veh. (mill)	GVM (tonns)	ESAS (number)	GVM km (mill)	ESA km (mill)	Variable Costs		GVM km	Total
						All Veh.	ESAL km		
Vehicle Type	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Car (gasoline)	756	1.55	0.00	1,172	0.00	0.094	-	-	0.094
Pick Up	958	2.50	0.00	2,395	0.00	0.094	-	-	0.094
Medium Truck	1,137	12.27	1.44	13,950	1,637	0.094	0.212	-	0.306
Articulated Truck	574	39.73	3.45	22,805	1,980	0.094	0.508	-	0.602
Bus	2,700	11.25	1.50	30,375	4,050	0.094	0.221	-	0.315
Totals	6,125				7,667				

Source: SECOPT - December 1990

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THE ROAD SUBSECTOR

The National Road Network

1. *The national road network of Honduras consists of 11,600 km of all weather roads of which 2400 km are paved and 9200 km unpaved (Table 1). This network excludes an estimated 7000 km of local roads. Functionally, the network is classified into Primary roads (2200 km), Secondary roads (1600 km) and Feeder roads (7800 km).*
2. *Except for the northeast part of the country (the Province of "Gracias a Dios") where few roads exist, the remainder of the country is reasonably well served by the national road network. In terms of importance, the Northern Highway which connects Tegucigalpa with San Pedro Sula (the second largest city) and Puerto Cortes (Honduras' main port) is the country's backbone. Also important are the Southern Highway and the Pan American Highway. The former serves the southern region of the country including the port of San Lorenzo and the latter links Honduras with El Salvador and Nicaragua. The north coast (Tela, La Ceiba, Trujillo) can easily be reached via San Pedro Sula/El Progreso and the east and southeast regions, via Tegucigalpa. The Western Highway, which begins at Chamelecon in the north, serves the northwest part of the country while the road from Siguatepeque via La Esperanza and Gracias, can be used to access this area from Tegucigalpa.*
3. *The Pan American Highway and the Western Highway are the main corridors running through Central America. However, only the former highway has consistent design standards on both sides of the border. The roads from Guatemala and El Salvador connecting to the Western Highway are unpaved and in poor condition. A regional study<sup>1/</sup> examined the various land corridors to strengthen the integration of Central America. Both these roads were included in the study with the former being on the "natural" corridor while the latter, which runs through Nueva Ocotepeque - La Entrada - Chamelecon - Tegucigalpa - Danli - Las Manos, is considered to be a good alternative.*
4. *Inadequate maintenance levels, weak institutional capabilities, and relaxation of axle load regulations, led to the deterioration of the road network. At the end of 1990, about 27% of the paved roads were in good condition, compared to 61% in 1985. By the end of 1992/93, however, the percentage of paved roads in good condition is expected to increase to about 45% once the on-going road rehabilitation effort is more advanced and the maintenance program is strengthened sufficiently. Table 1 also provides information on the condition of the national network.*

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<sup>1/</sup> Study financed by UNDP at the request of the Transport Ministers of the Central American countries.



National Road Network Condition (1990)  
(Km)

<u>Surface Type</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>	<u>Total</u>	<u>%</u>
Paved	655	722	1012	2389	20.6
Gravel	2038	3668	2535	8241	71.0
Earth	59	261	654	974	8.4
Totals	2752	4651	4201	11604	
%	23.7	40.1	36.2		100.0

Source: SECOPT

### Highway Traffic and Vehicle Fleet

5. *Traffic volume information is scattered as there is no traffic data collection program in place. With the information available, it was possible to establish the major flow patterns in the country. The major flows are concentrated on the primary road network particularly along the Northern Highway and the road between San Pedro Sula and El Progreso. Some 4500 vehicles per day (vpd) use the Northern Highway (Table 2) with freight vehicles (trucks and pick-ups), making up about 30% of the traffic. The two-lane road section between San Pedro Sula and the airport (11 km), carries 12,000 vpd. From the airport to El Progreso (16 km), traffic levels drop to 6500 vpd. Traffic volumes on other main roads radiating from Tegucigalpa, are estimated at about 2200 vpd.*

6. *Honduras' vehicle fleet increased from approximately 29,000 vehicles in 1970 to an estimated 155,000 vehicles in 1990 (Table 3) with the number of trucks, utility vehicles and buses increasing more rapidly than automobiles. Vehicle motorization, in terms of automobiles per 1000 inhabitants, increased over the same period from 5 to approximately 11.*

### Road Safety

7. *One of the main causes of the accidents that occur on the highway network is the lack of adequate vertical signalization, pavement markings and safety barriers. A country-wide program to improve the situation and decrease the number of accidents should be prepared. A road rehabilitation program to be partly financed by IDB<sup>2/</sup> is addressing this issue at the project level by including funds for vertical signs and road markings.*

### Institutional Framework

8. *The Secretariat of Public Works and Transport (SECOPT) directly (through its various directorates) or indirectly (through its public companies), has overall responsibility for planning, coordination, and regulation of activities in Honduras' transport sector. For highways, there are two*

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<sup>2/</sup> IDB is currently processing a loan to maintain, rehabilitate and improve Honduras' road network. The program to be carried out over the next six years will have an estimated total cost of US\$ 202 million with IDB contributing US\$ 110 million.

general directorates, namely Roads (DGC) and Maintenance (DGM) which report to the Deputy Minister of Public Works. These directorates operate under separate budgets. DGC is responsible for the planning and execution of road construction, reconstruction and rehabilitation projects and DGM for road (and airport) maintenance.

9. The overall organizational structure of DGC has remained virtually unchanged over the last few years. Notwithstanding a 22% cut in personnel during 1990 (1800 persons: 200 technical and 1600 field), DGC seems to respond quite adequately to the demands of SECOPT. Projects with foreign financing are the responsibility of three separate project implementation units (Unidades Ejecutoras), namely: CABEI-FIV which handles projects financed by the Central American Bank for Economic Integration (CABEI) and by the Venezuelan Investment Fund (FIV); IDB-IBRD which looks after the Interamerican Bank and World Bank projects; and AID-PRODESBA which is responsible for projects with AID and PRODESBA financing. Local consultants and/or consulting firms are retained to aid in road design and construction supervision activities.

10. The DGM, on the other hand, is undergoing major changes. In terms of personnel, the target is to reach a staff of only 1200 by 1994 (down from 5000 in 1989). To compensate for this, DGM intends to contract about 80% of the road maintenance work with the private sector, with the remaining 20% to be done by force account. This in-house maintenance capacity will also provide backup for emergencies and reduce the risk of replacing a public monopoly with a cartel of private interests. In terms of its organization, DGM has made significant changes both at the central office as well as at the district level. These changes are aimed at reducing the size of the organization and streamlining maintenance operations. DGM is setting up project implementation units for its maintenance operations, particularly those under contract.

11. Generally speaking, the technical quality of DGC's and DGM's professional staff, is satisfactory. However, the quality of engineering studies carried out by consultants, appears to be deficient. This may be due in part to the lack of comprehensive engineering standards and technical specifications for road construction applicable to the local conditions and requirements. SECOPT, with IDB assistance, will address this issue through the preparation of road technical specifications and of road geometric design standards<sup>3/</sup>. Another subject that needs special attention is the question of slope stability problems found in mountainous road sections. Some of the primary roads particularly the Western Highway are affected by slope stability problems which increase the cost of road rehabilitation and reconstruction. Again, IDB has included a technical assistance component to address this issue<sup>4/</sup>.

### **Road Maintenance**

12. Road maintenance is the responsibility of DGM and its 13 districts (Table 4), with four districts, Tegucigalpa, Galeras, San Pedro Sula, and Santa Rosa de Copan, being responsible for nearly 50% of the network. With the reduction in staff (1000 persons in 1990) and the increasing privatization of maintenance operations (300 contractors were retained in 1990 to carry out some routine maintenance activities on 2300 km of roads), districts are assuming more of a supervisory

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<sup>3/</sup> IDB's program includes funds for the preparation of a highway manual.

<sup>4/</sup> The technical assistance component will include the application of new technologies in road surfacing and slope stability.

role. The maintenance by contract efforts is showing positive results; at the end of the first year of operation, SECOPT estimated that maintenance by contract to be more cost-effective than force account, with savings in the order of 40%. DGM is considering, as part of the maintenance privatization actions, the creation of small enterprises (micro-empresas), under a cooperative system to carry out routine maintenance work. This scheme has been successfully implemented in Colombia. Typically, microenterprises would be made up of 10 to 14 men, preferably living in the surrounding area, who carry out manual routine maintenance on approximately 50 km of road under contract with SECOPT. Contracts would be limited to one year (renewable). Under this arrangement, small enterprises provide their own tools but, when required, mechanisms could be established for SECOPT to provide financial assistance for the purchase of tools which the micro-enterprises pay back through deductions from their monthly payment. This maintenance alternative can also be used to encourage SECOPT employees to resign from their jobs to take on a road maintenance contract. High level staff fro DGM visited Colombia in mid-1991 to become acquainted with the concept.

13. With increasing maintenance work done by the private sector, it will be easier to link the allocation of funds to explicit physical output (accountability). The existing system to audit district performance is inadequate as it does not readily permit a comparison between funds spent and actual work performed. In this respect, DGM must ensure that the maintenance administration procedures established by the consulting firm Roy Jorgensen in the late 70s, are closely followed. In contracting maintenance, DGM is aware that the use of contractors normally reduces the maintenance burden on the road authority, but increases the need for efficient supervisory management. The IDB will finance a technical assistance program to strengthen the capability of DGM to manage road maintenance contracts<sup>5/</sup>.

#### Road Maintenance Equipment and Workshops

14. Concurrently with staff reductions and privatization of maintenance operations, DGM is planning to reduce its maintenance equipment fleet from the current 1116 units to 540 (Table 5). Forty three percent of the equipment is non-operational and of this, 10-15% is scrap. DGM is in the process of appraising and auctioning the existing equipment to private contractors. Two fundamental policy decisions need to be addressed during this process to permit a rational decision regarding the equipment fleet: (i) the degree of participation of the private contractors in road maintenance (major road maintenance activities as compared with minor routine maintenance ones); and (ii) the extent to which the maintenance districts can absorb responsibility for force-account operations given the reduction in personnel and equipment.

15. Tied to the question of the equipment fleet is the future of the regional workshops located in Tegucigalpa and San Pedro Sula, and of the crushing and asphalt plants, four of each kind, which are located at various sites<sup>6/</sup>. The regional shops were created to take care of major repairs to SECOPT equipment leaving lighter repairs to the each of the thirteen districts. This concept has not worked satisfactorily; shops are overstaffed and their productivity is very low due in part to the

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<sup>5/</sup> IDB's program includes 3 specific studies to address road maintenance planning and financing, and institutional strengthening. The institutional strengthening part also covers DGC.

<sup>6/</sup> Asphalt plants are located at: El Palmar near San Pedro Sula (2 plants), Nacaome in the south, and Rio Hondo on the road Tegucigalpa-Catacama. Crushing plants are located at: El Palmar, Ojo de Agua on the road between Tegucigalpa and Danli, and Rio Hondo and Guayare on the road to Catacama.

unavailability of spare parts and the lack of specialized tools required to work on heavy equipment. As a general rule, a piece of equipment entering the workshops for repair would not be in working order for several months. Most of the delays are caused either by the time it takes to order and receive the required spare part, or by the fact that every new entry would be stripped of its usable parts to facilitate the repair of a prior arrival, thus, when the requested spare part arrives, the equipment unit is in need of other parts. As a result of this practice (to some extent unavoidable given the inefficient procurement process), most of the workshop space is taken up by dismantled equipment in search for usable parts. DGM is currently streamlining the procurement procedures, in general, and studying a number of options with regards to the future of these shops including the participation of the private sector. Also, the assistance to be provided by the IDB will address these issues. Regarding the crushing and asphalt plants, DGM is supplying contractors with crushed stone and asphalt for use in the on-going road rehabilitation and maintenance projects. This practice is to continue for the time being. In the medium-run, however, SECOPT should consider transferring these plants to the private sector.

### Axle Weight Control

16. The Transport Directorate (DGT) of SECOPT is responsible for enforcing axle load regulations as well as vehicle dimensions and overall weight restrictions. Axle load regulations were enacted in 1976 (Table 6). The axle limits set forth in the 1976 legislation for the most common axle arrangements are: 8 tons for single axles with dual wheels; 14.5 tons for tandem axles with dual wheels; and 18.5 tons for triple axles with dual wheels. Also the legislation establishes maximum weights for each truck configuration; these maximum legal weights range from 12 tons for two axle trucks to 49 tons for five axle articulated trucks. There are 15 axle load control stations at various locations on the primary road network (Table 7) which record the vehicle type and weight and other valuable information on the type of merchandise being transported and its origin and destination. Once collected, this information is sent to DGT for processing. In 1986, the regulations were relaxed to permit truckers to carry an additional 15% load. This measure increased the overall permissible weight for articulated trucks by 4 to 5 tons, depending on the vehicle size. No studies are available on the impact of this measure but the current administration is going back to the 1976 legislation. The IDB program will examine this issue.

### Design and Implementation of a Highway Management System

17. To enable SECOPT to prepare systematic pluri-annual road investment and performance plans, organize maintenance activities particularly maintenance by contract, monitor program implementation and equipment management system and train SECOPT personnel, it is recommended that the current efforts being undertaken to implement the HDM-III be supplemented by the establishment of a highway management system. This could be in the form of a technical assistance, tied to the one proposed for DPS (para.3.11) and conducted through either a twinning arrangement with a road organization knowledgeable on the subject, a reputable consulting firm, or a combination of both. The Government, with IDB's assistance is addressing, to some extent, this issue under the proposed IDB loan.

### Highway Expenditures

18. Given the deterioration of the network in the last few years, it can be concluded that there has been an inefficient use of limited road maintenance resources. Also, the lack of an adequate

auditing system and of sufficient and appropriate equipment, have contributed to this process. To ensure the road network receives the attention it needs, the Government should guarantee a continuous and timely flow of funds to provide adequate maintenance levels. The present administration has shown a definite commitment to rehabilitate and properly maintain the present infrastructure and has made additional funds available for road maintenance activities.

19. The table below shows the expenditures on road construction and rehabilitation (DGC) and road maintenance (DGM), for the period 1988-1991. As no earmarking exists (with the exception of the tolls being collected at San Pedro Sula), road works are funded through central government budget appropriations and external sources. During 1990 and 1991, DGM's expenditures correspond to the rehabilitation works currently underway on the primary road network (Northern Highway, Southern Highway etc.). DGM's 1991 expenditures, which more than doubled the 1990 levels, were channeled to remove the existing maintenance backlog. As road rehabilitation tapers off in four to five years, maintenance financing is expected to increase even further. Prior to 1990, nearly 70% of the road maintenance salaries were paid to personnel not involved in maintenance operations (administrative personnel). The staff reduction measures underway in DGM are addressing this issue. Out of the 1000 employees laid off during 1990, 90% were from the above group diminishing considerably the percentage of non-productive staff. Since January 1991, an additional 400 employees were let go and again a large proportion of them came from the same group.

Expenditures in the Road Sector 1988-1991  
(in million 1991 Lempiras)

Year	Construction & Rehabilitation	Maintenance
1988	126.1	124.4
1989	123.4	47.1
1990	118.4	47.2
1991	296.9	102.2 <sup>2/</sup>

Source: SECOPT

20. In the future, when the current rehabilitation effort is completed, the annual maintenance expenditures needed to keep the roads in good condition, will amount to approximately L250 million per year (US\$ 46 million). This amount is to be distributed as follows: (a) periodic maintenance 55%; (b) routine maintenance 25%; and other minor maintenance 20%.

#### Priority Policy Reforms and Measures

21. Unquestionably, the most important policy reform needed, is to genuinely give road maintenance the financial and other resources needed to preserve the past investments and proposed rehabilitation works. These investments should be accompanied by suitable provisions for physical and

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<sup>2/</sup> Includes an expenditure of L 76.9 million on road maintenance equipment.

financial auditing to ensure that the funds are properly spent. Genuine enforcement of axle load control is an important corollary to road pavement life and bridge structural adequacy. Pressure from the transport sector to relax the legislation in 1986, seems to indicate that there is a problem. Consequently the Government should review the available options and alternatives for addressing this matter and the related problems of enforcement.

22. The government must adopt a policy with respect to which parts of the network will be maintained by force account and which will be contracted out. Regarding work contracted out, SECOPT should ensure that work programs are adequately prepared, contract documents are standardized, works are properly supervised, and unnecessary delays in processing payments are avoided. The whole maintenance by contract scheme could fail if not enough attention is paid to these aspects. Furthermore, the question of what to do with the equipment fleet and maintenance shops is closely related to the maintenance policy.

23. SECOPT must find ways to strengthen the local consulting engineering firms so that the technical quality of the engineering studies is improved. The first step should be the preparation of road technical specifications and of road geometric design standards, a task that will be carried out with IDB's assistance. In addition, the terms of reference produced by SECOPT for the execution of engineering studies should clearly spell out the scope and level of detail expected from these studies.

#### Project Priorities - Road Subsector

24. The highest priority need in the road subsector is to continue with the on-going road network rehabilitation efforts and to fully implement a comprehensive maintenance program which should reflect the policy of the current administration of contracting with the private sector 80% of the work. That should be accompanied by an equally important effort of strengthening the technical and institutional capabilities of DGT, DPS, DGC and DGM through technical assistance projects. The short term priorities are (see also Table 8): (a) rehabilitation of the San Pedro Sula-Puerto Cortes (45 km); (b) rehabilitation and widening of 11 km of San Pedro Sula-El Progreso (27 km); (c) rehabilitation and widening of Villanueva-Chamelecon (15.6 km); (d) rehabilitation of the Pan American Highway (156 Km); (e) reconstruction of some sections of La Entrada-Nueva Ocotopeque (165 km); (f) reconstruction/rehabilitation of Tegucigalpa-Catacamas (212 km); (g) reconstruction/rehabilitation of some sections of La Entrada-Copan Ruinas (61.7 km); (h) paving of Siguatepeque-La Esperanza (65.7 km); (i) rehabilitation of Choluteca-Guasaule (44 km); (j) rehabilitation/periodic maintenance of Tela-La Ceiba (106 km); (k) construction of Guasaule Bridge; (l) construction/rehabilitation of 200 km of feeder roads; and (g) road maintenance program.

25. The 1992-1995 investment program prepared by SECOPT which includes the above priorities, will cost L 1952.6 million (Table 9). This amount would be invested as follows: (i) road construction L 22.2 million; (ii) road rehabilitation/improvements L 1231.2 million; (iii) bridge construction L 41.5 million; (iv) studies and technical assistances L 12.9 million; and (v) road maintenance L 644.8 million.

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## TRANSPORT SECTOR STRATEGY PAPER

### Evolution of the Road Network (km)

Functional Classification	Year	Paved				Gravel				Earth				Totals			
		Good	Fair	Poor	Sub Total	Good	Fair	Poor	Sub Total	Good	Fair	Poor	Sub Total	Good	Fair	Poor	Sub Total
Primary Roads	1989	518.6	699.3	903.6	2121.5	74.9	0.0	0.0	74.9	0.0	0.0	0.0	0.0	593.5	699.3	903.6	2196.4
	1988	659.1	775.3	565.1	1999.5	50.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	709.1	775.3	565.1	2049.5
	1987	1111.7	625.5	81.6	1818.8	10.1	78.5	13.5	102.1	0.0	0.0	0.0	0.0	1121.8	704.0	95.1	1920.9
	1986	1110.8	597.1	81.6	1789.5	10.1	78.5	13.5	102.1	0.0	0.0	0.0	0.0	1120.9	675.6	95.1	1891.6
	1985	1063.2	497.3	154.3	1714.8	73.5	28.6	0.0	102.1	0.0	0.0	0.0	0.0	1136.7	525.9	154.3	1816.9
Secondary Roads	1989	136.2	22.5	108.5	267.2	407.1	725.0	219.5	1351.6	0.0	0.0	0.0	0.0	543.3	747.5	328.0	1618.8
	1988	93.0	59.4	89.7	242.1	347.4	758.3	270.2	1375.9	0.0	0.0	0.0	0.0	440.4	817.7	359.9	1618.0
	1987	129.7	62.6	24.8	217.1	508.1	789.1	248.7	1545.9	0.0	0.0	0.0	0.0	637.8	851.7	273.5	1763.0
	1986	129.7	121.2	24.8	275.7	508.1	728.2	248.7	1485.9	0.0	0.0	0.0	0.0	637.8	849.4	273.5	1760.7
	1985	78.4	42.8	24.0	145.2	765.1	720.1	15.0	1500.2	0.0	0.0	0.0	0.0	843.5	762.9	39.0	1645.4
Feeder Roads	1989	0.0	0.0	0.0	0.0	1556.5	2942.6	2315.6	6814.7	58.8	261.0	654.0	973.8	1615.3	3203.6	2969.6	7788.5
	1988	0.0	0.0	0.0	0.0	1596.7	3453.5	1434.7	6484.9	56.0	281.7	611.7	949.4	1652.7	3735.2	2046.4	7434.3
	1987	0.0	0.0	0.0	0.0	1918.6	2729.8	771.2	5419.6	32.0	271.9	194.6	498.5	1950.6	3001.7	965.8	5918.1
	1986	0.0	0.0	0.0	0.0	1679.2	2101.9	771.2	4552.3	32.0	271.9	257.5	561.4	1711.2	2373.8	1028.7	5113.7
	1985	0.0	0.0	0.0	0.0	1637.6	1027.1	560.1	3224.8	534.1	482.3	151.5	1167.9	2171.7	1509.4	711.6	4392.7
Totals	1989	654.8	721.8	1012.1	2388.7	2038.5	3667.6	2535.1	8241.2	58.8	261.0	654.0	973.8	2752.1	4650.4	4201.2	11603.7
	1988	752.1	834.7	654.8	2241.6	1994.1	4211.8	1704.9	7910.8	56.0	281.7	611.7	949.4	2802.2	5328.2	2971.4	11101.8
	1987	1241.4	688.1	106.4	2035.9	2436.8	3597.4	1033.4	7067.6	32.0	271.9	194.6	498.5	3710.2	4557.4	1334.4	9602.0
	1986	1240.5	718.3	106.4	2065.2	2197.4	2908.6	1033.4	6139.4	32.0	271.9	257.5	561.4	3469.9	3898.8	1397.3	8766.0
	1985	1141.6	540.1	178.3	1860.0	2476.2	1775.8	575.1	4827.1	534.1	482.3	151.5	1167.9	4151.9	2798.2	904.9	7855.0

Source: SECOPT

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## TRANSPORT SECTOR STRATEGY PAPER

## 1990 Average Daily Traffic (ADT) - Selected Road Sections

Road Section	Distance (km)	Daily Traffic (ADT)
<b>Northern Highway</b>		
Tegucigalpa - Comayagua	86	3100
Comayagua - Siguatepeque	28	2600
Siguatepeque - Villanueva	102	3600
Villanueva - Chamelecon	14	4500
Chamelecon - San Pedro Sula	6	6000
San Pedro Sula - Puerto Cortes	57	450
Siguatepeque - La Esperanza	70	500
<b>Southern Highway</b>		
Tegucigalpa - Sabanagrande	35	2500
Sabanagrande - Jicaro Galan	57	2500
<b>Pan American Highway</b>		
El Salvador (border) - Nacaome	35	1100
Nacaome - Jicaro Galan	5	1300
Jicaro Galan - San Lorenzo	8	2100
Choluteca - El Banquito	31	1200
El Banquito - Nicaraguan Border	32	800
<b>Western Highway</b>		
Chamelecon - Quimistan	54	2500
Quimistan - La Entrada	55	1800
La Entrada - Santa Rosa de Copan	46	1200
Santa Rosa de Copan - Nueva Ocotepeque	92	1200
La Entrada - Copan	62	600
<b>San Pedro Sula - La Ceiba Highway</b>		
San Pedro Sula - Airport Road	11	12000
Airport Road - El Progreso	16	6500
El Progreso - Toyos	20	1700
Toyos - Tela	40	1700
Tela - La Masica	66	1800
La Masica - La Ceiba	40	4000
La Ceiba - Jutiapa	32	900
Jutiapa - Sava	55	650
Sava - Olanchito	43	400
El Progreso - Yoro	132	800
<b>Tegucigalpa - Catacamas</b>		
Tegucigalpa - Talanga	55	2200
Talanga - Guaimica	35	900
Guaimica - Juticalpa	81	1000
Juticalpa - Catacamas	40	1100
<b>Tegucigalpa - Las Manos</b>		
Tegucigalpa - Danli	96	2200
Danli - Las Manos	30	1500

Source: SECOPT



**HONDURAS**  
**TRANSPORT SECTOR STRATEGY STUDY**  
**Indicators of Highway Demand 1970-1990**

	1970	1975	1980	1985	1990	Average Annual Increase (%)			
						1970-75	1975-80	1980-85	1985-90
Population (thousands)	2,535	2,914	3,413	4,041	4,758 <u>a/</u>	2.8	3.2	3.4	3.3
GDP (millions of 1978-Lempiras)	2,403	2,876	4,090	4,323	4,979	3.7	7.3	1.1	2.9
Vehicles in Circulation	28,706	43,838	71,006	102,014	154,644 <u>a/</u>	8.8	10.1	7.5	8.7
- Automobiles	12,630	18,152	25,595	35,981	50,405	7.5	7.1	7.1	7.0
- Trucks & Utility <u>b/</u>	13,492	20,583	37,723	54,277	86,178	8.8	12.9	7.6	9.7
- Buses	2,584	5,103	7,688	11,756	18,061	14.6	8.5	8.9	9.0
Passenger cars/1000 inhabitants	5.0	6.2	7.5	8.9	10.6	4.4	3.9	3.5	3.6

a/ These figures are estimates.

b/ Utility vehicles include pick-ups and vans.

**HONDURAS**  
**TRANSPORT SECTOR STRATEGY STUDY**  
**1989 Road Length (km) by Road District and Surface Type**

District	Paved	Gravel	Earth	Total	%
Tegucigalpa	291	886	363	1520	13.1
Galeras	165	1262	82	1509	13.0
Choluteca	165	494	46	705	6.1
Comayagua	156	399	103	658	5.7
San Pedro Sula	568	771	4	1343	11.6
La Ceiba	158	539	15	712	6.1
Sta. Rosa de Copan	232	982	70	1284	11.1
Toca, Colon	186	628	151	965	8.3
Sta. Barbara	209	671	26	906	7.8
Danli	98	668	135	901	7.8
La Esperanza	36	537	32	605	5.2
Islas de la Bahia	19	33	20	72	0.6
Nacaome	106	309	9	424	3.6
<b>TOTAL</b>	<b>2389</b>	<b>8159</b>	<b>1056</b>	<b>11604</b>	
<b>%</b>	<b>20.6</b>	<b>70.3</b>	<b>9.1</b>		<b>100.0</b>

Source: SECOPT

**HONDURAS**

**TRANSPORT SECTOR STRATEGY PAPER**

**List and Condition of SECOPT's Road Maintenance Equipment**








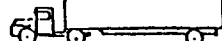

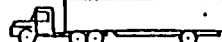
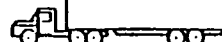




<b>Equipment Type</b>	<b>Total Number</b>	<b>Operational Condition</b>	<b>Non-Operational Condition</b>	<b>Units to be Retained by SECOPT</b>
<b>1. Vehicles</b>				
- buses, misc. trucks, etc.	223	142	81	132
- dump trucks	323	178	145	128
- pick-ups	157	81	76	94
<b>2. Motor Graders</b>	103	58	50	34
<b>3. Tractors</b>	66	34	27	23
<b>4. Loaders</b>	66	33	33	25
<b>5. Compacting Equipment</b>	93	50	43	57
<b>6. Asphalt Plants</b>	4	4	0	4
<b>7. Crushing Plants</b>	4	3	1	4
<b>8. Other Equipment</b>	77	51	26	39
<b>TOTALS</b>	1116	634	482	540

Source: SECOPT

HONDURAS

TRANSPORT SECTOR STRATEGY PAPER

Axle Load Legislation

Vehicle Type	Classification	Total Authorized Weight	Axle Load (kgs)					Empty Vehicle Weight
			Axle 1	Axle 2	Axle 3	Axle 4	Axle 5	
C 2		12,000	4,000	8,000				5,055
C 3		18,500	4,000	14,500				7,768
C 4		22,450	4,000	18,450				11,240
C2 - R2		28,000	4,000	8,000	8,000	8,000		11,471
C2 - R3		34,500	4,000	8,000	8,000	14,500		10,535
C3 - R2		34,500	4,000	14,500	8,000	8,000		11,471
C3 - R3		37,000	4,000	14,500	6,000	12,500		13,668
T2 - S1		20,000	4,000	8,000	8,000			7,760
T2 - S2		26,500	4,000	8,000	14,500			9,480
T3 - S1		26,500	4,000	14,500	8,000			9,350
T3 - S2		33,000	4,000	14,500	14,500			11,070
T3 - S3		37,000	4,000	14,500	18,450			13,995
T2-S1-R2		36,000	4,000	8,000	8,000	8,000	8,000	13,053
T3-S2-R2		49,000	4,000	14,500	14,500	8,000	8,000	14,773
C 3		14,875	4,000	10,875				7,000

Source: SECOPT

**HONDURAS**  
**TRANSPORT SECTOR STRATEGY STUDY**  
**Location of Axle Weight Control Stations**

<b>Northern Highway</b>	
Station 8	Amarateca
Station 3	Villanueva
Station 2	Chamelecon
Station 5	Choloma
Station 6	Puerto Cortes
<b>Southern Highway</b>	
Station 9	Cerro de Hula
Station 10	Jicaro Galan
<b>Pan American Highway</b>	
Station 11	Choluteca
<b>San Pedro Sula - La Ceiba Highway</b>	
Station 4	El Progreso
Station 7	La Ceiba
Station 15	Planes
<b>Western Highway</b>	
Station 1	Nueva Ocotopeque
<b>Tegucigalpa - Catacamas Highway</b>	
Station 13	Talangas
Station 14	Telica
<b>Tegucigalpa - Danli Highway</b>	
Station 12	El Zamorana

## HONDURAS

### TRANSPORT SECTOR STRATEGY PAPER

#### Main Highway Network Investments

Project	Description	Objectives	Cost	Financing	Current Status
San Pedro Sula - Puerto Cortes (45 km).	(i) rehabilitation of the existing 2-lane road (built in 1962); and (ii) construction of two additional lanes over the entire length.	To improve access to Honduras' main port, Puerto Cortes.	US\$ 46.2 M	Financing practically assured. GOH seeking following scheme: 70% Mexico, 15% CABI, and 15% GOH	Required studies (engineering and economic) have been completed. Required funding has been formally requested.
San Pedro Sula - El Progreso (27 km).	(i) rehabilitation of the existing 2-lane road; and (ii) construction of two additional lanes between San Pedro Sula and the airport (12 km).	To improve the level of service on this road which carries the heaviest traffic in the country particularly between San Pedro and the entrance to the airport.	US\$ 33 M	GOH seeking IDB financing	Required studies 90% complete.
Villanueva - Chamelecon (15.6 km).	Widening the existing road to four lanes.	To improve the level of service on this road section which has experienced large traffic volume increase as a result of industrial activity along it (industrial parks, etc.).	US\$ 6.8 M	GOH seeking IDB financing	Required studies 100% complete.
Pan American Highway (156 km).	Rehabilitation of its entire length (two lanes).	Part of the Central America highway corridor. Road connects Honduras with El Salvador and Nicaragua.	US\$ 26.3 M	GOH seeking IDB financing	Required studies 90% complete.
La Entrada - Nueva Ocotopeque - El Salvador and Guatemala borders (165 km).	Reconstruction of some sections and rehabilitation (two lanes).	Road forms part of alternate Central America highway corridor. Road provides access to Puerto Cortes for El Salvador and Guatemala.	US\$ 27.1 M	GOH seeking IDB financing	Required studies 90% complete.
Tegucigalpa - Juticalpa - Catacamas (212 km).	Reconstruction/rehabilitation (two lanes).	This is the main road to the eastern section of the country.	US\$ 6.0 M	GOH seeking financing from Taiwan	Required studies 50% complete
La Entrada - Copan Ruinas (61.7 km).	Reconstruction of some sections and rehabilitation (two lanes).	Improve access to the area and to the tourist site of Copan.	US\$4.7 M	GOH seeking IDB financing.	Required studies 90% complete.
Siguatepeque - La Esperanza (65.7 km).	Paving.	To increase the level of service to the area and to reduce maintenance costs.	US\$ 7.8 M	GOH seeking IDB financing.	Required studies 30% complete.

Choluteca-Guasaule (44 km)	Rehabilitation of main road connection to Nicaragua	To improve the road access to Nicaragua and the condition of the "natural corridor" connecting the central american countries.	US\$ 6.0 M	GOH seeking BIRF financing.	Required studies underway.
Tela-La Ceiba (106 km)	Rehabilitation and periodic maintenance of road and bridges.	To correct existing problems with road and bridges and to rehabilitate some road sections.	US\$ 4.0 M	GOH seeking BIRF financing.	Required studies underway.
Guasuie Bridge constr. border with Nicaragua	Reconstruction.	To provide access to Nicaragua.	US\$ 0.4 M	EEC to provide financing	not available
Feeder Roads (200 km).	Construction & rehabilitation (labor intensive).	To connect isolated communities.	US\$ 3.6 M	GOH seeking IDB financing.	not available
Road Maintenance.	Periodic and routine maintenance of the national road network.	To maintain the network in good condition.	US\$ 46 M per year	GOH seeking financing for part of cost.	not available

Source: SECOPT

ANNEX 2

HONDURAS

TRANSPORT SECTOR STRATEGY PAPER

THE PORTS SUBSECTOR

International Traffic

1. Honduras' international sea-borne traffic moves through five principal ports, four of which, Puerto Cortes, La Tela, Ceiba and Puerto Castilla are situated on the Northern Caribbean coastline and one, San Lorenzo, is on the Pacific. Some 81 % of this traffic moves through the main port Puerto Cortes. The following summarizes the distribution of traffic in 1990 :

Port	Ship Calls	Imports	Exports	Total
	(Vessels)	(in '000 Metric Tons)		
Puerto Cortes	1178	1546	1270	2816
Tela	51	65	52	117
La Ceiba	24	8	8	16
Puerto Castilla	200	117	302	419
San Lorenzo	107	59	44	103
Total	1560	1796	1677	3473

Note: The above figures include some 781 thousand tons of petroleum imported through Puerto Cortes.

2. The single largest export item is bananas (35%) , progressively more of which go in cooled containers. Coffee is next with some 5% of the export total. Imports of general cargo arrive almost entirely through Puerto Cortes and are also containerized in great part, thus making the container terminal in the port the key to future development.

Administration and Organization of the Ports

3. All the country's ports come under one central Port Authority, the Empresa Nacional Portuaria (ENP). Founded as an autonomous state entity by decree in 1965, it began operations in Puerto Cortes in August 1966 with the transfer of port installations from the Customs Authorities to the new body. It reports to its own nine-member board of directors, the chairman of which is the Minister of Commerce



and Economic Affairs; other members are the Minister of Public Works and Transport (SECOPT), the Minister of Planning, Coordination and Budget (SECPLAN), a representative of the Chambers of Commerce, a national labor union (CTH) representative, a representative of national ship operators. Permanent invitees comprise a representative of the Honduran armed forces and a representative of the superintendency of parastatal enterprises in the ministry of Finance. The chief executive of ENP is a government appointee and also serves, ex-officio, as a secretary of the board, assisted by the internal auditor and a liaison officer.

4. The ports are managed by Superintendents who respond to the Deputy Director of ENP (see attached organization chart). In all, ENP today employs some 1100 permanent staff with which it provides most port services, with the exception of stevedoring (para 8.)

5. In addition to the ports, ENP has also been made responsible for the management of the country's Free Zones, where some 39 different enterprises (mainly foreign) conduct their duty-free businesses, in buildings leased by to them by the ENP.

6. Although all operations, including pilotage and the movement of ships in port, are the responsibility of ENP, there are also Port Captaincies for each port that report to the Direccion General de la Marina Mercante, which itself is part of the Armed Forces. These captaincies have a nominal responsibility for vessel safety and environmental issues, but in fact have very little to do, and create some confusion with regard to responsibilities in the ports.

7. Neither the ENP, nor the Port Captain, is directly accountable to the Ministry of Transport, which therefore takes little interest in matters of maritime transport. With the growing interdependence of different modes of transport brought about by intermodal transport, this is an undesirable situation.

## PORT LABOR

### Provision of Port Services

8. Stevedoring (cargo handling aboard ship) in the ports of Honduras is done by private stevedoring companies. There are numerous stevedoring companies which work by special agreements with the respective ship operating agencies. In a growing number of cases the stevedores also provide handling service on-shore, e.g. in the case where banana loading elevators are used, thus giving a more efficient flow of cargo than is usual in the case of the "classic" division of shore and ship-board labor, and saving ENP the recruitment of additional casual labor.

9. Porterage or shoreside cargo handling, is provided by employees of ENP (either fixed staff or casual labor) who also are responsible for cargo storage and delivery. In addition, ENP employees provide services to the ships such as pilotage, towing, mooring and water-supply. The maintenance and operation of port equipment and fixed installations, as well as the general administration of the port areas and Free Zones are all the ENP's responsibilities.

### The Labor Force

10. The total number of employees of ENP in early 1991 was 1099, deployed as follows :

<i>Central Administration</i>	<i>415 (Including 43 in Free Zones)</i>
<i>Puerto Cortes</i>	<i>460</i>
<i>Tela</i>	<i>11</i>
<i>La Ceiba</i>	<i>39</i>
<i>Castilla</i>	<i>75</i>
<i>San Lorenzo</i>	<i>99</i>

*ENP has undertaken to reduce this number by some 100 workers during the current year. The number of employees required by ENP could diminish by at least 200 workers more, if the minor ports and the free zones were to be privatized or concessioned. Furthermore, the partial contracting out of certain operations like maintenance, would also enable staff reductions while improving efficiency.*

*11. The total of salaries, wage and benefits comes today to about L.16.9 million, which represents only about 50% of ENPs total annual expenditures, a remarkable proportion by regional standards (where ports usually have wagebills in excess of 70%).*

*12. Industrial relations in ENP are governed by a three-yearly collective labor agreement. The agreement currently in force includes a monthly salary increase of L.280 each year over the next three years, which does not seem excessive.*

#### **PORT FACILITIES.**

*13. Puerto Cortes is a well equipped, modern port with a marginal wharf of which some 1080 meters (5-6 berths) are currently usable, with water depth alongside of 8 to 13 meters, and very little tidal variation (30cms). Three of the berths are also used for Ro-Ro vessels. The port today lacks sufficient back-up area for containers however, although it is currently in the process of preparing such an area adjacent to berth five, the principal container berth.*

*14. Further East along Honduras' Caribbean coast is Puerto Castilla, constructed to be the principal port for the export of timber, wood-products and palm-oil, but currently serving mainly the Standard Fruit Company for exports of bananas and pineapples in containers and the U.S Army for imports of hardware. Both the main users lease parts of the port area for their exclusive use. The port has only one berth, 150 meters long, and ample storage areas, covered and open. It also has a small tank farm, for asphalt, oils and petroleum. Vessels discharge with their own gear and the port provides shore-side movements with ENP equipment. As nearly all the cargo is containerized, there is at present no capacity problem. Piling for the construction of another berth was cast but never used, although the original design was for 450 meters of berth. Water depth alongside is a constant 10 meters as there is no significant tide.*

*15. La Ceiba, which serves as the main cabotage port for the bay islands, has an unsheltered pier from which bananas were loaded from railcars to vessels by pocket elevators. However a hurricane in 1987 severely damaged the shoreline and silted up the berths, thus forcing the banana traffic to be diverted to Puerto Castilla; this continues to be the case although, unlike La Ceiba which received bananas by rail,*

exports through Puerto Castilla require highway transport. Although repair works are currently being done on the pier, La Ceiba should be left to serve only local, cabotage and fishing interests in the future.

16. Tela, situated on the same coast between La Ceiba and Puerto Cortes, is also no more than an unsheltered pier out to sea. Here the railway, the La Tela Railway Company, owned and operated by United Fruit Brands, delivers bananas to ships' side, with vessels tying up along the jetty. A relatively new development at Tela, is the private construction of a pipeline on the jetty, from which petroleum is discharged from tanker ships to Petrotela, a private importer of petroleum products that has a small tank farm nearby. As there are only the above two users of this pier, some concession agreement needs to be considered whereby they can handle their own operation, with no (or minimal) participation of ENP.

17. On the short strip of Honduras' Pacific coast, there is the port of San Lorenzo. It has a T-shaped wharf, with a main berth of 300 meters length, with depth alongside of 10 meters at high-tide. However, at low tide, draft is limited to 8.50 meters. Though the port is ample and well equipped, with large storage areas, open and covered, a tank for molasses and another for drinking water, the port attracts very little traffic. This may be because of the sixteen (nautical) mile access channel of 8.5 meter depth at low tide. It is a fact however, that the rapidly developing export produce of the southern area of the country like melons, and shrimps, instead of being shipped through the nearby port of San Lorenzo, are today transported by truck all through the metropolitan area, north to Puerto Cortes, from which they are shipped to Miami. The problem of how to activate the southern port of San Lorenzo requires further investigation. ENP last year conducted an unsuccessful (and costly) experiment in the promotion of San Lorenzo by reducing tariffs by as much as 60%, without drawing additional traffic.

### THE FINANCIAL SITUATION

18. Although ENP as a whole has made reasonable profits in recent years, it is mainly Puerto Cortes itself which, by charging considerably more than the costs of its own operations, has managed to subsidize all the other ports in the system, even the Free Zones. It is also managing to service the considerable debt burden of the institution, without recourse to fiscal assistance. In fact, port revenues also go to assist all the port municipalities or local councils, through a 4% levy on all ENP revenues.

19. ENP's Working and Operating Ratios for the last two years were as follows :-

	1989	1990
Working Ratio	0.55	0.60
Operating Ratio	0.70	0.73

(see tables 1 and 2 for ENPs revenue account)

As ENP has an absolute monopoly, it determines its tariffs not only to reflect its operating costs, but also to cover any other obligations the government has imposed on it, like the 4% tax on revenues (gross) for the municipalities. Any relation there might have been between port costs and charges, has therefore been distorted.

20. The operating ratio above needs to be viewed with serious reservation, as depreciation (which causes the difference between the working and operating ratios) has not been adjusted to reflect the considerable recent devaluation of the Lempira. As depreciation does not therefore represent the up-dated values of the use of the installations and equipment, it means that profits are considerably overstated. In the balance sheet, because the equity value is understated, the apparent leverage (debt to equity ratio) is also overstated.

21. Even if one allows for the understated capital value, ENPs balance sheet shows a fairly precarious financial position. The enterprise has heavy debt service obligations, with short term interest payments accounting for about a third of the total annual operating revenue. Nor are the current ratios satisfactory. This situation stems partly from the considerable investments made by ENP in the Free Zone, which is only indirectly related to port operations.

### Future Developments

22. Traffic forecasts (see tables 3 and 4) indicate modest growth in the next few years, almost entirely in traffic passing through Puerto Cortes. ENP needs however, to be very selective with regard to its own future investments, and needs to secure these financially, as far as possible, by either leases or concessions to potential users. One possible investment would be the expansion of the container terminal in Puerto Cortes, for which a capacity analysis is presented below. Where at all possible, the private sector should be encouraged to make its own investments in the ports. The management of ENP, appointed last year by the new government, has indicated that that is indeed in line with its current thinking. In fact, the current government, in its efforts to open more economic activities to the private sector, requested ENP's management to prepare a policy document whereby the parastatal enterprise will concession and/or sell off some of its operations.

### Puerto Cortes

#### Traffic

23. The following is the estimated traffic for 1991 based upon statistics for the first nine months of the year:

Estimated Traffic at Puerto Cortes for 1991 - '000 Tons 1/

	General Cargo	Dry Bulk	Liquid Bulk	Weight of Container	Container Transshipment and Restows	Total	Total Dry Cargo
Imports	2/ 157	425	678	164	154	3/ 1,578	3/ 900
Exports	879	118	18	183	14	1,212	1,194
TOTAL	1,036	543	696	347	168	2,790	2,094

1. Statistics for first nine months x 12/9
2. Approximately 75% of general cargo is containerized.
3. These totals include tare weight of containers.

Dry Cargo Handling Capacity

24. The port does not have data on productivity nor delays resulting from congestion. These have been requested. In the absence of these data an approximate capacity for the essentially dry cargo portion of the port is:

Dry Cargo Handling Capacity

Nominal Capacity at 100% Occupancy - Tons/meter/year (A)	Approximate Occupancy w/o Excessive Congestion (B)	1991 Cargo by Type and Mode - Tons (C)	Required Wharf Length - m (C/ (AxB))
Containers 5,000	55%	777,000	283
Break Bulk General Cargo 1,500	65%	259,000	266
Dry Bulk 5,000	65%	543,000	167
<b>TOTAL</b>		<b>1,579,000</b>	<b>716</b>

The actual length of dry cargo wharves is 878 m, therefore on the basis of the above analysis there is about 23% spare capacity.

25. The above analysis is approximate, utilizing estimates selected to reflect the flexibility of use of the five berths at the three existing dry cargo wharves, the regularity of arrival of the fruit ships, and the nature of the shipments, generally large homogeneous shipments where it is possible to work three or more hatches simultaneously.

Assumptions Applying to analysis of Dry Cargo Handling Capacity

26. There are three wharves in use for dry cargo shipments but two of these wharves, 4 and 5, can each berth two ships simultaneously so in effect there are now five dry cargo berths in the port, each of which can be used for handling containers with ship's gear.

27. If the tare weight of the containers were to be included in the wharf capacity analysis then the capacity figure of 5,000 tons/meter/year would be increased. Break bulk general cargo is generally assumed at 1,000 tons/meter/year but most of the break bulk cargo observed were large shipments of the same item such as full cargoes of paper rolls or full shipments of boxed bananas, therefore a rate of 1,500 tons/meter/year was utilized. Since most of the container ships now calling at the port have their

own container handling gear they can utilize any available berth otherwise a lower allowable percentage occupancy would have been used.

28. *Banana exports account for 60% of general cargo exports. Both the break bulk and containerized fruit ships are on very tight schedules, largely governed by marketing practices at the distribution end of the voyage. For the fruit ships there is very little deviation from the scheduled arrival time. As with the airports where there is considerable congestion with the arrival of fruit ships which peak on Thursdays, Fridays and Mondays but containerized bananas can be conveniently loaded at three berths and break bulk bananas at any of the five berths, however there may be occasional conflicts with barges or ships discharging bulk grains and bulk fertilizers which may occupy a berth for ten days or more, and for ships loading lumber, which presently takes a long time. These have been reflected in the rates and occupancies utilized in the analysis.*

29. *Grain is discharged utilizing pneumatic unloaders, clamshell buckets suspended from ship's gear and a combination of the two. The discharge utilizes hoppers under which trucks and railway wagons are loaded. The reported productivity is 1,200 tons per day, which is about half the cargo capacity figure used in the port capacity analysis, however for shiploads or bargeloads of grain or shiploads of bulk fertilizers, the 5,000 tons/meter/year wharf capacity figure is considered a reasonable figure.*

### The Bank's Role

23. *The ports are a vital element in an improved transport system, which could make Honduras' non-traditional exports more competitive in international markets. There have been some successful starts with certain fruits and with shrimp and lobsters. However, if the logistic infrastructure is missing to get such products to market in good condition and at a reasonable cost, the efforts to-date will have been in vain.*

24. *The Bank could play an important role in the institutional and economic rehabilitation of the ports, as well as lending financial support for some of the immediate development needs. Any loan to the transport sector should require government commitment to an action program to improve the performance of the ports subsector, along the lines of the following recommendations.*

### Recommendations

25. *The Free Zones need to be separately incorporated and managed. They should not remain the responsibility of ENP, for which they create a heavy financial burden, thus increasing port costs.*

26. *The ports of San Lorenzo and Puerto Castilla should be concessioned to operating companies, with ENP retaining no more than a landlord role, with a greatly reduced labor force.*

27. *ENP needs to withdraw from La Ceiba, giving the local council and or Chamber of Commerce the opportunity to operate it as a cabotage and fishing port exclusively.*

28. *Tela too, could be concessioned to the two sole users of its facilities, (the La Tela Railway Company and Petrotela) or sold to one of them, with provisions to accommodate the other.*

29. *As for the country's principal port, Puerto Cortes - the container berths might need improvement and completion, and a refrigerated multi-user facility needs to be erected by the private sector under*

*concession from ENP. Further operating concessions need to be awarded through a process of public tendering, and the ENP itself needs to restructure its organization, and reduce its staff to no more than required to supervise the essential services of the port concessions. Technical assistance would be required by ENP for training and establishing a cost-oriented marketing unit of such a landlord authority.*

*30. The Ministry of Transport and Communications needs to set up a small Directorate General of Maritime Transport, which should also take over the authority and functions of The Marina Mercante Directorate (currently belonging to the Armed Forces) and be responsible for all aspects of maritime transport, coastal waters and port development in the country. Its director general should be a key member (if not the actual chairman) of the restructured ENP. Technical assistance would be needed for the establishment of such a directorate, and the training of its staff.*

**HONDURAS**  
**TRANSPORT SECTOR STRATEGY PAPER**

**Empresa Nacional Portuaria (ENP)**  
**Revenue Account for 1989-1990**  
**(in thousands of current Lempiras)**

REVENUES	1989	1990	Expenses	1989	1990
			Operations:		
Operations			Salaries	5,989	6,741
Ship Services:			Materials	458	736
Port dues	10,557	11,786	Maintenance	3,126	3,550
Pilotage and tugs	267	203	Benefits and contributions	159	149
Berthage	5,471	6,219	Other expenses	37	10
Mooring	212	242	Subtotal	9,769	11,186
Stevedoring	4,017	4,234	Port administration:		
Other services	1,968	2,289	Salaries	11,383	12,774
Subtotal	22,492	24,973	Materials	259	320
Cargo services:			Maintenance	1,286	1,843
Wharfage and handling	19,697	19,305	Benefits and contributions	249	235
Storage	3,720	3,731	Other expenses	185	371
Delivery	2,856	2,876	Subtotal	13,362	15,543
Container handling	7,254	7,313	Central administration:		
Other services	1,598	1,786	Salaries	8,434	9,263
Subtotal	35,125	35,011	Materials	264	393
Leases and rentals:			Maintenance	1,321	1,573
Equipment rental	1,731	1,879	Benefits and contributions	262	157
Free Zone	2,058	2,963	Other expenses	363	471
Subtotal	3,789	4,842	Subtotal	10,644	11,857
TOTAL OPERATING REVENUES	61,406	64,826	Depreciation	9,178	9,028
Other revenues:	13,275	9,939	Financial costs	16,112	13,242
Adjustment - previous year	(2,347)	493	Other Expenses <u>a/</u>	2,343	2,539
TOTAL REVENUES	72,334	75,258	TOTAL EXPENSES	61,408	63,395
			Surplus	10,926	11,863

**RATIOS:**

Working Ratio	0.55	0.60
Operating Ratio	0.70	0.73

Note: a/ Subsidy to port municipal councils  
Source: ENP Financial Statements; April 1991.



HONDURAS  
TRANSPORT SECTOR STRATEGY PAPER

Empresa Nacional Portuaria (ENP)  
Annual Revenue and Expenditure by Ports and Free Zone, 1990  
(in Thousand Lempiras)

	Puerto Cortes	La Ceiba	Puerto Castilla	San Lorenzo	Free Zone	Tela	Total
<b>REVENUES</b>							
Operations							
To ships	20,463	114	2,773	1,353		269	24,973
To Cargo and Containers	28,301	657	2,680	2,882		491	35,012
Equipment Lease	1,628	6	103	142			1,879
Free Zone Services					2,963		2,963
Subtotal	50,392	778	5,556	4,377	2,963	760	64,827
Operational Expenses							
Direct operating costs	9,193	466	480	1,020		29	11,186
Administration	14,260	1,089	4,118	4,886	2,444	601	27,398
Depreciation	3,354	90	3,200	1,830	523	33	9,030
Subtotal	26,807	1,644	7,797	7,736	2,967	663	47,614
Surplus (loss) from Operations	23,585	(866)	(2,241)	(3,359)	(4)	97	17,212
<b>OTHER REVENUES AND EXPENSES</b>							
Revenues	5,563	29	883	1,747	740	2	8,965
Financial Costs	(5,561)	(186)	(3,575)	(3,307)	(567)	(45)	(13,242)
Donations	(109)	(6)	(46)	(56)	(13)	(1)	(230)
Transfers and Subsidies	(1,814)	(32)	(233)	(194)	(11)	(25)	(2,309)
Subtotal	(1,921)	(195)	(2,970)	(1,810)	150	(69)	(6,816)
Surplus before adjustments	21,664	(1,061)	(5,211)	(5,169)	146	28	10,397
Gains from exchange rate adjustments	340	1	87	546		N.S.	974
Adjustments for previous years	294	(109)	671	7	(3)	(367)	493
<b>SURPLUS (LOSS) FOR CURRENT YEAR</b>	<b>22,297</b>	<b>(1,169)</b>	<b>(4,453)</b>	<b>(4,616)</b>	<b>(143)</b>	<b>(339)</b>	<b>11,863</b>

Source: ENP Accounts; April 1991.

HONDURAS

TRANSPORT SECTOR STRATEGY PAPER

THE RAILWAY SUBSECTOR

**PRESENT CONDITION OF THE HONDURAS NATIONAL RAILWAY**

Component of the Railway Network

1. *The extension of the railway network in Honduras is 996 km. Out of it, 204 km are currently operated by Ferrocarriles Nacionales de Honduras (FNH) in the Valle de Sula region. Another portion of the network, extending over 336 km in the same region, has been given in concession to a fruit company (Tela Railroad Co., subsidiary of The United Fruit Co.). A 110 km railroad links the city of Tela with Puerto La Ceiba. This section is also under FNH administration, but is currently out of service. All these track segments have 42" gauge.*
2. *The remaining 346 km extends from La Ceiba to the Río Aguán valley, and are part of the FNH's system. It is a 36" gauge railroad, and was formerly operated by the Standard Fruit Co. At present this network is out of service due to a severe deterioration of its infrastructure and the lack of railway transport demand. The following table summarizes the network sections, their gauges, the operator and whether they are in service.*

<i>Area</i>	<i>Length</i>	<i>Gauge</i>	<i>Operator</i>	<i>Service</i>
<i>Valle de Sula</i>	<i>204 km</i>	<i>42"</i>	<i>FNH</i>	<i>Yes</i>
<i>Valle de Sula</i>	<i>336 km</i>	<i>42"</i>	<i>TRR Co.</i>	<i>Yes</i>
<i>Tela - La Ceiba</i>	<i>110 km</i>	<i>42"</i>	<i>FNH</i>	<i>No</i>
<i>La Ceiba</i>	<i>346 km</i>	<i>36"</i>	<i>FNH</i>	<i>No</i>

*FNH: Ferrocarril Nacional de Honduras*

*TTR Co: Tela Railroad Company*

Ferrocarril Nacional de Honduras Activities

3. *The FNH transports freight and passengers, and also performs some additional activities, particularly yard movements for the TRR Co. wagons in Puerto Cortés.*
4. *Freight. In the Valle de Sula section (the only one now in operation), bananas are the primary commodity. Wood, wheat and empty containers are the additional important products. In the 1986/90 five years period, the average volume transported was the following:*

Product	Volume (000 tn)	%
Bananas	150.1	45.0
Wood	50.3	15.1
Wheat	40.5	12.2
Others	92.3	27.2
Total	333.2	100.0

5. The average distance is 63 km; 77.3 km for bananas and 51.9 km for the other products. Out of a total of 21.1 million of tons-km for the 1986/90 five years period, bananas represent 11.6 millions tn-km (55%) and the other products 9.5 (45%). Table 1 shows the evolution of the freight activity in the last 10 years. La Ceiba section was operating under concession up to 1984, but it has not had traffic since mid 1989. Graph 1 clearly depicts the declining freight trends.

6. Bananas are generally loaded in Higuerito and Guanchias, 15 km south of San Pedro Sula, and unloaded at Puerto Cortés. Wheat is loaded in Puerto Cortés and transported to several mills in the San Pedro Sula area. Wood is loaded in the San Pedro sula area and unloaded in Puerto Cortés.

7. Passengers. FNH is transporting 165.000 passengers yearly (average 1989/90). The mean distance is 25 km, which amounts to 4.1 millions pas-km a year. The passenger service consist of one train from San Pedro Sula to Puerto Cortés every morning, returning in the afternoon. Passengers use intermediate stations intensively. The railroad is very close to the paved highway connecting Puerto Cortés with San Pedro Sula (in which a good bus service exists) for most of its run. It is the lowest income people who use the railway, because its fare is about half the fare of the bus.

8. There are two types of passenger cars. The lowest quality service consist in box cars adapted, with some wooden benches and without windows. The first class cars have windows and seats. There are some rail cars for special services, transporting tourist groups from San Pedro Sula to Puerto Cortés.

9. A summary of the FNH total annual activity in 1989/90, measured in thousand trains-km, shows the following:

□	Freight trains	202.6
	Bananas	65.9
	Others	136.7
□	Passengers trains	60.0
□	Yard movements	67.0
□	Internal service trains	12.4
□	Special trains	<u>2.3</u>
	<b>TOTAL TRAINS</b>	<b><u>343.8</u></b>

### Operational Organization

10. *Banana movements are the most important activity, and strongly influence the operational organization. The fruit exporters, who are the main users of FNH, need to load the wagons in the production area and rapidly transport them to the port in order to coordinate the train and the ships arrivals. 40' refrigerated containers on flat cars are widely used, as well as some box cars. The loaded wagons are concentrated in the San Pedro Sula area, and the trains are dispatched to Puerto Cortés.*

11. *Railway wagons should not stay in the port terminal more than 24 hours (in no case more than 48 hours) to avoid fruit deterioration. At port the containers are connected to the power system of the terminal constructed by TRR Co. The main rail return freight is the transport of empty containers.*

### Plant Characteristics

12. *Power engines. In the Valle de Sula area FNH has 10 locomotives, 8 of which have 1050 HP, one has 850 HP and one 350 HP. The engines have an average age of 22.5 years. Table 2 shows the year of construction and the remaining life. Only six of them are currently in use, three are used for freight trains, one for passenger trains, and two for yard operations and are held as spare. The average utilization of the locomotives is 58.000 km/year, relatively intensive for a short system. Maintenance works are carried on in the San Pedro Sula shop. It has very modest facilities, and does not provided any programmed maintenance. There are no reliable records on each locomotive.*

13. *In La Ceiba sector there are 17 (36" gauge) locomotives, within the range of the 450 to 650 HP. All of them are now out of service.*

14. *Wagons and cars. At present there are 404 wagons in the Valle de Sula sector, with a capacity close to 9500 tn. Out of them 172 are flat cars (for containers and wood), 133 are "rejillas" and 99 are box cars. For passenger transportation, FNH has 7 cars and 3 motor cars. The average age of the fleet (as it was in 1987) is presented in Table 2. The wagons and cars are maintained and eventually rebuilt in La Laguna shop, close to Puerto Cortés, which is in an extremely bad condition. The frequent derailments are because 40' containers, when fully loaded, are very heavy for the wagons, which cannot turn correctly in the track curves.*

15. *In La Ceiba sector there are 90 flat cars, 265 "rejillas",<sup>1</sup> 20 tank wagons and 20 box cars, as well as 12 passenger cars (all 36" gauge).*

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<sup>1</sup> "Rejilla" wagons are ventilated cars, suitable for banana boxes transportation.

16. Infrastructure. At a first appearance, the track shows some very deteriorated segments in the Valle de Sula sector. Maintenance is made mostly by hand, and seems to be insufficient. In the La Ceiba sector the tracks are out of service because of the damage produced by heavy rainfalls. In the Tela-La Ceiba corridor the track is also out of service because of natural hazards, and it is very difficult to turn back to operations because a lot of material has been plundered.

17. Other systems. Although a systematic analysis could not be carried out, the other supporting systems (signaling, communications) show the same characteristics as the other plan components: very old material, with a very weak maintenance.

### Revenues and Expenditures

18. Table 3 shows the evolution of revenues and expenditures in the 1986/1990 period. Investment expenditures have been almost negligible in the period. In the Valle de Sula sector the operational deficit depicts an increasing trend, mainly due to a continuous deterioration of the railway revenues. This is the result of the reduction in the tons transported and the erosion of the freight rates. In La Ceiba sector the trend is similar up to 1989, when operations stopped. In 1990 there were almost no operational revenue.

19. "Other revenues" includes the compensations paid by the fruit companies to FNH for concession agreements or refunds for track repairs. In La Ceiba sector, the agreement was such that the transfer became null when operations stop.

20. As a result of all these factors, the total deficit of FHN has been increasing at a growing rate. In 1990 this deficit amounted Lps. 7,200 Million (US\$ M 1.35), which was financed through governmental transfers and real estate sales.

21. Table 4 shows FNH revenues by source in 1990, as well as the expenditures classified according to the most important items. Table 5 has a more detailed analysis of the expenditures, according to the railway functions. Personnel represents 54% of the total expenditures (which reflects some overstaffing), and parts and repairs 15% (showing the weak maintenance). General administration costs look considerably high.

### Legal Frame and Internal Organization

22. Ferrocarriles Nacionales de Honduras was created by Decreto Número 48, in 1958, as a parastatal organization. Although it is an independent entity, FNH reports to SECOPT. The decree emphasizes

*the public service characteristic of the railway, and defines the administrative organization, financial sources, internal controls and other organizational matters.*

23. *FNH is run by a Board, integrated by a representative of SECOPT (who is the President), and others from the Ministry of Economics, Ministry of Finance, Central Bank, Planning Ministry, Chamber of Commerce of San Pedro Sula and the railroad Union. The General Manager is also the board secretary. The company is organized into two regional divisions, each of them with a complete set of departments: operations and maintenance, personnel, administration and finance. All marketing and commercial functions are missing. In the Valle de Sula sector there is a custom service department, which must be utilized by all governmental import and exports in the region.*

24. *The total staff of the FNH includes 340 people in the Valle de Sula sector, 200 in La Ceiba sector and 140 retired at whom the company must make monthly payments. The company's management is not business oriented, and with few exceptions does not seem to have adequate training for running a railway on a commercial basis.*

### Summary

25. *The current situation of the FNH can be summarized as follows:*

- . The extent of the railway system is 996 km, but only 204 km, at Valle de Sula, are operated by FNH; 336 km are transferred in concession for operation to a fruit company (Tela Railroad Co.) and the remaining 456 km, included within FNH's system, are out of service due to a severe deterioration of its infrastructure and no rail transport demand.*
- . The system operated by FNH transports 332,000 m of freight per year (during years 1989/90) of which 45% corresponds to the transport of bananas. This transport generates 11.6 millions of m-km (55%) and the remaining freight 2.5 millions (45%). The average distance is 77.3 km for bananas and 51.9 km for other products. For a railway system these are reduced traffic densities and short distances.*
- . FNH also transports passengers. During 1989/90 it carried 165,000 passengers per year, generating 4.1 millions of passenger-km with an average distance of only 25 km per passenger. In addition, FNH provides yard services moving TRR Co.'s wagons in Puerto Cortés.*
- . The transportation of bananas defines the operational organization. The fruit exporters, who are the main users of FNH, need to load the wagons in the production area (approx. 70/80*

km south of Puerto Cortés) and rapidly transport them to the port in order to coordinate the train and the ships arrival. Railway wagons should not stay in the port terminal more than 24 hours (in no case more than 48 hours) to avoid fruit deterioration. The freight is transported in 40' refrigerated containers loaded in flat cars; while at the port they are connected to the power system of the Terminal constructed by TRR Co. The main rail return freight is the transport of empty containers. Other main products are wood (exported) and wheat (imported).

- . FNH in the Valle de Sula area has 10 locomotives, 521 wagons, 16 passenger cars and other equipment. The engines have an average age of 22.5 year, but only 6 of them are currently in use, 3 are used for freight trains, 1 for passenger trains and 2 are on yard operations and make the reserve. The average utilization of equipment is 58,000 km/year, relatively intensive for a short system. There is no programmed preventive maintenance and the motive power is in poor condition. It must be pointed out that serious difficulties arise with the wagons, with many derailments due to the transport of 40' containers on flat cars not adequately prepared.
- . Track is also in bad shape. Signals and communication systems are very precarious. The repair shops have no adequate equipment and only make corrective maintenance and repairs of the rolling stock.
- . The evolution of revenues and expenditures of FNH in the last 5 years shows an increasing need of financial support. This is because of the following reasons:
  - \* A complete sector (La Ceiba) has no revenues as it does not offer services any more, but it still keep a significant level of expenses to cover the payroll for 200 employees.
  - \* Valle de Sula sector has been reducing its traffic level, and in 1990 was severely affected because the freight rates have not been increased while devaluation reduced the Lempira value by 165% since 1990.
  - \* "Other revenues" of La Ceiba sector were payments made by the Standard Fruit Co. for each ton shipped carried, as a compensation for some repairs in La Tela-La Ceiba rail done by FNH several years ago. As that section does not operate anymore, those revenues have also been cut.
- . The significant deficit of 1990 was basically financed by the sale of real estate for 3.2 millions of Lps. and by Government support: 4 million Lps. It must be pointed out that selling those lands made possible some additional repairs to the rolling stock, which are included in the operational expenses of 1990.

## **TRANSPORT SYSTEM FUTURE DEVELOPMENT**

### **Future Development of Freight Regional Demand**

- **Banana:** this is the product that generates the greatest transport demand through both fruit movements and materials for its production and distribution (fertilizers, empty containers, paper reels). An expansion of the volumes exported is foreseen as a result of good prospect for Honduras in the international markets (local currency devaluation, agreements with the EEC). The production expansion will take place by increasing the cultivated areas in lands adjacent to those presently in production.
- **Wheat:** tendencies of this transport are not very clear. It is basically formed by shipments negotiated with US AID.
- **Wood:** wood exports show a declining trend. The export flows have been redirected to Japan, therefore using Pacific Ocean ports.
- **Other products:** there are very favorable prospects for the production and export of high valued fruit-horticulture products (melons, different types of vegetables), flowers and shrimps in the Valle de Sula area. No studies are available that allow the assessment of these potential demands.

### **Services Required by Users**

- **The use of containers is the only transport system required by banana shippers.** Due to market competitiveness a very tight logistic is required; the operational procedures must ensure that fruits reach the consumers in good condition and that transport, handling and storage costs are reduced as much as possible. Some transport aspects such as reliability, time and skills to coordinate with other transport modes will be essential for the shippers' modal choice. It is worth noting that the transportation of bananas between packaging plants ("empacadoras") and export ports is only one link within a chain of operations which is coordinated in a centralized way by a company.
- **Products which present the most favorable condition of production and exports in the area served by FNH must be transported by air (as they are highly perishable) using a refrigerated**



system. In addition they are relatively small volumes with high unit values, therefore not suitable for rail transport.

### **Foreseeable Evolution of FNH**

26. *The present situation of FNH in the Valle de Sula area makes possible an estimate of its most likely state in the medium term (ie., in the next five years). It is forecast:*

- . an increasing reduction in the plant reliability and availability. Poor quality service is going to continue as management and financial constraints do not allow an adequate maintenance routine. This means that derailments will still occur (if not increase).*
- . an increased number of pensioners under the responsibility of the company. The projection of employees who will be retired in Valle de Sula area is 13 per year in average for the next five years. In addition, La Ceiba personnel (200 employees) should be retired or dismissed.*
- . the operational deficit will continue at significant levels. Revenues could not reach the levels of those of the middle '80 as La Ceiba area does not generate freight; Valle de Sula area has decreased its activities level and the contribution paid by the TRR Co. has been devaluated. It is very unlikely to avoid a significant operational deficit.*
- . widening to four lanes the highway Puerto Cortés/San Pedro Sula. This ongoing project, financed by the Mexican Government involved the expansion to 4 lanes of the highway running adjacent to the main line of FNH. Once the project is completed, some traffic still using the rail mode - such as wheat and wood - would find a better service in truck transportation, and the competitive position of FNH will deteriorate further.*

27. *In La Ceiba area the infrastructure could be repaired in a couple of months but the complete lack of clients suggests that it is highly doubtful that this line will operate again.*

28. *In La Tela - La Ceiba area rehabilitation action is not yet undertaken<sup>2</sup>, and in any case there are no benefits expected from it .*

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<sup>2</sup> Part of the track components in the right of way have been plundered.

*The Future of the System Given in Concession*

29. *La Tela Railroad Co. has its logistic organized in such a way that the railway constitutes a very significant aspect in ensuring the required service level at possibly the lowest transport cost. The packaging plants ("empacadoras") are prepared for loading wagons; flat cars have been arranged to transport 40' containers; a very important terminal has been constructed in Puerto Cortés and several materials - and even company personnel - are being carried by rail. Nevertheless, no serious technical problems were identified to make the company change from rail to truck transportation if it were deemed convenient.<sup>3</sup> It does not seem possible that such a change could reduce transport costs nor ensure a better service, and there is no indication that TRR Co. is preparing to effect such change.*

30. *TRR Co. moves 1,000,000 tons a year, utilizing 28 locomotives and 1,324 wagons (444 of which are flat cars). One third of the fruit is carried as break bulk (exported through Tela port), and two thirds are sent by containers to Puerto Cortés. A new transtainer to switch containers between trains and trucks has been installed in La Lima. Including the three shops the company has, the railway is run with 423 persons. TRR Co. also transports 750,000 passengers a year, with its 70 cars. The average age of the power engines is 28 years, but they are adequately maintained with regular works.*

31. *The concession agreement in force extends for a 10 year period starting on 1/1/84, and is automatically prolonged if any one of the parties does not notify the other of the wish to end the agreement with at least 3 years in advance. As the TRR Co. did not notify their wish to end the agreement on 1/1/91, the automatic mechanism of extension is already in force. In case of not continuing with the agreement, TRR Co. should meet with some obligations imposed by labor laws and contracts. At first glance it does not seem likely that TRR Co. will decide to cancel the agreement in the foreseeable future.*

***FNH ALTERNATIVES***

32. *The analysis of FNH current situation, together with the estimation of probable evolution of the market and the company, shows that there are few possibilities to continue the rail service operation without subsidies and that the company does not seem strategically viable.*

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<sup>3</sup> The container terminal at Pto. Cortés could be arranged to receive containers by truck instead of by train.

33. *It is recommended to abandon the system west of Tela, concentrating in the Valle de Sula area.<sup>4</sup> In this part of the network some actions are proposed that could have an immediate effect in deficit reduction. The mid term alternative strategies for the FNH, assessing the viability of the firm in the future transport market, are discussed below.*

#### Short Term Alternatives

- . *La Ceiba area has no chance to provide transportation service, although it persists in employing 200 people, paying salaries for the equivalent of \$ 530.000.- per year (\$ 600.000 if a proportional part of the upper management is included). It is proposed to close down this section, negotiating a solution for the personnel involved.*
- . *It is highly unlikely that La Tela-La Ceiba section could run trains again and presumably it would not be convenient to do so: Puerto La Ceiba is not in condition to operate freight and Puerto Castilla represents an option with which Puerto La Ceiba cannot compete. Standard Fruit Co., primary shipper in La Ceiba area, has already organized its own fruit logistics based on truck transportation. Additionally, many railroad facilities have been dismantled due to inactivity. It is proposed to close down this section.*
- . *In Valle de Sula area it is recommended to make several changes to reduce the funding needs of FNH in few months:*
  - \* *discontinue passenger services, allocating motive power to freight transport and releasing the shops of coach maintenance and rehabilitation, so that they can repair and maintain locomotives and wagons. Passenger transport uses 17% of locomotive-km and contributes only with 2.8% of transport services revenues.*
  - \* *adjust charges and tariffs of yard services, as well as empty containers, wheat and wood transportation.*
  - \* *adjust the compensation to be paid by TRR Co., in order to reflect the new exchange parity between the Lempira and the US dollar. This action might require Congress intervention.*

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<sup>4</sup> The possibility of closing down a great part of FNH system and concentrating all traffic on the line given in concession to TRR Co. has also been analyzed. Although this could avoid maintenance costs of some 70 km of tracks, the company would be extremely reduced, and no other cargo than bananas could be carried. There would be no justification for such a railroad company, reduced in its scope and keeping its fixed costs (shops, management structure).

- \* *reduce staff and review labor agreements. Some areas seem to have an excessive number of employees, including the upper management. As regards the labor agreements, there are some clauses which might demand excess personnel in certain areas.*
- \* *transfer part of the rolling stock now in La Ceiba, in order to use spare parts and eventually convert some elements (locomotives or flat cars) to 42" gauge.*
- \* *run trains between Higuerito and Puerto Cortés using TRR Co.'s system, therefore reducing the operating distance of the bananas flows.*

### *Mid Term Alternatives*

- . *It does not seem possible that FNH can compete with the transport system in the mid term, offering efficient services without the need of significant Government resource transfers. Accordingly, an analysis of the closing down of all the railway services of FNH, assessing its impacts and detailing the implementation arrangements is recommended.*
- . *A priori, an eventual closing down of transport activities of FNH does not seem to have significant effect on the availability of transport capacity.*
- . *The network operated by FNH could be included in the concession of TRR Co., with the commitment of that company to supply some public services as it has been doing in the network given in concession. The most important problem would be the transfer or dismissal of personnel, for which assistance from the US AID may be required.*

HONDURAS

TRANSPORT SECTOR STRATEGY PAPER

Ferrocarril Nacional de Honduras (FNH)  
Freight Transportation (Tons'000)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
<b>VALLE DE SULA SECTION</b>											
Bananas	157.6	183.8	200.9	178.5	169.3	246.3	208.6	177.8	149.0	120.4	94.9
Wood	100.6	115.1	129.1	98.9	77.3	69.5	76.5	70.7	41.4	36.3	26.8
Wheat	54.3	49.3	55.9	40.4	44.1	48.3	34.8	42.7	47.1	44.5	33.2
Other products	98.8	79.0	72.9	75.0	82.5	87.3	83.6	65.6	115.0	88.2	109.0
Subtotal	411.3	427.2	458.8	392.8	373.2	451.4	403.5	356.8	352.5	289.4	263.9
<b>LA CEIBA SECTION</b>											
Bananas	-	-	-	-	238.1	197.7	173.3	51.8	44.8	136.9	0.0
Fertilizer and banana inputs	-	-	-	-	13.5	10.9	13.6	12.2	3.3	2.0	0.0
Other products	-	-	-	-	50.3	45.2	41.9	36.8	42.8	24.9	0.0
Subtotal	-	-	-	-	301.9	253.8	228.8	100.8	90.9	163.8	0.0
<b>TOTAL</b>	<b>411.3</b>	<b>427.2</b>	<b>458.8</b>	<b>392.8</b>	<b>675.1</b>	<b>705.2</b>	<b>632.3</b>	<b>457.6</b>	<b>443.4</b>	<b>453.2</b>	<b>263.9</b>

Source: FNH

HONDURAS

TRANSPORT SECTOR STRATEGY PAPER

FNH Rolling Stock - December 1987  
Valle de Sula Sector

	#	Life expired	(a)	Life to expire in 5 years	(b)	(a)+(b)	Average age
Baldwin Locomotives	2	2	100.0%	0	0.0%	100.0%	24.0
GE Locomotives	8	0	0.0%	0	0.0%	0.0%	22.1
Total Locomotives	10	2	20.0%	0	0.0%	20.0%	
Ferrobuses	3	2	66.7%	1	33.3%	100.0%	26.0
2 <sup>o</sup> class cars	9	9	100.0%	0	0.0%	100.0%	35.1
1 <sup>o</sup> class cars	7	5	71.4%	2	28.6%	100.0%	29.7
Motor cars	12	12	100.0%	0	0.0%	100.0%	25.5
Total passenger rolling stock	31	28	90.3%	3	9.7%	100.0%	
Rejillas	26	26	100.0%	0	0.0%	100.0%	26.8
Fruit rejillas	95	31	32.6%	64	67.4%	100.0%	27.8
Box cars	72	50	69.4%	22	30.6%	100.0%	42.5
Box cars for wheat	62	14	22.6%	48	77.4%	100.0%	25.8
Flat cars	223	173	77.6%	50	22.4%	100.0%	33.6
Total wagons	478	294	61.5%	184	38.5%	100.0%	
Other equipment	21	21	100.0%	0	0.0%	100.0%	37.8

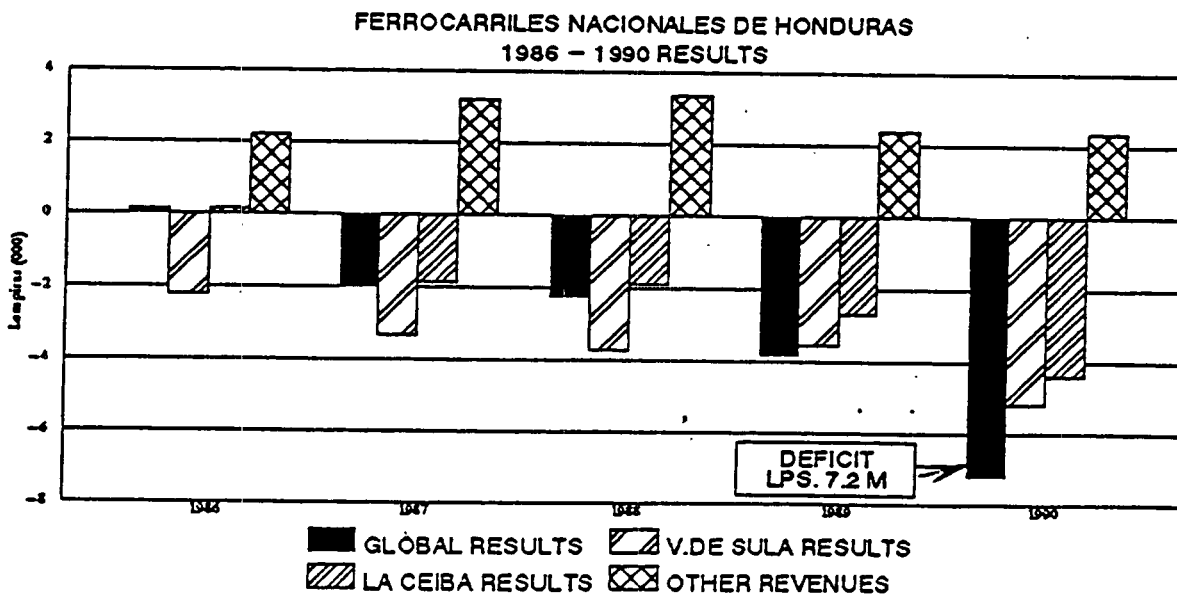
Source: FNH

**HONDURAS**  
**TRANSPORT SECTOR STRATEGY PAPER**

**Ferrocarril Nacional de Honduras**  
**Revenues and Expenditures**  
**(in thousands of current Lempiras)\***

	1986	1987	1988	1989	1990
<b>Valle de Sula sector</b>					
Revenue from operations	5,700.8	4,976.3	4,166.4	3,601.7	3,245.2
Expenditures from operations	7,899.8	8,315.3	7,877.0	7,154.8	8,428.9
Operational results	(2,199.0)	(3,339.0)	(3,710.6)	(3,553.1)	(5,183.7)
<b>La Ceiba Sector (**)</b>					
Revenue from operations	6,215.2	5,265.3	4,517.3	3,329.4	57.4
Expenditures from operations	6,072.2	7,106.8	6,419.6	6,009.7	4,455.6
Operational results	143.0	(1,841.5)	(1,902.3)	(2,680.3)	(4,398.2)
Other revenues - V. de Sula	1,995.0	1,733.8	1,550.5	1,730.5	2,274.5
Other revenues-La Ceiba	226.1	1,503.5	1,814.9	687.5	97.8
<b>Global results</b>	<b>165.1</b>	<b>(1,943.2)</b>	<b>(2,247.5)</b>	<b>(3,815.4)</b>	<b>7,209.6</b>

- (\*) Excluding transfers and real estate sales
- (\*\*) Estimates



## HONDURAS

## TRANSPORT SECTOR STRATEGY PAPER

Ferrocarril Nacional de Honduras  
Revenues and Expenditures - Year 1990  
(in thousands of current Lempiras)

<b>1. REVENUES</b>			
<b>1.1 Operational revenues</b>			
	Bananas	1,206.2	37.2%
	Empty containers	205.9	6.3%
	Wheat	301.1	9.3%
	Wood	287.2	8.8%
	Other freight	965.5	29.8%
	Passengers	115.1	3.6%
	Yard services	60.1	1.9%
	Others	103.5	3.2%
	Subtotal	3,245.2	100.0%
<b>1.2 Other revenues</b>			
	Compensation paid by TRR Co.	1,416.7	14.7%
	Real estate sales	3,267.8	33.9%
	Transfer from SECOPT	4,000.0	41.5%
	Other sources	954.8	9.9%
	Subtotal	9,639.3	100.0%
<b>Total</b>		12,884.5	
<b>2. Expenditures</b>			
<b>2.1 Valle de Sula sector</b>			
	Personnel	4,544.5	53.9%
	Gas & oil	563.1	6.7%
	Parts & repairs	1,259.6	14.9%
	Others	2,061.7	24.5%
	Subtotal	8,428.9	100.0
<b>2.2 La Ceiba sector</b>			
	Estimated global expenditure	8,455.6	
<b>TOTAL</b>		12,884.5	



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Ferrocarril Nacional de Honduras  
Expenditures in San Pedro Sula Sector - Year 1990  
(in thousands of current Lempiras)

<i>Area:</i>	<i>Item:</i>						
		Personnel	Gas & oil	Parts & repairs	Others	TOTAL	
Transportation		\$1,887.1	\$563.1	\$40.6	\$56.9	\$2,547.7	30.2%
Track maintenance		\$935.9	—	\$99.8	\$28.6	\$1,064.3	12.6%
Rolling stock maintenance		\$254.1	—	\$1,064.8	\$136.9	\$1,455.8	17.3%
Commercialization		\$305.6	—	—	\$142.9	\$448.5	5.3%
General administration		\$808.3	—	—	\$1,098.5	\$1,906.8	22.6%
Others		\$353.5	—	\$54.4	\$597.9	\$1,005.8	11.9%
<b>TOTAL</b>		<b>\$4,544.5</b>	<b>\$563.1</b>	<b>\$1,259.6</b>	<b>\$2,061.7</b>	<b>\$8,428.9</b>	<b>100.0%</b>
		<b>53.9%</b>	<b>6.7%</b>	<b>14.9%</b>	<b>24.5%</b>	<b>100.0%</b>	



