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01

## Infrastructure: Building the Future

### Introduction

The forceful development exhibited Chile since 1984, has resulted in a mean 7% annual growth of its Gross Domestic Product over the 12 years.

However, such progress is not reflected in many infrastructure areas, as a result of which our international competitiveness and development potential are being seriously restrained by prevailing shortages and insufficiencies, that originate costs and losses of resources to the extent of US\$ 1,702 million a year --namely, almost 2,4% of the national GDP or, otherwise, 11,1% of our exports last year.

To avoid such losses and open new development opportunities, we require an investment of US\$ 19,660 million, approximately, of which US\$ 11,715 in infrastructure areas that continue under State responsibility. This means doubling current investment rates in such areas, particularly, transport infrastructure and waste water treatment plants, which show the more severe deficits.

The Government has assigned one of the main economic and social priorities to public works in the country, to which matter it is devoting a strong effort. Yet, in the impossibility of meeting this challenge merely on the basis of public funds, the participation of the private sector is required through the generation, construction and management of infrastructure works.

### Railways

Our country was the forerunner of rail transportation in the continent. However, for various reasons railway infrastructure is currently being used at less than 20% capacity. Exhibiting low traffic rates and high fixed costs, rail transportation is considerably deteriorated as a result of the financial disability of Empresa de Ferrocarriles del Estado, the state-owned managing and operating company that, over the last years, has exhibited losses which require State covering.

With a view to streamlining railway management and infrastructure, a new Railways Law was enacted that, under concessions and payment of a rate to EFE for the use of the track and allied services, allows private parties to participate in operating freight transport services. The first freight transportation concession has been operating since late 1994, awarded to a joint consortium organized by EFE and private businessmen, which

11

latter hold a majority interest. FERRONOR, a state-owned EFE subsidiary operating branch lines in northern Chile, was privatized last year.

In line with such streamlining process, EFE has on-going a US\$ 100 million investment program directed to salvage tracks and rolling stock. Such programs is considered insufficient since requirements demand at least US\$ 200 million, although necessary investment in the coming years rises to US\$ 432 million. EFE engaged last year the execution of a sizeable project for the replacement of a part of the tracks bearing method by an advanced system of concrete sleepers.

In turn, the authorities are reviewing the possibility of franchising a high-speed railway project between Valparaíso, the main port of the country, and Santiago, the capital city. Finally, an alternate suburban rail development is contemplated for the main cities.

## Roads

The Chilean Intercity Roads Network covers 80,000 Kms., of which only 13,000 (16%) are paved. Such low road paving rates and standards are topped by deficient upkeep conditions. The current roads network is similar to that available in the early seventies, notwithstanding that flow of vehicles has grown almost four times.

To overcome this situation, requirements call for an investments program in roads upkeep, the execution of a minimum standards improvement plan, and in increasing the length of the double lane in the main network.

In turn, new expedite and safe accesses are required for each city and port covered by such 3,100 km-long main network, in addition to such allied works as signals, markings, lighting, among others.

Necessary investment for the execution of such projects calls for almost twice the average US\$ 714 million invested in the period 1995 - 1996, namely, US\$ 1,348 million a year through the year 2000.

In the matter of Urban Road building, solutions must combine a series of arrangements not only to increase investment and extend supply, but likewise to streamline demand and improve management. The next four years alone shall require an investment of US\$ 2,303 million in urban roads, at a rate of US\$ 576 million a year, whereas the invested average in 1995 and 1996 was only US\$ 276 a year.

To meet such investments with the participation of the private sector, a law on Public Works Concessions had been enforced, which contemplates a concessions program for the

next three years in an amount of US\$ 3,341 million, of which US\$ 3,040 million represent road projects.

Generally speaking, such system introduces the possibility of private Franchise companies to finance the building of specific works, by indirectly recovering such funding by the works over the period of concession thereof.

The most outstanding features of the legal setting regulating public works concessions include its flexibility; its application to any public work under various biddings conditions adjusted to the nature of the project; its openness to competition since any Chilean or foreign individual or conventional person meeting the conditions is entitled to participate in the bidding process; its openness to the private initiative, awarding incentives to the proposal of ideas for the execution of projects under concession; its equity on extending bilateral and communicative rights and obligations to parties in the concession contract (Government and private parties).

## Airports

To cater to the growing air passengers and cargo flow, Chile has available an airport infrastructure including the Santiago International airport and 15 airport-trunk network.

Chile's integration in the world over the late years and a growing economic activity, brought number of passengers in the domestic air routes to increase to 2,4 million, in 1996, double the number in 1985. In turn, international passengers traffic grew fourfold to 2,2 million, while cargo traffic grew fivefold in the last 10 years.

Such sharp growth of air demand is exceeding the airport capacity, therefore requiring significant expansions and remodeling in most airports at an investment exceeding US\$ 205 million in the period 1997-2000.

Some progress is being made in catering to part of the investment needs in this sector, through projects for execution under Public Work Concessions. Under such projects, private parties are entitled to build new and expand current facilities, fit out shops and parking lots, in other words, operate all allied services to the arrival and departure of aircraft from the aprons, other than the control of air operations and security, which responsibilities shall continue to be particular to DGAC, the state civil aeronautics agency. Private licensees executing such projects recover their investments through payment of a specific percentage of the embarkation rates.

Concessions bids have been invited already for the execution of passenger terminals have been already bidden in 2 airports. The concessions bidding schedule contemplates for for 1996 similar concessions in other three airports, and for 1997 the

expansion of the domestic passengers terminal in the Arturo Merino Benítez airport, in Santiago.

## **Ports**

The remarkable growth of Chilean exports in recent years has turned insufficient the port improvement works executed in the eighties, that allowed private participation in the operation of some port activities. Moreover, the current port capacity shall be pressed by the growing cargo volume as a result of the anticipated greater foreign trade activity.

Chile exhibits a privileged geographical position with respect to the American continent and the Pacific Ocean. Furthermore, it has the opportunity of taking advantage of the economic restructuring and opening of our neighbors to integrate them to the forceful development of the Asian countries, by providing such services as may facilitate trade between both continents.

Among the 32 ports and terminals representing the Chilean port infrastructure, 10 main ports in the country are under of the country, that constitute the port infrastructure, are under the administration of the State through the Port Company of Chile (EMPORCHI).

Excluding coasting trade, state-operated and private ports shared almost equally the 45 million tons of foreign trade handled in 1995. However, the latter moved 85% of the general cargo including our main export products, which circumstances explains EMPORCHI's significance in the international trade and its weight in the competitiveness of our exports, that is being affected as a result of the prevailing congestion in most of the ports under its management.

In 1995, the Government submitted to Congress a bill for the improvement of the sector by changing the legal and operating structure of EMPORCHI, in an effort to promote competition among each of the 10 ports under its authority, and thus put an end to current inefficiencies and cross subsidiaries.

Although privatization has been discarded in favor of a continued state ownership of ports, significant changes are introduced on decentralizing the management of EMPORCHI in nine self-governing affiliates, open to private participation in port investment and management through a concession system on existing berths and execution of new mooring sites.

Enactment of this law is expected shortly. Investment reference plans and schedules are already being prepared for each port, with a view to step up bid calls promptly upon enactment, thus enabling private enterprises to materialize the required US\$ 462 million investment by the year 2000. This, along with expanding the port capacity shall allow for new incentives to improve the management and efficiency in our ports.

## **Sanitary Facilities**

Execution of the development plans in the sanitary sector calls for a US\$ 552 million investment over the next 4 years. Such figure includes the urgent need of erecting Waste Water Treatment Plants to an investment fluctuating from US\$ 825 to US\$ 1,550 million, depending on the coverage of such treatment and the applicable treatment technology.

The current infrastructure shortage in the field and the necessary streamlining and upgrading of the management of the public companies in the sector, necessarily require the participation of the private sector in this area of utilities.

To provide for such participation, the Government submitted to Congress for consideration some legal amendments directed to adapt the institutional framework of this sector where the 13 state-owned companies operating therein share 93% of all such utilities which, under a project of the Executive, may be privatized up to 65% of their stock interest.

Although such project requires improvement in some aspects, it nevertheless represents significant progress, and which we trust shall help to meet existing shortages in the area.

## **Conclusions**

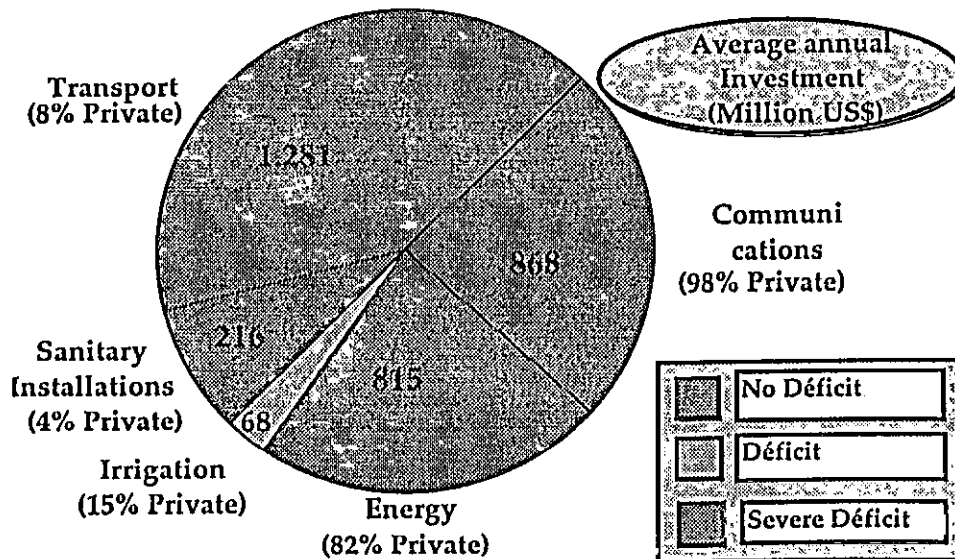
There is a great need for investment in the areas of public use infrastructure, currently under majority State control. Such sectors are gradually opening to private participation, thereby exhibiting interesting business opportunities in the area. Such opportunities are open likewise to foreign investors that may take advantage of Foreign Investment Statute extending benefits and guarantees for the importation and reexportation of capitals, a non-discriminating treatment, free access to the foreign currency market, and freedom from State intervention in their activities.

Construction in Chile has not been immune to the process of markets globalization. At this time, any foreign company is free to invest and operate in the country under the same treatment extended to national companies, that have learned to become involved with businessmen and investors from the world over interested in the opportunities offered by Chile.

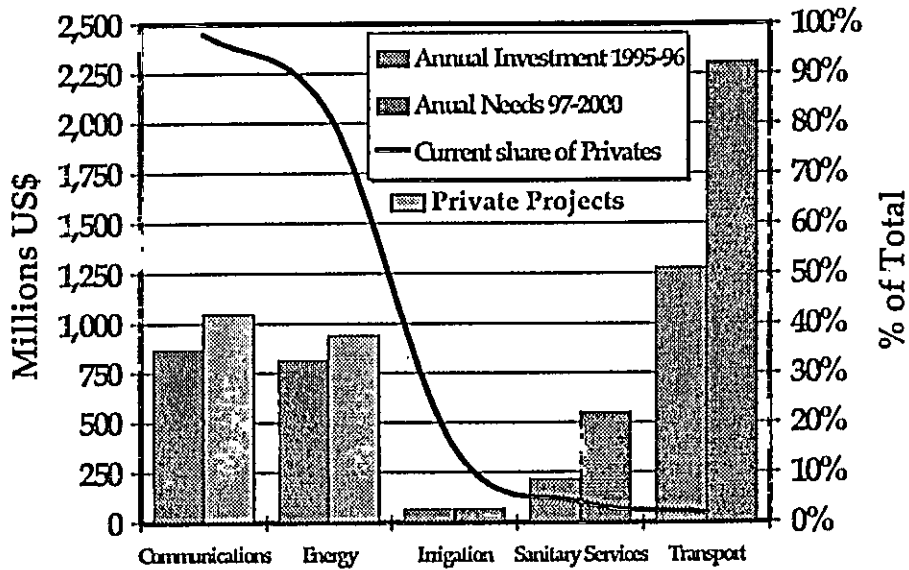
## Losses due to inadequate Infrastructure

PROBLEM	million US\$
TRAFFIC CONGESTION IN SANTIAGO .....	475
DAMAGES TO TRANSPORTED FRUIT .....	120
TRUCK DELAY AND DETERIORATION IN ROADS .....	510
PHYSICAL INJURIES FROM ACCIDENTS .....	140
HEALTH EXPENSES.....	240
GASTROINTESTINAL DISEASES .....	120
SHIP DELAY IN PORTS .....	105
<b>TOTAL YEARLY LOSSES</b>	<b>1,710</b>

## Infrastructure Condition (1995-1996)



### Current situation of Chilean Infrastructure



### Public Works Concessions Program

Group of Projects	Concessed 93-96		To Concess 97-99	
	N° Proj.	Million US\$	N° Proj.	Million US\$
Route 5	2	390.0	6	1,233.8
Rural Roads	7	567.4	5	760.0
City Street and Speedways	0	0.0	8	983.0
Airports	2	10.6	7	118.6
Multi-sector	0	0.0	5	365.0
<b>TOTAL</b>	<b>11</b>	<b>968.0</b>	<b>31</b>	<b>3,460.4</b>

*Foreing Constructors who have participated  
in Public Works Concessions Biddings*

- **Argentina**
  - Benito Roggio
  - Cartellone
  - Burwardt
- **Brazil**
  - Odebrecht
  - Andrade Gutierrez
  - Convap
- **France**
  - Dumez
  - Frame Conseil
- **Germany**
  - Zublin
- **Japan**
  - Itochu
  - Nissho Iwai
- **Italy**
  - Cogefar Impresit
  - Impregilo
  - Salini Costruttorie SPA
- **Mexico**
  - Ica SA
  - Tribasa
- **Spain**
  - Abengoa
  - Agroman
  - Dragados
  - Ferrovial
  - Huarte
  - Sacyr
- **UK**
  - Davy



**HERNAN DOREN L.**, President of the Chilean Chamber of Construction, is a civil engineer, graduated from the University of Chile's class of 1967. He currently is partner and manager of one of the country's largest civil works companies, Empresa Constructora SICAL Ltda., engaged in infrastructure works, of which it is worth to mention a few:

- ♦ the Yelcho bridge, the only cable-stayed bridge in the country, with a span of 150 meters.
- ♦ over 200 kilometers of roads in the south.
- ♦ some 2,200 meters of bridges, and
- ♦ 2 kilometers of the Santiago subway, most of it in tunnels.

In the industry, Mr. Doren has been an active participant in the Chilean Chamber of Construction, as

- ♦ National Counselor since 1991
- ♦ President of the Public Works Board
- ♦ First vice-president of the Chamber.

Mr. Doren is also a counselor to the Health Care Institution CONSALUD, since April 1993.

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