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Report No. P-6459-CH

MEMORANDUM AND RECOMMENDATION

OF THE

PRESIDENT OF THE

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

THE OF

EXECUTIVE DIRECTORS

ON A

PROPOSED LOAN

IN AN AMOUNT EQUIVALENT TO US\$120 MILLION

TO THE

REPUBLIC OF CHILE

FOR /

THIRD ROAD SECTOR PROJECT

DECEMBER 2, 1994

Senda Tree Late

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Currency Equivalents

Currency Units Chilean Peso (Ch\$)

US\$1 = CH \$ 425 (July, 1994)

Weights and Measures

Metric System

Fiscal Year

January 1 - December 31

ABBREVIATIONS AND ACRONYMS

BOT "Build, Operate, Transfer"

MOP Ministerio de Obras Públicas

(Ministry of Public Works)

ICB International Competitive Bidding

LCB Local Competitive Bidding

REPUBLIC OF CHILE

THIRD ROAD SECTOR PROJECT

Loan and Project Summary

Borrower:

Republic of Chile

Implementing

Agency:

Ministry of Public Works

Beneficiaries:

Not applicable

Poverty:

Not applicable

Amount:

US\$120 million equivalent

Terms:

Repayable in 15 years, including five years grace period,

with interest at the Bank's standard variable rate.

Commitment

Fee:

0.75% on undisbursed loan balances, beginning 60 days

after signing less any waiver.

Financing Plan:

See Schedule A.

Net Present

Value:

Expected rates of return average 30 percent for investment components representing about 41 percent of

total project cost, and 50 percent for maintenance components representing about 52 percent of total project

cost.

Staff Appraisal

Report:

Report No. 12159-CH, dated November 29, 1994.

Map:

IBRD No. 26278

MEMORANDUM AND RECOMMENDATION OF THE PRESIDENT OF THE IBRD TO THE EXECUTIVE DIRECTORS ON A PROPOSED LOAN TO THE REPUBLIC OF CHILE FOR A THIRD ROAD SECTOR PROJECT

- 1. I submit for your approval the following memorandum and recommendation on a proposed loan to the Republic of Chile for the equivalent of US\$120 million to help finance a project for road sector improvements. The loan would be at the Bank's standard variable interest rate with a maturity of 15 years, including five years of grace.
- 2. <u>Country Sector Background.</u> The structural transformation of the Chilean economy has been nearly two decades in the making. Since the mid-1980s, the macroeconomic program has brought the country to levels of growth and price stability unprecedented in its history. During 1990-93, Chile was one of the most successful Latin American countries in achieving notable economic reforms and gains. GDP growth averaged 6.4 percent yearly; inflation fell to an annual rate of 12.2 percent; and unemployment declined to 4.5 percent in December 1993 (an 18 years low). Public sector finances continued to register surpluses while the current account deficit averaged only 2.1 percent of GDP.
- 3. Notwithstanding these achievements, Chile remains susceptible to significant constraints. One is that Chile's capital stock is inadequate in important respects to sustain its past growth. A decade of underinvestment in infrastructure and neglected maintenance in the 1970s left a legacy of burdened and inadequate transport facilities, particularly in the road system. The deterioration process was partially turned around in the mid-1980s, but not to a degree sufficient to satisfy the needs of the rapidly developing economy. There are severe road capacity and quality constraints. Moreover, traffic accidents are now the third leading cause of death. A recent study estimated that in 1991-92 these problems cost the economy as much as US\$375 million annually in additional operating expenses. Product losses and impaired accessibility and safety have been harmful too. Considering that roads carry about two-thirds of total domestic freight, this base will have to be significantly strengthened for Chile to maintain its export competitiveness. Large stretches of the national network need major improvements while many main trunk and lateral roads will need to be upgraded to expressway standards.
- 4. Public infrastructure investment over most of the past 25 years has stagnated at a low 1.0-1.5 percent of GDP. To remedy this, the Government stressed transport and sewerage facilities and increased capital expenditures for this purpose between 1990 and 1993. Public investment in the road sector

during that period exceeded 47 percent of total capital spending for infrastructure. An encouraging trend has been the increased share of spending on maintenance, which more than doubled from 27.2 percent of total road expenditures in 1985 to 61.3 percent in 1991. This policy, supported by the Bank's First and Second Road Sector Projects (Loans 2589-CH and 3120-CH), has brought about notable improvements in road conditions.

- 5. Still, the long-term capital requirements for reversing the extensive deterioration of roads and for meeting expected future demands of the growing economy are expected to be substantial. The Ministry of Public Works (MOP) has estimated that annual funding would need to average US\$500 million (1992 prices) over the next four years to meet improvement and upgrading requirements together with maintenance needs. There also are requirements for streng hening safety precautions and environmental aspects. Meeting these, incidentally will necessitate remedying institutional fragmentation in the sector as well.
- 6. Significantly, since the late 1970s, the transport sector has undergone considerable restructuring in line with Cnile's strongly market-oriented economic policies. Key changes have included the elimination of subsidies, liberalization of private sector access to the road transport industry, and encouragement of private sector participation in investment and operations. Operational efficiency has increased significantly through this process. Further, although the road network is publicly owned and operated, the Government has been turning increasingly to the private sector for assistance. MOP enters into civil works contracts with private firms, which now undertake virtually all new works and 90 percent of maintenance. The Ministry's use of force account for maintenance works fell from 65 percent in 1980 to 10 percent in 1993.
- 7. In further support of these trends, the Government promulgated a law in 1991 that facilitates new public/private partnerships. Subsequently, the authorities have begun concessioning roads. In addition, they have been exploring private highway concessions for mobilizing domestic and foreign investors as possible new sources of investment finance under BOT ("build, operate, transfer") schemes. Two such concession arrangements already are in execution. The Government effectively used Bank assistance to strengthen Chile's legal, financial, and institutional framework for road concessions.
- 8. MOP is also experimenting with the use of global maintenance contracts, whereby private firms undertake maintenance works for entire road networks throughout provinces or smaller geographic areas. This simplified approach, successfully piloted in Canada and Western Europe, consolidates a series of works, and thus reduces management and supervision costs. It also can increase the efficiency of private contractors by affording them greater time and geographical horizons for planning and financing activities and for the use of specialized equipment. This type of contract can also facilitate the involvement

of local authorities to further advance Chile's decentralization of various public services. A contract for a pilot project in Chile was awarded in mid-1992 and has provided useful experience for MOP. Five more global maintenance projects have since been launched, and 13 others are in the bidding and contract awarding process.

- 9. <u>Project Objectives.</u> The proposed project has been designed to consolidate MOP's commendable progress in road maintenance administration while introducing additional policy and institutional objectives. The objectives of the proposed project are: (a) to consolidate the road maintenance and pavement management program financed under the First and Second Road Sector Projects; (b) to support the Government's privatization efforts in the road subsector through (i) the use of "global" maintenance contracts, and (ii) promotion of BOT schemes for private sector financing of road and road-related investments; (c) to improve road traffic safety on the national network; and (d) to strengthen MOP's environmental impact assessment and monitoring capacity in the road subsector. These objectives are interaied to support the government's aims of achieving greater international competitiveness and environmental protection.
- 10. <u>Project Description.</u> The proposed project will assist MOP in the implementation of its proposed 1995-1998 Road Investment and Maintenance Program which amounts to US\$1.94 billion. The proposed loan of US\$120 million will finance only key innovative sub components of the program that involve the application of state-of-the art techniques, specialized equipment or advanced know-how, closely associated with the policy and institutional objectives specified above. The project components are:
 - (a) Road Investment (40.6 percent of total project cost) includes:

 (i) road widening, road upgrading, construction of bypasses and overpasses, to be financed exclusively by the Government; and
 (ii) construction of road safety infrastructure as well as consulting services for quality control of feasibility and engineering studies for concession projects, review of the regulatory framework, and promotion of concession schemes, to be financed under the proposed loan;
 - (b) Road Maintenance (52.5 percent of total project cost) includes periodic and routine maintenance works, equipment acquisition, special maintenance operations (tunnels, weighing and toll systems, bridges, riverbank defenses, and road signs), consulting and training. The proposed loan will finance only the following subcomponents: (i) civil works "global contracts" for execution of periodic and routine maintenance; (ii) procurement of state-of-

the-art equipment for selected maintenance operations, for upgrading tunnel ventilation and traffic control equipment, and for replacement of obsolete weighing and toll station equipment; (iii) provision and maintenance of road signs and markings, and of road safety equipment; (iv) consulting services for further improving road maintenance administration, for improvement of road safety, and for strengthening MOP's institutional capacity to carry out environmental assessment and monitoring; and (v) a program for technical and study visits abroad; and

- (c) Administration (6.9 percent), of which 2.8 percent corresponds to investment and 4.1 percent to maintenance, to be financed by the Government.
- 11. Total project costs are estimated at US\$2,075 million, with a foreign exchange component of US\$1,029 million (50 percent). No physical contingencies are provided because of the sectoral nature of the project. If any arise, these would be met by program work reductions. Price contingencies are calculated, based on international inflation, at US\$136 million (7 percent of total costs). (Schedule A) The proposed loan of US\$120 million equivalent will finance approximately 6 percent of total project costs and 12 percent of foreign costs. The Government will finance the remaining foreign exchange and all local costs, including some US\$330 million in identifiable duties and taxes. Procurement and disbursement arrangements are shown in Schedule B.
- 12. Project Implementation The Borrower will be the Republic of Chile with MOP's Roads Directorate responsible for project execution. Its Works Subdirectorate will execute road safety infrastructure works. The Maintenance Subdirectorate will oversee the maintenance subcomponent (including road The environmental subcomponent will be administered by the safety). Environmental Unit within the Development Subdirectorate. MOP's newlycreated Concession Department will administer the road concession component in close coordination with the Roads Directorate. The Roads Directorate Training Unit will implement all training under the project. successful practices under past Bank-assisted projects, the Roads Directorate's Foreign Loans Department will serve as the overall project coordinator. During negotiations, agreement were reached on arrangements with the National Commission on Road Safety and the National Police for implementation of the road safety program. Agreement was also reached on the arrangements to strengthen the Roads Directorate's capabilities for environmental impact assessment and monitoring.

- 13. <u>Project Sustainability.</u> The project design will reinforce MOP's established capability in project administration, while upgrading its experience in contract administration and environmental protection. This is supplemented by the indications of continuity in policy direction and the central economic team's demonstrated support of MOP's program. Moreover, MOP's commitment to sound road maintenance policies and practices, manifest under earlier Bank-financed projects, is expected to remain firm.
- 14. <u>Lessons Learned</u>. The project design also reflects the lessons of previous Bank road activities in Chile, especially the importance of: (a) long-term Government commitment and interministerial cooperation; (b) sound management of the implementing organization; (c) a strong sectoral framework; (d) active participatory elements in project preparation; (e) flexibility of project design; and (f) follow-up activities on such long-term objectives as improved maintenance and institutional strengthening.
- 15. Rationale for Bank Involvement Support of the government's goal of achieving improved international competitiveness is a central theme of the Bank's proposed country assistance strategy. At the request of the newly elected authorities, a CAS outlining this strategy, is expected to be considered by the Board in the spring of 1995. The present strategy underscores the importance of overcoming the inadequacies of the country's infrastructure, which is one of the main growth constraints. Chile's land transport warrants special attention since it is relatively undeveloped compared to other countries at similar income levels. The proposed intervention in the transport sector is therefore fully consistent with the proposed country strategy. Moreover, the Bank is well placed to complement the Government's efforts to mobilize private financing for road building and operations, and to upgrade the quality of the Government's environmental protection activities.
- 16. Agreed Actions. During negotiations, agreement was reached on the following: (i) the detailed 1995 road maintenance program; (ii) the scope and content of the road safety program; (iii) studies to be financed for the concession program; (iv) the scope and content of the program to strengthen the Roads Directorate's capacity for environmental assessment and monitoring; (v) size and content of the project-wide training program; (vi) the Bank to be given an opportunity to comment on environmental assessment studies for subprojects not financed by the Bank; (vii) budgetary allocations for maintenance for the years 1996-1998; (viii) bidding documents for ICB for goods; (ix) modalities of disbursement; (x) special account, auditing, and reporting arrangements; and (xi) efficiency indicators and monitoring targets.
- 17. <u>Poverty Category</u>. The operation is not a poverty focused loan.

- 18. <u>Environmental Aspects</u>. The Road Directorate's capacity for assessment and prevention of environmental risks will be strengthened. The nature of most civil works involved in the project is such that no major environmental effects are foreseen. Environmental impact studies will be carried out for individual subprojects presenting higher environmental risks. The proposed project, accordingly, has been assigned a **B** classification.
- 19. <u>Program Objectives Category</u>. The project will support Government efforts to strengthen the management of the important basic infrastructure constituted by the road network. It will also support private sector development through "global" road maintenance contracts and BOT schemes.
- 20. <u>Participating Approach.</u> Representatives of road user groups and other non-governmental organizations have participated extensively with MOP and the policy department in the development of various components of the project, in particular, the safety program. They will continue to be involved actively in the implementation of the traffic safety awareness and education program.
- 21. Project Benefits. The economic analysis of the road maintenance component (over 56 percent of base costs), using the Bank's Highway Design and Maintenance Standards Model (HDM III), forecasts an internal rate of return (for the entire 1995-1998 program) of 50 percent. In addition, the main benefit of the proposed project would be prospective road system efficiency gains through increased private sector participation under the "global" contracts and "BOT" concession schemes. The project will also strengthen MOP in areas that would assume increasing importance with greater private sector participation-road safety and ensuring environmentally benign designs in combination with impact assessments and monitoring. Fewer deaths and injuries from traffic accidents should also be among expected project benefits.
- 22. Risks. The main project risks are the uncertainties related to the road safety component, an area where institutional responsibilities are fragmented and coordination is not easy. It should be possible, however, to minimize these risks by the project's phased approach to the development of a national safety program. Second, while the "BOT" scheme entails a relatively new concept in Chile, there is an adequate legal, financial, and institutional framework in place to support it. This should minimize any potential difficulties arising from the introduction of this approach. For other parts of the project, MOP Roads Directorate has a proven record of successful project implementation. Its staff continuity and effective contracting procedures augur well for successful project execution.

23. <u>Recommendation</u>. I am satisfied that the ; coposed loan would comply with the Articles of Agreement of the Bank, and I recommend that the Executive Directors approve it.

Lewis T. Preston President

Attachments

Washington, D.C. December 2, 1994

Schedule A

CHILE THIRD ROAD SECTOR LOAN

Summary of Project Cost (Millions of US Dollars at July 1994 Prices)

Description	Local	Foreign	Total	% Foreign	% of Total	
Investment	369.5	418.2	787.7	53.0	40.6	
Maintenance	487.7	530.0	1017.7	52.0	52.5	
Administration	120.6	13.5	134.1	10.0	6.9	
Base Cost	977.8	961.7	1939.5	50.0	100.0	
Price Contingencies	68.5	67.3	135.8	50.0	7.0	
Total Cost	1,046.3	1,029.0	2,075.3	50.0	107.0	

Financing Plan (Millions of US Dollars)

	Local	Foreign	Total
Government of Chile	1,046.3	909.0	1,955.3
World Bank	***	120.0	120.0
Total	1,046.3	1,029.0	2075.3

Schedule B

CHILE THIRD ROAD SECTOR LOAN

Summary of Procurement Arrangements

Project Costs by Element and Procurement Method (Millions of US Dollars equivalent)¹

	International Competitive Bidding ICB	Local Competitive Bidding LCB	Other ²	Not Bank Financed NBF	Total Cost
1. Works					
1.1 Infrastructure	di na	56.8		764.1	820.9
		(22.7)		***	(22.7)
1.2 Maintenance Periodic and Routine		160.0	17.3	775.1	952.4
	444	(64.0)	(6.9)	***	(70.9)
Other Maintenance	_	10.0	2.5	69.0	81.5
		(4.0)	(1.0)		(5.0)
2. Goods					
2.1 Equipment	10.0	7.8	2.1	15.1	35.0
	(7.0)	(5.5)	(1.5)	•	(14.0)
3. Consultancies					
3.1 Design, Supervision & T.A.	•••		8.6	29.9	38.5
			(6.9)	****	(6.9)
3.2 Training			0.5	3.0	3.5
			(0.5)		(0.5)
4. Administration	***		***	143.5	143.5
Total	10.0	234.6	31.0	1,799.7	2,075.3
	(7.0)	(96.2)	(16.8)		(120.0)

All amounts include price contingencies. Numbers in parentheses are the respective amounts financed by the Bank.

Other methods include local shopping and hiring of consultants.

Schedule B

CHILE THIRD ROAD SECTOR LOAN

Disbursement Arrangements (Millions of US Dollars)

Disbursement by Category

Category	Amount of the Loan Allocated	% of Expenditures to be Financed
1. Civil Works	98,700,000	40%
2. Goods	14,000,000	100% of foreign expenditures, 100% of the ex-factory cost of locally produced goods, and 70% of other locally produced goods.
3. Consultant Services	6,800,000	100% of foreign expenditures and 80% of local expenditures.
4. Training	500,000	100% of foreign expenditures
TOTAL	120,000,000	

<u>Loan Disbursement Schedule</u> (Millions of US Dollars)

Bank FY	1995	1996	1997	1998	1999
Annual	5	26	32	36	21
Cumulative	5	31	63	99	120

Schedule C

CHILE

THIRD ROAD SECTOR LOAN

Timetable of Key Processing Events

Time Taken to Prepare: (a)

11 months³

Prepared by: (b)

The Roads Directorate of the Ministry of Public Works.

with the assistance of the Bank.

First Bank Mission: (c)

December 1991.

Pre Appraisal Mission (d)

Departure:

November 1992.

(upgraded to Appraisal Mission in May 1993)

Post-Appraisal Mission (e)

Departure4

July 1994.

Negotiations: **(f)**

November 1994.

(g) Planned Date of

Effectiveness

February 1995.

List of Relevant PCRs (h)

and PPARS

PCR, Highway Reconstruction Project

(Loan 1927-CH), June 26, 1986.

PCR, Second Highway Reconstruction Project

(Loan 2297-CH), May 21, 1991. PCR, First Road Sector Project (Loan 2589-CH), May 19, 1991 PAR for the above three projects

(Loans 1927-CH, 2297-CH and 2589-CH), May 5, 1994.

³ However, project processing was later delayed as explained in footnote 4.

The outgoing Government requested that the final decision on the project's timetable be agreed with the new Government, which took office in March 1994.

Schedule D

CHILE

THE STATUS OF BANK GROUP OPERATIONS IN CHILE

A. STATEMENT OF BANK LOANS AND IDA CREDITS

(as of September 30, 1994) (US\$ Millions)

Loan or		US\$ Million Amounts (less cancellations)					
Credit Number	Fiscal Frage Borrower Purpose		Purpose	Benk	IDA Ur	disbursed	
45 loans a	and one cre	dit fully disbu	aed	2348.2	22.9 1/	0.0	
2651	1986	EMOS	Santiago Water Supply	54.8	-	1.5	
3028	1989	Chile	Urban Streets & Maint.	75.0	-	9.7	
3331	1991	EMOS	Valparaiso Water Supply	49.8	-	29.6	
3410	1992	Chile	Primary Education	170.0	-	120.5	
3411	1992	Chile	Public Sector Mgt	17.2	-	18.4	
9426	1992	Chile	Transport Infrastructure	71.0	-	50.8	
3427	1992	Chile	T.A. and Hospital Rehab	27.0	-	15.9	
9473	1992	Chile	Small Farmer Services	95.0	-	71.1	
3527	1993	Chile	Health Sector Reform	90.0	-	81.7	
3528	1993	Chile	irrigation Development	45.0	-	42.0	
3529	1993	Chile	Envir/Instit. Development	11.5	-	10.4	
3066	1994	Chile	Municipal Development	10.0		10.0	
rotal of which i	has been n	epaid		3,064.5 978.5	22.9 11.2		
TOTAL NO	TBTUO WC	ENIGNA		2,086.0	11.7		
MOUNT of which	SOLD has been n	epaid		7.2 7.2		-	
TOTAL NO	OW HELD !	BY BANK AND	IDA	2,078.8	11.7		
TOTAL UI	MDISBURS	ED	••			456.6	

^{1/} Includes exchange rate adjustments. The original amount of the Credit was US\$10.0 million.

Schedule D

CHILE

B. SUMMARY OF IFC INVESTMENTS

(as of September 30, 1994) (US\$ Millions)

Fiscal Years				– Origi IFC	IFC	is Commit		Held by	Held by	Undi
Committed		Obligar	Type of Business	Loan	Equity	Partic	Totals	1FC	Pertic	Par
1958/66/84		Empresa Hinera de Mantos	Nonferrous metals	19.57	4.25	15.53	39.35	•	-	
1959/65	8/	Fideos y Alimentos	Food and agribusiness	1.50	.15	•	1.65			
1960/65	8/	Cementos 810-810, S.A.	Coment and construction m	1.20	.10	•	1.30			
1963	a/		Timber, but and paper	2.10	• • •	.90	3.00			
1976	8/	Minera Sagasca, S.A.	Nonferrous metals	10.25	.45	.20	10.90			
1982	8/	Compania Chilena de	Capital markets		.20	•••	.20	_		
1986	~	Compania de Carbones de	Hining	16.50	2.20		18.70	2.20		
1986/88	8/	Cape Horn Methanol Ltd.	Chemicals and perrochemic	95.00	5.00		100.00	2.20	-	
1987/88/89		Celulosa Arauco y	Timber, but and paper	85.00	3.00	45.50	130.50	46.44	17.06	
1988	9/	The Chile Investment	Financial services	03.00		43.34		40.44	17.00	
1988	•			•	4.65		4.65		-	
1989/91		Investment Hanagement	Financial services		.06	•	.06	.06	•	_
1990		Minera Escondida Limitada		71.12	15.00	•	86.12	45.54	•	4
1990		International Investment	Financial services	-	3.75	•	3.75	•	•	
1990/93/94	8/	The Five Arrows Chi'e	Financial services	•	4.85	•	4.85	•	•	
		Celulosa del Pacifico,	Timber, pulp and paper	40.00	15.48	33.00	88.48	48.42	23.10	
1991		Companía de Teléfonos de	Industrial services	80.00	19.09	113.00	212.09	75.20	113.00	
1991		Exportadora Frutas	Food and agribusiness	•	-	•	0.00	.67	.67	
1991		Nature's Farm Products	food and agribusiness	•		•	0.00	2.25	3.38	
1991/94		Leasing Andino S.A.	Capital markets	20.00		20.00	40.00	14.75	1.00	•
1992/93		Fibranova S.A.	Timber, pulp and paper	16.00	1.93		17.93	15.54		
1992/93		Hidroelectrica Aconcagua	Industrial services	14.00	8.10	6.00	28.10	16.10	6.00	1
1992/94		Bosques y Maderas S.A.	Timber, pulp and paper	5.50	4.80	6.00	16.30	9.75	5.40	•
1994		Empresa Eléctrica Pangue	Industrial services	70.00	4.70	100.00	174.70	74.70	100.00	128
1994		Industria Azucarera	Food and agribusiness		4.70					120
1994		MONEDA Asset Hanagement		1.60	-	1.60	3.20	1.60	1.60	
1994		Pionero fondo de	Financial services	•	.20	•	.20	.20	•	
.,,,		Pronera rango ge	financial services	•	10.00	•	10.00	10.00	-	
		Total gross commitments by	•	549.34	104.96	341.73	996.03			
		Less cancellations, termin	nations, repayment & sales	240.50	50.38	70.52	361.40			
		Total commitments now held	d c/	308.84	54.58		634.63	363.42	271.21	133
		Pending commitments								
		Empresa Eléctrica Pangue MERSA	Industrial services	7.00	3.00	50.00	50.00 10.00			
		Total pending commitments		7.00	3.00	50.00	60.00			
		Total commitments held and	i pending commitments	315.84	57.58	321.21	694.63			
		Total undisbursed commitme		39.09	4.75	90.00	133.84			

a/ Investments which have been fully cancelled, terminated, written-off, sold, redeemed, or repaid. b/ Gross commitments consist of approved and signed projects. c/ Held commitments consist of disbursed and undisbursed investments.

