

NATIONAL ROAD CORRIDORS PROGRAM

(AR-0128)

EXECUTIVE SUMMARY

BORROWER AND GUARANTOR: Republic of Argentina

EXECUTING AGENCY: Dirección Nacional de Vialidad [National Roads Directorate] of the Ministry of Economic Affairs and Public Works and Services

AMOUNT AND SOURCE:

IDB:	US\$340.0 million
IBRD:	US\$ 61.4 million
EIB:	US\$ 50.0 million
Local counterpart funding:	<u>US\$266.6 million</u>
Total:	US\$718.0 million

TERMS AND CONDITIONS:

Amortization period:	20 years
Disbursement period:	4 years
Interest rate:	variable
Inspection and supervision:	1%
Credit fee:	0.75%

OBJECTIVES:

The general objectives of the national road corridors program are: (i) to support the changes needed to rationalize road transportation in Argentina; (ii) reduce transportation costs and improve safety conditions on the highways in order to make Argentine products more competitive both on the local and international markets and facilitate regional integration; and (iii) strengthen the technical and administrative capacity of the Dirección Nacional de Vialidad [National Roads Directorate] (DNV) to enable it to fulfill the planning, administrative and normative role assigned to it.

The specific objectives are: (i) to eliminate the physical obstacles that restrict road capacity, increase operating costs or generate risks for users all along the corridors; (ii) rehabilitate or reconstruct all those segments that are in poor condition; and (iii) establish the systems that would allow the DNV to guarantee the resources needed and employ the most suitable means of maintaining an appropriate and homogenous level of service throughout the road corridors.

DESCRIPTION:

The operation was designed as a multiyear program that would comprise: (i) all works for road improvement, paving and rehabilitation to be executed during the 1994-1997 period, in seven of Argentina's principal road corridors; (ii) periodic or routine maintenance works to be done in those corridors during the same period; (iii) procurement of equipment, engineering instruments and installation of data-collection and processing systems to help modernize the DNV; and (iv) development of technical assistance activities in support of the DNV decentralization and reform process.

The works mentioned will be financed with resources contributed by the Bank and from other sources, including: Loan 3633-AR of the World Bank (IBRD); a loan being negotiated with the European Investment Bank (EIB); allocations to DNV from National Treasury Funds (FTN); and revenue from tolls collected by the concession-holders on the segments administered on that basis.

The resources contributed by the Bank will be used to finance: (i) improvement and paving of approximately 1,850 km of the national road system; (ii) consulting services for feasibility, environmental and engineering studies and for program administration; (iii) procurement of engineering equipment and instruments; and (iv) technical assistance for institutional strengthening.

**ENVIRONMENTAL
CLASSIFICATION:**

The Environmental Management Committee, at its meeting of May 18, 1992, classified this as a Category III operation, and approved the environmental summary at its meeting of October 26, 1993.

BENEFITS:

Execution of this plan will make for considerable improvement in the condition of the whole length of the seven corridors, representing approximately 30% of the national network. The investments will be used essentially to reduce vehicle-operation costs, and to a lesser extent the annual road maintenance costs and users' travel time. These savings constitute most of the benefits. By strengthening the operational and support systems and personnel training, the technical-cooperation operations will enable the DNV to carry out its functions more efficiently and will expedite development of the road reform process. Road efficiency will be improved owing to changes in transport policies envisaged in the program.

RISKS:

The design and formulation of the proposed program provides for technical measures to minimize the

potential risks which, by their nature, affect the executing agency's availability of sufficient institutional and financial capacity to fulfill the annual goals and actions in a timely manner. One possible risk relates to the large number of bidding operations and competitions, and to the administration of the respective contracts to which the DNV will have to attend over the next four years. In order to reduce this risk, the program includes implementation of the recently created Coordinating Unit (CU-IDB). A consulting firm will be hired to support the CU-IDB and DNV at the managerial and technical levels, providing services throughout the period of program execution. No special risk is foreseen in terms of the annual local counterpart for the proposed loan, given the importance that the Argentine Government has accorded to recovery of the national network as a fundamental element in its road reform policy.

An additional risk would be the delay in adjustments in subsector policies, such as those cases where it is necessary to formulate and approve regulations for their implementation. However, given the government's will to make the transportation sector more efficient, no inordinate delays are expected.

**THE BANK'S
COUNTRY AND
SECTOR STRATEGY:**

The Bank's strategy in Argentina has been divided into two stages, the first, recently completed, has consisted of supporting consolidation of economic stability through a series of sector adjustment operations, in parallel with the IBRD, for reform of the public sector, to promote the privatization and/or concession of public companies and the process of renegotiating the foreign debt. The second stage, initiated in 1993, comprises support for the investments needed to consolidate the achievements which were halted during the years of instability and which had low priority during the consolidation process. These investments are necessary for improving the provision of services to the social sectors, protection and conservation of the environment, and those needed by both the public and the private sector to improve competitiveness in national and international markets.

In the transportation sector the Bank's strategy supports those actions that would help to: (i) reduce export costs of Argentine products in order to improve their conditions of competitiveness in foreign markets and increase the volume of exports; and (ii) facilitate Argentina's economic integration with its neighbors and MERCOSUR partners.

I. FRAME OF REFERENCE

A. Introduction

- 1.1 Over the past three years a favorable change has come about in the Argentine economy, in contrast to the shrinkage in per capita income, high inflation and severe public sector deficit of the preceding decade. However, the new economic dynamism has pointed up the need to improve the country's transport infrastructure, which suffered from neglect during the recession years, and to support the productive sectors in order to boost their output and increase the volume of exports.

B. The transport sector

- 1.2 The transport sector plays an important role in Argentina's economic development. During the period 1988-1992 it accounted for around 5.2% of the gross domestic product (GDP) and between 12% and 16% of total public investment. It is also estimated that transport costs represent 8% of aggregate production costs and 6% of the country's export costs.
- 1.3 A large part of Argentina's population and economic activity is concentrated in a few large cities (70% of the country's total population lives less than 600 km from the capital, in an area that accounts for almost 85% of GDP), while the rest is spread over numerous small interior cities. The land transport system is accordingly an extensive one with relatively low traffic volumes, especially on the roads away from the urban centers and the main trunk routes.
- 1.4 Road transport, the problems of which are explained in detail further on, is served by the national, provincial and municipal networks. The country's road density (disregarding local roads) is 0.08 km/km², which gives an idea of how scattered the urban centers are and of the large distances separating them, and how essential it is to have an efficient system of trunk highways that facilitates domestic and international traffic and keeps transport costs at reasonable levels.
- 1.5 Rail transport, which used to be very important, has been hard hit by competition from the roads and uninspired management. The total rail system, which amounted to approximately 41,700 km in 1970, is today 35,745 km and over half of the lines in operation are in poor shape, as is the rolling stock.
- 1.6 The port system is made up of 64 public ports and 21 private terminals, which play a highly important role in Argentina's foreign trade since historically 95% of the country's import and export freight has passed through these ports. Over recent years this volume has become steadily smaller and the records show that

in 1991 the ports handled 89.4% of all freight at national level. The investments and management of the public ports have not been efficient, with the result that their operating costs have been among the highest in the world.

- 1.7 The Argentine government, aware of the critical situation of the sector and of the reasons behind it (poor management, excessive state involvement, neglect of infrastructure maintenance and lack of free competition), has taken various steps to resolve the current problems, with emphasis on a broad-ranging privatization program involving primarily sale of state transport enterprises and the granting of concessions to: (i) rehabilitate and maintain part of the roads forming the country's trunk highway system; (ii) operate and maintain almost all the rail lines (including the Buenos Aires subway system; and (iii) manage the operation of the port facilities in the majority of the national ports.
- 1.8 In accordance with these policies the Argentine government has turned over approximately 8,900 km of roads to the private sector on a concession basis in exchange for tolls; delegated to the provinces the maintenance of 2,900 km of roads; sold off the state airlines Austral and Aerolíneas Argentinas; approved a new Ports Law that will make it possible to grant concessions for cargo-handling services, storage, dredging, and canal maintenance and operation; and approved a decree for deregulation of medium- and long-haul public passenger services. A letter of intent dated September 17, 1993, from the Secretariat of Public Works and Communications summarizes the current economic situation of the country in general and of the transport sector in particular, and defines the policies that the government will implement in the road subsector. The main policies focus on: (i) granting the private sector concessions covering the busiest stretches; (ii) assigning priority to maintenance of the national road system, with a guaranteed appropriation of US\$40 million per year for the network not covered by concessions; (iii) deregulation of road transport; (iv) implementation of the road reform (see para. 1.18); and (v) improvement of road access to the major cities.

C. Road transport

1. Road infrastructure

- 1.9 Argentina's road network comprises a total length of 216,500 km, of which approximately 37,800 km belongs to the national system under the jurisdiction of the National Roads Directorate [Dirección Nacional de Vialidad] (DNV) while the other 178,700 km belongs to the provincial networks handled by the Provincial Roads Directorates [Direcciones Provinciales de Vialidad] (DPV).

Total length of Argentine road network - by type of surface (1991 data)					
Jurisdiction	Paved	Gravel	Dirt	Length (km)	(%)
National (DNV)	28,625	6,150	3,053	37,828	17.5
Provincial (DPV)	33,191	30,771	114,779	178,741	82.5
Total	61,816	36,921	117,832	216,569	100.0
Percentage	28.5	17.0	54.5	100.0	

- 1.10 There are variations in quality and capacity problems in the national trunk highway system which mean that many segments of this system need to be upgraded to bring them up to the standards required to meet the demands of present-day and future traffic and to ensure standardized service levels. As can be seen from the above table, the national network is not paved all over and some 24% of its length is still gravel or even dirt surfaced.
- 1.11 Moreover, due to traffic and weather-induced wear, the scant attention given to maintenance and the dearth of resources over recent years, the general condition of the paved stretches has been gradually deteriorating to such an extent that, by the end of 1991 more than 56% of the paved length had fallen below acceptable standards.

2. Subsector policies and investment plans

- 1.12 The policies that currently guide development of the road subsector are aimed primarily at: (i) supporting the government's economic strategy, which is based on increasing national output and exports, by reducing transport costs so as to improve the competitiveness of Argentine products in the domestic and export markets; (ii) facilitating the physical and economic integration of the countries of the region, and particularly the members of the Southern Cone Common Market (MERCOSUR), by consolidating the road links with them and making international passenger and freight traffic more convenient and safe; and (iii) deconcentrating road administration and increasing the private sector's participation in the execution of rehabilitation and maintenance work, with the aim of achieving greater efficiency in the use of available resources.
- 1.13 In furtherance of these policies, at the beginning of 1991 DNV made an assessment of the upgrading, rehabilitation and maintenance needs in the national network, in order to design a strategy for ensuring an adequate level of service so that vehicles using these roads will be able to operate smoothly, safely and economically.
- 1.14 Taking into account the deterioration of the national system, the government decided to grant concessions to private contractors to

handle road maintenance for a period of 12 years on approximately 8,900 km of highways on which implementation of a toll system was considered feasible. There were some problems to begin with owing to the high toll rates initially set, but the government resolved these by lowering the tolls, introducing amendments in the concession contracts and actually subsidizing the operation of certain stretches. This concession system brought about an appreciable improvement in almost 20% of the national network in a short time. Nevertheless, the economic benefits of this modality will have to be properly evaluated in a study to be made with World Bank funding.

- 1.15 Simultaneously with the above decision, DNV as the agency responsible for the national road system ^{1/} formulated a Public Works Plan (PWP) for the period 1993-1997, setting out the investments needed to improve the condition of the segments of the national system not covered by concessions. This plan envisions investments totalling some US\$1.5 billion with financing based on: (i) a World Bank loan for execution of a rehabilitation and maintenance program covering a large part of the national road system; (ii) the present operation; (iii) a loan from the European Investment Bank (EIB); and (iv) increasing of the appropriations from National Treasury Funds [Fondos del Tesoro Nacional] (FTN).
- 1.16 On October 1, 1993, Loan Agreement 3633-AR was concluded with the World Bank, for US\$340 million, for execution of a Sector Project for Road Rehabilitation and Maintenance the total cost of which will be US\$756 million and which will comprise basically: (i) rehabilitation of 240 km of roads; (ii) periodic maintenance of 7,500 km of paved roads and 1,800 km of unpaved roads; (iii) routine maintenance of 18,000 km of paved and 9,000 km of unpaved roads; (iv) various emergency works due to flooding; (v) consulting services for engineering studies and work supervision; and (vi) technical assistance and equipment for institutional strengthening of DNV and the DPVs.
- 1.17 The EIB loan, which will cofinance this operation, is under negotiation and will be earmarked for financing the reconstruction and improvement of specific stretches and works located in some of the road corridors forming part of the program and comprising approximately 180 km. The estimated amount of this operation is US\$50 million.

3. Administration and maintenance of the national road network

- 1.18 At the beginning of 1991 the government, in light of the poor condition of the network and DNV's weak institutional capacity following the deterioration caused by the acute budget crisis of the 1980s, decided to launch what was termed the "road reform"

^{1/} Pursuant to Presidential Decree 616/92 of April 10, 1992.

program, which includes some important elements: allowing greater private sector participation in road maintenance; progressive delegation of activities to the DPVs; and decentralization of the functions so far concentrated in DNV's head office to its regional offices.

- 1.19 With this road reform program, DNV will have less direct responsibility for construction and maintenance works while the private sector's participation and delegation to the provinces will increase. This process entails the need to institutionally strengthen not only DNV and its regional offices, but also the provincial agencies so as to enable them to assume their new roles in the future. The World Bank loan accordingly includes a sizable technical-assistance component aimed at facilitating this reform process by strengthening of the budget administration systems, development of personnel policies, training in management processes and technical and administrative training at the regional and provincial levels. For its part, the operation financed by the IDB will place emphasis on technological modernization, maintenance information and administration systems, control of environmental impacts of road works and training in institutional and financial analysis.

4. Other problems of the road subsector

a. Road safety

- 1.20 The government authorities are well aware that the large numbers of traffic accidents are a problem requiring urgent attention; however, there is no conceptual definition for handling the subject of road safety and a system is needed for gathering and analyzing accident data that will make it possible to identify the most effective measures for preventing accidents. The technical assistance program financed by the World Bank accordingly includes funds for analyzing this problem, setting up a system for gathering and processing data and formulating appropriate plans and policies. The necessary follow-up work will be effected in the program to ensure that accident-prevention measures developed as a result of these studies are in fact implemented.

b. Control of vehicle weight

- 1.21 A recent check showed that more than half the trucks arriving in the port of Buenos Aires were overloaded up to 35% over the legal limits. To date it has not been possible to quantify the impacts of this overloading on the existing road infrastructure or to implement an effective vehicle weight control system. The contractors awarded concessions to maintain about 30% of the national road network are under a contractual obligation to install scales and to check truck weights, but the efficacy and economic value of these checks have not been evaluated. In addition, the DNV districts are also conducting checks, though in an ad hoc and

uncoordinated fashion, and apply different fines depending on the provinces.

- 1.22 The World Bank is to finance a study for the purpose of defining an efficient control system and setting up a single and standardized regulatory framework that would be applied nationwide, and establishing the role of DNV in the implementation of this system. The results of these studies will be evaluated by the IDB and support will be furnished for such measures as are considered appropriate in the context of the execution of the proposed program.

c. User charges

- 1.23 The scale of the road expenditures planned over the coming years, the introduction of tolls on the roads covered by concessions and recent measures such as the elimination of the taxes on diesel fuel, necessitate a review of the present system for recovering road costs. The technical assistance financed by the World Bank includes execution of a study to determine a cost-recovery system that will be efficient and will ensure an equitable contribution by users. The IDB will follow the progress of this study in the context of the execution of this program, and will support such changes and steps as are needed.

D. Bank experience in the subsector

- 1.24 The transport sector has featured relatively modestly in total Bank lending to Argentina. Since 1961 the Bank has approved eight loans, intended for four programs in the road subsector and aggregating US\$237.5 million.
- 1.25 The experience gained in the execution of those loans has little relevance for the present operation in view of the length of time that has elapsed since the last one, and the extensive changes that have occurred in the subsector and in the executing agency as described in chapter IV.
- 1.26 DNV has engaged two national experts to form a Program Coordination Unit (CU-IDB), which will be supported by a consultant specialized in executing projects with international agencies. As part of their duties, these experts will be assigned in the coming months to speeding compliance with the conditions precedent to the first disbursement from the IDB loan and preparing the documentation necessary for prompt commencement of the bidding and contract award processes for the works and services included in this loan.

E. Connection of the programs with the Bank's strategy in the subsector

- 1.27 The CPP for Argentina, approved in March 1992, notes that priority should be given to actions that will contribute to: (i) reducing

the costs connected with exporting Argentine products, so as to improve their competitiveness in foreign markets and boost the volume of exports; and (ii) facilitating greater economic integration of Argentina with its neighbors and partners in MERCOSUR. The Bank's support to the subsector is accordingly focused on rehabilitating and upgrading of the country's most important road corridors with a view to reducing transport costs.

- 1.28 The program is consistent with the Bank's strategy and the Argentine government's policies of fostering recovery of the productive sectors and increasing their competitiveness in international trade as a means for ensuring expansion and stabilization of the Argentine economy. At the same time, the program is in harmony with the economic and social goals expressed in the MERCOSUR agreements.
- 1.29 The program will support the government's efforts to modernize the transport system and make it more efficient; it will enhance DNV's capacity to plan and administer the use of resources for road upgrading and maintenance and will facilitate DNV's transition to the regulatory and management role it should perform in the process of the economic opening of the State and of decentralization and privatization of the sector.
- 1.30 The works in the road corridors will eliminate congestion problems that have been occurring in some segments, while also improving traffic safety and reducing transport costs. At the same time they will help to revitalize the economy by imparting a new impetus to the construction industry and creating new employment opportunities in various parts of the country.

II. THE PROGRAM

A. Objectives

- 2.1 The general objectives of the National Road Corridors Program are to: (i) support the process of change for rationalization of road transport in Argentina; (ii) reduce transport costs and improve safety on the roads with a view to enhancing the competitiveness of Argentine products in both the local and international markets and facilitating regional integration; and (iii) strengthen the technical and administrative capacity of the National Roads Directorate (DNV) to enable it to perform the planning, administrative and regulatory role assigned to it.
- 2.2 In their turn, the specific objectives of this program are to: (i) eliminate the physical constraints that restrict road capacity, increase operating costs or create risks for users along the entire length of the roads; (ii) rehabilitate or rebuild those segments that are in bad condition; and (iii) establish systems that will enable DNV to ensure that the necessary funds will be available and use the most appropriate means for maintaining an adequate and standardized level of service on all trunk highways.

B. Description

1. Characteristics of the operation

- 2.3 This operation has been designed as a multiyear program that will include: (i) all road improvement, paving and rehabilitation work to be performed during the period 1994-1997 in seven of Argentina's main road corridors, financed with Bank funds or with funding from other sources; (ii) the periodic and routine maintenance to be done on those corridors during the same period; (iii) procurement of equipment and engineering instruments and installation of data gathering and processing systems to contribute to the technological modernization of DNV; and (iv) performance of technical-assistance activities to support the decentralization and reform of DNV.

2. Sizing of the program

- 2.4 The program was sized following a two-stage process: first the national road corridors that contribute most to accomplishment of this operation's objectives were selected; then, the global investment requirements for improvement, paving and rehabilitation and road maintenance considered necessary for ensuring a standard level of service in the corridors selected were identified, together with some alternative routings, construction of which would make it possible to reduce transport distances.

- 2.5 The selection of the seven corridors forming the program was based on the fact that they: (i) link the country's most important production centers with sea and river ports and border crossings; (ii) carry relatively high traffic volumes; (iii) form part of the main trunk routes for goods and passengers among the MERCOSUR member countries and other neighboring countries; and (iv) make up the basic road network of the Southern Cone and of the Andean Highway System. These corridors, which are shown on the map, total approximately 10,700 km, including 3,600 km of highway concessions (CCV) awarded to private firms.
- 2.6 For the case of the upgrading and paving works, the investment needs were quantified and the physical goals set by identifying the unpaved stretches, the stretches whose technical characteristics are inadequate for the projected traffic and the places where execution of alternatives is warranted in order to shorten distances. The improvement projects identified during preparation of the program will be the subject of an economic prefeasibility evaluation and will be ranked on the basis of the results. Each year projects will be selected for incorporation in the program, on the basis of the economic priority established, as well as other criteria such as the advantage of grouping works into packages according to their geographical location or of expanding some corridors. The projects to be financed by the Bank during the first year of the program have not been chosen on the basis of the above-mentioned ranking system, but are instead made up of the program's representative works for which engineering studies exist. To be included in the program, projects must satisfy the eligibility requirements mentioned in Annex A to the loan contract. ^{2/} The investment needs for road rehabilitation and maintenance and the respective goals were determined taking into account the results of application of the World Bank Highway Design and Maintenance Model (HDM-III) and the conditions laid down in the road concessions included in the seven corridors.
- 2.7 The program also includes procurement of equipment and engineering instruments and data-processing equipment, together with technical assistance activities designed to strengthen DNV's technical and administrative capacity to perform efficiently the planning, administrative and regulatory role assigned to it.

3. Goals and expected results

- 2.8 The following table sets out the program's physical targets, distinguishing the types of work to be done, estimated lengths and the sources of financing envisaged for the period considered.

^{2/} Appendix III, para. 8.01

Physical targets of the program for 1994-1997 (in km)						
Type of works	FTN	IDB	IBRD	EIB	CCV	Total
Improvement and paving		1,850		180		2,030
Rehabilitation	520		860		790	2,170
Periodic maintenance	260		700		1,580	2,540
Routine maintenance	14,800		8,000		12,640	35,440
Total 94/97	15,580	1,850	8,560	180	15,010	42,180

- 2.9 Execution of this program will substantially improve the present condition of the entire length of the seven corridors, which represent approximately 30% of the national network. It is estimated that with the works and maintenance programmed the present state of the stretches not covered by concessions (approximately 7,100 km) will develop as shown in the following table since an effective monitoring system, implementation of which forms part of the program action plan, will make it possible to ensure that the 3,600 km covered by concessions will be maintained at a service level compatible with the standards set for all the corridors.

Development of state of stretches not covered by concessions (in % of total length)					
Year	Type of surface		State of paved stretches		
	Paved	Unpaved	Good	Regular	Poor
1993	82%	18%	42%	26%	32%
1994	86%	14%	60%	16%	24%
1995	90%	10%	76%	12%	12%
1996	85%	5%	85%	10%	5%
1997	100%	0%	90%	10%	0%

- 2.10 Moreover, by the end of the program execution period the systems for gathering and processing the data necessary for the planning and control of road investments should be in place, together with those that will facilitate technical and administrative control of the contracts, agreements or concessions through which the maintenance work will be done, so as to ensure efficient operation and maintenance of the national network for which DNV is responsible. As a result of the implementation of the training and technology transfer programs, DNV will also have the professional and technical staff needed to provide the operating continuity necessary for the systems installed.

4. Description of IDB-financed components

2.11 The funds provided by the Bank will be used to finance the following components:

a. Road upgrading and improvement

2.12 This component will be used to upgrade the present characteristics of the unpaved stretches so that they will be able to carry the projected traffic efficiently in the years ahead. It also includes improvement of the geometric characteristics of some stretches and construction of alternatives found to be feasible for cutting distances, easing congestion or avoiding high-risk areas. The length involved is some 1,850 km.

2.13 The main items contained in the proposed works are: (i) earth-moving to substantially improve vertical and horizontal alignments; (ii) construction or expansion of the system of surface and underground drainage; (iii) construction, rebuilding or strengthening of bridges and structures; (iv) construction or rehabilitation of pavement, in accordance with the requirements of the projected traffic; and (v) installation of signs and other features in the interest of user safety and to reduce the risks of accidents.

b. Procurement of engineering equipment and instruments

2.14 DNV's equipment and machinery is over 15 years old on average, which means that much of it is technologically obsolete and inefficient or has already exceeded its economic life. The reform process that has been targeted in DNV, under which private enterprise is being given a larger role in the execution of works and maintenance, makes procurement or renewal of conventional road-building equipment less and less necessary. Nevertheless, there are certain possible tasks for which special equipment may be needed to take care of emergency situations that could hinder traffic or restrict the capacity of important stretches of roads. The items to be procured will be specialized equipment to be used mainly for snow removal and setting up temporary bridges. They also include certain types of units that DNV does not currently possess, for assistance in case of accidents and to control fires and spills of flammable or toxic materials.

2.15 The Bank funds will also be used to purchase electronic engineering, measurement, pavement evaluation, works control, data-processing and automated design instruments that will help in the technological modernization of DNV, while there will be verification and control procedures that are more consistent with the new planning and control functions to be performed by the agency in the future.

- 2.16 Funding will also be considered for improving the equipment of the various DNV offices involved in the administration of the Bank loan and the execution of the program. It is thought that by providing them with the means to speed the exchange and dissemination of information and improving their working environment, it will be possible to obtain a substantive increase in the productivity of their personnel and, hence, in the quality and degree of performance of the tasks assigned to each of these offices.

c. Technical assistance for institutional strengthening

- 2.17 The technical assistance component is intended to support implementation of the systems and policies that will consolidate the decentralization of the road administration, improve the effectiveness and efficiency of the use of the resources for road construction and maintenance, protect public property and provide greater safety for users of the national road network. The studies and other consulting services that the IDB will finance are based on or complement those that will be funded by the World Bank, so proper coordination will be maintained during their execution to ensure coherent results.
- 2.18 The consulting services that will form part of this component cover the following aspects: (i) development and implementation of a Basic Information System (BIS), based on a geographic information model, in which all the information subsystems necessary for the planning and preparation of road projects will be integrated and harmonized; (ii) development and implementation of a Road Administration System (RAS) that will facilitate the programming, control, and evaluation of the results of the road rehabilitation and maintenance activities; (iii) staff training for the institutional and financial evaluation of the regional, district and provincial levels, in order to determine their aptitude to assume certain functions; (iv) design of a suitable mechanism that will enable the Concessions Control Agency to assess complaints by users of roads operated under concessions, deliver a rapid response and rate the concession-holder's performance; (v) evaluation of the Internal Audit Office, development of training courses and preparation of operating manuals; (vi) technological modernization of DNV, by means of theory and practical courses on use of new equipment and methodologies that will speed their operating procedures for reviewing studies and designs and quality control of works, together with formulation of pilot projects for the introduction of new road construction and maintenance techniques; (vii) training of the DNV regional offices in the management, administrative and technical functions they will have to assume when the agency is decentralized; (viii) technical support for the DNV Environmental Unit for implementation of the environmental impact control procedures in road works and the setting up of an agreement to facilitate application of the indirect control measures in the Nahuel-Huapi National Park; (ix) execution of an international traffic study in the road corridors; and (x) execution of a

methodological study for analysis of the problems of access to cities, in connection with road corridors.

d. Engineering and administration of the program

- 2.19 This component will comprise: (i) the services of a consulting firm to assist the Coordination Unit (CU-IDB) in its work of administering and inspecting the activities connected with execution of the program, and also to advise the line units in the development of the technical assistance programs and training actions; (ii) the execution of the economic, environmental and engineering studies for the Bank-financed projects, that will be included in the program as of the second year; and (iii) the supervision and technical control of the upgrading and paving works that will be financed by the Bank.

e. Finance charges

- 2.20 The finance charges comprise: (i) the interest payable on the Bank loan during the execution period; and (ii) the Bank inspection fees equivalent to 1% of the loan total.

5. Components financed by other sources

a. Other improvement and paving works

- 2.21 In addition to the improvement works financed by the Bank, provision has been made in the program for execution of 180 km, which form part of the corridors and are located in the provinces of Corrientes and Misiones, to be financed by the EIB.

b. Road rehabilitation

- 2.22 This consists mainly of replacing or strengthening the pavement on the segments whose wearing surface is in a state of advanced deterioration or shows signs that it is structurally inadequate to support the traffic forecast for the coming years. It also includes repairs or works to expand structures, and drainage, signs, and other road safety measures. This component, comprising approximately 1,380 km, will be financed for the most part with resources from IBRD Loan 3633-AR and the FTN. In addition, through the concession system, it is estimated that rehabilitation works on an additional 790 km will be covered.

c. Periodic maintenance

- 2.23 This includes the placing of bituminous surfacing, asphalt seal, or surface treatment, to compensate for wear and tear and prevent deterioration of the wearing surface of paved roads. It is estimated that during the period covered by the program such works will be carried out on approximately 2,540 km, using resources

from the IBRD loan and the FTN, as well as funds invested by the concession-holders.

d. Routine maintenance

- 2.24 These are the works which must be carried out on a recurrent basis every year in order to correct any defects that appear on the wearing surface and to preserve the drainage system, road safety features and the areas adjacent to the road to operate effectively. During the period 1994-1997 these works should be performed on the entire length of the corridors, except those segments where other types of works are in progress. Resources from the IBRD loan, the FTN and the concession-holders will be used for that purpose.

C. Cost and financing of the program

1. Total cost of the program

- 2.25 It is estimated that the total cost of the program will be US\$718 million, which will be financed as shown in the following table.

2. Recovery of loan 753/OC-AR

- 2.26 The table includes, under reimbursement of PPF funds, US\$1.5 million intended for amortization of loan 753/OC-AR. This sum was used to finance the studies of the projects proposed for execution in the first year, and will be deducted by the Bank from the first disbursement in order to be paid back into line of credit 003/PPF-AR.

Cost and financing of the program (in US\$000s)					
Investment categories	IDB	EIB	IBRD	FTN	Total
1. Engineering and administration	15,600	4,200	6,930	16,513	43,243
1.1 Coord. and administration	1,800		1,800	2,000	5,600
1.2 Studies and designs	6,000	1,500	1,500	4,000	13,000
1.3 Works supervision	7,800	2,700	3,630	10,513	24,643
2. Direct costs (*)	276,100	45,800	44,595	242,987	609,482
2.1 Road works	273,100	45,800	43,300	242,987	605,187
2.2 Procurement	3,000		1,295		4,295
3. Associated costs	3,900		9,875	1,600	15,375
3.1 Technical Assistance	2,400		9,875	1,600	13,875
3.2 Reimbursement PPF Funds	1,500				1,500
4. Finance charges	44,400			5,500	49,900
4.1 Interest	41,000				41,000
4.2 Credit fee				5,500	5,500
4.3 IDB inspection	3,400				3,400
Total	340,000	50,000	61,400	266,600	718,000
(%)	47.4%	7.0%	8.6%	37.1%	100%
(*) Does not include sums spent on maintenance performed by concession-holders.					

3. Bank participation in the financing of the program

- 2.27 The Bank share will be of up to US\$340 million equivalent from the ordinary capital (OC), which represents approximately 47.4% of the total investment and maintenance expenditures that will be effected in the seven corridors forming the program, without considering the amounts spent by the concession-holders on the stretches for which they are responsible.

4. Cofinancing

- 2.28 The program will be cofinanced by the EIB in the amount of US\$50 million to finance the reconstruction and improvement of specific segments located in certain of the road corridors, and by the World Bank in the amount of US\$61.4 million, as part of the loan for the Road Rehabilitation and Maintenance Sector Project that will finance rehabilitation and maintenance.

III. EXECUTION OF THE PROGRAM

A. Executing agency

- 3.1 The program will be executed by DNV, the National Roads Directorate, through its four operating departments: Planning, Research and Control; Road Works and Services; Road Reform; and Administration. These departments' activities regarding the program will be coordinated by the Coordination Unit established in DNV, with direct access to the Administrator General, to serve as a permanent liaison between DNV and the international agencies that will help fund the program (IDB/EIB and World Bank).

B. Status of preparation of the program

- 3.2 DNV, using funds from the Project Preparation Facility (PPF) financed through Loan 753/OC-AR, hired the necessary consultancy services at the end of July 1993 to review, update and complement the engineering designs and determine the economic and environmental feasibility of six projects prepared by DNV, the works for which will be financed with the Bank loan with execution to start in the first year of the program. The engineering designs, together with the bidding documents, will be ready in the course of December next.
- 3.3 Preparation of the technical documentation has started in order to be able to initiate, once the studies under way are approved, the bidding and contract award processes for works and consulting services for supervision of these works. The DNV authorities and the Bank have also reviewed and agreed on the terms of reference for hiring the consulting firm that will support the CU-IDB and for other technical-assistance components that will be financed by the Bank. The pertinent General Procurement Notice (GPA) for this operation has been agreed on with the government.
- 3.4 The works of rehabilitation (approximately 820 km) and periodic maintenance (500 km) to be performed during 1994, with funding by the IBRD loan, were selected and ranked using the HDM-III Model and the relevant designs have been completed. The project team considers this procedure appropriate and views the results obtained for 1994 as satisfactory. The aforementioned loan is already in effect and the bidding and contracting in respect of these works have already begun.
- 3.5 The Argentine government has received the formal invitation from the EIB to open the negotiations prior to approval of the US\$50-million loan to be provided by the EIB to finance improvement of approximately 180 km included in the program, so it is expected that the contracts for these works will be let in the first half of 1994.

- 3.6 DNV has also identified other works and road maintenance activities (approximately 450 km for rehabilitation and 250 km for periodic maintenance) that need to be done in the corridors, which will be financed exclusively with FTN resources beginning in 1994. Already under way are the technical and economic studies needed to confirm their feasibility, which is a requirement for eligibility as a counterpart contribution to the program.
- 3.7 In light of the environmental characteristics of the areas where the projects are located and of the nature of the works to be carried out, this program has been classified in Category III. The Environmental Summary of the program was approved by the Environmental Management Committee (CMA) at its meeting of October 26, 1993.

C. Execution of the program

1. Administration of the program

- 3.8 The administration and coordination of the program will be handled by the CU-IDB, formed recently in DNV, to perform the following functions: (i) coordinate the activities of all the DNV line units that are directly or indirectly involved in the execution of the program; (ii) conduct the permanent follow-up and promote the actions necessary for ensuring compliance with the program's commitments and objectives; (iii) prepare the technical and administrative documentation for the bidding for selection and contracting of the consultancy services that will be required for performance of the studies, works supervision and technical assistance; (iv) follow up the bidding processes and administer the works execution contracts; (v) participate in and provide the necessary information for evaluation of the execution of the annual programs and the preparation of the programs for the following years; (vi) check on the progress of the technical, economic and environmental studies that will be included in the program and will be submitted to the Bank for possible financing, as of the second year; (vii) coordinate and supervise the execution of the technical assistance and institutional-strengthening components and participate actively in the approval and implementation of the recommendations flowing from them; and (viii) maintain permanent coordination with the Bank and prepare all the technical, economic and financial reports and other documents required for administration of the program and the components financed by the Bank loan.
- 3.9 To advise and assist the CU-IDB in its multiple tasks, provision is made for the hiring of a consulting firm with proven experience in this type of service. The specialists on the team appointed by this consulting firm will also be required to contribute to the technology-transfer and personnel training process of DNV, coordinating and taking an active part in the basic and advanced training programs.

- 3.10 These consulting services are to be contracted within nine months of the date of the Bank loan contract. 3/ The duration of these services will be for a period similar to that of the execution of the program, unless otherwise agreed with the Bank.

2. Additional studies and designs

- 3.11 The projects that will be submitted, as of the second year, for possible financing with the Bank loan funds, are expected to cover a total length of approximately 1,500 km. Execution of the technical, economic and environmental studies involved, together with the pertinent engineering designs, will be contracted out to specialized consulting firms selected by means of international competitive bidding. The competitions and the execution of the studies will have to be programmed in such a way that all the documentation needed for organizing the bidding and awarding the contracts for works to be carried out in the following year will be ready no later than the last quarter of each year. 4/

3. Execution of the road improvement works

Projects proposed for start-up in the first year					
Corr.	Prov.	Road	Segment	Length	Type of works
III	ME/LP	RN143	Pto. Arce - Emp R.P. 10	105 km	Improvement
III	LP	RN151	Sta. Isabel - Prog. 38,000	52 km	Improvement
IV	ER/CO	RN127	Federal - Cuatro Bocas	119 km	Improvement
VII	SA	RN16	El Quebrachal-Cnel. Ollereros	33 km	Improvement
Total				309 km	

- 3.12 During the first year of the DNV program it is proposed to start the improvement and paving works in the four projects shown in the preceding table. These projects comprise mainly paving of segments that have gravel or dirt surfaces and have been selected in accordance with DNV's decision to give priority to projects that will eliminate defects in the paving of the corridors.
- 3.13 All road improvement works financed fully or partially with Bank loan funds will be executed by private contractors. The calls for bids will be published internationally and Bank rules and procedures are to be followed in the awarding of the contracts. In general, the works to be started each year will be put up for bids simultaneously, except when otherwise agreed with the Bank, in accordance with the bidding and contract award schedule (see para. 3.31) and such adjustments as may be made during its annual reviews.

3/ Recommendations.

4/ Recommendations.

- 3.14 In general the improvement works forming part of the program are not complex but they are sizable and some of them involve considerable volumes, for which reason the Bank will require pre-qualification of the firms participating in the bidding, preferably with use of the system of simultaneous delivery of two envelopes.

4. Supervision of the works

- 3.15 The supervision of the works financed with Bank loan resources may be effected by contract with specialized consulting firms, by agreements with provincial agencies or by force account. The consulting firms will be selected using the procedures laid down by the Bank. Supervision by force account or by agreement with provincial agencies will be authorized once it is demonstrated that the proposed entity has the resources, equipment and suitable personnel required, in sufficient number and of suitable quality to meet requirements similar to those laid down in the terms of reference for contracted supervision services. Unless otherwise agreed, force-account supervision services may not exceed 30% of the total required for the Bank-financed works. The firms must be selected, or the necessary material and financial resources allocated in the case of force account or agreements, before the contracts are awarded in respect of the works to be supervised. 5/
- 3.16 The supervision services will comprise - without this listing being exhaustive - the following responsibilities: (i) reviewing the designs, verifying that they are compatible with the conditions in the field and preparing the detail plans to show such modifications and corrections as prove necessary; (ii) ensuring that the contractors meet the contract requirements and the technical specifications of the projects; (iii) ascertaining compliance with all protective measures and recommendations designed to eliminate or mitigate possible negative environmental impacts; (iv) conducting the measurements and price analyses for preparing the monthly certificates of payments to contractors, in accordance with the amounts of work done; and (v) preparing all documents and reports to be furnished periodically to DNV so that it can submit them promptly to the Bank.

5. Control of environmental impacts

- 3.17 The program has been classified as a Category III operation by the Environmental Management Committee (CMA) since the majority of the road works that will be executed with Bank financing consist basically of improvements of existing roads that will be carried out within the existing right-of-way. Any direct impacts produced during execution of the works, as a result of said activities, will be limited in space and time and can be avoided or mitigated by

inclusion of environmental technical specifications in the works contracts. This will be done through compliance with the recommendations contained in a recently prepared environmental manual, while application of the specifications will be supervised by specially trained contracted personnel and by technical specialists of the DNV Environmental Unit.

- 3.18 The environmental studies relating to the segments proposed for the first year have identified and analyzed the potential direct environmental impacts and the relevant mitigatory measures have been proposed the cost of which is included in the cost of the works. For the segments to be executed in the subsequent years and up till completion of the program, DNV will submit to the Bank, at the annual monitoring meetings, the respective environmental studies and suitable technical and operating measures for ensuring the environmental quality of the proposed activities.
- 3.19 In general, since the roads concerned are existing ones that pass through areas that have long been used for agricultural purposes (stockraising and cropgrowing), the improvements are not expected to have any effect on land-use and human-settlement patterns. In the specific case of Ruta Nacional 231, which affects the Nahuel Huapi National Park, a package of protective measures is envisaged, totalling US\$250,000, to assist the park management with a view to mitigating indirect impacts resulting from the increased number of tourists visiting the protected area. This set of activities will be executed through a cooperation agreement between DNV and the National Parks Administration.

6. Technical assistance and institutional strengthening

- 3.20 The World Bank financing has a sizable technical-assistance component that covers almost all DNV's areas of activity, so that generally speaking the technical-assistance that will be funded with IDB loan resources will complement and strengthen actions designed to achieve similar policy objectives. It will accordingly be necessary to maintain constant coordination in the performance of interrelated technical-assistance activities, in order to ensure that the right sequencing is being followed, that no work is being duplicated, that similar information sources are being used and that compatible criteria are adopted.
- 3.21 DNV will make available to the Bank all documents and reports produced by the technical-assistance programs financed by IBRD and other entities that are relevant to the studies or policies supported by the program. The IDB will review these documents and announce its opinion on the recommendations contained in them.
- 3.22 The consulting services for execution of the technical assistance financed with Bank loan funds will be contracted by means of competitive bidding in accordance with the Bank procedures applicable in each case.

7. Procurement of equipment and instruments

- 3.23 The procurement of engineering equipment and instruments included in the program will need to be effected in the first year, since in one case these are equipment and materials for handling emergency situations, and in the other, computerized instruments and equipment essential for the performance of DNV's normal activities.
- 3.24 All procurement of goods and services involving amounts in excess of US\$250,000 will be effected by means of international bidding and/or competitions, following the procedures laid down by the Bank.

8. Road maintenance

- 3.25 The program also includes the periodic and routine maintenance to be performed during the period 1994-1997 that is considered necessary to ensure adequate upkeep of the entire length of the corridors. These activities, the method of execution and the sources of financing will be specified annually by DNV, in the context of the IBRD Road Rehabilitation and Maintenance Sector Project, and reviewed by the IDB, so that the necessary adjustments can be made in the program investment schedule and its degree of implementation assessed.
- 3.26 By the end of the program execution period the Roads Administration System (RAS) will be in operation, through which the performance of maintenance throughout the entire national road network will be planned, administered and overseen. Accordingly, for the six years following the date of the last disbursement from the Bank loan and within the first quarter of each calendar year, DNV will be required to submit to the Bank a report on the state of the corridors, which will also contain an evaluation of the performance of the maintenance plan in the preceding year together with the proposed plan for the following year. 6/ If the inspections made by the Bank, or the reports it receives, indicate that the maintenance is falling short of the required levels, DNV will be required to take the necessary steps to fully rectify these deficiencies.

D. Investment schedule and terms

1. Program investment schedule

- 3.27 The schedule of investments envisioned for the program in the period 1994-1997, broken down by investment categories and financing sources, is presented in Annex III-1. This schedule and the information on which it is based are the documents that will be

6/ Recommendations.

used initially to check progress in the six-monthly review meetings organized by DNV and the Bank.

2. Bank loan disbursement periods and physical initiation of works

- 3.28 The disbursement period of the Bank loan will be four years from the date of signature of the loan contract.
- 3.29 In view of the nature of this operation, it has been agreed that the deadline for the physical initiation of the works will be set at 42 months after the effective date of the loan contract, so that the works selected in the programming exercise carried out at the end of the third year can be started in the next year. 1/ Authorization to start the works in the fourth year will be subject to DNV's commitment to provide the necessary resources to complete them, even in the event that the Bank loan funds are exhausted.

3. Execution schedule and bidding schedule

- 3.30 The execution schedule for the components that will be funded with the Bank loan has been prepared taking the above considerations into account and on the assumption that this operation can enter into effect in the first quarter of 1994.
- 3.31 This execution timetable has been used as the basis for the following schedule of bidding competitions and contracts:

1/ Proposed resolution.

Schedule of bidding competitions and contracts for works and consulting services financed with Bank loan funds					
Contracts	No. of contracts	km	Amount (US\$ millions)	Announcement mth/yr	Contract mth/yr
Consulting services					
- Support to CU-IDB	1		3.0	Dec. 93	May 94
- Studies and designs					
* Projects 2nd Year	7	50 ea.	2.1	Dec. 93	May 94
* Projects 3rd Year	26	60 ea.	9.2	Jun. 94	Dec. 94
- Works supervision					
* 1st/2nd Year	6	60 ea.	3.3	Dec. 93	May 94
* 2nd/3rd Year	6	130 ea.	7.4	Sep. 94	Mar. 95
* 3rd/4th Year	5	130 ea.	6.1	Sep. 95	Mar. 96
Works execution	<u>Segments</u>				
* 1st/2nd Year	10	309	59.1	Mar. 94	June 94
* 2nd/3rd Year	21	877	107.3	Sep. 94	Mar. 95
* 3rd/4th Year	16	658	116.3	Sep. 95	Mar. 95
Procurement	<u>Bids</u>				
* 1st Year	3		3.0	Mar. 94	July 94
Technical assistance					
* 1st/2nd Year	10		4.0	Jan. 94	Dec. 94

4. Bank loan disbursement schedule

3.32 The following table sets out the flow of disbursements from the Bank loan during the four-year duration of the program, broken down by investment categories and in accordance with the execution schedule.

Disbursement schedule by investment category (US\$000s)						
Category	1994	1995	1996	1997	Total	(%)
1. Engineering and administration	3,640	5,940	3,610	2,410	15,600	4.6
1.1 Coordination unit	360	540	540	360	1,800	
1.2 Studies and designs	2,400	3,600			6,000	
1.3 Works supervision	880	1,800	3,070	2,050	7,800	
2. Direct costs	36,540	58,780	107,840	73,020	276,100	81.2
2.1 Improv. and paving	33,450	58,780	107,840	73,020	273,100	
2.2 Equipment procurement	3,000				3,000	
3. Associated costs	2,160	1,070	670		3,900	1.1
3.1 Technical assistance	660	1,070	670		2,400	
3.2 PPF recovery	1,500				1,500	
4. Finance charges	2,400	6,500	13,700	21,750	44,400	13.1
4.1 Interest	1,550	5,700	12,850	20,800	41,000	
4.2 Credit fee						
4.3 IDB inspection	850	850	850	850	3,400	
Annual total	44,650	72,350	125,820	97,180	340,000	100
% annual progress	13.1%	21.3%	37.0%	28.6%	100.0%	

E. Monitoring of program execution

1. Coordination with IBRD and EIB

3.33 During the implementation of the program communication will be maintained with IBRD and EIB to coordinate activities and verify that the objectives set are being met. The CU-IDB will forward the periodic reports that DNV will prepare for the three institutions and will consolidate the pertinent information in these reports for the Bank. The reports will note the progress achieved in the execution of the works and of the maintenance, in the contracting and execution of the technical-assistance activities and in the implementation of the policies, operating systems, and such structural changes and adjustments of the organization as are recommended as a result of the studies and technical-assistance programs and are approved by the Bank.

2. Verification of investments by concession-holders

3.34 The CU-IDB will have access to the information obtained in the monitoring of the road concessions and will include in its reports the record of the maintenance and rehabilitation work performed by the concession-holders during the period in question. Every three months DNV will submit an evaluation of the concession-holders' performance and an estimate of investments effected during the previous quarter and those programmed for the next quarter.

3. Verification of investments effected with FTN resources

- 3.35 DNV, through its line units, will be required to furnish the work programs and investments planned in each annual period in the works that will be executed with FTN funds. Periodic progress reports, in physical and financial terms, on the execution of these works will also be forwarded to the CU-IDB.

4. Program execution plan

- 3.36 During the program preparation stage, a preliminary plan of execution was prepared on the basis of information available in September 1993 and on the assumption that disbursement of the Bank loan could begin during the first quarter of 1994. Accordingly, the investment schedule (Annex III-1), the program execution schedule and a plan of action for the technical-assistance activities and implementation of the policy reforms and institutional strengthening have been drawn up. As a condition precedent to the first disbursement, DNV must present the updated program execution plan, which must spell out in greater detail the actions to be carried out during the first year of the program and confirming or altering the dates proposed earlier. The plan will comprise:

- (a) the schedule of bidding competitions and contract awards for works, consulting services and procurement of goods;
- (b) the physical and financial targets for progress of the works during the period in question;
- (c) the schedule for delivery of reports and the findings of the technical-assistance services contained in the program and the plans for implementing their recommendations;
- (d) the progress expected in implementation of the policies underpinning the program;
- (e) the changes that are envisaged in the organizational structure of DNV and in the composition and distribution of its personnel.

- 3.37 This plan will have to be approved by the Bank and will be reviewed at the six-monthly review meetings to be held during the program execution period, so that any necessary adjustments can be made and the actions to be included in the following year can be incorporated annually.

5. Program control and progress

- 3.38 The accomplishment of the program objectives will be measured by means of the indicators listed in Annex A to the loan contract. 8/

6. Six-monthly reviews

- 3.39 To review program progress, DNV and the Bank will meet as of 1994, before April 30 and September 30 of each year, to agree on corrective adjustments and reformulate the investments planned with Bank financing and recommend such adjustments as are called for in the other program components financed by other entities, in accordance with the results of the studies, cost variations and availability of resources from the various sources of financing. The activities planned for the next period in the part of the program financed by the Bank will be sized on the basis of the progress achieved.
- 3.40 One month before each of these meetings, DNV will submit to the Bank a report containing the data necessary for evaluation of the progress made and the relevant basic documentation.
- 3.41 The activities that will be reviewed at these six-monthly meetings are listed in Annex A to the loan contract. 9/
- 3.42 At these meetings, DNV and the Bank will have to agree on the corrective measures needed to resolve any problems raised and to establish the strategy that will make it possible to meet the objectives and targets set in the program.

F. Advance of funds from the Bank loan

- 3.43 To provide the borrower with funds for granting the advances relating to the works and consulting services that will be financed out of the Bank loan, and taking into account the programming of the disbursements, it is recommended that once the conditions precedent to the first disbursement have been met, an advance of funds of up to the equivalent of 10% of the total amount of the loan be provided.

G. Direct administration of maintenance

- 3.44 Notwithstanding the fact that the program promotes greater private enterprise participation in the execution of the maintenance work, this will be a gradual process and DNV will for some time continue to use the installed capacity in the districts to perform this work, mainly in some isolated areas, in the stretches programmed for rehabilitation in subsequent years, on dirt roads, and to meet

8/ Appendix III, para. 7.04.

9/ Appendix III, paras. 7.02 and 7.03.

emergency situations. It has accordingly been considered that DNV will be permitted to perform periodic and routine maintenance activities by force account in the road corridors covered by the program up to the equivalent of US\$6.5 million, 10/ which will be recognized as counterpart contribution.

H. Bank inspection and supervision

- 3.45 The technical and administrative aspects of the inspection and supervision of the program will be handled by the Country Office with the assistance of the project team. The project team will be responsible for the evaluations of the program's progress.

I. Right-of-way

- 3.46 Generally speaking, the works to be executed under this program, with Bank financing, do not involve widening of the right-of-way nor will they significantly impact properties adjoining the roads that will be improved. However, should it in certain cases prove necessary to proceed to expropriation or otherwise affect private property, the costs and compensation involved shall be covered by the borrower.
- 3.47 Before the Bank can authorize calls for bids on works, the borrower shall produce evidence that it possesses rights to occupy the land on which the works will be constructed. 11/

J. Ex post evaluation

- 3.48 In accordance with Bank policy (memorandum of the Comptroller General of March 26, 1993), the borrower has been consulted and has expressed its interest in performing an ex post evaluation each year of two projects representative of the Bank-financed program, in order to evaluate the soundness of the hypotheses adopted in the ex ante calculation of the economic internal rate of return (EIRR). The methodology to be applied will be the same as that used for the ex ante evaluation.
- 3.49 The borrower will make sufficient traffic counts to produce reliable Annual Daily Average Traffic (ADAT) figures. DNV's Planning Subdepartment has the capacity to make the ex post evaluation one year after completion of the works involved in each project.
- 3.50 One year after the date of the last disbursement the borrower will deliver to the Bank the report containing the findings of the ex post evaluations and the basic data used. 12/ This report will

10/ Proposed resolution.

11/ Recommendations.

12/ Recommendations.

explicitly note any substantive changes made in the designs, construction delays or variations in the costs initially estimated, and will be accompanied by the information needed for analysis and interpretation of the effect of such variations.

IV. THE BORROWER AND THE EXECUTING AGENCY

A. Institutional analysis

1. Background

- 4.1 The borrower, the Argentine Republic, will be responsible for the service of the debt incurred with the loan. The executing agency will be DNV, an agency that operates under the Secretariat of Public Works and Communications (SOPC) of the Ministry of Economic Affairs and Public Works and Services (MEOSP). DNV will form a Program Coordination Unit (CU-IDB). The loan funds will be transferred by the borrower to DNV by means of a subsidiary agreement which will spell out the responsibilities of the parties. Submission of this agreement will be a condition precedent to the first disbursement. 13/

2. Context and organizational reforms of the road subsector

- 4.2 Up till 1991, administration of the national network was entirely the responsibility of DNV, which handled it through 24 districts organized in five regional offices reporting to the head office in Buenos Aires. At the beginning of this year the government began a program of reforms in the subsector, known as the Roads Reform, in response to its concern over the condition of the national network, current budgetary constraints, deterioration of DNV's institutional capacity, and overlapping of responsibilities with similar activities carried out by DNV and the DPVs in parts of the highway system that are classified differently (national or provincial), but are geographically close.
- 4.3 The purpose of this reform is greater private sector involvement in road operations, delegation of functions to the provincial authorities, and decentralization of highway administration to DNV's regional offices. The reforms began early in 1991 with the granting of concessions to private contractors for the maintenance and subsequent improvement of specific segments of the national network in exchange for authority to collect tolls.
- 4.4 For the nonfranchised 28,000 km of the national network the reforms include: (i) in the short and medium term, hiring of private contractors to perform the maintenance of around 14,000 km and granting of concessions with toll-collecting authority on 250 km of access roads to major cities; and (ii) in the medium and long term, gradual but increasing delegation to the DPVs of responsibility for maintenance of the system that is not covered by concessions or contracted out to the private sector. This delegation has a five-

13/ Proposed resolution.

to ten-year implementation horizon owing to the varying capacities of the DPVs to operate the system to be delegated, and the time and resources needed to rehabilitate the system before its maintenance can be delegated. So far maintenance of 2,900 km has been delegated to the provinces.

- 4.5 In line with these reforms, Decree 616 of April 1992 changed the role of DNV, assigning it jurisdiction over the national network and technical leadership and planning functions, responsibility for financial control of resources, technical and financial supervision of the concessions and transfer of technology to the DPVs, together with other functions of a decision-making and supervisory entity. In this setup, the DNV regional offices are required to play a fundamental coordination role with the DPVs to strengthen this activity which has been nominally performed by the Federal Highway Council.

3. Institutional analysis of DNV

a. Nature, functions and organization

- 4.6 DNV is a decentralized public-service agency with administrative and technical autonomy. In accordance with the recent reform of the road subsector, DNV is moving toward a situation in which its responsibility for works execution will become less over time as this activity is performed on a concession basis, contracted out to the private sector or delegated to the DPVs. Its new organization chart 14/ takes this process into consideration. In addition to the organization of its execution function, DNV's structure includes a Roads Reform Department charged with speeding and administering the process of delegation to the provinces and a Control Unit responsible for administering and monitoring the concession system.

(i) Organization of the roads function

- 4.7 Works execution is currently handled by the concession system and by hiring private contractors, and maintenance is also performed by these two methods plus delegation to the DPVs and by force account. Of the national network totalling 38,000 km, approximately 9,000 km is currently covered by maintenance concessions, 2,900 km is maintained by the provinces under delegation and the rest is maintained by force account.
- 4.8 The roads function is divided between the Department of Planning, Research and Control (GEPIC) and the Department of Road Works and Services (GOSEV), with involvement of the regional offices and

14/ The position descriptions down to section level in the DNV central office and down to division level in the districts and regions were completed in April 1993.

their district offices. GEPIC is responsible for coordinating the planning of capital works and maintenance on the basis of needs identified at district level and consolidated at regional level. GOSEV handles the technical studies, works supervision and maintenance and use of equipment. Execution of the road activities proper (programming, works execution, supervision, maintenance) is effected at district level under supervision by the regional offices. Technical studies for large-scale works and supervision for such works are contracted out to the private sector.

- 4.9 The programming process has both positive and negative features. The participation of the districts and regions is positive and is also consistent with the decentralization process. On the negative side, however, this process has not gone hand in hand with the necessary modernization at the regional and central level of the systems for selecting and ranking capital projects and maintenance needs. To improve the programming system the program includes actions by the World Bank in this area, while the IDB loan financing includes technical assistance for developing the roads administration system (RAS) in the DNV central and regional offices.
- 4.10 DNV has worked on developing its works contracting capacity, and its system for controlling the bidding process is adequate. Its supervisory capacity, however, is being exhausted by the present requirements, which include inspection of the roads maintained by concession-holders. The program accordingly includes funds to finance the bulk of the supervision of its works during the execution period.
- 4.11 Decentralization of the road functions to the regions and districts, and delegation of maintenance to the DPVs requires a high degree of coordination of programming, tracking and control. DNV's capacity in these areas will be hard-pressed by the execution of the program; in order therefore to ensure efficient and timely coordination, funds are included to finance a coordination unit.

(ii) The Roads Reform Department

- 4.12 The Roads Reform Department is responsible for promoting, planning and effecting the tracking of the roads reform program. It is also charged with executing the training and strengthening programs at central, regional, district and provincial level designed to ensure proper program execution. The department has already found its ability to perform its functions constrained by the lack of human resources, which has in turn affected the development of the regional offices' capacity.
- 4.13 In light of the dynamic process of reform, with DNV's organization subject to testing and changes, while the regional offices are in process of formation, a technical-assistance fund is needed to finance institutional and technical strengthening, especially in

the regions connected with the program. The part of the program financed with Bank loan funds accordingly includes a US\$600,000 fund for this purpose, use of which will be subject to Bank approval.

(iii) Administration of the concessions

- 4.14 By means of the concession contract, the government transfers responsibility for maintaining a part of the network, execution of improvement works explicitly spelled out in the contract, vehicle weight control and service activities for users, in exchange for authority to collect tolls. The concession is for 12 years and the concession-holder undertakes to maintain the system at certain condition and service levels. When the system was introduced at the beginning of 1991 the toll was set at US\$2.50 per 100 km, with adjustments for inflation, a part of which would revert to the State as royalty. Users protested strongly that the toll was too high, with the result that the government lowered it to US\$1 per 100 km by renegotiating the contracts, dropping the royalty and establishing compensatory indemnities for the concession-holders. Over the past two years these indemnities have totalled around US\$69 million per year at December 1992 prices.
- 4.15 DNV has a unit that handles technical and financial control of the concessions and relations with users. The technical review is performed through the district authorities and is done by sight, no actual measurement of the condition and service indexes having as yet been made. Except for certain concession-holders who entrust measurement to private contractors, the level of overall compliance with the concession contracts is unknown. The IBRD technical assistance allocates funds for evaluating the technical control system applied to the concessions, including evaluation of the feasibility of this control being performed by the private sector.
- 4.16 The Concessions Law and the general and special bidding requirements impose financial conditions on the concession-holder in the conduct of its operations and give the State the right to make audits through DNV. To support DNV in this function, the technical assistance to the Internal Audit Office includes preparation of audit plans to be implemented by the office, and determination of measures to improve the information received and financial control of the concessions.
- 4.17 The user relations function is intended to ensure that users receive the service for which they pay. Around 750 complaints are received per month, but since the unit has no experience in dealing with users, the processing and systematic use of this information are not providing feedback to the control system. The program accordingly includes technical assistance financed by the Bank loan (one expert for six months) to clarify the unit's objectives, establish operating procedures including the necessary systems and

train the staff to use them. The program execution plan 15/ includes the hiring of the consultants and implementation of their recommendations.

b. Personnel

- 4.18 DNV has an authorized total of 4,016 positions, of which 3,785 had been filled by the beginning of August 1993. Of this total, 660 (17%) were at the central office, 32 (or less than 1%) were in the regional offices and the rest, 3,093 or 82%, were employed in the districts. The present staffing is the end result of a process of severe downsizing over the past ten years, from 16,000 at the beginning of the 1980s to 8,500 in 1988 and 7,400 at the beginning of 1990. These cutbacks resulted from the major budgetary constraints of the 1980s and, since 1990, the process of reform of the State.
- 4.19 The cutbacks of the 1980s were accompanied by a progressive reduction in salaries compared with the private sector, voluntary retirement policies, lack of staff development policies, and uncertainty about the future existence of DNV. This situation, coupled with the limited operating funds available, led to a decline in the morale and technical quality of the remaining personnel.
- 4.20 In the past two years the government has taken the following steps to improve this situation: (i) it has defined the role of DNV in the road subsector; (ii) it has appointed a general administrator selected from among the agency's personnel; (iii) it has established the positions down to section level and has determined the number of personnel required for the structure; (iv) in August 1992 it increased salaries by 42% to 89% in US dollars; and (v) it increased the appropriations for DNV from US\$183 million in 1990 to US\$561 million in 1993. In addition, through the program and with IBRD funding, the strengthening of DNV and the training of its personnel have been intensified by means of a technical-assistance component. In the same way, under the program and with Bank financing the personnel will be provided with the equipment necessary to improve their productivity. By eliminating uncertainty as to DNV's future, increasing the resources available to it and providing the personnel with opportunities for technical development, these actions have served as important motivating factors.

c. Financial administration

- 4.21 The financial administration of DNV's resources is handled satisfactorily by the Administration Department (GA), through the Accounting and Finances Subdepartment and its Treasury Division. For the program under study the CU-IDB will have an accountant

15/ Appendix III.

under the functional supervision of the GA. This accountant will be responsible for strengthening the supervision of the program's accounts and preparing its financial statements. The hiring of this accountant forms part of the actions of the program executing plan. The GA has capacity to develop the accounting system for the program.

d. Internal and external audit

- 4.22 The GA's Controller's Division is responsible for prior control of payments and for the auditing of the regions' and districts' accounts. In addition, under the Public Sector Reform Program, DNV has begun organizing an Internal Audit Office (IAO). Since this type of office is new in the public sector, DNV needs help in setting it up. The program accordingly includes Bank funding for the hiring of an expert for six months to support the functions, determine the organization and staffing needed for the IAO and prepare manuals. The hiring of this expert is a condition to be met within 12 months of the effective date of the loan contract, while commencement of implementation of his recommendations in the IAO is a condition to be met within 18 months of that date. This technical assistance will be provided during the six-monthly review meetings.
- 4.23 The Office of the Auditor General of the Argentine Nation (AGN), established in January 1993, is responsible for the external audit of public agencies. The AGN is still in process of formation and is not yet in a position to assume its duties. It is recommended that external audit services for the program be provided by a firm of certified public accountants acceptable to the Bank. 16/

B. Historical budget analysis of DNV 17/

1. Budget execution

- 4.24 The table of budget performance and its financing for the period 1990-1992 and the estimates for 1993 are presented in Annex IV-1. In addition to DNV's expenditures, this table includes separately (in the "Maintenance and Concession-Holder Investments" line) the value of the concession-holders' expenditures on the network.
- 4.25 Taking just DNV's expenditures, the table shows that during the period analyzed DNV focused on rehabilitation and improvement of the network. DNV's total expenditure in 1993 will be three times more than in 1990 (US\$561 million as opposed to US\$183 million). Although all categories of expenditure post an increase over the period, the considerable annual increase in the level of spending reflects the level of projects in the above-mentioned areas for

16/ Recommendations.

17/ All amounts in this section are in US\$ at December 31, 1992 values.

which annual expenditures have risen from US\$85 million in 1990 to an estimated US\$244 million for 1993.

- 4.26 In terms of total expenditures, which amount to US\$1,309 million for the period, 38% accounted for current expenditures, 46% for capital expenditure, 4% for transfer to the provinces for works on provincial roads, and 12% for debt service. As regards capital expenditure, which amounts to US\$599 million, 77% or US\$464 million went on rehabilitation and improvement works, 22% or US\$133 million on construction/reconstruction, and US\$2.2 million on other capital expenditure. Current expenditures, totalling approximately US\$500 million, comprise 58% or US\$291 million for personnel and operating expenses and 42% for routine maintenance. Routine maintenance expenditure - which rose from US\$8 million in 1990 to an estimated US\$80 million in 1993 and totals US\$209 million for the period - include the compensation payments to concession-holders (para. 4.14) that were started in 1991 and total US\$165 million for the period. In other words, for the approximately 28,000 km not covered by concessions DNV spent a total of US\$44 million in four years or an average of US\$393/km/year, which is insufficient for the upkeep of this network.
- 4.27 Up till 1990 DNV's resources were derived largely from taxes on road users. These funds have since been gradually eliminated and replaced by appropriations from the State budget. Regarding the financing of DNV's operations during the period, the bulk of the funds - 98.5% or US\$1,289 million - was from national sources and 1.5% from IBRD. The national funding sources changed in significance, with directed funds declining from US\$136 million in 1990 to US\$2 million in 1993, while national treasury budget appropriations increased over the same period from US\$46 million to US\$539 million.
- 4.28 In addition to DNV's own expenditures, the concession-holders have spent an estimated US\$602 million on the network since 1991. In brief, the network covered by concessions received US\$767 million over the period and the remaining roads US\$643 million.

2. Maintenance and user charges

- 4.29 One point that is apparent from analysis of the preceding section is the limited allocation of funds to maintenance for the network not covered by concessions. The government's policy has traditionally been that users should pay for use of the roads through taxes on fuels, lubricants, parts and vehicle sales. According to a study of road user charges in 1990, income from these charges in the period 1984-1988 (except for 1985) was greater than the capital and maintenance expenditures on the national, provincial and urban systems.
- 4.30 Under its agreement with IBRD, the government is committed to increase maintenance funding to US\$40 million per year and to

adjust it in the event of additions to the length of roads not covered by concessions. Accordingly, given the new dimension resulting from the concession system, the program includes technical assistance to update the earlier studies on user charges with the obligation that an action plan for implementation of their recommendations is to be submitted by March 1995. During the preparation of the program it was agreed with DNV and IBRD that the findings of the study and the action plan would be submitted to the Bank for its comments. The Bank will monitor progress with implementation of the study, through the six-monthly meetings.

V. FEASIBILITY OF THE PROGRAM

A. Technical feasibility

- 5.1 The projects that will be financed by the Bank pose no major complications, and conventional road engineering solutions will take care of their designs. The designs initially submitted to the Bank had been prepared some years previously by DNV, so consulting services had to be retained for their review and updating. The terms of reference for those services were reviewed by the Bank and explicitly specify all the documentation to be included in the bidding documents.
- 5.2 The design criteria and parameters to be used in the road-improvement projects to be financed by the EIB are similar to the ones used in projects financed by the IDB. Also, the methodologies used for deciding on the solutions proposed for rehabilitation or periodic maintenance on the segments to be financed by the IBRD and the FTN are technically appropriate and like those used by the IDB in similar projects.
- 5.3 DNV has complete design rules and specifications for all activities included in works of this type that are known and in general use by all consultants and works contractors.
- 5.4 For the geometric design, the sizing of the drainage works and the selection and type of structural composition of the pavements methods normally used in Argentina have been applied, which are compatible with those in use elsewhere. The geometric characteristics were selected taking into account the 20-year traffic projections, and for the design of the pavements the real loads currently carried by the Argentine national network were considered.
- 5.5 Argentina possesses considerable experience in highway matters, but this has been affected by the long period of inactivity over the past 10 years. The program accordingly stresses the need to support technological updating and modernization.
- 5.6 The program that will be financed by the Bank is designed to implement systems that will ensure the continuity and self-sustaining nature of road maintenance, which can subsequently be extrapolated and implemented in the provincial networks.

B. Economy feasibility

1. Economic analysis

- 5.7 A socioeconomic appraisal has been made for each of the projects proposed for Bank financing during the first year of the program.

The investments will chiefly make it possible to reduce vehicle operating costs and, to a lesser extent, also reduce user travel times. These savings form the greater part of the benefits, which have been appraised in accordance with the Bank's standard methodology based on the social surpluses approach.

- 5.8 The appraisals were made using traffic counts on each road over three 24-hour periods, DNV data and customs statistics. Origin and destination surveys were made at various places in the network, so as to assess the volume of traffic that could be derived from other roads upon execution of the project. A number of surveys and investigations were carried out to ascertain the degree of competition between rail and road transport, which concluded that possible transfers between the modes will be marginal as regards the road segments studied. The equations of the IBRD "Highway Design and Maintenance Model" (HDM-III) were used and this can determine vehicle operating costs with and without the project.
- 5.9 The information on traffic volumes in the stretches included in the first year of the program is summarized in the table below:

Traffic volume (AADT) 1993				
Roads	Light vehicles	Buses	Trucks	Total
Route 16	208	24	168	400
Route 127	97	11	82	190
Route 143	64	16	75	155
Route 151	115	36	89	240

- 5.10 The costs of the projects include the investment (initial investment and cost of repaving possibly necessary during the analysis period), contingencies, supervision, and a residual value of the investment at the end of the analysis period. They also include the annual cost of routine and periodic maintenance.
- 5.11 The Monte Carlo method was used to calculate the economic return on the projects. This method makes it possible to determine the most probable economic internal rate of return (EIRR), and the likelihood of this rate falling below the 12% cutoff. The main parameters were assigned a normal probability distribution adopting as average the most probable value resulting from the studies made, with a standard variation of between 10% and 30% depending on the possible margin of error in the evaluation of each parameter. The results obtained are set out in the following table and make it possible to conclude that the risk of having projects that are not

economically worthwhile is very low. A first-year benefit ratio (FYB) of over 12% indicates that it is preferable not to defer execution of the project.

<u>Results of first-year economic appraisal of projects</u>				
	Most probable results			
Roads	NPV*	EIRR	Probability EIRR < 12%	FYB
Ruta Nacional 16	8,877	22%	6.6%	26%
Ruta Nacional 127	37,444	24%	2.4%	32%
Ruta Nacional 143	19,053	27%	4.0%	29%
Ruta Nacional 151	7,374	20%	9.6%	26%

* In \$ARG thousands, discounted at 12%.

- 5.12 The road-improvement project to be financed by the EIB was evaluated using the same methodology, which resulted in an EIRR of 18%. The road-maintenance works to be financed by the World Bank were evaluated using the World Bank's Highway Design and Maintenance Standards Model (HDM-III), affording identification of the best alternatives for maintenance of the segments located in the program corridors.

2. Distributional impact

- 5.13 The distributional impact was measured using the methodology adopted by the Bank, which consists in calculating the benefits received by the low-income group as a proportion of the benefits accruing to the private sector as a whole. The distribution of project benefits and costs in the first year of the program among the different groups is shown in the table below. The resulting distributional impact coefficient is 7%. 20/

$$20/ \text{ Coefficient} = \frac{11,356}{11,356 + 148,886} = 0.07$$

<u>Present value of net benefits</u> <u>by beneficiary group</u> (\$ARG thousands)				
	Private sector			
	Low-income	Other	Public sector	Economic NPV
<u>Costs</u>				
Investment	2,819		-68,603	-65,784
<u>Benefits</u>				
Maintenance	-42		1,028	986
Lt. vehicles		28,243	-7,203	21,040
Buses	1,376	10,088	-1,261	10,203
Trucks	6,309	100,475	-11,454	95,330
Time	894	10,079		10,973
Total	11,356	148,886	-87,493	72,748

C. Natural disasters

- 5.14 The road corridors forming part of the program cover a very large part of Argentina, which means that they pass through regions of highly varied topography, geological structure and climatic conditions. As a result, some of the highway segments considered for inclusion in the program could be subject to natural disaster hazards such as flooding, snowslides or earthquakes.
- 5.15 It is recommended that in the preparation of the pertinent projects considerable attention be paid to this factor in selecting routing alternatives, so as to avoid as far as possible passing through areas where these natural phenomena might impact the roads. In all these cases, the engineering designs must include the necessary protective measures to ensure stability of the infrastructure and keep risks to users to a minimum.
- 5.16 Moreover the program also includes procurement of snow-removal equipment, temporary bridges and assistance units for emergency situations, which will be assigned to the DNV headquarters in the regions where natural disasters occur most frequently.
- 5.17 Finally, the fact that this operation forms part of a multiyear road investment program gives greater flexibility in the use of the loan resources, since project selection and their programming is subject to annual verification of the investment priorities.

Accordingly, if damage occurs in stretches of greater relative importance than those originally proposed for the program, the former could be given priority.

D. Financial feasibility 21/

- 5.18 DNV's financial projections for 1994-1997 in Annex V-1 present all the agency's projected current and capital expenditures, including those connected with the National Road Corridors Program shown in Annex III-1. The following points need to be evaluated as regards the projections: (i) continuity of, or changes in, resource use priorities, with special reference to adequate resource availability for maintenance; (ii) feasibility of execution of the investment program in terms of existing operating capacity; and (iii) feasibility of the local contribution and the need for, and determination of, possible sources of additional resources, if needed.
- 5.19 Considering solely DNV's expenditures, the projections indicate continued emphasis on rehabilitation and improvement of the network, together with an increase in the level of construction and reconstruction, which are actions consistent with the strategy of upgrading the network before delegating its maintenance. Of the total expenditure of US\$2,766 million projected for the period, 56% is earmarked for these items, the breakdown being 38% or US\$1,037 million for rehabilitation and 18% for US\$505 million for construction and rebuilding. The other investment component, with 5% of the total, is "other capital expenditure," which also posts an increase compared with previous years for technical assistance and institutional strengthening in support of the roads reform program. In other words, investments are projected at 61% of total expenditure, against 46% in previous years.
- 5.20 Current expenditure, projected at a total of US\$760 million or 27% of the total, breaks down into US\$324 million or 12% for operating and personnel costs and US\$436 million or 16% for routine maintenance. Owing to the increase in the level of operations, operating and personnel costs are lower in relative terms than before, namely 22% of total expenditure. Moreover, while in relation to the total figure maintenance is projected at percentages similar to before, i.e. 16%, a positive change in absolute terms is the increase in funds for maintenance of the network not covered by concessions from US\$10.9 million (US\$393/km/year) in earlier years to US\$40 million (US\$1,429/km/year) in the projections, a level sufficient for the maintenance of the network. The projected maintenance costs include an annual figure, similar to that for the last year of the preceding period, of US\$69 million

21/ The amounts in this section are expressed in December 31, 1992 prices.

for estimated indemnities to be paid in the network under concessions.

- 5.21 The annual average projected expenditure amounts to US\$691 million, compared with the historical figure of US\$327 million. The increase in the projected annual average is as follows: 44% the program, 49% the IBRD program and 7% increase in regular operations. Since the works and a substantial part of the studies and supervision in the IDB and IBRD programs will be executed by contract, the method that DNV also uses for its regular investment programs, the execution capacity for the investment plan will be a function of the capacity to administer contracts and to program, supervise and control execution. DNV's present capacity to administer contract administration capacity will be complemented through CU-IDB.
- 5.22 National financial participation in the total projected expenditure amounts to US\$2,048 million, or an annual average of US\$512 million, which is in line with the national participation estimated for 1993, viz. US\$561 million. The importance that Argentina has assigned to restoration of the national network as a key element of its roads reform policy warrants the assumption that the national contributions included in DNV's projections are feasible. In this connection it should be noted that the draft budget to be sent to Congress includes a national contribution of US\$595.3 million.
- 5.23 In addition to the expenditures projected with DNV's resources, maintenance and capital expenditures by the concession-holders totaling US\$859 million are also projected in the period (US\$602 million in the preceding period). Taking into account the indemnities to the concession-holders amounting to US\$276 million in the period, the network under concessions would receive an annual average of US\$28,370/km. This is a sizable figure, bearing in mind that the comparable amount for the network not covered by concessions is projected at US\$15,276/km, which points up both the scale of private-sector participation and the importance of the technical and financial supervision function.
- 5.24 In brief, the projections show: (i) that the program is consistent with the roads reform policy as a result both of the continuity of investments for upgrading the system with DNV funds plus private sector participation and the allocation of resources for technical assistance and institutional strengthening in support of the reform; (ii) an increase in the relative weight of maintenance investment, the product of the increased funding for maintenance; and (iii) a projected annual average for the national contribution that is in line with the most recent appropriation and consistent with the rising trend in governmental appropriations for DNV since 1990. These projections will be updated every year by the DNV on the basis of its budgetary performance and, in conjunction with the investment schedule (Annex III-1) which represents the optimization

of the National Road Corridors Program, they will serve as the basis for the Bank's financial monitoring of the program.

E. Institutional feasibility

- 5.25 The design of the program will make it possible to ensure that no major problems of an institutional nature arise in its execution. The roads reform process is a government commitment and is irreversible. Its success will depend on the upgrading of DNV, its regional offices and district units to perform its new functions. Both the Bank loan and that from IBRD include appreciable technical-assistance components to provide backing in this respect.

F. Environmental feasibility

- 5.26 The environmental implications of the rehabilitation, improvement and maintenance of roads and bridges included in the program were properly identified and assessed. The potential negative impacts will be duly taken care of by inclusion of preventive and corrective measures in the contracts with the respective contractors. During execution of the program it is intended to strengthen DNV's institutional capacity to handle the environmental dimension in the road projects included in the program and in future DNV projects. Taking into consideration the measures incorporated to mitigate adverse environmental impacts, this program is feasible from the environmental standpoint.

G. Risks

- 5.27 The design and formulation of the proposed program provide technical mechanisms for minimizing the potential risks connected with the executing agency's institutional and financial capacity to assure timely accomplishment of the annual actions and targets. A major risk is connected with the myriad bidding competitions and the administration of the respective contracts that DNV will have to handle over the next four years. In order to cover these institutional deficiencies the program includes formation of a Coordination Unit (CU-IDB), which is also a condition precedent to the first disbursement. A consultant in their firm will be engaged to support the CU-IDB and DNV in their management and technical echelons, and will provide its services throughout the entire program execution period.
- 5.28 Another risk is delayed adjustment of subsector policies, as in the agencies that need to formulate and approve regulations for their implementation. However, given the government's desire to increase road efficiency, no excessive delays are expected.

NATIONAL ROAD CORRIDOR PROGRAM
INVESTMENTS BY CATEGORY AND SOURCE OF FINANCE
(US\$ thousands)

COST CATEGORY	TOTAL (1994/1997)					YEAR 1994				YEAR 1995				YEAR 1996				YEAR 1997	
	IDB	EB	BRD	GOVT	TOTAL	IDB	EB	BRD	GOVT	IDB	EB	BRD	GOVT	IDB	EB	BRD	GOVT	IDB	EB
PLANNING AND ADMINISTRATION	15,600	4,200	8,930	16,513	43,243	2,647	2,310	3,240	4,610	5,444	1,465	2,370	4,880	4,575	405	670	4,163	2,934	EB
Planning Unit	1,800		1,800	2,000	5,600	360		450	440	630		450	620	450		450	500	360	
Preparatory Studies	6,000	1,500	1,500	4,000	13,000	1,800	1,500	900	1,900	3,000		450	1,450	1,200		150	500		
Construction Supervision	7,800	2,700	3,630	10,513	24,643	487	810	1,890	2,210	1,614	1,465	1,470	2,890	2,925	405	270	3,073	2,574	
					0														
COSTS	276,100	45,800	44,595	242,967	609,462	43,995	13,740	19,196	69,465	61,930	25,190	16,583	84,307	95,565	6,670	4,653	55,639	54,620	
Improvement and Paving	273,100	45,800		162,163	481,063	40,965	13,740		35,749	61,930	25,190		55,216	95,565	6,670		47,858	54,620	
Rehabilitation			24,375	46,758	73,133			11,885	25,925			12,160	22,447			330	386		
Periodic Maintenance			7,720	11,308	19,028			4,514	6,610			2,345	3,434			661	1,202		
Minor Maintenance			11,205	20,740	31,945			1,502	1,181			4,078	3,210			3,462	6,133		
					0														
Equipment	3,000		1,295		4,295	3,000		1,295											
					0														
CURRENT COSTS	2,400		9,875	1,800	13,875	848		3,705	564	1,164		4,150	776	318		1,550	212	72	
Technical Assistance	2,400		9,875	1,800	13,875	848		3,705	564	1,164		4,150	776	318		1,550	212	72	
					0														
TOTAL	284,100	50,000	61,400	261,100	656,600	47,458	16,050	26,141	74,639	66,538	26,075	25,103	90,043	100,478	7,275	7,073	60,014	57,620	

* Excludes financial costs and recuperation of PPF

ARGENTINA
NATIONAL HIGHWAY DIRECTORATE
EXPENDITURES AND SOURCES OF FINANCE
IN MILLIONS OF US\$ OF 31 DECEMBER 1992

	1990	1991	1992	ESTIM. 1993	TOTAL	%	ANNUAL AVERAGE
CURRENT EXPENDITURES							
Personnel	38.0	55.4	67.0	65.2	225.6	17.2	56.4
Administrative costs	11.5	18.3	19.1	16.6	65.5	5.0	16.4
Routine maintenance							
On force account	7.4	10.0	10.9	8.6	36.9	2.8	9.2
By contract	0.3	2.2	1.9	2.4	6.8	0.5	1.7
Payments to concessionaires		25.4	70.6	69.0	165.0	12.6	41.3
Total Routine Maintenance	7.7	37.6	83.4	80.0	208.7	15.9	52.2
Total Current Expenditures	57.2	111.3	169.5	161.8	499.8	38.2	125.0
CAPITAL EXPENDITURES							
Periodic maintenance/rehab	84.9	39.7	95.7	243.6	463.9	35.5	116.0
Construction/reconstruction	38.1	15.0	23.9	55.9	132.9	10.2	33.2
Other capital expenditures			2.2		2.2	0.2	0.6
Total Capital Expenditures	123.0	54.7	121.8	299.5	599.0	45.8	149.8
Transfers to provinces	2.4	5.3	21.5	24.0	53.2	4.1	13.3
Debt service			80.7	75.9	156.6	12.0	39.2
Total Expenditures DNV	182.6	171.3	393.5	561.2	1308.6	100.0	327.2
Investment concessionaires		216.6	138.5	246.7	601.8	46.0	150.5
TOTAL EXPENDITURES	182.6	387.9	532.0	807.9	1910.4	146.0	477.6
SOURCES OF FINANCE							
DNV own resources	136.1	30.5	6.4	2.3	175.3	13.4	43.8
Treasury	46.5	140.8	387.1	538.9	1113.3	85.1	278.3
Total Local Financing	182.6	171.3	393.5	541.2	1288.6	98.5	322.2
IBRD Loan				20.0	20.0	1.5	5.0
Total External Financing				20.0	20.0	1.5	5.0
DNV Total All Sources	182.6	171.3	393.5	561.2	1308.6	100.0	327.2
Concessionaires funding		216.6	138.5	246.7	601.8	46.0	150.5
TOTAL SOURCES OF FINANCE	182.6	387.9	532.0	807.9	1910.4	146.0	477.6

ARGENTINA
NATIONAL HIGHWAY DIRECTORATE
PROJECTIONS OF EXPENDITURES AND SOURCES OF FINANCE
IN MILLIONS OF US\$ OF 31 DECEMBER 1992

	1994	1995	1996	1997	TOTAL	%	ANNUAL AVERAGE
CURRENT EXPENDITURES							
Personnel	65.0	65.0	65.0	65.0	260.0	9.4	65.0
Administrative costs	16.0	16.0	16.0	16.0	64.0	2.3	16.0
Routine maintenance							
On force account	31.6	23.6	16.4	16.4	88.0	3.2	22.0
By contract	8.4	16.4	23.6	23.6	72.0	2.6	18.0
Payments to concessionaires	69.0	69.0	69.0	69.0	276.0	10.0	69.0
Total Routine Maintenance	109.0	109.0	109.0	109.0	436.0	15.8	109.0
Total Current Expenditure	190.0	190.0	190.0	190.0	760.0	27.5	190.0
CAPITAL EXPENDITURES							
Periodic maintenance/rehab	320.5	266.5	187.1	262.6	1036.7	37.5	259.2
Construction/reconstruction	74.2	147.6	177.6	105.7	505.1	18.3	126.3
Other capital expenditures	38.6	47.8	34.4	31.5	152.3	5.5	38.1
Total Capital Expenditures	433.3	461.9	399.1	399.8	1694.1	61.2	423.5
Transfers to provinces	22.7	23.8	25.0	26.3	97.8	3.5	24.5
Debt service	59.3	57.7	49.4	47.6	214.0	7.7	53.5
Total Expenditures DNV	705.3	739.4	663.5	663.7	2765.9	100.0	691.5
Investment concessionaires	178.2	220.6	272.5	187.6	858.9	31.1	214.7
TOTAL EXPENDITURE	883.5	960.0	936.0	851.3	3624.8	131.1	906.2
SOURCES OF FINANCE							
DNV own resources	2.0	2.0	2.0	2.0	8.0	0.3	2.0
Treasury	558.2	463.7	479.5	546.5	2047.9	74.0	512.0
Total Local Financing	560.2	465.7	481.5	548.5	2055.9	74.3	514.0
IDB Loan	43.6	73.2	126.1	97.1	340.0	12.3	85.0
IBRD Loan	93.2	167.1	41.6	18.1	320.0	11.6	80.0
EIB Loan	8.3	27.4	14.3		50.0	1.8	12.5
Total External Financing	145.1	267.7	182.0	115.2	710.0	25.7	177.5
DNV Total All Sources	705.3	739.4	663.5	663.7	2765.9	100.0	691.5
Concessionaires funding	178.2	220.6	272.5	187.6	858.9	31.1	214.7
TOTAL SOURCES OF FINANCE	883.5	960.0	936.0	851.3	3624.8	131.1	906.2

PROPOSED RESOLUTION 1/

ARGENTINA. LOAN ____/OC-AR TO THE NACION ARGENTINA
National Road Corridors Program

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Nación Argentina, as borrower, for the purpose of granting it financing to cooperate in the execution of a national road corridors program, hereinafter referred to as the "Program." This financing shall be subject substantially to the following conditions:

1. Amount and currencies: Up to US\$340,000,000 or its equivalent in other currencies except that of Argentina, which are part of the ordinary capital of the Bank, to pay for goods and services acquired through international competition in the member countries of the Bank and for such other purposes as may be specified in the loan contract. Payments of amortization and interest shall be made in the currency or currencies specified by the Bank, in a quantity equivalent to the corresponding amount owed, calculated in units of account in terms of dollars of the United States of America, in accordance with provisions to be included in the loan contract.
2. Source of Funds: The ordinary capital resources of the Bank.
3. Guarantee: The general responsibility of the borrower.
4. Credit Fee: 0.75 percent per annum on the undisbursed portion of the financing, commencing to accrue 60 days after the date of the contract and payable in dollars of the United States of America on the same dates as the interest.
5. Amortization: The borrower shall amortize the loan in a period of 20 years from the date of the loan contract, by means of consecutive, semiannual and, insofar as possible, equal installments. The first installment shall be paid on the first date that interest is due, six months after the date scheduled for the last disbursement of the financing.

1/ The provisions contained in this Appendix and in Appendices II and III will be final only when the Board of Executive Directors has approved the loan proposal.

6. Interest: The borrower shall pay interest semiannually on the daily outstanding balances of the loan. The first payment shall be made six months after the date of the loan contract. The Bank shall determine the rates of interest to be applied during the life of the loan, in accordance with the lending rate policy of the Bank. During the disbursement period and at the request of the borrower, the resources of the financing may be used to pay interest on the loan.
7. Physical initiation and disbursement: The term for physical initiation of all the works of the Program shall expire 42 months after the effective date of the loan contract and the term for disbursement of the financing shall expire four years after that same date.
8. Special Conditions:
 - (a) The execution of the Program and the utilization of the resources of the loan shall be carried out in their entirety by the Borrower, through the Dirección Nacional de Vialidad [National Roads Directorate], hereinafter referred to as the "Executing Agency" or the "DNV".
 - (b) The resources of the loan shall be used to participate in the execution of a program, the total cost of which is estimated at the equivalent of US\$718,000,000. Consequently, the loan contract shall contain the appropriate provisions to ensure that, in accordance with a schedule of investments satisfactory to the Bank, such additional resources as may be necessary, in addition to the loan, for the complete execution of the Program shall be duly provided, in an amount estimated at the equivalent of US\$378,000,000 which may include, among other financing sources, funds from loans from the International Bank for Reconstruction and Development, hereinafter referred to as "IBRD", and the European Investment Bank, hereinafter referred to as the "EIB".
 - (c) Prior to the first disbursement of the financing, the Borrower, through the executing agency, shall submit to the satisfaction of the Bank:
 - (i) A copy of the agreement signed with the DNV, stipulating the obligations on the parties for proper execution of the Program.
 - (ii) Evidence that the DNV has established the Program's Coordinating Unit with the adequate structure, functions and schedule for hiring staff to carry out its duties.
 - (iii) Evidence that the consulting firm to advise the DNV on execution of the program has been selected.

- (iv) The Plan of Execution, with a detailed description of the stages envisaged and the appropriate schedule, in accordance with the provisions of Appendix III, Section VII.
 - (v) Evidence that the DNV has adopted the adequate basic methodology to assess the environmental impact of the execution of the Program's works.
- (d) From the resources of the first disbursement of the financing, the Bank shall withhold the equivalent of US\$1,500,000 in order to amortize loan 753/OC-AR, amount which shall be restored to Credit Line 003/PPF-AR.
- (e) In the acquisition of machinery, equipment and other materials for the Program, and in the award of construction contracts, the system of public bidding shall be followed in each case in which the value of such acquisitions exceeds the equivalent of US\$250,000 or the value of such contracts exceeds the equivalent of US\$1,000,000. The bidding shall be subject to the procedures to be appended as an annex to the loan contract. This provision shall not apply to acquisitions made with resources of financing from supplier's credits or other financing sources.
- (f) Notwithstanding the provisions of paragraph (e) above, the Borrower, through the Executing Agency, may conduct maintenance works up to an amount equivalent to US\$6,500,000 by force account.
- (g) The Bank shall establish such inspection procedures as it deems necessary to assure the satisfactory execution of the Program, and the Borrower shall extend all cooperation which is required for the most effective accomplishment of this purpose. From the amount of the financing the sum of US\$3,400,000 shall be allocated for credit to the general income accounts of the Bank to meet expenses of general inspection and supervision.

RECOMMENDATIONS:

- A. It is recommended that the following conditions, to be met to the Bank's satisfaction, be included in the loan contract in addition to the conditions set forth in the proposed resolution:
1. Unless the parties agree otherwise, prior to issuing each call for bids, or if there is no need for public bids, prior to acquisition of goods or the initiation of works, the borrower, through the executing agency, shall submit to the Bank for its consideration: (a) the general plans, specifications, budgets, and other documents required for the acquisition and, where applicable, the specific bidding conditions and other documents necessary for the call for bids, and (b) in the case of works, evidence that it has the legal possession, easements or other pertinent rights to the land needed for construction of those works.
 2. Unless the parties agree otherwise, prior to the award of contracts for execution of the program works, the Borrower, through the Executing Agency, shall submit to the Bank a copy of the contract for supervision of such works or, in the case of direct supervision, evidence that it has the suitable staff and equipment for such purpose. Unless the DNV shows that it has sufficient capacity to supervise, there may not be direct supervision in more than 30% of the contracts for execution of the works.
 3. Within nine months of the date of the loan contract, the Borrower, through the Executing Agency, shall submit to the Bank a copy of the contract signed with the consulting firm that will be advising the DNV on program execution, as referred to in clause 8(c)(iii) of Appendix I.
 4. Within one year of the date of the loan contract, the Borrower shall demonstrate to the Bank that the DNV has signed an agreement with the National Parks Service, establishing both entities' collaboration in execution of the measures to mitigate any indirect environmental impact arising from the execution of the improvement works in the Villa La Angostura-Paso Puyehue segment of RN231, in accordance with the studies made for the construction of such works.
 5. The Borrower shall undertake to ensure that: (a) during the period of disbursement of the financing, prior to April 30 and September 30 of each year, shall hold meetings with the Bank to review the Program's progress and decide what adjustments are needed in order to attain the goals agreed upon, and (b) one month prior to each meeting, the DNV shall submit to the Bank a

report with the data and documents necessary for the review, which shall include specific mention of each of the aspects indicated in paragraphs 7.02 or 7.03 of Appendix III, as appropriate.

6. Within 30 days of the holding of the meetings referred to in Recommendation A.5 above, the Borrower, through the Executing Agency, shall submit to the Bank the updated plan for execution of the Program, based on the decisions taken at the aforementioned meetings.
 7. The Borrower and the Executing Agency shall: (a) assure that the road corridors comprising the Program, including segments that are the subject of concession, will be adequately maintained in accordance with generally accepted technical standards; and (b) submit to the Bank, during six years following the date of the last disbursement of the financing and within the first quarter of each calendar year, a report on the state of the corridors and the annual maintenance plan for that year, in accordance with the provisions set forth in Section VI of Appendix III. If the inspections conducted by the Bank or reports it receives, reveal that actual maintenance is below the agreed-upon levels, the Borrower and the Executing Agency shall take appropriate actions to have the deficiencies fully corrected.
 8. A year after the date of the final disbursement of the financing, the Borrower, through the Executing Agency, shall submit an ex post evaluation report on the results of the Program, based on the methodology previously agreed upon with the Bank.
 9. The financial statements of the Program, during its execution, shall be presented annually to the Bank audited by an independent public accounting firm acceptable to the Bank.
- B. The loan contract shall contain an annex substantially similar in content to Appendix III hereto, "The Program."

THE PROGRAM

(Annex A to the Loan Contract)

I. Objective

- 1.01 The objective of the Program is to support the series of changes for rationalizing road transport in Argentina, reduce transport costs, and improve road safety conditions, in order to increase the competitiveness of Argentine products in local as well as international markets and facilitate regional integration.

The development of the Program will strengthen the technical and administrative capacity of the Dirección Nacional de Vialidad [National Roads Directorate] so that it may fulfill the planning, administrative and normative role it has been assigned. The Program will also support the development of a road policy in keeping with the current tendency towards delegation of responsibility to provincial and municipal agencies, allocation of more resources to road maintenance, and greater private-sector participation in road conservation activities.

II. Description

- 2.01 The Program comprises seven highway corridors with a total length of approximately 10,700 km, identified by mutual agreement between the Borrower and the Bank.
- 2.02 For the execution of the above referenced objective, the Program consists of:
- (a) execution of works for road improvement, paving and rehabilitation on various segments covering approximately 4,200 km of roads comprising the seven corridors;
 - (b) periodic and routine maintenance of the road corridors referred to in the previous paragraph, including any carried out by concession;
 - (c) acquisition of equipment, engineering instruments and installation of collection and data-processing systems to contribute to the technological modernization of the DNV;
 - (d) institutional strengthening of the DNV through technical assistance activities to support the process of decentralization and reform of the agency.

2.03 The road corridors included in the Program are the following:

- (a) Corridor I which comprises: RN231 between Paso Puyehue and the junction with RN237; RN237 from the junction with RN231 up to the intersection with RN22; RN22 from the junction with RN237 up to the village of Choele/Choel; RN250 from Choele/Choel up to the junction with RP2; RP2 between the junction with RN250 and the junction with RN3; RN3 from the junction with RP2 up to the Port Access, and the whole length of the Port Access.

The alternative to corridor I comprises: RN23 from the junction with RN237 to the junction with RN3; RN3 from the junction with RN23 to the intersection with RP2.

- (b) Corridor II: Shares a segment with Corridor I from Paso Puyehue to Cipolletti and includes: RN 151 between Cipolletti and the junction with RP20; RP20 between the junction with RN151 and Chacharramendi; RN143 between Chacharramendi and El Carancho; RN152 from El Carancho to the junction with RN35; RN35 between the junction with RN152 and Santa Rosa; and RN5 from Santa Rosa to Lujan.
- (c) Corridor III comprises: RN7 from the Paso de Cristo Redentor to Mendoza; RN40 from Mendoza to Pareditas; RN143 between Pareditas and Santa Isabel; RN143 between Santa Isabel and El Carancho. In the segment of RN152 that goes from El Carancho to the junction with RN35 it overlaps with Corridor II and then comprises: RN35 from the junction with RN152 up to Puerto de Bahía Blanca.

The alternative to Corridor III comprises: RN151 from Santa Isabel to the junction with RP20; overlaps with Corridor II in the segment of RN20 from the junction with RN151 to the intersection with RN143 in Chacharramendi and then continues along Corridor III.

- (d) Corridor IV: It shares with Corridor III the segment from the Paso del Cristo Redentor to Mendoza and then comprises: RN7 from Mendoza to Mercedes; RN8 between Mercedes and Río Cuarto; RN158 between Río Cuarto and the junction with RN19; RN19 from the junction with RN158 up to Santa Fe; RN 168 between Santa Fe and Paraná; RN12 from Paraná to the junction with RN127; RN127 between the junction with RN12 and Cuatro Bocas; RN14 between Cuatro Bocas and the intersection with RP17; and RP17 from the junction with RN14 to Bernardo de Irigoyen on the Brazilian border.

Subcorridor IV-A comprises: RN38 between the junction with RN14 and the junction with RN12; and the segment between Santo Tomé and Sao Borja.

- (e) Corridor V comprises: RN9 from Puerto Campana to the junction with RNA012; RNA012 from the junction with RN9 to the intersection with RN34; RN34 from the junction with RNA012 to Rosario de la Frontera; RN9 between Rosario de la Frontera and Metán; RN34 between Metán and the junction with RN66; RN66 from the junction with RN34 to Jujuy; and RN9 between the junction with RN66 and La Quiaca.

Subcorridor V-A comprises: RN34 from its junction with RN66 to the Bolivian border; and RN86 from the junction with RN34 up to Misión de la Paz on the Paraguayan border.

Subcorridor V-B comprises: RN52 from the junction with RN9 to the junction with RN40; RN16 from the junction with RN40 to the intersection with RN70; and the segment between the junction with RN70 Paso Jama on the Chilean border.

Subcorridor V-C comprises: RN9 from the junction with RN34 up to Salta; RN68 between Salta and the junction with RN51; and RN51 from the junction with RN68 to Paso Sico on the Chilean border.

- (f) Corridor VI: Shares segments with Corridor V between Puerto Campana and the junction of RN9 with RN11, then comprises: RN11 from the junction with RN9 to the junction with RN193; RN193 from the junction with RN9 to the junction with RN12; RN12 from the junction with RN193 to Ceibas; RN14 between Ceibas and the junction with RN119; RN 119 between the junction with RN14 and the intersection with RN123; RN123 from the intersection with RN119 to the junction with RN12; RN12 between the intersection with RN123 and Corrientes; RN16 between Corrientes and Resistencia; and RN11 from Resistencia to Clorinda on the Paraguayan border.
- (g) Corridor VII comprising: RN117 from Paso de los Libres to the junction with RN14; RN14 between the junction with RN117 and the junction with RN123; RN123 from the junction with RN14 to the intersection with RN119. From here it coincides with Corridor VI up to Corrientes, then comprises: RN16 between Corrientes and the junction with RN34 in Salta.

III. Cost of the Program and financing plan

- 3.01 The cost of the Program is estimated at the equivalent of US\$718,000,000, broken down by investment category and source of financing as follows:

COST AND FINANCING (in thousands of US\$)					
INVESTMENT CATEGORIES	BANK	EIB	IBRD	FTN	TOTAL
1. ENGINEERING AND ADMINISTRATION	15.600	4.200	6.930	16.513	43.243
1.1 Coord. and admin.	1.800		1.800	2.000	5.600
1.2 Studies and designs	6.000	1.500	1.500	4.000	13.000
1.3 Supervision of works	7.800	2.700	3.630	10.513	24.643
DIRECT COSTS (*)	276.100	45.800	44.595	242.987	609.482
2.1 Road works	273.100	45.800	43.300	242.987	605.187
2.2 Procurement	3.000		1.295		4.295
3. ASSOCIATED COSTS	3.900		9.875	1.600	15.375
3.1 Technical assistance	2.400		9.875	1.600	13.875
3.2 Reimburs. PPF funds	1.500				1.500
4. FINANCIAL COSTS	44.400			5.500	49.900
4.1 Interest	41.000				41.000
4.2 Credit fee				5.500	5.500
4.3 IDB inspection	3.400				3.400
TOTAL	340.000	50.000	61.400	266.600	718.000
(%)	47.4%	7.0%	8.6%	37.1%	100.0%

* Excludes resources used in maintenance carried out by concessionaires

IV. Procurement

- 4.01 (a) When goods to be procured or services to be contracted for the Program, including those related to any form of transportation or insurance, are to be financed in whole or in part with foreign exchange from the financing, the procedures and the specific requirements for the bidding or other form of contracting shall permit the unrestricted participation of goods and services from member countries of the Bank. Consequently, no conditions that would prevent or restrict the offer of goods or the participation of contractors from such countries shall be established in such procedures or specific requirements.
- (b) When sources of credit other than the resources of the financing the local counterpart contribution are to be used, the Borrower may agree with the creditor upon the procurement procedure to be followed. However, upon the Bank's request, the Borrower shall demonstrate the reasonableness of both the price agreed upon or paid for the purchase of the goods and services and the financial conditions of the credits. The Borrower shall also demonstrate that the quality of the goods is in conformity with the technical requirements of the Program.

- (c) For purposes of the provisions of Section 3.18 of Annex B, "Procurement", of the loan contract, the system of prequalification or bidder register shall be used for bids for execution of works whose value exceeds the equivalent of US\$1,000,000.

V. Consulting Services

- 5.01 In the selection and contracting of consulting services financed in whole or in part with resources from the financing: (a) the procedures agreed upon with the Bank shall apply; and (b) no conditions or stipulations may be established that would restrict or prevent the participation of consultants from the Bank's member countries.
- 5.02 With respect to consulting services financed with resources of the local counterpart, the Bank reserves the right to review and approve, prior to the Borrower proceeding to the corresponding hiring, the names and background of the firms or individual consultants selected, their terms of reference, and the fees agreed.

VI. Maintenance

- 6.01 The purpose of the maintenance shall be to preserve all the works of the Program in the operating conditions in which they were upon their completion, at a level compatible with the services they should provide.
- 6.02 The activities of periodic and routine maintenance needed during the period of execution of the Program, the execution method, the funding sources and the evaluation on the achievement of goals set for the previous period, shall be defined every year and, as a result, necessary adjustments shall be made in the Program's plan of execution.
- 6.03 The first annual maintenance plan, referred to in Recommendation A.7 of Appendix II, shall include the financial year following the year of the last disbursement of the financing.
- 6.04 The annual maintenance plan shall include: (i) details of the organization responsible for maintenance, the personnel involved, and the equipment allocated to maintenance; (ii) maintenance activities, estimated work load and the segments on which it shall be carried out; (iii) information concerning the resources that shall be allocated to maintenance for the following year and the resources invested the previous year; and (iv) a report on the status of maintenance, based on the Roads Administration System [SAV] to be established by the Borrower.

VII. Plan of Execution for the Program and annual follow-up meetings

- 7.01 The Plan of Execution for the Program referred to in clause 8 (c) (iv) of Appendix I, which replaces the initial report mentioned in the condition contained in Article 4.02 (d) of the "General Conditions" of the loan contract, shall establish, at least, the activities, tasks and goals envisaged in connection with each of the Program components, the schedule for appointment of staff and hiring of the consultants needed, as well as the number and timing of the reports to be submitted by the consultants and the DNV, as the case may be. It shall also contain the plan for mitigating environmental impacts, together with the technical specifications needed to prevent, correct or mitigate any direct or indirect negative environmental impact of any of the works.
- 7.02 At the first meeting of each year in accordance with the provisions contained in Recommendation A.5 of Appendix II, a review will be made on:
- (a) investments and expenses incurred on maintenance as provided for in the Program.
 - (b) proper maintenance of the seven corridors;
 - (c) progress in the execution of technical cooperations;
 - (d) progress in the development of: (i) studies of charges to consumers; (ii) the bridge administration system; (iii) reformulation of the national network; (iv) weight-control and road-safety studies; (v) the traffic information network, and (vi) the highway information network;
 - (e) the policy changes and recommendations proposed as a result of the aforementioned studies and their corresponding implementation plan;
 - (f) implementation of the reforms envisaged as part of the DNV's decentralization and reform process;
 - (g) the flow of budgetary resources for investment and road maintenance;
 - (h) the procurement and hiring processes financed under the Program;
 - (i) auditing and conciliation of disbursements with actual expenditures;
 - (j) fulfillment of environmental control measures during execution of the Program works, and coordination between DNV and the Secretaría de Recursos Naturales y Ambiente Humano [Secretariate for Natural Resources and Human Environment]

"SRNAH" in areas related to the environmental protection required for the Program development.

- (k) any changes that may be required in the Program as a result of unexpected emergency situations or natural disasters;
- (l) the annual data collection required for the "ex-post" evaluation as referred in Appendix II, Recommendation A.8.

7.03 At the second annual meeting mentioned in the preceding paragraph a review shall be made of the programming of the projects and maintenance works for the next year and the following aspects shall be evaluated:

- (a) Progress in the execution of technical cooperations;
- (b) progress in development of: (i) studies of charges to consumers; (ii) the bridge administration system; (iii) reformulation of the national network; (iv) weight-control and road-safety studies; (v) the traffic information network, and (vi) the highway information network;
- (c) the policy changes and recommendations proposed as a result of the aforementioned studies and their corresponding implementation plan;
- (d) implementation of the reforms envisaged as part of the DNV's decentralization and reform process;
- (e) the flow of budgetary resources for investment and road maintenance;
- (f) the procurement and hiring processes financed under the Program;
- (g) the DNV's financial projections;
- (h) the plan of income and expenditure, the plan of works and the physical targets of each of the projects proposed, including their technical and economic justification, ranking, and fulfillment of eligibility requirements;
- (i) fulfillment of the environmental control measures during execution of the Program works, and coordination between DNV and the Secretaría de Recursos Naturales y Ambiente Humano [Secretariate for Natural Resources and Human Environment] "SRNAH" in areas related to the environmental protection required for the Program development.

- (j) the studies and designs of the projects to be initiated during the subsequent period.

At the meeting prior to the final disbursement of the financing, the Borrower and the Bank shall agree on the methodology referred to in Recommendation A.8 of Appendix II.

7.04 Fulfillment of the Plan of Execution of the Program referred to in clause 8 (c) (iv) of Appendix I shall be measured by the following indicators:

- (a) The physical and financial progress in the execution of the highway improvement works contemplated under the Program;
- (b) evaluation in the condition of the roads that comprise the seven corridors, evaluated at least annually, by using the instruments and gauges acquired in the course of the Program.
- (c) the degree of implementation of the recommendations agreed upon for institutional strengthening and for the policy measures to support the process of decentralization and improvement of the Execution Agency.

VIII. Project eligibility criteria

8.01 In order to be included in the Program, the projects must fulfill the following requirements:

- (a) The targeted segment for the project must be part of one of the seven corridors defined in the Program and part of the DNV's network road, or have been identified as one of the segments that will be transferred to the DNV's jurisdiction, once the national network is reformulated. Should program funds be left over after the corridor works have been completed, projects including segments flowing from the corridors may be added, provided those segments meet the established eligibility requirements.
- (b) the project should be chosen in the light of economic priority, determined through a prefeasibility evaluation;
- (c) a project feasibility study should be conducted using the same methodology used for the evaluation of the projects in the first year of the program, showing that the technical characteristics adopted are the best from the technical and economic point of view, and that the project has an economic internal rate of return - EIRR - of 12 percent or more.
- (d) The final engineering designs and all the other documents that are part of the bidding documents shall be complete.

- (e) The project shall include all the measures to mitigate the negative environmental impacts specifically identified in the environmental studies, as well as the general and particular specifications that will form part of the bidding documents.

8.02 Rehabilitation projects and the road maintenance works for inclusion in the Program will be selected in accordance with guidelines established in the Road Maintenance and Rehabilitation Sector Project.