

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

ARGENTINA

NORTE GRANDE ROAD INFRASTRUCTURE PROGRAM

(AR-L1014)

LOAN PROPOSAL

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Annex I Logical Framework

Proposed resolution

Electronic Links and References	
Basic socioeconomic data	http://www.iadb.org/RES/index.cfm?fuseaction=externallinks.countrydata
Status of loans in execution and loans approved	http://ops.iadb.org/approvals/pdfs/ARen.pdf
Tentative lending program	http://opsgs1/ABSPRJ/tentativelending.ASP?S=AR&L=EN
Technical files	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=861396
Procurement plan	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=904684

ABBREVIATIONS

AADT	Annual average daily traffic
CESI	Committee on Environment and Social Impact
CREMA	Sistema de Contratos de Rehabilitación y Mantenimiento [Rehabilitation and Maintenance Contract System]
DNV	Dirección Nacional de Vialidad [National Road Directorate]
EDIVIAR	Esquema Director Vial Argentino [Argentine Road Plan]
EIA	Environmental impact assessment
EIRR	Economic internal rate of return
EMP	Environmental management plan
ENPV	Economic net present value
OCCOVI	Órgano de Control de Concesiones Viales [Road Concession Control Agency]
SISVIAL	Sistema Vial Integrado [Integrated Road System]
SIT	Fondo Fiduciario para el Sistema de Infraestructura de Transporte [Transport Infrastructure System Trust Fund]
SITRANS	Sistema Integrado de Transporte Terrestre [Integrated Overland Transport System]
UCPyPFE	Unidad de Coordinación de Programas y Proyectos con Financiamiento Externo [Unit for Coordination of Externally Financed Programs and Projects]

PROJECT SUMMARY

ARGENTINA NORTE GRANDE ROAD INFRASTRUCTURE PROGRAM (AR-L1014)

Financial Terms and Conditions			
Borrower: Republic of Argentina		Amortization period: 25 years	
Executing agency: Ministry of Federal Planning, Public Investment, and Services, acting through its Unit for Coordination of Externally Financed Programs and Projects (UCPyPFE), and the National Road Directorate (DNV) as subexecuting agency		Grace period: 6 years	
		Disbursement period: 6 years	
Source	Amount	%	Interest rate: Adjustable
IDB (Ordinary Capital)	US\$1.2 billion	80	Inspection and supervision fee: 0%
Local	US\$0.3 billion	20	Credit fee: 0.25% per annum
Total	US\$1.5 billion	100	Currency: U.S. dollars from the Single Currency Facility
Project at a Glance			
<p>Objective: The general objective of the program is to contribute to the sustainable economic development of the Norte Grande region. To this end, it will make sustainable improvements in the accessibility, efficiency, and safety of priority roads in the national road network and feeder roads in the provincial road network.</p> <p>Description: The program is conceived as a multiple-works investment loan that will finance works to improve, expand, and rehabilitate approximately 870 kilometers of priority sections of the national road network (2.3% of the national total and 8.3% of the Norte Grande total) and approximately 600 kilometers in the provincial road network (0.3% of the national total and 1.1% of the Norte Grande total). To guarantee the sustainability of these investments, completed works will be incorporated into a permanent road maintenance management system.</p> <p>Scope: During program preparation, the program amount given in the country strategy was increased from US\$750 million to US\$1.2 billion when certain improvement and rehabilitation works were replaced by costlier projects. Furthermore, project costs had to be adjusted in light of prices negotiated in late 2006 for similar works and factors such as the increase in construction costs, brought about by a strong economic upturn and robust demand (see paragraph 2.3).</p> <p>Special contractual conditions precedent to the first disbursement of loan proceeds: As special conditions precedent to the first disbursement of loan proceeds, evidence of the following must be submitted, to the Bank's satisfaction: (i) a program executing unit has been created (see paragraph 3.6); (ii) at least one participation, transfer, and maintenance of works agreement has been signed (see paragraph 3.3); (iii) Operating Regulations for the program are in effect (see paragraph 3.5); (iv) the annual work plan for the first year of program execution has been prepared (see paragraph 3.9); and (v) the subexecution agreement has been signed (see paragraph 3.4).</p> <p>Supplemental commitments: As supplemental commitments during program execution, evidence of the following must be submitted, to the Bank's satisfaction: (i) participation, transfer, and maintenance of works agreements have been signed with each participating province (see paragraph 3.3); (ii) consulting contracts have been signed for the comprehensive diagnostic assessment of the provincial road directorates (see paragraph 2.9); (iii) contracts have been signed for the second stage of the institutional strengthening component (see paragraph 2.9); (iv) the inspection contracts have been signed, no later than simultaneously with signature of the contracts for the respective works (see paragraph 3.15); and (v) works have been incorporated into road maintenance management systems (see paragraph 3.7).</p>			
Exceptions to Bank policies: None.			
Project consistent with country strategy: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Project qualifies as: SEQ <input type="checkbox"/> PTI <input type="checkbox"/> Sector <input type="checkbox"/> Geographic <input type="checkbox"/> Headcount <input type="checkbox"/>			
Procurement: Goods, works, and consulting services will be procured in accordance with the Bank policies set forth in documents GN-2349-7 and GN-2350-7 (see paragraph 3.8).			
Verified by CESI on: 19 January 2007.			

I. FRAME OF REFERENCE

A. Introduction

- 1.1 This document contains a financing proposal for projects to improve, expand, and rehabilitate the provincial and national road networks in Argentina's northwestern and northeastern provinces, as part of the Norte Grande Development and Integration Program. Projects selected for financing will sustainably improve overland transport of cargo and passengers along high priority corridors of the road network in northeastern and northwestern Argentina and will help integrate the Norte Grande's various production regions into the economic and social development of the rest of the country.

B. The Norte Grande region

- 1.2 The Norte Grande region encompasses the provinces of Catamarca, Corrientes, Chaco, Formosa, Jujuy, Misiones, Tucumán, Salta, and Santiago del Estero. The social and economic development of these provinces has lagged far behind that of the rest of the country. Although the Norte Grande region covers more than one third of continental Argentina and is home to 7.5 million people, or 21% of the country's total population, it generates just 10.4% of the gross domestic product and 8% of exports. And although the economic recovery has caused poverty rates to fall in most of the country, 48% of Norte Grande residents continue to live in poverty (51.2% in the northeastern provinces and 45.8% in the northwestern provinces) and 19% in extreme poverty (21.3% in northeastern Argentina and 15.4% in northwestern Argentina). Moreover, the illiteracy rate, at 5.4%, is more than double the national average; the infant mortality rate of 19 deaths per 1,000 live births exceeds the national average of 14.4 ; and 18.6% of households have unmet basic needs, compared to the national average of 14.3%.
- 1.3 The country has launched sweeping efforts to correct these historical imbalances between the regions, including infrastructure works to stimulate and integrate production in these provinces, with a view to narrowing the social and economic divide between this region and the rest of the country. The government-led Norte Grande Development and Integration Program includes investment projects in road, water, and electricity transmission infrastructure.¹ Although necessary, infrastructure investments alone are not enough to correct the historical deficits in the Norte Grande. These investments are part of a number of initiatives the country has been pursuing in other areas, which require continuity in the medium and long term. The operation presented in this document is for road infrastructure investments made as part of the Norte Grande Development and Integration Program.

¹ The Norte Grande Development and Integration Program is part of a government strategy for historical redress for the Norte Grande region: http://www.desarr-territorial.gov.ar/https/nortegrande/nortegrande_elprograma.html.

C. Overland transport and the productive sector

- 1.4 Exports have played a key role in the recovery and growth of Argentina's economy in general,² and the economies of the Norte Grande provinces in particular. One of the main objectives of the government's economic policy is to increase exports.³ To achieve this, and given the country's productive nature, the external sector in each region will have to increase productivity, penetrate new markets, add more value to the current composition of exports, and in the farm sector successfully expand the area of land under production.⁴ An efficient transportation network and logistics services able to meet higher demand in the external sector will be needed if the country is to achieve its objective and the economy is to become more competitive.
- 1.5 Nearly 70% of the total volume of freight shipped in the country (approximately 350 million tons per year) is transported by road. Logistics costs, and transport costs in particular, account for a large share of the cost structure of the country's productive apparatus. Accordingly, for the regional economy to become more competitive, attention must be focused on the efficiency of logistics processes, and particularly movements along the entire value chain, which involves domestic and import/export overland transportation.⁵
- 1.6 Agriculture is the main productive activity in the Norte Grande region, with the exception of Catamarca, where mining predominates. Much of Norte Grande's output is exported or distributed through the production chains of regional and national markets. An increase in regional production and exports is placing ever-greater pressure on the transportation logistics infrastructure, which is starting to manifest as congestion at critical nodes for the bulking, storage, and transfer of freight, and less efficiency in domestic freight shipping. This pressure translates into higher transport costs, which account for an increasingly larger share of the cost structure of production, particularly in regions such as northeastern and northwestern Argentina, far away from the country's main farm commodity processing centers and export hubs.⁶ For example, in northwestern Argentina, the logistics costs of the small and medium-sized exporters experiencing strong growth

² Over the last three years, exports have generated 22% of gross domestic product on average, compared with 9% during the 1990s. Also, whereas the economy grew by 25% from 2002-2005, exports increased by 46%.

³ The national government has set a target for 2010 of US\$60 billion in annual exports, which will require annual growth of 8.5% ("Argentina: el desafío de reducir los costos logísticos ante el crecimiento del comercio exterior [Argentina: the challenge of lowering logistics costs in view of the growth in foreign trade]," Report No. 36606-AR, June 2006, World Bank).

⁴ Farming, ranching, and industry generate approximately 47% of Argentina's gross domestic product.

⁵ An estimated 27% of export costs in Argentina are logistics costs (Guasch, 2002), compared with 7% in industrialized countries, and 60% of these logistic costs are transport costs. This high percentage is due to, among other things, the unidirectional flow of cargo, long travel distances with low traffic density, the strong seasonal component of production, and limited modal integration.

⁶ Ports of Gran Rosario (Rosario and San Lorenzo), Bahía Blanca/Necochea, Buenos Aires, and border posts, such as Paso de los Libres-Uruguayana and Cristo Redentor.

(30% in 2005), which are critical to the Norte Grande's socioeconomic growth and development, are approximately 50% higher than the average costs of other parts in the country.

- 1.7 In order for the Norte Grande to remain regionally competitive, narrow the gap with the rest of the country, and stimulate economic activity and productive sector development, production gains there must be accompanied by new investments in road infrastructure and conservation, while keeping transport costs competitive. If production and export levels continue to rise, structural changes will be needed to integrate production and consolidate the economic expansion under way in the country.⁷ Given the Norte Grande's special features, the quality of road infrastructure and the efficiency of cargo transport have a strong bearing on the consolidation of these processes.⁸

D. The road sector

- 1.8 **Main features.** Argentina's intercity road network comprises approximately 230,125 kilometers of roads (31% paved), divided into two administrative levels: the national road network and the provincial road network (Table I-1). In the national network, 87% roads are paved, which exceeds the average in Latin America (68%), whereas only 20% of provincial roads are paved. The paved portions of the national and provincial road networks carry more than 70% of the country's intercity traffic.

Table I-1. Argentina's Intercity Road Network

	National roads	Provincial roads
Total road network (km)	38,313	191,812
Paved roads	33,300 km (87%)	38,400 km (20%)
Paved roads in poor condition*	1,700 km (5%)	8,400 km (22%)

* International roughness index > 5

- 1.9 **The road network in the Norte Grande and investment needs.** In the Norte Grande (Table I-2), 77% of national roads and 16% of provincial roads are paved. Both figures trail the national average (Table I-1). Moreover, the percentage of paved roads in poor condition is estimated to be higher than the national average for both national and provincial roads. These figures reflect the extent to which the Norte Grande has been bypassed by investments in maintenance, improvements, and expansion of road infrastructure, compared with the rest of the country. Considerable resources are needed to improve and expand the road network in these

⁷ Argentina's economy grew by 9% in 2004, 9.1% in 2005, and 8.5% in 2006 (estimate).

⁸ The volume of cargo transported along the country's main road corridors is expected to increase by 9.7% annually, with the northeastern Paso de los Libres, northwestern Paso de los Libres, and northwestern Cristo Redentor corridors experiencing some of the fastest growth in the country.

provinces and reduce the regional disparity. The country has estimated its infrastructure investment needs for the Norte Grande region at roughly US\$20 billion, much of which would go the road sector.

Table I-2. Norte Grande Road Network								
	National road network (km)				Provincial road network (km)			
	Paved	Gravel	Dirt	Total	Paved	Gravel	Dirt	Total
Catamarca	687	204	-	891	1,474	1,357	1,958	4,789
Chaco	780	-	329	1,109	692	334	4,751	5,777
Corrientes	1,754	-	-	1,754	776	1,023	3,781	5,580
Formosa	755	-	555	1,310	287	222	2,288	2,797
Jujuy	446	422	61	929	449	134	3,076	3,659
Misiones	629	-	199	828	1,086	1,160	799	3,045
Salta	1,170	287	247	1,705	667	2,969	3,635	7,271
Santiago del Estero	1,428	-	59	1,487	1,816	1,600	15,000	18,416
Tucumán	426	37	-	463	1,094	947	152	2,193
Total	8,075	950	1,450	10,476	8,341	9,746	35,440	53,527
%	77%	9%	14%	100%	16%	18%	66%	100%

- 1.10 **Institutional framework and sector financing.** The National Road Directorate (DNV) is a decentralized entity in the Public Works Division of the Ministry of Federal Planning, Public Investment, and Services, which is responsible for the national road network. The provincial road network is under the jurisdiction of 23 provincial road directorates. Due to cuts and modifications in the road infrastructure budget, the national road network is now funded under the budget for the DNV and, recently, the Transport Infrastructure System (see paragraph 1.13). At the provincial level, the sector is funded under the provincial budgets and by provincial/national shared revenue for roads. However, the stream of shared revenue for roads, which is raised through a gasoline tax, has weakened due, in part, to changes in the revenue-sharing arrangement and greater consumption of compressed natural gas. Shared revenue, which used to finance much of the investment in the provincial road network, has fallen as a percentage of total funding for the sector.⁹ At present, the country's provincial road directorates receive approximately US\$77 million in shared revenue for roads each year.
- 1.11 **Road management systems.** In 1990, the DNV began introducing new road management systems to handle the expansion, rehabilitation, and maintenance of the national road network, with extensive participation from the private sector.¹⁰

⁹ Until 2001, shared revenue financed 68% of the total investment in the provincial road network. As a percentage of total revenue from taxes and fees on diesel and gasoline, these funds fell from 15.24% in 1996 to 4.38% in 2004.

¹⁰ The private sector is involved in the operation and maintenance of nearly 60% of the national road network, under various management arrangements.

The road management systems in place today that were introduced as a result of these reforms include: (i) a toll-road concession system for a 9,640-kilometer network of roads that carry more than 3,000 vehicles per day, of which 8,894 kilometers are managed under concession, 290 kilometers are managed under the Red de Acceso a la Ciudad de Buenos Aires [Buenos Aires Access Network], and 276 kilometers are managed under the Red de Acceso a la Ciudad de Córdoba [Córdoba Access Network];¹¹ (ii) a non-toll road concession system for construction, operation, maintenance, and transfer of roads, in which the private sector makes the necessary investments and charges a monthly fee to be paid by the concessioning entity for the life of the contract (10 years) (626 kilometers); (iii) a rehabilitation and maintenance contract system (CREMA) introduced in 1995 for small road networks (200 kilometers) that were rehabilitated and maintained for five-year periods by private companies (rehabilitation works during the first year and routine maintenance during the remaining four years), which received a fixed amount from the State. Between CREMA I, which has concluded, CREMA II, which is in execution, and CREMA III, which will be financed externally, 70 networks and 9,603 kilometers of road will have been covered under this system; and (iv) for outsourced routine maintenance, an operating functions transfer system, subject to the availability of resources, under agreements with the provincial road directorates (6,808 kilometers), a modular system of contracts with small companies (2,492 kilometers), and a results-based system negotiated by unit of measure (kilometer/month) (199 kilometers). The rest of the national road network is maintained on force account by the DNV through 24 districts (8,661 kilometers) or special agreements (487 kilometers). In 1989, 60% of the national road network was in poor condition. This figure fell to 28% in 1998, and 18% in 2000.

- 1.12 The country slipped into recession in 1998, and by 2002 had slid further into a deep crisis. In January 2002, Congress passed the Economic Emergency Act (No. 25,561), which ended the convertibility regime and required that all contracts denominated in foreign currency be redenominated in pesos, for which it authorized the Executive to renegotiate concessions. In the face of an unprecedented economic and social crisis, the country was forced to postpone investments in the road sector. The toll-based concession system for the national road network was the management system most affected, due to the impact of the crisis on the toll setting policy and the concession renegotiation process.¹² For some contracts this was also offset by eliminating the fee paid to the government, lengthening the concession term, or postponing the deployment of investment plans. Meanwhile, the portion of the national road network not managed under the toll-based concession system and

¹¹ All road corridors with enough traffic to qualify for management under toll-road concession arrangements have already been awarded in concession and are currently managed under this management system.

¹² A plan was adopted in which the amount not contributed by users was compensated by the State through subsidies.

the provincial road network continued to suffer budget cuts in road investments and maintenance, which grew even deeper in the fiscal fallout from the crisis.

- 1.13 The country sought to implement a new road financing plan to spur investment in the sector, particularly in the national road network. The plan consists of collecting a tax on diesel for the Transport Infrastructure System Trust Fund (SIT).¹³ The SIT's two main components are the Integrated Road System (SISVIAL) and the Integrated Overland Transport System (SITRANS). The purpose of SISVIAL, which originally received 80% of the trust fund resources, was to repay accumulated debt to road concession companies as a way to avoid contract extensions and, starting in 2003, to finance new infrastructure investments in the national road network. The purpose of SITRANS was to pay subsidies to private transport operators. SITRANS's share of the trust fund resources gradually increased to 50%, where it currently stands.¹⁴
- 1.14 The country succeeded in normalizing part of the sector by retendering concessions for national road corridors that ended in October 2003. The expired concessions were regrouped into six road corridors, and new five-year concessions were awarded for the operation and maintenance of the roads, with the government assuming responsibility for the expansion and rehabilitation of road infrastructure. As a result of this new model for road concessions, State subsidies were eliminated, generating savings of more than US\$100 million per year in 2004 and a cash surplus from the collection of fees, which made it possible to finance other works. The Road Concession Control Agency (OCCOVI) was created to take over management of new concessions for roads under DNV jurisdiction and concessions that were being renegotiated in the aftermath of the crisis.
- 1.15 **Renegotiation of concession contracts.** The renegotiation process has concluded for road corridor concessions that extended beyond 2003: Caminos del Río Uruguay, S.A. (contract through 2018), which operates and maintains National Route 14 in the provinces of Entre Ríos and Corrientes; and Caminos del Valle, S.A. (contract through 2013).¹⁵ Although these concessions were renegotiated, it should be noted that works to improve, expand, and rehabilitate these corridors, planned as part of this program,¹⁶ were not among the contractual obligations of the concession holders. Instead, they are envisaged as public works. Under the agreements negotiated and approved, the government has the option to execute

¹³ SIT was created in June 2001 by Decree 802/01 and subsequently modified by Decrees 976 and 1,377. The tax is 20.2% of the price of diesel.

¹⁴ The Unidad de Coordinación de Fidecomisos de Infraestructura [Coordination Unit for Infrastructure Trust Funds], which manages SIT, allocates 60% of SITRANS funds to SISTAU (a fund to subsidize urban bus operators) and 35% to SIFER (a fund to subsidize metropolitan train operators).

¹⁵ The Executive Branch ratified the concession agreement with Caminos del Río Uruguay, S.A. pursuant to Decree 1870/06, and with Caminos del Valle, S.A. pursuant to Decree 1301/06.

¹⁶ Three segments of National Route 14 in the province of Corrientes are included in this program (see paragraph 2.7).

expansion works. Once the works are complete, any expenditures by the concession holder for toll collection, maintenance and upkeep of the work, or outlays arising from or relating to it, will be addressed in future renegotiations between the government and the concession holder, so that segments of the works will be gradually added to the corridor.¹⁷ The renegotiation processes were transparent and without detriment to private-sector interests. The Bank is currently financing the expansion of four segments of National Route 14 in the province of Entre Ríos, through loan 1294/OC-AR (see paragraph 1.25).

- 1.16 **Sector outlook.** Concessions have already been granted for all roads in the national network eligible for private sector management given their characteristics and traffic volume, with concession holders required to perform infrastructure works using toll revenue (see paragraph 1.11). Given the limitations of toll revenue vis-à-vis the country's road investment needs (see paragraph 1.9), the impact of tolls on transport costs, and users' ability to pay these costs, as well as the pressing need to continue to improve the country's paved road network, the national government has decided that all new investments in road infrastructure will basically be executed as public works. New roads will be operated and maintained under one of the existing toll-based or other road management systems, with private-sector participation under CREMA contracts, or by force account through the provincial road directorates (see paragraph 1.11). The activities carried out in recent years in this sector are the normal ones that any infrastructure sector would need in the wake of a crisis like the one Argentina experienced. They are consistent with the investment and road management plans deployed in recent years in Argentina, which have significantly improved conditions and the serviceability of the overall road network. Although the sector did indeed suffer a crisis, it was due to the country's delicate economic situation, and no profound changes were made in the country's sector policy. The private sector continues to play an important role in the road sector, with government support especially in the administration of toll road concessions and the execution of CREMA maintenance contracts.

E. The country's strategy for regional development and the road sector

- 1.17 As part of its recovery, growth, and socioeconomic development strategy, Argentina is taking comprehensive action to correct historical regional imbalances, including infrastructure works to spur and integrate production activities, mainly those oriented to foreign trade. Widespread access to adequate infrastructure is key to correcting the inequities that have characterized regional development, and along these lines, Argentina believes that efforts to improve road infrastructure and relieve bottlenecks in the national and provincial road networks in the Norte Grande are needed to narrow the economic and social gap between this region and the rest of the country.

¹⁷ See Article 17 of Decree 1870/06 in the project technical files.

- 1.18 **The strategy for the Norte Grande.** The projects selected for program financing will be public works to support the improvement, expansion, and rehabilitation of national and provincial roads in the Norte Grande. Upon completion, the works corresponding to the provincial road network will be transferred to the respective provinces for maintenance and management (see paragraph 4.6) under a transfer and donation arrangement between the national government and the provinces. Argentina has adopted a similar arrangement for the entire Norte Grande Development and Integration Program, which calls for three operations in addition to this road infrastructure program. These operations are as follows: the Water Infrastructure Development Program for the Norte Grande Provinces (AR-L1015) and the Norte Grande Electricity Transmission Program (AR-L1021), approved by the Bank's Board of Executive Directors in August 2006 and January 2007, respectively; and the Program to Support the Competitiveness of Production Chains in the Norte Grande (AR-L1013). The country has also established a system to fairly distribute resources to the nine Norte Grande provinces, taking into account the total investment needed for electricity, water, and road projects identified as high priority by the provinces. However, the structural and sundry nature of the Norte Grande's economic and social problems, which demand more interventions than are currently being supported by the Bank, will require a sustained, long-term commitment by the authorities.
- 1.19 **The strategy in the road sector.** In response to the historical shortfall of road infrastructure investments due to scarce public resources and the gradual decrease in specific road funds, the country has adopted an investment and road asset recovery strategy and a model to connect its road networks and other modes of transport. The strategy recognizes that networks complement each other in a framework of interprovincial connection and regional integration and that roads used to transport regional production to the rest of the country must be in good condition to prevent the isolation of the population, excessive freight costs, delays in the delivery of products, and obstacles to the recovery of regional economies. The Argentine Road Plan (EDIVIAR)¹⁸ is the product of an agreement between the provincial and national governments on the conservation, expansion, and improvement of an integrated road network model.¹⁹ The road projects included in EDIVIAR have been prioritized on the basis of the following criteria: linkage of productive sectors, assessment of the road's social impact, national and provincial policies, strategies, road safety, status index, and traffic volume. In addition to being

¹⁸ EDIVIAR is a ten-year plan prepared by the Consejo Vial Federal [Federal Road Council] and the Ministry of Public Works' Consejo Interprovincial [Interprovincial Council] and agreed on by the national government and the provinces to expand and improve the national and provincial road networks (see the project technical files).

¹⁹ This model makes the following assumptions: being able to travel efficiently on a trunk road does little to serve the general interest; it is impossible to move out products for export due to the condition of the provincial road network; and it is hard to transport these products to ports or major cities due to the shortcomings of the national road network.

part of EDIVIAR, most of the road projects identified for the program are part of an integrated network²⁰ and are consistent with the guidelines of the national policy on development and land use, through the territorial strategic plans²¹ that are being prepared for the Norte Grande region.

F. The Bank's country strategy with Argentina

- 1.20 The main objective of the Bank's country strategy with Argentina²² is to help it achieve sustainable and more equitable growth, with special attention placed on regions that are relatively less developed (see paragraph 3.2). The strategy points up the need for economic development characterized by equity and regional balance and greater economic competitiveness (see paragraph 3.39) and identifies crosscutting areas of activity, such as the strengthening of public administration and the relation between national government and subnational governments. The proposed program is consistent with the Bank's country strategy with Argentina, inasmuch as it will help relieve one of the bottlenecks in regional infrastructure by making priority investments in the national road network in northeastern and northwestern Argentina and lift the Norte Grande out of its historical underdevelopment by improving the interconnectivity of provincial roads with the national road network. Thus, the program will boost competitiveness and improve social and economic development by striking a better regional balance between the Norte Grande provinces and the rest of the country. In addition, it will help reinforce the institutions responsible for road management, by strengthening the public administration and the relation between the national and provincial governments.
- 1.21 **The Bank's strategy for participating in the development of the Norte Grande.** The Bank's country strategy with Argentina states that in order to take advantage of the production opportunities that each region of the country possesses and the export potential of farm products, especially in the current market climate, which favors these types of products, significant improvements and investments in infrastructure must be made. This is particularly important in regions such as the Norte Grande where economic and social development levels are much lower than in the rest of the country and poverty and unmet basic needs rates are higher. Accordingly, in 2004 the Bank made a decision to support the Norte Grande Development and Integration Program launched by the current administration in Argentina, as a way to narrow the economic and social divides that separate this region from the rest of the country. In the more immediate term, the Bank is

²⁰ These projects improve the accessibility and connectivity of the various centers and circuits of production in the Norte Grande, complementing public and private investments and activities, as well as investment programs in other sectors.

²¹ Territorial strategic plans are an organized and coordinated set of decentralized territorial plans, programs, projects, and activities being pursued simultaneously by the national government, the provinces, and the municipalities in accordance with the model established in the national policy on development and land use.

²² Document GN-2328-1, of November 2004, and the September 2006 update (document GN-2328-3).

concentrating on production infrastructure (roads, water resources, and the electricity sector) and working with provincial authorities to develop a competitiveness model that identifies in greater detail other microeconomic projects that would help develop production clusters in the Norte Grande provinces (see paragraph 1.18).

- 1.22 **Coordination for execution of Norte Grande programs.** Among the Bank's programs within the context of the Norte Grande Development and Integration Program, there is a degree of complementarity in the execution of this roads program and projects under the Water Infrastructure Development Program for the Norte Grande Provinces (AR-L1015). The two will therefore be coordinated centrally at the same executing agency (see paragraph 3.6), so as to leverage synergies and prevent duplication of effort among the projects, making both programs more efficient.
- 1.23 **The Bank's sector strategy.** The Bank's sector strategy is to boost national competitiveness by developing efficient and sustainable integrated overland transport systems, with private-sector participation in the provision of infrastructure and transport services. In the road sector, activities will be pursued simultaneously for the national and provincial road networks, improving regional connectivity and integration, building the management and planning capacity of the institutions that administer the networks, and guaranteeing the enduring sustainability of investments. This program will contribute to the main aspects of this strategy for the sector.

G. Participation of the Bank and other institutions in the road sector

- 1.24 **Bank participation.** In December 1993, the Inter-American Development Bank (IDB) made a US\$340 million loan (795/OC-AR) for the National Road Corridors Program (US\$718 million), which was cofinanced with the World Bank and the European Investment Bank. After several problems with the price escalation mechanisms as a result of the devaluation and shortage of local counterpart resources, US\$71 million of the IDB's loan was canceled (22% of the total), and work could not be executed on 612 of the 1,325 kilometers of road originally included in the program. Despite the difficulties caused by fiscal, macroeconomic and institutional constraints, all works were completed by end-2003 and added to the road management system for maintenance by the DNV (see paragraph 1.11). In July 1998, the IDB approved an emergency program (US\$500 million) with a US\$300 million loan (1118/OC-AR) to support the recovery of areas affected by El Niño flooding. Implementation of this loan was affected by problems similar to those that affected loan 795/OC-AR, but implementation had resumed by 2003 and works were executed on 600 kilometers of national roads, 6,400 kilometers of provincial roads, and more than one kilometer of bridges. By December 2006 the loan had been fully committed, and 93% executed. In December 2000 the IDB made another loan, in the amount of US\$200 million (1294/OC-AR), to finance the Border Crossings and Integration Corridors Program (US\$400 million). Startup of this program was delayed due to a reprioritization of the corridors to be targeted,

and most of the loan proceeds were eventually used to support the expansion of National Route 14 in the province of Entre Ríos (see paragraph 1.15). Program execution proceeded normally following this reprioritization; work is being done on National Route 16 in Santiago del Estero, and the solicitation for works on National Route 14 in Corrientes began in late 2006, to be executed in the next 18 months. The problems that affected these programs are less relevant today, given the country's strong economic recovery and budget allocations to the DNV (see paragraph 4.5).

- 1.25 This operation will complement the Bank's portfolio of programs in execution (see paragraph 1.24). It will carry on the expansion and improvement works on National Route 14 under loan 1294/OC-AR (from Colonia Hocker in Entre Ríos to the border with the Province of Corrientes), extending them to Paso de los Libres in Corrientes.²³ It will also complement the rehabilitation works on National Route 16 under loan 1294/OC-AR.
- 1.26 **Participation of other institutions.** Operations carried out by the World Bank with the DNV since the 1990s are as follows: (i) loan 3611-AR (1993), in the amount of US\$340 million, for the Road Maintenance and Rehabilitation Sector Project (US\$756 million), under which the CREMA management system was introduced; (ii) loan 4295-AR (1998), in the amount of US\$450 million, for the National Highways Rehabilitation and Maintenance Project (US\$929 million), which was executed alongside the National Road Corridors Program; and (iii) loan 7242-AR (2004), in the amount of US\$200 million, for the National Highway Asset Management Project (US\$308 million). The precrisis World Bank loans were also delayed for reasons similar to those affecting the IDB programs. At the provincial level, the World Bank has also financed the following operations: (i) loan 4093-AR (1996), in the amount of US\$300 million, for the Provincial Roads Project (US\$1.5 billion); and (ii) loan 7301-AR (2005), in the amount of US\$150 million, for the Provincial Road Infrastructure Project (US\$286 million).
- 1.27 **Coordination with other institutions.** Multilateral agencies like the World Bank, the Andean Development Corporation (CAF), and the IDB have played an active role in financing Argentina's road sector in recent years. This program will be coordinated with and complemented by CAF and World Bank loans in execution.²⁴ To this end, the members of the IDB's project team met with their counterparts at the World Bank to share experiences concerning service-level management systems for road maintenance and CREMA concessions, and coordinate preparation activities with them for the component to strengthen the provincial road

²³ Paso de los Libres is the border crossing between the province of Corrientes and Brazil. It has the highest traffic volume of any border post in South America, with 168,000 trucks crossing through each year (2004). Of the total freight moved across this border, 62% is from Brazil to Argentina. This crossing also sees more bilateral trade between Chile and Brazil than any other, with 500,000 tons of freight moved across the border each year.

²⁴ The CAF is financing works on National Route 81 in Formosa and Salta.

directorates. The World Bank has already done work in this area in provinces such as Corrientes under loan 4093-AR, and is about to commence activities in others under the recently approved loan 7301-AR. The program will also complement activities that the OCCOVI has been pursuing with regard to new investments through road concessions.

H. Lessons learned

- 1.28 Lessons learned from Bank-financed programs in the sector, as well as from other multilateral institutions operating in Argentina, were taken into account in the design of this program. This is primarily reflected in the importance assigned to: (i) adopting a proven execution model, based on the experience of coordinated units that have been executing similar programs with the Bank;²⁵ (ii) supporting the institutional strengthening of road agencies through a diagnostic assessment and analysis of their institutional, technical/administrative, and financial capacity (see paragraph 2.9); (iii) producing environmental management studies and plans that respond to the specific features of each project, so as to prevent problems during execution (see paragraph 2.5); (iv) producing project designs that include an effective plan for road safety, pavement markings, and road signs (see paragraph 2.5); and (v) the DNV's experience with CREMA systems, as well as other road maintenance management systems, as an efficient mechanism for making investments more sustainable and effectively conserving Argentina's road assets (see paragraph 3.7).

I. Program strategy

- 1.29 The Norte Grande Road Infrastructure Program seeks to correct the historical investment deficit and the connectivity and efficiency problems of the road system in the Norte Grande. The strategy is to execute works on priority road corridors in the national and provincial road networks, so as to relieve major bottlenecks in the Norte Grande region, with financing from the national government and the active participation of national and provincial road authorities, whose activities will also be supported by an institutional strengthening component. The program will focus on strategic corridors in the national road network, inasmuch as these have been identified as major bottlenecks for regional production, representing significant economic and social benefits for the region, and are part of local and regional integration strategies. As a result, the region will gain better access to farm commodity processing centers (generally located outside the Norte Grande), critical nodes for the bulking, storage and transfer of freight, Argentina's principal foreign trade networks, and the most important points of trade with the four countries bordering the region—Bolivia, Brazil, Chile, and Paraguay—and particularly the

²⁵ Operations 1118/OC-AR (emergency loan in execution by the Ministry of Federal Planning, Public Investment, and Services) and 1294/OC-AR (integration corridors program in execution by the DNV) use execution mechanisms similar to the one proposed in this document (see paragraphs 3.2 and 3.3).

Paso de los Libres and Cristo Redentor border crossings,²⁶ which will make the Norte Grande more competitive. It has been agreed with the country that program-financed projects must have strong technical designs, be economically feasible, and guarantee a satisfactory level of environmental and social management. In addition, all road corridors improved under the program will be assigned to an ongoing management system for routine maintenance, and the road management and planning capacity of the provincial road directorates will be strengthened.

J. The Bank's additionality

- 1.30 At the regional level, the program is part of a broader national policy that seeks to develop and integrate the Norte Grande region through investments in infrastructure for production support services, made by Argentina with Bank financing (see paragraphs 1.18 and 1.21). As part of the Norte Grande Development and Integration Program, this operation will be implemented alongside two infrastructure investment operations for electricity and water works and an operation to support the competitiveness of production chains with high growth potential in the Norte Grande. The Bank's participation in these four operations allows for the coordination of efforts to maximize the benefits for the region. In particular, the Bank's participation in the preparation of the road program had made it possible to: (i) incorporate into the program priority works in the national road network, without which the benefits of secondary roads could not be leveraged; (ii) support the strategic plan for controlling vehicle weight and size on the provincial road network, coordinated by the DNV and the provincial road directorates, to enhance the sustainability of road conservation efforts; (iii) improve the formulation of engineering and economic feasibility studies and socioenvironmental impact assessments of proposed projects and strengthen project review capacity through technical support provided by a higher-education institution with a presence in several of the Norte Grande provinces that work jointly with the provincial road directorates; and (iii) provide advisory services and ongoing support to the provincial road directorates to improve the selection and preparation of projects for incorporation into the program.

II. THE PROGRAM

A. Objectives

- 2.1 The general objective of the program is to contribute to the sustainable economic development of the Norte Grande region. To this end, it will improve the accessibility, efficiency, and safety of priority roads in the national road network and feeder roads in the provincial road network in the Norte Grande, through the expansion, rehabilitation, and improvement of road corridors that connect centers of production with local and foreign markets. The program also seeks to promote

²⁶ Other border crossings that will benefit are: Iguazú (Misiones), Jama (Jujuy), and Yasma and Sico (Salta).

sustainable investments by incorporating the financed works into the country's existing road maintenance management systems.

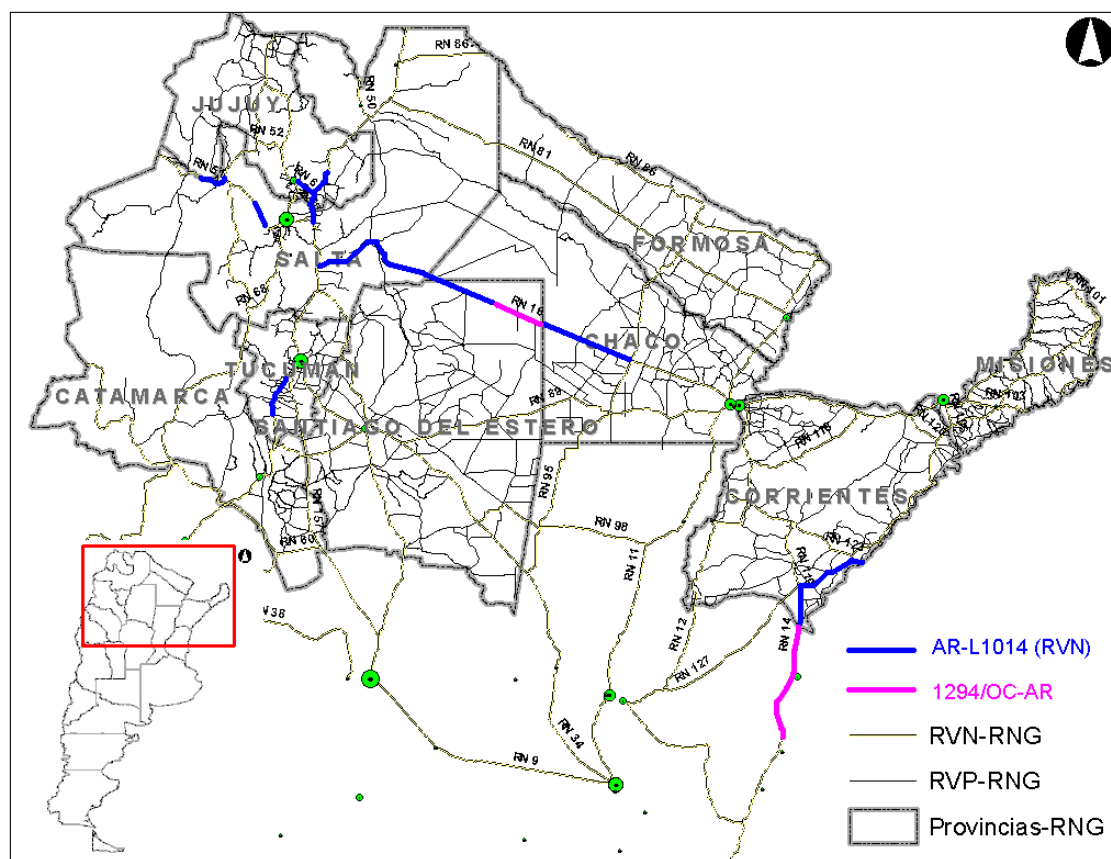
- 2.2 The specific objectives of the program are to: (i) improve the accessibility and connectivity of economic and production chains in the Norte Grande with local and foreign markets; (ii) lower vehicle operating costs and shipping and travel times along the Norte Grande road corridors covered in this program; (iii) improve safety conditions for users of the roads in this program; (iv) promote the sustainable conservation of road assets by guaranteeing maintenance of works; and (v) build the planning and management capacity of provincial road administration agencies. The logical framework for the program is presented in Annex I and includes outcome indicators and means of verification for the program purpose.

B. Description

- 2.3 The program will finance works to improve, expand, and rehabilitate approximately 870 kilometers of priority sections of the national road network (2.3% of the national total and 8.3% of the Norte Grande total) and approximately 600 kilometers in the provincial road network (0.3% of the national total and 1.1% of the Norte Grande total). All sections to be covered by the program (approximately 1,470 kilometers) are part of the road network in the nine Norte Grande provinces. During program preparation, the amount given in the country strategy was increased from US\$750 million to US\$1.2 billion when certain minor improvement and rehabilitation works, which will be executed with provincial or national funds, were replaced with higher priority road-widening works and new highways sections, which cost more. Furthermore, project costs had to be adjusted in light of prices negotiated in late 2006 for similar works and factors such as the increase in construction costs, brought about by a strong economic upturn and robust demand. Figure II-1, a map of the Norte Grande, identifies the main corridors of the national road network covered by this program, as well as the integration corridors covered by loan 1294/OC-AR. The works include widening of roads to two lanes, rehabilitation of asphalt roads, upgrade of gravel roads to paved roads, drainage systems, masonry, road safety, and signage. To guarantee the sustainability of these investments, completed works will be assigned to a permanent management system for routine maintenance. In addition, financing will be provided to train provincial road directorates in road maintenance management models, design and implement road management and planning systems, and procure equipment for control of traffic, load, weight, and size.

- 2.4 For program preparation and evaluation, 10 road projects have been selected as a representative sample. The estimated cost of these projects is equivalent to 42% of the total investment in program works. The characteristics of the sample projects cover most of the technical and environmental peculiarities of the potential universe of program-financed projects, and the corresponding feasibility studies and project designs have been completed.²⁷ In terms of potential demand, in addition to the projects in the sample, approximately 32 projects have been formally presented by the National Road Directorate (DNV) and the provincial road directorates. The projects that are not part of the sample are in preparation, with evaluations of their technical, economic, and socioenvironmental feasibility left to complete.

FIGURE II-1 PROGRAM CORRIDORS (NATIONAL ROAD NETWORK)



- 2.5 Engineering designs and feasibility studies for projects not included in the sample will be financed under the program. As part of program preparation, it has been

²⁷ For National Route 16, technical-economic prefeasibility studies have been completed (see the technical files), and feasibility studies and detailed designs are under way. The inclusion of this project in the representative sample is justified by the technical characteristics of the work (simple rehabilitation), the preliminary findings of feasibility, the project team's tour of the entire corridor, and the rationale for works in execution under loan 1294/OC-AR.

agreed with the country that program-financed projects must have acceptable technical designs, be economically feasible, and guarantee satisfactory environmental and social management.²⁸ To be eligible for program financing, projects must: (i) be located in one of the nine Norte Grande provinces; (ii) be included in the Argentine Road Plan (EDIVIAR) and intersect at some point with a section of the provincial or national road network that has a service level similar to that of the proposed project; (iii) have detailed designs, including a plan for pavement markings and signs, with a sufficient degree of detail to be tendered; (iv) have socioeconomic feasibility studies and demonstrate an economic internal rate of return equal to or higher than 12%; and (v) have detailed socioenvironmental studies, according to the type of work to be executed, acceptable environmental and social management plans, and an environmental permit in accordance with national and provincial laws, and comply with Bank policies. These and the other technical criteria are set forth in the program Operating Regulations (see paragraph 3.5).

C. Components

2.6 The program is conceived as a multiple-works investment loan and contains the following components:

2.7 **Component A: Improvement, expansion, and rehabilitation of the national road network (US\$976.7 million).** This component calls for works to improve, expand, and rehabilitate approximately 870 kilometers of priority sections of the national road network in the Norte Grande region. Works will be executed to widen to two lanes specific sections of National Routes 14 and 117 in Corrientes (from the border of the province of Entre Ríos to Paso de los Libres), National Route 34 in Salta and Jujuy (from Cabeza de Buey to San Pedro de Jujuy), National Route 66 in Jujuy (between National Routes 9 and 34), and National Route 38 in Tucumán (between Alberdi and the junction with the existing highway). Asphalt sections of National Route 16 (from Roque Sáenz Peña to National Routes 9/34) will be rehabilitated, and roadbed and paving improvements, including improvements in drainage systems, masonry, and geometric features, will be executed on National Route 51 in Salta (from Campo Quijano to the Jujuy border). Under this component, 19 road projects will be implemented in the provinces of Corrientes, Chaco, Jujuy, Salta, Santiago del Estero, and Tucumán. Nine of these projects are included in the program's representative sample: the three sections of National Routes 14 and 117 in Corrientes; one section of National Route 51 in Salta; and the four sections of National Route 16. The works will be tendered and administered by the DNV. There are plans to incorporate every road in this component into a permanent road management system for routine maintenance (see paragraph 3.7).

²⁸ The government has promised to contract 80% of the technical, socioeconomic, and environmental feasibility studies and engineering designs for projects not included in the sample during the first year of program execution.

- 2.8 **Component B: Improvement, expansion, and rehabilitation of the provincial road network (US\$290.2 million).** This component calls for works to improve, expand, and rehabilitate approximately 600 kilometers of priority sections of the provincial road networks in the Norte Grande region. Most works will be to rehabilitate and improve the roadbed with paving. Preliminarily, 23 road projects have been identified in the provinces of Catamarca, Corrientes, Chaco, Formosa, Jujuy, Misiones, and Tucumán, and two projects in Tucumán are part of the representative sample. Works in this component will be financed by the national government and tendered by the Unit for Coordination of Externally Financed Programs and Projects (UCPyPFE). Upon completion, they will be delivered to the provincial road directorates, which will administer and maintain them.
- 2.9 **Component C: Institution-strengthening (US\$20 million).** This component calls for activities to strengthen the road management and planning capacity of the provincial road directorates in two stages. In the first stage, consulting services will be engaged to conduct an assessment and analysis of the institutional, technical-administrative, and financial capacity of every provincial road directorate in the Norte Grande in terms of strategic planning and road management. As a result of this study, the needs of each directorate will be identified—and terms of reference for consulting services, or technical specifications for the procurement of goods and equipment, will be prepared—as regards the following: (i) preparation of a ranked road inventory (with a condition assessment); (ii) preparation of a provincial strategic road plan with an action plan for weight, cargo, and size inspections (procurement of scales, installation, and training in operation and maintenance); (iii) design, installation, and training in information systems and planning tools (Highway Design and Maintenance Standards Model and geographic information systems); (iv) training in road maintenance management systems and models, with performance-based incentives; (v) procurement and training in traffic control and laboratory equipment (with quality-assurance systems); (vi) training and technical assistance for inspection of works; and (vii) training and technical assistance in socioenvironmental evaluation and management. Consulting contracts for the comprehensive diagnostic assessment of participating provincial road directorates, in the first stage of this component, will be signed in the first 12 months of program execution, as a **supplemental commitment for program execution**. In the second stage, the consulting services, goods, and equipment identified in the assessment as priorities and needs of the provincial road directorates will be procured. Consulting services will also be contracted to supervise, support, and help the directorates prepare and execute annual works plans for the routine maintenance of the provincial road network. Contracts for consulting services, goods, and equipment for activities in the second stage of this component, in each of the participating provinces, will be signed in the first 36 months of program execution, as a **supplemental commitment for program execution**. This component will strengthen and complement Component B by promoting the sustainability of works in the provincial road network.

- 2.10 **Component D: Administration, studies, and inspection (US\$64.3 million).** This component will finance the operating costs associated with program administration and management (support and incremental costs of the UCPyPFE and the DNV), technical and environmental inspection of works, evaluations, and audits. Financing will also be provided for the preinvestment studies to evaluate institutional, technical, economic, and socioenvironmental feasibility, and the preparation of detailed designs for works not included in the sample. Incremental administrative costs include those associated with strengthening the DNV by adding staff in the Unidad de Coordinación de Procedimientos Licitatorios [Coordination Unit for Bidding Procedures], the Unidad Coordinadora de Proyectos BID [Coordination Unit for IDB Projects], and areas related to planning, as well as support systems and equipment for the agency's environmental management division. Efforts to strengthen the DNV have been conceived to obviate the need for temporary external entities, building the institution's management capacity overall, not just for this program.

D. Cost and financing

- 2.11 The total estimated cost of the program is US\$1.5 billion. The Bank will finance up to US\$1.2 billion of that amount from Ordinary Capital under the Single Currency Facility. Counterpart resources will be provided by the National Treasury (Table II-1).

Table II-1. Costs and Financing (US\$ thousands)

Description	IDB	Counterpart	Total	%
Direct costs				
Component A: Civil works in the national road network	781,360	195,340	976,700	65.1%
Component B: Civil works in the provincial road network	232,160	58,040	290,200	19.3%
Works in the province of Catamarca	67,120	16,780	83,900	5.6%
Works in the province of Chaco	35,360	8,840	44,200	2.9%
Works in the province of Corrientes	54,560	13,640	68,200	4.5%
Works in the province of Formosa	50,960	12,740	63,700	4.2%
Works in the province of Jujuy	7,200	1,800	9,000	0.6%
Works in the province of Misiones	4,320	1,080	5,400	0.4%
Works in the province of Tucumán	12,640	3,160	15,800	1.1%
Component C: Institution-strengthening	20,000	0	20,000	1.3%
Engineering and administration				
Component D: Administration, studies, and inspection	64,317	0	64,317	4.3%
Studies, consulting, evaluations, and audits	22,096	0	22,096	1.5%
Technical and environmental inspection of works	38,777	0	38,777	2.6%
Incremental administrative costs (UCPyPFE and DNV)	3,444	0	3,444	0.2%
Contingencies				
Escalation in the cost of works and program contingencies	102,163	46,620	148,783	9.9%
Program total	1,200,000	300,000	1,500,000	100%
%	80%	20%	100%	

III. PROGRAM EXECUTION

A. Borrower, guarantor and executing agency

- 3.1 The borrower and guarantor will be the Republic of Argentina. The executing agency will be the Ministry of Federal Planning, Public Investment, and Services, acting through its Unit for Coordination of Externally Financed Programs and Projects (UCPyPFE), with the National Road Directorate (DNV) serving as the subexecuting agency. At present, the UCPyPFE is coordinating several programs financed by multilateral banks, including Bank loans 1118/OC-AR and 1294/OC-AR (see paragraph 1.24).

B. Program execution and management

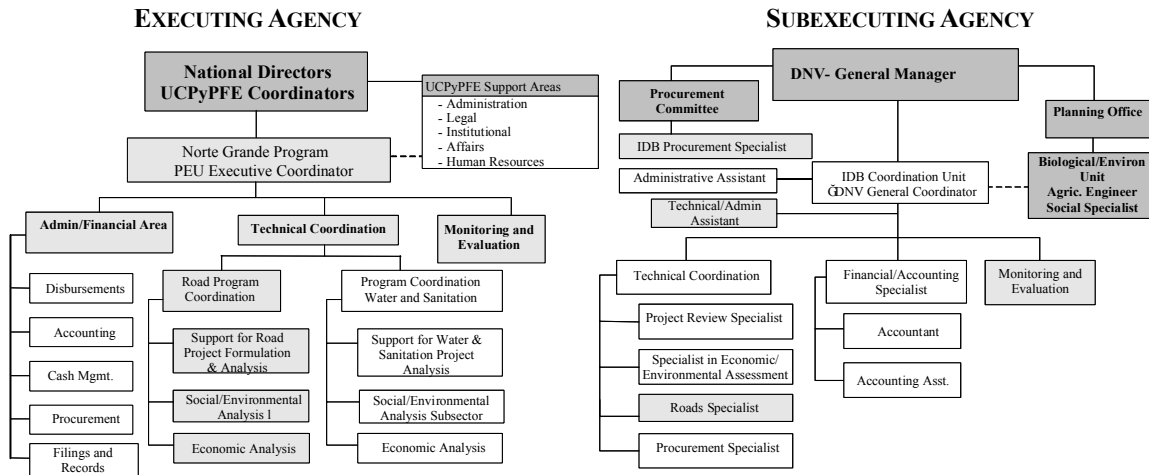
- 3.2 The executing agency will delegate the overall execution and administration of this program to the UCPyPFE, which was created to implement programs and projects financed by international organizations.²⁹ The UCPyPFE will coordinate and

²⁹ The UCPyPFE was created by Resolution 165/2000 of the Ministry of Infrastructure and Housing, and its duties and responsibilities were modified by Executive Decree 1,142/2003.

- implement all program activities, including procurements, contracts, and payments, and will act as necessary to meet the Bank's contractual conditions. It will delegate the tendering, contracting, and supervision of works in component A to the DNV, through its Coordination Unit for IDB Projects.
- 3.3 Works in component B will be centrally executed by the UCPyPFE, which will handle the bidding processes, procurements, contracts, and payments for works proposed by the provincial road directorates. The directorates, for their part, may draw on preinvestment resources to prepare new projects or projects to replace ones that do not meet the eligibility criteria, which may be financed under the program, provided they meet the established conditions (see paragraph 2.5). The role of the provincial road networks is not limited to selecting projects. They will also participate in the formulation and technical revision of the projects and the inspection and/or supervision of technical aspects of the works. For the execution of works, the executing agency will sign a participation, transfer, and maintenance of works agreement (see the technical files) with each participating province. In these agreements, the provinces, through the provincial road directorates, will commit to: (i) work with and support the UCPyPFE in the execution and supervision of technical aspects of the program, and other activities that guarantee the fulfillment of Bank obligations; (ii) meet the requirements for projects to be eligible for program financing; (iii) coordinate the activities needed to achieve program objectives and allocate all human, technical, and administrative resources needed to meet the obligations assumed; (iv) take receipt of program-financed works and equipment; and (v) guarantee, once works have been transferred, that sufficient human, physical, and financial resources are in place to guarantee their operation and maintenance, in accordance with a plan approved in advance and the provisions of the Fiscal Responsibility Law. **As a condition precedent to the first disbursement of loan proceeds**, evidence must be presented that the executing agency and at least one participating province have signed a participation, transfer, and maintenance of works agreement. The entry into force of the participation, transfer, and maintenance of works agreements with each participating province, to execute works in the provincial road network in the respective province, is a **supplemental commitment for program execution**. The UCPyPFE will also administer and execute the contracts for the institutional strengthening of the provincial road directorates (component C), the preinvestment studies, technical-environmental inspections, and other component D activities related to works in the provincial road network.
- 3.4 For the execution of works in component A, the UCPyPFE will transfer the corresponding funds from the program account to the DNV, which will execute all works in the national road network. The DNV will serve as subexecuting agency for the program, through its Coordination Unit for IDB Projects, which was created to execute Bank loans 795/OC-AR and 1294/OC-AR. **As a condition precedent to the first disbursement of loan proceeds**, the executing agency and the DNV will sign a subexecution agreement. The DNV will be responsible for the coordination and execution of all activities in component A, including bidding processes,

- procurements, contracts, and payments, and will provide the UCPyPFE with the information it needs to execute and monitor works. Contracts for the preinvestment studies, technical-environmental inspections, and other component D activities related to works in the national road network will be administered by the DNV.
- 3.5 **Operating Regulations.** Because this program is for multiple works, execution will be supported by Operating Regulations (see the technical files), which will include: (i) technical, economic, and socioenvironmental eligibility criteria for projects; (ii) the requirement to analyze socioenvironmental impact, in accordance with the category of project and the vulnerability of the area of influence; (iii) procurement rules and procedures; and (iv) the functions and responsibilities of each area of execution and interagency coordination. **As a condition precedent to the first disbursement of loan proceeds**, the Operating Regulations and annexes must be in force. Written consent from the Bank will be required to modify any provision in these documents.
- 3.6 The administrative structure of the UCPyPFE and the DNV Coordination Unit for IDB Projects will be strengthened in order to meet the incremental needs associated with the administration and execution of program components. In the case of the UCPyPFE, an executing unit will be created, and the technical, administrative, and human resources provided to meet the incremental needs in administrative structure will be shared with the Water Infrastructure Development Program for the Norte Grande Provinces (AR-L1015), which has the same executing agency. More specifically, each program's technical activities will be separately coordinated, but administrative, financial, and monitoring activities will be jointly coordinated, given the characteristics of the two programs, in order to generate economies of scale (see paragraph 1.22). The functional organizational chart of the UCPyPFE and the DNV (Coordination Unit for IDB Projects) for program execution is presented in Figure III-1. **As a condition precedent to the first disbursement of loan proceeds**, the executing agency will deliver, to the Bank's satisfaction, evidence that the executing agency has created an executing unit and that sufficient personnel have been assigned to run it, pursuant to terms of reference agreed on with the Bank and according to the organizational and staffing plan stipulated in the Operating Regulations.

Figure III-1. Functional Organizational Chart for Program Execution



C. Operation and maintenance of works

- 3.7 Program-financed works in component A will be operated and maintained by the DNV under existing road maintenance management systems (see paragraph 1.11). Specifically, National Routes 14 and 34 will remain under the existing toll-based concession model, National Routes 51, 66, and 38 will be incorporated into the CREMA systems, and National Route 16 will be maintained under a unit of measure system by service level. The DNV will present evidence that component A works have been incorporated into a permanent road maintenance management system and that a certificate has been issued documenting provisional acceptance of works during program execution, as a condition for the final payment on each work. This will be a **supplemental commitment for program execution**. Component B works, upon completion and transfer to the provinces, will be operated and maintained by the provincial road directorates. The participation agreements (see paragraph 3.3) will ensure that sufficient human, physical, and financial resources are in place for the provincial directorates to effectively maintain the works. Without prejudice to the foregoing, the executing agency will deliver annual progress reports and maintenance plans for program-financed works and goods to the Bank during the first quarter of each year, for five years starting the year after the final work is completed.

D. Procurement

- 3.8 Goods, works, and consulting services will be procured in accordance with Bank policies (documents GN-2349-7 and GN-2350-7). All goods, works, and consulting services to be procured with the loan proceeds will be included in the procurement plan and annual work plan in effect and previously approved by the Bank. If not included initially, they may be added later with the prior agreement and no objection of the Bank.

3.9 **Procurement plan.** The executing agency has prepared a tentative procurement plan (see the technical files) that will be regularly updated, or when substantial changes are made, to cover the subsequent 18 months of program execution. The procurement plan in effect must always be available, in accordance with Bank policy. **As a condition precedent to the first disbursement of loan proceeds,** the executing agency will deliver the annual work plan for the first year of the program (as part of its initial report), describing the main activities as listed in the procurement plan.

3.10 **Retroactive recognition of expenses.** Up to US\$12 million in expenditures for program works will be retroactively recognized against the local counterpart contribution, and up to US\$48 million will be retroactively recognized against the Bank's loan. These expenditures must be made within the 18 months preceding the date on which this operation is approved by the Bank's Board of Executive Directors and will correspond to payments on works contracts and the preinvestment costs included in the program.³⁰ All such expenditures must be made according to procedures that are acceptable to the Bank and described in the procurement plan.

E. Revolving fund

3.11 A revolving fund of up to 5% of the Bank's loan will be established through a specific bank account set up for the program. The executing agency will deliver semiannual reports to the Bank on the status and sufficiency of this fund, within 60 days after each six-month period.

F. Accounting records and control of disbursements

3.12 The UCPyPFE will record all financial transactions and disbursements made during the execution period and keep financial information on the program. The executing agency, through the UCPyPFE, will deliver semiannual audits on program disbursements, to be conducted by independent auditors acceptable to the Bank, in accordance with Bank requirements (documents AF-100 and AF-300) and terms of reference previously agreed on by the Bank. Audits will be conducted throughout program execution. In the event that a private firm performs them, the auditors will be selected and contracted in accordance with Bank procedures (documents AF-200 and AF-400) and cost will be financed using program resources.

G. Execution period and disbursement schedule

3.13 The program execution period will be 72 months. Bidding processes for works on National Route 14 were initiated in late 2006, and all works in the representative sample are expected to be in execution within the first 18 months of program execution. With respect to component B, it will take longer to execute the works in the provincial road network because the final feasibility study and engineering

³⁰ Depending on the program's approval date, these expenditures will correspond to payments on works contracts for National Route 14 in Corrientes and preinvestment studies for National Route 16.

studies for several projects have yet to be completed, although there is a commitment to contract most of the preinvestment studies during the first year of program execution (see paragraph 2.5). A tentative schedule of annual disbursements of the loan proceeds is presented in Table III-1.

Table III-1. Tentative Disbursement Schedule (US\$ thousands)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total	%
Bank	116,667	270,833	325,000	216,667	162,500	108,333	1,200,000	80
Counterpart	28,333	67,527	80,720	54,333	41,140	27,946	300,000	20
Total	145,000	338,360	405,720	271,000	203,640	136,280	1,500,000	100
%	9.7%	22.6%	27.0%	18.1%	13.6%	9.1%	100%	

H. Monitoring and evaluation

- 3.14 In order to properly monitor Bank-financed programs in the country, including the Norte Grande programs, the Bank is developing a new business model for its Country Office in Argentina, in particular for its organization and management structure. The executing agency will deliver semiannual progress reports on the program, including on the technical, socioenvironmental, and financial aspects of each component, to the Bank within 60 days after the end of each six-month period. The reports will assess progress based on the eligibility criteria, the logical framework indicators at each level (purpose, components, and activities), assumptions, and targets. In addition, during the second half of each year, the UCPyPFE will deliver the annual work plan approved for the subsequent year to the Bank. These reports will be used to monitor program execution and provide information for the project performance monitoring report.
- 3.15 **Technical and socioenvironmental inspection and supervision.** Inspections of works (onsite) and the corresponding socioenvironmental management plans will be performed mainly by the DNV, for works in the national road network, and by the provincial road directorates, for works in the provincial road network. If the executing agency determines, in agreement with the Bank, that the DNV regional district offices or provincial road directorates lack the technical, financial or institutional capacity to perform inspections, specialized, independent consulting services will be engaged to do so. Inspection contracts will be entered into, on terms agreed upon with the Bank, no later than simultaneously with signature of the contracts for the respective works, as a **supplemental commitment for program execution**. For works in the national road network, the DNV will supervise any inspections performed by consultants. For works under concession, no concession holder participation in inspection or supervision of the works is planned. For works in the provincial road network, the UCPyPFE will help supervise inspections.
- 3.16 **Evaluation.** For program evaluations, the executing agency will gather all the information described in the logical framework, which contains the indicators for program outputs and outcomes, as well as the means of verification and

assumptions. The outcome indicators at the purpose level of the logical framework include baselines and specific targets. A midterm review and final evaluation of the program will be conducted. The midterm review will take place three years into the program or when 50% of loan proceeds have been disbursed, which occurs first. The final evaluation will be performed in the three months after program completion, using the information generated by the program monitoring and supervision system. This evaluation will be used as an input in the preparation of the project completion report.

IV. FEASIBILITY AND RISKS

A. Institutional feasibility

- 4.1 At the federal level, the National Road Directorate (DNV) has been promoting national road projects and has been the agency responsible for preparing and administering bidding procedures for the principal works in the country's national road network. In addition, it has extensive experience executing Bank-financed contracts (see paragraph 1.24). Based on this, the program, in terms of works in the national road network, is considered to be institutionally feasible. Not only does the DNV have experience administering bidding procedures for road works similar to those called for in this program, as well as more complex works, but it has the capacity to operate and maintain roads under road management systems (see paragraph 1.11). The operational capacity of different levels of the DNV was assessed using the Institutional Capacity Assessment System. Based on the results, the DNV presents a low risk (see the technical files). However, the assessment identified areas that require support, mainly due to the high demand for administrative resources resulting from the increase in the number of works that will be handled by the Coordination Unit for IDB Projects (see paragraph 2.10).
- 4.2 Based on its experience with similar projects financed by the IDB and the World Bank³¹ and the outcomes of all the administrative, bidding, and monitoring processes it has conducted for infrastructure projects, the Unit for Coordination of Externally Financed Programs and Projects (UCPyPFE) has the capacity to execute this program. An assessment performed using the Institutional Assessment Capacity System provided confirmation in this regard, indicating that the UCPyPFE presents a low risk (see the technical files).
- 4.3 The institutional capacity of the provincial road directorates was not assessed, because they will not be directly involved in program bidding processes. However, their financial, technical, and administrative capacity with regard to road maintenance was assessed (see paragraph 4.16). Road maintenance management capacity will be strengthened through the support that will be provided to build the

³¹ The UCPyPFE has executed or is executing IDB loans 830/OC-AR, 932/OC-AR, 1118/OC-AR, and 1345/OC-AR, and World Bank loans 4093-AR, 7301-AR, 7382-AR, and 7385-AR.

directorates' institutional capacity (see paragraph 2.9). Accordingly, the program is considered to be institutionally feasible.

- 4.4 The administrative and functional structure of the UCPyPFE and the DNV Coordination Unit for IDB Projects will be strengthened in order to meet the incremental needs associated with the administration and execution of program components. The proposed structure (see paragraph 3.6) will make it possible to meet the responsibilities related to program execution and administration. The designation of responsibilities among the various areas is clear and satisfactory, as is the structure for external interfaces with governmental agencies, consultants and external auditors, and contractors. Staff reinforcements will be hired based on their qualifications for each of the functions they will have to perform for program execution.

B. Financial feasibility

- 4.5 The chief financial concern during program execution will be the counterpart contribution, to be financed by the National Treasury as a contribution by the national government to the Norte Grande region and the country's road network. To the extent that the national government has prioritized these works, which have been included in the national budget in accordance with the guidelines set forth in the Law on Financial Administration, the counterpart contribution is considered as properly assured. Furthermore, at the sector level, the budget allocated to the DNV to manage the national road network and execute works has been significantly increased in the country's 2006-2008 Public Investment Plan,³² which makes program cuts less likely in the event of a fiscal crisis during program execution. The national government will be responsible for repaying the entire amount of the loan, and no problems are anticipated in this regard, given the country's robust economic performance and the consolidation of the fiscal surplus noted in the Independent Macroeconomic Evaluation (document CS-3701).
- 4.6 Upon completion, the works in the provincial road network will be operated and maintained by the provincial road directorates. Based on an analysis of the directorates' financing, even as shared revenue for roads has been falling, the total investment in roads made by each province in the Norte Grande region has climbed since 2003, through the provinces' own fiscal efforts (see the technical files). And in compliance with the Fiscal Responsibility Law (Law 25,917), nearly every province has a balanced budget or a fiscal surplus. In 2004, the nine Norte Grande road directorates had a total budget of US\$182 million, compared with average annual of US\$92 million in the four preceding years (see the technical files). Roughly US\$4.4 million will be needed each year to maintain program-financed works in the provincial road network (1.1% of the Norte Grande total). The

³² The total value of works executed by the DNV rose from Arg\$224 million in 2001 to Arg\$1.886 billion in 2005 and Arg\$2.132 billion in 2006 (average annual increase of 81%). For the 2007-2008 period, Arg\$7.125 billion has been allocated to the DNV.

financial resources needed to operate and maintain program-financed works in the provincial road network will not only not have a significant impact on the provincial road directorates, but may have a positive effect, inasmuch as most roads that benefit from program financing will be upgraded from gravel to pavement, which will lower routine maintenance costs. In addition, the participation, transfer, and maintenance of works agreements that the executing agency will sign with each participating province will guarantee the program's financial feasibility in terms of the operation and maintenance of works in the provincial road network. In particular, these agreements will obligate the provinces, through the directorates, to guarantee that, once works are transferred, sufficient human, physical, and financial resources will be in place to operate and maintain them, in accordance with a plan approved in advance and the provisions of the Fiscal Responsibility Law (see paragraph 3.3).

C. Technical feasibility

- 4.7 Feasibility studies and engineering designs for works to improve, expand, and rehabilitate sections of the national and provincial road networks are available for the representative sample of projects. The preparation of layout designs, transverse profiles, and calculations of pavement structure³³ has been closely monitored, and the technical solutions adopted are considered to be compatible with the characteristics of the existing road network and the prevailing geomorphological, geotechnical, climatic, hydrologic, environmental, and sociodemographic conditions in the areas traversed by the roads,³⁴ as well as the estimated traffic volume in 25 years. Moreover, the design criteria, calculation methods, material specifications, and construction techniques are consistent with international and local standards. Specifically, the volume calculations that were used for the different budget categories, as well as the unit costs, were reviewed and found to be consistent with the nature of the works and the market prices seen in the latest round of tenders held in the country for road works. Road safety considerations have been fully addressed in each project. A report reviewing the technical and economic aspects of the projects in the representative sample can be found in the technical files.

³³ Two wearing surface options were evaluated for each project, based on their ability to handle the expected traffic volume and taking into account conservation costs, as follows: (i) hot asphalt concrete pavement, with an initial design life of 15 years, and 25 years with an intervention; and (ii) simple concrete, with an initial design life of 25 years.

³⁴ Soils and hydrologic conditions have been studied in the design of roadbeds, with particular attention paid to drainage and retaining walls to channel and not interrupt the natural flow of water during periods of high and low water. With the exception of the project on National Route 51 in Salta, the roads do not traverse geologically unstable areas, nor are they located in a highly seismic region in which structural destabilization is a problem.

- 4.8 Inasmuch as the planned works are similar to works in execution in the country and will not require sophisticated construction techniques,³⁵ the companies that typically bid on road works in the country are considered to have sufficient technical and operational capacity to execute them. The scheduled execution periods are reasonable and comparable to those for similar works executed recently in the country. Specialized consulting firms will perform technical and environmental inspections of works, under the supervision of properly trained staff from the DNV line units, or from the UCPyPFE, in which case the corresponding line units of the provincial road directorates will participate. The selection process will be designed to attract firms with considerable experience and guarantee the use of modern inspection methods.³⁶

D. Economic feasibility

- 4.9 For the economic evaluation of the program, cost-benefit analyses were conducted for each road project in the representative sample. The analyses compare costs and benefits, at efficiency prices,³⁷ under scenarios with and without road works. In the case of road-widening and rehabilitation and pavement works, the benefits of each project were estimated using an analysis method typical of road projects (consumer surplus) in which both savings in generalized transport costs for normal traffic, derived and generated, and savings in accident and road maintenance costs are calculated. The Highway Design and Maintenance Standards Model, versions III and IV, was used to perform the economic evaluation of each project. Total conservation and vehicle operating costs were calculated endogenously, based on specific physical quantities and unit prices, and savings in accident costs were entered into the model exogenously. This model can be used to calculate a project's rate of return by determining the infrastructure costs, vehicle operating costs, including time, and maintenance costs arising from the different policies established for scenarios with and without the project.³⁸ To estimate the projects' economic costs, the investments resulting from the engineering studies, including the costs of mitigating direct environmental impacts, and the annual maintenance costs were considered.³⁹ Other benefits that were not quantified will be result from the strategic nature of this program for the socioeconomic development and integration

³⁵ Only the works on National Route 51 in Salta and Provincial Route 307 in Tucumán will entail any degree of complexity.

³⁶ Based on prior experience, the bidding conditions for works inspection contracts are expected to require that consulting firms perform quality control for all inputs or products made by the contractor, for which they must provide all necessary equipment.

³⁷ In some cases, efficiency prices were determined by subtracting taxes and transfers from market prices, and in other cases, shadow prices were used.

³⁸ In the case of National Route 51 in Salta and Provincial Route 307 in Tucumán, the benefits associated with relieving conditions that restrict traffic circulation were considered, as well.

³⁹ Maintenance costs were determined based on recent bidding processes that specified unit prices for each maintenance level, or prices of the inputs/work required at that level, and the estimated cost of maintaining the roads in their present condition, in the absence of any investments.

of the Norte Grande, which may contribute to the development of the tourism sector and the permanent serviceability and safety of roads.

Table IV-1. Results of the Cost-Benefit and Sensitivity Analyses

Project	Length (km)	Invest- ment cost*	AADT 2005	ENPV*	EIRR (%)				
					Base	Sensitivity analysis			
						Costs +20%	Benefits -20%	Costs + 10% & benefits -10%	
National Route 14 in Corrientes									
Entre Ríos border – Nat’l Route 127	62.75	90	2,504	14.1	15.5	12.7	12.1	12.4	
Nat’l Route 127 – Nat’l Route 126	62.77	103	2,517	6.8	15.0	12.6	12.1	12.4	
Nat’l Route 126 – Avenida Belgrano	35.67	54	2,566	17.2	17.2	14.8	14.3	14.5	
National Route 51 in Salta									
Campo Quijano – El Tunal – Chorrillos	23.00	37	227	11.0	18.0	15.7	15.4	15.6	
National Route 16 in Chaco, Santiago del Estero, and Salta**									
Chaco section	153.20	78	1,400	56.4	26.2	24.0	23.6	21.5	
Santiago del Estero section	99.15	51	660	9.5	16.0	14.3	14.3	12.7	
Salta section	206.00	105	1,300	46.0	21.0	19.1	18.8	17.0	
Provincial Route 302 in Tucumán									
Banda del Río Salí – Cevil Pozo	3.55	5	9,310	3.5	26.6	22.6	21.7	22.2	
Provincial Route 307 in Tucumán									
Viaduct (km 31) – Fin del Mundo	0.94	7	1,202	4.3	22.9	19.9	19.1	19.5	

* US\$ millions (Exchange rate: US\$1= Arg\$3). ENPV: Economic net present value

** Results of the technical-economic prefeasibility studies. For program execution, this will be divided into four projects.

4.10 Economic return indicators were calculated for each project in the sample using a discount rate of 12%. Table IV-1 presents the economic feasibility results for the evaluated projects. An analysis of these results under different scenarios shows that even if costs rise and benefits fall by 10%, every project will have an economic internal rate of return (EIRR) higher than 12%.

4.11 **Impact on poverty.** This program does not qualify as a social equity enhancing operation or a poverty-targeted investment as defined by the Bank (document AB-1704).

E. Socioenvironmental impact and feasibility

4.12 **Expected impacts.** The program will have a number of socioenvironmental impacts, most of which will be positive, inasmuch as the program is advancing the economic development of the country's most neglected regions. Most program works will improve existing roads and so will have limited environmental impacts. However, in some cases, roads will be rerouted, or new roads will be laid. For these works, suitable mitigation measures are known and will be incorporated into the environmental management plans (EMPs). In order to fully identify impacts, the

sample of representative projects was carefully selected. It covers a wide range of works and presents a full spectrum of special considerations, which will be reviewed and managed in the EMPs to ensure compliance with the Bank's policies on, *inter alia*, the environment, indigenous peoples, and involuntary resettlement.

- 4.13 **Environmental management strategy.** Given the size of the Norte Grande, the involvement of many decentralized actors, such as the provincial road directorates, the lack of interprovincial projects, and the fact that the focus of most projects is to rehabilitate and improve existing roads (expansions and repaving, in the case of national routes, and paving of gravel and dirt roads, in the case of provincial routes), a comprehensive strategic environmental evaluation for the program was deemed unnecessary. Instead, the strategy will be to prepare individual environmental impact assessments (EIAs) and EMPs for the major road expansion works, and EMPs for the rehabilitation and improvement works. A strategic analysis of the sample at the macro level has been prepared as part of the Environmental and Social Management Report (see the technical files). Prevention and mitigation measures have been included in the EMPs to address negative impacts identified in the EIAs, and the corresponding costs are covered in the project budgets. The EIAs were done at the same time as the other technical and economic evaluations, and so all socioenvironmental prevention and mitigation measures were taken into consideration in the selection of options and the calculation of project costs. EIAs and the EMPs needed to mitigate negative impacts have been completed for all projects in the representative sample (see the technical files). In accordance with the Bank's information disclosure policy, the EIAs have been published in Argentina and are available through the Bank's Public Information Center.⁴⁰ Because the projects are for the improvement and expansion of existing roads, no major resettlements are anticipated,⁴¹ and no sensitive natural areas that could be affected have been identified. However, because this operation calls for multiple works, projects may be proposed in the future that require resettlement. This possibility is considered in the environmental annex to the Operating Regulations (see the technical files), which sets forth requirements in this regard, including the preparation of involuntary resettlement plans, public hearings, and other mitigation measures that may be warranted by specific projects.
- 4.14 Projects not included in the representative sample must adhere to the specifications in the Operating Regulations. Program eligibility criteria in terms of environmental and social considerations include: (i) compliance with applicable rules and regulations at the national, provincial, and municipal levels, including

⁴⁰ The EIAs for the projects in the representative sample were made available to the public on 18 September 2006.

⁴¹ Eight families in the community of Río Blanco, along National Route 51 in Salta, will have to be resettled, which will be done in accordance with the Bank's involuntary resettlement policy, as set forth in document OP-710. In the case of Provincial Route 302 in Tucumán, even though works will take place in a periurban area, no resettlements will be necessary.

authorizations and permits; (ii) compliance with applicable Bank policies, such as OP-102 (disclosure of information policy), OP-765 (operational policy on indigenous peoples), OP-703 (environment and safeguards compliance policy), and OP-710 (involuntary resettlement policy); (iii) identification of direct and indirect impacts in the short, medium, and long term, particularly potential resettlements, and impacts on sensitive or protected areas; (iv) prevention, mitigation, and monitoring measures, and identification of those responsible for their implementation; (v) contingency and environmental management plans, with coverage of health and safety issues; (vi) dissemination of information and public consultations; (vii) special conditions for bidding documents; and (viii) identification of the positive impacts of the project.

- 4.15 For monitoring of works, in addition to the technical and environmental inspections that will be outsourced to specialized firms, all program-financed projects will be subject to an environmental audit once construction is completed, in order to determine whether the EMPs were followed and identify possible environmental problems that must be remedied.

F. Risks

- 4.16 There are a number of risks to the program's implementation and success. First, the sustainability of program works is tied to the road maintenance management capacity of the provincial road directorates. To assess the level of risk, an analysis was conducted of the financial, technical, and administrative capacity of each provincial road directorate, as well as the budgetary investment in road maintenance, which was considered in terms of the condition of the provincial networks (see the technical files). In general, the provincial directorates maintain roads by force account, and in recent years, maintenance has fallen behind in terms of technology and equipment, with operating and personnel costs creeping up as a result. Moreover, although shared revenue for roads has been falling, resources for road investments and maintenance in each Norte Grande province have risen systematically since 2003 (see paragraph 4.6), which lowers the risk that the provincial road directorates will not be able to maintain the roads. There is also the risk that works will not be adequately maintained by the provinces upon delivery. This risk will be lowered as follows: (i) since 2004, the provincial road directorates clearly have greater resources, although there is still the possibility that their primary surplus could shrink; (ii) many of the works planned under the program will be to upgrade gravel roads to pavement, which will lower the cost of routine maintenance; (iii) the program will strengthen the road management and planning capacity of every provincial road directorate in the Norte Grande, through studies, training, supervision, and the development of road management and planning systems and tools; (iv) the program calls for the study of cofinancing options for routine road maintenance by the provinces and the study of alternative performance-based systems that guarantee sustainability and require the provincial governments to assume their responsibility for maintenance; and (v) there is a contractual commitment to allocate the resources and personnel needed for the

provinces to carry out adequate road maintenance, which is backed by the national government.

- 4.17 Other risks associated with the project preparation process have been identified and include: (i) a possible delay in the execution of the loan due to delays in the preparation of road projects not included in the representative sample; (ii) a potential shortfall in counterpart resources in the future, which could delay program execution; and (iii) potential coordination problems between the national government, as the executor of works in the provincial road network, and the provincial road directorates, as the entities responsible for preparing provincial projects. To lower these risks, the program will finance consulting studies to evaluate institutional, technical, economic, and socioenvironmental feasibility, as well as detailed designs of the works, which will ensure the availability of resources. In addition, to guarantee the quality and consistency of the products, the national government will continue engaging the services of the Universidad Tecnológica Nacional [National Technological University] and other entities with similar capacity to review projects for the provincial road network and ensure that they meet the requirements related to technical aspects, economic feasibility, and environmental and social management. Furthermore, a model of the participation, transfer, and maintenance of works agreement to be signed by the executing agency and each participating province has been drawn up, which will help resolve any coordination problems between these actors and guarantee that sufficient resources are available for the operation and maintenance of the works, as well as the technical supervision of projects by the provincial road directorates. Lastly, Argentina's strong economic performance and the national government's prioritization of the road sector, as reflected in budget increases for the next several years (see paragraph 4.5), will lower the risk associated with insufficient counterpart resources.

ARGENTINA
NORTE GRANDE ROAD INFRASTRUCTURE PROGRAM (AR-L1014)
LOGICAL FRAMEWORK

Objective	Indicators	Means of verification	Assumptions																																														
GOAL (Impact)																																																	
To contribute to sustainable development in the Norte Grande region.	<ul style="list-style-type: none">Sustained growth of the per capita gross geographic product in the Norte Grande region Baseline: Arg\$3,415 per capita in 1993 (2000).	<ul style="list-style-type: none">Reports from the Instituto Nacional de Estadística y Censos [National Statistics and Census Institute]Economic Commission for Latin America and the Caribbean	<ul style="list-style-type: none">The macroeconomic and productive/trade climate is favorable to program objectives.The Argentine government remains committed to the Norte Grande Development and Integration Program, and the Norte Grande provinces support its implementation.																																														
PURPOSE (Outcomes)																																																	
To make sustainable improvements in the accessibility, efficiency, and safety of the road and transport network in the Norte Grande region.	<ul style="list-style-type: none">After program completion, the accessibility rate for paved road in the Norte Grande increases by at least 3.5%. Baseline: 21.6 kilometers of paved road per 1,000 square kilometers of area in the Norte Grande (2005).Vehicle operating costs on program-financed roads, measured per vehicle-kilometer in constant U.S. dollars using version 4 of the Highway Design and Maintenance Standards Model (HDM), decrease from 2006 to 2010 by an average of at least 15% on improved and paved sections and an average of 5% on widened sections. <table><tr><td colspan="2"></td><td colspan="2">Improved/pav</td><td colspan="2">Widened</td></tr><tr><td colspan="2"></td><td>2006</td><td>2010</td><td>2006</td><td>2010</td></tr><tr><td colspan="2">Automobiles</td><td>0.168</td><td>0.093</td><td>0.114</td><td>0.109</td></tr><tr><td colspan="2">Buses</td><td>1.265</td><td>1.024</td><td>0.707</td><td>0.688</td></tr><tr><td rowspan="3">Trucks</td><td>Light</td><td>1.211</td><td>0.919</td><td>0.412</td><td>0.383</td></tr><tr><td>Medium</td><td>1.928</td><td>1.373</td><td>0.599</td><td>0.562</td></tr><tr><td>Heavy</td><td>2.496</td><td>0.880</td><td>0.851</td><td>0.803</td></tr><tr><td colspan="2">AVERAGE</td><td>1.065</td><td>0.834</td><td>0.545</td><td>0.504</td></tr></table>			Improved/pav		Widened				2006	2010	2006	2010	Automobiles		0.168	0.093	0.114	0.109	Buses		1.265	1.024	0.707	0.688	Trucks	Light	1.211	0.919	0.412	0.383	Medium	1.928	1.373	0.599	0.562	Heavy	2.496	0.880	0.851	0.803	AVERAGE		1.065	0.834	0.545	0.504	<ul style="list-style-type: none">Program oversight and monitoring reportsEvaluation report for each section using the HDM and vehicle operating cost models in the first year after completion of the respective worksAccident statistics from the concession holder for National Route 14 and the Road Concession Control Agency (OCCOVI)Determination of the condition index by the DNV or the provincial road directoratesProject feasibility studiesBank supervision	<ul style="list-style-type: none">The national government remains committed to the program.Present levels of demand for transport in the Norte Grande road network continue.Resources are allocated and transferred in due time and form.Works are maintained under an adequate road maintenance management system.No acts of God or force majeure occur.
		Improved/pav		Widened																																													
		2006	2010	2006	2010																																												
Automobiles		0.168	0.093	0.114	0.109																																												
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Objective	Indicators	Means of verification	Assumptions
<i>Intermediate effects</i>	<ul style="list-style-type: none"> After program completion, the number of days on which roads are closed to traffic or circulation is severely restricted decreases by: <ul style="list-style-type: none"> 100% on National Route 51 in Salta; and 100% on Provincial Route 307 in Tucumán. Baseline: 10-15 days per year The number of traffic fatalities on widened sections of National Route 14 (Corrientes) decreases, with respect to the baseline, by: <ul style="list-style-type: none"> 20% in the first year in which all the widened sections are opened to traffic; and 40% by program completion. Baseline: Estimated weighted fatality rate of 0.077 per million vehicle-kilometers (2004) After program completion, all provincial road directorates participating in the institutional strengthening component have an improved road management system (ranked road inventory and integrated, up-to-date planning tools). <p>Two years after completion of each work:</p> <ul style="list-style-type: none"> The rehabilitated or improved road has a condition index of greater than 6. Annual average daily traffic (AADT) increases by 10% with respect to the baseline on each program-financed road. Light-vehicle travel times on widened sections of National Route 14 (Corrientes) drop by an annual average of 10% with respect to the baseline, estimated at 640,000 hours per year using the HCM-85 (2005). 		

Objective	Indicators	Means of verification	Assumptions
COMPONENTS (Outputs)			
<p>1. Component A: Improvement, expansion, and rehabilitation of the national road network.</p> <p><i>Intermediate outputs:</i></p> <p>1.1 Works on the national road network.</p>	<p>At the end of the execution period (6 years):</p> <ul style="list-style-type: none"> • Works have been executed in the national road network on: <ul style="list-style-type: none"> ▪ At least 65.1 kilometers, for improvement works; ▪ At least 458.4 kilometers, for rehabilitation works; ▪ At least 343.7 kilometers, for expansion works. • All environmental management plans (EMPs) for the projects have been implemented, and all program-financed roads have been assigned to a permanent road maintenance management system. • Contracts have been awarded for 90% of works in this component, including the respective EMPs, by the end of the fourth year from the program eligibility date. 	<ul style="list-style-type: none"> • Program oversight and monitoring reports • Supervision and technical-environmental inspection reports on works • Certification of works by the executing agency and corresponding acceptance records • Bank supervision 	<ul style="list-style-type: none"> • The national government remains committed to the program and allocates and transfers resources in due time and form. • The provincial governments allocate the resources needed to maintain and operate works. • An adequate degree of coordination is maintained between the national government and the participating provincial governments. • Program execution is not delayed by force majeure. • Subsector prices stay in the estimated range. • All permits and licenses needed to execute works are obtained. • There is sufficient interest among companies in bidding on program works.
<p>2. Component B: Improvement, expansion, and rehabilitation of the provincial road network.</p> <p><i>Intermediate outputs:</i></p> <p>2.1 Works on the provincial road network.</p>	<p>At the end of the execution period (6 years):</p> <ul style="list-style-type: none"> • Works have been executed in the provincial road network on: <ul style="list-style-type: none"> ▪ At least 536 kilometers, for improvement works; ▪ At least 57.3 kilometers, for rehabilitation works; ▪ At least 4.3 kilometers, for expansion works. • All EMPs for the projects have been implemented, and all program-financed roads are receiving adequate routine maintenance. • Contracts have been awarded for 90% of works in this component, including the respective EMPs, by the end of the fourth year from the program eligibility date. 		

Objective	Indicators	Means of verification	Assumptions
<p>3. Component C: Institution-strengthening.</p> <p><i>Intermediate outputs:</i> Comprehensive assessment of the provincial road directorates</p>	<ul style="list-style-type: none"> At the end of the execution period (6 years), each provincial road directorate has implemented the following (as recommended by the respective assessment of the provincial road directorate): <ul style="list-style-type: none"> A ranked road inventory (with an assessment of condition); A provincial strategic road plan with an action plan for control of vehicle weight; A computerized system for road maintenance planning and management; Training in road management and planning tools; Training in socioenvironmental management and evaluation, and inspection of works; Procurement of equipment, installation and training for traffic, cargo, weight, and size control equipment, and laboratory equipment. By the end of the first year after the program eligibility date, a comprehensive assessment has been completed for each provincial road directorate. 	<ul style="list-style-type: none"> Program oversight and monitoring reports Consulting reports on the comprehensive assessment of the provincial road directorates, and the design, development, and implementation of the improved road management system Bank supervision 	
<p>4. Component D: Administration, studies, and inspection.</p>	<ul style="list-style-type: none"> By the end of the first year after the program eligibility date, contracts have been awarded for 80% of the consulting studies to evaluate technical, socioeconomic, and environmental feasibility, and the engineering designs for works that are not part of the representative sample. At the end of the execution period, the ex post evaluation of program performance indicators at the purpose level will be commissioned. 	<ul style="list-style-type: none"> Program oversight and monitoring reports 	

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/07

Argentina. Loan ___/OC-AR to the Republic of Argentina
Norte Grande Road Infrastructure 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 Republic of Argentina, as Borrower, for the purpose of granting it a financing to cooperate in the execution of the Norte Grande road infrastructure program. Such financing will be for an amount of up to US\$1,200,000,000 from the Single Currency Facility of the Ordinary Capital resources of the Bank, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

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