

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

ARGENTINA

NORTE GRANDE ROAD INFRASTRUCTURE PROGRAM II

(AR-L1133)

LOAN PROPOSAL

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ELECTRONIC LINKS	
REQUIRED	
1.	Procurement plan http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36449810
2.	Annual work plan (AWP) and program execution plan (PEP) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36449661
3.	Monitoring and evaluation plan http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36450567
4.	Environmental and social management report - ESMR http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36449460
OPTIONAL	
1.	Technical files of the program http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36448207
2.	Economic analysis annex http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36450051
3.	Technical references on road safety http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36446893
4.	Program Operating Regulations http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOC NUM=36450342
5.	Argentina's intercity road network http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36446902
6.	Institutional capacity assessment http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36450765
7.	Environmental annex to the program's Operating Regulations http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36447340
8.	Initial progress monitoring report http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36447943
9.	Road safety annex to the program's Operating Regulations http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36449125
10.	Participation, transfer, and maintenance agreement http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=4154405
11.	Overview of the HDM-4 model http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36448869

ABBREVIATIONS

AADT	Annual average daily traffic
AWP	Annual work plan
CAF	Andean Development Corporation
CCLIP	Conditional Credit Line for Investment Projects
DNV	Dirección Nacional de Vialidad [National Road Directorate]
DPV	Dirección Provincial de Vialidad [Provincial Road Directorate]
EDIVIAR	Esquema Director Vial Argentino [Argentine Roadways Master Plan]
EIRR	Economic internal rate of return
ESMR	Environmental and social management report
GDP	Gross domestic product
GGP	Gross geographic product
HDM	Highway Design and Maintenance Standards Model
INDEC	Instituto Nacional de Estadística y Censos [National Statistics and Censuses Institute]
iRAP	International Road Assessment Programme
IRR	Internal rate of return
MECON	Ministry of Economy and Public Finance
MINPLAN	Ministry of Federal Planning, Public Investment, and Services
NEA	Northeastern Argentina
NR	National Route
NWA	Northwestern Argentina
OC	Ordinary Capital
OEL	Optional electronic link
PDING	Programa de Desarrollo e Integración del Norte Grande [Norte Grande Development and Integration Program]
PEU	Program executing unit
PR	Provincial Route
REL	Required electronic link
RNG	Norte Grande region
RVN	Red Vial Nacional [National road network]
RVP	Red Vial Provincial [Provincial road network]
SEPA	Procurement Plan Execution System
UCPyPFE	Unidad de Coordinación de Programas y Proyectos con Financiamiento Externo [Unit for Coordination of Externally Financed Programs and Projects]
VOC	Vehicle operating costs

PROJECT SUMMARY

ARGENTINA NORTE GRANDE ROAD INFRASTRUCTURE PROGRAM II (AR-L1133)

Financial Terms and Conditions				
Borrower: Argentine Republic Executing agency: Ministry of Federal Planning, Public Investment, and Services (MINPLAN), acting through the Unit for Coordination of Externally Financed Programs and Projects (UCPyPFE)			Amortization period:	25 years
			Grace period:	5 years
			Disbursement period:	5 years
Source	Amount (US\$)	%	Inspection and supervision fee:	*
			Interest rate:	LIBOR-based *
IDB (OC)	300,000,000	90	Credit fee:	*
Local	33,500,000	10	Currency: United States dollars from the Single Currency Facility of the Ordinary Capital (OC)	
Total	333,500,000	100		
Project at a Glance				
Objective: The objective of the program is to improve the accessibility, efficiency, and safety of priority roads of the national road network (RVN) and feeder roads of the provincial road network (RVP) in the Norte Grande region (RNG), through the widening, rehabilitation, and improvement of road corridors that connect production centers with local and foreign markets. To ensure the sustainability of these investments, the works financed by the program will be incorporated into the road maintenance management systems. This objective contributes to sustainable economic development in the RNG. To achieve these objectives, the project was structured under the following main components: (i) engineering works; (ii) road safety; (iii) institution strengthening; (iv) administration, studies, and supervision.				
Special contractual conditions: <u>Precedent to the first disbursement of the loan proceeds:</u> The executing agency will present evidence of the following: (i) update of the Operating Regulations of program AR-L1014, and its environmental and road safety annexes, in accordance with terms previously agreed upon with the Bank (paragraph 3.5); (ii) survey of the condition of a section of a provincial network in the RNG, conducive to execution of at least one service-standard road maintenance contract or similar contract, including infrastructure for vehicle weight and size control (paragraph 1.25); (iii) terms of reference for conducting at least one diagnostic assessment and road safety audit for a section of the provincial road network (paragraph 1.26), and (iv) signing of a subexecution agreement between the executing agency and the National Road Directorate (DNV) (paragraph 3.4). <u>Special conditions for execution:</u> (i) Evidence that a participation agreement has been signed between the executing agency and the participating province whereby the latter undertakes to inspect the program’s works and ensure their maintenance once they are completed (paragraph 3.3); (ii) for a province to be able to access the maintenance funds under Component 1 “Engineering Works,” the given provincial road directorate must demonstrate its prior and/or simultaneous participation in the institution strengthening component or in an equivalent Bank-approved program (paragraph 1.27).				
Exceptions to Bank policies: None				
Project consistent with country strategy:		Yes [X]	No []	
Project qualifies as:		SEQ []	PTI []	Sector [] Geographic [] Headcount []
Procurement: See paragraph 3.6				

(*) The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable provisions of the Bank's policy on lending rate methodology for Ordinary Capital loans. In no case will the credit fee exceed 0.75% or the inspection and supervision fee exceed, in a given six-month period, the amount that would result from applying 1% to the loan amount divided by the number of six-month periods included in the original disbursement period.

I. DESCRIPTION AND RESULTS MONITORING

A. Background, problems, strategy, and rationale

- 1.1 **The Norte Grande region (RNG).** Encompassing the provinces of Catamarca, Corrientes, Chaco, Formosa, Jujuy, Misiones, Tucumán, Salta, and Santiago del Estero, the Norte Grande region is the least economically and socially developed part of the country. Although it covers one third of continental Argentina, and is home to 21% of the country's total population (approximately 8.3 million inhabitants),¹ it generates just 10% of the country's gross domestic product (GDP) and 8% of its exports.²
- 1.2 Although poverty levels have fallen in Argentina as a whole, there is still a significant divide between the RNG and the national average. While the country's poverty and extreme poverty rates are 9.9% and 2.5%, respectively, in the RNG these figures are 14.7% and 2.9%, respectively.³ According to the Human Development Index, which assesses the dimensions of education, health, and income,⁴ the provinces of the RNG rank lowest on the provincial scale: its highest-ranked province ranks 11th and its lowest ranks 24th out of a total of 24 provinces.⁵
- 1.3 The government has undertaken sweeping actions to correct these historical imbalances between the regions, one of which is the Norte Grande Development and Integration Program (PDING). Launched in 2004, it includes road, energy, and water infrastructure construction works to stimulate and integrate production-related activities in these provinces, and help narrow the economic and social development gap with the rest of the country.⁶ These projects are justified in terms of the development benefits, since more and better infrastructure can help accelerate growth and reduce inequality.⁷

¹ National Statistics and Censuses Institute (INDEC). National Population and Housing Census 2010. (www.indec.gov.ar).

² Estimated 2005 gross geographic product, exports 2010. National Directorate for Regional Economic Programming. Ministry of Economy and Public Finance.

³ Poverty affects 18.5% of the population in northeastern Argentina (NEA) and 11.8% in northwestern Argentina (NWA). Extreme poverty stands at 3.7% in NEA and 2.1% in NWA. Source: INDEC. Permanent Household Survey, second semiannual period 2010 (www.indec.gov.ar).

⁴ The health, education, and income dimensions are estimated, respectively, by: (i) life expectancy at birth; (ii) adult literacy rate and combined gross rate of enrollment in elementary, secondary, and tertiary education; and (iii) per capita GDP, expressed in terms of purchasing power parity (PPP), in United States dollars.

⁵ United Nations Human Development Report 2010. Desarrollo Humano en Argentina: Trayectos y nuevos desafíos [Human Development in Argentina: The distance traveled and new challenges]. (http://www.undp.org.ar/desarrollohumano/docsIDH2010/PNUD_INDH_2010_Nov_2010.pdf).

⁶ The PDING is part of a government strategy for regional historic improvement of the RNG: Available at www.desarr-territorial.gov.ar/htms/nortegrande/nortegrande_elprograma.html.

⁷ Backed by a cohort study conducted in 100 countries. Calderon, C. and L. Serven "The effects of infrastructure development on growth and income distribution." World Bank document 3400/2004.

- 1.4 **Problems associated with transportation.** Exports play a key role in Argentina's economic development, especially in the economies of the provinces that make up the RNG. Between 2003 and 2010, Argentine exports, measured in FOB value (current dollars), grew by 127.7% while exports from the RNG grew by 134% (156.5% in northwestern Argentina and 75.8% in northeastern Argentina).⁸ In addition, the region experienced strong growth in agricultural activity, due to the ongoing expansion of the agricultural frontier spurred by the rise in international prices and technological advances. In the RNG provinces, the area planted to soybeans grew from 1.2 million hectares in 2001 to 2.4 million hectares in 2010. This increase in planted area, as well as the yields, generated rising demand for grain transportation, especially soybeans. Soybean production in the RNG provinces rose from 2.4 million tons in the 2000/01 crop year to more than 7.1 million tons in the 2009/10 crop year.⁹
- 1.5 This vigorous growth in production activity has created a substantial increase in road traffic. It is estimated that approximately 80% of the total volume of freight shipped uses the country's road network.¹⁰ In the last decade (2000/2010), increases in the AADT¹¹ in the RNG provinces ranged from 35% in the province of Catamarca to more than 70% in the province of Jujuy, compared with the national average of 45.7%.¹²
- 1.6 In this context, an efficient transportation network and logistics services able to meet the growth in demand are needed to reduce logistics costs and strengthen competitiveness in the regional economy. This is especially important in the RNG because of the long distances to the principal export ports or to final or intermediate consumption centers.¹³ Given the distances, the condition of the transportation network, and other inefficiencies in the transportation system—for example the lack of good modal integration and unproductive return trips along the south-north corridor—logistics costs for northwest Argentina are almost 50% higher than the average of the other regions of the country.¹⁴
- 1.7 The intercity road network in the RNG is approximately 57,000 kilometers long, of which 86% of the national road network and 19% of the provincial road network

⁸ Complejos Exportadores Provinciales [Export complexes in the provinces]. 2010 Annual Report. MECON (www.mecon.gov.ar/pecon/dnper/complejos_exportaciones_provinciales_2010.pdf) and INDEC.

⁹ Integrated Agricultural Information System. Ministry of Agriculture and Fisheries. (www.minagri.gob.ar).

¹⁰ World Bank, Sustainable Development Department, LAC Region. “[Logística en Argentina: análisis y opciones para resolver sus desafíos estratégicos](#)” [Logistics in Argentina: analysis and options for resolving strategic challenges] Report 54342-AR, June 2010.

¹¹ AADT: annual average daily traffic.

¹² National Road Directorate (http://transito.vialidad.gov.ar:8080/SelCE_WEB/intro.html).

¹³ Rosario, Buenos Aires, and Bahía Blanca are the principal export ports; Rosario, Córdoba, and Buenos Aires are the processing or consumption centers.

¹⁴ Barbero, José and Tomás Serebrisky (2006). Argentina: El Desafío de Reducir los Costos Logísticos ante el Crecimiento del Comercio Exterior. [Argentina: The challenge of reducing logistics costs given the growth in foreign trade]. World Bank.

are paved. Both of these figures are lower than the average for the rest of the country (Table I-1), indicating that, despite reductions in the existing gap,¹⁵ road infrastructure in the RNG still lags significantly behind the rest of the country.

- 1.8 In order to maintain the region's competitiveness, narrow the divide with the rest of the country, and avoid weakening economic activity and productive development, increases in production in the RNG must be accompanied by new investments in road infrastructure to avoid further hikes in transportation costs. Accordingly, the program seeks to make sustainable improvements in the overland transport of freight and passengers in the priority corridors in order to further consolidate the region and integrate it with the rest of the country and neighboring countries.¹⁶

Table I-1 Road network of the Norte Grande region								
	Provincial road network (RVP)				National road network (RVN)			
	km (2009)				km (2010)			
	Paved	Gravel	Dirt	Total	Paved	Gravel	Dirt	Total
Catamarca	1,328	2,534	1,144	5,006	1,086	42	-	1,128
Corrientes	776	2,330	2,935	6,041	1,754	-	-	1,754
Chaco	578	313	5,451	6,342	987	-	-	987
Formosa	326	303	2,101	2,730	1,085	-	224	1,310
Jujuy	505	81	2,783	3,369	750	423	16	1,188
Misiones	1,263	494	1,646	3,402	718	-	104	822
Salta	667	2,969	3,635	7,271	1,398	275	178	1,850
S. del Estero	1,990	1,805	5,647	9,442	1,429	-	59	1,487
Tucumán	1,104	945	468	2,517	504	41	-	545
Total RNG	8,537	11,774	25,810	46,120	9,710	781	581	11,071
%	19%	26%	56%	100%	88%	7%	5%	100%
Rest of the country	33,465	31,055	85,875	150,397	25,147	2,622	559	28,328
%	22%	21%	57%	100%	89%	9%	2%	100%

Sources: RVP: Federal Road Council (http://www.cvf.gov.ar/red_provincial.html); RVN: National Road Directorate (http://www.vialidad.gov.ar/pavimento_cod_tramos/estado_pavimentos.php).

- 1.9 **Road safety.** During 2010, a total of 174,828 traffic accidents were recorded in Argentina, resulting in 4,162 fatalities at the scene of the accident. Even though the

¹⁵ In the mid-2000s, the difference in the percentage of paved network out of the total between the RNG and the rest of the country was approximately 14 percentage points for the national road network and five percentage points for the provincial road network, representing an improvement in paved road accessibility. Source: Technical files of loan AR-L1014.

¹⁶ This operation was requested by the Government of Argentina to supplement the Norte Grande Road Infrastructure Program (1851/OC-AR), which is currently in progress. Although this was the original objective of the first Norte Grande road program, this second loan will seek to complement interventions in both the national road network and the provincial road network of the RNG.

RNG has fewer registered vehicles per inhabitant—one vehicle per 5.78 inhabitants compared to one vehicle per 2.83 inhabitants at the national level—its provinces head the list of number of deaths at the scene of the accident per 100,000 registered vehicles.¹⁷

- 1.10 Accidents are the result primarily of human behavior, the vehicle, and infrastructure. It is therefore imperative to improve the safety conditions of the existing road network and make sure that all new investments meet appropriate safety standards; this is particularly relevant now, given the launch of the United Nations Decade of Action for Road Safety.¹⁸ In this connection, the International Road Assessment Programme (iRAP) has developed protocols and studied the effectiveness of a number of measures that can be applied to improve safety conditions for different users. ([OEL # 3](#))
- 1.11 **The Norte Grande Road Infrastructure Program (AR-L1014).** Loan 1851/OC-AR, in the amount of US\$1.2 billion, was approved in February 2007 and its disbursement period will end in March 2013. By 30 September 2011, US\$772.8 million, or 64.4% of the Bank's loan proceeds, had been disbursed. The operation is being disbursed at a good pace and the execution period is not expected to be extended. The institutional assessment of the executing unit ([OEL # 6](#)) provided some suggestions that are being addressed in the current operation. The Norte Grande Road Infrastructure Program II (AR-L1133) was requested by the Government of Argentina and, as in the case of the first loan, it will contribute to maintaining investment levels to improve road accessibility, serviceability, and safety in the RNG. This additional investment, coupled with efforts to strengthen the institutional capacity of the provincial road directorates in order to ensure effective control and maintenance of the road network, is intended to help reduce logistics costs and improve the competitiveness of the RNG's productive apparatus. This second loan will make it possible to broaden the scope to other provinces in the RNG that were not covered under the first loan, since the needs greatly outweigh resource availability. This new loan will also deepen road safety efforts, with the inclusion of this new component.
- 1.12 **Institutional framework of the road subsector.** The National Road Directorate (DNV), attached to the Ministry of Federal Planning, Public Investment, and Services (MINPLAN), is responsible for the administration of the national road network (RVN). The provincial road network (RVP) is administered by 23 provincial road directorates (DPVs), one per province, which are autonomous units usually attached to the provincial public works ministries.
- 1.13 **Financing arrangements.** The national road network is administered with budget allocations from the DNV and funds from the Transportation Infrastructure System. DPVs' budget allocations mainly come from the provincial treasury and from a

¹⁷ Source: National Directorate of the National Road Safety Agency's Road Observatory (<http://www.mininterior.gov.ar/ansv/estadisticas.php?idName=segVial&idNameSubMenu=segVialEstadística>).

¹⁸ United Nations (www.un.org/es/roadsafety).

federal revenue-sharing fund earmarked for the provincial road network. The shared revenue for roads, raised through a fuel tax, has dropped in part because of changes in the allocation arrangement and increased consumption of compressed natural gas. The road revenues that financed most investments in the provincial and national networks have fallen in proportion to total national revenues from sector taxes and fees.

- 1.14 **The strategy of the Government of Argentina.** In the RNG, the government's sector strategy consists of supporting investments in road infrastructure in order to promote competitiveness and economic growth in the region. Each road project covered by this program is part of the works programs of the DNV and the DPVs in the Norte Grande Region for the coming years. Moreover, the projects identified for this program are consistent with the National Land-use Management and Development Policy, the territorial strategic plans being prepared for the RNG, and the Argentine Roadways Master Plan (EDIVIAR).¹⁹ The national government considers that this approach will maximize benefits from achieving the objectives of narrowing the region's development gaps relative to the rest of the country.²⁰
- 1.15 **Relationship with the Bank's country strategy with Argentina.** For the transportation sector, the updated strategy (document GN-2570) attaches priority, among other things, to growth and competitiveness in a setting more conducive to investment and productivity, contributing to the outcomes of productive transportation infrastructure development, transportation sector development, and logistics services improvement. The program is also consistent with the strategic objective of reducing poverty and contributing to sustainable development in the RNG. Although the 2011 Argentina Country Program (CPD_AR_2011; document GN-2617) does not include this operation, the Government of Argentina underscored the priority of the program for its policy in the sector. The program's objectives are also aligned with points A 1.2 (a) growth and competitiveness; and (b) poverty reduction, of the CPD_AR_2011.²¹
- 1.16 **The Bank's participation.** At the regional level, this program supports a broader national government policy, which seeks to promote the development and integration of the Norte Grande region through investments in production support services infrastructure. In the transportation sector this program is preceded by the aforementioned Norte Grande Road Infrastructure Program (1851/OC-AR). The

¹⁹ Esquema Director Vial Argentino [Argentine Roadways Master Plan], found at <http://www.cvf.gov.ar/ediviar.html>.

²⁰ The country's position with regard to this region is clearly stated in the document: "Argentina 2016. Política y Estrategia Nacional de Desarrollo y Ordenamiento Territorial Construyendo una Argentina equilibrada, integrada, sustentable y socialmente justa" [Argentina 2016. National Policy and Strategy for Land-use Management and Development: Building a balanced, integrated, sustainable, and socially just Argentina] (pages 10 to 12) ([IDBDOC#36315849](#)). Also in Plan Estratégico Territorial [territorial strategic plan] ([IDBDOC#36315890](#)), (pages 95 to 96, and 111 to 164).

²¹ Document RE-361 "Country Program Evaluation: Argentina 2003-2008" addresses transportation issues that have been taken into account by the Bank in its interventions.

Bank also supports government initiatives through other operations, including the Water Infrastructure Development Program for the Norte Grande Provinces (1843/OC-AR), the Norte Grande Competitiveness Program (2005/OC-AR), the Norte Grande Electricity Transmission Program (1764/OC-AR), the Productive Road Infrastructure Programs (I and II) (2185/OC-AR and AR-L1131, respectively), the objective of which is to upgrade the priority roads of the provincial road network and their connectivity with the national road network, serving provinces outside the RNG. This operation is also aligned with the Bank's strategic institutional priority: "... (b) infrastructure for competitiveness and social welfare ...," as stated in the Report on the Ninth General Increase in the Resources of the IDB (document AB-2764), through projects to upgrade priority roads of the provincial road network and their connectivity with the national road network.

- 1.17 **Coordination with other institutions and donors.** Multilateral agencies such as the World Bank, the Andean Development Corporation (CAF), and the IDB have been actively involved in financing the road sector in the country in recent years. This operation will supplement the Bank's portfolio of programs currently in progress. The institutional-strengthening actions of the provincial road directorates will be coordinated, the World Bank having already executed such actions in several provinces, including Corrientes, with loan 4093-AR, and others to be implemented under loan 7301-AR. The Regional Road Development Program (Loan CFA 7352), also in progress, is financed by the CAF. In addition, in December 2010 the World Bank approved the Norte Grande Road Infrastructure Project with similar objectives to those of this operation.²²

B. Objectives, components, and costs

- 1.18 The objective of the program is to improve the accessibility, efficiency, and safety of priority roads of the national road network and feeder roads of the provincial road network in the Norte Grande region, through the widening, rehabilitation, and improvement of road corridors that connect production centers with local and foreign markets. The program also aims to promote the sustainability of the investments through the incorporation of the works it finances into road maintenance management systems. The program will contribute to sustainable economic development in the Norte Grande region.
- 1.19 For program preparation and evaluation, road projects were selected for a total estimated cost equivalent to 37% of the amount of the loan. The project sample encompasses all the technical and environmental singularities of the potential universe of projects that will make up the program, and already has technical, economic, and socioenvironmental feasibility studies.
- 1.20 Program resources may be used to prepare feasibility studies and engineering designs for projects not included in the sample. During program preparation, it was agreed with the country that the projects to be included in the program must have

²² The transportation sectors of the World Bank, the CAF, and the IDB hold periodic coordination meetings.

suitable engineering designs, be economically viable, and guarantee satisfactory social and environmental management. The eligibility criteria for projects to be covered by the program include that they: (i) form part of a national or provincial road network; (ii) be included in EDIVAR, and connected at some point with the RVP or RVN with service levels similar to those of the project to be carried out; (iii) have detailed designs, including a plan for pavement markings and road signs and other aspects of road safety, with a sufficient degree of detail to be tendered; (iv) have socioeconomic feasibility studies, and an economic internal rate of return equal to or greater than 12%; and (v) have detailed socioenvironmental studies, depending on the type of work, as well as suitable social and environmental management plans, environmental licenses as required under national and provincial legislation, and be in compliance with Bank policies. These and other technical criteria are an integral part of the program's Operating Regulations.

- 1.21 To achieve the proposed objective, the program has four main components, namely:
- 1.22 **Component 1: Engineering works (US\$304.1 million).** The objective of this component is to widen, rehabilitate, and improve national and provincial road corridors that connect production centers to local and foreign markets. This component is divided into:
 - 1.23 Subcomponent 1.1. "RVN works" (US\$126.3 million): This includes works to improve, widen, and rehabilitate priority stretches of the RVN in the Norte Grande region, as well as works to improve road safety, including pavement markings and road signs, upgrading of pedestrian crossings, and improved designs. The works in the sample are the rehabilitation of two stretches of National Route 16 between Taco Pozo (bordering with Chaco) and Escuela N° 637 (near Macapillo) in the province of Salta.
 - 1.24 Subcomponent 1.2 "RVP works" (US\$177.8 million): This includes works to improve, widen, rehabilitate, and pave priority stretches of the RVP in the provinces of the Norte Grande region. The works in the sample are: (1) in Chaco, improvement and paving of Provincial Route 1 between the Provincial Route 56 junction (La Leonesa) and Gral. Vedia, including access to Gral. Vedia; and (2) in Jujuy, widening of Provincial Route 1, the San Salvador de Jujuy - Palpalá stretch, and construction of access from Río Blanco to National Route 66.
 - 1.25 **In addition, this component provides for the execution of at least one service-standard road maintenance contract or similar contract for a section of the provincial road network in the RNG, including infrastructure for weight and size control. A condition precedent to the first disbursement will be to have conducted a survey of the condition of a section of a provincial network in the RNG, conducive to execution of said contract.**
 - 1.26 **Component 2: Road safety (US\$18 million).** The objective of this component is to perform road safety diagnostics and audits (designs and road construction), provide training, and promote interaction with other agencies that have responsibility for some aspect of road safety at the provincial level. Support will be

provided for implementing designs and constructing road safety countermeasures in a pilot corridor. These interventions may include community outreach campaigns to inform and raise awareness, training, and interaction with other agencies that have responsibility over one or more aspects of road safety at the provincial level. **A condition precedent to the first disbursement will be presentation of the terms of reference for conducting at least one road safety diagnostic assessment and audit in a section of the provincial road network.**

- 1.27 **Component 3: Institution strengthening (US\$2.4 million).** The objective of this component is to strengthen institutional management in the provincial road directorates (DPVs) and the program executing unit (PEU). It will provide the DPVs with management tools that make it possible to optimize execution of resources and make road investments a priority. Specific actions financed through this component will be identified for each province on the basis of an assessment of their institution-strengthening needs. In addition, this component will seek to enhance the management capacities of the DPVs and the PEU, and hold workshops where participants can share experiences on road management, road safety, and environmental and social management. The program's Operating Regulations will set out the criteria and methodology to be used to define the scope and cost of institution-strengthening activities for the DPVs.
- 1.28 **Component 4: Administration, studies, and supervision (US\$9 million).** This component includes program management, evaluation, and monitoring, as well as technical-environmental supervision of works and audits. It also includes studies performed by consultants to evaluate the institutional, technical, socioeconomic, and environmental feasibility of the works not included in the sample, as well as the detailed designs.
- 1.29 **Costs.** The program will be financed by means of a multiple-works investment loan with a five-year execution period. The total cost of the program is US\$333.5 million, of which US\$300 million will be financed from the Bank's Ordinary Capital resources and US\$33.5 million will be the local contribution, as follows:

Table I-2. Costs and financing

Description	IDB		Local contribution		Total	
	US\$ million	%	US\$ million	%	US\$ million	%
Component 1. Engineering works	270.6	89	33.5	11	304.1	91
1.1 RVN works	106.3	83	20.0	17	126.3	-
1.2 RVP works	164.3	92	13.5	8	177.8	-
Component 2. Road safety	18.0	100	0	0	18.0	5
Component 3. Institution strengthening	2.4	100	0	0	2.4	1
Component 4. Administration, studies, and supervision	9.0	100	0	0	9.0	3
Total program	300.0	90	33.5	10	333.5	100

C. Main outcome indicators

- 1.30 The program seeks to achieve the following outcomes: (i) physical: the execution of works and road maintenance; (ii) operational: such as shorter travel times and lower transportation costs; (iii) road safety: related to audits and interventions; and (iv) institutional: including the development of institutional-strengthening plans as well as training for PEU, DNV, and DPV personnel. The detailed results matrix can be found in Annex II.

II. FINANCIAL STRUCTURE AND MAIN RISKS

A. Financial instruments

- 2.1 The program is a multiple-works investment loan. The amortization period of the loan will be 25 years, with a five-year disbursement period from the date the loan contract enters into effect, according to the timetable below.

SOURCE (US\$)	2012	2013	2014	2015	2016	2017	TOTAL	%
IDB	34,251,458	124,977,686	103,910,517	32,350,246	3,160,243	1,499,850	300,150,000	90%
LOCAL CONTRIBUTION	3,805,718	13,886,410	11,545,613	3,594,472	351,138	166,650	33,350,000	10%
TOTAL	38,057,176	138,864,095	115,456,130	35,944,718	3,511,381	1,666,500	333,500,000	100%

B. Environmental and social risks

- 2.2 **Socioenvironmental impact.** In general, the interventions planned for this operation, which include the improvement, widening, paving, and rehabilitation of existing roads within the road right-of-way,²³ will not generate significant negative

²³ Historically, there is great respect for road rights-of-way (generally 100 meters wide) in Argentina, which reduces the risk of possible impact on residents and businesses near the works.

environmental and social impacts. Once the infrastructure to be financed enters into use, a series of positive environmental and social impacts are expected, associated with improvements in the competitiveness and economic development of the regions where they were executed. The interventions will also result in reductions in the cost of transporting products, goods, and people.

- 2.3 Since the works are not expected to affect constructions or dwellings, the environmental impacts²⁴ will be limited and of relatively small scale; they will be evident mainly during the road construction stage and will be handled using standard techniques. Existing environmental regulations of the Argentine Republic require public consultations for all projects; this will ensure fulfillment of directive B.6 of the Bank's policy OP-703.
- 2.4 The executing agency has a very well-structured PEU that has been responsible for monitoring various operations financed by the World Bank and by the IDB. For the Norte Grande Road Infrastructure Program (AR-L1014) currently under way, impact is addressed on a timely basis—with very good results²⁵—through the execution of an environmental and social management plan that uses, among other tools, briefs that address the various types of impact and cover social, environmental, occupational health, and industrial safety issues associated with each project. It is also important to stress that the bidding documents for all the works will clearly include the items for managing the environmental and social matters provided for in each project's environmental management plan, as well as the corresponding payment item, and the environmental technical specifications that must be fulfilled by all contractors.
- 2.5 During the due diligence process, the works of the representative sample²⁶ were analyzed thoroughly from the environmental and social perspectives.²⁷ They will be executed in the right-of-way released when the existing roads were constructed. They will have been the object of a detailed environmental analysis compatible in form and substance with the Bank's requirements. They will not require the resettlement of any inhabitants, will not affect the areas of influence of any native

²⁴ These include: (i) the generation of dust, noise, fumes, and vibrations from the construction activities; (ii) soil compaction and possible ground pollution due to spilled oil; (iii) generation of solid waste; (iv) mild and temporary impact on fauna (birds, domestic animals, etc.); (v) generation of liquid effluents; (vi) possible resistance of the population to foreign personnel working with the contractor and supervising the works; (vii) possible generation of new migration flows toward the project area; (viii) possible resistance of the population to changing their travel patterns during the construction period; (ix) increased road safety threats due to the movement of heavy machinery; and (x) disturbance of traffic in the areas of operation ([REL # 5](#)).

²⁵ To date, taking into account the environmental supervision reports prepared for a sample of projects by VPS/ESG in 2009 and 2010 and the monthly service orders sent regularly by the PEU to the contractors, it is possible to state that there are no environmental or social liabilities related to the roads being financed under program AR-L1014.

²⁶ Comprised of the following three roads: (i) National Route 16 in the province of Salta; (ii) Provincial Route 1 in Jujuy; and (iii) Provincial Route 1 in Chaco.

²⁷ See ESMR, [REL # 5](#).

community, and will not intersect any protected area or area of social or environmental interest.

- 2.6 An annex to the program's Operating Regulations²⁸ was prepared for the Norte Grande Road Infrastructure Program (AR-L1014) that spells out the environmental and social analysis that must be performed for any project financed by the operation. These regulations have been improved as the works have proceeded, and now include procedures based on the good experiences and lessons learned during execution of program AR-L1014. The updated version, analyzed in detail during the environmental due diligence process, will be used to determine the eligibility and standards of implementation of projects to be financed under this new operation.²⁹
- 2.7 **The program's environmental and social management strategy.** Given the involvement of decentralized and national actors, such as the DPVs and the DNV, and considering that the interventions consist of the widening, improvement, and paving of existing roads or their rehabilitation, the program's strategy consists of: tapping into the positive experiences gained from the first CCLIP and Norte Grande road operations; standardizing the analysis, support, and audit processes; requiring the PEU environmental unit's approval for the disbursement of payments to contractors; and performing audits at the conclusion of each work to ensure that any environmental and social liabilities generated have been corrected. In addition, the institution-strengthening component will provide training for the environmental and social areas of the DPVs, the DNV, and the PEU, as well as workshops to share experiences.

C. Fiduciary risks

- 2.8 The experience of the UCPyPFE of the MINPLAN with similar IDB- and World Bank-financed projects, and the outcomes achieved in managing all the administrative, tendering, and monitoring processes involved in the infrastructure projects, lead to the conclusion that the overall risk of the program associated with procurement management and financial management is marginally low.³⁰ The administrative and functional structure of the UCPyPFE and of the DNV's Coordinating Unit for IDB Projects will be strengthened to meet the incremental administrative and execution needs of the program's components. The DPVs will not be directly involved in the program's tendering processes and were therefore not taken into account in the capacity assessment. Thus, the institutional and fiduciary risk of the program is considered low.

²⁸ The environmental annex of the program's Operating Regulations requires, among other things, the adoption of an environmental and social management framework, a released right-of-way, presentation of all required environmental licenses, the adoption of a system for capturing, processing, and resolving complaints and claims, and various periodic reports.

²⁹ See [OEL # 7](#).

³⁰ Loans 830/OC-AR, 932/OC-AR, 1118/OC-AR, 1345/OC-AR, and 1851/OC-AR with the Bank and loans 4093-AR, 7301-AR, 7382-AR, and 7385-AR with the World Bank were or are being executed by the UCPyPFE.

D. Other issues and risks

- 2.9 **Economic feasibility.** For the economic evaluation of the program, cost-benefit analyses were conducted for each road project in the representative sample ([OEL # 2](#)). The analyses compared costs and benefits, at economic prices, under scenarios with and without the road works. The benefits of each individual project were estimated based on an analysis methodology typically used in road projects (consumer surplus), in which savings in generalized transport costs for normal traffic, derived and generated, and savings in road maintenance costs are quantified. The HDM-4 model was used to calculate each project's return, taking into account the investment costs associated with the engineering studies, and including the costs of mitigating direct socioenvironmental impacts, vehicle operating costs (including time), and annual maintenance costs identified for the scenarios with and without the project.
- 2.10 Economic internal rates of return (EIRR) calculated for each project yielded results ranging from 14.7% to 23.2%. In addition, sensitivity scenarios using a 20% increase in investment costs, a 20% reduction in benefits, and a combined 10% increase in investment costs and simultaneous 10% reduction in benefits, resulted in every project having an EIRR higher than the 12% discount rate used. This confirms their robustness relative to less favorable scenarios. Table II-1 summarizes the results of the cost-benefit and sensitivity analyses.
- 2.11 There are additional benefits that were not quantified and stem from each project's strategic contribution to socioeconomic development and integration in its area of influence—for example, impact on development of the tourism sector—and from improvements in permanent road serviceability and safety.

Table II-1. Results of the cost-benefit and sensitivity analyses

Project	Length (km)	Investment cost (US\$000)	ENPV (US\$000)	EIRR (%)			
				Base	Sensitivity analysis		
					Investment cost (IC)+20%	Benefits (B)-20%	IC +10% & B-10%
Prov. Rte 1 in Chaco	16.67	16,034.7	4,163	16.0%	13.6	13.1	13.3
Prov. Rte. 1 in Jujuy	8.40	43,689.7	30,269	23.2%	19.8	21.2	16.9
Nat. Rte. 16 in Salta	92.00	64,805.7	8,004	14.7%	12.6	12.2	12.6

See Annex II "Results Matrix."

- 2.12 **Sustainability of program works.** The works financed under Subcomponent 1.1 will be operated and maintained by the DNV through the road maintenance management systems currently in operation. In particular, National Route 16 will be maintained under a unit of measure system by service level. The DNV will provide evidence that it has incorporated the works financed under this subcomponent into a permanent road maintenance management system when the provisional acceptance

certificate is issued for the works, as a condition for the final payment on each work.

- 2.13 Once completed and transferred to the provinces, the works financed under Subcomponent 1.2 will be operated and maintained by the DPVs. The anticipated agreements ([OEL # 10](#)) will ensure the human, physical, and financial resources for effective maintenance of the works by each DPV. The foregoing notwithstanding, the executing agency will undertake to submit performance reports and maintenance plans for program-financed works and goods annually to the Bank, within the first six months of each calendar year and during a five-year period beginning the year after completion of the first work.
- 2.14 **Execution risks.** Other risks associated with the design of projects to be included in the program are: (i) a possible delay in the execution of the loan due to delays in the preparation of road projects not included in the program's representative sample; and (ii) potential coordination problems between the national government, as the executing agency for the works in the provincial road network, and the DPVs, as the entities responsible for preparing provincial projects. To mitigate these risks, the program will finance consulting services needed 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, under the Norte Grande Road Infrastructure Program (AR-L1014) currently being executed, a model participation, transfer, and maintenance of works agreement was drawn up between the executing agency and each participating province, which helps resolve any coordination problems between these actors, and guarantees that the necessary resources are available for the maintenance and operation of the works as well as the DPVs' technical supervision of projects.
- 2.15 The main issues observed during execution of program AR-L1014 include the following: (i) Price increases. In recent years, rising costs combined with the relatively low devaluation of the local currency vis-à-vis the United States dollar resulted in price adjustments on the order of 20% per annum, threatening achievement of the operation's physical targets. The following measures were taken to mitigate this possible impact under the new loan: (a) include sufficient funds in the given component to cover possible price increases; (b) move forward with the preparation of engineering designs, and use standard bidding documents that include the improvements and updates from the last processes of the current loan so that the works from the sample can begin as soon as possible; and (c) once the works have begun, continue with the payment processes that apply currently without delay. (ii) Coverage. Under the first operation, investments were concentrated in four RNG provinces; the new loan improves the distribution of road investments, for both the national and provincial road networks, to support provinces that did not receive investments under the first operation. (iii) Delays in project preparation. The works executed in the national road network were delayed primarily because of the DNVs' road design approval processes. Under the new loan, to mitigate this impact it was agreed that the works to be financed must have

finalized detailed designs; accordingly, the tendering process for the two stretches of the national road network in the representative sample has already begun and the works are expected to begin without delay at the outset of the new operation; and (iv) Institution strengthening. In the current operation, execution of the institution-strengthening component was delayed. This notwithstanding, the executing agency has pledged to fulfill the commitments and, given the current time periods, it is still feasible to meet the objectives of the current operation. Works already in progress will continue under the future operation, which will finance a service-level maintenance pilot to create a demonstration effect for the DPVs in the RNG while their road management capacities are being strengthened.

III. EXECUTION AND ADMINISTRATION PLAN

A. Execution mechanisms

- 3.1 **Borrower and executing agency.** The borrower will be the Argentine Republic. The executing agency will be the Ministry of Federal Planning, Public Investment, and Services (MINPLAN), acting through the Unit for Coordination of Externally Financed Programs and Projects (UCPyPFE). The National Road Directorate (DNV) will be the subexecuting agency.
- 3.2 **Execution arrangements.** The executing agency will delegate program execution and administration to the UCPyPFE,³¹ which was created to implement programs and projects that receive financing from international organizations. The program executing unit (PEU), which will continue to operate within the UCPyPFE, is operationally responsible for the execution of program AR-L1014, and for inspecting the road works, either directly or through a third party. For the works to be executed under Subcomponent 1.1, the UCPyPFE will delegate to the DNV the bidding and contracting processes, as well as works supervision, through the Coordinating Unit for IDB Projects. The PEU will continue to be responsible for the coordination and administration of all program activities in accordance with the provisions of the loan contract and the Operating Regulations. Its responsibilities will include implementing the procurement processes, as well as contracting and supervising the implementation of eligible projects. The PEU will have a unit devoted to the monitoring of all social, environmental, health, and occupational safety matters.
- 3.3 As a special condition for execution, the PEU will sign participation agreements with each province participating in the program. A special condition for execution is to provide evidence that a participation agreement has been signed by the executing agency and the participating province through which it agrees to inspect the program's works and ensure their maintenance once completed.

³¹ The UCPyPFE was created by Resolution 165/2000 of the Ministry of Infrastructure and Housing, and its areas of responsibility were modified by Decree 1,142/2003 of the National Executive Branch.

- 3.4 **Another condition precedent to the first disbursement is that the PEU provide evidence that a subexecution agreement has been signed by the executing agency and the National Road Directorate (DNV).**
- 3.5 **Program Operating Regulations.** Because it is a multiple-works program, execution will be based on an updated version of the program's Operating Regulations for the Norte Grande Road Infrastructure Program (AR-L1014) ([OEL #4](#)) that covers: (i) technical, economic, and socioenvironmental criteria for project eligibility; (ii) socioenvironmental impact analysis requirements in accordance with the project category and the vulnerability of the area of influence; (iii) procurement rules and procedures; and (iv) functions and responsibilities of each area of execution, and of interagency coordination. **The updating of the program's Operating Regulations and its environmental and road safety annexes, pursuant to terms previously agreed upon with the Bank, is a condition precedent to the first disbursement of the operation.**
- 3.6 **Procurement.** Program procurement will be conducted in accordance with the provisions of the policies on the procurement of goods and works financed by the Bank (document GN-2349-9), and the policies for the selection and contracting of consultants financed by the Bank (document GN-2350-9), both of March 2011. Goods, nonconsulting services, works, and the selection of consulting services procured with loan proceeds will be supervised ex ante, except for contracts for works valued at less than US\$5 million, goods for less than US\$500,000, consulting services for less than US\$200,000, and individual consultants for less than US\$50,000, which will be reviewed ex post. This should be in accordance with the initial procurement plan and future updates. The Procurement Plan Management System (SEPA) will be used for the administration and management of program procurement.
- 3.7 **Disbursements.** The loan will be disbursed through advances of funds, the frequency of which will be based on the project's financial programming. The PEU will periodically update that programming, estimating the loan proceeds needed for execution, according to the budget, work plan, and commitments made. The Bank may issue new advances of funds when at least 80% of total funds disbursed as advances have been justified. Disbursement requests will be subject to ex post review. The external auditors will issue quarterly opinions on the procurement and disbursement processes.
- B. Summary of agreements for the monitoring and evaluation of outcomes**
- 3.8 Evaluations seek to answer questions about whether the program has, through the engineering works and the institution-strengthening actions, accomplished the following in the targeted roads: (i) reduced economic costs of operating vehicles, (ii) reduced the number of unserviceable days per year, (iii) increased accessibility, (iv) improved the international roughness index (IRI), and (v) improved the road safety rating in a representative sample of paved networks.

- 3.9 The before-and-after methodology and the ex post cost-benefit analysis will be used to monitor and evaluate program outcomes. With regard to the design and construction of road safety countermeasures in a pilot corridor, the iRAP model or another IDB-approved methodology that measures changes in road safety indicators may be used.
- 3.10 Different agencies responsible for the coordination and execution of the works, such as the DNV, the DPVs, the PEU, and the IDB, are involved in coordinating and implementing program monitoring and evaluation. The technical support of external specialists in, among others, road works, road safety, road maintenance, and socioenvironmental management may be contracted ([REL # 4](#)).

Development Effectiveness Matrix			
Summary			
I. Strategic Alignment			
1. IDB Strategic Development Objectives		Aligned	
Lending Program		Lending for poverty reduction and equity enhancement.	
Regional Development Goals		Paved road coverage (Km/Km2).	
Bank Output Contribution (as defined in Results Framework of IDB-9)		Km of inter-urban roads build or maintained/upgraded.	
2. Country Strategy Development Objectives		Aligned	
Country Strategy Results Matrix		GN-2328-3 y GN-2570	The intervention is aligned with the strategic objective for growth and competitiveness in a more favorable investment and productivity, contributing to development results of the productive infrastructure of transport, transport sector development and improving service delivery logistics.
Country Program Results Matrix		GN-2617	The program is not included in the 2011 Country Program Document.
Relevance of this project to country development challenges (If not aligned to country strategy or country program)			
II. Development Outcomes - Evaluability		Highly Evaluable	WeightMaximum Score
		9.6	10
3. Evidence-based Assessment & Solution		10.0	25%10
4. Ex ante Economic Analysis		10.0	25%10
5. Monitoring and Evaluation		8.3	25%10
6. Risks & Mitigation Monitoring Matrix		10.0	25%10
Overall risks rate = magnitude of risks*likelihood		Medium	
Environmental & social risk classification		B	
III. IDB's Role - Additionality			
The project relies on the use of country systems (VPC/PDP criteria)		Yes	Financial Management: Budget, Accounting and Reporting, and Internal Audit. Procurement: Information System and Shopping Method -SECOP Sistema Electrónico de Compras Públicas y Método Simplificado (Until 10000 Argentine Pesos).
The project uses another country system different from the ones above for implementing the program			
The IDB's involvement promotes improvements of the intended beneficiaries and/or public sector entity in the following dimensions:			
Gender Equality			
Labor	Yes	Technical, economic, environmental and socioenvironmental eligibility criteria have been agreed with the executor that have been spread and used in all provinces benefited from the program. Thus raising the standard of preparation of projects in the provinces. It has also helped to consolidate the use of HDM-4 tool for economic evaluation ex ante and ex post for all projects submitted by provinces benefited from the program.	
Environment	Yes	As mentioned above, environmental and socio-environmental criteria have been agreed with the executor, and disseminated and used in all provinces benefited from the program not only improving the ability of the executing agency, but labor contractors and their workers. It has also helped to increase their awareness of environmental issues due to new knowledge in this field. On the other hand, the Banks has helped to make ongoing visits to the works that result in reports of non-compliance with environmental management plans and concrete actions for correction and monitoring of these actions. Finally, the hiring of environmental specialists in the executing units have been supported.	
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project		Yes	As part of project preparation AR-L1014 and ARL1045, as well as in this program, the Bank has support the executing agency to develop eligibility criteria for implementation, monitoring and evaluation.
The ex-post impact evaluation of the project will produce evidence to close knowledge gaps in the sector that were identified in the project document and/or in the evaluation plan.		Yes	The Monitoring and Evaluation Plan is based on an ex post cost-benefit analysis and a before-after comparison that should help identify and quantify the results that the project has on the accessibility, efficiency and safety of the road network operated in the privincias beneficiaries.

The program is a multiple works loan that aims to improve the accessibility, efficiency and safety of priority roads of the National Road Network (RVN) and feeder roads of Provincial Road Network (VPN) in the Norte Grande Region (RNG), through the expansion, rehabilitation and improvement of road corridors that connect production centers with local and external markets. The program also seeks to promote the sustainability of investments by incorporating the works funded into the management systems for road maintenance. The intervention contributes to the loan program for reducing poverty and promoting equity. In terms of regional goals, contributes to the coverage of paved roads (km/km²). It contributes to the Bank product related to Km of inter-urban roads build or maintained/upgraded. The intervention is aligned with the strategic objective for growth and competitiveness in a more favorable investment and productivity, contributing to development results of the productive infrastructure of transport, transport sector development and improving service delivery logistics. The project is not included in the 2011 Country Program Document.

The diagnosis clearly identifies, based on empirical evidence, the main problem and the factors that determine it. The logic of the proposed intervention is clear. Results and products indicators are SMART, with baselines, targets and specific information sources. The program has a cost-benefit analysis ex ante for projects included in the representative sample, using reasonable assumptions that will be applied to each of the projects funded under the program. The intervention includes a monitoring and evaluation plan in accordance with the guidelines of the Bank and the characteristics of road infrastructure projects. Through the evaluation, the ex post cost-benefit analysis is expected to be replicated of each of the projects.

The risks have been identified, as well as mitigation measures and metrics to monitor its implementation.

RESULTS MATRIX

Expected impact of the program	The Program contributes to the sustainable economic development of the Norte Grande region (RNG).	
Impact indicators (1)	Baseline	Target (2017)
Average share of RNG exports in total country exports in the last two years.	7.65% (2009-2010 average, measured in 2011, Source: Ministry of Economy and Public Finance)	8.5% (2015-2016 average, measured in 2017, Source: Ministry of Economy and Public Finance)
Annual number of traffic fatalities per 100,000 inhabitants in the RNG.	17 (Year 2010, Source: Road Safety Observatory, National Road Safety Agency)	15.7 (Year 2017, Source: Road Safety Observatory, National Road Safety Agency)

(1) These indicators are included to measure the impact of the investments in the rehabilitation, improvement, widening, and maintenance of roads, as well as in road safety. Although these indicators are not directly linked to the program's objectives, they make it possible to infer the contribution of the investments to higher-order objectives of the current country strategy.

Expected outcomes of the program	Improved accessibility, efficiency, and safety of priority roads of the national road network (RVN) and feeder roads of the provincial road network (RVP) in the RNG, through the widening, rehabilitation, and improvement of road corridors that connect production centers with local and foreign markets. The program will also promote the sustainability of investments by incorporating the financed works into the road maintenance management systems.
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Outcome indicators	Baseline				Target (2016)				Means of verification/ Observations
Vehicle operating costs (VOC) on stretches improved and paved by the program (constant US\$/vehicle-kilometer)	Type of vehicle	VOC (US\$/veh-km)			Type of vehicle	VOC (US\$/veh-km)			Highway Development and Management (HDM-4) Provincial road directorates. Baseline dates: Provincial Route (PR) 1, Chaco: 2011 Provincial Route 1, Jujuy: 2011 National Route (NR) 16, Salta: 2009
		Improved	Widened	Rehabilitated		Improved	Widened	Rehabilitated	
		PR 1 Chaco	PR 1 Jujuy	NR 16 Salta		PR 1 Chaco	PR 1 Jujuy	NR 16 Salta	
	Car	0.21	0.17	0.11	Car	0.16	0.19	0.10	
	Bus	2.34	1.5	0.94	Bus	1.35	1.3	0.80	
	Light truck	0.65	1.15	0.68	Light truck	0.42	0.97	0.53	
	Medium truck	1.36	n/a	0.68	Medium truck	0.86	n/a	0.53	
	Heavy truck	2.33	1.66	1.08	Heavy truck	1.49	1.52	0.90	
	Weighted average	0.63	0.39	0.63	Weighted average	0.41	0.34	0.50	

Travel time on sections of road paved or widened by the program (minutes/trip/vehicle, and weighted average 2011)	2011			2016			Traffic study Highway Development and Management (HDM-4) Provincial road directorates
	Type of vehicle	Improved	Widened	Type of vehicle	Improved	Widened	
		PR 1 Chaco	PR 1 Jujuy		PR 1 Chaco	PR 1 Jujuy	
	Car	19.46	7.34	Car	9.99	4.68	
	Bus	21.89	7.34	Bus	12.82	5.20	
	Light truck	19.71	7.50	Light truck	10.46	5.47	
	Medium truck	20.01	n/a	Medium truck	11.00	n/a	
	Heavy truck	23.82	7.39	Heavy truck	11.38	5.76	
	Weighted Average	19.73	7.36	Weighted Average	10.41	4.81	
Number of days per year of unserviceability (roads closed to traffic) or with severe road traffic limitations.	Chaco, PR 1: 18 (Hydrologic Year 2010/2011)			Chaco, PR 1: 0			Rainfall records. Provincial Water Administration, Water Studies Area, Oro Station
Accessibility index of paved roads in the RNG (km of paved roads per 1,000 km ² of territory)	24.01 (RVN 2010; RVP 2009)			24.05			Federal Road Council and national roads system http://www.cvf.gov.ar/red_nacional.html http://www.vialidad.gov.ar
Annual average daily traffic in the targeted stretches (veh/day)	<ul style="list-style-type: none"> NR 16 stretch 6, Salta: 573 (2009) NR 16 stretch 7, Salta: 543 (2009) PR 1 Chaco: 434 (2011) PR 1 Jujuy: 6,547 (2010) 			<ul style="list-style-type: none"> NR 16 stretch 6, Salta: 866 (2016) NR 16 stretch 7, Salta: 801 (2016) PR 1 Chaco: 584 (2015) PR 1 Jujuy: 7,526 (2017) 			Traffic study Provincial road directorates
International Roughness Index	<ul style="list-style-type: none"> NR 16 stretch 6, Salta: 3.8 (2009) NR 16 stretch 7, Salta: 4.5 (2009) PR 1 Chaco: 10 (2010) PR 1 Jujuy: 3.6 (2010) 			<ul style="list-style-type: none"> NR 16 stretch 6: 1.8 (2016) NR 16 stretch 7: 1.8 (2016) PR 1 Chaco: 2.47 (2015) PR 1 Jujuy: 2 (2016) 			Specialized equipment for roughness measurement Provincial road directorates
Road safety rating of a representative sample of paved networks	To be determined in the first year of program operation.			To be determined in the first year of program operation.			International Road Assessment Programme (iRAP), or another IDB-approved methodology. Program executing unit

Expected outputs of the program								
Component 1: Engineering works	Engineering works	Widening, rehabilitation, and improvement of road corridors that connect production centers with local and foreign markets.						
	Subcomponent 1.1 “RVN works”	Widening, rehabilitation and improvement of <i>national</i> road corridors that connect production centers with local and foreign markets.						
	Subcomponent 1.2 “RVP works”	Widening, rehabilitation and improvement of <i>provincial</i> road corridors that connect production centers with local and foreign markets.						
Output indicators Subcomponent 1.1	Baseline	2012	2013	2014	2015	2016	Cumulative target (2017)	Means of verification/Observations
Km of the RVN rehabilitated by the program in the Norte Grande region (2) • NR 16 Stretch 6 • NR 16 Stretch 7	0 0	0 0	0 0	0 0	37.89 53.88	0 0	37.89 53.88	Provisional acceptance certificates of the works National Road Directorate
Output indicators Subcomponent 1.2	Baseline	2012	2013	2014	2015	2016	Cumulative target (2017)	Means of verification/Observations
Km of the RVP improved in the Norte Grande region. (3) • PR 1. Chaco	0	0	0	14.34	0	0	14.34	Provisional acceptance certificates of the works Provincial road directorates
Km of the RVP widened in the Norte Grande region. (4) • PR 1. Jujuy	0	0	0	0	0	7.51	7.51	
Number of service-level road maintenance contracts concluded (5)	0	0	0	0	0	0	1	Final acceptance certificate Provincial road directorates

(2) Km rehabilitated: Defined as km of deteriorated paved roads that are repaved.

(3) Km improved: Defined as km of dirt roads that are paved.

(4) Km widened: Defined as the km of roads whose width is doubled.

(5) Including infrastructure for the control of the weight and size of vehicles using the roads.

* The indicators of the outcomes and the components related to works will be updated as each is included.

Component 2: Road safety		Diagnostics and audits of road safety (designs and road construction), training, and interaction with other agencies with responsibility in some aspect of road safety at the provincial level.						
Output indicators	Baseline	2012	2013	2014	2015	2016	Cumulative target (2017)	Means of verification/Observations
Number of evaluations of road safety conditions on stretches of selected routes approved (6)	0	0	1	0	1	0	2	Final report of consulting service Executing unit
Number of road safety corridors completed (7)	0	0	0	1	0	0	1	Provisional acceptance certificate of the work Provincial road directorates
Number of provincial road directorates with improved road safety management capacity (8)	0	0	2	0	2	0	4	Curriculum vitae Procurement contract for goods Executing unit
Number of road safety seminars held	0	0	0	2	2	0	4	List of attendees Executing unit

(6) The iRAP methodology or another IDB-approved methodology will be used.

(7) The intervention will include road safety works as well as community awareness and other activities. The relevant means of verification will be determined in accordance with the works to be carried out.

(8) “Improved” means there is at least one professional with road safety training, and a minimum kit of instruments for performing road safety audits.

Component 3: Institution-strengthening		Improved institutional management of the provincial road directorates (DPVs) and the program executing unit (PEU)						
Output indicators	Baseline	2012	2013	2014	2015	2016	Cumulative target (2017)	Means of verification/Observations
Number of institutional strengthening plans for the DPVs completed (9)	0	0	0	2	0	0	2	Executing unit
Number of training workshops held for staff of the PEU, the DPVs, and the DNV	0	0	1	0	1	0	2	List of attendees Executing unit
Number of workshops held for DPVs to exchange experiences on road management	0	0	0	1	0	1	2	List of attendees Publication of the results of the workshops Executing unit

(9) Depending on the diagnostic assessment, to be conducted under operation 1851/OC-AR, these plans will include training events, procurement of equipment, and other activities. The means of verification will be determined once the activities have been identified. "Completed" means completion of all activities included in the plan.

Component 4: Administration, studies, and supervision		Program management, evaluation, and monitoring. Technical and environmental supervision of works and audits. Studies by consultants to evaluate institutional, technical, socioeconomic, and environmental feasibility of works not included in the sample, and detailed designs.						
Output indicators	Baseline	2012	2013	2014	2015	2016	Cumulative target (2017)	Means of verification/Observations
Number of feasibility studies and final engineering designs available for the solicitation approved (10)	0	0	2	0	0	0	2	Final report of the consulting service Executing unit
Number of professionals hired for program management in the executing unit	17	0	5	0	0	0	22	Service contracts signed Executing unit
Number of financial audit reports that receive the IDB's no objection	0	0	1	1	1	1	5	Contractual clause fulfilled Executing unit
Number of works contracts completed with approved environmental audit reports (11)	0	0	0	0	0	2	4	Final environmental audit report for each completed work Executing unit
Number of program evaluation reports approved	0	0	0	0	1	0	2	Midterm and final evaluation reports Executing unit

(10) Detailed designs that have road safety reports and have received the IDB's no objection for the solicitation.

(11) The report must comply with the program's environmental manual (Environmental Operating Regulations).

FIDUCIARY AGREEMENTS AND REQUIREMENTS

Country: Argentina

Project number: AR-L1133

Name: Norte Grande Road Infrastructure Program II

Executing agency: Ministry of Federal Planning, Public Investment, and Services (MINPLAN), acting through the Unidad de Coordinación de Programas y Proyectos con Financiamiento Externo [Unit for Coordination of Externally Financed Programs and Projects] (UCPyPFE)

Prepared by: Ignacio Vinocur (PDP/CAR) and Gumersindo Velásquez (PDP/CAR)

I. EXECUTIVE SUMMARY

1. An institutional assessment was performed, using the project risk management (PRM) methodology for risk assessment and considering that the executing agency will be MINPLAN, acting through the UCPyPFE, which has the experience and installed capacity to execute loans financed with Bank resources.
2. Based on supervision of the loans being executed by the MINPLAN/UCPyPFE, certain fiduciary weaknesses and risks have been identified and included in the risk mitigation matrix (RMM). The country's fiduciary management systems was evaluated in the fiduciary note to the country strategy, while those of the executing agency were evaluated using the procedures described in paragraph I.1, the conclusion being that they are adequate but should be strengthened.
3. The project does not include cofinancing with other multilateral agencies. The National Road Directorate (DNV) will be the subexecuting agency of the program.

II. FIDUCIARY CONTEXT OF THE EXECUTING AGENCY

The fiduciary systems of the executing agency are regarded as satisfactory although they will require certain strengthening measures included in the risk mitigation matrix (RMM).

III. FIDUCIARY RISK EVALUATION AND MITIGATION MEASURES

To evaluate the program's fiduciary risks, the Bank's PRM methodology was used to identify and rate the fiduciary risks, and prepare the RMM. The fiduciary risk of the program was determined to be low; individual risks were detected with the corresponding

mitigation measures. No irremediable, high-impact risks were identified that would hinder effective implementation of the program.

IV. CONSIDERATIONS FOR THE SPECIAL CONDITIONS OF CONTRACTS

- a. *Conditions precedent to the first disbursement:* n/a
- b. *Agreed exchange rate:*
 1. *Reimbursement of expenditures:* The exchange rate indicated in Article 3.06(a) of the General Conditions, effective the first business day of the month of the payment date.
 2. *Accounting (advance of funds):* The exchange rate used to convert the funds disbursed in the currency of the operation into the local currency.
 3. *Counterpart:* The exchange rate on the entry date of the local source in the program's bank account.
 4. *Disbursements in currencies other than United States dollars and Argentine pesos:* In cases of direct payments and reimbursement of credit card guarantees, the loan currency equivalent will be established in accordance with the amount actually disbursed by the IDB.
- c. The executing agency will submit the program's annual financial statements audited by an independent firm of auditors acceptable to the Bank. In addition, quarterly audit reports will be issued on the procurement and disbursement processes.

V. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

1. Procurement execution

The Policies for the Procurement of Works and Goods Financed by the Inter-American Development Bank (GN-2349-9) of March 2011, and the Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (GN-2350-9), of March 2011, will be applied. In addition, it has been agreed with the executing agency that the Procurement Plan Execution System (SEPA) will be used for the administration and management of program procurement planning.

- a. Procurement of works, goods, and nonconsulting services: The contracts for works, goods, and nonconsulting services¹ generated under the program and subject to international competitive bidding (ICB) will use the Bank's standard bidding documents (SBDs). Processes subject to national competitive bidding (NCB) will use national bidding documents agreed upon with the Bank. The program's sector

¹ Policies for the Procurement of Works and Goods Financed by the Inter-American Development Bank (document [GN-2349-9](#)), paragraph 1.1: Nonconsulting services will be treated similarly to goods.

specialist will be responsible for reviewing the technical specifications of procurements during the preparation of selection processes. Selection processes subject to direct contracting should be so identified in the procurement plan submitted by the executing agency.

- b. Selection and contracting of consultants: Contracts for consulting services generated under the program will use the standard request for proposals (RFP) agreed upon with the Bank. Selection processes subject to direct contracting will be so identified in the procurement plan.
 - Selection of individual consultants: In the cases identified in the approved procurement plans, the contracting of individual consultants may be solicited through local or international notices, in order to form a short list of qualified individuals, in accordance with document GN-2350-9, Section V, paragraphs 5.1 to 5.4. To renew service contracts, approval by the program's general coordinator of the performance appraisal, at least at the satisfactory level, will be sufficient. The executing agency will furnish the Bank with a list of the consultants currently working under program 1851/OC-AR who will continue to do so under the new program, for whom the single-source selection procedure may be used, in accordance with Section V, item 5.4(a) of the aforementioned policies.
 - Training: The procurement plan lists the contracts for program components that include training activities, and that are processed as consulting services or nonconsulting services.
- c. Recurrent expenditures: The recurrent expenditures or operation and maintenance expenditures required for the program over its useful life will be: per diems, fares, traveler's insurance, office rental, stationery, office expenses, bank fees, and other expenditures for the day-to-day operation of the program. These will be financed by the program in the annual budget approved by the Bank. Operating costs do not include the remuneration of civil servants.
- d. Advance procurement/retroactive financing: None planned.

2. Table of threshold amounts (US\$000s)

Works			Goods ²			Consulting services	
International competitive bidding	National competitive bidding	Shopping	International competitive bidding	Local competitive bidding	Shopping	International publicity consulting services	Short list 100% national
≥ 5,000,000	< 5,000,000 ≥ 350,000	< 350,000	≥ 500,000	< 500,000 ≥ 100,000	< 100,000	> 200,000	< 500,000

² Includes nonconsulting services.

Threshold amounts for ex post review Consulting services			
Works	Goods	Consulting services	Individual consultants
< 5,000,000	< 500,000	< 500,000	< 50,000

Note: The threshold amounts for ex post review were established on the basis of the executing agency's fiduciary capacity for execution and may be modified by the Bank in response to changes in that capacity.

3. Main procurements

Activity	Type of bidding process	Estimated date	Estimated amount (US\$)
1 – WORKS			
National Route 16, Section 6, Salta province	ICB	Jul-12	27,018,419
National Route 16, Section 7, Salta province	ICB	Jul-12	35,378,277
National Route 38, Stretch 1 Río Marapa – Access to Aguilaes. Tucumán province	ICB	Jun-13	45,189,677
Provincial Route 1, Stretch intersection National Route 6 and 9 – Palpalá and construction of access to Río Blanco, Jujuy province	ICB	Jul-12	42,563,000
Provincial Route 1, Stretch: Junction Provincial Route 56 (La Leonesa) – Gral. Vedia and access to Gral. Vedia, Chaco province	ICB	Jul-12	15,443,841
Provincial Route 4, Stretch: Yala – Termas de Reyes, Jujuy province	ICB	Mar-13	17,909,383
Provincial Route 210, Stretch: Provincial Route N8 – National Route N 14 – Provincial Route N5, Misiones province	ICB	Oct-12	50,908,457
Provincial Route 5, Stretch: La Banda – La Invernada – Amamá Section I Santiago del Estero province	ICB	Mar-13	46,329,166
2 – GOODS			
Computer equipment (software and hardware)	S	Mar-13	52,000
3 – CONSULTING SERVICES			
Consulting services for inspections	QCBS	Jun-12	150,000
External audit	QCBS	Jan-13	129,000

4. Procurement supervision

The procurements of goods, nonconsulting services, works, and the selection of consulting services with loan proceeds will be subject to ex ante review, except those contracts indicated in item 2 above, which will be subject to ex post review as described in the procurement plan. Ex post review visits will be every 12 months.

Ex post review reports will include at least one physical inspection visit,³ chosen from among the procurement processes subject to ex post review. It is important to indicate that no less than 10% of the contracts reviewed are to be inspected physically during the program.

5. Special provisions

- a. *Measures to reduce the likelihood of corruption:* Observe the provisions of documents GN-2349-9 and GN-2350-9 regarding prohibited practices (multilateral agency debarment lists of companies and individuals).

6. Records and files

The PEU will maintain an outsourced record-keeping system.

VI. FINANCIAL MANAGEMENT

1. Programming and budget

The legal foundation of the budget process is Law 24156, as implemented by Decree 1344/07. The National Budget Office is the apex agency of the national public budget system, and is tasked with annual preparation of the consolidated budget for the public sector. The national budget has programming categories and other classifications by item of expenditure (line items). Internal sources of financing may be the national treasury, own resources, specific allocations, and internal transfers. External financing includes external transfers and external borrowings. No difficulties are anticipated for budgetary management, although there may be delays in integration of the local counterpart that will not affect execution. The operation currently in progress is included in the national budget; the new operation will be included in the budget for fiscal 2012. There are no special programming and budget arrangements for the program.

2. Accounting and information systems

The executing agency will use the UEPEX system for financial management. Accounting will be on a cash basis in accordance with International Financial Reporting Standards (IFRS), when applicable pursuant to national criteria. The required financial reports are: (i) financial execution plan for up to 180 days following a request for advance, (ii) audited annual financial statements, and (iii) other reports as requested by the fiduciary specialists.

3. Disbursements and cash flow

The loan proceeds solicited from the Bank via the advance of funds modality will be deposited in a special account in United States dollars. The funds will then be

³ The inspection verifies the existence of the procurements, leaving quality and compliance with specifications to be verified by the sector specialist.

converted to pesos and transferred to an operating account in pesos for the exclusive use of the program. This account will be used to pay for the program's expenditures and investments in accordance with program planning. The executing units must maintain strict and effective control of the use of the funds advanced, using mechanisms enabling it to verify and reconcile the outstanding balances according to its records, with those in the Bank's records for the same items (LMS1 report).

Advances will be disbursed when 80% of the advance has been spent, or there is a special need for funds according to the financial plan covering no more than 180 days submitted with each request for an advance. The agreed exchange rate is indicated in point IV.b of this report. Disbursement requests will include: the disbursement request form, status report, and financial plan for no more than the next 180 days. The financial management specialist may require additional information, including: (i) breakdown of commitments; and (ii) reports on estimated physical and financial progress of the program. The frequency and time span covered by the advance will not exceed 180 days. To account for the advance of funds, the following information will be provided to the Bank: (i) disbursement request form; (ii) program status report; (iii) reconciliation of Bank resources; (iv) itemized payments; and (v) other reports demonstrating the progress of the program. Such accounting need not be accompanied by supporting documentation for expenditures or payments made, which should not be construed as Bank approval of such outlays. The original supporting documentation for expenditures must be available for the Bank's review upon request. The conditions precedent to the first disbursement are described in point IV of this report.

The e-disbursements modality will be used, which is the Bank's Web-based system that enables the executing agency to prepare and send disbursement requests to the Bank electronically, lowering transaction costs and enabling the Bank to review and process applications remotely.

4. Internal control and internal audit

The country agency responsible for internal control is the Comptroller General of the Nation (SIGEN), and the Internal Audit Unit (UAI) will perform the internal audit of the executing agency. This unit reports directly to the Minister, and performs audits and makes recommendations pursuant to the powers invested in it by Law 24156 (Financial Management and Control Systems Act of 30 September 1992). The MINPLAN/ UAI will perform the program's internal audits.

5. External control and reports

Pursuant to Article 7.03 of the General Conditions, the program's financial statements will be audited by an audit firm acceptable to the Bank, which will issue its expert opinion on the financial statements during the execution period in accordance with the guidelines for financial and audit reports, version 1.9, December 2009. The relevant costs may be charged against the loan proceeds. In addition, quarterly audit reports will be issued on procurement and disbursement processes. Such reports are to be delivered to the Bank within 60 days after each calendar quarter.

6. Financial supervision plan

The financial supervision plan will include annual financial/accounting inspection visits.

7. Execution mechanism

The borrower will be the Argentine Republic. The executing agency will be MINPLAN, acting through the UCPyPFE, the unit currently coordinating the execution of externally financed infrastructure programs within the ministry's purview. The program executing unit (PEU) will operate within that unit, and will have operational responsibility for program execution, performing inspections of the road works financed by the program either directly or through third parties. Once completed, the road works will be maintained by the provinces. Pursuant to the loan contract and Operating Regulations, the PEU will coordinate and administer all program activities corresponding to the executing agency. Its responsibilities will include conducting procurement process, and contracting and supervising the execution of eligible projects. The PEU will sign a participation agreement with each province involved in the program. In addition, for the execution of Component 1, funds will be transferred to the National Road Directorate, which will serve as the program's subexecuting agency.