Report Number : ICRR0021077

1. Project Data

Project ID	Project Name	
P070628	AR-Provincial Road InfrastructureProject	
Country	**Practice Area(Lead)**	**Additional Financing**
Argentina	Transport & Digital Development	P114018

L/C/TF Number(s)	Closing Date (Original)	Total Project Cost (USD)
IBRD-73010,IBRD-78330	30-Jun-2012	286,000,000.00
Bank Approval Date	**Closing Date (Actual)**	
07-Jun-2005	30-Jun-2017	

	IBRD/IDA (USD)	Grants (USD)
Original Commitment	150,000,000.00	0.00
Revised Commitment	325,000,000.00	0.00
Actual	271,974,082.49	0.00

Prepared by	Reviewed by	ICR Review Coordinator	Group
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2. Project Objectives and Components

a. Objectives

The project development objective (PDO) was: (a) to improve the primary paved road sector assets of Participating Provinces I (see below); and (b) to enhance the DPVs' [Provincial Road Directorates] capacity to manage and administer their corresponding road assets, to facilitate the transport of products within the Borrower's territory (Loan Agreement dated April 18, 2006; p.28). The term 'participating provinces I' refers to the six interested provinces that prepared and submitted investment programs during project preparation, i.e., Córdoba, Corrientes, Neuquén, Santa Fe, Entre Ríos, and Chubut.

The PDO in the project appraisal document (page 9) was different, i.e., "improving the reliability of essential road assets that facilitate access of provincial production to the markets and the efficiency of their

management as a means to support the country's productive sector, competitiveness and economic growth". The IEG assessment is based on the project objective as stated in the legal document.

b. Were the project objectives/key associated outcome targets revised during implementation?

No

c. Will a split evaluation be undertaken?

No

d. Components

1. Civil Works (original estimated cost US$161.9 million without contingencies; IBRD additional financing of US$166.1 million; actual cost US$279.1 million; figures taken from ICR, Annex 3, p.42, "Project Cost by Component;" other ICR cost sfigures vary somewhat). The component consisted of two sub-components: (i) Road Rehabilitation and Maintenance under the CREMA system (Performance-Based Contract Program) in the Participating Provinces I (2,204 km); (ii) Road upgrading and/or rehabilitation (196 km) and repaving (64 km) in the non-CREMA Participating Provinces I.

2. Routine Maintenance (estimated cost US$89 million, all counterpart financing; actual cost US$0). The component included routine maintenance works and development of an effective maintenance strategy for the Participating Provinces I paved network not covered by CREMA (9,377 km).

3. Road Sector Management and Institutional Building (estimated cost US$7 million, of which IBRD financing of US$1.4 million; actual US$1.2 million). The component was to support activities to strengthen participating road agencies to meet the demands of a results-oriented approach. It included (i) institutional strengthening in the following areas: strategic planning; budget execution and supervision of works; performance based management; road safety; information technology and communications; and environmental management; and (ii) demand-based technical assistance (TA) to other provincial road agencies (DPVs) not participating in Component 1.

4. **Project Management and Technical Assistance to Provinces** (estimated cost US$3 million, all counterpart financing; additional financing of US$2 million; actual US$3.5 million). The component was to facilitate project coordination and management through the Project Coordinating Unit (UCP), as well as provision of technical support by the PCU to provinces in the preparation and assessment of subprojects, and monitoring of the achievement of agreed targets under each component, among other activities.

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project Cost. The total project cost at closure was US$369.2 million that increased from the appraisal cost of US$286 million due to cost overruns in road works.

Financing. The project was financed through an original IBRD loan of US$150 million that was supplemented by an additional financing (AF) of US$175 million to total US$325 million. The AF was approved on November 27, 2009 to cover financing gap under the civil works component due to an increase of about 150% of the unit costs since the project preparation in 2004 (Project Restructuring

Paper, 2015). The IBRD loans disbursed at US$285.1 million.
Borrower Contribution. The Borrower contributed US$104 million, as compared to the estimated commitment of US$136 million.
Dates. The project closing date was extended twice by a total of five years from June 30, 2012 to June 30, 2017. The first extension was for three years to June 30, 2015 at the time of additional financing to accommodate a 15-month delay in declaring effectiveness and a 31-month period for all six participating provinces to sign respective subsidiary loan agreements (see Section 8a). The scope of civil works under Component 1 was reduced from 2,464 km to 2,060 km; Component 2 was dropped due to a high fiduciary risk by which provinces would not be able to meet investment obligations under this component; and under Component 3, a demand-based TA was dropped due to lack of interest from other provinces to apply for funding. The second extension of the closing date from June 30, 2015 to June 30, 2017 was due to implementation delays under Components 1 and 3.

3. Relevance of Objectives

Rationale

The project development objectives were relevant to the country development challenges. At project appraisal, underfunding in periodic maintenance, rehabilitation, and upgrading led to high transport costs which constituted 60 percent of the total logistics costs in the country. This, in turn undermined the competitiveness of agricultural value chains.
According to the PAD (page 4), the Government was concentrating the strategic role of the National Road Directorate (DNV) at the federal level towards efficient planning and supervision of the primary road network leaving the execution of works to the private sector. There was no clear strategy at the provincial level, and road agencies were behind in the process. The main issues in road management at the provincial level included: (i) heavy reliance on force account for the execution of works; (ii) many Provincial Road Directorate (DPVs) continued operating as traditional public-sector oriented organizations, with their focus placed on administering inputs rather than performance and management of results; and (iii) financial planning in the road sector was not adequately linked to investment plans. The Government aimed to increase private sector participation in the management of the provincial road networks through the expansion of the CREMA system in use at the federal level.
The PDOs remain relevant to the World Bank Group's Country Partnership Strategy (CPS) FY2015–2018 at project completion. The PDO “facilitating transport of products within the Borrower’s territory” through improvement of road assets was aligned to CPS’s Pillar 1 ‘Unlocking long-term productivity growth and job creation". The institutional strengthening initiatives in DPVs were also relevant for improving the overall governance framework for effective service delivery.
The ICR does not discuss the relevance of the objectives to the current Government policy and priorities.

Rating

Substantial

4. Achievement of Objectives (Efficacy)

Objective 1

Objective

To facilitate the transport of products within Argentina's territory.

Rationale

The objective was to be achieved through (i) improving the primary paved road sector assets of Participating Provinces I and (ii) enhancing the Provincial Road Directorates' (DPV)s capacity to manage and administer said road assets. The relevant outputs and outcomes are discussed below under each sub-objective.
(i) *Improving the primary paved road sector assets of Participating Provinces* I.
Outputs

- A total of 1,274 km was rehabilitated under the CREMA system against the original target of 2,204 and the revised target of 1,774 km at AF (or 71.8 % of the revised target).
- Under non-CREMA, 375 km were rehabilitated and 43.2 km of key productive roads were paved surpassing a combined target of 286 km.
- The DPVs did not implement a comprehensive routine maintenance programs as planned under the project (Component 2) because civil works were given priority, undermining maintenance efforts for the rest of the network.

Outcome

- The outcome target of improving the road assets, albeit for the reduced scope, was achieved. The average roughness (IRI) of the project provincial road assets was 1.95 at project closure that was below 3 as targeted.

(ii) Enhancing the Provincial Road Directorates' (DPV) capacity to manage and administer said road assets.

- The Institutional Strengthening Action Plan was developed in 2011. Only 20 bidding processes identified in the Institutional Strengthening Action Plan out of 83 were completed at closing.
- Four out of six provinces prepared their strategic five-year road program in 2011. However, the plans were not published as established in the Results Framework.
- DPVs were to design comprehensive management capacity strengthening programs. While the provinces did not publish the programs, road safety actions were implemented in two provinces with resources outside the project.

As the PAD identified only one outcome (IRI roughness index) to measure the achievement of the objectives, the ICR provided additional evidence related to the project objective of facilitating the transport of products in Argentina. In particular, traffic volumes increased by 15.87 percent for light vehicles and 23.4

percent for heavy vehicles on the project roads. A daily average of 43,774 vehicles used the rehabilitated road segments of the six provinces every day, and 1,037,000 people were beneficiaries of improved roads located in the immediate area of influence of the six provinces. As increase in vehicle activity in the six provinces is a function of several factors (such as increased economic activity, higher household income, increased tourism), the change cannot be exclusively attributed to the project. At the institutional level, the goal of transforming the DPVs into results-oriented organizations was only modestly met due to the limited delivery of institutional strengthening activities. The project did not ensure continuity of the CREMAs at the provincial level and secure the provinces' commitment to the long-term sustainability of the system; the provinces did not earmark funds for maintenance and did not implement a comprehensive maintenance strategy.

Rating
Modest

Rationale
The project objective of facilitating the transport of products within Argentina's territory was modestly achieved. The project delivered 71.8 percent of the targeted outputs to upgrade the provincial road network and contributed to a modest extent to maintenance and institutional strengthening of DPVs. The traffic growth of heavy vehicles could not be attributed only to the project. If the non-CREMA paving and rehabilitation work is added, the project delivered 80.0 percent of the targeted outputs, still short of the target.

Overall Efficacy Rating
Modest

Primary reason
Low achievement

5. Efficiency

Economic Analysis
At appraisal, the DPVs of Córdoba, Corrientes, Chubut, Entre Ríos, Neuquén, and Santa Fe performed the economic analysis of the (a) road rehabilitation and maintenance through the performance-based contracts program (CREMA) and (b) paving and rehabilitation program under their jurisdiction. A total network of 2,464 km was evaluated, consisting of2,204 km of CREMA contracts, 260 km of productive roads rehabilitation, representing a total investment of US$120.4 million, by using HDM- 4 which simulates life cycle conditions and costs. The ex-ante economic analysis resulted in an NPV of US$61.3 million (at a 12 percent discount rate), and an EIRR of 27 percent. Due to design adjustments and changes in scope and length for different subprojects, the ex-ante economic analysis was updated using traffic and cost data collected for the feasibility studies of each subproject in the year they were prepared, resulting in a net present value (NPV) of US$148.6 million at 12 percent discount rate and an economic internal rate of return (EIRR) of 23.6 percent. At completion, an ex post economic analysis was performed following the same methodology by using HDM-4

that yielded an NPV over 20 years of US$159.3 and an EIRR of 24.3 percent.
Financial Analysis
No financial internal rate of return (FIRR) was estimated.
Operational efficiency
The project experienced significant cost overruns that necessitated additional financing, which were a result of input cost increase due to rising oil prices as well as design adjustments due to road deterioration and larger-than expected heavy-traffic volumes (AF Project Paper 2009). The project was delayed for various reasons, including weaknesses in the project design (see Section 8a). With a delay of five years, the scope was significantly reduced.

Efficiency Rating
Modest

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	27.00	97.00 ☐Not Applicable
ICR Estimate	✓	24.30	98.70 ☐Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

The project objectives were relevant to the road sector challenges at appraisal and remained aligned to the Bank strategy at closure. Their relevance to the current government priorities in the sector is not clearly discussed in the ICR. The main objective of facilitating the transport of products within Argentina's territory is modestly achieved. The road assets improved, albeit with reduced scope, and traffic growth increased, though not fully attributable to the project. The project only modestly contributed to enhancing the provincial capacity to manage road assets; it did not ensure continuity of the CREMAs at the provincial level as intended and did not secure the provinces' commitment to the sustainability of the system by earmarking funds for maintenance and implementing a comprehensive maintenance strategy. Efficiency is assessed as modest. Despite the satisfactory economic rate of return on road interventions, the project experienced significant cost overruns and implementation delays.

a. Outcome Rating
Moderately Unsatisfactory

7. Risk to Development Outcome

Operation and maintenance (O&M). Limited financial resources to ensure continuity compromise the sustainability of CREMAs at the provincial level. The provinces do not invest sufficiently on maintenance in subsequent years, and according to the participating DPVs, in during 2004–2016, allocation for maintenance and operation averaged US$17.8 million for a network of 8,450 km, which is low by international standards.

Institutional. The institutional capacity of the DPVs is inadequate. Failure to earmark funds for routine maintenance and implement a comprehensive strategy compromised the long-term sustainability of the provincial network.

8. Assessment of Bank Performance

a. Quality-at-Entry

The design and quality of project preparation was built on the experience of the Provincial Roads Project I and the National Highways Rehabilitation and Maintenance Project. The design was flexible and considered the varying needs and demands of the participating provinces both for civil works and institutional strengthening. The Bank placed a high priority on long-run sustainability as evidenced by the maintenance programs to be funded with own resources as part of Component 2. The project was designed to replicate the success of the federal CREMA maintenance practices at the subnational level and help provinces enhance the efficiency of their road maintenance and related management practices. At appraisal, about two-thirds of the loan′s proceeds were intended for road rehabilitation and maintenance works through CREMA contracts. Such success, however, required a higher predictability in the country′s fiscal system to ensure that provincial budgets were commensurate with the financing needs of the CREMA system and institutional capacity.

There were several shortcomings in the design that affected implementation and outcome, in particular: (a) unrealistic timing and lack of instruments to effectively engage at the subnational level. Subsidiary loan agreements were not appropriate for subnational engagements in Argentina due to lengthy administrative and legal processes required for the approval and signing of SLAs requiring concurrences from multiple executive and legislative bodies parties within the province and the federal government. (b) over optimism regarding the interest and demand of provinces for TA to improve provincial institutional capacity. (c) underestimation of the likelihood and impact of risks identified in the risk framework and insufficient mitigation measures, particularly regarding political risk. (d) safeguards not triggered as a precautionary measure; and (e) weaknesses in the PDO and results framework that lacked outcome indicators to measure the achievement of objectives.

Quality-at-Entry Rating

Moderately Unsatisfactory

b. Quality of supervision

A total of 23 implementation status and results reports were filed during the project implementation period of 12 years. The team was responsive to challenges that arose during the project implementation period, including the rise in costs and the varying degrees of readiness in the provinces. The team was also proactive in addressing issues that were within its control and committed field staff were key to monitoring and keeping the dialogue open. The World Bank staff located in the country office provided key aspects of implementation support, particularly in fiduciary areas and safeguards, which helped strengthening of DVPs' capacity in social and environmental safeguards. An AF was secured to finance the costs associated with the financing gap under the civil works component. The implementation team collaborated with the Government and to an extent adjusted the project design to respond to changes in local demands. In view of the implementation delays, the team made substantial efforts to identify and prepare new subprojects. However, the World Bank did not make design and implementation revisions necessary to (a) address the participating provinces' capacity restrictions, (b) correct M&E framework shortcomings, and (c) trigger safeguards through a Level I restructure in 2012, which the team proactively prepared but was not authorized to move forward in the context of an unwilling authorizing environment toward Argentina within the Board of Directors (ICR, p.29).

Quality of Supervision Rating

Moderately Unsatisfactory

Overall Bank Performance Rating

Moderately Unsatisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design

The results framework had only one outcome -preservation of road assets with acceptable average roughness (IRI). This indicator was linked to the first sub-objective of improving road assets but was insufficient for establishing whether the project could facilitate the transport of goods within the territory. There were no PDO-level indicators for the institutional strengthening component, which made it difficult to track measurable institutional outcomes. While the intermediate indicators for this component were quantitatively specific and time bound, they were not helpful in monitoring the improvement in the management of the DPVs.

b. M&E Implementation

Project progress was monitored regularly by the DPVs, which reported to the UPC and reported back to the

World Bank each semester. Overall the M&E implementation was adequate, with the UPC consolidating and preparing biannual reports. However, delays in receiving data from the DPVs were common. The ICR (page 20) reports that a total of five annual performance reports were submitted to the UCP in the 12-year project period out of the targeted six. These reports, while informative on progress in civil works, were not harmonized and did not measure the results on any of the six areas identified as part of the institutional building activities.

c. M&E Utilization

The M&E was used to monitor the implementation progress in contracts and the institutional strengthening component. It was not used to gauge the development outcomes. Deficiencies in defining outcome-level indicators linked with the objective were corrected in the Implementation Completion and Results Report (ICR) that measured the achievement of the objective to facilitate the transport of products within the Borrower's territory with vehicular activity and freight in the area of influence.

M&E Quality Rating

Modest

10. Other Issues

a. Safeguards

The project was classified as a Category 'B' project, triggering safeguard policies on Environmental Assessment (OP/BP 4.01) and Physical Cultural Resources (OP 4.11). This remained unchanged in the AF. The project did not trigger social safeguards. The ICR notes that not triggering Involuntary Resettlement OP 4.12, Indigenous People OP 4.10, and Natural Habitats (OP 4.04) limited the selection of subprojects. For example, the omission to trigger Natural Habitats (OP 4.04) affected identified subprojects, such as was the case for RP71 in Neuquén. Additionally, the omission to trigger the Indigenous Peoples (OP 4.10) and Involuntary Resettlement (OP 4.12) policies led to costly and time-consuming due diligence to ensure that subprojects would not result in any type of involuntary resettlement or affect indigenous communities within the area of influence.
Overall, as reported by the ICR (page 28), there were no major problems in complying with these safeguards. The need to screen subprojects ex ante to comply with safeguards enhanced the knowledge and capacity of the participating DPVs on social and environmental management issue (ICR, page 26).

b. Fiduciary Compliance

Financial management. Financial management performance was reported satisfactory by the

ICR. Financial management arrangements were generally in compliance with the World Bank requirements regarding timely reporting. Audits were unqualified and there were no reports of ineligible expenditures (ICR, page 28).
Procurement. Procurement performance was also reported to be satisfactory. No major problems in procurement were reported. However, the lack of capacity resulted in significant delays in procurement. Because the project had decentralized execution, a standardized bidding document template was agreed upon, which was used throughout the project. In addition, the procurement of goods encountered major difficulties at the time when the country's situation imposed restrictions on imports and payments in foreign currency, which limited the acquisition of imported equipment (ICR, page 28).

c. Unintended impacts (Positive or Negative)

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d. Other

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11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Moderately Unsatisfactory	Moderately Unsatisfactory	---
Bank Performance	Moderately Unsatisfactory	Moderately Unsatisfactory	---
Quality of M&E	Modest	Modest	---
Quality of ICR		Substantial	---

12. Lessons

IEG has selected four lessons from the ICR, with some adaptation.

- **Insufficient financing can undermine the success and continuity of a performance-based contract program.** The CREMA system in this project turned out to be significantly less successful in the provincial setting in Argentina as compared to its success at the federal level. In large part because the provinces did not have the resources to cover their share of CREMA contracts. Ring-fencing funding resources for a portion of the CREMA network was neither practical nor desirable. Where they did, little or no resources remained available to support the maintenance of the rest of the network. In the case that counterpart financing becomes unavailable, a minimum threshold of funding availability is needed to realize the benefits of the CREMA modality.

- **To mitigate sustainability risks, future interventions should closely monitor maintenance practices, ensuring that maintenance budgets are funded.** Under this project, a full component on routine maintenance was cancelled for lack of predictability in counterpart financing. In Argentina, the maintenance budget for provincial roads came mostly from federal funds and these were often inadequate. During the preparation of the AF, a high fiduciary risk by which provinces would not be able to meet their investment obligations became apparent, signaling the World Bank to drop this component.
- **Resettlement and other social issues may be present in road rehabilitation and maintenance projects as they usually are in case of major road works and should be given priority.** This road rehabilitation and maintenance project did not trigger social safeguards. While no social safeguard issues were found on the list of subprojects under consideration, several other eligible projects were not included in the provincial investment plans because they would have potentially triggered social safeguards. Even in projects entailing solely road rehabilitation and maintenance along an existing alignment, there is a potential for resettlement, and hence a Resettlement Policy Framework should be prepared along with an assessment of the local capacity to respond to potential social conflicts.
- **Project implementation arrangements requiring sub-lending at the provincial level may lead to significant delays within Argentina's institutional framework; that may be the case in other countries too.** The administrative and legal processes required for the approval and signing of subsidiary loan agreements led to significant delays in the project's effectiveness and beyond to the launching of new bidding processes. Uncertainties in the political economy and intergovernmental fiscal relations between provinces and the Federal Government, at times, delayed the achievement of this important institutional milestones. Similar delays affected other projects implemented in Argentina with the same subnational lending scheme. Based on this experience, the Government and the World Bank have chosen to adopt different implementation arrangements for projects financing investments in multiple provinces, with the debt remaining at the central level, and project activities executed directly through central execution units in coordination with technical units at the provincial or municipal level.

13. Assessment Recommended?

No

14. Comments on Quality of ICR

The ICR is concise and results-oriented. It provides a candid analysis of the issues that affected project implementation and offers an insightful analysis of shortcomings at project preparation stage that affected the project´s outcomes. The ICR is also candid in describing the project failure in improving maintenance practices at the provincial level and institutional strengthening. To address the weak M&E and lack of outcome indicators linked with the project objectives, the ICR provided additional evidence. Lessons are rich and based on project experience. In Relevance of Objectives, the ICR could have discussed the current government priorities to improve road assets management at the provincial level. In the Safeguards section, more details would be warranted with respect to mitigation measures and issues while reporting

on compliance with the environment assessment and physical cultural property safeguards.

a. Quality of ICR Rating
Substantial