

**PROJECT INFORMATION DOCUMENT (PID)
APPRAISAL STAGE**

Report No.: AB1435

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Region	LATIN AMERICA AND CARIBBEAN
Sector	Roads and highways (60%);Sub-national government administration (15%);Ports, waterways and shipping (15%);Central government administration (10%)
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Borrower(s)	REPUBLIC OF URUGUAY
Implementing Agency	Ministry of Transport and Civil Works (MTOP) Uruguay
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1. Country and sector issues

General Economic Context

Between 1999 and 2001 Uruguay endured a prolonged economic recession that ended in a deep crisis in 2002. The slowdown was prompted by several external shocks: Brazilian devaluation (1999), foot and mouth disease outbreak (2001), and weak commodity prices and oil price increases. However, it was the Argentine debt, currency and financial crisis of 2002 that triggered the crisis and output collapse in Uruguay. As a result, income inequality and unemployment rose (the latter increased from 11.4 percent in 1999 to 19.7. percent in late 2002), and the fiscal situation deteriorated (fiscal deficit increased from 1 percent of GDP in the 1990s to 4 percent in 2001).¹ Furthermore, a sharp devaluation of the peso in 2002 worsened public debt indicators because a large share of both domestic and foreign debt was held in dollars. The fiscal pressures exerted by the crisis together with a traditionally large participation of the public sector in the provision of infrastructure services, adversely affected their delivery and consequently, the competitiveness of the economy.

After four years in which GDP declined by nearly 20 percent, Uruguay's economy bounced back, growing by 2.5 percent in 2003 and accelerating further at a rate of 12.3 percent in 2004. In addition, after two consecutive years of negative growth, merchandise exports grew at annual rates of 18.1 percent in 2003 and 37.8 percent (est.) in 2004, reaching a projected value of US\$ 3.03 billion (FOB value) at the end of that year.² Now that the crisis appears to have subsided, the Government of Uruguay (GOU) intends to move forward with its development strategy by

¹ Country Assistance Strategy for the Oriental Republic of Uruguay July 25, 2002, Report No. 24410 UR.

² World Bank staff estimates

reinforcing and upgrading transport infrastructure in order to: handle the expected increase in trade with Mercosur, resuming its pre-crisis levels, and with other world regions; enhance the competitiveness of the growing forestry and agricultural sectors, which account for an important share of the Country's GDP and exports; and increase the attractiveness of Uruguay as a distribution and logistics center for Mercosur.

Exports have increased considerably as a result of a good external environment and the currency devaluation. The share of exports of goods and services as a percentage of GDP has continuously increased from 21.9 percent in 2002 to a projected 29.9 percent in 2004, indicating the growing importance of export competitiveness for economic growth. Moreover, after four years of continuous decline, the value of Uruguayan exports to Mercosur countries rebounded strongly in 2003 and 2004.³

Transport infrastructure improvements are critical for facilitating important foreign direct investment in the forestry sector and in supporting the expansion of exports. In the last three years, agricultural production has increased significantly, while in the forestry sector, pioneer investments involving some of the largest firms in the world have been made or are in progress. Eufores, a leading Spanish company, invested over US\$100 million in the development of forestry plantations, the logistical terminal of M'Bopicuá and Peñarol's and Fray Bentos chipping plants. Botnia, a Finnish company, has recently announced an investment in a new cellulose plant in Uruguay worth US\$ 1 billion (around 1 percent of GDP). The proposed plant would multiply the volume of production eight fold and generate an important increase in the demand for transport.

The transport sector is already an important part of the Uruguayan economy. In 2003, the value added of transport services amounted to US\$ 1.09 billion, equivalent to 7 percent of the Uruguayan GDP. Road transport (freight and passengers) and waterborne transport accounted for 2.8 percent and 2.6 percent of GDP respectively. Furthermore, the transport and telecommunications and construction sectors employ 6.5 percent and 6.2 percent of the total working population.⁴ The transport sector alone employs more than 6,300 people directly in the public agencies at the national level (ANP, AFE, MTOP, and PLUNA).⁵

Transport infrastructure development can have a positive impact in economic growth and income inequality in Uruguay by enhancing the competitiveness of producers, facilitating international trade, and generating opportunities for growth within the same transport and logistics sector. According to a recent study by *Calderón and Servén* (2004), even for Uruguay, whose stock and quality of infrastructure are high by LAC standards, raising the level of infrastructure development to that of South Korea (the median of the East Asia and Pacific Region), would increase Uruguay's economic growth rate by 2.6 percentage points per year (1.7 due to greater

³ Despite the increase, the region's share in total exports has continued to decline, falling from 55 percent in 1998 to an estimated 24 percent in 2004. It is also important to point out that at least part of the more than doubling of the share of exports to non-Mercosur countries is likely to be maintained over time, implying a shift in the traffic through ports (see issues section)

⁴ Central Bank of Uruguay (2000)

⁵ Central Bank of Uruguay (2003)

stocks and 0.9 percent due to better quality) and would reduce the Country's Gini coefficient by 0.06 (where 0.04 would be due to higher quantity and 0.02 to enhanced quality).⁶

Sector context and Government Strategy

Transport infrastructure in Uruguay consists of the road and railway networks, fluvial and maritime ports and access channels, and airports. The Ministry of Transport and Public Works (MTO) is in charge of the sector. In the last 8 years, the MTO embarked on a major reform for modernizing the transport sector that included: (i) reorienting the functions of transport agencies towards policy making, planning, regulation and control, rather than execution activities; and (ii) allowing for increased private sector participation (PSP) in the sector through outsourcing and concessions. On the whole, the reforms have succeeded in improving the quality of transport infrastructure and services, as may be measured by the condition of the road network and its weathering of the crisis and by the important improvements in port productivity and costs.

Roads

Road infrastructure. The road system in Uruguay consists of an estimated 70,732 road kilometres (km), of which 8,732 km form the national network managed by the National Directorate of Highways (DNV) within the MTO; and 62,000 km are departmental roads. About 7,743 km (11 percent) of the road network is paved. The low proportion of paved roads as a percentage of the total network length reflects the fact that the level and composition of traffic do not warrant a large extension of asphalt roads in the regions outside Montevideo. When only the national or primary network is considered, the proportion of paved roads increases to 89 percent, higher than of Argentina, Chile and Brazil. With the highest density (21.4 km per 1,000 inhabitants) and coverage (401.4 km per 1,000 km²) in the LAC region, the Uruguayan road network provides good accessibility to most locations in the Country. Within the national network, there are also 778 bridges with a total length of about 60,000 meters. In 2004, the total value of national road assets (sum of the monetary value of individual road segments accounting for their present condition) amounted to US\$ 2.14 billion.⁷

The departmental road network comprises about 62,000 km of unpaved roads, of which more than half are gravel roads with year-round accessibility, and the remainder are earth roads. Departmental governments (*Departamentos*) manage this network. Under the Departmental Roads Maintenance Program (DRMP), MTO is assisting departments in coping with the maintenance backlog of their networks and building up institutional capacity at *Departamentos*.

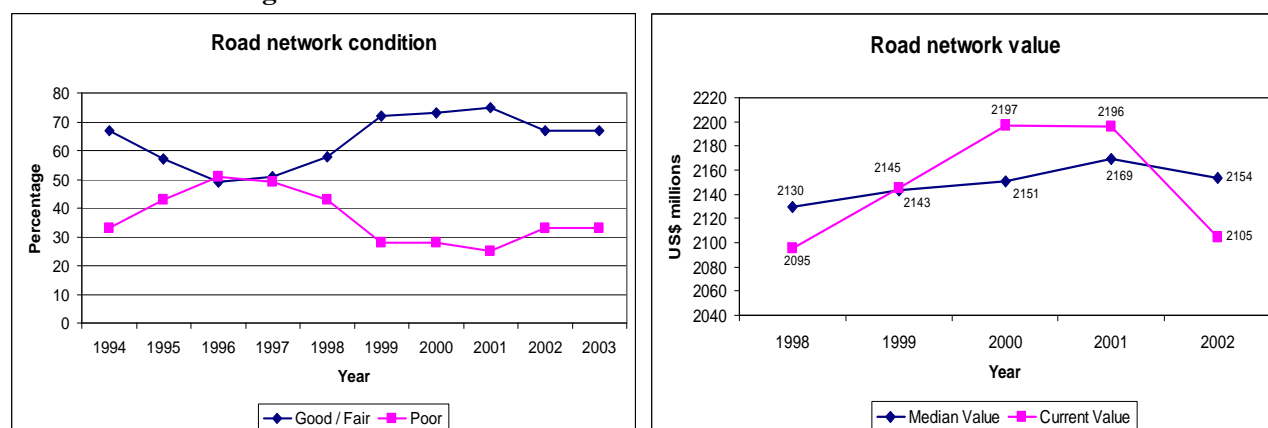
Infrastructure condition. Most of the road network and bridges along the national road network were built in the early part of the last century. In particular, 45 percent of all bridges in the national road network are more than 50 years old, and 75 percent of bridges are more than 25 years old. Also, as a result of the budgetary constraints imposed by the crisis, and despite the high priority given to maintenance, road condition started to deteriorate again after 2001. The percentage of the road network in very good condition dropped to 19 percent and the percentage

⁶ Calderón and Servén (2004), "The Effects of Infrastructure Development on Growth and Income Distribution", the World Bank.

⁷ 0.65 percent below the median of the maximum theoretical and minimum admissible values as defined per ECLAC's methodology.

in poor condition increased to 33 percent in 2003. Many maintenance contracts with the private sector could not be implemented and the standards of force account maintenance had to be reduced in order to meet MTOP budgetary restrictions. As a result, the value of road assets has also fallen from its peak of US\$ 2.23 billion in 2000 to US\$ 2.14 billion in 2004, below its median value. This indicates that, despite the consistency of the reforms and the policy of absolute priority to maintenance, the lack of investment inevitably results in a reduction in the value of road assets.

Figure 1: Evolution of the Road Network Condition and Value⁸



Infrastructure use. International road cargo traffic reached a peak in 2000, when 3 million tons were transported across border crossings, but dropped markedly to about 1.8 million tons in 2002 as a result of the crisis. However, road cargo traffic is starting to show signs of recovery with 2 million tons mobilized in 2003. Passenger traffic in inter-urban road transport routes also increased from 16.4 million in 2002 to 18.6 million in 2003.

Road safety. With support from the Bank and the IDB, the GOU has implemented actions aimed at improving road safety, such as the installation of signalling and safety equipment on roads, and the development of campaigns to educate motorists on the importance of observing traffic rules. It appears that these actions have had positive results as accidents in the surveyed network (5,000 km or 58 percent of the national road network) went down from 1914 in 2000, to 1365 in 2003, while fatalities decreased from 168 to 132 over the same period. However, these numbers do not capture the high occurrence of traffic accidents in other sections of the network and in many urban municipalities (such as the Montevideo Metropolitan Region), where most fatalities take place and traffic accidents are considered a recurring public health problem.

Government strategy. The GOU road management strategy is based upon the use of performance based instruments, including: (i) private sector participation (PSP) mechanisms, such as road concessions, performance-based maintenance contracts, and maintenance micro-enterprises (see Box 1); (ii) the “*Megaconcession*”, an innovative scheme for channeling funding towards the performance-based maintenance of key sections of the network (See Box 2); and (iii) an output-based maintenance scheme for departmental roads. In the absence of dedicated funds, the first

⁸ Source: National Directorate of Highways (DNV)

two instruments have proven to be successful in securing road user charges and channeling them toward the cost-effective maintenance of the most important sections of the road network. The GOU plans to continue with the use of these mechanisms to increase efficiency in maintenance operations and protect the funds allocated to maintenance from the volatility of the national budget and under funding of the road sector.

Box 1

Private sector participation (PSP) in the Road Sector

Previous Bank projects supported the renewal of the DNV, gradually shifting its role from the direct implementation of maintenance programs, to contracting out these activities with the private sector and delegating force account to field districts. The reorganization enabled DNV to increase the efficiency of maintenance operations under force account while gradually replacing these arrangements with more cost-effective contracts with the private sector. Currently, around 42 percent of the network managed by DNV is being maintained under contract in some form of partnership with the private sector.

- a) *Traditional outsourcing of maintenance activities.* Routine maintenance activities have been outsourced to the private sector through performance based contracts covering around 350 km of the national road network. This mechanism has been very effective in ensuring compliance with contractual conditions and in creating knowledge and benchmarks that have allowed improving the productivity of maintenance operations.
- b) *Contracts for Rehabilitation and Maintenance (CREMA).* Since 1998, the DNV has contracted out maintenance through CREMAs. These are multi-year (four to five year) performance based contracts between the DNV and a private contractor that obligate the latter to undertake all phases of road rehabilitation and maintenance works as a single package, from design and programming through execution. At the end of 2003, 856 km of the road network had been rehabilitated and were being maintained under CREMA contracts.
- c) *Micro enterprises.* In order to minimize the negative impact of the retrenchment program and introduce greater efficiency in maintenance operations, the DNV started a pilot program to outsource routine maintenance to micro-enterprises formed by its former employees and due to its success, the program became permanent. Maintenance contracts have been extended and some of the micro-enterprises now compete with larger firms. In 2004, 1,613 km of the DNV's network are being maintained by micro-enterprises with positive results in terms of the quality of maintenance standards.
- d) *Concessions.* From 1994, MTOP granted concessions on the highways that had traffic levels which justified a self-sustained private operation. In general, those are the sections nearest to Montevideo on the main highways accessing it. Around 600 km have been conceded and another 600 km are under study. Concessions have had a satisfactory performance and allowed collecting tolls from international transit traffic using those transit corridors.

As for the *Megaconcession*, the GOU strategy aims at strengthening it and enabling it to raise private financing through the fiduciary trust scheme (See Box 2). The fiduciary trust has already been designed and potential investors have shown interest in the proposed financing structure and a certain tolerance for the embedded risks. The current administration is analyzing options to implement the fiduciary trust.

Box 2
The Megaconcession

In addition to the concessions already granted, no road sections remained that could support a concession on the sole basis of user charges through tolls. With this in mind, the MTOP created the *Megaconcession* by separating a sub-network of primary roads consisting of 1,272 km (15 percent of the network) from DNV management, and assigning its maintenance and operation to a different public entity through a standard concession contract. The contract was awarded to the National Development Corporation -*Corporacion Nacional de Desarrollo* (CND)-, which in turn assigned the contract to a special subsidiary entity: The National Road Corporation - *Corporacion Vial del Uruguay* (CVU) -, an entity vested with legal personality. According to the contract, the concessionaire must finance its operations through tolls and a government monthly payment consisting of: (i) a fixed payment per km of road maintained; (ii) a payment for the maintenance of structures; and (iii) a minimum revenue guarantee. The CVU contracts out all its activities (toll collection, maintenance, and works) with the private sector and the DNV provides technical support the CVU and exercises fiduciary control over its activities, much in the way an IFI does with the recipient of a loan.

The goals of the *Megaconcession* are to: (i) secure user charges to finance a sub-network of the DNV-managed road network; (ii) foster commercial and performance-based management practices; and (iii) increase private financing of the sector. Since its creation, the *Megaconcession* has not yet been able to raise funds from private sources. The main reason for this inability has to do with the country's economic crisis and the government's loss of investment grade in 2002, which made it very difficult to raise new financing. Another reason is that being financed in part by MTOP allocations, the reliability of its financial structure is not sufficiently reassuring for private investors. In order to address this concern, the CVU has proposed the establishment of a fiduciary trust to serve as a Special Purpose Vehicle (SPV) for the securitization of the *Megaconcession* future toll revenues. This solution would involve isolating the cash flows generated by toll collection and channeling them to the SPV, which would in turn issue securities backed only by those flows. Only the investors would have recourse to the funds managed by the fiduciary trust.

The GOU will also continue supporting the Departmental Road Maintenance Program to enhance the technical capacity and operational efficiency of participating *Departamentos*, increase the quality of maintenance works, and ensure year-round accessibility for key sections of the rural road network. The program entails annual routine and periodic maintenance of about 9,000 and 1,500 km of roads, respectively.

The current administration has also emphasized the importance of improving urban mobility and eliminating the bottlenecks impeding the flow of goods through transport gateways (ports and international corridors) located within or in close proximity of urban agglomerations, particularly the Montevideo Metropolitan Area (MMA). In this respect, the GOU strategy consists of developing a master plan for the improvement of urban transport and the implementation of compatible investments in urban infrastructure, and the reorganization of cargo traffic and improvement of road access through the construction of a by-pass to the city of Montevideo and in general improving access to ports. Finally, the current administration is also seeking to scale up efforts to improve road safety, particularly through the continuation of minor infrastructure, signaling and illumination works in suburban areas.

Ports

Port infrastructure. The port system is composed by commercial (cargo and passengers), fishing, recreational, and specialized liquid bulk terminals. The country's main commercial ports are: Montevideo, Nueva Palmira, Fray Bentos, Colonia, and Juan Lacaze. The GOU, through the National port Administration (ANP), owns and operates all these port installations, and has a minority participation in the new container terminal in Montevideo. The private sector owns and operates a container terminal in Montevideo, a bulk terminal at the port of Nueva Palmira and the recently inaugurated port of M'Bopicua. The National Directorate of Hydrography (DNH) at the MTOP manages small commercial, recreational and fishing ports, including: La Paloma, Piriápolis, Punta del Este, Carmelo, Puerto Sauce and Higuieritas. La Paloma is the main fishing port, currently serving the industries established there and some naval installations.

Infrastructure use. The volume of cargo mobilized through Uruguayan ports has moved on an upward trend since the reform of 1993. Between 2002 and 2003, cargo traffic in Uruguay's main ports experienced an increase of 25 percent, the largest annual increase in the last 5 years. In 2003, cargo traffic in the Uruguayan port system (Montevideo and interior ports) totaled 8.3 million tons. In terms of the volume of freight handled, the Port of Montevideo is by far the most important with 4.5 million tons mobilized in 2003. As for containers, in the same year, Montevideo handled 210,401 boxes, equivalent to 333,871 TEU (Twenty-foot Equivalent Units).⁹ The second most important port in terms of cargo traffic is Nueva Palmira with 1.3 million tons handled at the public terminal operated by the ANP. Finally, the Port of Fray Bentos handled 510 thousand tons, of which 450 thousand were forestry products bound for export markets. After three years of decline, in 2003, passenger traffic in the port of Colonia recovered somewhat, reaching 810 thousand passengers; while, passenger traffic in the interior ports continued on the rise, particularly in Carmelo and Nueva Palmira.

Infrastructure condition and safety. Some public terminals have deteriorated considerably as a result of the lack of maintenance and the postponement of necessary investments due to budgetary constraints. Some cargo terminals, such as Fray Bentos and Montevideo, need to be upgraded in order to avoid capacity constraints resulting from increased demand. On the other hand, some passenger and fishing ports, such as La Paloma and Piriápolis, are in need of urgent minor rehabilitation works, as the condition of infrastructure is becoming a significant threat to user safety. Finally, there is also need to improve land access to some ports and improve their connection to the railway and road system.

Government strategy. Uruguay is currently shifting from a model in which ANP owned and operated the port - a service port model - into a model in which ANP owns the infrastructure (quays, docks, storage yards) and is in charge of its management, while private firms may own the assets of the port superstructure (cranes, shed, office buildings) - a landlord port model. The new model has been largely successful in achieving higher levels of operational efficiency, reducing tariffs, and increasing private investment in port infrastructure and services, not only in Montevideo but also in the ports of the interior. However, there are still many challenges that the new administration will face, including: space and access constraints in Montevideo, infrastructure maintenance and dredging needs, the need to develop business oriented plans for

⁹ Overall, the number of containers has increased by 160 percent and the number of TEUs has multiplied threefold since 1993, the year after port sector reform

the interior ports, the promotion of value added services, and the full transition of Montevideo to a landlord model.

Addressing these challenges will require undertaking key investments in infrastructure to avoid capacity constraints, strengthening planning and regulatory capacity in the MTOP, promoting the development of the interior ports, and encouraging a commercial orientation in partnership with the private sector to improve the supply of value-added services and increase competition. The current administration strategy aims at addressing these challenges by: (i) preparing development plans for the ports of Neva Palmira, Fray Bentos, and La Paloma; (ii) reducing the maintenance backlog and undertaking minor rehabilitation works in smaller commercial ports; and (iii) making necessary investments to avoid capacity constraints, particularly the dredging of access channels.

Issues to be addressed by the project and strategic choices

Based on the economic and sector context, the main issues on which the Government requires support in order to advance its strategy, can be summarized as follows:

- a) The competitiveness of Uruguay's exports depends upon the maintenance over time of the functionality, condition, and level of integration of transport infrastructure (roads, ports and railways).** The products that drive Uruguay's economic growth (agricultural and forest products) are transport-intensive, due to their nature (high volume and low price per ton) or because production centers are relatively distant from the main export gateways. While roads continue to be a top priority, ports and railways are attaining increasing importance as extra-regional markets gain in weight and the demand for forest products transport increases. In addition, solutions to improve urban mobility (by-passes, signaling works, and urban transport systems) are also gaining importance as means to enhance access to key infrastructure that is in close proximity to cities (main road corridors and ports), maintain functionality of the main infrastructure by avoiding the interference of urban agglomerations, and improve safety. The proposed project would assist the GOU in reducing the backlog of maintenance and preserving the functionality, condition, and integration of transport infrastructure by financing: (i) the enhancement of crucial transport links, (ii) the elimination of infrastructure bottlenecks; (iii) the improvement of departmental roads to ensure that rural producers have access to the main road corridors; and (iv) innovative mechanisms and management practices to preserve infrastructure assets in a cost-efficient manner.
- b) Recent levels of expenditure are not sufficient to ensure the adequate conservation of road assets and maintain the level-of-service attained after several years of efforts. A policy of maintenance only cannot be sustained indefinitely.** The success of a policy that gives priority to maintenance was clearly demonstrated during the crisis and should continue to be the cornerstone of any road sector strategy in the country. However, a certain amount of rehabilitation is necessary to preserve the value of road assets. So far, PSP mechanisms have proven to be successful in securing road user charges and channeling them toward the cost-effective maintenance of the most important sections of the network and allowing the DNV to weather the crisis in a remarkable way. Nonetheless, in the short term, the conservation of road assets to the level attained could

be jeopardized if reforms are not consolidated and the level of expenditure is not raised. The proposed project would continue to support the use of PSP mechanisms, such as CREMA contracts, as they are indispensable for improving performance and ensuring a stable flow of financing for road maintenance, even in times of budgetary constraint. The project would also provide the current administration with the resources needed to undertake key investments to preserve the value of road assets and reduce the maintenance backlog. Uruguay has a significant amount of good quality road assets, so no urgent large investments are needed. These could only be envisaged if surpluses of resources are obtained but in the short-term, all investments should aim at enhancing regional physical integration and export competitiveness.

- c) **The Megaconcession has had positive results but needs to be consolidated to achieve its purpose of levying funds from sources other than the budget and so further stabilizing the sector.** The sustainability of the *Megaconcession* will depend on its ability to secure steady financing from sources other than those of the budget, so that MTOP resources may be directed to other parts of the road network. Since its creation, the *Megaconcession* has not yet been able to raise funds from private sources. One of the reasons may be that being financed by MTOP allocations, the reliability of its financial structure is not sufficiently reassuring for private investors. The proposed project would provide steady and reliable financing to the *Megaconcession* for a short period, enabling it to attain its rehabilitation and maintenance goals, and contributing to an enabling environment that would put it in a better position to raise funds from other sources.
- d) **Despite continued efforts, and given that Uruguay is a transit country between Brazil and Argentina, further upgrades to international corridors are still needed to eliminate bottlenecks to international road freight transport.** Despite the recent crisis, it is expected that in the short term the level of trade and freight transport will resume its pre-crisis level. Therefore, remaining bottlenecks in international corridors, such as bridges or other infrastructure not meeting Mercosur standards, will translate into bottlenecks to international freight transport. The proposed project would concentrate on the rehabilitation of sections and bridges that are not up to Mercosur standards and hinder the passage of trucks of loads higher than 22 tons.
- e) **Agricultural development poles require adequate road access to major corridors.** In recent years agricultural development poles (cattle, milk, rice, and soy bean) have emerged in different areas of the Country and agricultural and livestock production has accelerated noticeably.¹⁰ The diverging nature of the demands that these developments have imposed on the Departmental road network of secondary and tertiary roads has warranted an approach on two levels by the GoU. Firstly, through the design of specific programs for the maintenance of some agricultural pole networks, such as the “*Cuenca Lechera*”; and secondly, through continued support to the *Departamentos* under the Departmental Road Maintenance Program (DRMP). The variety of problems encountered in each Department, and with each type of activity due to their differing nature will require the consolidation and expansion of the capacity and ability of *Departamentos* to

¹⁰ According to the Ministry of Agriculture, Livestock and Fishery (MGAP), agricultural GDP increased by an estimated 13.2 percent between 2003 and 2004, for a cumulative increase of 36 percent between 2001 and 2004.

plan, develop, and execute specific road programs adapted to each situation. The proposed project would continue its support to the DRMP, enhancing the capacity of *Departamentos* to deal with specific maintenance programs for roads that support agricultural development poles. In addition, the proposed project would support the GOU in ensuring that key transfer terminals are fully prepared to handle increased demand coming from exiting and new development poles.

- f) **Future increase of freight traffic due to forest products extraction and transport will strain the capacity of existing infrastructure.** At the end of 2003, the forest planted area totaled 670,042 Ha, reaching the critical mass of raw material supply that makes viable industrial processing at an economically- feasible scale. It is expected that the expansion of currently existing processing plants and the establishment of new ones with foreign capital will increase the demand for transport of raw materials and finished products and cause a significant deterioration of existing infrastructure and impose high costs to the government and society in terms of transport operating costs.¹¹ Overall, the traffic of forestry products in the Uruguayan port system increased by 37% during 2003, thus becoming the main cargo shipped. Forest products traffic increased by 15% in Fray Bentos, 81% in Nueva Palmira, and 50% in Montevideo; and it is expected that it will continue to increase as new chipping plants are established in the country. The port of Fray Bentos has consolidated itself as the main port for the export of wood rolls. The private sector is already responding by developing forest products terminals outside of Montevideo, such as M'Bopicua. The proposed project will support the elaboration of master plans for the ports of Nueva Palmira and Fray Bentos to increase their commercial orientation, identify current and potential bottlenecks, and propose solutions to remove them. It will also accompany future expansion of terminal capacity with minor investments in transfer terminals and do not crowd-out private sector participation, but rather seek to continue leveraging and complementing private investment. The project recognizes the private sector role in the recent developments in the port sector, and a decision framework will be used to ensure that all investment financed by the project are in line with this principle.
- g) **Despite important advances, and as the network continues to be upgraded and traffic increases, it is necessary to continue working on the improvement of road safety.** In 2002, 1 percent of deaths were attributed to road traffic injuries in Uruguay, compared to the average of 2.2 percent for LAC and lower to middle income countries. Although low when compared to other LAC countries, traffic accidents and mortality rates in Uruguay remain higher than those reported in the developed world. The number of road accidents and fatalities per 10,000 vehicles stand at 23 and 4.7, respectively; considerably higher than those reported for OECD countries, where on average there are around 10 accidents and between 1.2 and 2.5 fatalities per 10,000 vehicles. Moreover, road safety in Uruguay is a matter of concern as road accidents have high social cost as the leading cause of mortality among young population. Road accidents continue to be the leading cause for death in the 15-29 age group, where the rate of road fatalities per 100,000 population is around 19 percent for males. In 2002, this age group accounted for around 26 percent of road accident related deaths. The high incidence of accidents related to
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vehicles going off-road and collisions indicate the need to keep on working on the improvement of signalling. The proposed project would continue to assist the DNV in improving road illumination, signalling, and lane markings to reduce accidents.

2. Description

The overall cost of the proposed project is now estimated at US\$100 million of which US\$89.8 million correspond to the infrastructure components (90 percent) and the remaining US\$9.5 million to the institutional strengthening and road safety components. The Bank would finance US\$70 million (including the front-end-fee), and the GOU the remaining US\$30 million (see Annex 6 for a detailed project cost table). To support the stated objectives the project would consist of the following components (costs include physical and price contingencies):

Component 1: Transport Infrastructure Rehabilitation (US\$44.6 million, including contingencies). This component is fundamental in restoring the service levels of strategic transport infrastructure, whose condition constrain the efficient provision of transport services, in particular, the transit of heavier and larger trucks loaded up to Mercosur standards. The transport infrastructure that has been selected corresponds to links between major economic poles and export markets and transfer terminals supporting key economic activities. This component entails carrying out reinforcement, replacement, and rehabilitation works and will be subdivided into three subcomponents:

Subcomponent (A) DNV Managed Routes (US\$8.4 million, including contingencies). Consists of the: (a) rehabilitation works consisting of reinforcing the pavement structures of : (i) about 15 km between ex-national Route 3 and –km 594.100 on national Route 3; and (ii) about 20 km between Rio Tacuarí-Cañada Santos on national Route 18; these sections are part of international corridors.

Subcomponent (B) CVU Managed Routes and Bridges (US\$27.6 million, including contingencies). It consists of the (a) rehabilitation works consisting of reinforcing the pavement structures of: (i) 5 km of National route 1, between km144 and National route 22; about 16 km of National route 1, between the km 144 and National route 2; and about 3 km of the La Planta Urbana de Young section on national Route 3; and (b) carrying out of reconditioning works consisting of strengthening, widening or replacing the existing structures of 20 bridges located on national Routes 1, 5, 6, 7, 8, 21, 26, 28, 30 and 200 (Interbalnearia route) and the access to Montevideo.

Subcomponent (C) Transfer Terminal Rehabilitation (US\$8.6 million, including contingencies). Transfer terminals have deteriorated considerably as a result of the lack of maintenance and the postponement of necessary new investments due to budgetary constraints. This component consists of minor infrastructure rehabilitation works in several terminals. These interventions are needed to adequately respond to the new demands for the inter-modal transportation of freight and of passengers. The proposed works to be financed are minor investments in several terminals. In order, to adequately address the pertinence of each proposed investment a framework to screen the candidate investments will be used. The proposed

framework will include the following criteria that must be met by the investments in order to qualify for financing ; (i) the individual investments must be aligned with the overall objectives of this project; (ii) the specific investments must not reduce the possibility private participation; (iii) adequate economic evaluation; (iv) compliance with MTOP's port environmental assessment manual;

Component 2: Road Rehabilitation and Maintenance Contracting (CREMA contracts) (US\$24.85 million, including contingencies). This component entails carrying out rehabilitation and maintenance works in six road sub-networks covering an estimated 981 km of national roads through performance-based CREMA contracts. The sub-networks under each contract comprise different pavement types and service conditions. The contracts to be financed under the proposed project cover six networks: (i) National route 3 (between National route 1 and Paso del Puerto, about 243 km); (ii) National route 5 (between km 97-Paso de los Toros, 184 km); (iii) road access to Montevideo (85 km); (iv) Canelones center west sub-network (130 km); (v) Canelones east sub-network (140 km); and (vi) tourist zone (200 km).

Component 3: Departmental Road Rehabilitation and Maintenance (US\$20.6 million, including contingencies). The program consists of carrying out eligible annual departmental road rehabilitation and maintenance sub-projects executed by participating Departmental Governments and partially funded by the DNV through an annual performance based agreement. The departmental road maintenance program under the proposed project entails routine maintenance of about 9,000 km of gravel roads per year, including some periodic maintenance of roads and bridges. All departments in the country, excluding Montevideo, are expected to participate in the program and it should cover at least two years of the maintenance requirements for these roads, starting from calendar year 2006.

Component 4: Transport Infrastructure Safety Program (US\$3.8 million, including contingencies). This component entails: (i) implementing low-cost measures to increase road safety, including roads passing through urban areas, following the experience with the Second Transport project; and (ii) acquisitions and installation of road safety elements.

Component 5: Transport Sector Management and Institutional Building (US\$5.8 million, including contingencies). This component would entail: (i) assisting MTOP in the preparation of its transport infrastructure plan for years 2005-2009, including engineering and economic studies as needed; (ii) training for capacity building and provision of new tools (HDM-4 model); (iii) strengthening infrastructure management, including enhancing technical capacity at participating *Departamentos* and supporting the preparation of master plans for regional ports; (iv) assisting MTOP in the preparation of an urban transport program through the contracting of a master plan for the Montevideo Metropolitan Area; and (v) feasibility studies, environmental assessments, and detailed design studies of the Montevideo ring-road and access roads project.

5. Financing

Source:	(\$m.)
BORROWER	30
INTERNATIONAL BANK FOR RECONSTRUCTION AND	70

6 Implementation

Sector Policy Responsibility

MTOP has the overall responsibility for the transport sector and the policy framework for project implementation. MTOP will lead the development and implementation of the reforms and oversee the execution of the institutional strengthening component. A specialized unit within MTOP, the Institute of Transport and Infrastructure Planning (IPTI), will provide support for the analysis of policy and fiscal perspectives in the road sector.

Project Implementation

MTOP, through its National Directorate of Highways (DNV), National Directorate of Transport (DNT) and National Directorate of Hydrography (DNH), will have overall responsibility for most of project execution. DNV manages the National Highway Network and coordinates the Departmental Roads Maintenance Program. The DNH is in charge of port sector policy and planning and is also responsible for a wide range of activities, including: technical studies, maintenance of navigable waterways, hydraulic works, and the construction, maintenance and administration of the ports that are not under the jurisdiction of the National Port Authority (ANP). The ANP plays an advisory role in the formulation of sector policy, and manages the Country's main ports: Montevideo, Nueva Palmira, Fray Bentos, Colonia, and Juan Lacaze. The DNT is in charge of regulating transport services in all modes; evaluating compliance with operational, technical and safety standards; and exercising control over service providers.

The sub-projects to be carried out within Component 1(B) – within the *Megaconcession* - will be contracted by the CVU, as the holder of the concession contract signed between the MTOP and the CND. The CVU and the MTOP will sign a subsidiary agreement in which the CVU, as executor of the works, will explicitly adopt all commitments assumed by the MTOP as part of the loan agreement that will be subscribed for the current project (see project covenants).

The Departmental Roads Maintenance program will be coordinated and supervised by the DNV. Annual departmental road rehabilitation and maintenance sub-projects will be carried out by the Departmental Governments (municipal governments) who have jurisdiction over these roads. The program will be executed through the signing of annual agreements between the DNV and the participating Departments, in which these commit to executing maintenance works on eligible roads and improving the efficiency of their maintenance operations, and the DNV with the payment of an amount in accordance with their performance.

Project Coordination Unit

The PCU was established within MTOP for the execution of previous projects. The PCU has the required institutional capacity to undertake the execution of the proposed project. The

Implementation Completion Report for the Second Transport Project judged that the PCU's performance was satisfactory and that it had adequate financial reporting and auditing systems, and provided accurate and timely information.

Partnerships

Although no explicit partnership agreement exists, The MTOP's infrastructure strategy has been jointly supported by the Bank and IDB through the financing provided for the execution of *Planes Quinquenales* (five-year programs). Following this successful precedent, MTOP requested a US\$77 million loan from the IDB (UR-L001), approved in October 2004, to finance a program with a total cost of US\$110 million. The program seeks to improve the priority corridors of the national road network to enhance competitiveness and foster regional integration. This loan supports GOU sector strategy and is in line with the Bank's proposed project objectives, rendering it completely complementary. Overall, both loans together will cover about 50 percent of the 2005-2009 road program.

7. Sustainability

The sustainability of the project will depend on: (i) continued ownership of sector reform; and (ii) the timely implementation of rehabilitation and maintenance interventions.

Ownership of sector reform

The transport infrastructure sector reforms have benefited from a remarkable institutional continuity, a situation that has logically contributed to their success. Although Uruguay is renowned for its institutional stability, there is no guarantee that the new administration will feel as much ownership of the existing sector policy. Notwithstanding, the present project concept has been discussed with the new government authorities, who agreed on the project objectives and components and confirmed that the sector policy will be maintained. The general recognition of the success of the reforms introduced by MTOP, as well as the continuity of administrative and technical staff, reduce the likelihood of a major reversal in the way things are done. In addition, the need to be competitive within Mercosur, clearly perceived by the GOU, and its preoccupation with the development of new economic activities as a result of the agriculture and forestry expansion continue to be driving forces for further reform. Finally, discussions with the new administration have confirmed and consolidated this project design adding new emphasis in certain subcomponents to accommodate the new administration's approach.

Timely implementation

The sustainability of the project will also depend on the timely implementation of maintenance interventions to avoid a more pronounced deterioration of road assets, which may result in an unmanageable increase in maintenance needs. The project design seeks to make interventions sustainable by prioritising them according to traffic and road conditions through the Integrated Highway Planning System (SIPLA) and utilizing various approaches according to the type of network and of intervention, in order to make maintenance cost-efficient. Given that timely implementation will, to a large extent, depend on a stable flow of funding, the project design

seeks to ensure the availability of funds by aligning investments with budgetary allocations for the sector under the *Plan Quinquenal* and supporting the promotion of increased private investment through the *Megaconcession*, as means of guaranteeing a steady flow of funds towards road maintenance.

8 Lessons Learned from Past Operations in the Country/Sector

The proposed project design will take into account relevant lessons learned in prior projects and the Bank experience in Uruguay and in the region. Project execution will be greatly facilitated, especially in terms of procurement, project coordination and supervision, by the experience accumulated with the design and execution of previous transport projects in the Country. More specifically, the project design builds on lessons learned from the implementation of the First Transport Project (Loan 3021-UR), Second Transport Project (Loan 4395-UR), and the on-going Forest Product Transport Project (Loan 4204-UR), several Interamerican Development Bank (IDB) operations, and Bank experience in Uruguay and in the region. The performance of the Bank and borrower in the Second Transport Project was rated satisfactorily in the Implementation Completion Report; while the last Project Supervision Report of the Forest Product Transport Project considers progress in implementation and in the achievement of the project's development objective as satisfactory. The resulting lessons learned reflected in project design are summarized below.

Impact of funding constraints and fiscal policies in the pace of reform and project implementation. In the past, the decline in sector funding and uncertainties with regard to future levels of funding, forced the MTOP to slow down the implementation of various institutional initiatives that were being tested with promissory results. MTOP could not further expand activities for which there was strong interest among potential participants but an unclear ability to meet funding requirements on a timely basis. These included: the micro-enterprise program, performance agreements between DNV and some of its maintenance districts, and CREMA contracts. Scaling up these results-oriented experiences requires a more stable macroeconomic environment in which the volatility of funding decisions can be kept within reasonable margins. Although the economic crisis in Uruguay seems to have subsided, future budgetary backing can still be volatile. Therefore, the project has been designed so as to remain firmly anchored on infrastructure maintenance as the major emphasis, making the size and pace of expenditures consistent with recent historical trends. Infrastructure investments are prudent and correspond to necessary rehabilitation and periodic maintenance activities that are needed to remove bottlenecks in both roads and transfer terminals and preserve the value of infrastructure assets. In fact, the Uruguayan experience after 2001 showed that even a strict policy of prioritizing maintenance could not avoid the slight but progressive deterioration of road conditions, and that a reasonable amount of more costly rehabilitation investments is needed after a certain point in time in order to avoid a decline in road asset value.

Establishing minimum requirements for performance-based maintenance (CREMA) contracts to work successfully. The experience in Uruguay has shown that CREMA contracts are powerful instruments to carry out road maintenance and rehabilitation in an efficient and effective way, even in a situation of great budgetary pressure. The successful experience of MTOP in Uruguay reinforces the notion that for CREMA contracts to show their real potential, a

number of requirements must be given, namely: (i) regular up-to-date and accurate information on the state of the road network and definition of realistic service output standards; (ii) effective control of contract compliance; (iii) good supervision of works; and (iv) reasonable contract duration. In Uruguay, the average duration of the CREMA contracts was between four and five years, which is the minimum duration recommended in literature to reduce the risk of unsatisfactory quality in rehabilitation works. The proposed project will finance road rehabilitation and maintenance through CREMA contracts adhering to these minimum requirements.

Securing financing on a pluri-annual basis. Most of the CREMA contracts in Uruguay had been part of the STP, which, as mentioned above, guaranteed stable financing for at least part of the commitments and provided an incentive for the GOU to provide the necessary counterpart funds. Even with this arrangement the execution of one CREMA contract had to be postponed due to budget constraints, and delays occurred in the payment of the local component to contractors. This uncertainty regarding budget allocations is a strong deterrent for the implementation of contractual schemes that depend on credible funding arrangements and the perception of a high risk that the government might not honor its payment commitments, will certainly be reflected in the prices and could jeopardize the success of the instruments.

9. Safeguard Policies

Environmental classification

The project has been classified as “Category B”, following the Bank’s Operational Guidelines [OP 4.01], as no significant negative impacts that could jeopardize the natural environment of its area of influence are foreseen. This classification takes into account the fact that the proposed project will support the rehabilitation and maintenance of existing roads, either paved (national road network) or unpaved (departmental road network), and consequently will not involve new heavy construction activities. The main issues that have to be considered to ensure an adequate environmental management the subprojects include: stabilizing slopes, recovering areas for the exploitation and deposit of materials, controlling existing erosion processes, and incorporating road safety measures. Prevention, mitigation and/or compensation measures for these issues are straightforward.

Environmental Assessment

The Bank’s environmental assessment focused on the main aspects agreed upon with the Quality Assurance Team (QAT) of the Bank: (i) analysis of the mechanisms established to address the issues that trigger Bank safeguards; (ii) evaluation of the environmental management capacity of the executing agency; (iii) environmental evaluation of the first package of projects in each component; and (iv) and evaluation of overall compliance with the National Environmental Legislation (See Annex 11). The environmental evaluation for the road infrastructure components of the first package of subprojects was conducted by the Environmental Unit of the DNV and reviewed by the Bank as part of the project’s due diligence. Individual subprojects were evaluated using the screening methodology established in the QAT’s *Guide for Rapid*

Environmental and Social Evaluation of Road Projects, with the purpose of ensuring that environmental and social issues were appropriately considered in their design. This assessment determined that for one of the analyzed projects an *Abbreviated Involuntary Resettlement Plan* was required, and the environmental risk for the remaining projects was moderate for six, and low for the remaining sixteen. None of the projects have critical environmental and social risks. Therefore, the project is environmentally viable and fulfils the Bank's Environmental Safeguards Policy

The environmental evaluation for the transfer terminal sub-components of the first package of subprojects was carried out by an independent consultant on behalf of DNH. Individual subprojects were evaluated using the screening methodology established for the project and based on *Environmental Manual for Port Sector Activities and Project* of June 1988, developed by National Port Administration (ANP), and that was approved by the Bank (First transport Project) and has been adopted by DNH as reference until it generates its own guidelines.

This assessment determined that for the first package of potentially nine minor works analyzed, all were categorized having low environmental and social risks. Therefore, the project is environmentally viable and fulfils the Bank's Environmental Safeguards Policy

Involuntary Resettlement

This Policy is triggered because in a particular road section of Route 1 to be rehabilitated under the first component, needs a specific instrument to take into account a potential affectation of some properties resulting from the construction of a by-pass to Colonia Valdense. In this sense, DNV developed an *Abbreviated Involuntary Resettlement Plan* according to the Safeguard Policy of the Bank. This Plan has been published in the INFOSHOP according the Bank's rules. According to the census carried out as part of the Resettlement Plan, 11 families are concerned and 14 properties will be affected; consisting of 11 housing units, 3 hangars, 1 commercial establishment, and a unit once used as a tire replacement shop. Affected persons will be compensated for lost assets and relocation; the project files contain the general practice in Uruguay concerning the evaluation of compensation. According to the socioeconomic survey, the 63% of the families concerned had incomes above 5 minimum salaries, 27% between 2 and 3 minimum salaries, and 9% just under 2 minimum salaries. Four of the eleven families concerned were renting (and had not been living in the area long), and the rest were relatively longtime residents. When interrogated on their view of the expropriation 55% said they will reconstruct their homes in the remainder of the property whilst 45% said they would move (this includes all the families that rent). The owners of the rented properties do not, according to the survey, have any particular difficulties with the potential expropriation. On the whole, the expropriation will not provoke significant resettlement only one owner-family would relocate, the others that will potentially relocate are renting.

In addition, the Environmental Assessment indicates that there is no informal occupation of the right-of-way in any subproject, needing eventual resettlement. Furthermore, with the present level of detail known for other subprojects no further resettlement is foreseen.

Cultural property policy

According to the new guidelines, all projects involving civil works could trigger the cultural property policy. Given this, even though there is no expectation that cultural property is in the project area, the Environmental Assessment sets forth "chance find" procedures in the case that such property is encountered.

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP/GP 4.01)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Natural Habitats (OP/BP 4.04)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pest Management (OP 4.09)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cultural Property (OPN 11.03 , being revised as OP 4.11)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Involuntary Resettlement (OP/BP 4.12)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Indigenous Peoples (OD 4.20 , being revised as OP 4.10)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Forests (OP/BP 4.36)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Safety of Dams (OP/BP 4.37)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Projects in Disputed Areas (OP/BP/GP 7.60)*	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Projects on International Waterways (OP/BP/GP 7.50)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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