1. Key development issues and rationale for Bank involvement

The Government of Madagascar has put in place a bold development strategy for the period 2007-2012, the Madagascar Action Plan (MAP). The MAP envisages accelerated reforms and outlines the strategies and actions that are expected to ignite rapid growth and lead to the reduction of poverty. The country also adopted a comprehensive transport sector strategy in line with the MAP.

The transport sector plays a key role in Madagascar’s growth and poverty alleviation strategy. Increased foreign investment, development of the country’s eco-tourism and mining potential, growth in agricultural output and the reduction of rural isolation - - all depend on the efficiency of transport services and the availability of appropriate transport infrastructure. Unfortunately, the country has experienced a serious deterioration of its transport infrastructure over the past two decades, mainly due to lack of maintenance and under-investment.

Road Sector

Some significant recent investments in the road sector, including from the World Bank\(^1\), the European Commission and other multilateral agencies have spurred a reversal in the downward trend described above. But the road sector policy is still inadequate:

(i) Large sections of the network are left with inadequate routine maintenance, jeopardizing the recent investments. However, a recent increase in the fuel levy assigned to road maintenance has raised the resources available to the Road Maintenance Fund and some more increases are planned in order to raise enough revenues to maintain satisfactorily the entirety of the road network by 2010.

(ii) The ongoing institutional reform, the objective of which is to refocus the Ministry of Public Works’ role on strategic planning, oversight and coordination, while regulatory and executive functions would be handled by an autonomous agency (the Road Authority - Autorité Routière de Madagascar, ARM), collides with vested interests and inertia, and the sharing of responsibilities between the ARM and the Ministry is still being defined.

\(^1\) APL1, which closed in mid 2005, funded periodic maintenance on 530km of national roads. Under APL2, 1089 km of rural roads have already been rehabilitated and another 400 km should be rehabilitated before the closing date. Under APL3, 747 km of primary roads have already been rehabilitated and another 700 km are currently being rehabilitated
The network of local construction companies has been severely decimated by late payments on Government contracts, reducing significantly competition in the road construction sector and giving negative signals to the few remaining local contractors.

There is no political will to enforce the axle load control legislation. This is estimated to cost approximately US$60 million annually in the form of premature road deterioration. Enforcement of the axle load legislation is one of the legal covenants under the current APL series and was set as a precondition for further road investments by the three main donors (European Commission, African Development Bank and World Bank). Nevertheless, an ever-growing number of overloaded trucks is seen uncontrolled on the road network, especially on the main axis (RN2, between the main port and the capital city), where the total number of trucks tripled during the last two years.

Rail Sector
The Government has elected to privatize several state-owned transport companies, such as the Northern Railway Network which extends over a length of 687 km and serves the most important transport corridor of the island, connecting the capital city (Antananarivo), the main port (Toamasina), the main rice granary of the country (Lake Alaotra) and the second main industrialized town of Madagascar (Antsirabe). A concession agreement was signed in 2002 with Madarail. As part of this agreement, Madarail agreed to implement a multi-year investment program mostly funded by the State. Since 2005, the IDA (through the APL series for an amount of US$55 million) and the European Investment Bank (Euros 11 million) have participated in the financing of this investment program which included the replacement of 183 km of rail track, purchase of 5 new locomotives, reinforcement of track embankments, rehabilitation of metallic bridges, etc. Thanks to these investments, the volume of freight transported by rail (mainly rice, cement, chromites and oil products) between Antananarivo and Toamasina increased by 78%, from 236,000 tons / 84 million ton-km in 2005 to 420,000 tons / 152 million ton-km in 2008, accounting for close to 15% of the overall freight volume on this corridor. The implementation of the rail component under APL3 is rated highly satisfactory.

However, regardless of these successful results, there are still important rehabilitation works to be done on deteriorated sections of the railway lines. These are critical for further increasing commercial speed and rail system capacity, and for making possible the attainment of traffic objectives.

Port Sector
Accordingly with the principles adopted for the restructuring of the transport sector as a whole, the Government has created an Agency for Ports and Maritime/River Transport (Agence Maritime, Portuaire et Fluviale, APMF) and adopted a legal framework for the regulation of the ports and maritime transport. The law allows individual concessioning of large ports, and grouped concessions for medium-sized ports, while the small commercially nonviable ports will be managed directly by the APMF.

The port of Toamasina handles more than 75% of the total port cargo in Madagascar and a dramatic increase in container traffic is expected over the next ten years, which will quickly saturate the port’s current capacity. Current cargo throughput at the port of Toamasina is 2.2 million tons per year (to be compared to 6.6 million tons in Port-Louis, Mauritius, and to 4.3 million tons in Saint-Denis, Reunion Island, 2007 data).

Urban Sector
Urban infrastructure is in poor shape all over the country, in spite of some efficient but rather limited work carried out by AGETIPA in the early 2000’s. But the overall maintenance backlog for urban road networks is worrying; the resources required for an adequate maintenance/rehabilitation program of urban infrastructure is simply not commensurate with the current level of municipal resources, impaired by an inefficient tax collection system leaving much room for evasion. Street pavements and key pieces of urban transport infrastructure such as bridges are in dismal shape in most cities.

Current World Bank involvement in the transport sector
There are two ongoing World Bank transport projects, part of an APL series: (i) a Rural Transport Project (APL2) in the amount of US$80 million, which is to close in mid-2010, and (ii) a Transport Infrastructure Project (APL3) of US$ 165 million, closing mid-2009. For more details on these projects see Annex 2.

2. Proposed objective(s)

The proposed project supports (i) the CAS objective to remove constraints to investment and growth and (ii) the Madagascar Action Plan commitment to connected infrastructure. By building upon the achievements of the on-going APL II and III, the proposed project will meet the following specific objective: reduce transport costs, in particular in Antananarivo – Antsirabe – Tamatave – Lake Alaotra area, through preserving and consolidating transport infrastructure assets.

3. Preliminary description

To meet the Project Development Objective, three main components have been identified:

Component 1: Rail Sector, Northern Rail Network rehabilitation (US$ 37 million)

This component, which would use two thirds of the loan amount, would finance the completion of the rehabilitation of the Northern Railway Network and will include:

- Replacement of wood sleepers by metallic or concrete sleepers
- Rehabilitation and renewal of 70 kilometers of rail track.
- Construction of rail access sidings to large industries such as a cement factory, agribusiness factories and storage facilities, which are future and/or existing important users of rail transport.
- Rehabilitation and fencing of the urban sections of the line going through Antananarivo and Manjankandriana (city located approx. 50km east of Antananarivo) for safety reasons.
- Rehabilitation of eleven metallic bridges.
- Improvement of the drainage of the rail embankment
- Signaling and railroad crossings to improve safety, especially in Antananarivo and Toamasina.

Once these works are completed, all the key rehabilitation works needed on the Northern Railway Network will be done and no further heavy investments should be needed in the short/medium term. It will make it possible for the rail to reach an expected annual freight volume of 675,000 tons in 2012, a 186% increase since the first year of the concession (236,000 tons).

Component 2: Road Sector (US$ 15.5 million)

2.1 Axe Load Control on the National Road Network (US$ 3.5 million)

This component aims at equipping the national road network with the required infrastructure to make possible the enforcement of the current axle load legislation for approximately 80% of the truck trips in Madagascar. It will finance stationary and mobile weighing facilities, and technical assistance as needed, in order to preserve Madagascar’s road assets and make possible an eventual re-involvement of the World Bank and other partners in Madagascar’s road sector.

2.2 Provision for cyclone-related damages on the road network (US$ 3.5 million)

Madagascar is regularly hit by severe cyclones during the rainy season which often affect bridges and roads, cutting vital links to areas that become totally isolated until traffic is restored. This component would be used “on call” as needs arise on various sections of the national network.
2.2 Jetties for the APL3-financed ferries (US$ 1.5 million)

APL3 financed 29 ferries, most of which are located along the national road network, on the wide rivers along the East Coast, and which make it possible to travel from Maroansetra to Fort-Dauphin by road for cars and trucks up to 25 tons. Some jetties have already been built but more are needed to provide for safe and smooth deck/mooring, especially in bad weather conditions, in order to avoid an early deterioration of the ferries and to ensure the sustainability of the investment made under APL3.

2.3 Urban Works (US$ 7 million)

Four key pieces of infrastructure will be rebuilt/rehabilitated under this component:

- The 2 tunnels of Antananarivo (built some 70 years ago, these two tunnels are crucial road links in the capital city). Their overall structure is very vulnerable, showing signs of structural fatigue, worsened by serious water infiltrations. Any serious problem with one of these tunnels that would entail closing them down for some period of time would simply paralyze the city traffic:

- The bridge of Manakara (35,000 inhabitants) and the bridge of Maroantsetra, (30,000 inhabitants)

The bridge in Manakara is about to collapse while the one in Maroansetra has collapsed already, forcing the inhabitants either to use pirogues or to make a long detour.

Component 3: Technical Assistance, Institutional Development and Capacity Building (US$ 5.5 million)

This component will assist the Government to continue the ambitious transport sector organizational reforms supported under the three APLs, through support to the:

3.1 APMF (US$ 3.0 million)

This component will finance:

- Technical assistance for carrying out studies key to the development of the port sector such as (i) a National Master Plan for Ports, and (ii) engineering studies and definition of institutional arrangements for the dredging of existing port basins to increase/maintain water depth and for draft monitoring. If so requested by the Government, the credit will finance technical studies needed to complete those carried out under JBIC funding for the extension of the port of Toamasina and/or the airport of Ivato-Antananarivo.

- Training for APMF ship inspectors and port administrators, as well as institutional strengthening in areas such as regulation, handling of emergency/distress situations, etc.

- Some complementary investments needed to make Malagasy ports comply with the MARPOL and SOLAS conventions, and with the ISPS Code (on minimum security arrangements for ships, ports and government agencies in the port sector).

3.2 ARM (US$ 1.0 million)

This component will finance continued support to the ARM (operating costs, which will be co-funded with the EU and the AfDB, feasibility/engineering studies).

A gradual withdrawal of donors is sought and over time the ARM is expected to cover their operating costs. A set of options to make this possible has recently been presented by the Ministry of Public Works upon request from the donors, including the establishment of a tax on ARM-managed contracts, and direct budget support from the Ministry and/or the Road Maintenance Fund. While this issue is being debated and before the Ministry comes to a decision on this, donors support is needed to ensure the durability of a new and still fragile institution.

NB: the current APL3 credit is already funding the works needed for compliance of the some Malagasy ports (Toliara, Mahajanga) with the ISPS Code.
3.3 Ministry of Public Works and Meteorology - Ministry of Transport (US$ 1.5 million)

The re-focusing of the Ministries on their core responsibilities, including regulation and strategic planning, while operational aspects are to be gradually delegated to ad hoc agencies such as the ARM or the APMF makes necessary a retraining of the Ministries staff and technical support to smooth the transition towards this newly-implemented institutional set-up.

4. Safeguard policies that might apply

Safeguard Policies Triggered

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The proposed IDA project has a category B rating with partial assessment. Components 1 and 4 will finance civil works. Component 1 on the Northern rail network will finance the rehabilitation of existing railway lines within the existing right-of-way with no alignment modification. Component 4 will finance the rehabilitation of 2 existing tunnels in Antananarivo, the reconstruction/reinforcement of 2 bridges in Manakara and Maroantsetra, the construction of weighing facilities on the national roads and the construction of jetties for the ferries.

For the Northern rail network with the rehabilitation of existing railway lines within the existing right-of-way without alignment modification, the potential environmental impacts could be the erosion of the slopes, obstruction of water flows, noise and dust presumed to induce adverse physical environmental impacts during rail rehabilitation works, the potential risks of accident during the exploitation etc.

The rehabilitation of the infrastructure of the Northern Railway Network may have positive indirect effects on the national and local economic development, particularly for isolated areas. No protected areas or cultural sites will be affected or crossed by the northern railway network to be rehabilitated or maintained.

For the bridges:

In Maroantsetra, the bridge collapsed already a few years ago. It will be rebuilt with a prestressed concrete deck made of four thirty-meter spans, exactly on the same spot as the old one, but using cyclone proof norms. The existing bridge abutments may be reused and/or reinforced, depending on the outcome of the upcoming technical assessment. Foundations will be made of long poles hammered into the soft soil beneath the bride. The remains of the old bridge will be removed.

In Manakara, the metallic bridge is severely corroded and traffic is currently restricted to one lane only to minimize the total weight to be supported by a fatigued structure. The metallic structure will be either reinforced or, more likely, replaced by a prestressed concrete deck, that will be laid on the existing abutments, and additional piers to provide intermediate support between the two shores.

Following the main works for these bridges, the potential environmental and social impacts are minor and could be mitigated easily. These impacts may include: elimination of the remains of the old bridge, the construction waste management, etc.

Due to the unknown locations to build the weighing facilities for the national roads and the unavailability of technical studies for the bridges in Manakara and Maroantsetra and the jetties for the ferries at this stage, an ESMF will be carried out with the objectives among others to establish clear procedures and methodologies for environmental and social review and planning, review, approval and implementation of the activities to be financed under the project, specify appropriate approach to manage the negative impacts, to eliminate and mitigate the potential negative impacts, and specify roles and responsibilities and outline the necessary reporting procedures, for managing and monitoring environmental and social concerns related to these activities.

The Transport project has realized a national campaign on fight against AIDS for all launched project under APL 2 and APL 3 since 2005. These activities have been conducted with the assistance of PSI Madagascar (International NGO against AIDS). Actually, the Ministries dispose a National Strategy
Safeguard Policies Triggered

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For the component 1 on the Rail Sector, Northern Rail Network rehabilitation, the rehabilitation of the existing lines of Northern Railway Network does not require any resettlement. Thus, the safeguard policy on the Involuntary Resettlement OP 4.12 is not triggered. But due to the unknown locations to build the weighing facilities for the national roads, the safeguard policy on the Involuntary Resettlement OP 4.12 could be triggered. For that, the Transport and Public Works sector has a Resettlement Policy Framework (RPF) adopted on July 18 2002. If the RPF is applicable, a Resettlement Action Plan (RAP) acceptable to the Association, giving details of a program of actions, measures and policies consistent with the RPF, will be elaborated and implemented before launching the civil works on the weighing facilities.

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Environmental Category: B - Partial Assessment

The EIA for the railways component and the ESMF will be submitted for Bank’s approval prior to appraisal. The ESMF, the EIA and the approved EMP will be disclosed in the country and at the Infoshop, and the RPF will be also redisclosed prior to appraisal. The SMU has agreed to accept transfer of the safeguard responsibilities.

5. Tentative financing, Team composition.

Source: ($m.)

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The Task Team Leader for this project is Pierre Graftieaux, Senior Transport Specialist, (AFTTR). Team members include: Tojoarofenitra Ramanankirahina, Transport Specialist (AFTTR); Paul-Jean Feno, Environmental Specialist (AFTEN); Sylvain Rambeloson, Senior Procurement Specialist (AFTPC);
Gervais Rakotoarimanana, Senior Financial Management Specialist (AFTFM); Gordon Appleby, Consultant (AFTQK), Pauline Ravalisoamampionina, Program Assistant (AFMMG).

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