

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

Report No.: AB4885

Project Name	SÃO PAULO METRO LINE 4 (PHASE 2)
Region	LATIN AMERICA AND CARIBBEAN
Sector	General transportation sector (100%)
Project ID	P106390
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Environment Category	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input type="checkbox"/> TBD (to be determined)
Date PID Prepared	June 24, 2009
Date of Appraisal Authorization	July 13, 2009
Date of Board Approval	November 17, 2009

1. Country and Sector Background

The São Paulo Metropolitan Region (SPMR) has 18 million inhabitants spread irregularly over 8,000 square kilometers. Although dominated by the São Paulo Municipality (SPM) with 11 million inhabitants, SPMR is made up of 39 municipalities. The passenger and freight transport needs of such a region are enormous. The region generates roughly 20% of Brazil’s GDP and is considered to be the most important economic region of the country. However, rapid urbanization and motorization has resulted in uncontrolled urban sprawl with associated traffic congestion, long travel distances, exacerbated by social problems including crime and rising unemployment. Of the 26 metropolitan regions in Brazil, SPMR has the highest population density (2,245 inhabitants per km²) and the fourth highest share of people living in slums (9%).¹ The problems and costs of traffic congestion in SPMR affect both passengers and freight logistics and also contribute negatively to the economic development and competitiveness prospects of the region. Moreover, the over-reliance on cars and inefficient bus operations in SPMR has a negative impact on air quality and resource consumption, and contributes to increases in accidents.

2. Objectives

The Line 4 Project is a priority undertaking in the Region as it will: (i) serve as a “bridge” between Metro’s Line 5 and CPTM’s West commuter line to the Metro network, (ii) interconnect all three existing Metro lines to provide a grid flexibility to the Metro network which does not exist with the present radial

¹ Brazil São Paulo: Inputs for a Sustainable Competitive City Strategy, World Bank, 2007

configuration, and (iii) interconnect two CPTM commuter rail lines. The main objective of the Line 4 (Phase 2) project is to build and enter in operation four Line 4 stations not completed in Phase 1 of the project and build one new station at the Vila Sônia yard. These stations could not be included in Phase 1 of the project due to the debt limits imposed on the State of São Paulo by the Republic of Brazil at the time Phase 1 was launched. As such, when Phase 1 was approved, it had already been decided that a Phase 2 of the project would be needed to build the remaining stations, as soon as the State would be able to secure the necessary guarantees from the Republic of Brazil to obtain a loan for the construction of the remaining stations.

The Project Development Objective (PDO) of the São Paulo Metro Line 4 (Phase 2) project is to improve the quality of service provided to the urban transport users in the area of influence of the new Line 4 stations (São Paulo-Morumbi, Fradique Coutinho, Oscar Freire, Higienópolis-Mackenzie and Vila Sônia) and facilitate the integration between metro and bus at those stations. The PDO is in line with those approved for the São Paulo Metro Line 4 project (Phase 1), namely: a) to improve the quality and long-term sustainability of urban transport in the São Paulo Metropolitan Region (SPMR) by interconnecting the existing subway, commuter rail and bus networks through the construction of Metro Line 4; b) to improve the accessibility of the low-income population of the areas served by Line 4 to employment centers and health and education facilities; c) to seek private sector participation in the development of Line 4.

The PDO will be achieved by reducing travel times between origins and destinations within the area of influence of those stations and by guaranteeing a smooth integration between metro and other modes, particularly bus, in all of them. To enable this improvement in quality of service to the urban transport users, the project will be completing the civil works and equipment for access and operation of the five stations and providing the rolling stock required to carry the additional demand generated by those stations. The key indicators will include the change in travel times between select stations, the percentage of bus routes integrated with the new Line 4 stations, and the number of annual passengers boarding and alighting at those stations.

3. Rationale for Bank Involvement

The Bank's assistance strategy in Brazil is to support policies and investments that will encourage economic growth and social development in a context of macroeconomic stability. Our emphasis is on efficient resource allocation, increased efficiency in the public sector and the appropriate targeting and delivery of support systems to the poor. The proposed project is consistent with the Bank's Country Partnership Strategy (CPS) endorsed by the Bank on May 1, 2008. This CPS will continue to support the same four main pillars namely equity, sustainability, competitiveness and sound macro-economic management endorsed in the previous CAS.

The proposed project objectives are in line with Brazil Department and Infrastructure Division objectives, namely: (i) to promote financial viability of public enterprises and their reform, including decentralization to various levels; (ii) to contribute to poverty alleviation; and (iii) to reduce Government subsidies through better tariff policies and improved financial management. Through its involvement, the Bank has already helped in the decentralization process from Federal to State and is now assisting the State in the consolidation of its rail-based systems and in the tariff and modal integration process. The proposed project is also a follow-up to previous Bank operations and the ongoing projects: (i) Phase 1 of the Metro Line 4 project (due to be in operation in 2009), which will increase the interconnection between the existing metro and suburban rail network and was the first PPP signed in the country; and (ii) The São Paulo Trains and Signaling project which was approved in May 2008 and which will finance trains and signaling systems for both rail-based systems of the SPMR.

The State has followed as much as possible a strategy of improving metropolitan coordination, designing , updating and implementing an urban transport, land use and air quality strategy (PITU), looking for financing mechanisms other than government budgets and progressively promoting the participation of the private sector in operations and investment in the sector. The main beneficiaries of the above projects have been primarily the low-income users who make up more than 50% of the rail-based system users. The State has shown commitment and has given priority to urban transport Bank-financed projects even in times of budget restrictions.

4. Description

The project would comprise two components:

(a) **Infrastructure and Equipment** to help complete four stations of Line 4 initiated during Phase 1 (São Paulo-Morumbi, Fradique Coutinho, Oscar Freire and Higienópolis-Mackenzie), build one new station (Vila Sônia) and its access tunnel (1.5 km), build additional facilities at the Vila Sônia yard, and acquire and install the necessary systems to operationalize these stations. The trains will be provided by the private sector concessionaire (Via Quatro), which has already ordered the trains for Phase 1 with an option for 15 more trains for Phase 2. This component represents 97% of the project costs.

(b) **Technical Assistance** component to help in the project management oversight and project supervision of the works of Phase 2, as well as specific studies or assessments required during the execution of Phase 2, including a study for estimating carbon emissions reduction due to the implementation of Line 4. This component represents about 3% of the total project cost.

5. Financing

Source:	(\$m.)
Borrower	130
International Bank for Reconstruction and Development	130
JAPAN: Japan Bank for International Cooperation (JBIC)	130
Total	390

6. Implementation

The Secretary of Metropolitan Transport of the State of São Paulo (STMSP) is the main Government agency responsible for the project. Metro reports to the STMSP. The Borrower is the State of São Paulo who will delegate the project implementation to Metro. Overall project oversight will be the responsibility of STMSP on behalf of the State through an established Project Coordination Unit (PCU) that will oversee the implementation of this project and other ongoing projects, including Line 4 Phase 1). In addition, Metro will continue to have a Project Management Unit (PMU) which will be in charge of the implementation of their respective components. The PMU will be headed by a Project Coordinator who would report directly to the Director in charge of the implementation of the project. The PMU will be staffed with regular staff from the agencies and supported by project management oversight and supervision consultants in charge of providing technical support in areas such as engineering, procurement, environment and financial management. Metro has considerable experience with this PMU unit, acquired in ongoing and/or previous Bank-financed projects.

7. Sustainability

The sustainability of the project results will depend on: (i) continued ownership and priority given to the urban transport sector by the State administration; (ii) timely implementation and funding of rehabilitation

and maintenance interventions to keep the infrastructure and equipment in good condition; and (iii) maintenance of integrated tariffs such as the Bilhete-Único Integrado (BUI), which benefits primarily the low-income segments of the population. The State has demonstrated its ownership of the project and of the sector in the last 8 years by giving priority to investments in this area. The timely implementation and funding of rehabilitation of infrastructure and equipment suffered during the periods of fiscal space restriction, but even then the State provided the funds necessary to maintain the infrastructure and rolling stock or has sought mechanisms to provide the funds. The BUI is likely to continue because both the State and Municipalities have understood how important it is for the low-income segments of the population. Therefore, the sustainability of the project and of the sector seems likely.

8. Lessons Learned from Past Operations in the Country/Sector

Although Phase 1 of the São Paulo Metro Line 4 project will only close on June 30, 2010, the major lessons learned from this and other Bank-financed rail projects in São Paulo and others in the urban transport sector are:

- The service order must only be signed once there is a firm date for expropriations to be completed to avoid paying penalties to the contractor. Therefore, the funds for expropriation must also be made available by the State very quickly and the process of valuation of properties and court decisions about the value of the expropriation be advanced and expedited.
- Bidding of major civil works projects quite often leads to litigation, and therefore advanced procurement, even before the loan is approved, is recommended to minimize delays.
- Tunneling and station shafts are very complicated works which may cause accidents. Proper design and strict supervision is required and safety procedures, including emergency evacuation from the site, must be ensured.
- Environmental impacts of the construction must be monitored very carefully, particularly those impacting the surrounding housing and buildings.
- The coordination between the different levels of government (State, Municipalities) in urban transport is fundamental for medium and long term planning and for the implementation of a truly integrated system, both modal and tariff-wise.
- The policy for the sector must be strengthened to minimize distortions resulting from inefficient physical and financial coordination between modes and to promote multimodal integration.
- The tariff levels should allow for significant cost recovery of working costs and must be complemented by financing mechanisms which cover the shortfall.
- Demand forecasts should be carefully scrutinized because of their uncertainty.
- Availability of counterpart funds and of fiscal space for the project must be assured to avoid costly construction delays.

In addition, recommendations emerging from the IEG review of the transport sector have been taken into account in terms of building up the sector's monitoring and evaluation efforts and aligning them with the new strategy, which emphasizes urban transport and multimodal transport. This is being achieved through the use of relevant intermediate indicators that can be readily measured and are applicable to a broad range of projects.

9. Safeguard Policies (including public consultation)

The Line 4 (Phase 1) project had a full environmental assessment which was approved by the Board prior to its appraisal. Subsequently, after the Pinheiros station accident on January 12, 2007 and as a prerequisite for the Additional Financing loan, the Bank required a detailed social assessment and periodic monitoring of those affected by the accident, and also an environmental impact of the accident. Both were posted in the

Infoshop. For Phase 2, the original Environmental Assessment stands but required an addendum for the 1.5km tunnel and the new Vila Sônia station because they were not included under Phase 1. Metro's staff prepared an Environmental Report for Phase 2 (*Relatório Ambiental Preliminar*) that was reviewed by the relevant State environmental agencies (*Secretaria do Meio Ambiente* and *CETESB*) and received a "preliminary license" (*Licença Prévia*) in February 2009. The Project Team reviewed the environmental documentation prepared by Metro. It was found to be satisfactory and the team will supervise the proper implementation of the proposed actions by Metro.

The proposed project will require expropriation of 47 properties, of which 16 are residential and 31 non-residential all of which are located at the Vila Sônia station site. an abbreviated resettlement plan for Phase 2 has been prepared by the Borrower, reviewed by the Bank and will be submitted to the Board. Following the Pinheiros station accident, additional involuntary resettlement due to damage of homes and evacuation of other dwellings and businesses were carried out so their safety could be assured. The project team reviewed the design and implementation of the accident-related resettlement and found it to be satisfactory. The resettlement and compensation of affected parties is now virtually complete, with only a few cases pending where the parties have decided to litigate.

10. List of Factual Technical Documents

- Licença Ambiental Prévia 1353, February, 2009, Secretaria de Estado de Meio Ambiente
- Relatório Preliminar e Anexos, February, 2009, Affonso de Vergueiro Lobo
- Relatório Final da Consultoria do Metro Linha 4 Fase II, March, 2009, Affonso de Vergueiro Lobo
- Relatório Final e Anexos Túnel Vila Sônia e Estação, March, 2009, Affonso de Vergueiro Lobo
- Resettlement Plan, June 2009, Companhia do Metropolitano de São Paulo

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