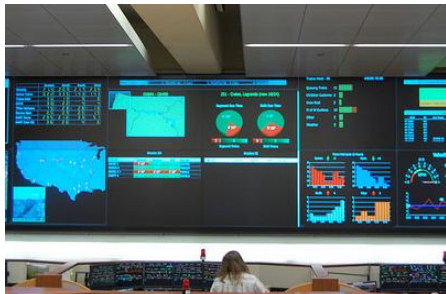




## OPPORTUNITIES IN BRAZIL'S RAIL SECTOR: A BUSINESS BRIEFING FOR U.S. COMPANIES



Sponsored by the U.S. Trade and Development Agency



Part of the National Export Initiative



Organized by TERA International Group

December 9, 2010

Chicago Marriott Downtown Hotel  
Chicago, Illinois



U . S . T R A D E A N D D E V E L O P M E N T A G E N C Y

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December 9, 2010

Dear U.S. Rail Industry Guests:

On behalf of the U.S. Trade and Development Agency (USTDA), I would like to welcome you to this Business Briefing by government officials and private sector representatives from the Brazilian rail sector. It is our pleasure to host this dialogue between such a distinguished group of representatives from the U.S. and Brazilian rail industries to discuss future project opportunities.

This Business Briefing is part of a USTDA-funded visit to the United States for Brazilian rail industry representatives interested in railway integration and locomotive refurbishment technologies. It is our hope that this program will broaden U.S. familiarity with the opportunities in Brazil, and that it will open new avenues for cooperation.

Thank you for taking the time to join us. We hope you find the event productive.

Sincerely,

A handwritten signature in black ink, appearing to read "Nathan Younge".

Nathan Younge  
Regional Director  
Latin America and the Caribbean



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## AGENDA

- 8:30-9:30 a.m. Registration and Coffee/Continental Breakfast
- 9:30 a.m. Welcome and Introductions
- Briefing Overview, Steve Winkates, TERA International Group
- USTDA Introduction, Gabrielle Mandel, USTDA
- U.S. Commercial Service (USCS) Introduction, Martin Claessens, USCS
- 10:00 a.m. Results of USTDA-funded Railway Integration Technical Assistance Project, Britto Rajkumar, Transportation Technology Center, Inc. (TTCI)
- 10:15 a.m. Delegate Presentations Part I
- 11:15 a.m. Networking Break
- 11:30 a.m. Delegate Presentations Part II
- 12:30 p.m. Luncheon
- 1:30 p.m. Pre-Scheduled Delegate Meetings with U.S. Firms
- 5:30 p.m. End of Briefing



## SPONSORS

USTDA and TERA would like to thank the following corporate sponsors during this Reverse Trade Mission:



In addition, USTDA and TERA would like to thank the U.S. Commercial Service and the Brazil-American Chamber of Commerce of Illinois for their support.





## DELEGATION LIST

### **Associação Nacional dos Transportadores Ferroviários (ANTF) (Railway Concessionaires Association)**

Mr. Rodrigo O. Vilaça (Head of Delegation)  
Executive Director

### **Ministério dos Transportes**

Mr. Francisco Luis da Costa  
International Affairs Advisor

### **MRS Logística S.A.**

Ms. Elvira M B Cavalcanti  
Chief Financial Officer

Mr. Thiago Rosa Moraes  
Procurement Specialist – Locomotive Leader

### **Transnordestina**

Mr. Marcello Barreto Marques  
Commercial Executive Officer

Mr. Miguel Andrade  
General Business Development Manager

### **Ferrovias Tereza Cristina (FTC)**

Mr. Antonio Carlos Modesto de Oliveira  
Legal and Corporate Affairs Director

### **Vale**

Ms. Flaviana Cruz Coelho  
Director General of Innovation and Railway  
Development

Mr. Jose Osvaldo Cruz  
Office of Institutional Relations

### **Agência Nacional de Transportes Terrestres (ANTT) (National Ground Transportation Agency)**

Mr. Ronaldo Cabral Magalhães  
Executive Superintendent

### **Abifer**

Mr. Vicente Abate  
President



## DELEGATE BIOS



**Mr. Francisco Luis da Costa  
International Affairs Advisor**

**Ministério dos Transportes**

**Present Position**

Director of Planning  
Secretariat of National Transport Policy  
Ministry of Transport

**Professional Background**

Engineer, graduated in 1971, at Mauá School of Engineering, São Paulo – SP.

Started professional career as junior engineer in the transport planning division of GEGRAN – Greater São Paulo Executive Group, at Secretariat of Planning (state of São Paulo).

In the 1970s and 1980s, served as technical assistant to the Transport Secretary of the City of São Paulo, during two administrations, mayors Miguel Colassuono and Mário Covas.

Worked also in the Secretariat of Transport of state of São Paulo, first as technical assistant and then promoted to Director of Planning, until the mid 1990s.

In 1995, was invited to work at Ministry of Planning, in Brasilia, as head of the infrastructure division, at Secretariat of Planning, and remained there until 2002.

Following that position, moved to the Ministry of Transport, acting as technical assistant to the Deputy-Minister, in 2002, and as a member of the technical board of ANTT, the national transport regulatory agency, in 2003-2004.

Since November 2004, has acted as head of the Planning Department, for the Secretariat of National Transport Policy at the Ministry of Transport.





**Ms. Elvira M B Cavalcanti**  
**Chief Financial Officer**

**MRS Logística S.A.**

**Education:**

Master in Business Administration  
Business Administration Bachelor Degree

**Professional Experience:**

July 2010 - present: CFO at MRS Logistics (Rio de Janeiro, Brazil)  
Railway company

August 2006 - June 2010: Controller at Light (Rio de Janeiro, Brazil)  
Electric Utilities - Generation & Distribution

August 2004 - December 2010: CFO at ALL Argentina (Buenos Aires, Brazil)  
Railway company - ALL's branch in Argentina

March 2002 - July 2004: Procurement and Working Capital Manager at ALL (Curitiba, Brazil)  
Railway company

January 2000 - December 2001: Financial Planning Manager at Americel (Brasilia, Brazil)  
Telecom Industry (Cell Phone Operator)

September 1990 - December 1999: different positions at AmBev (Recife and Sao Paulo, Brazil)  
Beverage Industry



**Mr. Thiago Rosa Moraes**  
**Procurement Specialist – Locomotive Leader**

**MRS Logística S.A.**

Education

Graduated on Business Administration (2004) Executive Specialization on Logistics (2006)

Professional Experience

August 2003 – Present: Employed at the procurement department of MRS Logística

September 2001 - July 2003: Trainee program at U&M Mineração e Construção (mining Company)

## **MARCELLO BARRETO MARQUES, married – 46 years old**

Rua Silva Paullet, 299, 801 – Fortaleza/CE - Brasil

[marcello.marques@tlsa.com.br](mailto:marcello.marques@tlsa.com.br) +55 85 9998-3405



### **Expertise Resume**

- Team Leadership and management;
- Communication and negotiation skills;
- Relationship with customers: Alcoa, BHP, Chevron, Cosan, Exxon, Petrobrás, Gerdau, Votorantim;
- Relationship with government authorities, representative boards and unions;
- Development of work in an environment of intense pressure and aggressiveness as to focus on surpassing goals;
- Implementation of marketing strategies, sales policies and distribution of products and services;
- Business areas implementation with the creation and review processes to achieve gains in productivity and profitability;
- Systems design for cargo transportation with emphasis on railroad and highway, having served as operations manager in eight states in the Northeast of Brazil (MA, PI, CE, CP, RN, PB, PE, AL) and led team of 650 employees.
- Transportation and handling of bulk liquids and solids with extensive experience in deployment and operation of terminals;
- Skills in decision-making processes as: 1) location decisions, 2) inventory decisions and 3) transportation decisions;
- Lectures and seminars.

### **Background**

- Strategy and Management – Post Graduate Degree – 2004 – UFC University (Fortaleza – CE - Brazil)
- Logistics and Transportation – Bachelor Degree – 2002 - Estácio de Sá University (Fortaleza – CE - Brazil)
- Ethics and Public Management – Extension Degree – 2004 - UFC University (Fortaleza – CE - Brazil)
- Brazilian Law – Bachelor Degree in Course – Beginning 2006 – Uniceuma University (São Luís – MA - Brazil)

### **Foreign Languages**

- English – Basic skills

### **Professional Expertise**

#### **• Transnordestina Logística S/A**

Commercial Executive Officer – 3 years (current position)

Operations Manager – 3 years

Yard and Terminals Manager - 2 years

State Representative General Manager – 2 years

Commercial Manager – 3 years

#### **• IBP (Brazilian Institute for Oil, Gas and Biofuel)**

Board of Directors Full Member – Logistical Committee - 3 years

#### **• RFFSA (Brazilian Federal Railroad Administration)**

North Rail Line Privatization Coordinator – 1997 / 1998

Commercial Manager – 3 years

Operations Supervisor – 4 years

# MIGUEL ÂNGELO BARROSO ANDRADE

Rua José Borba Vasconcelos, 50, Ap. 703  
Papicú, Fortaleza – Ceará, 60.165-082, Brasil.  
Mobile: +55-85-88457335 / Phone: +55-85-40082566  
Mail to: [migoandrade@gmail.com](mailto:migoandrade@gmail.com)

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## Objective: Business Executive / Marketing and Sales

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### Education:

- **Graduated in Economics** – by UFC – Ceará State Federal University, Brazil.
- **Graduated in Business Administration** – by UNIFOR – Fortaleza University, Brazil.
- **Master Degree in progress - Engineering of Production** – by UFC – Ceará State Federal University, Brazil.

### Languages:

- **English** – High proficiency in writing and conversation.
- **Spanish** – High proficiency in writing and conversation.

### Qualifications Summary:

- Strong communicator / negociator / team player, problem solver with solid analytical skills, ability to anticipate the next question, highly organized / strong multi-tasking & project management skills. Willing to learn new skills & tools, and embrace new challenges.
- Easiness to put together teams, proactively, excellent presentation skills, good interpersonal rapport, like challenges, excellent at controlling costs, and time management

### Experience:

- Mar, 04 - Present **TLSA – Transnordestina Logística S/A.** (Fortaleza – CE - Brazil)  
Railway Company, logistic segment, with revenues of R\$ 100 million/year and 1,400 employees. CSN Group (Brazil's bigger steel company).
- General Business Manager;**  
**General Business Development Manager;**  
**General Operations Manager;**  
**General Planning and Production Control Manager.**
- Mar, 01 – Mar, 04 **CVRD – Companhia Vale do Rio Doce.** (Belo Horizonte – MG - Brazil)  
Mining and Railway Company, providing logistical support in the iron ore segment, with revenues of R\$ 15 billion/year and 21,000 employees.
- Yard and Terminals Operations Manager;**  
**Operations Development Coordinator;**  
**Commercial Master Analyst.**

### Activities:

#### TLSA – Transnordestina Logística S/A

##### General Business Development Manager:

- Direct report to Commercial Director and Chief Executive Officer.
- Develop and Communicate commercial policy; define annual and future strategical production planning for the businesses, create the concepts and determining the business-oriented accomplishment of analysis and market of the commercial area, as well as being responsible for CRM (Customer Relationship Management).
- Prospect and develop new strategical businesses for the company.
- Standardize and guide the work of Commercial Managers.
- Manage the back office of the commercial area and support the internal audit process.

##### General Operations Manager:

- Direct report to Director of Operations and Chief Executive Officer.
- Execute the transportation plan of the railroad, lead a team of 400 workers to carry out programming, planning, and distribution of cars and locomotives, control and monitor the activities of production, shipment and formation of trains in yards and terminals of the company or shippers with the PCP area.
- Lead the team of coordinators, supervisors, inspectors and conductors of trains.
- Manage the Control Center of Operations (CCO) of the railroad, being responsible for all operations of 450 trains / month, and providing security for the transportation and operation.
- Establish and manage quality control programs for the railroad.
- Responsible for planning and developing the work flow of train crews in the operations of all trains, also control and management of the departure and arrive trains, through the planning of through the Control Center of Operations and interchange with other railroads, getting success in the established programming of transport and budget.

**General Planning and Production Control Manager:**

- Direct report to Commercial Director, Director of Operations and Chief Executive Officer.
- Responsible for programming, planning and distribution of cars and locomotives, control of production activities (cargo load and unload shipment, yard and terminals trains formation, load landing, overflow of merchandises and interchange with other railroads) of the CFN - Companhia Ferroviária do Nordeste, with 4.122 km, getting success in the established programming of transport and budget.

**CVRD – Companhia Vale do Rio Doce (Vale)****Operations Manager:**

Direct report to General Manager & Director of Operations.

- Responsible for planning, execution and control of all over activities of Railroad Operations (yard and terminal formation trains, load process of general cargo terminal, overflow of merchandises and interchange with other railroads) in FCA - Ferrovia Centro Atlântica, with 1.113 km, getting success in the establish programming of transport and budget.
- Accomplishment of costs objectives, control and management of budget items such as personal, material, locations, public services, contracted services and all over expenses and investments.
- Provide security in railroad operations of all yards, through the equipment supply and personal training to the performance of the activities.
- Fulfilment of norms and operational procedures getting success in the established security and efficiency norms of traffic operation railroad.
- Provide interface for production planning and control management, related to optimizing the distribution and time management of cars in the yards.
- Managed human resource issues both management and contract, required for effective yard operations. Worked with the all operational areas, in the development of logistics and administrative support.
- Provided research and analysis of railroad personal accidents, developed corrective actions for effective elimination of reoccurrences.

**Operations Development Coordinator:**

- Direct report to Operational Manager.
- Responsible for fuel consumption control all over the Companhia Vale do Rio Doce (CVRD) developing IT systems control, standardizing supplying processes, providing security and preventing theft in the over all process. This effort resulted in the reduction of R\$ 30 million in fuel consumption over 1 year.

**Skills and  
Complementary  
Education:**

- **Sales and Operations Management Course** – AMBEV University.
- **Industry Total Quality Course** - National Industrial Confederation.
- **Stock Exchange and Market Course** – Stock Exchange National Commission.
- **Fuels Seminary** – IIR Conference.
- **Logistic International Seminary** – Rio de Janeiro State Federal University.
- **Marketing and Sales Estrategics of Excellence Course**– Team Enterprise Development.
- **Strategical Management of Storage Course**- Rio de Janeiro State Federal University.
- **Generating Value for Shareholder Course** – FGV Getúlio Vargas Foundation.
- **Strategical Management of Logistic Course** – Ceará State Federal University.
- **Logistics Skills Improvement** – Union Pacific Rail Road & Partners of the Americas Organization – Omaha, Nebraska – USA.

**Professional References:**

- Mr. Arnold C. Nesbitt – Union Pacific Rail Road – Director of Port Development Marketing & Sales  
Phone: 1-402-5444493  
Mail to: acnesbitt@up.com
- Mr. Nathan Lopes Júnior – BCS Brazilian Consortium of Stone – Chief Executive Officer  
Phone: 1-402-4534383  
Mail to: nathanjr@bcs-usa.net
- Mr. Terry McAuliffe – State of Nebraska (USA) – Department of Economic Development  
Phone: 1-402-4713741  
Mail to: terry.mcauliffe@nebraska.gov



**Mr. Antonio Carlos Modesto de Oliveira**  
**Legal and Corporate Affairs Director**

**Ferrovias Tereza Cristina (FTC)**

Antonio Modesto (born Antonio Carlos Modesto de Oliveira, on December 24th, 1963) is from Alegrete, Rio Grande do Sul, Brazil. He is graduated in Law School from Universidade do Sul de Santa Catarina - UNISUL, Specialist in Legal Science from the same University and Economy and Business Law from Fundação Getúlio Vargas. He has been working for Ferrovias Tereza Cristina since 1997 as the Head Attorney of the Legal Department, in Tubarao, Santa Catarina. In 2008 he was appointed as General Counsel and Corporate Relations Director. Antonio is married and has one son.



**Mr. Vicente Abate  
President**

**Abifer**

Education

Master of Business Administration, Marketing

Work Experience

- President of ABIFER (Brazilian Association of the Railroad Industry)
- Corporate Relations Director of AmstedMaxion (freight car builder)
- Director of SIMEFRE (Interstate Union of the Railroad and Road Industries)
- Director of ABIFA (Brazilian Association of the Foundry Industry)
- Elected Director of SAE BRASIL ( Society of the Mobility Engineers)
- Director of DEINFRA ( Infrastructure Department) from FIESP ( Industries Federation of the São Paulo State)
- Member of the Logistics Group of AMCHAM - Campinas section.
- Metallurgical Engineer



## USTDA INFORMATION





# NATIONAL EXPORT INITIATIVE

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## competitiveness ★ growth ★ jobs



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## U.S. TRADE AND DEVELOPMENT AGENCY

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### Mission Statement

The U.S. Trade and Development Agency helps companies create U.S. jobs through the export of U.S. goods and services for priority development projects in emerging economies. USTDA links U.S. businesses to export opportunities by funding project planning activities, pilot projects, and reverse trade missions while creating sustainable infrastructure and economic growth in partner countries.

### Introduction to USTDA Programs

USTDA carries out its mission by providing grants directly to overseas project sponsors who, in turn, select U.S. companies to perform the USTDA-funded activities. While USTDA projects span a wide variety of sectors, many focus on energy, with a particular focus on clean energy, transportation, telecommunications, and environmental services.

USTDA evaluates projects primarily based on:

- ❑ Their priority to the project sponsor and the countries where they are located and their likelihood of receiving implementation financing; and
- ❑ Whether they offer mutual economic benefit for the host country and the United States, including opportunities for U.S. firms to export goods and services into those projects.

USTDA also considers a project's potential adverse environmental and labor implications and makes recommendations to avoid and/or mitigate either prior to a funding commitment by the Agency.

### USTDA's Program Activities

USTDA accomplishes its mission by funding: 1) project identification and investment analysis, and 2) trade capacity building and sector development activities. Project identification and investment analysis generally involves technical assistance and feasibility studies that support large investments in infrastructure that contribute to overseas development. Trade capacity building and sector development assistance supports the establishment of industry standards, rules and regulations, market liberalization and other policy reform.

*[www.ustda.gov](http://www.ustda.gov)*

## **International Business Partnership Program**

To achieve the President's goal of doubling U.S. exports over the next five years, the U.S. Trade and Development Agency (USTDA) launched the International Business Partnership Program (IBPP). Under the IBPP, the Agency has increased its support for programs designed to bring procurement officials to the United States to witness U.S. technology and ingenuity firsthand and develop the relationships with U.S. companies necessary to spur increased exports to emerging economies. By increasing investments in reverse trade missions, technology demonstrations, training and specialized sector-specific workshops and conferences, USTDA is helping U.S. industry create high-paying export related jobs.

## **USTDA's Relationship with Small Businesses**

Small businesses are the foundation of the U.S. economy and hence play a critical role in the global marketplace. USTDA, through its unique foreign assistance program, is proud to support U.S. small businesses by helping them expand into emerging economies. In carrying out its mission, USTDA relies upon the technical expertise of small consulting and engineering firms to perform due diligence activities that help define projects, provide sector specific guidance, and evaluate technical and economic impacts for every project USTDA considers for funding. In addition to DM and DS contract opportunities, small businesses successfully compete for larger USTDA-funded projects such as feasibility studies, training and technical assistance activities. In fact, small businesses are awarded 50%, on average, of these larger international contracts that range from \$100,000 to \$1 million. One of the key benefits of working with USTDA from the viewpoint of a small business is gaining access to international markets that are difficult and often cumbersome to navigate. As a result, many small businesses have been able to grow via the international contacts they have made while working with USTDA.

## **Working with U.S. Industry to Open Markets for U.S. Exports**

Working with industry trade associations such as the U.S. Chamber, National Association of Manufacturers and the United States Energy Association and private industry that is looking to expand sales opportunities overseas, USTDA has developed a successful program that marries both the development needs of our partner countries with the best U.S. expertise and ingenuity in the manufacturing and services sectors. These partnerships assist in guiding USTDA investments toward projects that are most likely to be implemented using U.S. goods and services. This proven record of success is demonstrated by a historical return of over \$35 in U.S. exports for every dollar appropriated by the U.S. Congress.



U.S. Trade and Development Agency  
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A large, semi-transparent globe is the background for the right side of the page. Overlaid on the globe is a map of the Americas, with labels for "COLUMBIA" and "BRAZIL".

U.S. TRADE AND DEVELOPMENT AGENCY

# U.S. Business Guide to USTDA



## OUR MISSION



**T**he U.S. Trade and Development Agency (USTDA) advances economic development and U.S. commercial interests in developing and middle-income countries. The agency funds various forms of technical assistance, feasibility studies, training, orientation visits and business workshops that support the development of a modern infrastructure and a fair and open trading environment.

USTDA's strategic use of foreign assistance funds to support sound investment policy and decision-making in host countries creates an enabling environment for trade, investment and sustainable economic development. Operating at the nexus of foreign policy and commerce, USTDA is uniquely positioned to work with U.S. firms and host countries in achieving the agency's trade and development goals. In carrying out its mission, USTDA gives emphasis to economic sectors that may benefit from U.S. exports of goods and services.



# What is USTDA?

USTDA is an independent U.S. Government foreign assistance agency that is funded by the U.S. Congress.

## What are USTDA's objectives?

Our aim is a win-win scenario: promoting economic growth in developing and middle-income countries, while simultaneously helping American businesses to export their products, thereby creating jobs. In addition, USTDA supports U.S. policy objectives related to development and capacity building activities. Since 1981, USTDA has been associated with more than \$31.5 billion in exports—or approximately \$35 in exports for every dollar invested in our activities.

## What types of projects does USTDA support?

USTDA provides grant funding for the planning of projects that support the development of modern infrastructure and an open trading system.

While USTDA projects span a wide variety of sectors, many focus on clean energy and power, transportation, information and communications technology, environmental infrastructure and services, and healthcare.

## What are the requirements for USTDA funding?

USTDA evaluates projects primarily based on:

- Their priority to the project sponsors and the countries where they are located, and their likelihood of receiving implementation financing or, in the case USTDA's trade capacity building work, advancing trade liberalization efforts; and
- Whether they offer mutual economic benefit for the host country and the United States, including opportunities for commercial cooperation with U.S. firms, thereby supporting U.S. jobs.

## With whom does USTDA work?

USTDA provides grants directly to overseas project sponsors who, in turn, select U.S. companies to perform USTDA-funded activities.

An overseas project sponsor is the local entity with the decision-making authority and ability to implement a project. The sponsor may be a government institution at the national, state/provincial, or local level, or it may be a local private sector company.

USTDA is open in more than one hundred countries around the world. In certain nations, statutory, resource and policy constraints limit the availability of USTDA programs.

## What types of activities does USTDA support?

USTDA accomplishes its mission by funding:

- 1) trade capacity building and sector development; and
- 2) project definition and investment analysis.

Trade capacity building and sector development assistance supports the establishment of industry standards, rules and regulations, market liberalization and other policy reform. Project definition and investment analysis involves activities that support large capital investments related to overseas development.

## Trade Capacity Building and Sector Development

### SECTOR DEVELOPMENT TECHNICAL ASSISTANCE

USTDA provides technical assistance to help with the development of sector strategies, industry standards, and legal and regulatory regimes. This assistance helps to create a favorable business and trade environment. Transportation safety and security and clean energy development are particularly important sectors for USTDA's technical assistance work.

### TRAINING

USTDA provides training for foreign decision-makers in economic sectors where there are opportunities for the sale of U.S. equipment and services. The training is normally focused on technology or regulatory issues and is designed to give project sponsors a better understanding of U.S. experience and capabilities. Training can be conducted in the United States and/or in the host country.

### TRADE AND INDUSTRY ADVISORS

Foreign government entities may obtain USTDA grants for trade and industry advisors. These advisors are typically located in ministries or municipalities, where they can help with capacity building activities relevant to trade regulations, standards or the import of technology and additional expertise.

## Project Definition and Investment Analysis

### FEASIBILITY STUDIES

USTDA provides grants for overseas infrastructure project planning assistance, such as feasibility studies. These studies evaluate the technical, financial, environmental, legal, and other critical aspects of infrastructure development projects that are of interest to potential lenders and investors.

### ORIENTATION VISITS

Orientation visits bring foreign project sponsors to the United States to observe the design, manufacture, demonstration and operation of U.S. products and services that can potentially help them to achieve their development goals.

### WORKSHOPS AND CONFERENCES

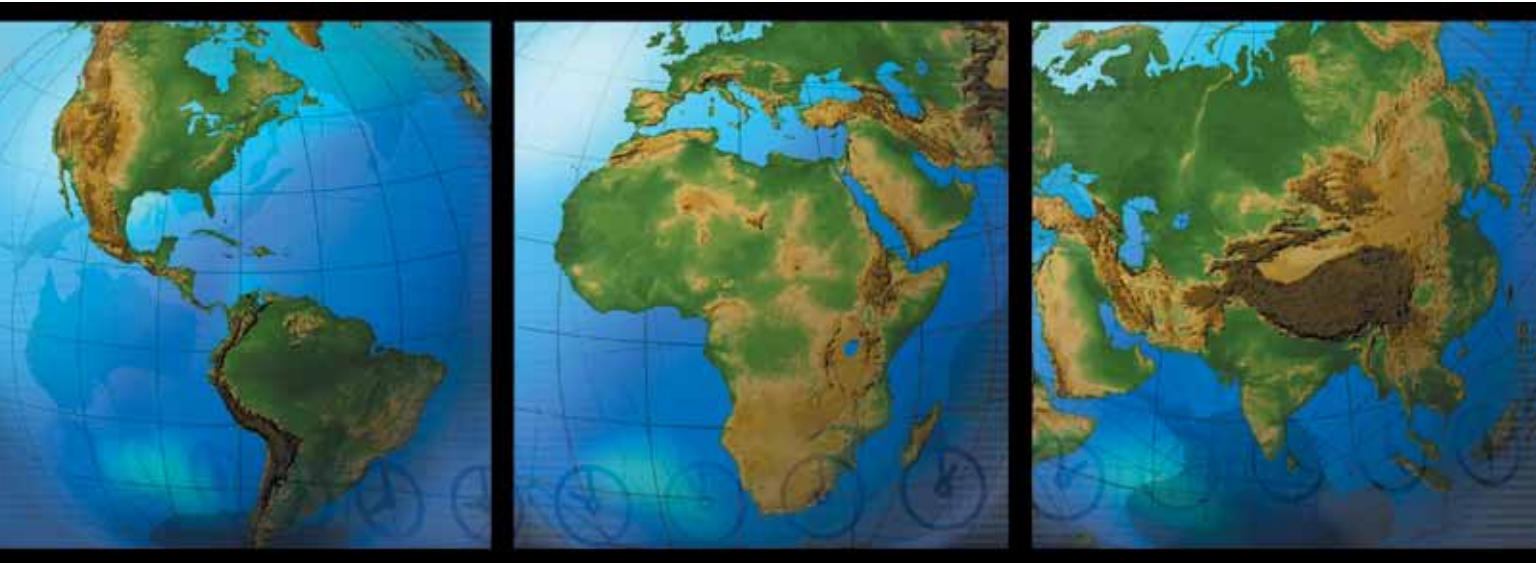
USTDA organizes workshops, conferences and technical symposia worldwide. These events are sector or project oriented and connect overseas project sponsors with U.S. firms and entities that supply project finance, technology and industry expertise that may be useful in project implementation.

### PROCUREMENT ASSISTANCE

To promote project transparency and integrity, USTDA provides grants to assist in the establishment and oversight of international project procurement activities. Support can take the form of developing appropriate bidding procedures, assisting in the evaluation of technical proposals, and identifying potential suppliers or bidders.



This 47.5 megawatt power plant was constructed in the Aydin-Germencik geothermal field in Turkey by the Gurmat Energy Investment and Trade Company, a private Turkish company, following the findings of a USTDA-funded feasibility study. The plant, which became operational in May 2009, was constructed using over \$23 million in U.S. goods and services from eight states.



### How is a project brought to USTDA for consideration?

If you are developing a project or initiative that you would like USTDA to consider for possible grant funding, you should begin by:

1. Contacting the appropriate USTDA Regional Director or Country Manager (see *How Do I Contact USTDA?*); or,
2. Communicating with the commercial or economic officer, or USTDA representative, at the U.S. Embassy in the country where the project is located.

To formally initiate USTDA consideration of a proposal, the host country project sponsor should direct a request to USTDA. In cases where a specific U.S. company has been identified as a partner or preferred supplier on the project, the U.S. company should submit a separate, detailed proposal to USTDA. There is no set deadline for proposals to be considered.

### How does the approval process work?

USTDA's due diligence review of a proposal involves two steps. First, USTDA staff conducts an internal review to determine whether the

proposal represents an appropriate opportunity for USTDA support. Second, proposals that satisfy this internal analysis are independently assessed by USTDA-funded definitional mission (DM) and desk study (DS) consultants.

A DM provides a detailed evaluation of a particular proposal, involving travel to the designated region. A DS provides quick analysis of a proposal and is produced within the United States. Both DMs and DSs are carried out exclusively by small U.S. firms.

Because of the high demand for USTDA funding, not all proposals that meet USTDA funding criteria can be supported.

### How does the grant process work?

If USTDA approves funding, it signs a Grant Agreement with the foreign project sponsor. The grant recipient then signs a contract with the U.S. company it selects to carry out the USTDA-funded activity. Both the Grant Agreement and the contract contain the terms of reference that outline the parameters of the activity.

## Is there any cost-sharing or reimbursement required?

In cases where an overseas project sponsor would like to sole source a USTDA-funded activity to a specific U.S. firm, USTDA and the U.S. firm share the cost of the activity. USTDA's contribution varies according to a number of factors, including the size of the firm, the costs the firm has incurred in developing the project, and the risks associated with the project. In addition, USTDA may require the U.S. firm to reimburse part or all of USTDA's funding if the project is implemented and the firm receives substantial economic benefit. These commitments are included in a letter agreement between USTDA and the company.

## How much money is available?

Each year, USTDA funds approximately 125 grant activities. The average USTDA grant is \$400,000.

On average, contracts to perform desk studies range from \$2,500–\$5,000 and definitional missions range from \$25,000–\$35,000.

## How can small businesses learn about opportunities from USTDA?

Current USTDA procurement opportunities and business opportunities with agency grant recipients are posted to the Federal Business Opportunities (FedBizOpps) website at [www.fedbizopps.gov](http://www.fedbizopps.gov). Links to the opportunities on FedBizOpps associated with USTDA's program are posted to the agency's website at [www.ustda.gov](http://www.ustda.gov).

Small U.S. firms that wish to be considered for desk study solicitations should register on-line with USTDA's consultant database at [www.ustda.gov](http://www.ustda.gov). All firms interested in potential contracting opportunities with USTDA should register with the U.S. Government's Central Contractor Registration website at [www.ccr.gov](http://www.ccr.gov).

Issued biweekly, USTDA's *News and Information* is your best source to learn about agency procurements, business opportunities with overseas grant recipients and upcoming events. A free subscription is available at [www.ustda.gov](http://www.ustda.gov).



Integrated Manufacturing Technologies (IMT) employees in Red Bud, Illinois benefited from USTDA's commercially-focused foreign assistance program. Working with IMT's parent company, Roeslein & Associates (St. Louis, MO), USTDA funded a feasibility study on the establishment of a can manufacturing facility in Nigeria utilizing U.S. equipment. Based on the study's positive recommendation and the entrepreneurial spirit of Roeslein & Associates' management, IMT's Illinois employees constructed a can assembly line for shipment to Nigeria.



## What is USTDA's relationship with International Financing Institutions and Multilateral Development Banks?

USTDA works closely with the MDBs to co-finance technical assistance and feasibility studies that lay the groundwork for project financing.

Since MDBs finance many of the capital projects in developing countries, USTDA's close relationship with them is advantageous for the U.S. business community. In addition to the valuable project information that is gained through the MDBs, working on bank projects ensures that a potential funding source has been identified.

## How does USTDA work with other Trade Promotion and Commercial Development Agencies?

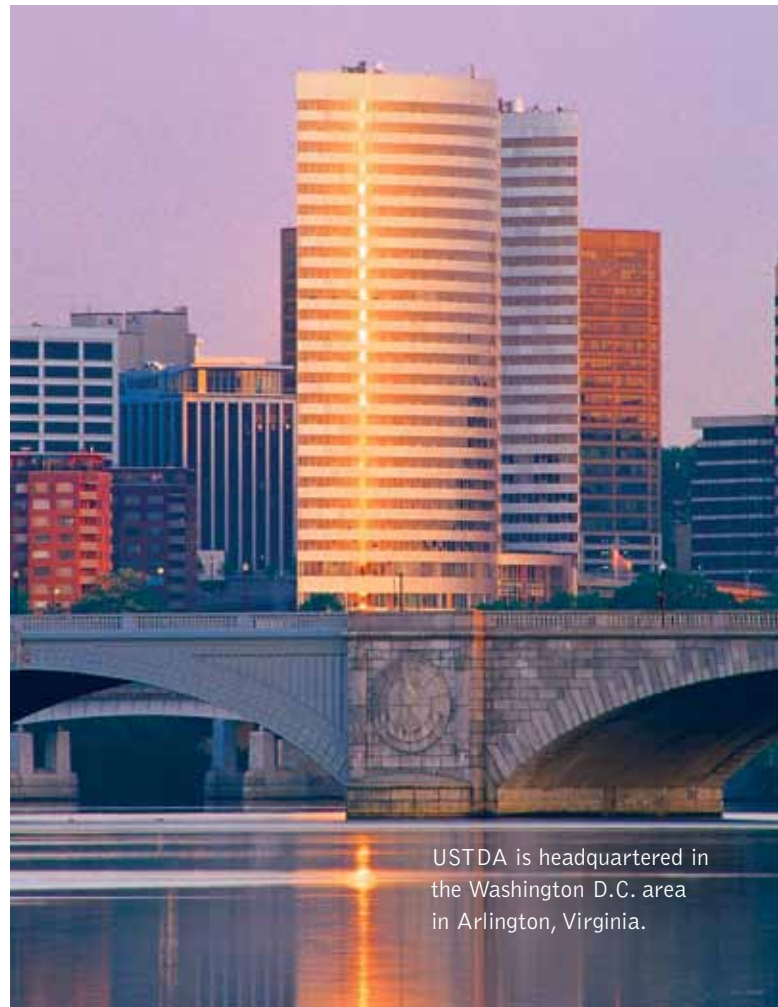
As a member of the inter-agency Trade Promotion Coordinating Committee, USTDA works with a wide variety of other U.S. Government agencies to support opportunities for U.S. commercial involvement overseas. USTDA learns of many viable projects from the Commerce Department's Commercial Service and the State Department's economic and commercial officers. USTDA works closely with these agencies to identify projects and gauge the likelihood of their implementation.

## Where is USTDA located?

The agency is headquartered in the Washington, D.C. area in Arlington, Virginia. In addition, USTDA has offices in South Africa and Thailand to promote the Agency's program throughout Sub-Saharan Africa and Asia, and country representatives in Brazil, China, India and Vietnam.

## What other U.S. Government Trade Partners can I contact?

- Overseas Private Investment Corporation  
*[www.opic.gov](http://www.opic.gov)*
- Export-Import Bank of the United States  
*[www.exim.gov](http://www.exim.gov)*
- Office of the U.S. Trade Representative  
*[www.ustr.gov](http://www.ustr.gov)*
- U.S. & Foreign Commercial Service  
*[www.usatrade.gov](http://www.usatrade.gov)*
- Millennium Challenge Corporation  
*[www.mcc.gov](http://www.mcc.gov)*
- U.S. Department of State  
*[www.state.gov](http://www.state.gov)*



USTDA is headquartered in the Washington D.C. area in Arlington, Virginia.



## HOW DO I CONTACT USTDA?

More information about USTDA is available at [www.ustda.gov](http://www.ustda.gov). General inquiries about USTDA's program can be made by calling (703) 875-4357, sending a fax to (703) 875-4009 or an e-mail to [info@ustda.gov](mailto:info@ustda.gov), or completing the Contact Form on USTDA's website.

To contact USTDA's program staff, send an e-mail to your region of interest:

- East Asia:  
[East\\_Asia@ustda.gov](mailto:East_Asia@ustda.gov)
- Europe and Eurasia:  
[Europe\\_Eurasia@ustda.gov](mailto:Europe_Eurasia@ustda.gov)
- Latin America and the Caribbean:  
[LAC@ustda.gov](mailto:LAC@ustda.gov)
- Middle East and North Africa:  
[MENA@ustda.gov](mailto:MENA@ustda.gov)
- South and Southeast Asia:  
[South\\_Southeast\\_Asia@ustda.gov](mailto:South_Southeast_Asia@ustda.gov)
- Sub-Saharan Africa:  
[Africa@ustda.gov](mailto:Africa@ustda.gov)



## DEVELOPING RAIL AND MASS TRANSIT INFRASTRUCTURE

The ability to move products and people around quickly and efficiently is key to a country's ability to promote economic growth and foster development. For this reason, transportation projects, including rail modernization and expansion, are a central component of the U.S. Trade and Development Agency's (USTDA) program.

USTDA advances economic development and U.S. commercial interests in developing and middle-income countries. The agency funds various forms of technical assistance, early investment analysis, training, orientation visits and business workshops that support the development of a modern infrastructure and a fair and open trading environment. In carrying out its mission, USTDA gives emphasis to economic sectors that may benefit from U.S. exports of goods and services.

The following is an illustrative list of projects that USTDA has supported in this sector:

### East Asia

**China Guangzhou Metro Line 4** – USTDA awarded a \$500,420 grant for a study on the technical standards and system requirements for Line 4 of the Guangzhou metro system. This high-speed light rail project, the first in China, will expand the municipality's existing metro system and provide the city's growing population greater access to environmentally friendly transportation. The Louis Berger Group, Inc. of Washington, DC, is the prime contractor.

**China Railway Intermodal Container Transport Development** – USTDA approved a \$679,550 grant to review China's approach to intermodal container business, recommend options to improve the service, develop a plan to increase intermodal rail transport business, and build on the prior work by the World Bank and others. Transportation Economic Research Associates was selected to undertake the study.

### Europe and Eurasia

**Russia Construction Equipment** – USTDA provided a \$120,000 grant to partially fund a study on a construction equipment leasing joint venture. Hoffman International of Piscataway, NJ, conducted the study. As a result of the study and a related visit by Russian

officials to the United States, Hoffman and its Russian partner have established the joint venture, and U.S. companies have sold over \$10 million in highway construction equipment.

### Latin America and the Caribbean

**Brazil Belo Horizonte Intelligent Transportation System** – A \$294,000 USTDA grant is helping the Belo Horizonte Traffic and Transportation Company to evaluate the expansion of an Intelligent Transportation System (ITS) and Integrated Traffic Information Management System in Belo Horizonte. The objective of the project is to improve the city's supervision and control of traffic and to collect real-time information about traffic flows.

**Mexico SCT Multimodal National Plan** – USTDA provided a \$1,323,900 grant to assist Mexico's Secretaria de Comunicaciones y Transportes (SCT) in developing a comprehensive national plan for modernizing Mexico's multimodal trade transportation infrastructure. Implementation of this project will strengthen Mexican competitiveness by creating greater commercial efficiencies and lowering costs along supply chains.

**Paraguay Road Pavement Technology** – A \$362,432 grant, funded through USTDA's Evergreen Fund at the Inter-American Development Bank, is helping Paraguay's Ministry of Public Works and Communications address performance problems related to road construction in the country's Chaco region. The technical assistance will support the implementation of IDB-financed road projects by improving design and construction through the development of technical specifications, construction guidelines and test protocols for long-lasting pavements, and the provision of training on the new guidelines.

**Peru Urban Rail Project in Lima** – USTDA provided a \$325,000 grant to assist the Lima and Callao Transit System Special Project Authority in its efforts to alleviate Lima's severe urban transport congestion problems. The project supports the construction of a system of infrastructure and rolling stock that will operate over two main axes from Callao to Chosica, as an initial step.

## ***Middle East and North Africa***

***Iraq Railway Sector*** – In 2004, USTDA funded two visits by Iraqi Republic Railway officials to the United States to meet with U.S. officials and U.S. railway companies and railway equipment suppliers. As a follow-up to these activities, USTDA funded the development of a strategic business plan, environmental management plan, and priority investment plan that included recommendations on the organization, management, and regulatory structure of the Iraqi rail sector.

***Egypt Railway Traffic Management System*** – USTDA is providing a \$755,310 grant to the Egyptian Ministry of Transport to assist in developing a railway traffic management system for the Egyptian National Railways (ENR). The technical assistance will assist in the creation of an independent railway safety oversight and enforcement authority, which will monitor ENR's compliance with safe operating practices, and includes a site visit to the U.S. focusing on traffic management and safety technology.

## ***South and Southeast Asia***

***India Diesel Retrofit Project*** – USTDA awarded a \$296,000 technical assistance grant to the Pune Municipal Corporation to retrofit a subset of local diesel buses in Pune, India with cleaner fuel and innovative emissions control technology. The long-term objective of the diesel retrofit project is to develop and transfer experience, tools, technologies and approaches for characterizing and controlling emissions from heavy-duty diesel vehicles to other municipalities in India.

***Philippines Metro Manila Rail Transit Integration Study*** – USTDA provided \$103,566 for advisory services to the Philippine Department of Transportation in their efforts to link six separate light railroad lines in Manila. The project involved providing project scopes, designing stations and interchange facilities, and developing recommendations on the operations of existing and future light rail projects. The assistance was completed by Parsons Brinckerhoff International.

## ***Sub-Saharan Africa***

***African Trade Lanes Partnership*** – USTDA launched a two-year, \$4 million initiative in April 2008 to promote the development of sub-Saharan Africa's trade lanes and transportation networks to facilitate local,

regional and global trade. The initiative is designed to promote regional cooperation and connectivity in all modes of transportation, including aviation, maritime, land, and rail.

***Road Construction Planning and Equipment*** – USTDA sponsored an orientation visit to the United States in Fall 2008 to expose key African stakeholders and decision makers in the road planning and construction industry to U.S. technologies, companies, policies, and best practices in road building. The visit was inspired by the Millennium Challenge Corporation's compact agreements with Tanzania, Mozambique, Ghana and Burkina Faso, which cover road investments totaling approximately \$1.1 billion.

***East African Community Transportation Sector Senior Policy Dialogue*** – USTDA hosted a visit to Washington, DC, in Fall 2008 by ministers from East African Community (EAC) member states to meet with the U.S. business community and discuss the EAC's plans for transportation infrastructure development and regional integration. The delegation was also exposed to operating facilities that best exemplify U.S. equipment, technologies and international best practices.

***Upgrade of the Dar es Salaam to Isaka Railway*** – A \$653,600 USTDA grant is partially funds a study on the technical and financial feasibility of upgrading the 1,000 kilometer rail link from Dar es Salaam, Tanzania to Isaka, Tanzania from narrow gauge to AREMA standard gauge. The goal of the study is to improve rail service in Tanzania, promote the extension of rail service into land-locked Rwanda and strengthen regional integration.

***TransKalahari Corridor Improvement*** – USTDA is co-funding a \$375,807 study that will develop a business plan for the Walvis Bay Corridor Group in Namibia. The plan will examine the operation of an integrated multimodal transport system on the TransKalahari Corridor, now an all-road link between northern South Africa and Walvis Bay in Namibia, traversing Botswana. TERA International, Inc., of Sterling, VA, is completing the study on a cost-share basis.

***South Africa Transport Sector Orientation Visit*** - USTDA sponsored an orientation visit to the United States in 2007 for delegates from South Africa's Department of Transportation. The visit exposed the delegates to U.S. technologies, companies, policies, and practices in the transportation sector, especially in ITS.



## PROMOTING ECONOMIC COOPERATION BETWEEN THE U.S. AND BRAZIL

The U.S. Trade and Development Agency (USTDA) advances economic development and U.S. commercial interests in developing and middle-income countries. The agency funds technical assistance, feasibility studies, training, orientation visits, and business workshops that support the development of a modern infrastructure and a fair and open trading environment. USTDA's strategic use of foreign assistance funds to support sound investment policy and decision-making in host countries creates an enabling environment for trade, investment, and sustainable economic development. In carrying out its mission, USTDA gives emphasis to economic sectors or projects that may benefit from U.S. goods and services and to activities that measurably affect development in the host country.

Since the agency's creation in 1981, USTDA has invested over \$21 million in Brazil.

The following is a list of recent USTDA-supported projects in Brazil:

**Rio Municipal Solid Waste to Energy Plant:** USTDA awarded a \$406,000 feasibility study grant to MPX Energia, S.A. to determine the viability of constructing a waste to energy plant in the state of Rio de Janeiro. The grant will fund a study on the technical and financial feasibility of constructing a generation facility that will provide reliable and efficient power generation, while helping to reduce the level of municipal solid waste in Rio de Janeiro.

**SANASA Effluent Membranes Orientation Visit** – In June 2009, USTDA sponsored an orientation visit for the Campinas Water Supply and Sanitation Company (SANASA), focused on U.S. effluent membrane technologies. The delegation visited Membrane Bioreactor (MBR) facilities in Georgia, Massachusetts, and the Washington, DC area.

**Tancredo Neves International Airport Master Plan** – The USTDA grant will provide an updated demand-capacity analysis, financial plan and an environmental and developmental impacts analysis. Moreover, the study will analyze forecasted passenger and cargo growth, runway extension and construction options, passenger terminal upgrade and second terminal

construction options, and analyze cargo facility capital improvement options. The study will also provide recommendations with respect to the options for the development of public-private partnerships at the airport.

**PROAERO Small Airports Network Program Expansion** – In September 2008, USTDA approved \$241,000 for a technical assistance grant to the Transport and Public Works Secretariat of the State of Minas Gerais, Brazil. The purpose of this technical assistance is to review the proposed PROAERO expansion plan and to provide expert guidance on revisions and upgrades to the program. By expanding the PROAERO program, this TA will enhance the overall transport infrastructure in Minas Gerais.

**Multi-Sector Technology Park** – USTDA will provide a grant in the amount of \$507,000 to the Economic Development Secretariat of GDF to fund a feasibility study for a multi-sector technology park. The technology park will target academic, research and private sector participants. The study will provide a detailed plan for the design, organization, construction, operation and management of the park.

**State Government of Minas Gerais Datacenter Project** – In September 2008, USTDA awarded a \$425,000 feasibility study grant to the State Government of Minas Gerais Economic Development Secretariat will support the development of a centralized administrative datacenter within the State's e-government program. The administrative datacenter will consolidate the government's corporate IT infrastructure while supporting operational staff that share common functions.

**Acre Statewide Broadband Project** – USTDA is providing \$443,570 for a feasibility study grant to the Secretariat of Administrative Management of the State of Acre. The study is evaluating a statewide broadband project that will provide broadband internet services to Acre's 22 municipalities by 2010. The project is closely associated with parallel initiatives of federal government to develop more efficient government services such as e-government networks.

**Brazil Marginal Oil Fields Regulatory Orientation Visit** – In 2008, USTDA sponsored an orientation visit for Brazilian officials to evaluate the U.S. regulatory framework governing marginal oil fields and to become familiar with U.S. companies active in this industry. The objective of this orientation visit was to support Brazil's efforts to promote exploration and production opportunities of on-shore marginal/mature fields for small and medium sized companies.

**Secure Supply Chain- Intelligent Cargo and Network Port Logistics Chain** – This \$523,500 technical assistance grant will support the Brazilian Ministry of Transportation to develop an Intelligent Cargo and Intelligent Network Port Logistics Chain, with the goal of improving the efficiency of Brazil's port logistics chain. The technical assistance will establish the logistics chain baseline; define the intelligent cargo and intelligent network logistics chain; assess the impacts of intelligent cargo and intelligent network port logistics chain, and develop an implementation strategy.

**Belo Horizonte Intelligent Transportation System** – This \$294,000 feasibility study will help the Belo Horizonte Traffic and Transportation Company (BHTRANS) to evaluate the expansion of an Intelligent Transportation System (ITS) and Integrated Traffic Information Management System (ITIMS) in Belo Horizonte. The objective of the project is to apply ITS to improve the city's supervision and control of traffic and to collect real-time information about traffic flows. The project is a priority for the municipal government as it looks to modernize and improve current transportation efficiency in Belo Horizonte.

**COPASA Water Re-Use Project** – This \$164, 920 Feasibility Study will assist the Companhia de Saneamento de Minas Gerais (COPASA) with planning the installation of a water re-use project at the Arrudas Wastewater Treatment Plant (WTP). The project will involve adding tertiary treatment capacity to the Arrudas WTP to produce an effluent that meets water quality requirements for urban residential, commercial and industrial water needs.

**Government Communications Network Projects-Ceara** – This \$180,690 feasibility study supported the Ceara Information Technology Company in planning the creation of a new state government data center that would upgrade and consolidate the various state secretariats' data centers with the participation of the private sector, either under a Public-Private Partnership (PPP) or some form of a traditional outsourcing contract.

**Refinery and Petrochemical Environmental Projects** – This \$423,415 technical assistance (TA) will help Braskem, a Brazilian petrochemical company, establish an occupational health and hygiene program. The TA will involve assessing the occupational health conditions at Braskem's facilities; evaluating existing occupational health and hygiene standards and benchmarking these with international best practices; recommending new standards, remedial actions at facilities, and training programs needed to meet the new standards; and developing an implementation plan.

**State of Rio de Janeiro Emergency Operations Center** – This \$704,970 technical assistance activity for the Rio de Janeiro State Secretariat for Civil Defense (SEDC) supported the establishment of an emergency operations center (EOC) and demonstrated the functionality of its core technologies. The EOC will provide the critical infrastructure needed to coordinate emergency services during natural and technological disasters and major events. The TA will include the design of the EOC and the specification of equipment and technologies, procuring and integrating the core technologies. The technical assistance will provide SEDC with the tools needed to make an integrated emergency management system and a strategic plan to implement it.

**Petrobras Refinery Fire Control/Prevention Program** – USTDA funded a technical assistance (\$630,864) for Petrobras to develop a comprehensive plan to upgrade fire control and process safety at its refineries, develop standards for fire control installations and systems for its existing and new refinery projects, and to develop a training program for refinery staff.

**São Paulo Environmental- Industrial Toxic Products Reduction Program** – This \$448,000 technical assistance will help CETESB, the State of São Paulo environmental protection agency, to develop a program that will result in a reduction in the use of toxic industrial products in the State of São Paulo. CETESB's successful implementation of an industrial toxic reduction program is expected to drive a large number of companies in the State of São Paulo to undertake relatively small investments to reduce their use of toxic products.

**Brazilian Rail Integration** – USTDA provided funding (\$231,560) for technical assistance to Brazil's National Association of Railway Transporters (Associação Nacional dos Transportadores Ferroviários, ANTF) to plan the integration of the Brazilian railroads. ANTF, which represents the private rail concessionaires, requested that the technical assistance be performed by the Transportation

Technology Center Inc. and Railinc. The railroads are now seeking further improvements in productivity through the implementation of interline services and harmonized operating procedures and standards in order to achieve seamless rail operations throughout Brazil.



## PROMOTING ECONOMIC COOPERATION BETWEEN THE U.S. AND LATIN AMERICA

The U.S. Trade and Development Agency (USTDA) advances economic development and U.S. commercial interests in developing and middle-income countries. The agency funds technical assistance, early investment analysis, training, orientation visits, and business workshops that support the development of a modern infrastructure and a fair and open trading environment. USTDA's strategic use of foreign assistance funds to support sound investment policy and decision-making in host countries creates an enabling environment for trade, investment, and sustainable economic development. In carrying out its mission, USTDA gives emphasis to economic sectors or projects that may benefit from U.S. goods and services and to activities that measurably affect development in the host country.

Since the agency's creation in 1981, USTDA investments in Latin America and the Caribbean have produced over \$6.1 billion in U.S. exports.

The following is a partial list of recent USTDA-supported projects in Latin America and the Caribbean:

**Brazil:** *Acre Statewide Broadband Project* – A \$443,570 feasibility study grant to the Secretariat of Administrative Management of the State of Acre is being used to evaluate a statewide broadband project that will provide broadband internet services to Acre's 22 municipalities by 2010. The project is closely associated with parallel initiatives of the federal government in Brazil to develop more efficient government services such as e-government networks.

**Brazil:** *State Government of Minas Gerais Datacenter Project* – A \$425,000 feasibility study grant to the State Government of Minas Gerais Economic Development Secretariat will support the development of a centralized administrative datacenter within the State's e-government program. The administrative datacenter will consolidate the government's corporate IT infrastructure while supporting operational staff that share common functions.

**Chile** *Air Navigation Technologies Project*– A \$980,000 technical assistance grant to the Civil General Aviation Directorate of Chile is supporting a pilot project involving the installation of Automatic Dependent Surveillance-Broadcast and Local Area Augmentation System airspace technologies at the Arturo Merino Benítez airport in Santiago. If

successful, these technologies could later be implemented at other sites throughout the country.

**Chile:** *Digital Trunking Technologies* – A \$436,000 feasibility study grant will help the telecommunications company, Gallyas, to migrate from an analog trunking platform to a digital platform. The digital platform would enable Gallyas to serve its existing clients more effectively and, because of its greater spectrum efficiency, would allow Gallyas to significantly increase its client base without the need to procure additional spectrum bandwidth. The greater functionality of a digital trunking system is of particular value to emergency services such as police, fire and ambulance, as well as critical industries such as aviation, which are among the major users of trunking systems.

**Colombia:** *Civil Aviation Renewable Energy* – A \$700,000 feasibility study grant to the Civil Aviation Special Administrative Unit (AeroCivil) is being used to develop a plan for converting the power supply for remote air traffic control and weather monitoring facilities in Colombia from diesel generators to renewable energy sources. The Civil Aviation Renewable Energy Power Supply Project will allow AeroCivil to improve the reliability of its remote power supply infrastructure and reduce the cost of providing power to operate remote facilities throughout Colombia.

**Colombia:** *Port of Buenaventura Operational and Security Enhancement Project* – A \$400,000 feasibility study grant to the Sociedad Portuaria Regional de Buenaventura will support the monitoring and security of cargo transit at the Port of Buenaventura, the main terminal operator on Colombia's Pacific coast. The study will evaluate existing conditions and provide recommendations for the implementation of a container scanning facility at the Port of Buenaventura. The port is a multipurpose facility handling containers, bulk cargo, break bulk, vehicles, and general cargo.

**Costa Rica:** *El Diquis Hydroelectric Power Geotechnical and Financial Analyses* – Two feasibility study grants, valued at \$300,000 and \$200,000, to the Costa Rican Institute of Electricity are supporting the geotechnical and financial components of a \$4 million feasibility study for the El Diquis hydroelectric power project. The Project involves the construction of a 631



megawatt (MW) hydroelectric power plant that will meet Costa Rica's growing demand for electricity.

**Dominican Republic:** *Emergency Response Management System Project* – A \$600,000 feasibility study grant to the Department of Planning and Programs of the Dominican Republic's Secretariat of the Interior will support the development of a national 9-1-1 emergency response system. The study aims to enhance public safety and improve the investment climate by modernizing the country's information and communications technology infrastructure to provide real-time emergency call response.

**El Salvador:** *Municipal Infrastructure and Commercial Zone Development in Chalatenango Project* – A \$500,000 technical assistance grant to the Municipality of Chalatenango is supporting the development of municipal infrastructure and commercial zones in the northern region of El Salvador. The technical assistance will help to develop business, commercial, and industrial infrastructure in Chalatenango to complement the investments being made under the Millennium Challenge Corporation compact.

**El Salvador:** *Northern Zone Trade Facilitation Portal* – A \$372,800 technical assistance grant to the Salvadoran Foundation for Economic and Social Development is supporting the development of a web portal to facilitate trade and investment in the northern region of El Salvador. As part of this technical assistance, a series of trade and investment roundtables will be held in the United States and El Salvador.

**Guatemala:** *Customs Transit Control System* – A \$387,500 technical assistance grant to Guatemala's Superintendent of Tax Administration (SAT) is promoting a more efficient and secure system that allows SAT to closely monitor customs warehouse transfers and cargo inspection activities, capture all commercial transactions and reduce losses. The project will enable SAT to both improve its customs transit processes and install information and communications systems consistent with the World Customs Organization Framework of Standards.

**Jamaica:** *Air Jamaica Privatization* – Two technical assistance grants, totaling \$820,180, to the Jamaican Ministry of Finance and the Public Service are funding assistance on the planned privatization of Air Jamaica. The grants will develop a number of strategic options for the airline and provide recommendations on an appropriate legal framework for the privatization.

**Mexico:** *CFE Environmental Management Project* – A \$640,500 technical assistance grant is assisting the Federal Electricity Commission (CFE) in developing an

environmental remediation program for its decommissioned facilities. The objective of the technical assistance is to support CFE in determining environmental, health, and safety guidelines for decommissioning, dismantling and retrofitting closed power plants and substations.

**Mexico:** *SCT Multimodal National Plan* – A \$1,323,900 technical assistance grant to Mexico's Secretary of Communications and Transportation (SCT) is helping to develop a comprehensive national plan to modernize Mexico's multimodal trade transportation infrastructure. Implementation of this project will strengthen Mexican competitiveness through targeted investments in vital trade transportation links that will create greater commercial efficiencies and lower costs along the supply chain.

**Panama:** *Port and Maritime Sector Monitoring and Control Center* – A \$331,341 feasibility study grant is assisting the Panama Maritime Authority in developing a Maritime Sector Monitoring and Control Center. The facility will help the Maritime Authority monitor and control Panama's maritime sector, including the administration of the Panamanian-registered fleet, national and international fishing fleets, ports, safety, security and environmental management.

**Peru:** *Lima Integrated Solid Waste Management* – A \$441,960 technical assistance grant to the Metropolitan Municipality of Lima is fostering enhanced municipal solid waste management and collection in Peru's capital and largest city. The proposed comprehensive and integrated approach to municipal solid waste management, collection and disposal is expected to yield substantial environmental and health benefits for the municipality.

**Trinidad and Tobago:** *Regional Air Cargo and Aircraft Maintenance Hub* – A \$390,572 feasibility study grant to the Airport Authority of Trinidad and Tobago is developing a strategic development plan for the creation of aircraft maintenance and air cargo facilities at Piarco International Airport in Trinidad. The project will include the development of a new air cargo facility, aircraft maintenance repair and overhaul facilities, aviation component overhaul and manufacturing facilities, and an air cargo and logistics clearance center.

**Uruguay:** *UTE Clean Coal Technology* – A \$419,729 feasibility study grant to Uruguay's National Administration for Electric Supply and Transmission (UTE) for a proposed 300MW coal-fired power plant that would use clean coal technology.



**EXCERPTS FROM USTDA-FUNDED TECHNICAL ASSISTANCE REPORT**

AUG 20 2007

## **Railway Integration Technical Assistance Plan**

**Prepared for  
the Brazilian Associacao Nacional dos  
Transportadores Ferroviarios (ANTF)**

**Prepared by  
Transportation Technology Center, Inc., and Railinc  
55500 DOT Road P.O. Box 11130  
Pueblo, Colorado 81001 USA**

**July 2007**



This report was funded by the U.S. Trade and Development Agency (USTDA), an agency of the U.S. Government. The opinions, findings, conclusions, or recommendations expressed in this document are those of the author(s) and do not necessarily represent the official position or policies of USTDA. USTDA makes no representation about, nor does it accept responsibility for, the accuracy or completeness of the information contained in this report



## The U.S. Trade and Development Agency

The U.S. Trade and Development Agency (USTDA) advances economic development and U.S. commercial interests in developing and middle income countries. The agency funds various forms of technical assistance, feasibility studies, training, orientation visits and business workshops that support the development of a modern infrastructure and a fair and open trading environment.

USTDA's strategic use of foreign assistance funds to support sound investment policy and decision-making in *host countries creates an enabling environment for trade, investment and sustainable economic development.* Operating at the nexus of foreign policy and commerce, USTDA is uniquely positioned to work with U.S. firms and host countries in achieving the agency's trade and development goals. In carrying out its mission, USTDA gives emphasis to economic sectors that may benefit from U.S. exports of goods and services.

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## Executive Summary

Transportation Technology Center, Inc. (TTCI) and Railinc, subsidiaries of the Association of American Railroads (AAR), were contracted by Brazil's Associacao Nacional dos Transportadores Ferroviarios (ANTF) to develop a Railway Integration Technical Assistance Plan (RITAP). Funding was provided through a United States Trade & Development Agency (USTDA) grant under a shared cost agreement with TTCI. The objective of the plan is to give Brazil's privatized railways the technical guidance to begin integrating their operational and management activities, improve safety, and increase productivity for rail transport.

Three primary programs are recommended under the RITAP: (1) Railway Technology, (2) Mechanical Operations, and (3) Interline Services. The focus of the first program is to develop track safety standards to encourage the interchange of traffic between railroads. Under this program, analysis will be directed at capacity optimization and permanent way solutions to safely and economically meet projected growth on selected routes. The second program focuses on interchange rules and standards critical to rolling stock safety, and loading of wagons. The last program focuses on efficient interchange operations, automation of accounting activities, and information technology solutions. The proposed programs are designed to help meet the growing transport demand on Brazil's railway system and to build confidence between railroads to encourage interchange traffic.

The RITAP defines the expertise, software, hardware, cost, and schedule for implementing a railway integration strategy. Strategies will be recommended by means of technical feasibility studies and business plans designed to guide the implementation of proposed solutions. The recommended programs are based on an interactive needs assessment completed in 2004 by AAR staff and ANTF member railroad personnel. Therefore, the proposed RITAP is specifically designed for the current needs of the ANTF member railroads.

There are two phases recommended under the RITAP. Phase I is a 2-year pilot project and Phase II is a 5-year comprehensive plan. The 2-year pilot project is designed to provide track safety standards, develop basic rolling stock interchange rules (example: wheel condemning limits) and facilitate the free flow of traffic through technological solutions on the selected pilot project route (Terminal de Alto Araguaia to Porto de Santos). The 5-year comprehensive phase will allow ANTF to develop and expand the integration tools and processes learned from the pilot project in scope and in geographic region on other routes. Other routes will be selected by ANTF based on budget, scope, and priority for Brazil's railway network.

Railway integration may last many years beyond completion of the proposed RITAP. Therefore, the goal of the 2-year pilot project and the 5-year comprehensive plan is to provide a framework of rules and standards to encourage the interchange of traffic and begin integrating operational and management activities of the railroads. This transfer of technical skills and processes may allow ANTF member railroads to fully develop the Brazilian railway system in the future.

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## INTRODUCTION

The Associação Nacional dos Transportadores Ferroviários (ANTF) is a self-governing railway association established in 1996, with the mission to promote the overall integration of the newly privatized railways, through elaboration of staged development programs that will result in modernization and increased capacity and efficiency of railway transportation in Brazil. During the start up of ANTF, the Association of American Railroads (AAR) and Transportation Technology Center, Inc. (TTCI) have acted in an advisory capacity by helping to define ANTF functions and objectives. The Railway Integration Technical Assistance Plan (RITAP) developed for ANTF by TTCI and Railinc (subsidiaries of the AAR) is part of this continuum to develop synergies between ANTF member railroads.

The RITAP is made up of three core programs: (1) Railway Technology, (2) Mechanical Operations, and (3) Interline Services. These programs are designed to initiate technology based solutions to common industry issues related to interchange between railroads. With Brazil's projected growth for railway transport, technological solutions are vital for achieving traffic production rates.

The primary purpose of the RITAP requested by ANTF is to identify technology-based solutions that will provide the means to build a framework for integrating important operational and management activities. The RITAP has four main sections:

1. Overview of Brazilian railroads
2. Details of the proposed RITAP
3. Financial issues related to the plan
4. Implications related to Brazil's economy, environment, and transportation system

The first section of this report provides background information and an overview of current and future financial and operational issues. From 1996 to 2003, ANTF member railways invested more than R\$7.8 billion in the Brazilian rail network. This has yielded a 46-percent growth rate in the nation's railway production in the same period. Detailed information such as operating statistics, current technologies, and strategic plans for meeting capacity demands are also addressed. This section provides insight into the progressive growth strategies and investments by the newly privatized railway concessionaries.

The second section provides details of the proposed RITAP, addressing schedules, budgets, and work flows for the 2-year pilot project and 5-year comprehensive plan. The 2-year pilot project is designed to develop the framework for capacity optimization solutions, interchange rules, and information systems to support integration strategies. Technical solutions developed under the pilot project will be applicable to the entire railway industry, but the project will involve only one route and a small group of railroads.

The 5-year comprehensive phase of the RITAP builds upon the 2-year pilot project framework. This phase is designed to allow ANTF to develop and expand the integration tools

and processes developed under the pilot project in scope and in geographic region. ANTF railroads will select additional railway corridors to implement the technology-based solutions for increasing capacity and interchange traffic capabilities.

Section three provides program budgets, a cost benefit analysis, and financing options for the RITAP. The costs of the RITAP relative to Brazil's projected investments are quite low. The total RITAP budget on an annualized basis represents approximately .5 percent of the investments projected by the concessionaires (2004 to 2008). Spending comparisons by program are also made by investment category projected by the concessionaries in the same period.

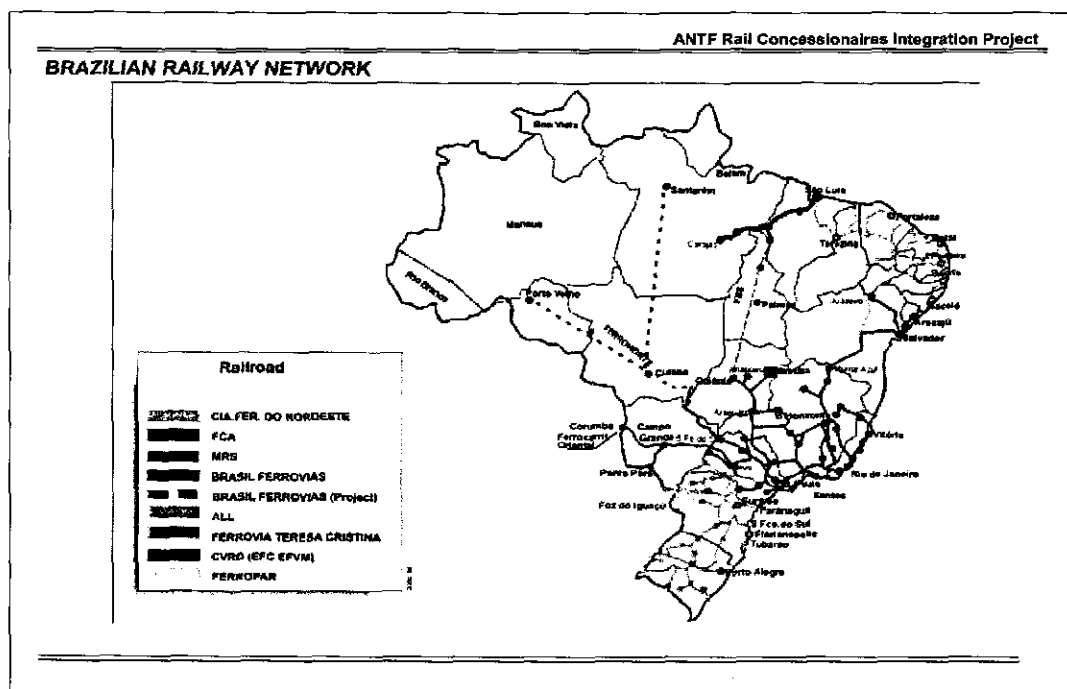
*Increasing traffic volumes, improving safety and environmental issues related to highway congestion* are key benefits proposed in this section. A formal economic analysis has been conducted for Phase I (2-year) and II (5-year) on Brazil's railway network; conservative estimates of potential benefits and expenses using net present value (NPV) and internal rate of return (IRR) calculations suggest the RITAP is a financially sustainable plan. In addition, the plan shows the ability to cover debt service in the pro-forma financial statements in Attachment 7. The three primary options for financing the proposed RITAP will be pursued through the World Bank, Brazil's development bank (BNDES), and the Multilateral Investment Funding of Inter-American Development Bank.

The fourth section discusses the plan's impact on Brazil's economy, environment, and transportation system. Current policies in Brazil and North America are addressed relative to increasing rail transportation and improving interchange operations. Research indicates that railway integration may improve many different sectors of the Brazilian economy and have many socio-economic advantages. An integration plan among the railroads in Brazil may create new jobs, reduce accidents, improve emission levels, and enhance the quality of life for many Brazilian citizens.

The RITAP will be managed between ANTF, TTCL, and Railinc. General project management will be provided by the ANTF Executive Director, TTCL and Railinc Program Directors. ANTF will oversee and facilitate the process of assigning key personnel to committee positions. They will identify and invite participants from the Brazilian railroads to help plan, schedule, and coordinate the activities proposed in the RITAP. It is anticipated that a committee structure will form the basis for initiating and communicating program initiatives.

## SECTION 1 OVERVIEW OF BRAZILIAN RAILWAYS

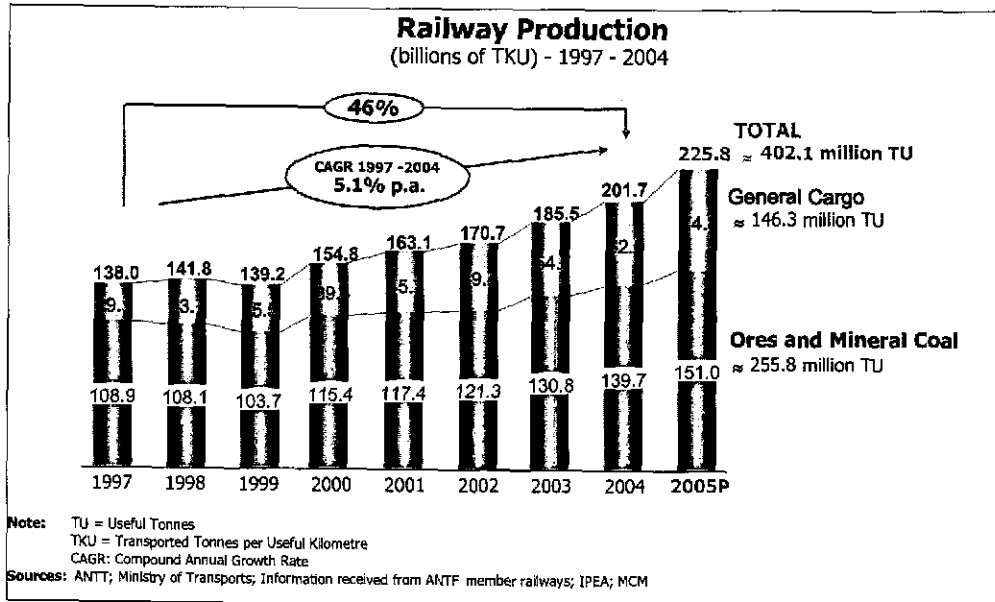
Since the privatization of the Brazilian railways began in 1996, the railway businesses that are part of ANTF have made significant accomplishments in revenue growth, productivity, and safety.<sup>1</sup> Their combined net revenue in 2004 reached R\$3.5 billion with investments in the range of R\$1.9 billion (U.S. Federal Reserve Bank, 7/8/05 [R\$ 2.2965 = US\$1.0000]). The 11 privatized concessionaires shown in Figure 1.1 consist of approximately 28,656 kilometers of track, 70 thousand wagons, 2 thousand locomotive units, and operate in 13 primary ports on the Atlantic coastline. Revenue ton-kilometer units (RTK) reached 205.7 billion in 2004, increasing 12.6 percent from 2003.



**Figure 1.1 Brazilian Railway Network**

From 1997 to 2004 the ANTF railways invested more than R\$7.8 billion in the Brazilian railway network. This yielded a 46-percent growth in production for the nation's railway industry, as Figure 1.2 shows. Principle merchandise categories such as soy related commodities and iron ore are chiefly responsible for the production growth. In addition, cargo transported in containers with intermodal equipment increased 62.5 percent from 2003 to 2004. Few sectors of the Brazilian economy have shown similar growth in such a short period.

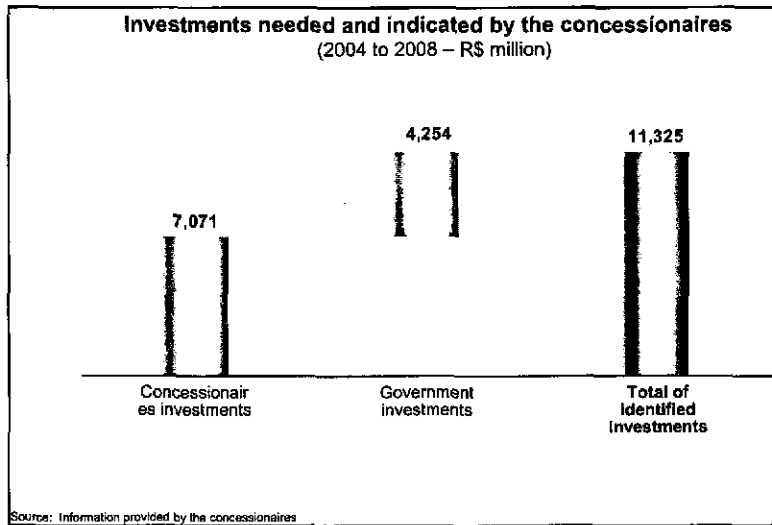
<sup>1</sup> ANTF, Contributions and Challenges of the Railway Sector, Brasilia, 29<sup>th</sup> April 2004



**Figure 1.2 Productivity Graph**

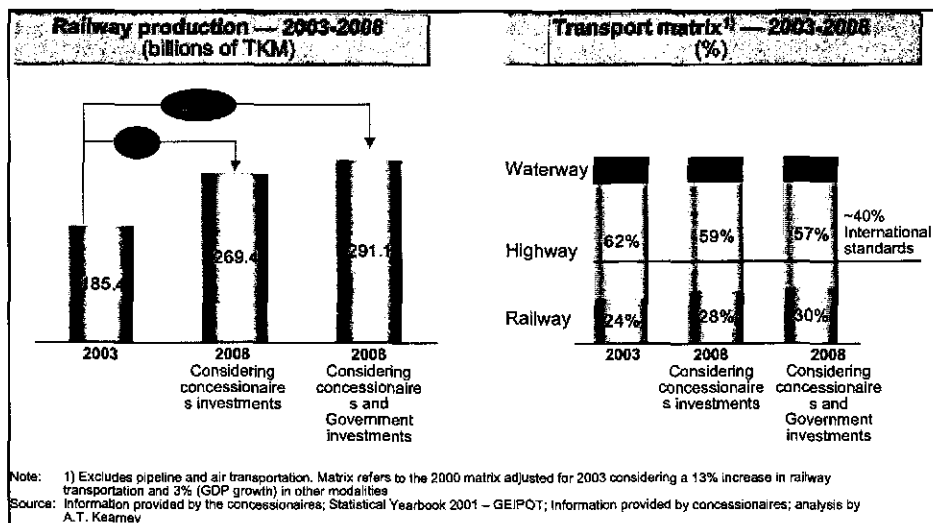
In addition, the privatized railways have seen a significant reduction in their accident rate measured by train accidents per million train kilometers (MTK). In 2003 the accidents per MTK's was recorded at 35.7. In 2004 it was recorded at 31.4 accidents per MTK's, a 10.6 percent decrease from 2003 and 62 percent decrease from 1996. Although, the accident rate has declined significantly since privatization, it remains a key performance measure and target for improvement by the privatized railways and Brazil's Ministry of Transport. In addition to the accident rate, ton kilometer units (TKU's) and investments in their concessions are key performance indexes observed by the Ministry of Transport as part of the railway operating agreement.

It was projected by ANTF that from 2004 to 2008 the railway concessionaires and the Ministry of Transport would invest more than R\$11.3 billion. Approximately R\$7 billion is projected to come from the privatized railways and R\$4.3 billion from the Ministry of Transport, as Figure 1.3 shows. The Vale do Rio Doce company (CVRD), for example, planned investments of US\$315 million in 2004 to buy locomotives and wagons for the Estrada de Ferro Vitoria a Minas (EFVM), Estrada de Ferro Carajas (EFC), and the Ferrovia Centro-Atlantica (FCA) railways.



**Figure 1.3 Financial Investments**

The target for Brazil's railway industry is to increase current production growth by 45 percent, surpassing the 185.4-billion TKU's recorded in 2003 to 269.4 billion TKU's by 2008. Considering private railway investment along with government funds, the production rate may generate a 57 percent increase in the transport supply capacity and a 6 percent gain in the transport matrix, as Figure 1.4 shows. In 2004 Brazil celebrated its 150th year in railway transportation and service. The event's main theme was related to integrating the railway system to meet Brazil's future transportation demands.



**Figure 1.4 Railway Production**

Private railway investments of R\$7 billion will be concentrated on permanent way improvements and the acquisition of wagons to increase capacity and improve average train speeds. Over 80 percent of government spending is targeted at the construction of branch lines and bypasses to connect strategic railway corridors. For example the construction project for the branch line from Lbia to Sete Lagoas is currently being funded by the Ministry of Transport.

Table 1.1 provides an overview of geographic and operational information by railway and shareholder group.

**Table 1.1 Consolidation of Brazilian Railways**

<b>RAILROAD</b>	<b>SHAREHOLDERS</b>	<b>REGION OF INFLUENCE</b>	<b>KM OF ROAD OWNED</b>	<b>PORTS IN ATLANTIC</b>	<b>MAIN FREIGHT</b>
<b>ALL</b>	Delara, Emerging Markets, Ralph Partners, Railtex, Brasil Private Equity, GP, others	South Region, MT and MS States	6586	Paranaguá, São Fco. do Sul	Grains, Fuel, Industrial Goods
<b>Teresa Cristina</b>	Gemon, Interfinance, Santa Lúcia, others	SC State	164	Tubarão - SC	Coal
<b>Ferroeste</b>	ALL, Gemon, FAO, Poud	PR Western	248	Paranaguá, São Fco. do Sul	Grains, Fertilizers, Cement
<b>BRASIL FERROVIAS</b>					
<b>NOVOESTE</b>	BF -Previ, Funcef, Laif, JPMorgan, Constran, Bradesco, others	MS State, Bolivia	1621	Santos	Grains, Fuel, Ores
<b>FERRONORTE</b>	BF	MS, MT and GO States	512	Santos	Grain, Fertilizers, Fuel
<b>FERROBAN</b>	BF	SP State, Southwest of MG, Southeast of GO	4236	Santos	Sugar, Grains, Fertilizers, Fuel, Ores
<b>MRS</b>	MBR, Usiminas, CSN, CVRD, Ultrafertil	MG, RJ states, SP Eastern	1674	Sepetiba, Rio de Janeiro, Santos	Iron Ore, Steel, Coal
<b>CVRD GROUP</b>					
<b>EFVM</b>	CVRD: Bradespar, Mitsui, Previ, Funcef, BNDES	MG State	898	Vitória, Tubarão	Iron Ore, Steel, Coal, Cement, Pig Iron
<b>FCA</b>	CVRD	MG State	7080	Vitória	Cement, Ores, Steel, Grains
<b>EFC</b>	CVRD	Maranhão, Pará States	892	Vitória	Iron Ore, Pig Iron, Manganese
<b>CFN</b>	CVRD, CSN, others	Northeast	4517	São Luís, Fortaleza, Natal, João Pessoa, Recife, Aracaju	Cement, Grains, Aluminum, others

### 1.1 America Latina Logistica (ALL)

ALL began operations in 1997, when it acquired the concession to operate in the southern part of Brazil. In 1999, with the acquisition of the Argentinean railways, MESO and BAP, its network now reaches into Argentina, and its originated goods flow west into the Chilean Port of Valparaiso. The process of integration took place in 2001. Uniting its railway operation with one of the largest highway trucking transport businesses of Brazil, ALL continues to integrate its transport modes and increase its presence in the Latin American markets, as Figure 1.5 shows.<sup>2</sup>

Investments in the range of \$R550 million in new technologies and quality improvements in infrastructure and capacity have led to significant growth since privatization took place in 1997. The volume of transported cargo increased from 11-million tons in 1997 to 23-million tons in 2003.

In this period, the number of locomotives grew from 234 to 465, with the acquisition of 140 units and the refurbishments of the remaining locomotives. ALL has also increased its fleet of wagons from 10,442 to 12,000 units (with the refurbishment of more than a thousand inoperable cars) in 2004. The ALL railway operation in Brazil includes 7.2 thousand kilometers of rail network, which extends through the states of Sao Paulo, Parana, Santa Catarina, and Rio Grande do Sul.

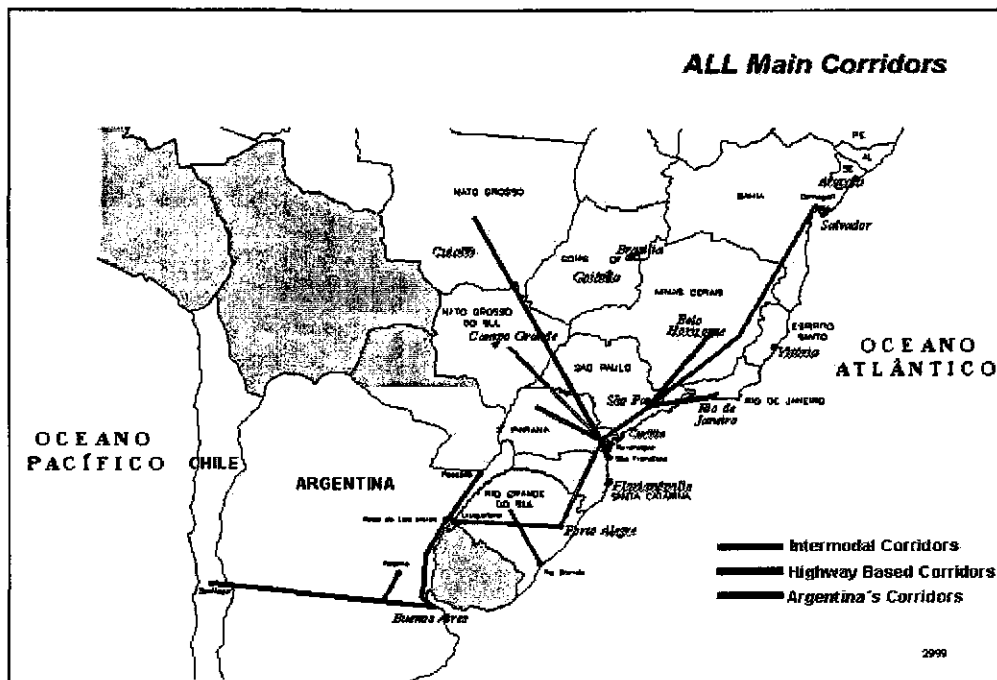


Figure 1.5 ALL Main Corridors

<sup>2</sup> Ibid

### 1.1.1 Technology and Safety

Major investments make ALL one of the safest railways in Brazil. From 1997 to 2003, the index of railway accidents was reduced by 78 percent, falling from 83 to 18 train accidents per million-train kilometers.

ALL possesses an Operational Control Center (OCC) that is integrated with its trains via satellite radio. All of the locomotives have an onboard computer that provides information about track conditions ahead up to a distance of 30 kilometers. Selected trains are also equipped with TRAINLINK™ (equipment that informs the operator electronically about the end of train conditions). Beyond this, infrared detection inspects cars as they pass through strategic locations. The system also monitors the temperature of the tracks, informs of significant changes, and alerts the operator when train speed should be reduced.

### 1.2 Brasil Ferrovias (BF)

BF is the parent company of the *Feronorte*, *Ferrobán*, and *Noveste*. The BF railway system is important from an integration point of view (Figure 1.6). The railway system covers three states: Sao Paulo, Mato Grosso do Sul, and Mato Grosso. It integrates the Central-Western to the world markets and serves two other states, Goiás and Minas Gerais, through the Tiete Parana waterway and interconnects with two neighboring countries — Paraguay through Ponta Para and Bolivia through Corumba to the Port of Santos.<sup>3</sup>

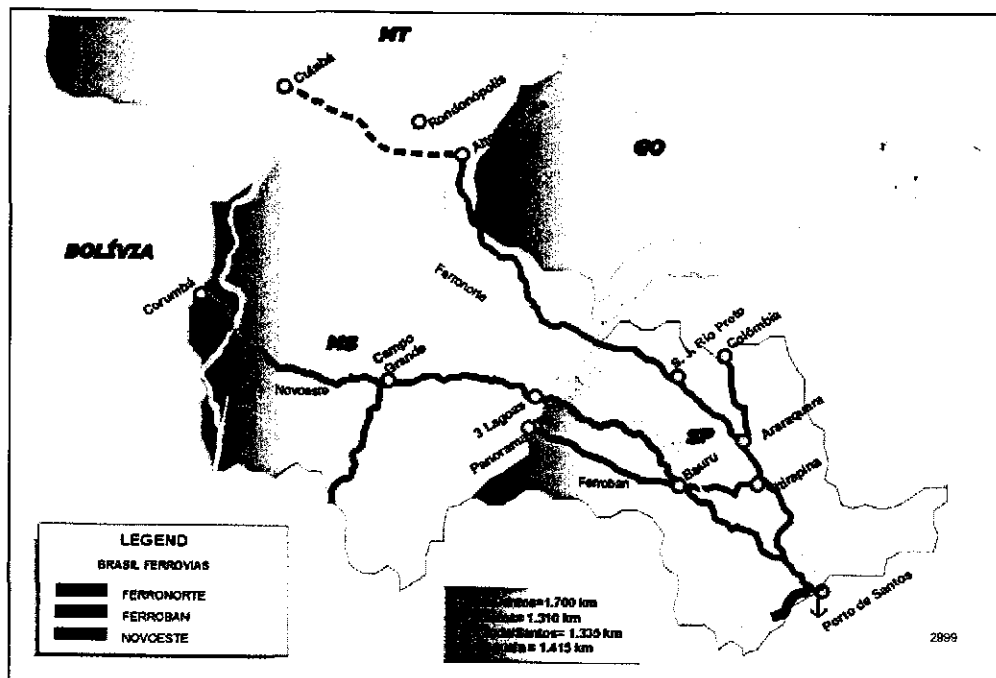


Figure 1.6 Brazil Ferrovias Railway Network

<sup>3</sup> Ibid



BF fulfills an important role in providing a transportation mix of products originated in the interior for exportation. BF also integrates the principal parts of South America in the most industrialized area of the continent, which is the agricultural frontier of Central-Western Brazil. BF railways continue to increase the transportation of agricultural products, which adds an important mix of exports to the Brazilian economy. The presence of BF in the interior of the continent continues to improve social inequalities, attracts investments, and new businesses to the region. BF transported more than 46 percent of the total soy, corn, rice, cotton, and sorghum products exported from Brazil in 2003 (Table 1.2).

**Table 1.2 Brazilian Commodity Production**

State	Millions of Tons					
	Production of Grains					
	1990	1999	2003	2004*	2004/03	Δ (p.a)
Mato Grosso	4,16	11,02	18,24	22,03	21%	13%
Mato Grosso do Sul	2,89	5,18	7,75	8,69	12%	8%
Góias	3,47	7,66	11,30	11,68	3%	9%
Minas Gerais	3,70	5,74	8,19	8,36	2%	6%
São Paulo	4,50	5,60	6,60	6,76	2%	3%
<b>Total of BF Market</b>	<b>18,72</b>	<b>35,20</b>	<b>52,08</b>	<b>57,52</b>	<b>10%</b>	<b>8%</b>
<b>Brazil</b>	<b>50,45</b>	<b>76,97</b>	<b>113,29</b>	<b>119,12</b>	<b>5%</b>	<b>6%</b>
<b>BF Market / Brazil</b>	<b>37%</b>	<b>46%</b>	<b>46%</b>	<b>48%</b>	-	-
*Forecast						
Commodities: Soybean, corn, rice, cotton and sorghum						

BF has more than 10 thousand cars in its active fleet, nearly 220 locomotives, 4,400 kilometers of track, with 41 customer locations. Besides its own terminals and a loading terminal of agricultural grains located at the Port of Santos, BF has the capacity to ship out 2.5-million tons per year. The railway network, which employs 3,200 people, is monitored by the operation control center at Campinas through satellite communication, and GPS.

### 1.2.1 Development of the Track

In the area of Mato Grosso, where soy production is booming, *Ferronorte* is providing increased line capacity for the growing demand of soy transported to the Port of Santos. Strategic development programs are under way to allow *Ferronorte* to provide increased railway transport of cotton, sugar, and alcohol, raising the potential of the region.

In Mato Grosso do Sul, *Noveste* has an important role to fulfill; i.e., guarantee a railway connection between Bolivia and a future bi-ocean route from the Atlanta to the Pacific. The railway will be an important factor for the efficient exploration of natural deposits of iron ores, manganese ores, and other minerals from the mineral province of Urucum. With the potential exportation of tens of millions of tons per year, the region requires sustained railway connection with the Port of Santos.

In Sao Paulo, the most developed state in the Brazilian economy, served principally by *Ferrobán*, there are new railway lines in the development phase that should favor the Columbia and Panorama branches. In addition to *Ferrobán*, MRS Logística, and a government-owned commuter line (CPTM) interchange in route to the Port of Santos.

### 1.3 MRS Logística

In 2003, the MRS transported 86.3 million tons and generated revenue of \$R1.35 billion with a net profit of \$R351.9 million. Its railway business activities have set a precedent for sustained growth of the newly privatized railway network.

Since privatization, MRS has progressively improved operational practices. From 1997 to 2003, close to \$R830 million was invested. Seventy-two locomotives and 1,300 cars were acquired to provide power and capacity to their fleet. MRS operates 1,674 kilometers of track, operates in three primary ports, and connects the three largest industrial areas in Brazil (Figure 1.7). Large infrastructure projects took place on the permanent way in this period. To improve the quality of its operations, it installed a training center with the most modern train operations simulator in Latin America, introduced fiber optic nets, and improved its operational control systems.<sup>4</sup>

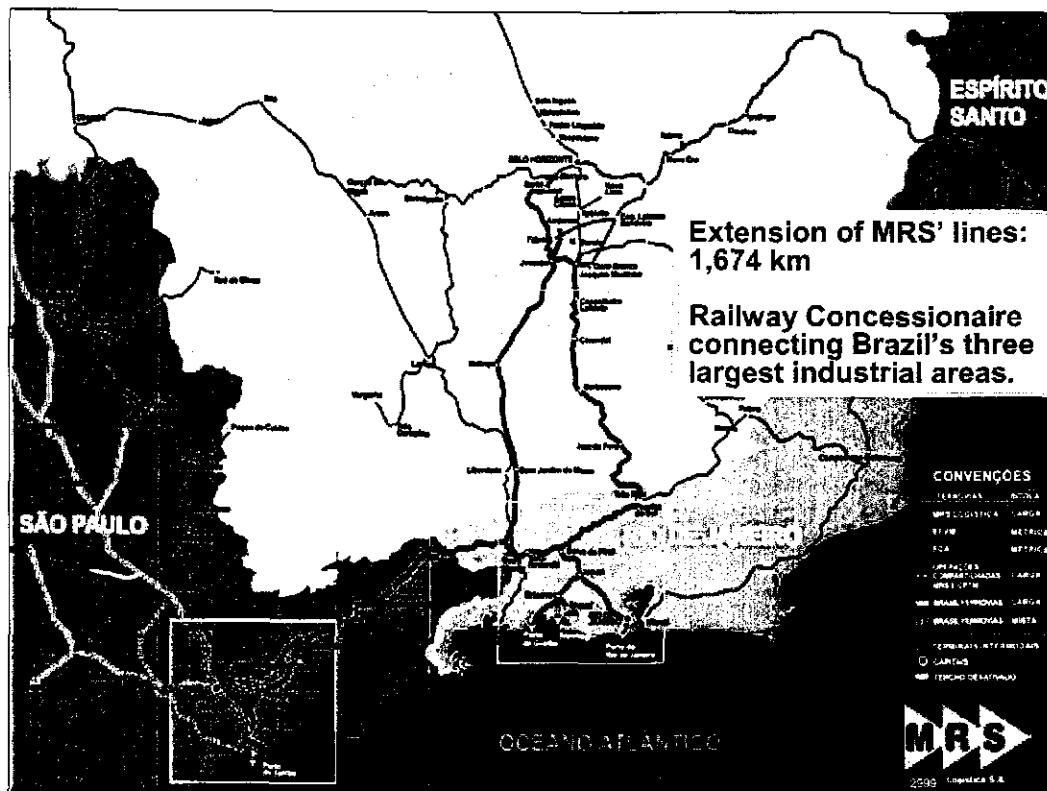
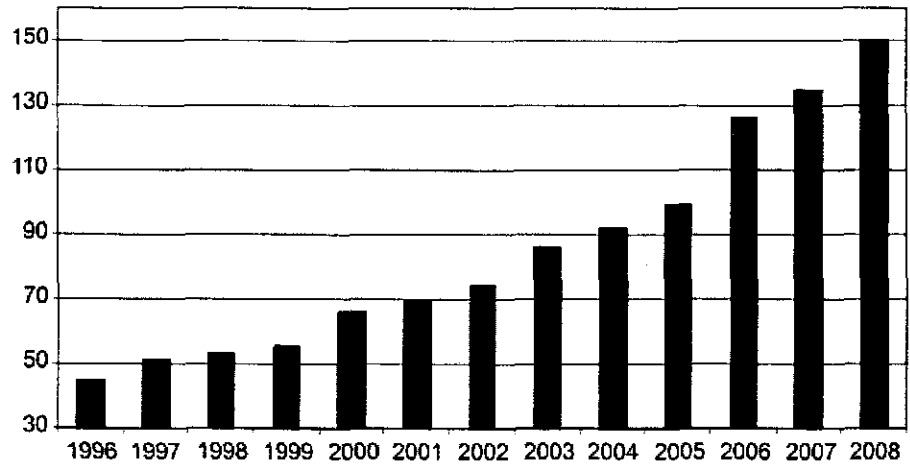


Figure 1.7 MRS Railway Network

<sup>4</sup> Ibid



**Figure 1.8 MRS Goal of Transporting 150-million tons by 2008**

The transport of general cargo grew 73.5 percent from 1997 to 2003. New routes have been inaugurated and MRS is actively investing (with its clients) in the reactivation of abandoned lines (in the branches of Suzano (SP) to service the VCP, and in Paraibuna in Juiz de Fora (MG) in partnership with Votorantim Metals). MRS is also working on a business plan with the goal of transporting 150-million tons by 2008 (Figure 1.8). MRS may also invest close to R\$200 million in this period on current operations.

#### **1.4 Vale do Rio Doce Company (CVRD)**

CVRD is the parent company of the EFVM, EFC and FCA. Diagnostics, modeling, and implementation of complete logistical operations are services offered by CVRD. These capabilities allow for improved planning of the logistics chain and productivity gains for CVRD and its affiliated companies. Its network, shown in Figure 1.9, operates three railways with 9,306 kilometers of track serving eight primary ports. CVRD was responsible for 42.2 percent of coastal shipping of containers and 53.3 percent of bulk solid shipments in 2002.

CVRD invested approximately US\$315 million in 2004 to buy locomotives and wagons for the EFVM, EFC, and FCA railways.<sup>5</sup>

<sup>5</sup> Ibid



Figure 1.9. CVRD

#### 1.4.1 Estrada de Ferro Carajas (EFC)

EFC operates in the Northern region of the country, connecting the interior to the principal regional port of Sao Luis. EFC transports annually 100 million tones of iron ore. In 19 years of operation, aside from minerals and manganese, close to 5-million tons of products, such as wood, cement, vehicles, fertilizers, and metalwork and agricultural products, have passed through the tracks of EFC, with soy being the primary commodity. The soy transported by EFC is produced in the south of Maranhao, Piaui, Para, and Mato Grosso. Another important function of the EFC has been the transportation of passengers, initiated in 1986. In 2004 it was responsible for the annual movement of 450-thousand passengers.

With its 892 kilometers of single track, of which 735 is tangent, the EFC maintains one of the best productivity indexes in the world. It was constructed to give more productivity to the mineral trains, and today has one of the most modern control centers in the Brazil.

By March 2004, the EFC had 5,353 cars and 100 locomotives. Its tracks connect with those of the CFN, Ferrovia Norte-Sul, Ponta da Madiera port (Sao Luiz—MA) and with the Itaquí port (Sao Luiz—MA). The railway benefits from the integration of its network structure, which maintains three railways, ports, navigation, and warehouse services, which provides various types of intermodal solutions for their clients. In 2004, CVRD invested approximately US\$180-million dollars in the purchase of locomotives and cars for EFC operations.

#### **1.4.2 Estrada de Ferro Vitoria a Minas (EFVM)**

One of the most modern and productive Brazilian railways, EFVM is responsible for the transport of 37 percent of Brazil's railway cargo. Located in the Southeastern region, it makes connections with other railways integrating the states of Minas Gerais, Goias, Espiritu Santo, Mato Grosso, Mato Grosso do Sul, Tocantins, and the Federal District. EFVM has access to the ports of Tubarao and Praia Mole, in Espiritu Santo.

The railroad has 905 kilometers of main track with 594 kilometers of double track. Its 15,376 cars and 207 locomotives transport to approximately 300 clients, 110 million tons of freight per year. Of this total, 80 percent is mined iron and 20 percent corresponds to more than 60 types of products, such as steel, coal, limestone, containers, cast iron, agricultural products, and vehicles.

EFVM has the highest density of traffic in Brazil and presents some of the best indexes of productivity. The human resources and technologies utilized put it among the most progressive railway lines in the Brazil. The train control center in Tubarao controls all of the operations of the railway. The CTC operators are in direct communication with stations, terminals, and offices.

Rigorous maintenance standards for both track and mechanical operations, are part of EFVM's operating strategy. According to EFVM, improved track components used in the last track renewal have significantly reduced train delays and contributed to their high indexes of productivity.

A modern maintenance repair facility is responsible for the efficient operation of nearly 200 locomotives. In this facility, full-capacity tests are also done on locomotives, contributing to improvements in performance and reduction in locomotive emissions. Locomotives operating in service are equipped with electronic injection and computers that register performance of the engineer operating the train.

Aware of the necessity to innovate and update technologically, the EFVM tests and operates new car types, including stainless steel gondolas, tank cars with fiber glass materials, and the intermodal RoadRailer®, a car equipped with highway and railway transportation capabilities. In Tubarao, there is a hump-yard, which is the largest of its kind in Latin America, with more than 100 kilometers of track.

Clients can monitor their cargo through an information systems program; i.e., Client Information System.

### **1.4.3 Ferrovia Centro-Atlantica (FCA)**

FCA maintains the single largest railway network in the country, with 7,080 kilometers of track. It connects the Northeast and Southeast regions of the country. It crosses more than 250 Brazilian municipalities in eight regions of the Federation (MG, ES, RJ, BA, SE, GO, DF, and SP). In September 1996, FCA assumed operation of the track in the Central Eastern network of Brazil after long negotiations with Rede Ferroviaria Federal (RFFSA).

Today the railway possesses a fleet of 404 locomotives and 10,498 cars. Its principal transport market is sugar, manure, fertilizer, derivatives of petroleum and alcohol, metalwork products, soy, phosphate, cast iron, and containers.

In August 1999, CVRD gained controlling interest in the FCA, strengthening the process of administration and restructuring of the business. In September 2003, authorized by the Agencia Nacional de Transportes Terrestres (ANTT), CVRD assumed operating control of the FCA. Being a concession operated by CVRD, clients of the railway benefit from integration of the network with the logistic structure of the business, which has two other railways, ports, coastal navigation services, and warehouses. All of this makes possible numerous intermodal solutions for its clients.

The FCA's integration with large ports, like those in Vitoria (TVV, Paul, Codesa), Santos, Angraporto (Angra dos Reis—RJ), Aratu terminal, and the port of Salvador (Salvador—BA) EADI (Uberlandia), aside from the connection with other railways, like the EFVM, the MRS Logistica, the Companhia Ferroviaria do Nordeste, and Brasil Ferrovias, make the FCA an important transporter of imports and exports. With the goal of offering more services, the FCA has developed and implemented an "express train," which provides port-to-port cargo container service (Figure 1.10).

This service operates daily trains on three distinct routes, with consistent scheduled service to clients. The two routes service the Sao Paulo area — Sao Paulo-Salvador and Sao Paulo-Central Western. Both are connected to the operations through the Port of Santos. The third route connects Vitoria in Espirito Santo to the Mineiro Triangle (Uberlandia) passing through Belo Horizonte in Minas Gerais.

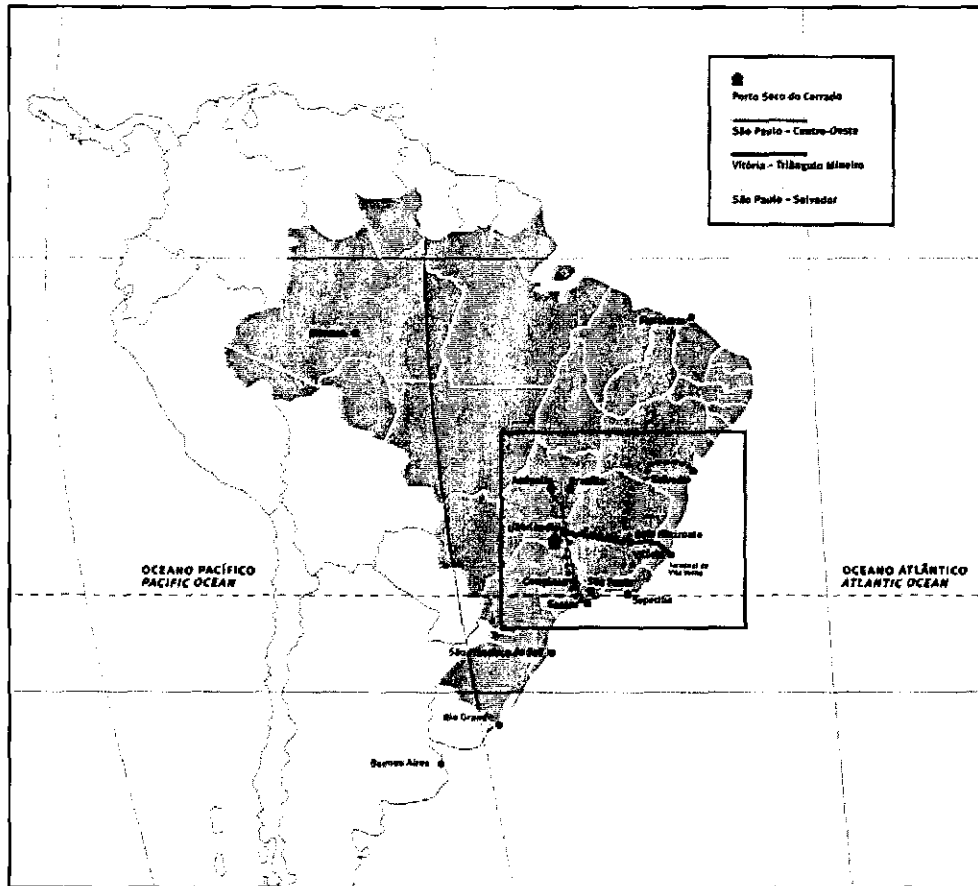


Figure 1.10 Intermodal Service Express Train

### 1.5 Companhia Ferroviária do Nordeste (CFN)

CFN acquired the railway concession from RFFSA in 1997. CFN maintains 4,534 kilometers of track that extends through the states of Maranhao, Piaui, Ceara, Rio Grande do Norte, Paraiba, Pernambuco, and Alagoas to the Propria Municipal in Sergipe in the Northeastern region of Brazil. R\$220 million from Banco Nacional de Desenvolvimento Economico e Social (BNDES) and FINOR is being used to increase the efficiency of the network and to reactivate the only routes in the Northeastern region.<sup>6</sup>

The railway transports sugar, alcohol, cement, derivatives of petroleum, ceramic and metalwork products, corn, aluminum, and salt, among others, with the principal Brazilian ports of Itaqui in Maranhao, Cabedelo in Paraiba, Macau in Rio Grande do Norte, Maceio in Alagoas, and Suape and Porto Recife in Pernambuco, aside from the ports in Mucuripe and Pecem in Ceara. Strategically, CFN is an important link to the entire national productivity chain in the Northeastern region (Figure 1.11).

<sup>6</sup> Ibid

With proposed investments of R\$100 million and the support of BNDES, CFN's operating goals are to increase the efficiency of its network, which goes to Sao Luis in Maranhao to Recife in Pernambuco, and to refurbish locomotives and cars inherited from RFFSA. Another R\$120 million from FINOR will be used in the reactivation of track that unites the Northeastern track to FCA, the only passage for the Southeastern region.

The resources of FINOR will also be spent in the renovation of the track between Recife and Salgueiro to prepare a connection of the CFN with Transnordestina. The new investments in the railway are designed to increase its productivity from 800-million TKU to 1.4-billion TKU within the first 24 months of the proposed project completion.

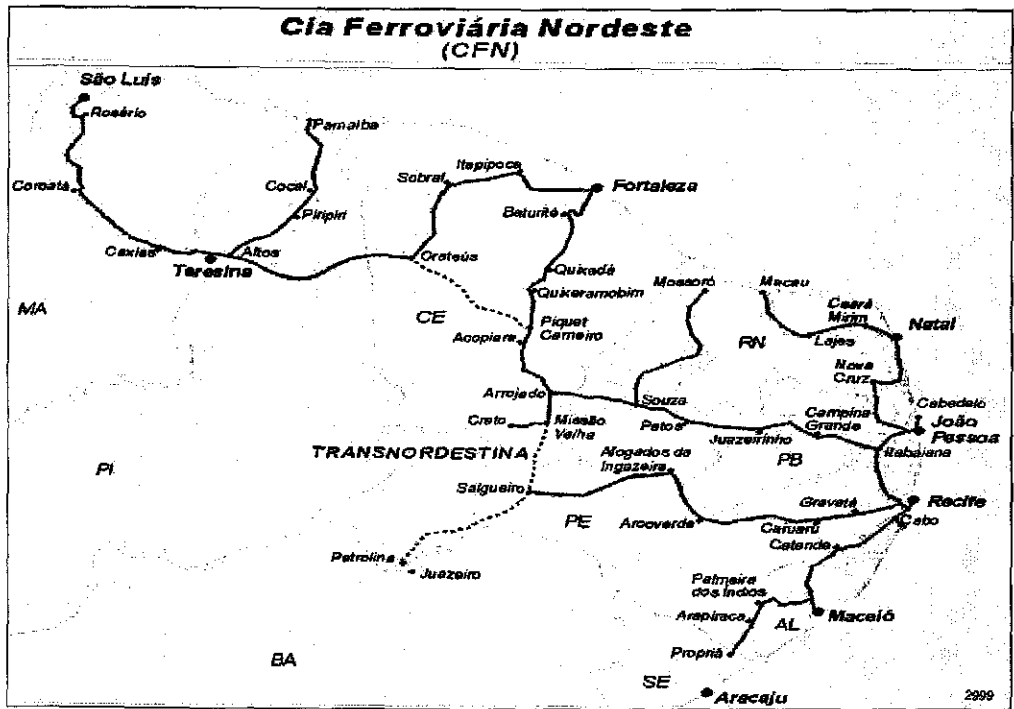


Figure 1.11 CFN Network Map

**1.6 Ferrovía Tereza Cristina (FTC)**

Since the beginning of privatization, February 1, 1997, FTC has promoted a process of administrative restructuring and a program of investments to refurbish locomotives, cars, and their main track.<sup>7</sup>

FTC represents an important factor of economic and social development in the entire region of South Santa Catarina, generating 140 direct jobs and 80 indirect jobs. To accomplish the railway transport of cargo, the business uses a railway network with 164 kilometers of

<sup>7</sup> Ibid



trackage, passing through 12 municipalities (Figure 1.12). The fleet is composed of 10 locomotives and 440 cars, which transports 400-thousand tons per month.

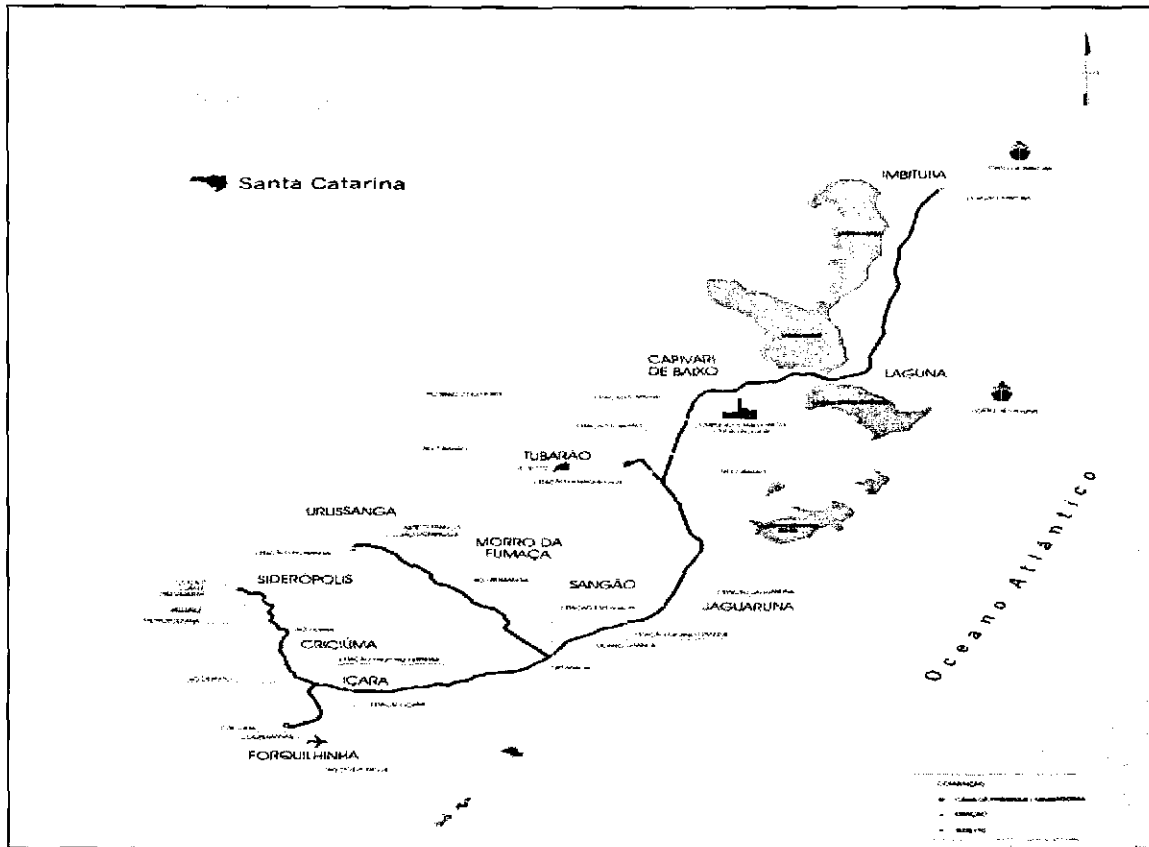


Figure 1.12 FTC Railway Network

### 1.6.1 Growth

FTC is an isolated railway network. Its only cargo is mineral coal, commercialized through periodic quotas pre-established by contracts and defined with the participation of 10 mining companies in the region and directions from the connected departments of the Ministry of Mines and Energy. These quotas limit the demand and the production of the railway.

In 1999, the government of Santa Catarina and the Ministry of Transport initiated the preliminary studies to extend the railway network in Santa Catarina. Among the viable projects considered was the extension of the FTC from Imbituba to Araquari, connecting the railway with ALL. In this manner, the Santa Catarina ports of Imbituba and Sao Francisco do Sul would be interconnected with the railway. For its part, the FTC would be integrated with the national railway network and the large consumer centers of the country.

While the expansion of the railway network in the state of Santa Catarina is studied and planned, the FTC looks for other alternatives for its growth, such as obtaining new types of cargo to transport in the Southern region of Santa Catarina. A focus of the FTC is the City of

Transport project in Criciúma (SC). The idea is to construct a cargo terminal for railway transport with final destination to the port of Imbituba. The project should promote large-scale cargo diversification.

### **1.7 Ferrovía Parana-Ferropar (FPF)**

FPF handles 12 percent of the national production of grains in the Western region of Parana, which has Cascavel as its geo-economic pole. Today FPF has an operating structure with 17 locomotives, 350 cars, and a railway network of 248 kilometers, connecting the cities of Cascavel and Guarapuava.<sup>8</sup>

FPF began operations March 1, 1997. After acquiring much needed capital, the administration implemented the following improvements:

- Construction of a shop for locomotives and cars in Guarapuava
- Facility and supply for locomotives in Cascavel and Guarapuava
- Construction of two silos for grains, with capacity for 3,200 thousand tons per year, in the multimodal terminal of Cascavel
- Construction of the terminal for limestone and vegetable oil, acquisition of highway scales, and a suitable terminal in Guarapuava for the receipt of grains.

#### **1.7.1 New administration**

Since August 2003, the new administration of FPF has implemented a plan to improve the efficiency of its logistics chain. The plan is to raise productivity, increase growth in the quantity of rotation materials (cars and locomotives) in activity, increase the volume of cargo per shipment, and reduce cycle times to and from the port of Paranaguá. FPF's business plan for 2004 was to develop the railway transport by nearly 40 percent in relation to 2003.

### **1.8 Brazilian Network Ranking**

With approximately 29,000 kilometers, the Brazilian network is smaller than that of France or Germany. It transports a larger cargo volume over greater distances (185 billion tons per kilometeric unit). This puts it in the seventh position in the world ranking, behind the USA, Russia, China, India, Canada, and the Ukraine. Today Brazil is one of the rare countries that is trying to expand its network with the construction of more track. With their projected growth, integrating operational and management activities and increasing capacity in a safe and economic way are key factors in Brazil's future success.<sup>9</sup>

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<sup>8</sup> Ibid

<sup>9</sup> Ibid



**EXCERPTS FROM BRAZIL COUNTRY COMMERCIAL GUIDE**



## **Doing Business in Brazil: 2010 Country Commercial Guide for U.S. Companies**

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## Chapter 1: Doing Business in Brazil

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### Market Overview

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The Federal Republic of Brazil is the fifth largest country in the world in terms of population (196 million) and size. It is the 10th largest economy (by GDP – purchasing power parity) in the world. Brazil enjoys a growing middle class, growing internet usage, and increasing internal demand for goods and services. Brazil weathered the crisis better than most major economies and by the end of 2009 was in a recovery position, bolstered by strong domestic demand and a growing middle class. Latin America's biggest economy shrank only around 0.2% last year, compared to an estimated 4% contraction in the European Union and 2.5% in the U.S. 2010 growth forecasts range from 7-7.5%. During the past decade, the country has maintained sound macroeconomic policies to control inflation without sacrificing economic growth. This kept the inflation rate at 5.1% in 2009, and unemployment at 7.4% (as of Nov '09). Interest rates, though high compared to rest of the world, are near their historical low at the Central Bank rate of 8.75%. 2009 ushered a second consecutive year of a positive trade balance with U.S. exports to Brazil at US\$ 26 billion, and imports from Brazil at US\$ 20 billion. The U.S. is Brazil's biggest import partner followed by China, Argentina, Germany, and Japan.

On April 30, 2008 Brazil earned Standard & Poor's Investment Grade credit rating. The stock market gained 83% last year, its best year since 2003, sustained in part by a record net inflow of 20.45 billion reais (US\$ 10.25 billion) from foreign portfolio investors and due to the resilience of its domestic market and steady foreign demand for its commodities. In 2009, foreign reserves hit record levels, rising to US\$ 239 billion as Brazil took measures to control appreciation of its currency, the real, which rose 34% against the dollar.

#### Additional resources:

- CIA World Fact book  
<https://www.cia.gov/library/publications/the-world-factbook/geos/br.html>
- Doing Business in Brazil  
<http://www.doingbusiness.org>

### Market Challenges

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There are enormous commercial opportunities for U.S. companies in Brazil. That said, and despite signs of improvements, Brazil's market challenges include uneven income distribution, poor public education, consistently high unemployment rates, a commodity-driven economy, significant imbalance of market concentration and a large informal

economy that hinders tax collection and keeps economic growth from reaching its full potential.

These factors create a complex business environment with substantial obstacles for U.S. exporters. Doing business in Brazil requires intimate knowledge of the local environment, including both the explicit as well as implicit costs of doing business (referred to as “Custo Brasil”). Such costs are often related to distribution, government procedures, employee benefits, environmental laws, and uneven application of standards for tax calculation. Logistics are a particular challenge, given the fragmented nature of distribution channels. Besides facing tariff barriers, U.S. companies will find a complex customs system, and an overloaded and ineffective legal system for enforcing IPR and commercial law. Heavy tax burdens increase consumer prices up to 200%, while bureaucratic procedures and onerous product licensing/ regulatory requirements also pose a considerable hindrance and raise costs. Registering a company takes 120 days – World Bank ranks Brazil 129/183 economies in terms of ease of doing business.

### Market Opportunities

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Promising areas for U.S. exports and investment include in no particular order: agriculture, aircraft and parts, telecom equipment and services, insurance, agricultural equipment, electrical power, safety and security, oil and gas, environmental technologies, mining, computer software and transportation.

The Commercial Service maintains a market research library on new opportunities – [Brazilian Market Insights](#). Upcoming research documents include commercial opportunities for Brazil World Cup 2014, 2016 Olympics, and the PAC – Brazil’s growth acceleration program for infrastructure development.

Certain sectors of the Brazilian market have and may continue to experience high growth, such as aircraft and parts, air transportation, telecom, oil and gas, and mining.

The demand for domestic air transportation in Brazil increased 17.65% in 2009, the best growth percentage since 2005, according to data disclosed by the National Civil Aviation Agency (ANAC). On the other hand, the market share of Brazilian airlines shows a reduction in concentration as smaller airlines continue to gain market share.

With roughly 35% of the region’s revenues, Brazil remains Latin America’s largest telecom market. Gross revenue from telecom equipment and services as of September 2009 was nearly US\$ 68 billion and the market is expected to reach US\$ 90 billion in 2012.

Brazil has a large and well developed mining sector. In fact, Brazil is responsible for one-quarter of the world’s iron ore output. As a consequence of the global financial crisis, investment in Brazil’s mining sector fell around 30%. However, in a bid to ease the pressure on the mining sector, the government implemented a legal measure that enables the extractive industry to raise bank loans more easily. By 2013, the market should be expanding by around 6%, reaching US\$ 41.65 billion.

## **Market Entry Strategy**

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Brazil's business culture is largely based upon personal relationships. Companies will need a strong presence and must invest time in developing relationships in Brazil. The U.S. Commercial Service encourages U.S. companies to visit Brazil to meet one-on-one with potential partners. One of the best ways to enter the Brazilian market is by attending a local trade show or using the U.S. Commercial Service's Gold Key Service (GKS). The U.S. Commercial Service can provide business counseling or organize meetings with potential buyers through a GKS or during a trade show. It is essential that a U.S. business entering the market work through a qualified agent or distributor. Some firms establish an office or joint venture in Brazil. Further discussion of these alternatives can be found in the "Marketing Products & Services" chapter. It is extremely difficult for U.S. companies to get involved in public sector procurement without a local Brazilian partner.

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## Transportation

### Infrastructure Investment Growth Map Comparing 2003/2006 to 2008/2011

Sectors	Investments US\$ (billions)		Growth % Annual	Growth Contribution in Investments	
	Realized 2003-06	Forecast 2008-11		US\$ billions	(%)
Infrastructure	86.0	160.1	17.7	74.0	100
Energy	28.2	69.8	26.6	41.6	56.2
Communications	40.0	37.9	-1.0	-2.19	-2.9
Sanitation	9.4	33.2	38.9	23.8	32.1
Railroads	5.1	13.7	26.9	8.6	11.6
Ports	2.0	4.7	25.1	2.7	3.7

Estimated Exchange rate value US\$ 1 = R\$ 2.00

## Ports Overview

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(in US\$ millions)	2008	2009	2010 (est)
Market Size	735	655	781
Local Production	397	353	430
Imports (Global)	367	298	359
Imports (USA)	140	123	150

Estimated Exchange rate value US\$ 1 = R\$ 2.00

With a coastline of 8,500 km (5,600 miles), Brazil has a port sector that handles around 768 million tons of goods annually and is responsible for more than 85% of its exports. The maritime modal has one of the lowest costs for the transportation of cargo in Brazil. The Brazilian port system is made up of 37 public sea and river ports. Of this total, 18 have operations authorized by the state and municipal governments. There are 42 terminals for private use and three port complexes that operate under concession to private enterprise. The importance of port efficiency becomes even more relevant with export growth, which has been gaining volume every year until recently. The private sector is increasingly involved in developing the major ports including investment in equipment necessary for terminal operation. The public sector is responsible for construction and maintenance of port infrastructure, including dredging, land access,



environmental and safety infrastructure projects, in addition to supervising the port activities.

## Best Prospects/Services

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### Prospects and Investment Trends in the Industry

According to a report from the Department of Transportation and Logistics, the Brazilian National Economic and Social Development Bank (BNDES) expects investment in the sector to be US\$ 1.7 billion covering a set of 25 port projects - 11 of which are in progress and 14 are under evaluation. The disbursements forecasted by BNDES, by the year 2010, reach more than US\$ 1 billion, and consider an average participation of the Bank in 60% of the required investment.

Companies from the Association of Port Terminal Operators plan on investing US\$ 9 billion in the next 5 years. Another US\$ 8 billion should be invested by non-associated port operators.

## Railways Overview

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US\$ (millions)	2008	2009	2010 (est.)
<b>Market Size</b>	435	344	407
<b>Local Production</b>	235	253	298
<b>Imports (Global)</b>	201	216	258
<b>Imports (USA)</b>	78	83	99

Source: trade/Industry Resources. Estimated Exchange rate value US\$ 1 = R\$ 2.00

The Growth Acceleration Plan (PAC) foresees investments of US\$ 296 billion in infrastructure. The PAC announced by the federal government in 2007 assured that US\$ 296 billion would be invested in infrastructure by 2010. Of the total, 87%, or US\$ 256.5 billion, would come from the state and private sector, while the remaining US\$ 30.5 billion would come from the federal government.

Investments under PAC will be strong on logistics infrastructure, including highways, ports, railways, airports and waterways. The objective is to facilitate transportation of cargo and goods to have a positive impact on the cost of the products. By the end of 2010, investment in logistics should reach US\$ 34.3 billion.

## Opportunities

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In spite of real growth achieved since the privatization of the railroads in 1997, the potential for future growth of the rail freight business in Brazil is still immense. With a budget of US\$ 15.6 billion to invest in the expansion of the system the Brazilian railroad network should jump from its present 239 thousand kilometers to 361.4 thousand by 2016 – more than 50% increase and 122 thousand kilometers in 6 years.

Specialists of the “freight on tracks movement” guarantee that a promising future is based on basic rules of arithmetic. A railroad freight car can carry a load equivalent to three 35-ton trucks. Since railways operate on a much bigger scale, freight is on average six times cheaper than trucks to transport cargo, based on 1 ton per thousand kilometers.

Pleased with the results obtained so far, rail operators have not been afraid to invest. Vale (formerly known as CVRD) operates four railroads: EFC, Norte Sul, EFVM, and FCA. Vale plans on spending US\$ 3 billion in 2010. As is the case with other sectors, railroads are being impacted by the international economic crisis. Logistics companies directly related to the transportation of iron ore and agricultural expect to continue capital investments in the belief that the current downturn will soon return to normal.

Vale Logistica, for example, will not change its investment plan for 2010, while Latin American Logistics estimates investments of US\$ 700 million for the period. Transnordestina Logistics expects to invest approximately US\$ 2 billion.

The commercial manager of Ferrovia Centro Atlantica (FCA) stated that “although the present scenario is complicated, new opportunities are presenting themselves. Therefore, we decided to maintain our expansion plans.” The investment plan announced by Vale Logistica adds up to US\$ 12 billion by 2012, including four railroads that the company manages, and investments of resources in other modals, such as additional port capacity. Investments in logistics account for 20% of Vale’s investments. In 2008 the amount was close to US\$ 1 billion.

## Passenger Operators

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Brazil is working to expand its urban transportation in time for the Soccer World Cup in 2014 and the Olympic Games in 2016.

The city of Sao Paulo’s top priority is the expansion of its subway system. The Metro of São Paulo’s planning director said that the company will invest US\$ 4.1 billion by 2010. The resources would be used to improve efficiency, reduce the time between trains, improve signaling and communication systems, and control centers. The São Paulo Metropolitan Train Company expects to invest US\$ 2 billion to upgrade its system from metroliner to light rail system by 2014. Metro-Rio plans to double its daily passenger capacity from the present 550 thousand to 1 million by 2010. The company’s plans include opening of new branches and stations. The subway projects spread all over the country should use up almost half of US\$ 35 billion allocated for urban mobility projects.

## Resources

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For information contact industry specialists:

- Ruy Baptista: [ruy.baptista@trade.gov](mailto:ruy.baptista@trade.gov)
- Genard Burity: [genard.burity@trade.gov](mailto:genard.burity@trade.gov)
- Ebe Raso: [ebe.raso@trade.gov](mailto:ebe.raso@trade.gov)
- Market research: <http://export.gov/mrktresearch/index.asp>

- U.S. Ex-Im Bank: <http://www.exim.gov>
- Brazilian Ministry of Transport: <http://www.transportes.gov.br>
- National Association of Transporters: <http://www.antf.org.br>
- Valor Economico magazine
- Let us help you export. - The U.S. Commercial Service - Your global business partner.
- [www.export.gov](http://www.export.gov) or 800-USA-TRADE
- With offices in Brasilia, São Paulo, Rio de Janeiro, Belo Horizonte and Recife the U.S. Commercial Service Brazil (<http://www.buyusa.gov/brazil>) helps U.S. exporters enter Brazil's market through research, matchmaking and advocacy. To the best of our knowledge the information in this report is accurate - however readers should conduct their own due diligence before entering into business ventures.

## Chapter 5: Trade Regulations and Standards

- [Import Tariffs](#)
- [Import Requirements and Documentation](#)
- [U.S. Export Controls](#)
- [Temporary Entry](#)
- [Labeling and Marking Requirements](#)
- [Prohibited and Restricted Imports](#)
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### Import Tariffs

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Imports are subject to a number of taxes and fees in Brazil, which are usually paid during the customs clearance process. There are three taxes that account for the bulk of import costs: the Import Duty (II), the Industrialized Product tax (IPI) and the Merchandise and Service Circulation tax (ICMS). In addition to these taxes, several smaller taxes and fees apply to imports. Note that most taxes are calculated on a cumulative basis.

Brazil and its Southern Common Market (Mercosur) partners, Argentina, Paraguay and Uruguay, implemented the Mercosur Common External Tariff (CET) on January 1, 1995. Each country maintains a separate exceptions list of items for tariffs.

In 1995 Brazil implemented the Mercosur Common Nomenclature, known as the NCM (Nomenclatura Comum do Mercosur), consistent with the Harmonized System (HS) for tariff classification. Information about the NCM can be found at: <http://www.braziltradenet.gov.br>. The Brazilian Government established a computerized information system to monitor imports and to facilitate customs clearance known as the Foreign Trade Integrated System (SISCOMEX). SISCOMEX has facilitated and reduced the amount of paperwork previously required for importing into Brazil. Brazilian importers must be registered in the Foreign Trade Secretariat's (SECEX's) Export and Import Registry and receive a password given by Customs to operate the SISCOMEX. The SISCOMEX creates electronic import documents and transmits information to a central computer. More information at:

<http://www.receita.fazenda.gov.br/aduana/siscomex/siscomex.htm>

### Import Duty (II)

The Import duty is a federally mandated product specific tax levied on a CIF (Cost, Insurance, and Freight) basis. In most cases, Brazilian import duty rates range from 10% to 35%.

MDIC publishes a complete list of NCM products and their tariff rates on its site: <http://www.desenvolvimento.gov.br/sitio/interna/interna.php?area=5&menu=1848>

## **Industrialized Product Tax (IPI)**

The IPI is a federal tax levied on most domestic and imported manufactured products. It is assessed at the point of sale by the manufacturer or processor in the case of domestically produced goods, and at the point of customs clearance in the case of imports. The IPI tax is not considered a cost for the importer, since the value is credited back to the importer. Specifically, when the product is sold to the end user, the importer debits the IPI cost.

The Government of Brazil levies the IPI rate by determining how essential the product may be for the Brazilian end-user. Generally, the IPI tax rate ranges from 0 to 15%. In the case of imports, the tax is charged on the product's CIF value plus import duty. A product's IPI rate is directly proportional to its import tariff rate. As with value-added taxes in Europe, IPI taxes on products that pass through several stages of processing are reduced to compensate for IPI taxes paid at each stage. Brazilian exports are exempt from the IPI tax. Brazilian Customs publishes the complete list of NCM products and their IPI tariffs at: <http://sijut.fazenda.gov.br/netahtml/sijut/Pesquisa.htm>

## **Merchandise and Service Circulation Tax (ICMS)**

The ICMS is a state government value-added tax applicable to both imports and domestic products. The ICMS tax on imports is assessed ad valorem on the CIF value, plus import duty, plus IPI. Although importers have to pay the ICMS to clear the imported product through Customs, it is not necessarily a cost item for the importer because the paid value represents a credit to the importer. When the product is sold to the end user, the importer debits the ICMS, which is included in the final price of the product and is paid by the end user.

Effectively, the tax is paid only on the value-added; the tax is generally passed on to the buyer since it is included in price charged for the merchandise. The ICMS tax due to the state government is based upon taxes collected on sales by a company, minus the taxes paid in purchasing raw materials and intermediate goods. The ICMS tax is levied on both intrastate and interstate transactions and is assessed on every transfer or movement of merchandise. The rate varies among states: in the State of São Paulo, the rate varies from 7 to 18 percent. On interstate movements, the tax will be assessed at the rate applicable to the destination state. Some sectors of the economy, such as mining, electricity, liquid fuels and natural gas can be exempt from the ICMS tax. Most Brazilian exports are exempt.

## **Import Requirements and Documentation**

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U.S. exporters and Brazilian importers must register with the Foreign Trade Secretariat (SECEX), an organ of the Ministry of Industrial Development and Commerce (MDIC). Depending on the product, Brazilian authorities may require more documentation. The Ministry of Health controls all products that may affect the human body, including pharmaceuticals, vitamins, cosmetics and medical equipment/devices. Such products can only be imported and sold in Brazil if the foreign company establishes a local Brazilian manufacturing unit or local office, or the foreign company appoints a Brazilian distributor who is authorized by the Brazilian authorities to import and distribute medical products. Such products must be registered with the Brazilian Ministry of Health. The

registration process can sometimes be complex and/or time consuming. More details about documentation can be found at:

[http://www.fedex.com/us/international/irc/profiles/irc\\_br\\_profile.html?gtmcc=us](http://www.fedex.com/us/international/irc/profiles/irc_br_profile.html?gtmcc=us)

### U.S. Export Controls

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At this time, the U.S. Government maintains no export controls specific to Brazil. Normal controls are maintained on military equipment, high-tech information systems, and equipment of a highly sensitive nature. Items on the Munitions Control List are also a controlled export to nearly all countries worldwide, including Brazil, requiring special licenses from the State Department or Commerce Department depending upon the item. You can see the current list of export controls at the U.S. Bureau of Industry and Security (BIS) website: <http://www.bis.doc.gov>.

### Temporary Entry

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Since 2000, the Government of Brazil has made an allowance for temporary importation of products that are used for a predetermined time period and then re-exported. The U.S. Commercial Service has seen a number of delays in regards to temporary imports, and continues to work through the "U.S. – Brazil Commercial Dialogue" to counter these problems. The Brazilian Government is studying the adoption of the ATA Carnet, an international customs document that allows importers to temporarily import goods up to one year without payment of normally applicable duties and taxes, including value-added taxes. The adoption of ATA Carnet use in Brazil would have a huge impact on customs clearance for U.S. trade show exhibitors that currently face extreme difficulties and delays in getting these temporary imports into Brazil, often writing off the imports as a complete loss. The ATA Carnet legislation has been submitted to the Brazilian Congress for approval

Under Brazil's temporary import program, the II and IPI are used to determine the temporary import tax. Products must be used in the manufacture of other goods and involve payment of rental or lease fee from the local importer to the international exporter. There are very strict rules regarding the entry of used merchandise into Brazil. An example of products falling under this program would be the temporary importation of machine tools. The example below shows that taxes due are proportional to the time frame the imported product will remain in Brazil.

#### Permanent and Temporary Tax Example

<b>CIF Price of Machine Tool</b>	<b>\$200,000</b>
II of 10% on CIF	\$20,000
IPI of 5% x (CIF plus II)	\$11,000
<b><i>Taxes that would be owed if importation were permanent</i></b>	<b><i>\$31,000</i></b>
Total life span of machine tool	60 months
Time machine tool will stay in Brazil	12 months
<b>Tax for temporary importation</b>	<b>\$6,200</b>
	Value=31,000 x [1-(60-12)/60]
	(20% of tax is owed as tool will stay in Brazil 1/5 of its useful life)

## Labeling and Marking Requirements

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The Brazilian Customer Protection Code requires that product labeling provide the consumer with precise and easily readable information about the product's quality, quantity, composition, price, guarantee, shelf life, origin, and risks to the consumer's health and safety. Imported products should bear a Portuguese translation of this information. Products should be labeled in metric units or show a metric equivalent.

More information can be found regarding required and recommended labeling and marking in USCS Brazil's report on standards at:

<http://www.ita.doc.gov/td/standards/Markets/Brazil.htm>

## Prohibited and Restricted Imports

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The Brazilian Government has eliminated most import prohibitions with certain exceptions. In general, all used consumer goods are prohibited from being imported. Used capital goods are allowed only when there is no similar item produced locally. Aviation parts, for example, is one of the few used products allowed to enter Brazil. Remanufactured goods are still considered used goods, although CS Brazil is working through the "U.S.-Brazil Commercial Dialogue" to address this issue. The country prohibits the imports of beef derived from cattle administered with growth hormones, fresh poultry meat and poultry products coming from U.S. and color prints for the theatrical and television market. There is also specific legislation that prohibits the importation of products that the Brazilian regulatory agencies consider harmful to health, sanity, national security interest, and the environment. For a more detailed list of prohibited and restricted items, access:

[http://www.fedex.com/us/international/irc/profiles/irc\\_br\\_profile.html?gtmcc=us](http://www.fedex.com/us/international/irc/profiles/irc_br_profile.html?gtmcc=us).

## Customs Regulations and Contact Information

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It is essential to have all documents in complete order. Products can get caught up for various reasons, including minor errors or omissions in paperwork. Products held at customs in Brazil can be assessed high fees. Brazilian Customs frequently seizes shipments that appear to have inaccurate documentation. Customs has the right to apply fines and penalties at their discretion. For further information on customs regulations, visit: [http://www.fedex.com/us/international/irc/profiles/irc\\_br\\_profile.html?gtmcc=us](http://www.fedex.com/us/international/irc/profiles/irc_br_profile.html?gtmcc=us).

## Standards

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## Overview

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Brazil has very strict rules regarding standards and has a very active group of standards organizations. The National Institute of Metrology, Standardization and Industrial Quality (INMETRO) is a government entity and is the operating arm of Brazil's standards regime, led by the National Council of Metrology, Standardization and Industrial Quality, CONMETRO. The council is formed by a group of 8 ministries and 5 governmental agencies. The council is the regulatory body of The National System of Metrology, Standardization and Industrial Quality (SINMETRO). More information about the council can be found at <http://www.inmetro.gov.br/inmetro/conmetro.asp>.

## Standards Organizations

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INMETRO is the main national accreditation body and is in charge of implementing the national policies regarding quality and metrology established by the CONMETRO, the council that oversees INMETRO's activities. INMETRO is responsible for certification products, services, licensing and testing labs among other duties. More information about INMETRO can be found at <http://www.inmetro.gov.br/english>. The Brazilian Association of Technical Standards (ABNT) is also a recognized standards organization. All these bodies form

## NIST Notify U.S. Service

Member countries of the World Trade Organization (WTO) are required under the Agreement on Technical Barriers to Trade (TBT Agreement) to report to the WTO all proposed technical regulations that could affect trade with other member countries. Notify U.S. is a free, web-based e-mail subscription service that offers an opportunity to review and comment on proposed foreign technical regulations that can affect your access to international markets. Register online at Internet URL: <https://tsapps.nist.gov/notifyus/data/index/index.cfm>

## Conformity Assessment

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Conformity assessment includes all activities needed to demonstrate compliance with specified requirements relating to a technical regulation or voluntary standard. In Brazil, the conformity assessment system follows ISO guidelines. Conformity assessment includes test and calibration laboratories, product certification bodies, accreditation bodies, inspection and verification units, quality system registrars, and others.

Conformity assessment can be voluntary or mandatory (done through a legal instrument to protect the consumer on issues related to life, health and environment). Interested U.S. parties can be accredited by INMETRO to perform conformity assessment activities.

## Product Certification

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### Mandatory Testing and Mandatory Product Certification

For regulated products, the relevant government agency generally requires that entities engaged in product testing and mandatory certification be accredited by INMETRO.



Generally, testing must be performed in-country, unless the necessary capability does not exist in Brazil.

INMETRO is a signatory to the mutual recognition arrangement (MRA) of the International Laboratory Accreditation Cooperation (ILAC), which can facilitate acceptance of test results from U.S. laboratories that are accredited by U.S. organizations who are also signatories. For a complete list of MRAs to which INMETRO belongs, visit the following website:

<http://www.inmetro.gov.br/english/international/mutual.asp>.

A complete list of products subject to mandatory certification can be found at: <http://www.inmetro.gov.br/qualidade/prodCompulsorios.asp>

### **Non-Mandatory Testing and Product Certification**

There is no legal mandate as of yet to retest non-regulated products that have been approved in their country of origin. For non-regulated products, some U.S. marks and product certification may be accepted. As with all voluntary standards, any certification that may be required in non-regulated sectors is a contractual matter to be decided between buyer and seller. Market forces and preferences often lead to the need for a specific certification.

To facilitate U.S. product acceptance in Brazil by recognizing existing certifications, agreements between U.S. and local certifiers/testing houses are encouraged. Also, there is no impediment for the establishment of U.S. certification organizations in Brazil.

If your product has been certified in the U.S. or Europe, it probably will not need to be re-certified (see MRA above). If your product is not certified, please refer to the mandatory product certification link:

<http://www.inmetro.gov.br/qualidade/prodCompulsorios.asp>

A list of certified products (both mandatory and voluntary) in Brazil is available at the following website:

<http://www.inmetro.gov.br/prodcert/Produtos/busca.asp>.

### **Accreditation**

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The General Coordination for Accreditation (CGCRE) of INMETRO is responsible for accrediting certification bodies, quality system registrars, inspection bodies, product verification and training bodies, as well as testing and calibration laboratories. Information about accreditation requirements and currently accredited bodies is available at: <http://www.inmetro.gov.br/credenciamento/index.asp>.

### **Publication of Technical Regulations**

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INMETRO and CONMETRO use their websites to dispense updates to technical regulations – please reference Contacts section below for site address.

### **Labeling and Marking**

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The Brazilian Customer Protection code, in effect since September 12, 1990, requires that product labels provide consumers with correct, clear, precise, and easily readable

information about the product's quality, quantity, composition, price, guarantee, shelf life, origin, and risks to the consumer's health and safety. Imported products should bear a Portuguese translation, and all products should use the official metric units or show a metric equivalent.

## Contacts

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Contacts of main Standards organizations can be found on the following web sites:

- National Institute of Metrology, Standardization and Industrial Quality – INMETRO <http://www.inmetro.gov.br/>
- National Council of Metrology, Standardization and Industrial Quality – CONMETRO <http://www.inmetro.gov.br/inmetro/conmetro.asp>
- National System of Metrology, Standardization and Industrial Quality – SINMETRO <http://www.inmetro.gov.br/inmetro/sinmetro.asp>

## Trade Agreements

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Brazil is a member of the Mercosur trading block, which has its own regional standards organization that issues and harmonizes standards. Technical committees write and recommend standards in selected areas. Each country must ratify the standard before they are adopted in that country. A number of standards have already been adopted as Mercosur standards. Adopted and proposed Mercosur standards are listed on Mercosur's

website: <http://www.amn.org.br>. The Executive Secretariat of the Mercosur Standards Organization is located in São Paulo, Brazil.

## Web Resources

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- Brazilian country guide with useful customs and standards information [http://www.fedex.com/us/international/irc/profiles/irc\\_br\\_profile.html?gtmcc=us](http://www.fedex.com/us/international/irc/profiles/irc_br_profile.html?gtmcc=us)
- List and description of mutual recognition agreements between Brazil and USA: <http://www.inmetro.gov.br/english/international/mutual.asp>
- For technical regulations of international markets: <https://tsapps.nist.gov/notifyus/data/index/index.cfm>
- Brazil's most relevant gazette, Folha de São Paulo: <http://www.uol.com.br/fsp>
- Brazilian Foreign Trade Integrated System: <http://www.receita.fazenda.gov.br/aduana/siscomex/siscomex.htm>
- Information about Mercosur Common Nomenclature: <http://www.braziltradenet.gov.br/>
- Brazilian Chamber of Trade: <http://www.mdic.gov.br/sitio/interna/interna.php?area=1&menu=434>
- USA export control information: <http://www.bis.doc.gov/>
- Brazilian IPI and other tax rates: <http://sijut.fazenda.gov.br/netahtml/sijut/Pesquisa.htm>
- Brazilian Common External tariffs: <http://www.desenvolvimento.gov.br/sitio/interna/interna.php?area=5&menu=1848>

## Chapter 8: Business Travel

- [Business Customs](#)
- [Travel Advisory](#)
- [Visa Requirements](#)
- [Telecommunications](#)
- [Transportation](#)
- [Language](#)
- [Health](#)
- [Local Time, Business Hours and Holidays](#)
- [Temporary Entry of Materials and Personal Belongings](#)
- [Web Resources](#)

### Business Customs

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Business visitors should become accustomed to several business conditions specific to Brazil. Compared to the United States, the pace of negotiations is slower and is based much more on personal contact. It is rare for important business deals to be concluded by telephone or letter. Many Brazilian executives do not react favorably to quick and infrequent visits by foreign sales representatives, or to changes in the negotiating team. They prefer a more continuous working relationship. The Brazilian buyer is also concerned with after-sales service provided by the exporter.

The Brazilian approach to time is very flexible, with scheduled meetings often starting late and/or running later than expected. Prepare your agenda in order to accommodate these possible changes. Persistent traffic issues, especially in São Paulo, means that sufficient time should be scheduled for transportation as well. It is advisable to be punctual, and to not show signs of frustration or impatience with delays.

During a first visit to a company it is customary to give a gift, usually promotional items without great material value. Expensive gifts can be misunderstood as bribes and are not welcome. Be aware that business dress is often formal and conservative, in spite of the apparent informality while conducting business.

Personal space standards in Brazil are different than those in the United States, so one should not be surprised if a local contact is standing very close while speaking, pats one on the shoulder or even hugs. In spite of the difference in personal space, it is better to act more formal rather than less during an initial meeting. Also, communication in Brazil happens in an overlapped manner, with people interrupting each other constantly – that is a sign of interest on the subject, not of disrespect.

### Travel Advisory

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**ALL U.S. CITIZENS TRAVELING TO BRAZIL REQUIRE A VISA. PLEASE REFER TO THE BRAZILIAN EMBASSY IN WASHINGTON, DC FOR MORE INFORMATION:**

<http://www.brasilemb.org/>

U.S. Department of State travel advisory on Brazil:

[http://travel.state.gov/travel/cis\\_pa\\_tw/cis/cis\\_1072.html](http://travel.state.gov/travel/cis_pa_tw/cis/cis_1072.html)

## Visa Requirements

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***A passport and visa are required for U.S. citizens traveling to Brazil for any purpose.*** There are no "airport visas," and immigration authorities will refuse entry to Brazil to anyone not possessing a valid visa.

All Brazilian visas, regardless of the length of validity, must initially be used within 90 days of the issuance date or will no longer be valid. The U.S. Government cannot assist travelers who arrive in Brazil without proper documentation.

Minors (under 18) traveling alone, with one parent or with a third party, must present written authorization by the absent parent(s) or legal guardian specifically granting permission to travel alone, with one parent, or with a third party. The authorization (in Portuguese) must be notarized and then authenticated by the Brazilian Embassy or Consulate.

For current entry and customs requirements for Brazil, travelers may contact the Brazilian Embassy at <http://www.brasilemb.org/>.

Travelers may also contact the Brazilian consulates in Boston, Houston, Atlanta, Miami, New York, Chicago, Los Angeles, or San Francisco. Addresses, phone numbers, web and e-mail addresses, and jurisdictions of these consulates may be found at: <http://www.consbrasdc.org/>.

U.S. Companies that require travel for foreign employees to the United States can use following information resources:

- State Department Visa Website: [http://www.travel.state.gov/visa/visa\\_1750.html](http://www.travel.state.gov/visa/visa_1750.html)
- United States Visas.gov: <http://www.unitedstatesvisa.com/>
- U.S. Embassy in Brazil: [U.S. Embassy in Brazil](#)

## Telecommunications

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Telecommunications standards in Brazil are good. Internet can easily be found in major hotels as well as Internet cafes. Within metropolitan areas the phone system is reliable and most people use cell phones.

## Transportation

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Brazil has numerous international and domestic airports. The country's size will likely require U.S. business people to fly domestically within Brazil. The country's taxi system runs very well, though U.S. citizens are recommended to not simply hail them on the street but rather meet one at a taxi stand or ask the restaurant, hotel or other establishment to call one. Public transportation is available, though in major metropolitan areas it can often be unsafe.

## Language

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Portuguese is Brazil's official language. Levels of English vary among Brazilian business persons. It is usually a good idea to have a translator accompany you on meetings and business calls. Correspondence and product literature should be in Portuguese, and English is preferred as a substitute over Spanish. Specifications and other technical data should be in the metric system.

## Health

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Crime rates throughout Brazil are high with even higher rates in larger cities. The incidence of crime against tourists is greater in areas surrounding beaches, hotels, discotheques, bars, nightclubs, and other similar establishments that cater to visitors and is especially prevalent during Carnival (Brazilian Mardi Gras). Occasionally, crime against tourists has been violent and has led to some deaths. While the risk is greater at dusk and during evening hours, street crime can occur any time; areas considered "safer" are not immune. Incidents of theft on city buses are frequent, and such transportation should be avoided. Several Brazilian cities have established specialized tourist police units to patrol areas frequented by tourists.

"Express kidnappings," where victims are abducted and forced to withdraw money from ATMs, occur often enough to warrant caution. At airports, hotel lobbies, bus stations and other public places there is much pick-pocketing, and the theft of carry-on luggage, briefcases, and laptop computers is common (including some reports of thefts on internal flights). Travelers should "dress down" when outside and avoid carrying valuables or wearing jewelry or expensive watches. "Good Samaritan" scams are common. If a tourist looks lost or seems to be having trouble communicating, they may be victimized by a seemingly innocent and helpful bystander. Care should be taken at and around banks and internationally connected automatic teller machines that take U.S. credit or debit cards. Poor neighborhoods known as "favelas" are found throughout Brazil. These areas are sites of criminal activity and are often not patrolled by police. U.S. citizens are advised to avoid these unsafe areas.

While the ability of Brazilian police to help recover stolen property is limited, it is nevertheless strongly advised to obtain a "boletim de ocorrencia" (police report) at a "delegacia" (police station) whenever any possessions are lost or stolen. This will facilitate the traveler's exit from Brazil and insurance claims.

Yellow fever vaccination is recommended if the travelers' destination in Brazil includes any of the following States: Acre, Amazonas, Amapá, Federal District (Brasília), Goiás, Maranhão, Mato Grosso, Mato Grosso do Sul, Pará, Rondônia, Roraima and Tocantins.

A polio vaccination certificate is mandatory at the port of entry in Brazil for children between the ages of 3 months and 6 years.

## Local Time, Business Hours, and Holidays

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Brazil observes daylight savings from October to February. When daylight savings is in effect in the United States, i.e. March to November, Brazilian time is one hour ahead of Eastern Daylight Time. When daylight savings is in effect in Brazil, i.e. October to February, Brazilian time is three hours ahead of Eastern Standard Time. While office

hours in Brazil are generally 8 am - 6 pm, decision-makers begin work later in the morning and stay later in the evening. The best times for calls on a Brazilian executive are between 10 am - noon, and 3 - 5 pm, although this is less the case for São Paulo where appointments are common throughout most of the day. Lunch is often two hours.

### Temporary Entry of Materials and Personal Belongings

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Since 2000, the Government of Brazil has made an allowance for temporary importation of products that are used for a predetermined time period and then re-exported. The U.S. Commercial Service has seen a number of delays in regards to temporary imports, and continues to work through the "U.S. – Brazil Commercial Dialogue" to counter these problems. The Brazilian Government is studying the adoption of the ATA Carnet, an international customs document that allows importers to temporarily import goods up to one year without payment of normally applicable duties and taxes, including value-added taxes. The adoption of the ATA Carnet in Brazil would have a huge impact on customs clearance for U.S. trade show exhibitors that currently face extreme difficulties and delays in getting these temporary imports into Brazil, often writing off the imports as a complete loss. The ATA Carnet study is at the Ministry of Foreign Affairs, MRE, for revision before it is sent to congress for approval.

Under Brazil's temporary import program, the II and IPI are used to determine the temporary import tax. Products must be used in the manufacture of other goods and involve payment of rental or lease fee from the local importer to the international exporter. There are very strict rules regarding the entry of used merchandise into Brazil. Used items are not allowed in the country with very few exceptions. An example of products falling under this program would be the temporary importation of machine tools. The example below shows that taxes due are proportional to the time frame the imported product will remain in Brazil.

#### Permanent and Temporary Tax Example

CIF Price of Machine Tool	\$200,000
II of 10% on CIF	\$20,000
IPI of 5% x (CIF plus II)	\$11,000
<b>Taxes that would be owed if importation were permanent</b>	<b>\$31,000</b>
Total life span of machine tool	60 months
Time machine tool will stay in Brazil	12 months
<b>Tax for temporary importation</b>	<b>\$6,200</b>
Value=31,000 x [1-(60-12)/60]	
(20% of tax is owed as tool will stay in Brazil 1/5 of its useful life)	

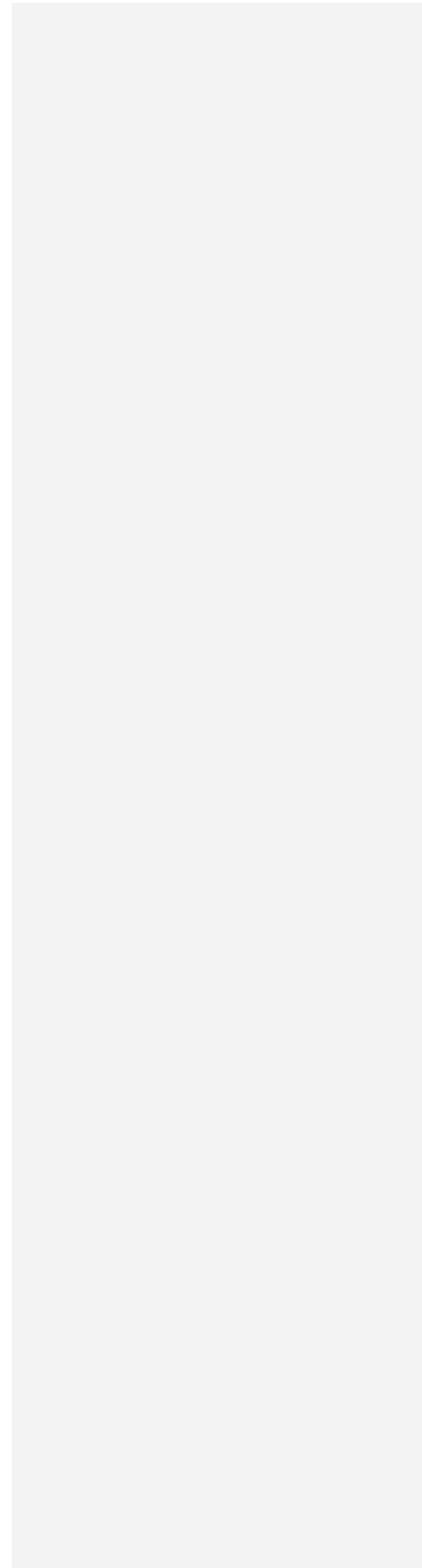
### Web Resources

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- CIA Fact Book:  
<https://www.cia.gov/library/publications/the-world-factbook/geos/br.html>
- Brazilian Embassy:  
<http://www.brasilemb.org/>

- U.S. Embassy in Brazil:  
<http://brasilia.usembassy.gov/>
- U.S. Department of State travel advisory on Brazil:  
[http://travel.state.gov/travel/cis\\_pa\\_tw/cis/cis\\_1072.html](http://travel.state.gov/travel/cis_pa_tw/cis/cis_1072.html)
- More on Brazilian Business Culture  
<http://www.worldbusinessculture.com/Brazilian-Business-Style.html>
- State Department Visa Website:  
[http://travel.state.gov/visa/visa\\_1750.html](http://travel.state.gov/visa/visa_1750.html)

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## Chapter 9: Contacts, Market Research, and Trade Events

- [Contacts](#)
- [Market Research](#)
- [Trade Events](#)

### Contacts

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#### U.S. Commercial Service Brazil

Deputy Senior Commercial Officer: Scott Shaw ([Scott.Shaw@trade.gov](mailto:Scott.Shaw@trade.gov)) Phone: 011-55-11-5186-7191; Fax: 011-55-11-5186-7343 Rua Thomas Deloney, 381 Chacara Santo Antonio 04710-041 São Paulo, SP

#### *U.S. Commercial Service Belo Horizonte*

Commercial Assistant: Robert Pohl ([Robert.Pohl@trade.gov](mailto:Robert.Pohl@trade.gov)) Ph: 011-55-31-3213-1571; Fax: 011-55-31-3213-1575 Rua Timbiras, 1200, 7º andar 30140-060 Belo Horizonte, MG

#### *U.S. Commercial Service Brasília*

Daniele Andrews ([Daniele.Andrews@trade.gov](mailto:Daniele.Andrews@trade.gov)) Ph: 011-55-61-3312-7458; Fax: 011-55-61-3312-7656 SES - Av. das Nações, Quadra 801, Lote 03 70403-900 Brasília, DF

#### *U.S. Commercial Service Rio de Janeiro*

Principal Commercial Officer: Alan Long ([Alan.Long@trade.gov](mailto:Alan.Long@trade.gov)) Ph: 011-55-21-3823-2000; Fax: 011-55-21-3823-2424 Av. Presidente Wilson, 147, 4º Andar 20030-020 Rio de Janeiro, RJ

#### *U.S. Commercial Service Recife*

Commercial Specialist: Adierson Azevedo ([Adierson.Azevedo@trade.gov](mailto:Adierson.Azevedo@trade.gov)) Ph: 011-81-3416-3075; Fax: 011-55-81-3231-1906 Rua Gonçalves Maia, 163 - Boa Vista 50070-060 Recife, PE

#### *U.S. Commercial Service São Paulo*

Commercial Officer: Sean Kelley ([Sean.Kelley@trade.gov](mailto:Sean.Kelley@trade.gov)) Ph: 011-55-11-5186-7429; Fax: 011-55-11-5186-7445 Rua Thomas Deloney, 381 Chacara Santo Antonio 04710-041 São Paulo, SP

### Market Research

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To view market research reports produced by the U.S. Commercial Service please go to the following website: <http://www.export.gov/mrktresearch/index.asp> and click on Country and Industry Market Reports.

Please note that these reports are only available to U.S. citizens and U.S. companies. Registration to the site is required, but free of charge.



## Trade Events

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Please click on the link below for information on upcoming trade events.  
<http://www.export.gov/tradeevents>

You can also access information on trade events specific to Brazil at  
<http://www.buyusa.gov/brazil>, under “Upcoming Events” on the left hand menu.

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## Chapter 10: Guide to Our Services

The U.S. Commercial Service offers customized solutions to help your business enter and succeed in markets worldwide. Our global network of trade specialists will work one-on-one with you through every step of the exporting process, helping you to:

- Target the best markets with our world-class research
- Promote your products and services to qualified buyers
- Meet the best distributors and agents for your products and services
- Overcome potential challenges or trade barriers

For more information on the services the U.S. Commercial Service offers U.S. businesses, please click on the link below.

<http://www.focusbrazil.org.br/siteUSA/index.htm>

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U.S. exporters seeking general export information/assistance or country-specific commercial information should consult with their nearest **Export Assistance Center** or the **U.S. Department of Commerce's Trade Information Center** at **(800) USA-TRADE**, or go to the following website: <http://www.export.gov>

To the best of our knowledge, the information contained in this report is accurate as of the date published. However, **The Department of Commerce** does not take responsibility for actions readers may take based on the information contained herein. Readers should always conduct their own due diligence before entering into business ventures or other commercial arrangements. **The Department of Commerce** can assist companies in these endeavors.



## **RECENT WORLD BANK-FUNDED PROJECTS**

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

Report No.: AB4977

<b>Project Name</b>	São Paulo Trains and Signaling Additional Financing
<b>Region</b>	LATIN AMERICA AND CARIBBEAN
<b>Sector</b>	General transportation sector (100%)
<b>Project ID</b>	P117122
<b>Original Project Name:</b>	BR São Paulo Trains and Signaling
<b>Original Project ID:</b>	P106038
<b>Borrower(s)</b>	STATE OF SÃO PAULO, BRAZIL
<b>Implementing Agency</b>	Companhia Paulista de Trens Metropolitanos Rua Boavista, 185-2 Andar - Bl. A 01014-001 Centro São Paulo - SP Brazil Tel: (55-11) 3101-7141 eduardo.graziano@cptm.sp.gov.br
	Companhia Paulista de Trens Metropolitanos Rua Boavista, 185-2 Andar - Bl. A Centro-Sao Paulo-SP Brazil 01014-001 Tel: (55-11) 3101-7141 eduardo.graziano@cptm.sp.gov.br
<b>Environment Category</b>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input type="checkbox"/> TBD (to be determined)
<b>Date PID Prepared</b>	August 5, 2009
<b>Estimated Date of Appraisal Authorization</b>	October 7, 2009
<b>Estimated Date of Board Approval</b>	January 28, 2010

1. Key development issues and rationale for Bank involvement

The Board approved the ongoing loan for the São Paulo Trains and Signaling Project for US\$550 million on May 1, 2008 and the Project became effective on July 28, 2008. The Borrower, the State of São Paulo, has requested from the Bank additional financing for about 75% of the estimated purchase cost of at least nine additional trains for the CPTM (*Companhia Paulista de Trens Metropolitanos*) system made up of 6 suburban rail lines extending 261 km in the São Paulo Metropolitan Region (SPMR). The rail-based public transport system of SPRM has experienced significant growth in ridership in the past few years as a result of investments and improvements in service, particularly since the introduction of the *Bilhete Único* and intermodal tariff integration. Therefore, the additional financing is requested to scale-up activities that enhance the development impact of a well-performing project.

The CPTM Line 11 (also known as the Coral Line and formerly known as Line E in the original project) serves the Eastern part of the City of São Paulo, where a large portion of the low-

income residents live, and the center of the city, where many jobs, commerce and other services are located. Line 11 has been operating with extremely crowded trains in the peak hours and has seen significant growth in the number of passengers transported in part because of improved travel times from Luz station to Guaianazes station after the introduction of the *Expresso Leste* service. CPTM expects to increase the daily ridership on its Line 11 further from 347,000 (in November 2008) to 560,000 by 2011 by modernizing the line and extending the *Expresso Leste* service further east to the station at Suzano, but it urgently requires additional trains with compatible communications equipment to increase the service frequency and provide additional carrying capacity in the peak hours. The expected growth in ridership (attracting trips from more polluting road-based modes), the advanced train technology (including regenerative braking), and other planned actions also provide an opportunity to develop the first Climate Change strategy and action plan for CPTM.

## 2. Proposed objective(s)

There were no changes to the original Project Development Objectives, which will remain the same for the additional financing requested by the Borrower. The PDO for the additional financing is to improve the level-of-service provided to the urban rail transport users in the São Paulo Metropolitan Region in a safe and cost-efficient manner by increasing the peak-hour and off-peak carrying capacity of Line 11-Coral (previously known as Line E) of the CPTM system.

## 3. Preliminary description

The proposed components and costs for the additional financing project are listed below:

- a. **Trains and Equipment:** to acquire at least (9) nine (Electrical Multiple Units-EMUs) of eight cars each and accessories for CPTM to increase the level of service on Line 11. This component accounts for about US\$110 million or 98% of the loan.
- b. **Management and Studies:** to manage and supervise the manufacturing and implementation of the new trains, and to help prepare a Climate Change strategy and action plan for CPTM. This component accounts for US\$2.9 million or about 2% of the loan.

## 4. Safeguard policies that might apply

The additional loan will trigger the same safeguard polity as the original loan (OP/BP 4.01) and will maintain the same environmental category, which is Category B. The existing safeguards framework is adequate for the additional activities as the proposed project will have no significant negative social or environment impact. During the preparation of the original loan, the Bank reviewed all environmental and social documentation, including CPTM's environmental management system and policies to reduce and mitigate environmental impacts at train maintenance and other facilities. They were found to be satisfactory and will continue to be strengthened during project implementation.

The proposed project will not cause any dislocation or involuntary resettlement. The project will have a positive impact on the quality of life of the population who use the rail-based system by providing increased availability of services. It is also expected to attract current and potential

users from more polluting road-based modes (i.e., cars and inefficient bus operations) to rail, thereby reducing local and global emissions through a reduction in of vehicle-kilometers.

The proposed project is being implemented in conjunction with a CPTM infrastructure modernization program (not financed by the Bank) including upgrades to installations (i.e., stations, systems, and platforms) within the existing rights-of-way of Line 11. The civil works will be minor and will not require any dislocation or resettlement of the population. CPTM already holds the preliminary environmental licenses for the modernization program, and has applied for the installation license for the planned works on Line 11.

#### 5. Tentative financing

Source:		(\$m.)
Borrower		48.5
International Bank for Reconstruction and Development		112.9
	Total	161.4

#### 6. Contact point

Contact: Jorge M. Rebelo

Title: Lead Transport Specialist

Tel: (202) 473-9323

Fax: (202) 676-9594

Email: [Jrebelo@worldbank.org](mailto:Jrebelo@worldbank.org)

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

Report No.: AB5253

<b>Project Name</b>	Sao Paulo Metro Line 5 Project
<b>Region</b>	LATIN AMERICA AND CARIBBEAN
<b>Sector</b>	General Transportation sector (100%)
<b>Project ID</b>	P116170
<b>Borrower(s)</b>	STATE OF SAO PAULO
	State of Sao Paulo Rua Boa Vista, 175 - 10th floor 01014-001 Sao Paulo - SP Brazil Tel: 55-11-3291-2231 Fax: 55-11-3291-2110 amorim.alberto@stmexecutivo.sp.gov.br
<b>Implementing Agency</b>	Companhia do Metropolitano de Sao Paulo
	Rua Boa Vista 175, Bloco B, 6th floor 01014-001 Sao Paulo - SP Brazil Tel: (55-11) 3291-5494 Fax: (55-11) 3291-2890 egranado@metrosp.com.br
<b>Environment Category</b>	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input type="checkbox"/> TBD (to be determined)
<b>Date PID Prepared</b>	November 24, 2009
<b>Date of Appraisal Authorization</b>	December 15, 2009
<b>Date of Board Approval</b>	April 15, 2010

1. Country and Sector Background

Despite an impressive effort in the last 6 years by the State of São Paulo to improve urban transport in the São Paulo Metropolitan Region (SPMR), its subway network is still comparatively small for one of the largest metropolitan areas in the world (18 million inhabitants, including 11 million in the Municipality of São Paulo) and the most important economic region of Brazil. Passenger density per kilometer of line is one of the highest in the world, particularly at peak-hours due to the small extension of the network and its limited coverage. To further improve mobility in the SPMR, the State decided to prioritize the implementation of key missing links of the subway network in its Urban Transport Master Plan (PITU) to better integrate the existing commuter rail and bus network with the subway. Line 5, which began construction in 1994 and has been in operations since 2002, is currently only half completed from Capão Redondo to Largo Treze. A map of the system and project alignment is provided in the Annex. The State has realized that, in order for Line 5 to have a significant impact on the SPMR, it needs to extend this line as originally planned from Largo Treze to Chácara Klabin, thereby linking the very busy Santo Amaro area to the expanded city center. With this link operational, Line 5 will greatly enhance accessibility of important employment areas as well as health and education facilities to a very large population

whom at present only have access to road-based transportation modes. The proposed Project, an 11.7 km underground extension of Line 5, is therefore a priority undertaking for the State.

SPMR has worked steadily towards improving the four pillars of its long-term strategy, namely: (1) regional coordination, (2) an integrated urban transport, land use and air quality strategy, (3) financing mechanisms, and (4) the progressive participation of the private sector in operations and construction. In the last 6 years, the strong alliance between the State and the Municipality of São Paulo has produced significant improvements in terms of tariff and modal integration and infrastructure investment coordination. The key issues to be addressed by the project are: a) Institutional: mainly the continued strengthening of the regional coordination arrangements; b) Improvements in quality of life of users: to be achieved through gains in accessibility, availability, acceptability and affordability of public transport services, particularly for low-income segments of the population served by Line 5; c) Local and global emissions in the corridor: fostering rail-based travel by increasing the number of transfer nodes in the Metro network will increase modal integration, increase ridership, and decrease the length of trips by more polluting road-based modes. Initial studies estimate a total reduction in travel time of roughly 30 million hours per year (65% on home-to-work trips). The completion of Line 5 is also expected to reduce the number of vehicle-km by road-based modes, particularly buses, which will shorten their itineraries by feeding the Metro stations. This reduction in vehicle-km and a decrease in the level of congestion on affected roads are expected to reduce the emissions of local pollutants and greenhouse gases relative to a future scenario without the project; and d) Cost recovery: the need for Metro to maintain a working ratio equal or less than one through a combination of good financial management and by setting tariffs which, when added to subsidies, will cover at least its long-run marginal costs.

## 2. Objectives

Project development objective (PDO): *To improve the mobility of public transport users in the Capão Redondo-Largo Treze-Chácara Klabin corridor in a cost-efficient and environmentally-friendly manner.* The Bank will finance, however, only a portion of the overall project, related to the provision of trains and signaling equipment.

## 3. Rationale for Bank Involvement

The Bank's strategy in Brazil is to support policies and investments that will encourage economic growth and social development in a context of macroeconomic stability. The 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) for 2008-2011 presented to the Board in May 2008 (Report 42677-BR). This CPS will continue to support the same four main pillars namely equity, sustainability, competitiveness and sound macro-economic management endorsed in the previous country strategy. The proposed project objectives are in line with the Bank's Transport Sector 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 of the metro 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 State has adopted a strategy aimed at improving metropolitan coordination, 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 Bank-financed urban transport projects even in times of budget restrictions.

4. Description

**Part A: Infrastructure and Equipment** to finance the acquisition and/or installation of (a) at least 26 new trainsets of 6 cars each and accessories to operate on Line 5, estimated to cost US\$494 million;(b) Communication based train control signaling (CBTC) for all of Line 5, estimated to cost US\$85.5 million; and (c) platform screen doors for all stations of Line 5 estimated to cost US\$41.1 million. This component represents about 96% of the proposed loan.

**Part B: Technical Assistance and Institutional Development** to finance consulting services for (i) supervision of the manufacturing and delivery of new trains acquired under Part A; (ii) supervision of the supply and installation of CBTC systems, and (iii) studies to support the development of Metro’s climate change strategy and assess the impact of Line 5 on greenhouse gas emissions. This component amounts to US\$27.5 million and represents 4% of the proposed loan.

5. Financing

Source:	(\$m.)
Borrower	1385.2
International Bank for Reconstruction and Development	650.4
Inter-American Development Bank	481.0
Total	2516.6

6. Implementation

The project will be implemented by São Paulo Metro on behalf of the Borrower (the State of São Paulo). The State will have a Project Coordination Unit and Metro will have a Project Management Unit as it was done in the Line 4 project.

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 BUI, which benefits primarily the low-income segments of the population. The State has demonstrated its ownership of the project and support to the sector in the last 8 years by giving priority to investments in this area.

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

- a) The service order for civil works should only be signed once there is a firm date for expropriations and physical relocation of people and businesses to be completed to avoid paying penalties for delays. 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.
- b) 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.
  - c) Tunneling and construction of 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.
  - d) Environmental impacts of the construction must be monitored very carefully, particularly those impacting the surrounding housing and buildings. The project management and civil works supervision team must monitor these impacts carefully as done in Line 4.
  - e) 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.
  - f) 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.
  - g) The tariff levels should allow for significant cost recovery of working costs and must be complemented by financing mechanisms which cover the shortfall.
  - h) Demand forecasts include inherent uncertainty and therefore should be carefully scrutinized in the economic and sensitivity analyses.
  - i) Availability of counterpart funds and of fiscal space for the project must be assured to avoid costly construction delays.

#### 9. Safeguard Policies (including public consultation)

The proposed Metro Line 5 extension Project has received an Environmental Category “A” rating in accordance with OP 4.01 (Environmental Assessment), as was the case with Line 4 Project. The Environmental Assessment and Environmental Management Plan were prepared and submitted to the Infoshop for disclosure on November 25, 2009. An Executive Summary of the Environmental Assessment was submitted prior to appraisal to the Board on December 15, 2009. Independent environmental consultants prepared an Environmental Assessment Report (*EIA-RIMA*) that was reviewed by the relevant State environmental agencies (*Secretaria do Meio Ambiente* and *CETESB*) and is expected to receive a “preliminary license” (*Licença Prévia*) in December 2009. The Bank reviewed and disclosed the full set of environmental documentation prepared by Metro consultants. It was found to be satisfactory and the Bank will supervise the proper implementation of the proposed actions by Metro.

In view of demolition of existing structures and their spraying to avoid infestation the Pest Management ([OP 4.09](#)) policy was also triggered. The civil works for the proposed Line 5 project will be financed and executed by the Borrower (State of São Paulo) and will involve expropriation and resettlement triggering the involuntary resettlement policy (OP/BP4.12) and physical cultural resources policy (OP/BP 4.11). Based on currently available information, the total number of properties expropriated for the purpose of constructing Line 5 is 400. Of these, some 50 properties have already been expropriated as part of construction that already begun. The 50 properties previously expropriated (associated with the Pátio Guido Caloi, Estação Adolfo Pinheiro and Poço

Delmiro Sampaio segments) were acquired in anticipation of the proposed project and for the same project objectives, a follow-up study will be done to ensure that the affected parties were accorded benefits compatible with World Bank policy. Of the remaining 350 properties, there are 281 occupied properties, 39 vacant properties, and 30 open lots. In the 281 occupied properties, there are 135 occupied residences and 216 non-residential uses including businesses, industry, public agencies or NGOs (yielding a total of 351 occupancies). It is important to note that there may be multiple occupancies in some properties (such as two residences or businesses in the same property). Sixteen families have tentatively been identified as “vulnerable.” The various companies and businesses operating in the affected buildings employ approximately 5,600 people. These persons would also be affected by the relocation of their place of employment.

Metro has presented the proposed Project in several public meetings, most recently on August 6, 2008 and May 7, 2009 as open hearings in general area of the proposed Project. The main comments received during the last public meeting related to (i) improving the timing and form of communications with the project affected people, (ii) the criteria used to select the project alignment and design, and (iii) potential impacts on local and cultural resources of concern to the community.

<b>Safeguard Policies Triggered by the Project</b>	<b>Yes</b>	<b>No</b>
<a href="#">Environmental Assessment (OP/BP 4.01)</a>	[x]	[ ]
Natural Habitats ( <a href="#">OP/BP 4.04</a> )	[ ]	[x]
Pest Management ( <a href="#">OP 4.09</a> )	[x]	[ ]
Physical Cultural Resources ( <a href="#">OP/BP 4.11</a> )	[x]	[ ]
Involuntary Resettlement ( <a href="#">OP/BP 4.12</a> )	[x]	[x]
Indigenous Peoples ( <a href="#">OP/BP 4.10</a> )	[ ]	[x]
Forests ( <a href="#">OP/BP 4.36</a> )	[ ]	[x]
Safety of Dams ( <a href="#">OP/BP 4.37</a> )	[ ]	[x]
Projects in Disputed Areas ( <a href="#">OP/BP 7.60</a> )*	[ ]	[x]
Projects on International Waterways ( <a href="#">OP/BP 7.50</a> )	[ ]	[x]

#### 10. List of Factual Technical Documents

To be provided

#### 11. Contact point

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\* *By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas*

12. For more information contact:

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

Report No.: AB4056

<b>Project Name</b>	SÃO PAULO METRO LINE 4 (PHASE 2)
<b>Region</b>	LATIN AMERICA AND CARIBBEAN
<b>Sector</b>	General transportation sector (100%)
<b>Project ID</b>	P106390
<b>Borrower(s)</b>	STATE OF SAO PAULO
<b>Implementing Agency</b>	CPTM – Companhia Paulista de Trens Metropolitanos
<b>Environment Category</b>	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input type="checkbox"/> TBD (to be determined)
<b>Date PID Prepared</b>	September 10, 2008
<b>Estimated Date of Appraisal Authorization</b>	May, 2009
<b>Estimated Date of Board Approval</b>	July 7, 2009

1. Key development issues and rationale for Bank involvement

The São Paulo Metropolitan Region (SPMR), with 8000 sq. km, has 18 million inhabitants spread irregularly over 39 individual municipalities which are dominated by the São Paulo Municipality (SPM) with 11 million inhabitants. The SPMR generates roughly 20% of the GNP and is considered the most important economic region of the country. Each day, 39 million person trips take place in the SPMR of which 13 (33%)million are walking trips, 14 (37%) million by individual auto and the rest by public transport (23% by bus, 4.5% by metrorail and 2.5% by suburban rail). Of the 12 million trips by public modes, about one third use more than one vehicle, requiring some sort of modal transfer: 78% of all metro trips, 61% of all train trips and 16% of all bus trips require one or more transfers to be completed. This level of urban transport activity, dominated by the road-based motorized modes has significant impacts on the SPMR's environment (see below).

Despite an existing 315 km rail-based network (see annex 1 with info on São Paulo Metro and Suburban rail-CPTM), the lack of full integration between the metro and the suburban trains discourages more rail trips, in favor of buses and the automobile creating heavy congestion during peak hours thereby significantly increasing home-to-work trip time. The urban poor are the main users of public transport and bear the brunt of these problems: (i) shortage of capacity at peak hours resulting in overcrowded (>8 pass/m<sup>2</sup>) often inhuman conditions, (ii) long work journeys (2.5 hours/day) from the metropolitan periphery to the urban centers, with often more than two modal transfers; and (c) paying from 15-20% of their income towards fares if not formally employed. Lack of coordination between the 3 levels of government responsible for urban transport, particularly between the State (SSP) and the Municipality of São Paulo (SPM), led in the past to poor tariff and modal integration, lack of prioritization in urban transport investments and no common policy on pricing and subsidies. This lack of coordination hurt the SPMR for several years, but by the end of 2006, the State and the Municipality of São Paulo started to coordinate their transport policies and integrate the municipal buses with suburban rail and metro.

The recent introduction of the Bilhete-Único, an integrated tariff which allows a user to buy a single ticket which costs less than the sum of individual tickets and can be used in several modes within a certain period of time, was one of the major victories of the previous and present administration which benefited considerably the low-income segments of the population. But it also increased considerably (by 12% in one year) the demand on rail-based systems which therefore need to increase very quickly

the supply of trains at peak hour, so that this surge in demand is transported with a level-of-service that is acceptable and safe and with frequencies which reduce the waiting time at stations. Doing so will also attract more users from road to rail with positive impact on the environment and on containing or reducing congestion. Not doing so will discourage people from using the rail system and go back to road based systems, thereby increasing congestion. Having the additional stations in place will certainly shorten the itinerary of the buses which will feed those stations and will also increase the accessibility by foot and by car of the São Paulo inhabitants that live in the catchment areas of those stations.

The Line 4 Project is a priority undertaking within the Integrated Urban Transportation Plan (PITU) for the SPMR. The Project will (i) serve as a “bridge” between Metro’s Line 5 and CPTM’s West commuter line to the Metro network, (ii) interconnect with all three existing Metro lines to provide a grid flexibility to the Metro network which does not exist with the present radial configuration, and (iii) interconnect two CPTM commuter rail lines. At the end of the project, the whole metrorail network will be interconnected thereby facilitating access to most of the sectors of the SPMR.

**Key Development issues:** So, in short it can be stated that the key development issues continue to be: 1) Improvement of accessibility, availability, acceptability and affordability of public transport services particularly for the low-income segments of the population. These are the main factors to measure the quality of urban transport; and 2) increase in the number of transfer nodes in the Metro network to facilitate modal integration and therefore decrease the length of trips by road-based modes. The completion of Phase 2 stations is expected to reduce the number of vehicle-kms by road-based modes mainly buses which will shorten their itineraries by feeding the stations. This reduction in vehicle-kms will reduce also vehicle-emissions due to public transport.

**Rationale for Bank's 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 the efforts started with (see Table 1): a) the São Paulo Metropolitan Transport Decentralization Project (Ln. 3457-BR), which succeeded in the decentralization and modernization of the federally-owned CBTU to the State and laid the foundations for metropolitan coordination and a long-term strategy; b) the Barra Funda-Roosevelt Project which allowed the physical interconnection of the ex-CBTU and ex-Fepasa (state owned) systems with the creation of CPTM and a considerable improvement in the Luz and Brás stations; c) the ongoing Phase 1 of São Paulo Metro Line 4 (due to be in operation in 2009) project which is going to increase the interconnection between the existing metro and suburban rail network and was the first PPP signed in the country; and d) 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.

## 2. Proposed objective(s)

The main objective of the Line 4 (Phase 2) project is to build and enter in operation five 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.

This objective will be met by (i) financing the civil works and equipment required to complete the existing shells prepared in Phase I for those stations and build a new station at Vila Sônia yard and its access 1.5 km tunnel (ii) financing the project management oversight consultant and supervision consultants required to oversee and manage the works.

The stated main objectives of the Line 4 project were : 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 Project Development Objectives will remain the same in the proposed Phase 2 loan.

## 3. Preliminary description

The project would comprise two components:

The project would comprise two components:

(a) **an Infrastructure and Equipment** component to help complete 4 stations (São Paulo-Morumbi, Fradique Coutinho, Oscar Freire and Higienópolis-Mackenzie) for Line 4 initiated in Phase 1, build one new station (Vila Sônia) and its access tunnel (1.5kms) and acquire and install the necessary equipment to operationalize those stations. This component represents 97% of the project costs; and (b) a **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. This component represents about 3% of the total project cost.

## 4. Safeguard policies that might apply

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 and as a prerequisite for the Add. 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 will require an addendum for the 1.5km tunnel and the new Vila Sônia station because they were not included in that EA. Metro has already applied for a “preliminary license”(Licença Prévia) for those two new structures. The original

resettlement plan included 11 commercial properties which were not expropriated in phase 1 at the request of the judge who would only allow their expropriation once phase 2 was officially authorized by the State. Now that the State has already authorized Phase 2, the expropriation process can be launched.

5. Tentative financing

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

6. Contact point

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

Report No.: AB4364

<b>Project Name</b>	Rio de Janeiro Mass Transit Project II
<b>Region</b>	LATIN AMERICA AND CARIBBEAN
<b>Sector</b>	General transportation sector (100%)
<b>Project ID</b>	P111996
<b>Borrower(s)</b>	STATE OF RIO DE JANEIRO, BRAZIL
	State of Rio de Janeiro RJ Brazil
<b>Implementing Agency</b>	CENTRAL - Cia. Estadual de Engenharia de Transportes e Logistica
	Av. Nossa Senhora de Copacabana, 493 Copacabana RJ Brazil 22.031-000 Tel: 55-21-3816-6458 Fax: 55-21-3816-6457
<b>Environment Category</b>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input type="checkbox"/> TBD (to be determined)
<b>Date PID Prepared</b>	December 1, 2008
<b>Date of Appraisal Authorization</b>	January 30, 2009
<b>Date of Board Approval</b>	July 14, 2009

1. Country and Sector Background

This project has its origins in two major developments at the Federal and State level: (a) the decentralization of the Rio de Janeiro Urban Trains from the Federal Government to the State of Rio de Janeiro which took place in December 1994 as part of an ongoing Bank loan (Ln.3633-BR); and the decision of the new State administration which took office in January 1995, to achieve a more effective integration of all modes in the Rio de Janeiro Metropolitan Region (RJMR), to reduce subsidies to urban transport agencies and to substantially increase the participation of the private sector in the operation and investment of the sector.

The Rio de Janeiro Metropolitan Region (RJMR), with 546,865 ha and 9.8 million inhabitants spread irregularly over 17 individual municipalities is dominated by the Rio de Janeiro Municipality (RJM) with 5.7 million inhabitants. The RJMR concentrates roughly 76% of RJ's population on just 15% of its territory. RJM alone has 56% of the population of the state and 77% of the income of RJMR. RJM generates roughly 85% of RJ's income and 4,500,000 jobs. Each day, 13 million person trips take place in the RJMR of which forty percent are home-to-work trips. Of the total trips 67% are by public transport, 11% are by auto, 20% are by foot and the remaining 2% by other modes. Of the public transport trips 77% are by bus (mostly private operators), 14.5% by auto (taxis, kombis), 4% by suburban train (SuperVia), 3% by subway (Metrô Rio), 1% by ferry (CONERJ) and 0.5% by other modes. Of the 8.7 million trips by public

modes, about half use more than one mode, requiring some sort of modal transfer: 37% of all Metrô trips, 47% of all train trips and 41% of all bus trips require one or more transfers to be completed. Since 1998, all urban transport modes are now operated by the private sector. Tariff Integration between municipal buses and metro, between metro and rail has progressed considerably and the government is now studying integrated multi-modal tariffs under the coordination of the metropolitan agency AMTU-RJ.

## 2. Objectives

The proposed development objective is to: a) improve the level-of-service provided to the urban (commuter) rail transport users in RJMR in a safe and cost-efficient manner and b) to continue the strengthening of the transport management and policy framework in the RJMR. These objectives will be met by: (i) financing rolling stock which is critical for increasing the peak-hour carrying capacity of the rail-based system; and (ii) designing urban transport strategies and actions to mitigate the impact of rising transport costs on the mobility of the poor by introduction of an integrated multimodal tariff.

## 3. Rationale for Bank Involvement

- a) The proposed project is in line with the Bank's overall Transport Strategy as well as the customized sectoral strategy for Brazil, in terms of: (i) improving public transport in urban areas as a means to improve access to jobs, education and health facilities; (ii) contributing to poverty alleviation; and (iii) improving financial performance of service providers through better cost recovery and reducing dependence on public subsidies.
- b) This project would represent a continuation of Bank support to the overall decentralization of urban transport systems from the Federal Government to selected states, as has been the case in São Paulo, Rio de Janeiro, Ceará and Bahia. More specifically, it is a logical sequence to a long-term engagement with the State to consolidate and expand its rail-based transport systems taking care of the important issues of inter-modal integration and sensible tariff policy to recover costs and meet social objectives.
- c) Finally, the project is a cornerstone of the Bank engagement strategy with Rio de Janeiro State. When the new Governor took office in January 2007, the Secretaries of Fazenda (i.e., Finance) and Planning were tasked to work with the economic team and sectoral secretariats to define a 4-year government investment plan and identify external borrowing needs. A \$0.5B lending program was carved out with the World Bank and consists of investment projects in urban transport, rural development and water resource management.

## 4. Description

- a) **Infrastructure and Equipment:** to acquire Thirty trains (Electrical Multiple Units-EMUs) of four cars each for SuperVia. This component accounts for about 97% of the total project cost.

- b) Institutional and Policy Development: to help in (i) consolidating the Regional Transport Coordination Commission (AMTU-RJ) for the RJMR; (ii) updating the integrated Transport Policy, Land Use and Air Quality Management strategy (PDTU) for the RJMR to meet both transport and air quality targets and to introduce sound cost-recovery, tariff, regulatory and subsidy policies; (iii) supporting the adoption of some type of Integrated Modal Tariffs through studies and technical assistance; and (iv) project management and supervision including acquisition and reception of the trains. This component represents about 3% of the total project cost.

## 5. Financing

Source:	(\$ m)
Borrower	9.3
International Bank for Reconstruction and Development	211.0
Total	220.3

## 6. Implementation

The Secretary of Transport of the State of Rio de Janeiro (SETRANS) is the main Government agency responsible for the project. CENTRAL is the implementation agency and reports to SETRANS. The Borrower is the State of Rio de Janeiro who will delegate the project implementation to CENTRAL. Project management will be located in CENTRAL through an established Project Management Implementation Group (PMIG) which will be in charge of the implementation of the project components. The PMIG will be headed by a Project Coordinator who would report directly to the Director in charge of the implementation of the project. The PMIG will be staffed with regular staff from CENTRAL and supported by project management and supervision consultants in charge of providing technical support in areas such as engineering, procurement, environment and financial management. CENTRAL has considerable experience with this PMIG unit, acquired in ongoing and/or previous Bank-financed projects. Project progress reports will be prepared by the PMIG on a semi-annual basis, consolidated in a single report and submitted to the Bank for review.

## 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; (iii) bus network optimization and control of informal vans; and (iv) maintenance and expansion of the Integrated Modal Tariffs (such as the Bilhete-Único Integrado) 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 even in times of fiscal restriction. 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 Integrated Modal Tariffs are 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

- a) The major lessons learned from previous projects in the urban transport sector are:
- ⌚ The São Paulo urban transport projects have shown that 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 levels forecast by the borrowers should be carefully scrutinized.
  - ⌚ As the Salvador urban transport project shows, the availability of counterpart funds and of fiscal space for the project must be assured to avoid costly construction delays.
  - ⌚ The lessons learned from the first Rio de Janeiro Mass Transit loan are that counterpart funds should be minimized and that the State should assign budget priority for the project even in times of fiscal restriction to avoid costly delays in the delivery of works and rolling stock. Also, that a combination of integrated modal tariffs and new, air conditioned rolling stock increase demand substantially. Furthermore, that strong action is needed to prevent illegal transport and to rationalize bus networks.
- b) 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, multimodal transport and climate change oriented projects. 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)

<b>Safeguard Policies Triggered by the Project</b>	Yes	No
<u>Environmental Assessment (OP/BP 4.01)</u>	[X]	[ ]
Natural Habitats (OP/BP 4.04)	[ ]	[X]
Pest Management (OP 4.09)	[X]	[ ]
Physical Cultural Resources (OP/BP 4.11)	[ ]	[X]
Involuntary Resettlement (OP/BP 4.12)	[ ]	[X]
Indigenous Peoples (OP/BP 4.10)	[ ]	[X]
Forests (OP/BP 4.36)	[ ]	[X]
Safety of Dams (OP/BP 4.37)	[ ]	[X]

Projects in Disputed Areas ( <a href="#">OP/BP 7.60</a> )*	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Projects on International Waterways ( <a href="#">OP/BP 7.50</a> )	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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## 10. List of Factual Technical Documents

- a) Federação das Empresas de Transportes de Passageiros do Estado do Rio de Janeiro. October 2008. “Apresentação sobre Integração na RMRJ”
- b) Secretaria Estadual de Transporte, 2005. PDTU-RMRJ, 2005. “Plano diretor de transporte urbano - região metropolitana do Rio de Janeiro”. Governo do Estado do Rio de Janeiro. Relatório de Maio de 2005.
- c) Secretaria Estadual de Transporte, 2008. “Estruturação do Corredor Expresso Metropolitano do Rio de Janeiro - Av. Brasil”. Governo do Estado do Rio de Janeiro. Apresentação de Outubro de 2008.
- d) Secretaria Estadual de Transporte, 2008. “SOLICITAÇÃO DE PROPOSTAS: Projeto de Estruturação do Corredor BRT Expresso Metropolitano do Rio de Janeiro. Brazil.
- e) SuperVia. October 2008. “Apresentação sobre a Supervia.” Brazil.
- f) SuperVia. October 2008. “Environmental Report.” Brazil.
- g) SuperVia. October 2008. “O Sistema Ferroviário no Contexto da Região Metropolitana do RJ”. Brazil.
- h) Supervia, August 2008. “Relatorio de Integração”.Brazil.
- i) World Bank. 29 October 2008. “Relatório do Estudo de Demanda e Viabilidade Econômica para a Aquisição de Novos Trens para a SuperVia.” By Bernardo G. Alvim. Consultant report.

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\* *By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas*

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

Report No.: AB4068

<b>Project Name</b>	Rio de Janeiro Mass Transit Project II
<b>Region</b>	LATIN AMERICA AND CARIBBEAN
<b>Sector</b>	General transportation sector (100%)
<b>Project ID</b>	P111996
<b>Borrower(s)</b>	STATE OF RIO DE JANEIRO, BRAZIL
<b>Implementing Agency</b>	CENTRAL - Cia. Estadual de Engenharia de Transportes e Logística Av. Nossa Senhora de Copacabana, 493 22.031-000 Copacabana Rio de Janeiro - RJ Brazil Tel: 55-21-3816-6458 Fax: 55-21-3816-6457
<b>Environment Category</b>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input type="checkbox"/> TBD (to be determined)
<b>Date PID Prepared</b>	October 7, 2008
<b>Estimated Date of Appraisal Authorization</b>	January 30, 2009
<b>Estimated Date of Board Approval</b>	July 14, 2009

1. Key development issues and rationale for Bank involvement

The key development issues are: 1) Improvement of accessibility, availability, acceptability and affordability of public transport services particularly for the low-income segments of the population. These are the main factors to measure the quality of urban transport; 2) consolidation of the metropolitan coordination between the State and municipalities of the RJMR; 3) reduction of congestion and road accidents and improvement in air quality by facilitating the switch from road-based public transport to rail-based modes; and 4) decreasing the burden on the State Treasury through consolidation of the state rail and metro administration and improved management of the portion of the rail network not included in the concession.

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 the efforts started with: a) the Rio de Janeiro Metropolitan Transport Decentralization Project (Ln. 3633-BR), which succeeded in the decentralization and modernization of the federally-owned CBTU to the State and laid the foundations for metropolitan coordination and a long-term strategy; b) the Rio de Janeiro Mass Transit project which financed the rehabilitation of 52 trains and acquisition of 20 new trains as well as the PDTU and supported the subway and suburban railway concessions. 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 (PDTU), 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 new State administration has shown commitment and has given priority to urban transport Bank-financed projects even in times of budget restrictions.

## 2. Proposed objective(s)

The proposed development objective is to: a) improve the level-of-service provided to the urban rail transport users in RJMR in a safe and cost-efficient manner by increasing the peak-hour and off-peak carrying capacity of the suburban rail system operated by SuperVia; and b) continue the strengthening of the transport management and policy framework in the RJMR.

These objectives will be met by: (i) financing rolling stock which is critical for increasing the peak-hour carrying capacity of the rail-based system; (ii) upgrading systems (signaling, telecom and electrical) to increase train frequencies to allow timely transfers between buses, suburban trains and the metro thereby facilitating the mobility of the low-income population and their access to employment areas; and (iii) designing urban transport strategies and actions to mitigate the impact of rising transport costs on the mobility of the poor by introduction of an integrated multimodal tariff.

## 3. Preliminary description

The project would comprise two components:

(a) **Infrastructure and Equipment** to acquire Thirty trains (Electrical Multiple Units-EMUs) of four cars each for SuperVia. This component accounts for about 97% of the total project cost. The train acquisition alone represents about 90% of the project total cost of R\$221 million. The financing of signaling, electrification and telecom systems and upgrading of existing transfer stations is the responsibility of SuperVia under a parallel program.

(b) **Institutional and Policy Development** to help in (i) consolidating the Regional Transport Coordination Commission (AMTU-RJ) for the RJMR ; (ii) updating the integrated Transport Policy, Land Use and Air Quality Management strategy (PDTU) for the RJMR to meet both transport and air quality targets and to introduce sound cost-recovery, tariff, regulatory and subsidy policies; (iii) support through studies and technical assistance the adoption of some type of “Bilhete-Único”; and (iv) project management and supervision including acquisition and reception of the trains. This component represents about 3% of the total project cost.

#### 4. Safeguard policies that might apply

There is no resettlement involved since there will be no construction of new buildings financed either by the loan or by SuperVia. As explained in the ISDS for the recently approved Additional Financing for the first Rio de Janeiro Mass Transit Project, the award of the concession to SuperVia was preceded by an environmental audit required by the State under model terms of reference provided by the Bank and undertaken by independent environmental consultants. On the basis of such report undertaken in the context of the Rio State Reform and Privatization project, the concessionaire (Supervia) agreed to undertake a plan to mitigate the impact of the disposal of residues (oil, grease, sewage), to disinfect the vegetation to prevent dengue, to educate the staff in adequate practices to prevent operations and shop accidents. The reports prepared by SuperVia are monitored by the project team through supervision consultants. .

#### 5. Tentative financing

Source:	(\$m.)
Borrower	0
International Bank for Reconstruction and Development	215
Total	215

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## **DELEGATE PRESENTATIONS**



Rodrigo Vilaça  
Executive Director of ANTF

United States, December 4, 2010

## RAIL FREIGHT TRANSPORTATION IN BRAZIL

*USTDA Technical Visit for Railway Technology*

[www.antf.org.br](http://www.antf.org.br)



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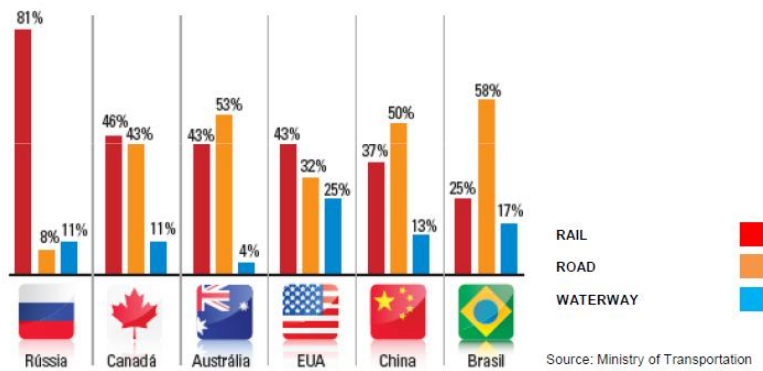
## RAILWAY FREIGHT TRANSPORTATION IN BRAZIL

- 1 Results of Railway Concessions
- 2 Railway Strategic Agenda
- 3 Final Considerations



## Freight Transportation Worldwide

Transportation matrix in the world



It is necessary to **expand the Brazilian Railway Mesh in an integrated way with the several modes of transportation**, considering all the regions of the Country.



## Freight Transportation in Brazil



**1,76 milhoes km de estradas,  
212 mil km pavimentados**

1.76 million km of highways  
212 thousand km paved



**29 mil km de  
ferrovias**

29 thousand km of railroads



**46 portos organizados  
e mais de 120  
terminais de uso  
privativo**

46 organized ports and more than 120  
terminals for private use

**Potencial de 50 mil  
km de hidrovias  
13,6 mil km em uso**

Potential of 50 thousand km of waterways  
13.6 thousand km in use



**31 aeroportos  
Públicos**

31 public airports



**19,2 mil km de  
dutos**

19.2 thousand km of pipelines

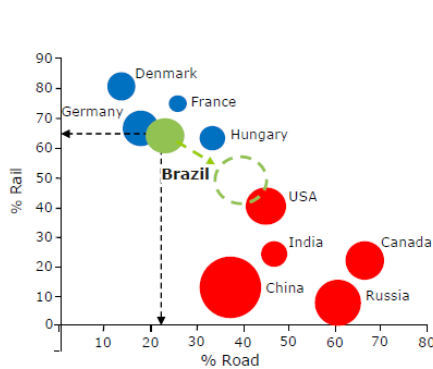


Source: ANTT, ANTAQ, Infraero  
Research of ILOS Institute - 2009.



## Railway Freight Transportation in Brazil

### Expansion of the Railway Mesh



Countries	Extension of the Railway Mesh (km)	Territorial Area (Km <sup>2</sup> )	Density
Germany	41,896	348,672	120.2
Argentina	31,409	2,736,690	11.5
Australia	37,855	7,682,300	4.9
Canada	46,688	9,093,507	5.1
China	86,000	9,569,901	8.1
Denmark	2,667	42,434	62.9
USA	280,000	9,161,966	24.7
France	29,213	549,970	53.1
Hungary	8,057	89,608	89.9
India	64,015	2,973,193	21.5
Russia	87,157	16,377,742	5.3
<b>Brazil</b>	<b>28,857</b>	<b>8,459,417</b>	<b>3.4</b>

The participation of the road and rail modals in the Brazilian freight transportation is significantly different from that found in other countries of continental dimensions.





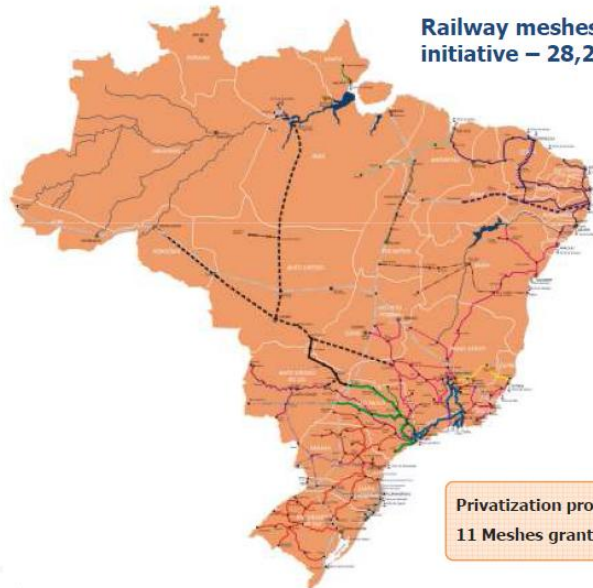
## RAILWAY FREIGHT TRANSPORTATION IN BRAZIL

### *Results of Railway Concessions*

**1**



## Results of Railway Concessions



**Railway meshes operated by private initiative – 28,228 km**

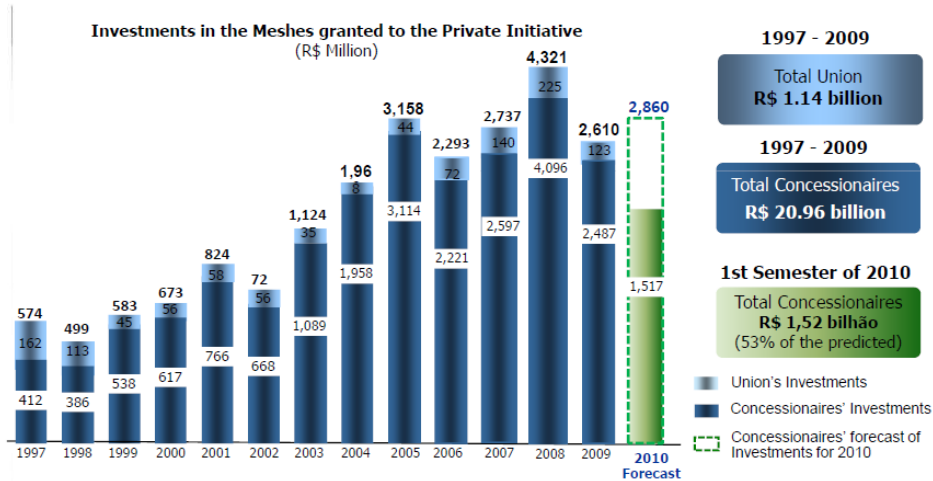
- Transnordestina Logística
- EFVM - Railway from Vitória to Minas
- EFC - Carajás Railway
- FCA - Center - Atlantic Railway
- ALL - América Latina Logística **Paulista Mesh**
- ALL - América Latina Logística **North Mesh**
- ALL - América Latina Logística **West Mesh**
- ALL - América Latina Logística **South Mesh**
- FTC - Tereza Cristina Railway
- MRS Logística
- Trecho da **Norte Sul**

Privatization process: 1996 to 1999  
11 Meshes granted to private initiative



## Results of Railway Concessions

The investments of the companies in the sector reached R\$ 22.5 billion, from 1997 up to the 1st Semester of 2010.

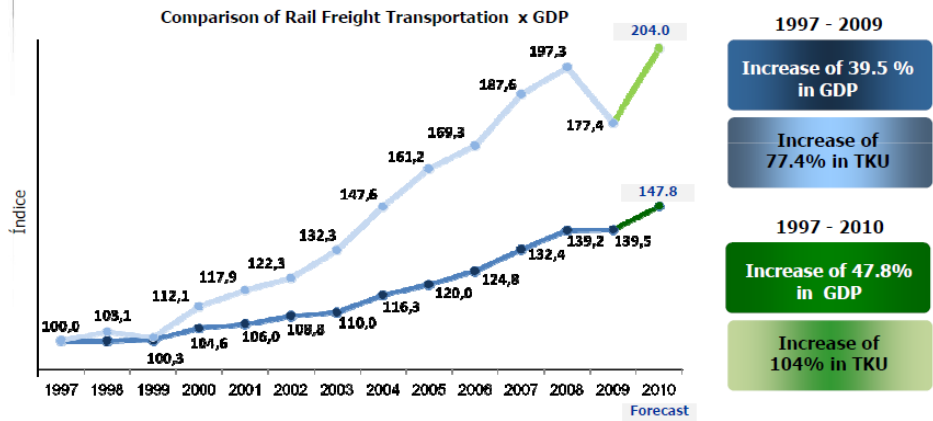


**Notes:** 1) Estimated values of investments for 2010; 2) The year of 1997 contains the investments of 1996; 3) Other values are current.  
**Sources:** Ministry of Transportation, DNIT and ANTF associates.



## Results of Railway Concessions

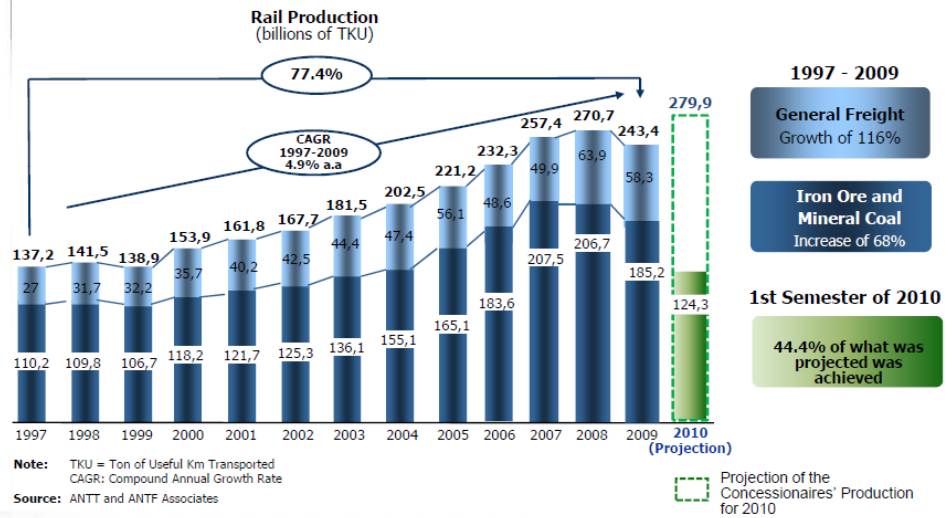
Between 1997 and 2009, the rail transportation production increased 77.4%, whereas in the same period the Brazilian economy registered a GDP growth 39.5%.





## Results of Railway Concessions

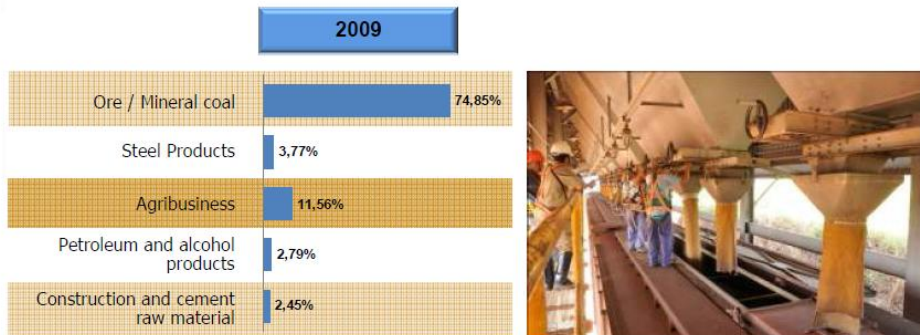
The private investments promoted an increase of 77%, between 1997 and 2009, in national rail production, with general freight growing by 116%.



## Results of Railway Concessions

The rail production evolution has reflected in the increase of the participation of traditional and non-traditional goods such as iron ore / mineral coal and agribusiness.

### Participation of the Products Transported by Railways (%)

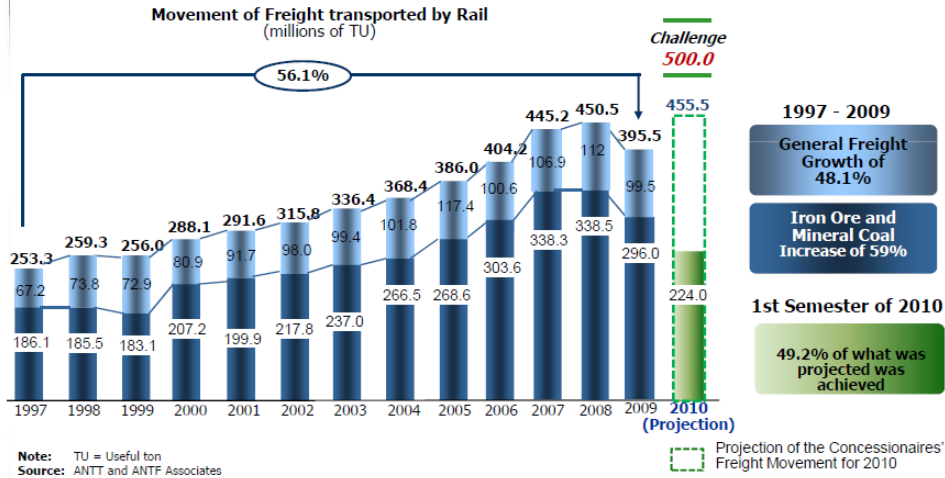


Source: ANTF Associates



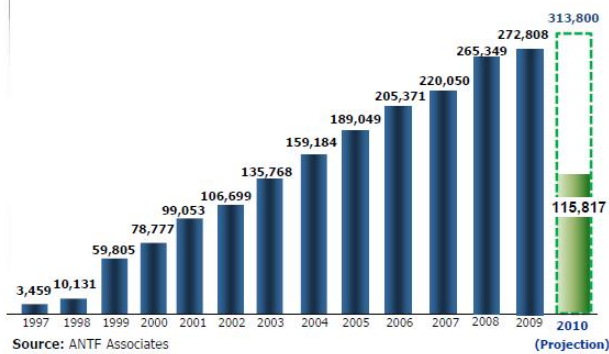
## Results of Railway Concessions

Freight movement by rail increased 56%, between 1997 and 2009.



## Results of Railway Concessions

The amount of transported containers had an increase of 2.8%, between 2008 and 2009.

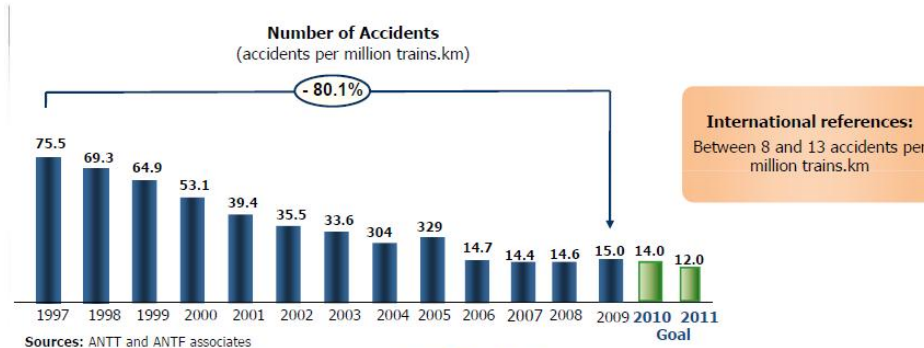


Intermodal Transportation in railways grew **more than 77 times** since privatization.  
As main barriers to the growth of Intermodal Transportation we highlight **the Tax System**  
**and the conditions of rail access to the Ports.**



## Results of Railway Concessions

The private initiative management and investments have enabled a reduction of 80.1% in the number of accidents, between 1997 and 2009.

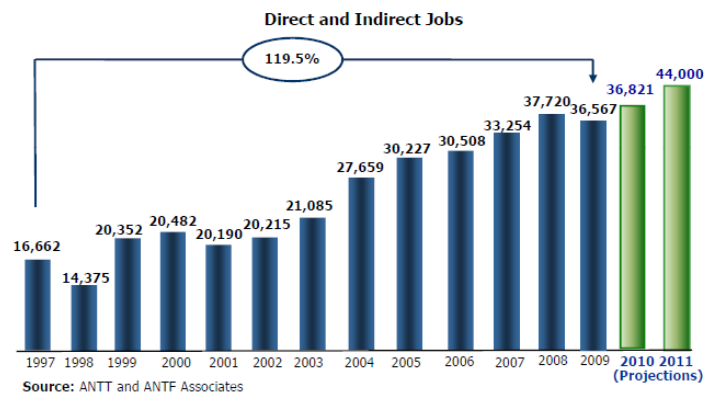


[I think there's time  
Think twice before crossing the  
railway line]



## Results of Railway Concessions

The Railway Concessionaires generated a growth of 119.5% of direct and indirect jobs, between 1997 and 2009, not mentioning the creation of jobs in the National Railway Industry.



There is need for **skilled manpower to meet new demands**, arising from the development of railway transportation, specially due to the works.



## Results of Railway Concessions

The evolution of the rolling material fleet of the granted mesh increased 127% in the period of 1997 to 2009, besides the quality and new technology acquired by the Concessionaires.

Rolling Material Fleet in Activity (per unit)



Source: ANTT and ANTF Associates

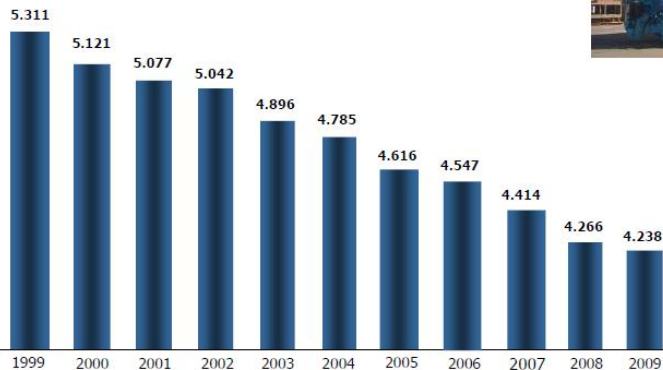
**Project of acquisition of Rolling Material and Rail (2010 to 2015):**  
 Locomotives = 130 units per year  
 Wagons = 3,000 units per year  
 Rails = 600 thousand tons per year



## Results of Railway Concessions

Rail transportation is environmentally friendly...

Liters of Diesel / 1,000 TKU  
Comparative of 1st Semester of the period 2005 - 2010



Source: ANTF Associates



**1999 - 2009**  
 Reduction of 20.21%

**2008 - 2009**  
 Reduction of 3.99%



## RAIL FREIGHT TRANSPORTATION IN BRAZIL

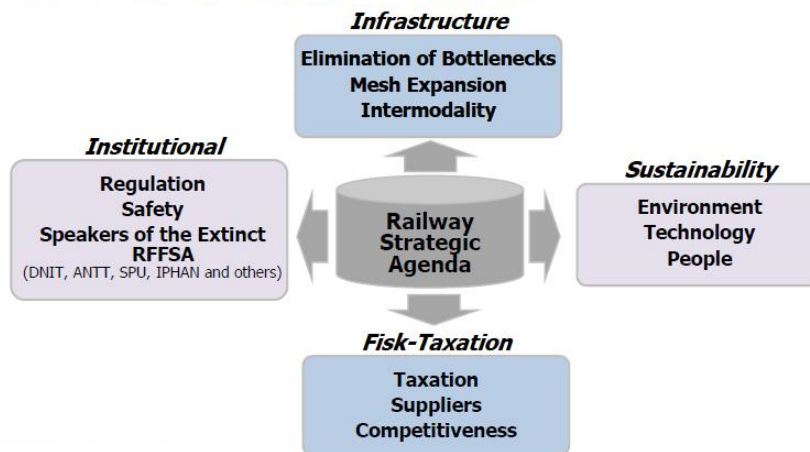
### *Railway Strategic Agenda*

2



### *Challenges for the Development of the Railway Sector*

For the future, the development of the railways depends on a set of 12 factors that comprise the *Strategic Agenda for the Freight Rail Transportation Sector*:

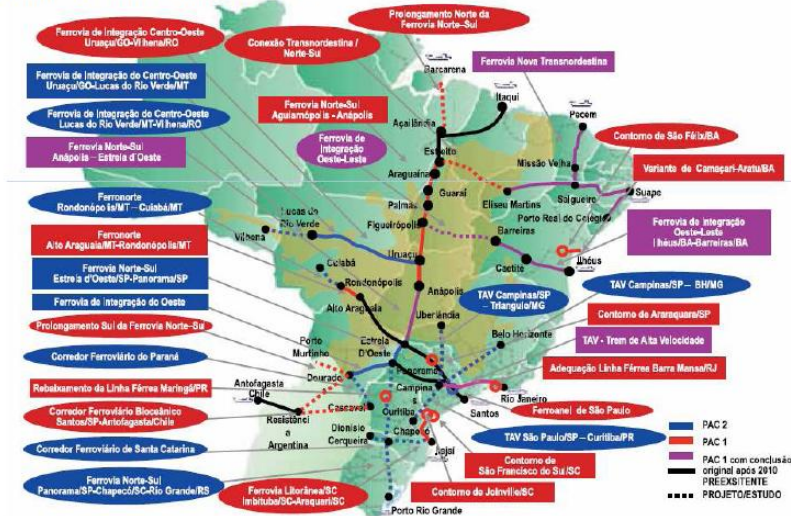




## Railway Strategic Agenda

### INFRASTRUCTURE – Mesh Expansion

Program to Accelerate Growth - PAC 2



Source: Planning, Investment, Development - PAC 2 - March/2010.



## Railway Strategic Agenda

### INFRASTRUCTURE – Mesh Expansion



#### Mesh Configuration

- 10,930 km explored
- 5,000 km rehabilitated
- 15,889 km new

Source: ANTT - August 2010.





## Railway Strategic Agenda

### **INSTITUTIONAL – Regulation**

#### **Rail Transportation in Spain - 2004:**

- After the separation between infrastructure and operation, the participation of railroads in the transport matrix reduced from 5.1% (in 2004) to 4.1% (in 2008);
- The Spanish system still depends on a massive injection of resources from the State, including subsidies for passenger trains, which indirectly also facilitate freight transportation.

#### **Rail Transportation in the United States - 1995:**



- **De-regulation Mark** – in 1995 – Extinction of the ICC Commission transferring its functions to the Department of Transportation, allowing the contractual freedom between customers and railroads;
- In 1996 – Creation of STB Agencies to solve regulatory economic problems, merger disputes, sales, maintenance and construction of lines;
- Verticalized operations (the same company of the assets to perform the service, different from Brazil only with regard to the fact that it is not regulated), having reached a high degree of efficiency;
- **Results:** Before the de-regulation, the situation of freight railroads in the USA was critical because of the low public investments, as well as costly regulation and strong subsidy to railroad transportation (scenario similar to the one in Brazil before privatization).



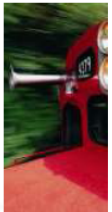
## Railway Strategic Agenda

### **INSTITUTIONAL – Regulation**

#### **Privatization Model in Great Britain- 1993:**

- Complete separation of infrastructure and operations, coupled to a payment system by network access, where the sector's regulation is aimed at disciplinating the access to the rail network;
- Establishment of the independent company Railtrack, responsible for the maintenance of the infrastructure and the access price;
- Government regulates Railtrack and let operators compete for the flow of goods, to provide the necessary incentives for them to act efficiently, with the possibility of Government covering expenses;
- **Results:** Increase of delays and accidents, due to the low quality of the mesh due to low investment, which led to Railtrack's bankruptcy in 2002, the assets remaining incorporated to the semi-state company Network Rail (whose costs are extremely high for international standards).

#### **Basic Model of Railway Concession in Brazil - 1996:**



- Give priority to the business line of freight transportation;
- Subdivision of the company in a limited number of "regional meshes";
- Concessionaire with the responsibility to maintain the track, rolling stock and other assets;
- Concession Agreements for the operation of railway transportation services, linked to the lease of operational goods in the meshes of RFFSA;
- Possibility for the concessionaires to sub-contract the operation of railroad branch line, and to outsource others, as well as repass goods and support.



## Railway Strategic Agenda

### *INSTITUTIONAL – Regulation*

#### **Public Service Concession of Railway Transportation in Brazil**

**Features** – There are two groups of concessionaires, the **owners of the assets** (EFVM - EFC - Ferronorte), and the ones that **leased assets owned by the Union**, under the following conditions:



- **Concession Agreements for the exploitation** of railroad transportation services, whose RFFSA meshes have linked Agreements for lease of operational assets;
- To meet **production targets** for transportation and of **reduction of accidents**, imposing the performance of investments in the recovery, expansion and modernization of the leased goods, agreed at every 5 years;
- **Concession agreements for the construction and exploitation** of rail freight transportation services.



## Railway Strategic Agenda

### *INSTITUTIONAL – Regulation*

Improvement of the regulatory apparatus, focusing on the regulation of the aspects related to the services rendered, in line with the obligations assumed in the Concession Agreements, and seeking better balance between rights and obligations of the parties involved.



#### ▪ **Processes x Results:**

- ✓ The regulation of processes inhibits the innovations in the practices of management and the use of new technologies, reducing productivity earnings;

#### ▪ **Better balance of rights and obligations:**

- ✓ Fulfillment of the Government's obligations regarding invasions of domain strips, Level Passages, etc. Ex: Assumption of liabilities of the Union's responsibility/ Extinct RFFSA.

#### ▪ **Publication of specific rules for:**

- ✓ **Level passages; Locomotives' whistle; Reversible Goods; and Alternative Revenues.**

#### **Reversibility of Leased Goods:**

- Certain **investments are reversible**, i.e., they belong to the patrimony of the Union, who will indemnify the Concessionaires.
- Necessary **regulation** of the investments of the concessionaires in the reversible goods.

#### ▪ **Definition of rules for the renewal of the Concessions.**



## Railway Strategic Agenda

### FISK-TAXATION - Suppliers

- **Identification of Development Projects of New Technologies in the national and international market**, aiming at the exchange for the improvement of suppliers and the interest of companies in investing in the national railway industry.
- **Exonerating imports in non-competitive areas:**
  - ✓ Reclassification of items classified as "motor vehicle parts" to "railway parts";
  - ✓ Reassessment of import tariffs.



- **Supporting the revitalization of the National Rail Industry;**
- **Fostering a strong, competitive and flexible national production:**
  - ✓ Quality
  - ✓ Price
  - ✓ Term



## Railway Strategic Agenda

### SUSTAINABILITY - Environment

Freight trains emit 70% less carbon dioxide (CO<sub>2</sub>) and 66% less carbon monoxide (CO) than trucks:

Matriz comparativa	 N <sub>2</sub> O	 NO <sub>x</sub>	 CO <sub>2</sub>	 CO
Rodoviário	40,5	65,2	1.625	7.567
Ferrovário	7,3	11,7	480,4	2.549
Hidroviário	2,4	4,1	324,6	915
	Milhões de gramas de Óxido Nitroso	Bilhões de gramas de Óxido de Nitrogênio	Milhões de toneladas de Gás Carbônico	Milhares de toneladas de Monóxido de Carbono

Fonte: Instituto INEX



Expanded use of biodiesel-powered locomotives

- **Development of new technologies related to:**
  - ✓ Environmental issues to the population in railway operations.



Ore Sprinkler System - Vale



## Railway Strategic Agenda

### **SUSTAINABILITY – Technology**

*Many freight trains in Brazil already operate with state-of-the-art technology...*

#### ▪ **Standardization and Normalization Committee - Metro-Rail CB06/ABNT:**

- ✓ To forge ahead in the works of review of rules CB-06/ABNT;
- ✓ To normalize the application of new materials and technologies;
- ✓ To support for the holding of Technical Meetings of Operators and Manufacturers.

#### ▪ **Cooperation for technological development:**

- ✓ Alternative Fuels
- ✓ Environment
- ✓ Training
- ✓ Information Technology

#### ▪ **Partnership with academic institutions**



ALL's Track Information System



## Railway Strategic Agenda

### **SUSTAINABILITY – Technology**

Development of new technologies of alternative fuels

#### Bi-Fuel Train - VALE



Vale has launched an unprecedented project in Brazil, the Bi-Fuel Train, which provides for the use of a mixture of natural gas and diesel in its locomotives. The tests started on the Railway from Vitória to Minas (EFVM). After the tests, Vale will evaluate the possible expansion of the use of gas in the fleet of the EFVM locomotives and the Carajás Railway (EFC).



## Railway Strategic Agenda

### *SUSTAINABILITY – Technology*

MRS Logística S.A.

#### Railway Sleepers of Recycled Plastic and Natural Fiber



These railway sleepers were developed aimed at the environmental protection, durability, ease of handling and installation, manufactured with high technology obtaining mechanical resistance and weathering, besides not propagating fire (testing phase at MRS of plastic and steel railway sleepers).



## RAIL FREIGHT TRANSPORTATION IN BRAZIL

FINAL CONSIDERATIONS

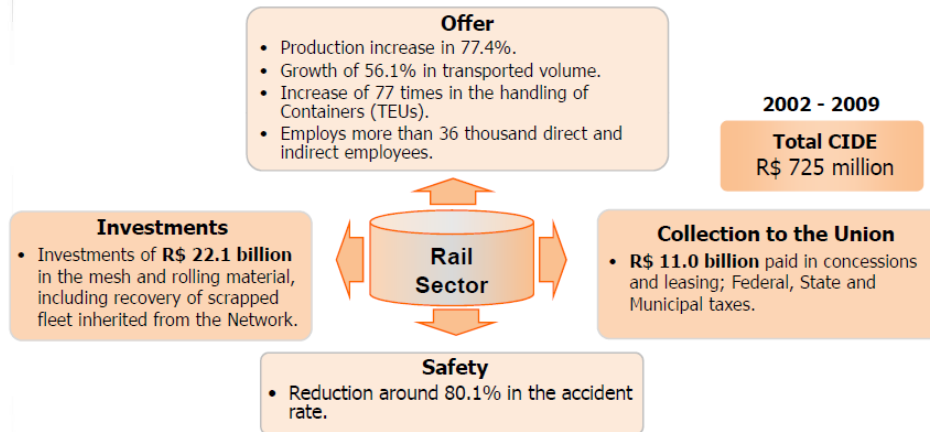
3



## National Association of Railway Transporters

*The Brazilian Model of Regulated Concessions provided a solid investment policy, creating conditions necessary for a considerable increase in operational results.*

### Results 1997 - 2009



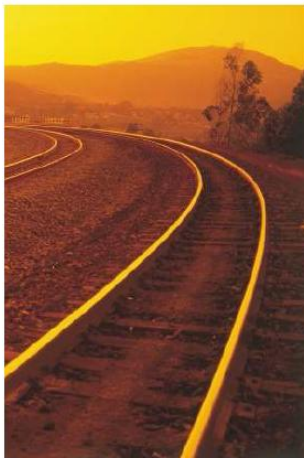
*The railroads have become competitive.*



## National Association of Railway Transporters

*The Railway Concessionaires continue overcoming the challenge to increase the production of the granted infrastructure*

Accomplishing their responsibilities, they have been allocating resources according to priority criteria, mainly in:



Improving the operational condition of the **permanent way of meshes** granted, focusing on **aspects of safety and transit time;**

**Acquisition of rolling material** – locomotives and wagons -, as well as **recovery of scrapped fleet** inherited in the concession process;

**Gradual introduction** of new technologies of traffic control and systems, aiming at **increasing productivity, safety and reliability of operations**, as well as **environment preservation;**

Adoption of **partnership with clients and other operators**, seeking markets with **greater added value;**

**Business training and professional development**, implementing courses of railway operator together with other entities, besides trainee programs;

**Social actions with educational, preventive and awareness campaigns** of communities bordering the railroads.



### Technological Challenges of Railways in Brazil

The concessionaires of rail freight transportation have been investing heavily in new technologies aiming at safety and operational performance, basically improving the practices of:

- Maintenance and monitoring of the railroad (systems, machines and equipment);
- Use of safety devices on the railroad and in rolling material;
- Alternative equipment and components aimed at environmental issues (sprinkler, railway sleepers and biofuel);
- Development and training of personnel (simulator for locomotive machinists and IT).



There are several technological challenges for the railroads, i.e.:

- Evolution of certain railroad maintenance activities, still conducted manually such as the exchange of railway sleepers;
- Improvement of special wagons for the transportation of cars, containers and freezers, for instance;
- Increase of equipment focused on the integration of transportation modes.

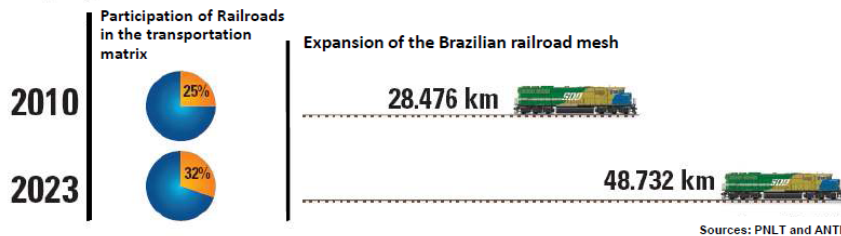


### Perspectives of the Sector

Eliminate bottlenecks, expand the mesh and promote intermodality so that the whole country of Brazil may grow with:

- Addressing the main bottlenecks that hinder the development of the sector and harm national economic growth.
- Expansion of the mesh and larger participation of the railway transportation matrix, respecting the comparative advantages of the other modes.

#### Ampliação das ferrovias na economia do País





**National Association of Railway Transporters**

### ***Commitments of Concessionaires***

- Partnership with the Authorities, customers and operators;
- Utilization of public and private investments in infrastructure;
- Higher productivity and improved efficiency of the freight transportation systems;
- Increasingly higher standards of entrepreneurial, social and environmental responsibility, ensuring sustainable growth of the sector;
- Reduction in the consumption of energy and reduced emission of particulate matter in the atmosphere.



**Our vision of the future:**  
Decisive role in consolidating the Country's socioeconomic development.



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# MRS Logística S.A.



## VALUES

Having responsible attitudes

Having impeccable service to match up our customer's needs with world-class efficiency

Having teams and employees with high performance, motivated and committed

December 2010

# Company Overview



## Company Overview



Interconnects the states of Minas Gerais, Rio de Janeiro and São Paulo.

3

## Company Overview

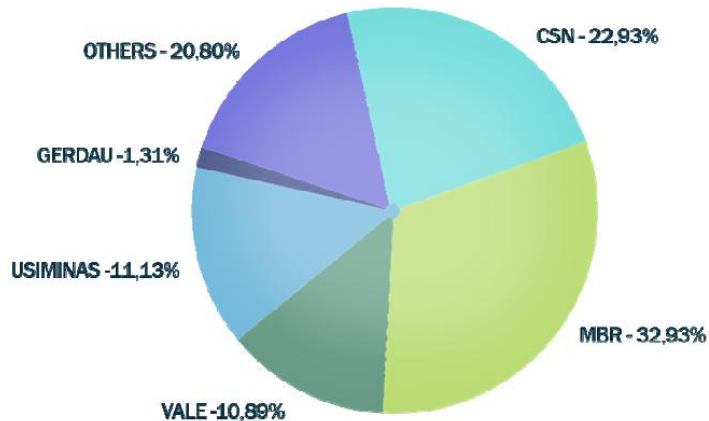


4

## Shareholders



### TOTAL CAPITAL



5

## Shareholders



### VALE / MBR

- Is the world leader in iron ore and pellet production and the second biggest nickel producer.
- Operating through offices, operations, exploration projects and joint ventures, Vale is the second largest diversified mining company in the world and the biggest in the Americas by market capitalization.
- Headquartered in Brazil, Vale operates in 38 countries on five continents and employ over 115,000 people, including employees and contractors, across the world.

6

## Shareholders

---



### CSN

- One of the largest and most competitive integrated steel companies in Latin America.
- With an annual production capacity of 5.8 million tons and around eight thousand employees, CSN is focused on steel production, mining and infrastructure.
- The company has one of the most comprehensive lines of high added value flat steel on offer throughout the continent.

7

## Shareholders

---



### Gerdau

- Is the leading company in the production of long steels in the Americas and one of the major suppliers of specialty long steel in the world.
- Started to expand its operations more than a century ago and now has an industrial presence in 14 countries: Argentina, Brazil, Canada, Chile, Colombia, the Dominican Republic, Guatemala, India, Mexico, Peru, Spain, the United States, Uruguay and Venezuela.

8

## Shareholders



### Usiminas

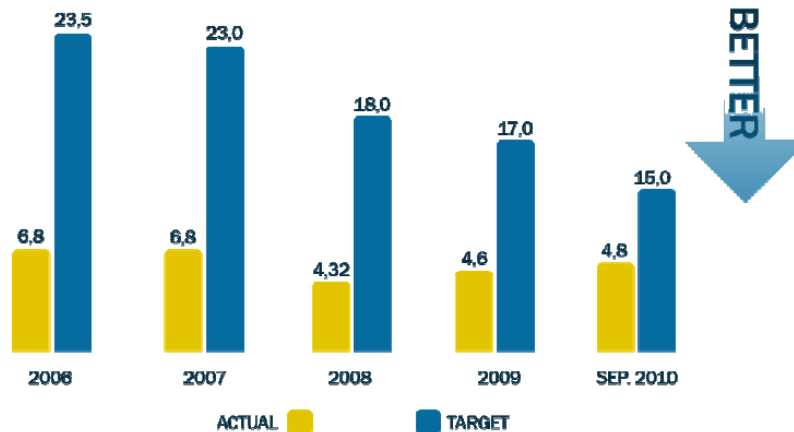
- Acts in different segments in the steel chain, delivering high quality products and services, integrating solutions and adding value to the customer.
- Has a unique way of accomplishing things with care. This care is the result of a continuous search for the essentials, perfection and improvements on everything that is accomplished.
- Usiminas dominates the steel, from parts to the whole, developing techniques and knowledge, simplifies accesses and processes, balancing effectiveness and efficiency.

9

## Concession Targets



### Safety - Accidents / Million Trains . km

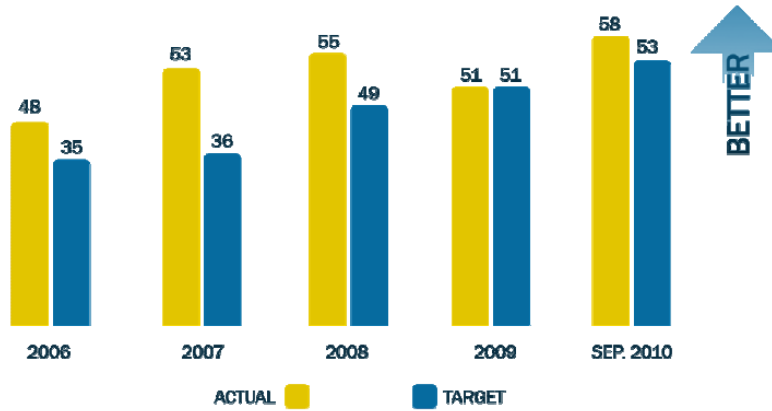


10

## Concession Targets



Billion Tons. km Transported



11

## Main Customers - Before Privatization



Mining



Steel



Construction

Agribusiness

Chemicals



Automotive

Other

12

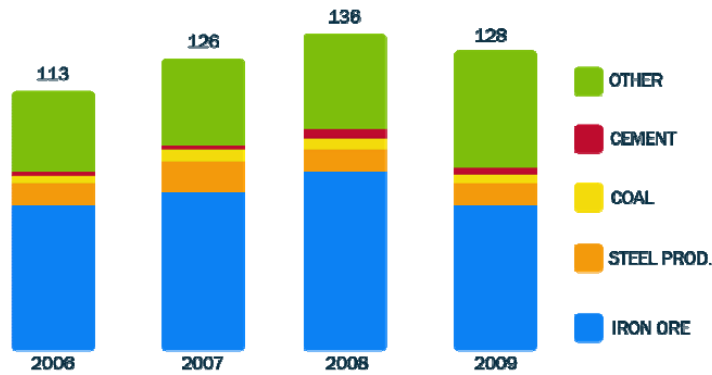
## Main Customers - After Privatization



## Main Products



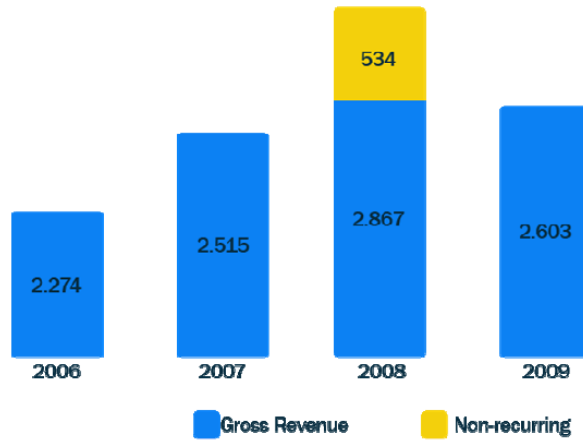
### Million Tons



## Gross Revenue



R\$ Million

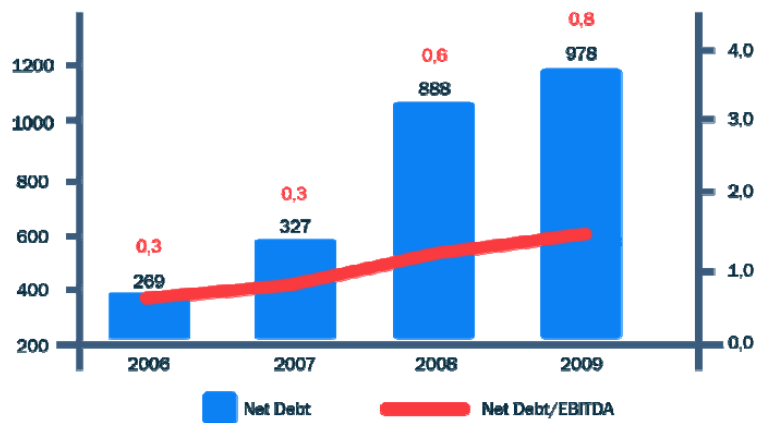


15

## Net Debt and Net Debt/EBITDA



R\$ Million



16



## Financial Information



	Units	2006	2007	2008	2009
Gross Revenue	R\$ M	2.274	2.515	3.401	2.603
Net Revenue	R\$ M	1.964	2.167	2.955	2.276
EBITDA (12 months)	R\$ M	1.003	1.021	1.554	1.230
Op. Cash Generation	R\$ M	1.007	1.168	1.297	1.266
Net Income ( Loss )	R\$ M	541	548	664	606
Ebitda Margin	%	51%	47%	53%	54%
Net Debt/ Ebitda		0,27x	0,32x	0,57x	0,80x
Shareholders' Equity	R\$ M	1.170	1.201	1.865	2.014
Net Debt	R\$ M	269	327	888	978

Rating : 'BB' global scale, positive outlook (Nov 18, 2010)

✓ S&P revised its outlook on MRS to positive from stable and affirmed the 'BB' global scale

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## Capital Expenditures

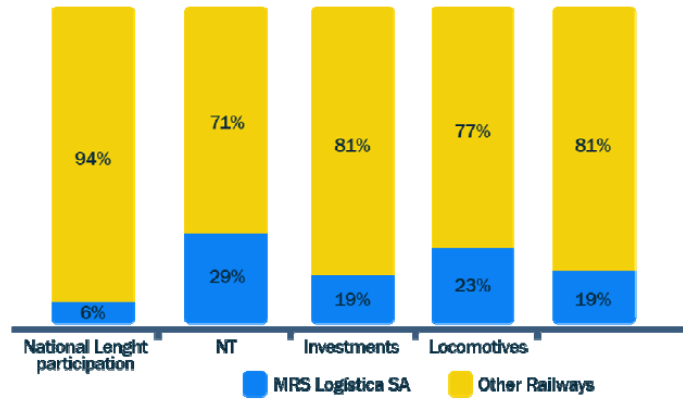


R\$ Million

	2006	2007	2008	2009	Total
Track	142	129	145	146	752
Locomotives	162	207	490	119	1.021
Cars	98	184	355	71	813
Signaling	30	52	55	21	177
Others	62	77	90	60	322
<b>Total</b>	<b>494</b>	<b>649</b>	<b>1.135</b>	<b>418</b>	<b>2.695</b>

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## MRS and the Railway Sector



Source: ANTT (Brazilian Regulatory Agency) - Dec/2009

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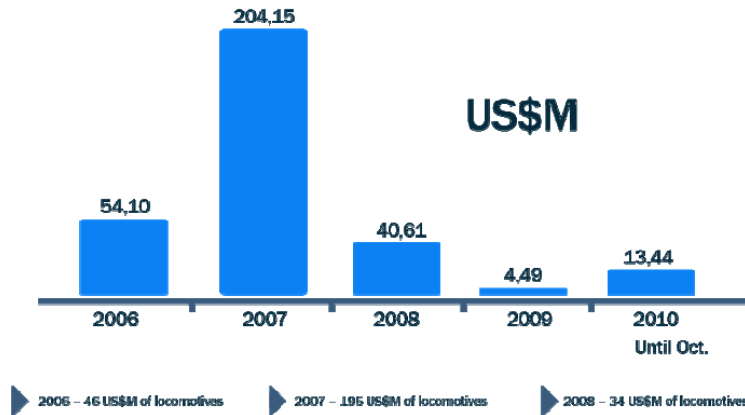
## Procurement



## General Information



### Total Purchased from U.S.



21

## Current Fleet of Locomotives



### GE - C44 Emi



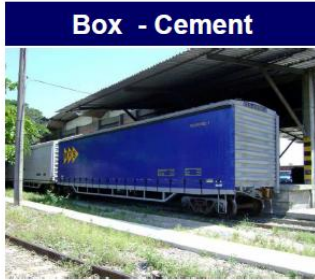
### GE - AC44-i



Model	Quantity
GE-AC44-I	83
GE-C44-EMI	84
C36	119
C30	74
GM-SD40	50
C26/U23CA	63
GM-SD38	36
U23C/C1	77
GE-U20C	26
HITACHI	13
Services - MRS	67
<b>Total</b>	<b>692</b>
2010	+ 02
2011	+ 90

22

## Current Fleet of Cars



Model	Quantity
GDT	9,321
HAT	831
Tank, Hopper, box	1,453
PES, PDS, PPS	1,102
HAS - CSN	455
HAS - MRS	366
Others (Gondola)	1,698
Others	3,373
<b>Total</b>	<b>18,599</b>
2010	+ 170
2011	+ 264

23

## Challenges to growth













### Key Issues

- *Safety*
- *Reliability on services and assets*
- *Efficiency*
- *Productivity*

24

## MRS Main Projects 2011 - 2015



<p>São Paulo Project</p>	<ul style="list-style-type: none"> <li>• Capacity increase on rack and adhesion system with the Stadler locomotives acquisition</li> <li>• Segregate CPTM (São Paulo Metropolitan Trains Company) lines</li> </ul>	 
<p>Safety</p>	<ul style="list-style-type: none"> <li>• Sealing strip domain, crossing level and walking way construction for a better relationship with the communities, safety and operational gain</li> </ul>	 
<p>Fleet increase</p>	<ul style="list-style-type: none"> <li>• Locomotives acquisition</li> <li>• Cars acquisition for heavy haul and general cargo transport</li> </ul>	 
<p>Railway maintenance mechanization</p>	<ul style="list-style-type: none"> <li>• Machinery acquisition to make possible mechanic railway maintenance in a short time window</li> </ul>	 
<p>MRS 2015</p>	<ul style="list-style-type: none"> <li>• New tracks and terminals construction, expansion and upgrade to attend the growth on general cargo volume</li> </ul>	 

## Opportunities for U.S. Companies



We are **looking for qualified and competitive suppliers** to help us **achieving our goal of transportation until 2015**

**SRM** – supplier relationship manager and **LTA** – long term agreement **is essential for the next 5 coming years**



## Project Background – Horto Florestal Facility



## Project Background – Horto Florestal Facility



**MRS Logistica – Main maintenance shop**

**Location: Belo Horizonte – MG - Brazil**

**Identify qualified suppliers to branch out in Brazil at MRS Logistica plant in Belo Horizonte offering parts and repair services to MRS Logistica, others railways and suppliers in South America.**



## Project Status and Implementation Timeline



- > Prospecting suppliers – RFI Request for Information
- > Suppliers financial and qualified analysis
- > Suppliers proposal analysis – RFQ Request for Quotation
- > Constituted company in Brazil
- > Suppliers Terms and Conditions discussions
- > Contract draft discussion – SRM Supplier relationship manager & LTA
- > Mobilization time

Id	Name	Duration	Jan - 11				Feb - 11				Mar - 11				Apr - 11				May - 11				Jun - 11				
			w 1	w 2	w 3	w 4	w 5	w 6	w 7	w 8	w 9	w 10	w 11	w 12	w 13	w 14	w 15	w 18	w 17	w 18	w 19	w 20	w 21	w 22	w 23	w 24	w 25
1	Prospecting suppliers – RFI	4 weeks																									
2	Suppliers financial and qualified analysis	4 weeks																									
3	Suppliers proposal analysis – RFQ	6 weeks																									
4	Constituted company in Brazil	12 weeks																									
5	Suppliers Terms and Conditions discussion	4 weeks																									
6	Contract draft discussion – SRM & LTA	4 weeks																									
7	Mobilization time	6 weeks																									

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## Opportunities for U.S. Companies



- > Turbocharger suppliers
- > Traction motor suppliers
- > Engine and Power Packs suppliers
- > Panels repair suppliers



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[www.mrs.com.br](http://www.mrs.com.br)



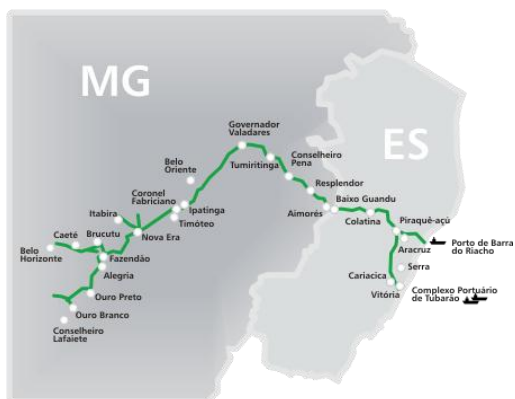


# Rolling Stock Projects

## Vale's railroads



## Vitória a Minas Railroad (EFVM)



— Vitória a Minas Railroad



**MAIN PRODUCTS**  
Iron ore, steel products, coal, iron, fertilizers and soybean.

Locomotives: 347  
Extension: 905 km (565.6 miles)  
Narrow Gauge



EFVM is one of the most modern and productive Brazilian railroads, concentrating 37% of all rail freight in the country and transporting around 1.3 million people annually on its passenger trains. It links FCA, MRS, Vitória Ports (TVV, Paul, Codesa, TGL and TPM) and Port of Barra do Riacho (Aracruz-ES).

2



## Carajás Railroad (EFC)



— Carajás Railroad - EFC



**MAIN PRODUCTS**  
Iron ore, iron, soybean, fuel and beverages.

Locomotives: 216  
Extension: 892 km (557.5 miles)  
Standard Gauge



EFC operates in the north and northeast regions of the country linking the countryside to the main port of São Luís. EFC transports around 400,000 people every year on its passenger train. It connects CFN, Ferrovia Norte-Sul, Port of Ponta da Madeira (São Luís-MA) and Port of Itaqui (São Luís-MA).

3



## Centro Atlantica Railroad (FCA)



- ➔ FCA operates in 7 states (MG, GO, RJ, ES, BA, SE e SP), linking EFVM, MRS, CFN, Ferrobán, Vitória's ports (TVV, Paul, Codesa), AngraPorto (Angra - RJ), Aratu Terminal and Salvador Port (Salvador - BA) Seco do Cerrado Port (Uberlândia).

**MAIN PRODUCTS**  
steel products, cement, soybean and iron.

Locomotives: 495  
Extension: 8.023 km (4985.26 miles)  
Standard Gauge



4

## Natural Gas Project

### Description

- ▶ Technical evaluation of the impacts of using natural gas and diesel to fuel locomotives.

- ▶ Acquisition of three conversion equipment for Dash 9 (electronic injection). Instalacion of the first locomotive is being made;
- ▶ Acquisition of two LNG wagons.

### Benefits and applications

- ▶ Reduction of pollutant emission
- ▶ Energy source diversification
- ▶ Greater autonomy (using LNG)

### Potential Gains

- ▶ Reduction of fuel costs

### Current status

- ▶ Three converted locomotives: One DDM (835), one Dash 9 (1173) and one BB36 (746);
- ▶ Programming 2.000h of accelerated test using the locomotive BB36 746;
- ▶ Understanding the possibility to built a Liquefaction Plant of natural gas in Vitoria;



Photo 1: Locomotives 835 and 746 using the mix of diesel



5

## Natural Gas Project

### Sustainability

Converting locomotives engines into natural gas reduces emission of CO<sub>2</sub> generated from fuel burnt into the atmosphere. It's estimated that the future use of gas on locomotives at Vitória a Minas and Carajás railroads will prevent the emission of 73 thousand tons of equivalent carbon dioxide (CO<sub>2</sub>) in the atmosphere every year. This corresponds to:

Yearly CO<sub>2</sub> emission of a non-industrialized urban city with a population of 9 thousand inhabitants



Reforesting 156 hectares of native wood



## Biodiesel Project

### Description

- Technical evaluation of the impacts of using biodiesel B25 to fuel locomotives.

### Benefits and applications

- Reduction of pollutant emission
- Less dependence on oil

### Potential Gains

- Use of resources exploited by VALE

### Current status

- Partnership with GE for testing biodiesel for 2 years;
- It was held in April collecting data to verify the current condition of the engines;
- Obtained authorization from the ANP in 05/05/2010;

### Next Steps

- Make tests using 4 locomotives on biodiesel and 2 locomotives on diesel beginning on jan/2011.



Photo 1: Biodiesel made of soy bean



[flaviana.coelho@vale.com](mailto:flaviana.coelho@vale.com)

# The future passes through here.



ISO 9001  
SGC  
OHSAS 18001  
ISO 14001



FTC  
Ferrovia Tereza Cristina



## Ferrovia Tereza Cristina S/A

Lessee that manages the railway system in the south of Santa Catarina and mainly transports mineral coal from Criciúma to the Thermoelectric Complex Jorge Lacerda, located in Capivari de Baixo. The 164 km of rail network also include the Port of Imbituba, where cargo in containers is sent to for cabotage and to be exported.

Certified by ISO 9001 (Quality Management), ISO 14001 (Environmental Management) and OHSAS 18001 (Safety Management and Occupational Health), FTC is preparing to expand the rail system in Santa Catarina, prospecting new markets and qualifying railroad transportation in its state.



FTC  
Ferrovia Tereza Cristina

## RAIL SYSTEM IN SANTA CATARINA



## Main Projects



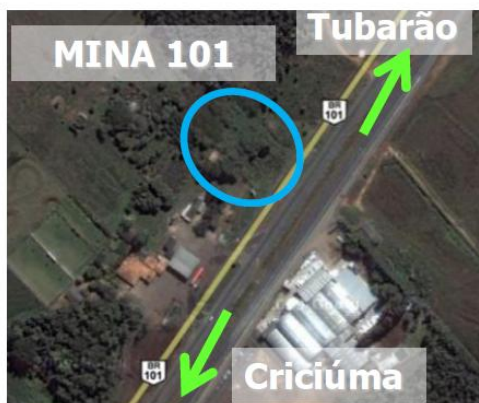
## Mine 101 - Rail Diversion

### Purpose

To build a rail diversion to attend to a new transport demand of coal which will be produced at Mine 101, in Içara – Santa Catarina.



## Location









## Expenses

Approximate Expenses	R\$ (reais)	US\$ (dollars)
<b>Construction's Project</b>	<b>R\$ 250.000</b>	<b>US\$ 146.200</b>
<b>Removing of the weak soil and earthmoving (infrastructure)</b>	<b>R\$ 1.750.000</b>	<b>US\$ 1.023.400</b>
<b>Superstructure's Construction (rail, ballast, sleeper, railroad switch)</b>	<b>R\$ 2.827.000</b>	<b>US\$ 1.653.220</b>
<b>TOTAL</b>	<b>R\$ 4.827.000</b>	<b>US\$ 2.822.620</b>

Dolar: R\$ 1,71



## Usitesc Branch Line

### Purpose

To build a branch line, connecting the rail line in Rio Fiorita (Siderópolis) to Carbonífera Metropolitana (Coal Company) in Treviso, attending to the new coal transportation demand for energy production in USITESC.





# Location




# Location






## Images of the Area



## Relevant Aspects in both Projects

- ≠ The distance from FTC;
- ≠ Highway access to the railway line;
- ≠ Community;
- ≠ Possibilities of environmental risks (rivers, woods)
- ≠ Air Infrastructure to the coal cargo;
- ≠ Highway transportation expenses.





09/12/2010



Ferrovias Centro-Atlântica

## Malha ferroviária



- ✓ Malha com 8 mil km e atendendo diretamente 7 Estados e o Distrito Federal
- ✓ Interligação Regional:
  - Centro-Oeste – Sudeste – Nordeste
- ✓ Acesso a portos:
  - Vitória (EFVM)
  - Santos (ALL)
  - Angra dos Reis
  - Aratu
  - Salvador

**INÍCIO DA OPERAÇÃO:** 01/09/1996

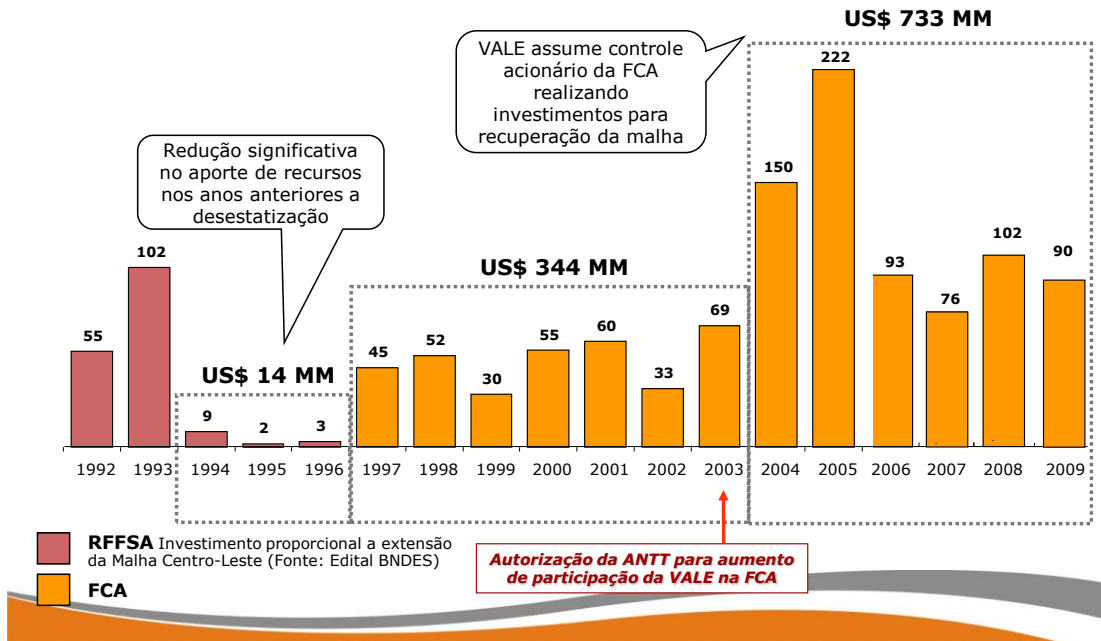
**PERÍODO DA CONCESSÃO:** 30 anos, renováveis por igual período

**VALOR DA CONCESSÃO ( na data do leilão):** R\$ 316,9 milhões

**CONCESSÃO PARA:** Transporte de cargas

## Histórico de Investimentos

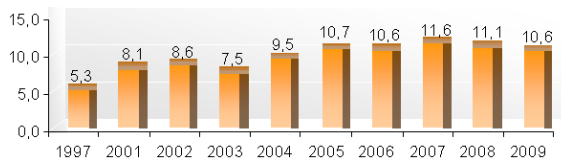
Após a autorização da ANTT para aumento da participação da VALE no capital da FCA os investimentos foram fortemente aumentados.



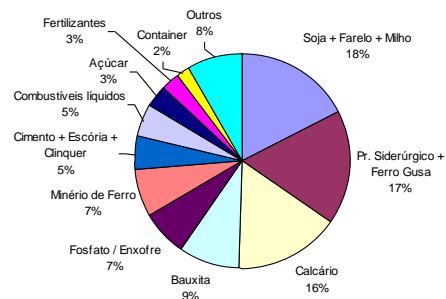
## FCA em números

**Produção**  
(bilhões de TKU)

Concessionária	1997	2002	2003	2004	2005	2006	2007	2008	2009
FCA	5,3	8,6	7,5	9,5	10,7	10,6	11,6	11,1	10,6



### Principais cargas transportadas

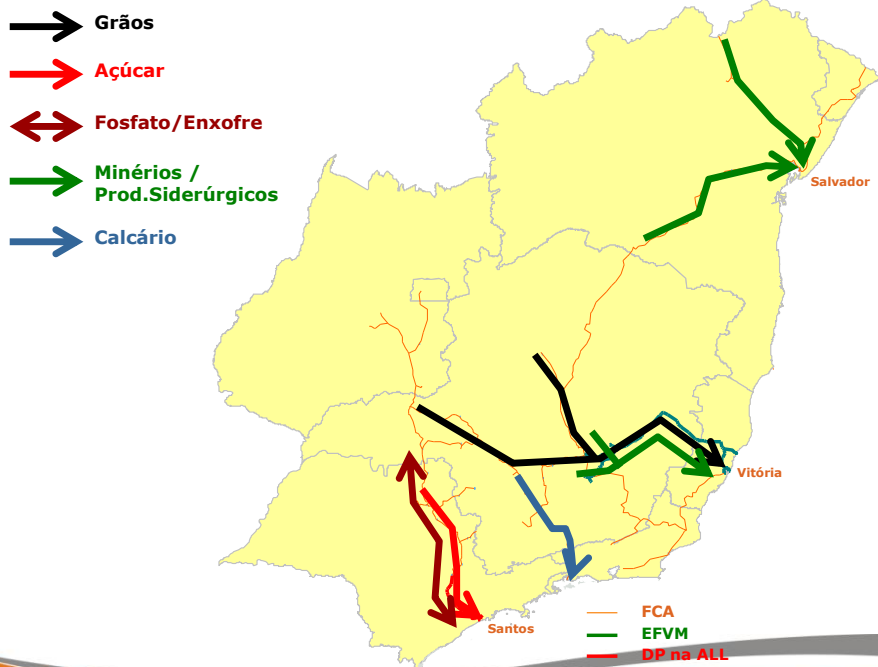


### Total de Ativos

~ 500 locomotivas

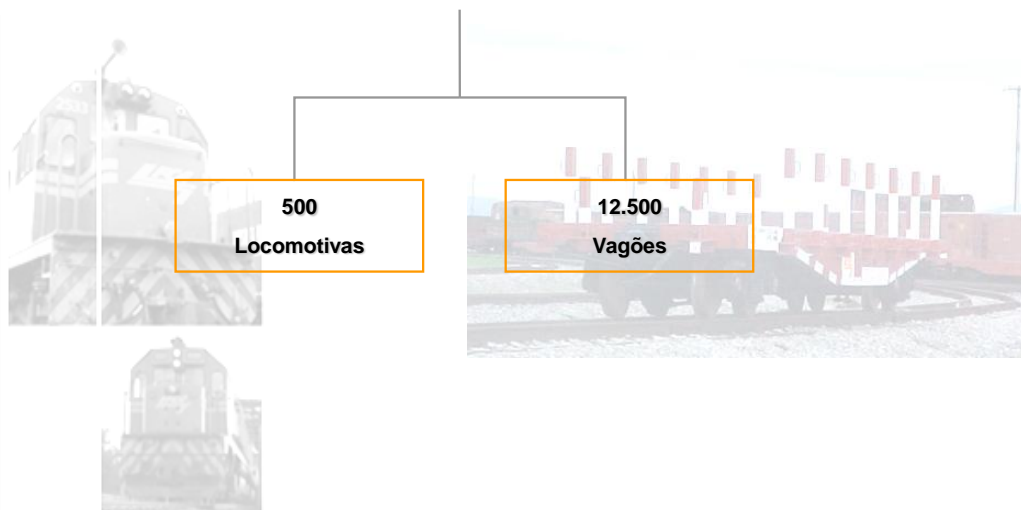
12.265 vagões

## Principais Cargas e Corredores



## Ativos – Material Rodante

### Total de Ativos



## Ações Voltadas ao meio ambiente

### Principais Investimentos:

- Construção da Centrais de Armazenamento de Resíduos (CAR);
- Resíduos destinados para co-processamento;
- Adequação dos postos de abastecimentos
- Realização de Simulados de acidentes envolvendo produtos perigosos;
- Construção de fossas sépticas;
- Construção de separadores de água e óleo;
- Construção de Reservatórios de água;



## Segurança Operacional e novas tecnologias

**Investimento de R\$ 3,6 MM no desenvolvimento do mais moderno Centro de Pesquisa e Treinamento do país**



Simulador



Maquete Ferroviária - ROF

Treino	Objetivos
Simulador - Maquinistas	Redução de acidentes por falha de operação. Redução de consumo de combustível e desgaste de componentes das locomotivas.
ROF – Regulamento de Operações Ferroviárias	Eliminação de acidentes originados por falha ou por descumprimento dp ROF



## Programas sócio-culturais junto as comunidades

Todos os anos, blitzen educativas, campanhas de conscientização e ações especiais são realizadas junto às comunidades lindeiras, especialmente nos municípios em que a relação da empresa com a comunidade é fisicamente mais intensa. O objetivo é contribuir, juntamente com diversas outras frentes de trabalho, para que as operações da FCA tornem-se cada vez mais seguras e eficazes e o número de ocorrência com terceiros seja reduzido ao máximo. São desenvolvidos os seguintes programas:

- Programa Cidadania nos Trilhos – atua nos eixos pedagógicos, cultural e institucional
- Estação Vida – mapeamento de mobilizadores para sensibilização e conscientização de comunidades para aspectos de segurança
- Campanhas de Segurança em grandes eventos – ações de segurança em festas regionais tradicionais

Alem desses programas, também são realizados:

- Patrocínios
- Doações de dormentes inservíveis



**NÃO DÊ BANDEIRA: PARE, OLHE, ESCUTE.**  
AO CRUZAR A FERROVIA, PARE, OLHE, ESCUTE. 0800 286 7000



## Projetos culturais e de preservação histórica

A Ferrovia Centro-Atlântica possui uma autorização permanente da Agência Nacional de Transportes Terrestres (ANTT) para operar o trecho ferroviário de 12 km, que liga São João del-Rei a Tiradentes, na Região das Vertentes, em Minas Gerais. Opera também o trem turístico de Ouro Preto a Mariana



## Posicionamento

A FCA é uma ferrovia movida pela paixão, transportando as riquezas do Brasil e o trabalho de muitos brasileiros. Usamos a tecnologia para garantir uma operação segura e produtiva. A FCA vai muito além dos trilhos. Buscamos sempre manter um bom relacionamento com os nossos empregados, comunidades onde atuamos e nossos clientes, com responsabilidade socioambiental, gerando desenvolvimento sustentável .



### **FCA. Além dos Trilhos, o Meio Ambiente**

A FCA é uma empresa consciente sobre a importância do respeito à natureza. Por isso, fazemos um esforço contínuo para realizar uma operação que respeite o meio ambiente.

### **FCA. Além dos Trilhos, o Bem - Estar Social**

A FCA é uma empresa que considera fundamental o bom relacionamento com as comunidades onde atua. Por isto, mantém um diálogo permanente com essas comunidades, promovendo uma convivência harmônica em suas áreas de atuação.



## BUSINESS BRIEFING QUESTIONNAIRE

Dear Briefing Participant:

Please complete the questionnaire below so that USTDA and TERA can better plan future events of this nature, and in order for USTDA to track accurately any positive outcomes for U.S. companies. **Your answers will be kept confidential.** At two stages – the first approximately one month following the briefing and the second approximately one year after the briefing – TERA will follow up directly with you regarding any commercial successes that may have resulted (at least in part) from your participation. Given that many commercial outcomes are not realized until well into the future, USTDA may also contact you at a later time.

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

1. Did you find the Business Briefing effective in providing information on Brazil's future plans in the rail sector?
2. What if anything would you have liked done differently in order to provide you with the information you need to either enter, or become more active in, the Brazilian market?
3. Has this event provided you with contacts that you feel may ultimately result in future business opportunities? If yes, please describe the project(s) and/or contact(s), the type of equipment and/or services that may result, and an approximate dollar value.
5. Did you find the overall structure of the Business Briefing (i.e., presentations, networking breaks/luncheon, and one-one-one-meetings) conducive to your marketing efforts? If not, why not?
6. Did you find the Briefing Book to be a useful tool? What if any additional information would you have liked to have been included?
7. How did you learn about this event (e.g., email, website (please specify), publication, other?)