Brazil's Priority Transportation Projects

A RESOURCE GUIDE

FOR U.S. INDUSTRY

SPONSORED BY THE U.S. TRADE AND DEVELOPMENT AGENCY

3. HIGHWAYS

3.1 Highway Concession Project Opportunities

In June 2015, the Brazilian Government selected 15 highway corridors as candidates for concession. U.S. companies may benefit from these concessions, especially in terms of supplying ITS systems and heavy duty construction equipment. The Government may announce additional concessions in 2016 and U.S. companies should follow this process closely to determine how they can become involved.

New highway operators are not bound by tedious public tendering procedures, allowing U.S. companies to engage directly with concessionaires, as well as those competing for new contracts in 2016. U.S. companies should keep in mind that highway operators face strict timelines, and will require rapid delivery of products and services.

One benefit for U.S. companies is that highway operators are not procuring solely based on low cost; they are looking to acquire quality, dependable highway technology such as ITS and ICT systems to support revenue collection operations. Additionally, the Brazilian Government selected standards from the National Transportation Communications for Intelligent Transportation Systems Protocol (NTCIP) for implementing ITS systems in the country. The type of equipment and services required by each highway concession project varies and that information will not be available until the official bidding begins.

The following provides a list of features, equipment and systems that will most likely be required for the highway concession projects.

ITS Systems Needed

- Implementation of digital monitoring system through CCTV-IVA for 100% highway coverage
- Radio and digital systems for the dissemination of highways conditions (events, closures, weather, etc.)
- Transmission of highway related information to control center

- Implementation of digital systems for managing highway projects such as information exchange between operator and highway users, highway assistance programs for all users (ambulance, towing, repair services)
- Access to highway information 24/7 through Wi-Fi
- Implementation of weigh-in-motion systems
- Implementation of traffic management and control centers
- Implementation/upgrade of electronic toll collection systems (ETC)
- Implementation of variable message sign systems
- Implementation of a "point to point" toll collection system
- ICT equipment such as servers, computers, software and hardware to support the operation and maintenance of the highways

Because highway operators are private entities, they can engage directly with foreign firms, bypassing the federal and state procurement processes, which translates into a less bureaucratic environment for U.S. companies. Some highway operators have import/export licenses that allow them to introduce technologies and equipment based on their demands, thus reducing the need for intermediary services or local agents. This dynamic facilitates the operators' ability to acquire equipment directly from foreign companies.

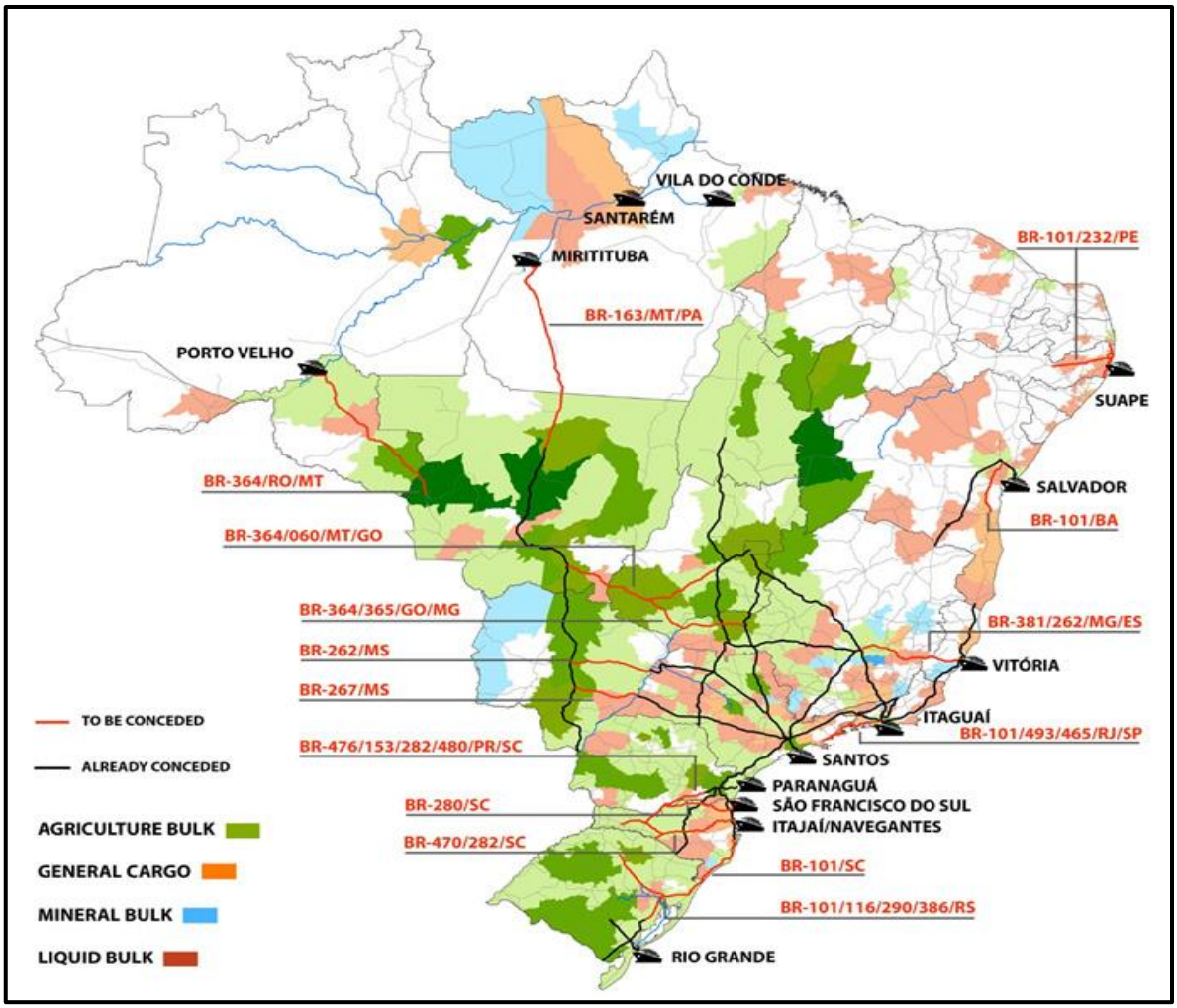
The key for U.S. firms is to engage early by making contact with private highway operators (consortia) who will require technologies and services to fulfill their contractual obligations with the state and federal Governments.

3.2 Highway Concessions

On June 9, 2015, the Government announced the second round of the Logistics Investment Program (PIL), investing in infrastructure to drive economic growth. The second stage will delegate 7,000 Km of highways and roadways to the private sector, with an estimated investment of $22 billion. Of that budget, $16 billion will target new highway concessions for contracts executed through 2016, and the remaining $6 billion will be invested in existing concessions. The primary goals of these concessions are to increase capacity and improve safety.

The figure below depicts highways expected to be concessioned in 2016.

Figure 1 – Highways to be Concessioned in 2016



3.3 2016 Highway Concessions – First Round

The following provides an overview of each highway project, which may present opportunities for U.S. firms to export ITS technologies.

Figure 2 – 2016 Highway Concessions (First Round)

3.3.1 Project BR-476/480 (PR/SC)

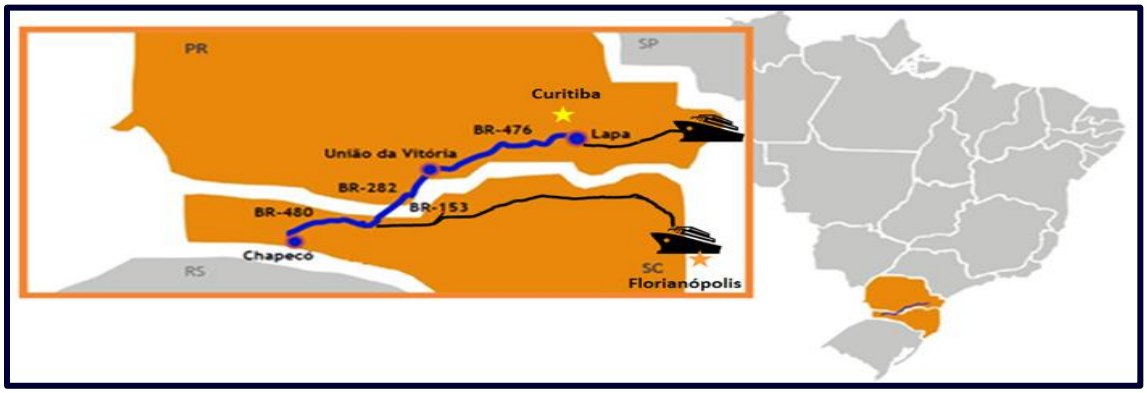


Figure 3 -BR-476/480 (PR/SC)

Project Description

The Ministry of Transport published the concession plan for the stretch of highways BR-476/480 (PR/SC), with an investment of $1.4 billion.

The project will extend from the City of Lapa along BR-476 to the City of Uniao da Vitoria and BR-282/BR-480 from Uniao da Vitoria to the City of Chapeco. The project aims to facilitate the transport of poultry and agricultural products to the Southern ports.

The project stretches across 493.3 Km, featuring:

- BR-476/PR, between Lapa and Uniao da Vitoria;
- BR-153/PR/SC, between Uniao da Vitoria and the junction with BR-282;
- BR-282/SC, between the junction with BR-153 and the junction with BR-480; and
- BR-480/SC, between the junction with BR-282 and Chapeco.

Project BR-476/480 (PR/SC) will require engineering and design, paving, the construction of interchanges, access points, highway shoulders, drainage, implementation of toll collection plazas, lane markings, lighting, safety measures, highway assistance program, deployment of ITS systems, environmental mitigation and roadway maintenance.

Improvements

The upgrades will enhance highway capacity through road widening, mitigate congestion, improve operational measures, maintenance, implement ITS systems and implement toll collection systems.

Duration of Concession

30 years

Estimated Investment

$1.4 Billion

Environmental License

The Logistics and Planning Company (EPL) is responsible for obtaining the advance license (LP) and site license (LI) for the highway improvement works.

Project Status

The National Land Transportation Agency (ANTT) has submitted a draft bid notice, concession plan and studies corresponding to particular highway stretches to the Brazilian Federal Court of Audit (TCU) for review and approval.

3.3.2 Project BR-364/365 (GO/MG)

Figure 4 - BR-364/365 (GO/MG)

Project Description

Project BR-364/365 comprises a total length of 437 Km, including the BR-364/GO/MG stretch between the intersection with BR-060A (Jatai), until the junction with BR-153A/262A (Comendador Gomes). The project calls for engineering and design services, paving, construction of interchanges, access points, highway shoulders, and drainage, the implementation of toll collection plazas, lane markings, lighting, safety measures, and highway assistance program, as well as the deployment of ITS systems, environmental mitigation and roadway maintenance and operation.

Improvements

The improvements aim to connect the grain production region in Southern Goias to the Triangulo Mineiro area. The project will enhance highway capacity through road widening, mitigate congestion, enhance operational measures, maintenance, implement ITS systems and implement toll collection systems.

Duration of Concession

30 years

Estimated Investment

$903 million

Environmental License

EPL is responsible for obtaining the advance license (LP) and the site license (LI) for the highway improvement works.

Project Status

At a public hearing in 2015, ANTT presented drafts of the bid notice and concession agreement under the highway exploration program, as well as feasibility studies related to the concession of a 437-Km stretch of highways BR-364/365/GO/MG, between the junction with BR-060 in Jataí/GO and the junction

with LMG-479 in Uberlandia/MG. The project is pending approval from the Brazilian Federal Court of Audit (TCU) prior to the public announcement for auction.

3.3.3 BR-364/060 (MT/GO)

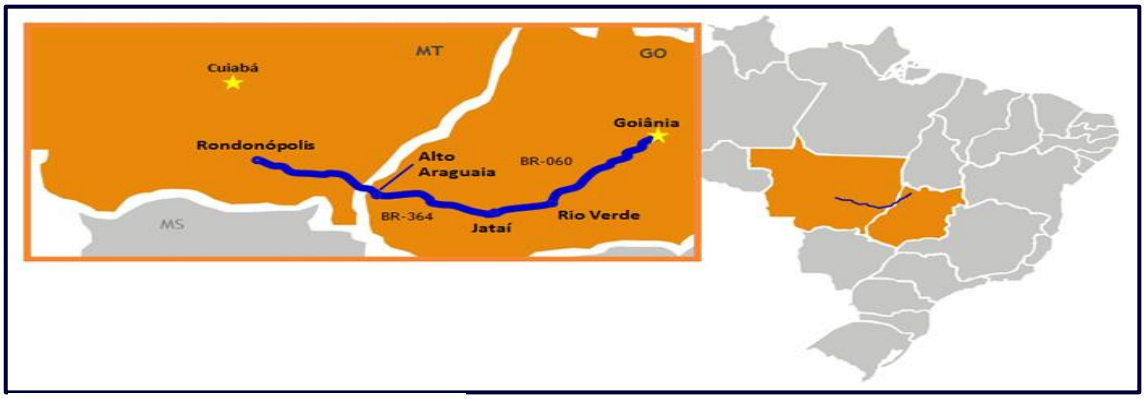


Figure 5 - BR-364/060 (MT/GO)

Project Description

Project BR-364/060 expands highway length by 704 Km, including the BR-364 and BR-060 between Goias and Mato Grosso. The project required engineering and design services, paving, the construction of interchanges, access points, highway shoulders, drainage, implementation of toll collection plazas, lane markings, lighting, safety measures and highway assistance, deployment of ITS systems, environmental mitigation and roadway maintenance.

Improvements

The goal of this project is to better connect the Central-West Region with ports in the North and South of Brazil by expanding highway capacity, mitigating congestion, implementing operational measures, conducting maintenance and conservation, adding toll collection infrastructure and implementing ITS systems.

Duration of Concession

30 years

Estimated Investment

$1.3 billion

Environmental License

EPL is responsible for obtaining the advance license (LP) and the site license (LI) for the road duplication and improvement works.

Project Status

The project is still under the early stages of the PMI process.

3.3.4 Project BR-163 (MT/PA)

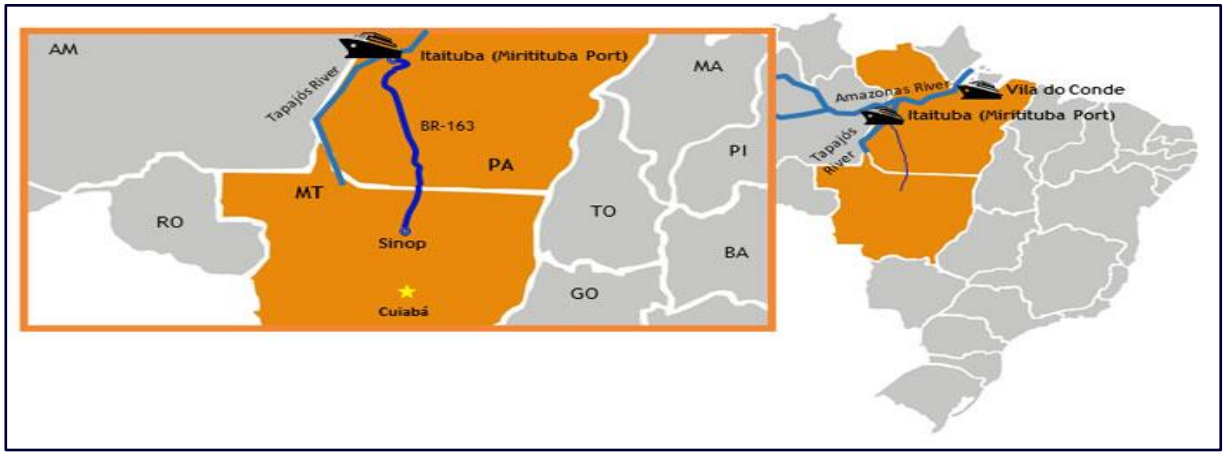


Figure 6 - BR-163 (MT/PA)

Project Description

Project BR-163 expands the length of 976 Km of highway including the following roads:

- BR-163/MT/PA, junction with MT-220 to the junction with BR-230 (A)
- BR-230/PA, junction with BR-163 (B) (Campo Verde) until Miritituba

The project calls for engineering and design, paving, the construction of interchanges, access points, highway shoulders, and drainage, the implementation of toll collection plazas, lane markings, lighting, safety measures, highway assistance program, deployment of ITS systems, environmental mitigation and roadway maintenance.

Improvements

The objective with this project is to streamline the movement of grain and other agricultural products to the northern ports, and it will be approached by widening the highway to increase capacity, mitigating congestion, implementing operational measures for the highway, conducting maintenance and conservation, collecting of tolls and implementing ITS systems.

Duration of Concession

30 years

Estimated Investment

$2.1 billion

Environmental License

EPL is responsible for obtaining the advance license (LP) and the site license (LI) for the road duplication and improvement works.

Project Status

The project remains in the early stages of the PMI process.

3.4 2016 Highway Concessions – Second Round

The following presents a summary of highway projects expected for the second round of highway concessions in 2016.

Table 2
Highway Concessions for 2016

Highways	Description
BR-101/BA	199 Km of highway BR 101 from Feira de Santana (State of Bahia) to Gandu (State of Bahia).
BR-101/SC	220 Km of highway BR 101 from Palhoca (State of Santa Catarina) to the state line between Santa Catarina and Rio Grande do Sul.
BR-262/MS	327 Km of highway BR 262 from Campo Grande (State of Mato Grosso do Sul) to Tres Lagoas (State of Mato Grosso do Sul).
BR-267/MS	249 Km of highway BR 267 from Nova Alvorada do Sul (State of Mato Grosso do Sul) to Presidente Epitacio (State of Sao Paulo).
BR-280/SC	307 Km of highway BR 280 from Porto Uniao (State of Santa Catarina) to the Port of Sao Francisco do Sul (State of Santa Catarina).
BR-364/RO/MT	806 Km of highway BR 364 from Porto Velho (State of Rondonia) to Comodoro (State of Mato Grosso).
BR-101/232/PE	564 Km of highway BR 101 from the state line between Paraiba and Pernambuco to the state line between Pernambuco and Alagoas; and a second segment (over highway BR 232) from Recife (State of Pernambuco) to Cruzeiro do Nordeste (State of Pernambuco).
BR-262/381/MG/ES	305 Km of highways BR 262 and BR 381 from Belo Horizonte (State of Minas Gervais) to the state line between Minas Gervais and Espirito Santo.
BR-282/470	455 Km of highways BR 470 and BR 282 crossing the State of Santa Catarina to the Ports of Navegantes and Itajai (State of Santa Catarina)
BR-101/493	357 Km of highways BR 101, BR 493 and BR 456 from Ubatuba (State of Sao Paulo) to BR 040 in the State of Rio de Janeiro.
BR-101/116	581 Km of highways BR 101, BR 116, BR 290 and BR 386 from Porto Alegre (State of Rio Grande do Sul) to Carazinho (State of Rio Grande do Sul), Camaqua (State of Rio Grande do Sul) and the state line between Rio Grande do Sul and Santa Catarina.

The Figure below represents the second round of highway concession projects in 2016.

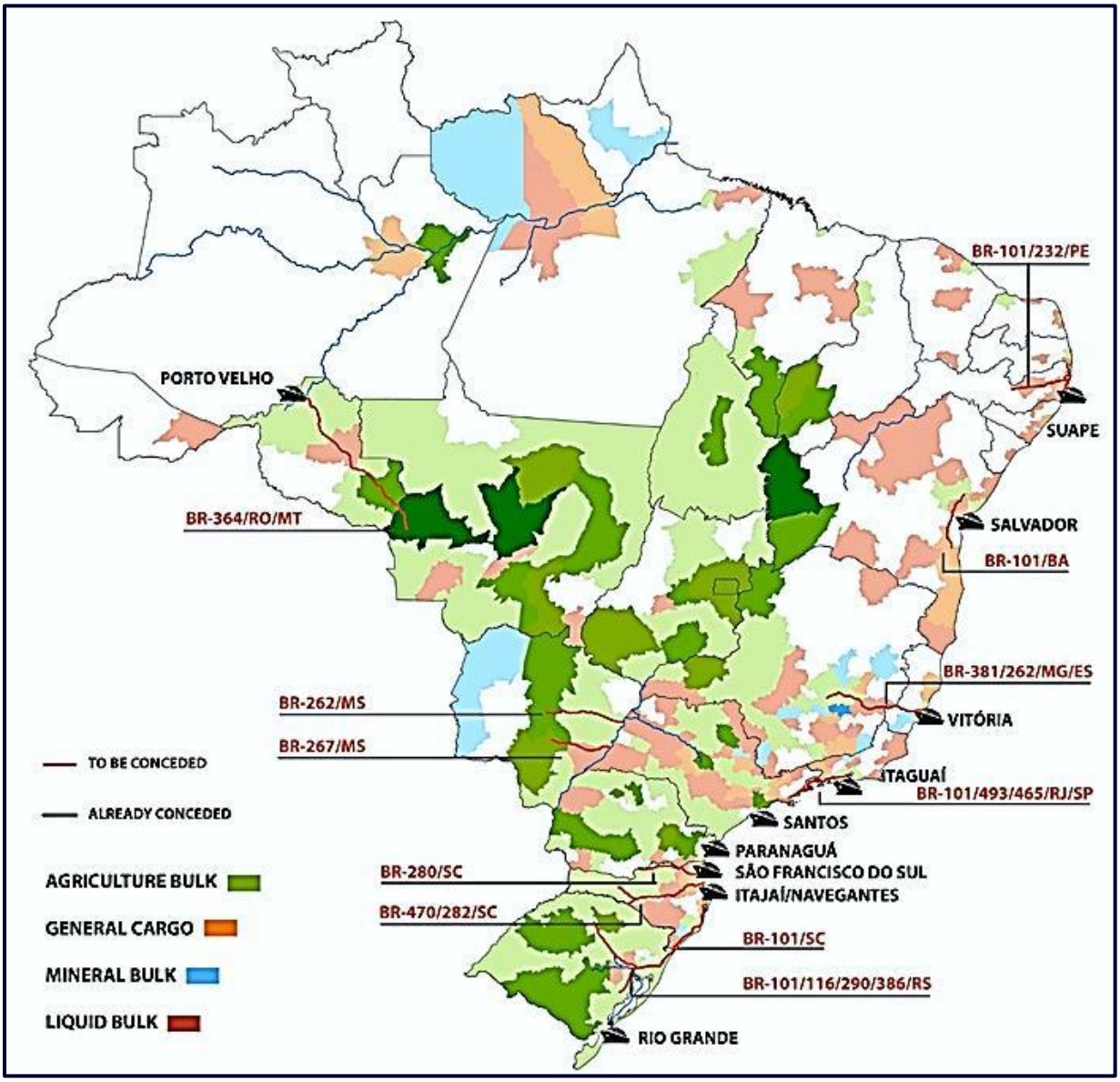


Figure 7. Upcoming Highway Concessions

3.4.1 Project BR-101/BA

Figure 8 BR-101/BA

Project Description

Project BR-101/BA involves 199 Km of highway, specifically the segment of BR-101 between Gandu/BA and the junction with BR-324. The goal is to duplicate the stretch between Feira de Santana/Gandu and improve cargo transportation between the Northeast and the Southeast Regions of the country. The project will call for engineering and design services, paving, construction of interchanges, access points, highway shoulders, drainage, implementation of toll collection plazas, lane markings, lighting, safety measures, highway assistance program, deployment of ITS systems, environmental mitigation and roadway maintenance.

Duration of Concession

30 years

Estimated Investment

$516 million

Project Status

Public Announcement expected in 2016

3.4.2 Project BR-101/SC

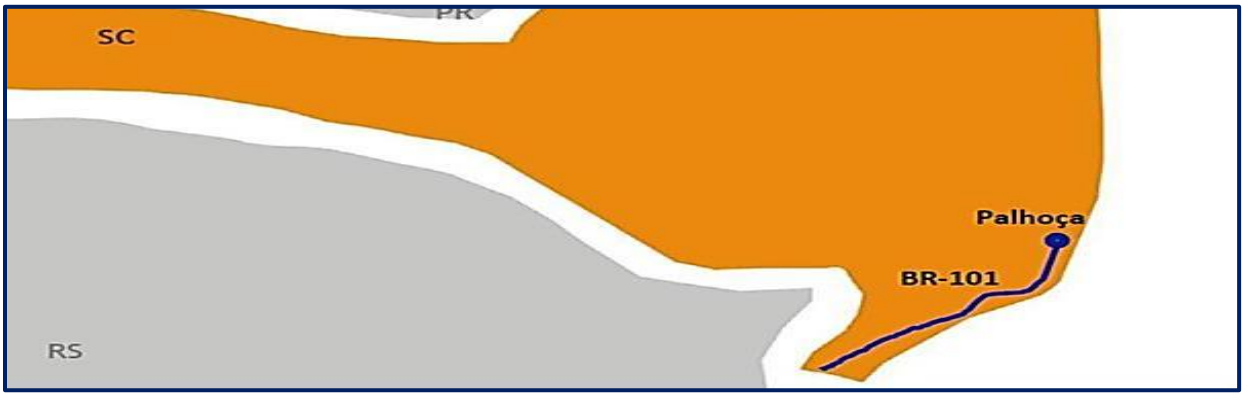


Figure 9 - BR-101/SC

Project Description

Project BR-101/SC includes 220 Km of road, specifically BR-101 between the bridge over the Madre River and the Santa Catarina and Rio Grande do Sul border. The objective is to increase capacity and improve road safety. The project calls for engineering and design services, paving, construction of interchanges, access points, highway shoulders, drainage, implementation of toll collection plazas, lane markings, lighting, safety measures, highway assistance program, deployment of ITS systems, environmental mitigation and roadway maintenance.

Duration of Concession

30 years

Estimated Investment

$355 million

Project Status

Public Announcement expected in 2016

3.4.3 Project BR-262/MS

Figure 10 - BR-262/MS

Project Description

BR-262/MS expands the length of 327 Km of highway including the stretch of the BR-262 between the junction with BR-163 (Campo Grande) and the MS/SP (Mato Grosso do Sul/Sao Paulo) border, with the purpose of widening the Campo Grande/SP border link and reducing the costs of transporting agricultural and livestock production via the ports of the Southern Region.

Duration of Concession

30 years

Estimated Investment

$806 million

Project Status

Public Announcement expected in 2016

3.4.4 Project BR-267/MS

Figure 11 - BR-267/MS

Project Description

Project BR-267/MS expands the length of highway by 249 Km, including the BR-267 distance between the junction with BR-163 and the MS/SP border. The goal is to widen the highway between Mato Grosso do Sul and the Sao Paulo border to better connect the states and reduce the costs of moving agricultural and livestock production via the Southern ports. The project calls for engineering and design services, paving, the construction of interchanges, access points, highway shoulders, drainage, the implementation of toll collection plazas, lane markings, lighting, safety measures, highway assistance program, deployment of ITS systems, environmental mitigation and roadway maintenance.

Duration of Concession

30 years

Estimated Investment

$645 million

Project Status

Public Announcement expected in 2016

3.4.5 Project BR-280/SC

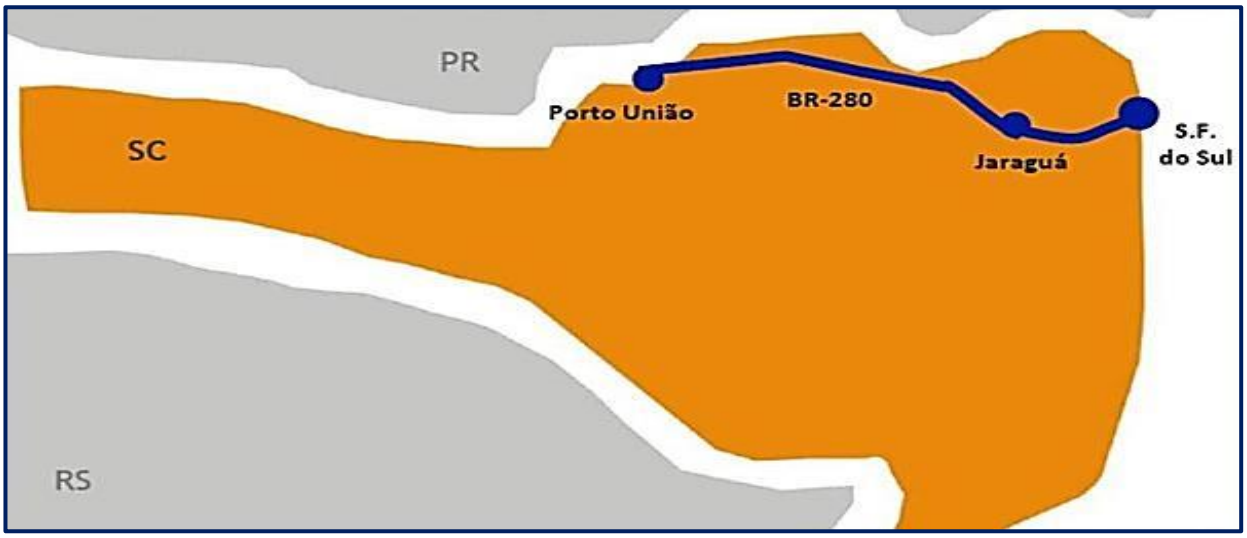


Figure 12 - BR-280/SC

Project Description

Project BR-280/SC involves 307 Km of highway featuring the BR-280 stretch between the Port of Sao Francisco do Sul and the Santa Catarina -Parana border (Porto Uniao / Uniao da Vitoria). This project will improve transport of agricultural products from Santa Catarina via the Southern ports. Project BR-280/SC will require services related to engineering and design, paving, the construction of interchanges, access points, highway shoulders, drainage, the implementation of toll collection plazas, lane markings, lighting, safety measures, highway assistance program, deployment of ITS systems, environmental mitigation and roadway maintenance.

Duration of Concession

30 years

Estimated Investment

$677 million

Project Status

Public Announcement expected in 2016

3.4.6 Project BR-364/RO/MT

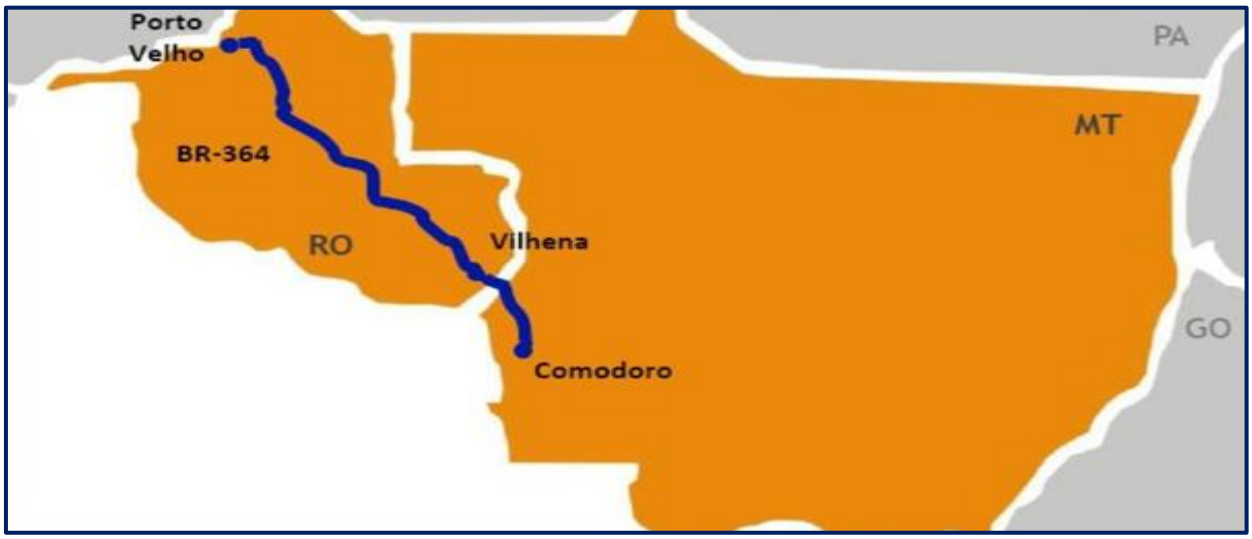


Figure 13 - BR-364/RO/MT

Project Description

Project BR-364/RO/MT expands the highway by 806 Km, particularly the stretch of BR-364 between the junction with BR-174 (A) at Comodoro and Porto Velho (Ulisses Guimaraes access). The purpose is to improve the integration of the grain-producing regions of Mato Grosso and Rondonia and the waterway of the Madeira River. The project calls for services related to engineering and design, paving, the construction of interchanges, access points, highway shoulders, drainage, the implementation of toll collection plazas, lane markings, lighting, safety measures, highway assistance program, deployment of ITS systems, environmental mitigation and roadway maintenance.

Duration of Concession

30 years

Estimated Investment

$2.0 billion

Project Status

Public Announcement expected in 2016

3.4.7 Project BR-101/232/PE

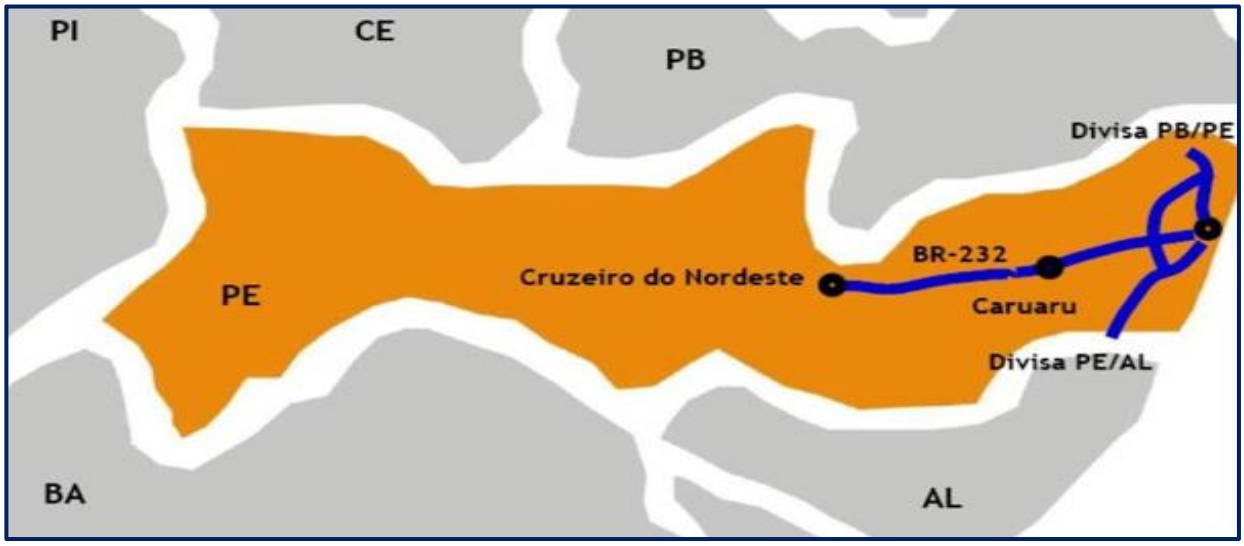


Figure 14 - BR-101/232/PE

Project Description

The purpose of this project is to open access to the Suape Port and widen the road at Cruzeiro do Nordeste. BR-101/232/PE involves 564 Km of highway, specifically, the stretch of BR-101 between the PB/PE (Paraiba/Pernambuco) border and the PE/AL (Pernambuco/Alagoas) border. The new Recife Metropolitan Arch from Cabo de Santo Agostinho to Igarassu, and BR-232 between the junction with BR-101 and Cruzeiro do Nordeste/PE. The project calls for services related to engineering and design, paving, the construction of interchanges, access points, highway shoulders, drainage, the implementation of toll collection plazas, lane markings, lighting, safety measures, highway assistance program, deployment of ITS systems, environmental mitigation and roadway maintenance.

Duration of Concession

30 years

Estimated Investment

$1.3 billion

Project Status

Public Announcement expected in 2016

3.4.8 Project BR- 262/381/MG/ES

Figure 15 - BR-262/381/MG/ES

Project Description

The purpose of this project is to widen the stretch between the Belo Horizonte and Espirito Santo (ES) border to improve safety and reduce transportation costs. Project BR- 262/381/MG/ES involves a length of 305 Km, particularly the BR-262 stretch between the junction with BR-381 (Joao Monlevade), as well as the junction with BR-101 (B). It also features BR-381, between the junction with BR-262 (Joao Monlevade) and the junction with BR-262 (A) (Belo Horizonte).

Duration of Concession

30 years

Estimated Investment

$613 million

3.4.9 Project BR-282/470

Figure 16 - BR-282/470

Project Description

The objective for this project is to widen the stretch between the agro-industrial Santa Catarina region to the Southern ports. BR-282/470 involves 455 Km of highway including the BR-470 stretch between Navegantes/SC and the Santa Catarina and Rio Grande do Sul border. It also features BR-282 between the junction with BR-470 and the junction with BR-153.

The project calls for services related to engineering and design, paving, the construction of interchanges, access points, highway shoulders, drainage, the implementation of toll collection plazas, lane markings, lighting, safety measures, highway assistance program, deployment of ITS systems, environmental mitigation and roadway maintenance.

Duration of Concession

30 years

Estimated Investment

$1.0 billion

Project Status

Public Announcement expected in 2016

3.4.10 Project BR 101/493

Figure 17 - BR-101/493

Project Description

BR 101/493 involves 357 Km of roads, specifically the stretch of BR-101 between the junction with BR-465(B)/RJ-071/097 (Santa Cruz) and Praia Grande in the Municipality of Ubatuba/SP; BR-465 between the junction with BR-101 and the junction with BR-116; and BR-493 between the junction with BR-101 and the junction with BR-040/116 (B).

The purpose is to expand road capacity of the Rio-Santos stretch until Ubatuba, a tourist road, with a concession for the Rio de Janeiro Metropolitan Arch. The project requires services related to engineering and design, paving, interchange construction, access points, highway shoulders, drainage, the implementation of toll collection plazas, lane markings, lighting, safety measures, highway assistance program, deployment of ITS systems, environmental mitigation and roadway maintenance.

Duration of Concession

30 years

Estimated Investment

$1.0 billion

Project Status

Public Announcement expected in 2016

3.4.11 Project BR 101/116

Figure 18 - BR-101/116

Project Description

The objective is to widen the Producao Motorway (Production Highway) until Carazinho and to widen the Porto Alegre-Camaqua stretch.

BR 101/116 involves 581 Km of highway including the length of BR-101 between the border of Rio Grande do Sul and Santa Catarina States and Osorio/RS; BR-116, between the junction with BR-290 (B) (to Arroio dos Ratos) and the junction with BR-470/RS-350 (to Camaqua); BR-290, between Osorio/RS and the junction with BR-116 (to Guaiba) and BR-386 between the junction with BR-116 (B)/290 (Porto Alegre) and the junction with BR-377 (A) (to Carazinho).

This concession calls for services such as engineering and design, paving, interchange construction, access points, highway shoulders, drainage, the implementation of toll collection plazas, lane markings, lighting, safety measures, highway assistance program, deployment of ITS systems, environmental mitigation and roadway maintenance.

Duration of Concession

30 years

Estimated Investment

$1.0 billion

Project Status

Public Announcement expected in 2016

Contacts

For more information on the projects listed in this section, you may reach out to the project contacts listed below.

Project Contact	U.S. Trade and Development Agency	U.S. Commercial Service Brazil
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3.5 State of Sao Paulo Highway Concession Program

In 2015, Sao Paulo issued a public announcement for concession of 2,266 Km of state highways, which should expand the state highway network by 25%. The highway concessions are divided as follows:

- Block A with 116 Km
- Block B with 481 Km
- Block C with 1,097 Km
- Block D with 572 Km

The private sector will likely invest $3.5 billion in this initiative.

Table 3
State of Sao Paulo Highway Concessions for 2016

Highway Blocks	Description
Block A	Block A includes highway SP-55 through Praia Grande and Itariri with two toll plazas.
Block B	Block B consists of highway SP-324 from Vinhedo a Campinas, SP-079 from Salto a Sorocaba, SP-264 from Sorocaba to Pilar do Sul, and SP-250 from Pilar do Sul a Ribeira, including seven toll collection plazas.
Block C	Block C consists of highway SP-255 from Araraquara to Avare, SP-191 and SP-304 from Sao Manuel a Rio Claro, SP-334 from Cristais Paulista a Rifaina, and highway

	SP-351 from Batatais to Santo Antonio da Alegria including seventeen toll collection plazas.
Block D	Block D consists of highway SP-333 from Borbonema to Florinia passing through Marilia e Assis, including segments on the Via Norte highway concession and the total number of toll collection plazas is estimated to be eight.

Financing will consist of 50% of the consortium's capital and 50% long-term financing, debenture initiatives and other financial arrangements. This project will involve road widening, upgrades to existing highways and construction of new highway segments. Services and technology required include engineering, design, construction, implementation of electronic toll collection systems, highway monitoring systems, control center equipment, highway information systems, variable message sign systems and other ITS equipment for the operation and maintenance of the highways. The type and quantity of ITS systems will vary by highway project and that information will become available when the public bids are announced.

3.6 Integrated Network for the Collection of Electronic Information Project

The State Secretariat of Infrastructure and Logistics (SEIL) for the State of Parana oversees infrastructure planning, development of logistics plans and project implementation. SEIL is in the process of developing a logistics platform that will likely feature the use of ITS systems for highways to improve traffic conditions, safety, efficiency, as well as monitoring and tracking of vehicular movements.

SEIL is developing an integrated network of electronic data collection, known as Rede Integrada de Coleta Eletronica de Informacoes (RECEI Parana). SEIL is coordinating a plan of action involving the application of ITS and ICT technologies necessary for creating a systematic method of data collection.

The proposed network involves implementing an electronic monitoring system for vehicles with the use of Optical Character Recognition (OCR) systems and cameras installed along the roadway. The cameras will detect and register license plates. The second phase of the concession will install Radio Frequency Identification (RFID) systems for tracking trucks. In preparation, the Brazilian Government has already enacted a law requiring all cargo vehicles be equipped with RFID devices. The data collection project will track freight/cargo trucks through cameras able to capture electronic images of license plates with OCR and RFID systems. The RECEI systems will ultimately represent a database to allow integration of other customized systems that SEIL needs to execute its strategic plan.

Currently, RECEI's top priority is installing the OCR cameras. The Government has identified 420 potential locations for the installation of 1,000 cameras.

The next phases of the RECEI project involves:

- Installation of camera/OCR systems;
- Implementation of central database bank and Operational Control Center;
- Development of the central system to be modeled and tested by other state institutions; and
- Deployment of RFID system.

SEIL is currently in the evaluation process for technologies such as ITS and ICT systems. The project awaits final funding from the state Government for construction. The bid should be announced in 2016.

The SEIL Project may provide U.S. firms with opportunities related to the design and supply of ITS and ICT systems including:

- CCTV cameras;
- OCR systems;
- RFID systems;
- Traffic data sensors;
- Communications systems;
- Technologies for operational control centers;
- Database center equipment and software;
- Workstations, servers, and operating systems;
- Video display systems;
- Power back-up systems; and
- Professional services (ITS and ICT systems) for highway related operations.

Contacts
For more information on this project, you may reach out to the project contacts listed below.

State of Sao Paulo	U.S. Trade and Development Agency	U.S. Commercial Service Brazil
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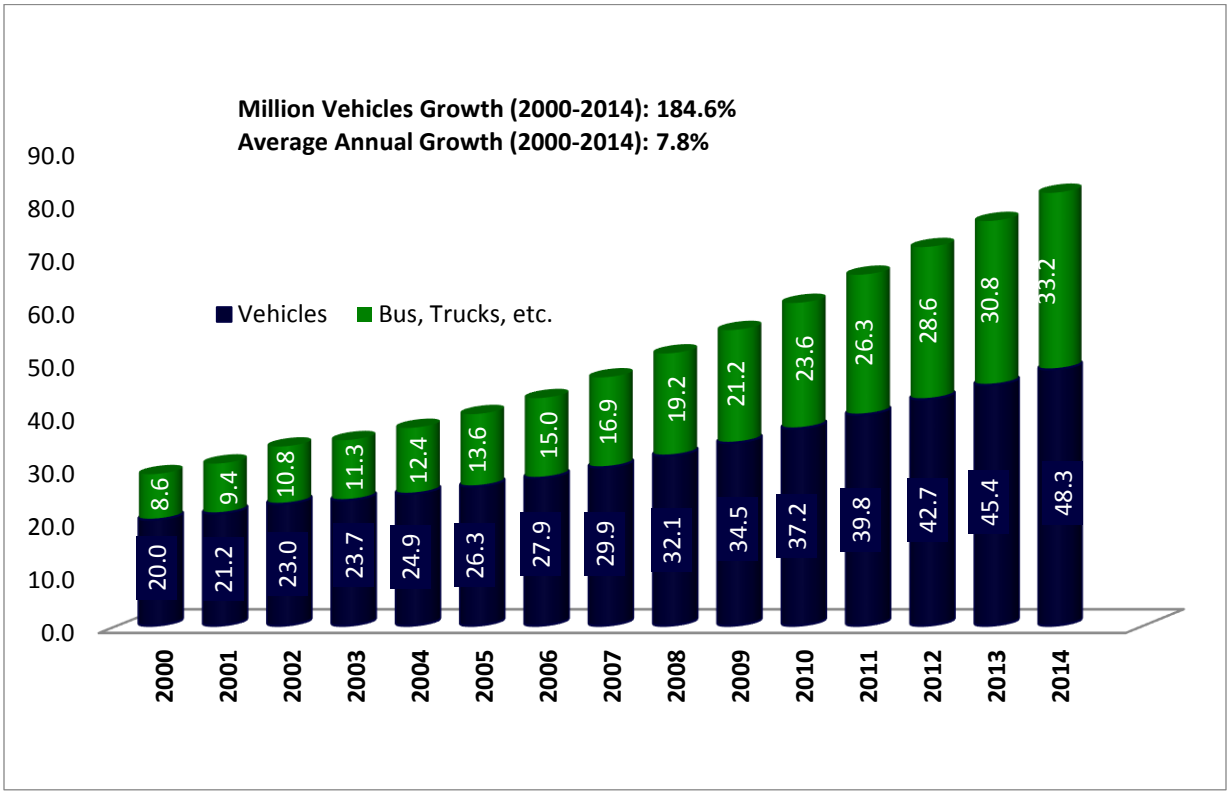
3.7 Brazil Highway Overview and Regulatory Framework

Highways represent over half of all surface transportation in Brazil, followed by railways (25%), inland waterways (17%) and others such as air transportation. The majority of cargo and passengers travel by roads in a network that stretches across 1.7 million Km. In the mid-1990s, Brazil launched its federal highway concession program and the country now has approximately 55 federal highways built and overseen by the private sector.

Brazil's recent growth in foreign trade and the emergence of private port operation has made residents and cargo even more reliant on the highway system. The lack of rail network connecting production centers to the ports limits most cargo movements to highway travel, increasing logistical and transportation costs.

[1]Figure 19 - Number of Vehicle Fleet in Brazil (In Millions)



The existing highway concession contracts feature projects such as new highways, expansion and modernization of existing highways, adding lane capacity, construction of new bridges, paving of unpaved roads, interchange construction to connect highways to communities and production centers, maintenance, safety improvements and the deployment of Intelligent Transportation Systems (ITS).

The concession program relies on tolls to generate revenue in support of these upgrades. The contract usually provides a 25 - 30 year period for the concessionaire to complete the improvements, including highway operation and maintenance. The Brazilian Development Bank (BNDES) has been the primary funder, offering low-interest loans, and further promoting the Government's efforts to attract private sector investment.

While the concession program has already improved many key highways, much work remains to be done. U.S. companies may be able to export goods and services related to design, supply and implementation of ITS systems and ICT technology. Several years ago, the Brazilian Government elected to follow the standards of the National Transportation Communications for Intelligent Transportation Systems Protocol (NTCIP). Following NTCIP standards and implementing ITS systems should lead to compatibility between computers and electronic traffic control systems.

Brazilian highway regulatory agencies oversee the process of delegating public services to private or public organizations. In addition to monitoring service quality, regulators are responsible for establishing

[1] Source: Detran (National Department of Transportation)
*Bus, tractor truck, truck, pickup truck, minibus, motorcycle, bus and utility vehicles

rules and standards for highway construction, operation and maintenance. The major regulators in the highway sector include the Ministry of Transportation (MOT), the National Land Transportation Agency (ANTT) and the Ministry of Planning (MOP). MOP determines areas in need of highway connections to support the national strategic plan. The MOT and the National Land Transportation Agency organize the operation and development of all federal roadway activities with the goal of supporting the safe and efficient transport of goods and people traveling via the national highway system.

As a sub-agency of MOT, ANTT regulates vehicle and roadway safety conditions and oversees the monitoring, licensing and operating of the national roadway system. ANTT is funded through MOP's budget and partly by concession revenue.

Regarding state highways, each state has its own agency responsible for the planning, development, construction and operation of their respective highways. Some states such as Parana, Sao Paulo and Rio de Janeiro have adopted the federal highway concession model in an effort to develop and modernize their highways.

3.8 U.S. Department of Transportation (USDOT) and Brazil's Ministry of Transport (MOT)

The USDOT and MOT came together to form the U.S.-Brazil Transportation Partnership in order to improve transportation safety and connectivity, and to facilitate trade between the two countries. Under the Transportation Partnership, there are four working groups: Highways, Ports and Inland Waterways, Railways and Disaster Preparedness and Response.

The Highways Working Group (HWG) collaborates on key transportation issues, coordinates information exchange opportunities with transportation agencies and experts and develops program activities in areas of mutual interest. In 2015, the HWG held five technical exchanges on performance-based contracts addressing: load capacity for trucks, highways maintenance, hours of service and enforcement for commercial vehicle drivers, highway infrastructure financing and concessions.

The HWG has also addressed Intelligent Transportation Systems (ITS). In fact, the "ITS ePrimer" offers resources to Portuguese-speaking transportation professionals and students regarding fundamental concepts and practices for ITS technologies. The ePrimer is a valuable tool for understanding ITS technology and can be accessed at https://www.transportation.gov/office-policy/international-policy-and-trade/sistemas-de-transportes-inteligentes

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