Brazil’s Soy Infrastructure: Improvements and Perspectives

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This is how soy started...


Credit image: Amaggi.
In the 1970’s, soy began to grow, but its potential remained unexploited...

Source: USDA FAS/PSD
...the economy faced difficulties...

GDP growth (% y/y)

Source: Central Bank of Brazil with information from IBGE (GDP at constant last year prices and IPCA).

Inflation rate (%)
...and State investments in transportation infrastructure plummeted.

Source: Pesquisa CNT de Rodovias 2016 (CNT Highway Research).
The crop increased, but the number of producer municipalities fell.

Outflow costs increase.
Production becomes more concentrated.
Scale and efficiencies are key.
Then, a new soy consumer turns up

China: urban and rural population (in million)

China: consumption per capita (pounds/year)

And Brazil becomes a big soy producer and exporter

Credit images: Amaggi.
Brazil Cargo Transportation Matrix

General transportation

- Roads: 52%
- Rails: 30%
- Cabotage: 8%
- Barges: 5%
- Pipelines: 5%

Source: Brazil, Ministry of Transportation - PNLT (2011).

Soybean transportation

- Roads: 53%
- Trails: 36%
- Waterways: 11%

Source: Anec (2011).
Railroad Network - Brazil vs USA

- Brazil: 18,000 miles
- USA: 140,000 miles

Railroad network has changed little since 1930.

Source: Brazil, Ministry of Transportation, PNLT (2011) and ILOS (2014).
Waterway Network - Brazil vs USA

Brazil 8,700 miles

USA 25,500 miles

Only the Tietê-Paraná waterway is fully operational.

Source: Brazil, Ministry of Transportation, PNLT (2011).

Highway Network - Brazil vs USA

Brazil:
- 132,000 miles (14% paved)
- 980,000 miles

USA:
- 2,720,000 miles (69% paved)
- 3,935,000 miles

Sources:
- Brazil, Ministry of Transportation, PNLT (2011).
- ILOS (2014).
Soy Transportation Costs (US$/bushel)

Queues on access routes to the ports of Santos and Paranaguá

Credit image: Caminhões e Carretas (accessed on Feb 3, 2018).

Credit image: Gazeta do Povo (accessed on Feb 3, 2018).
The BR-163 road (Pará State) interrupted due to excessive rain
And now?
Higher productivity: total port exports (MMT)
Soybeans, soy meal and corn exports through the Northern Arc (MMT)
Warehousing capacity growth (MMT)

Brazil’s main regions

Credit images: AGI Growth/Daniel Goulart and SuaPesquisa.com. Obs.: units with big commercial capacity higher.
Mandatory truck scheduling at ports

Land access to ports: Situation after implementing the Intelligent Port Logistics Chain and AALP

Source: SEP, 2013.

Credit image: Caminhões e Carretas (accessed on Feb 3, 2018).
BR-163 Highway: roadworks and traffic
Grain terminals in the Tapajós River corridor

Santarém Port
Cargill
Another grain terminal slated for bids

Vila do Conde Port
Bunge
Brazil waterways
ADM
Another grain terminal slated for bids

Outeiro Port
Three terminals slated for bids

R$250 million to R$1 billion to be invested in terminals for private use (TUP)

1 convoy of 20 barges will transport 600,000 to 800,000 tons of grains

40 million tons per year of soy is the outflow the sector expects through the North by 2020

Source: Valor Econômico newspaper on Feb 25, 2014. Credit image: ABIOVE.
Greater competitiveness for cargo between outflow modals and routes

• Ports in the South and Southeast will continue to be important: soy, corn and other products will continue to be influenced

• Ports in the Northern Arc:
  • Will increase competition
  • Will create new opportunities
  • Will benefit the Center-West and Northeast regions
Tocantins River waterway: demolition of Pedral will allow unrestricted navigation.

Waterway must be efficient: only 500 km by truck.
EF-170: MT-PA railroad (“Ferrogrão”)


MT = Mato Grosso State; PA = Pará State
Consensus on the new infrastructure that is needed...

Logistics projects promoting interconnections between important hubs and cargo outflow

Source: PPI Secretariat
...and advanced discussions on investments in current concessions

- **5 railroads**: moving 457 MMT/year
- **30-year extension conditional on investments** estimated at US$ 8 billion to expand capacity
- Access to Brazil’s **main ports**

Source: Brazilian
Final Comments

• Brazil has become a **big soy producer** after mastering **technology** and expanding the **consumer market**

• The last two decades have revealed the **shortfall in infrastructure**

• **New projects are ongoing**, and the deficit should be fully resolved in 10 to 20 years

• **Full services** rendered at competitive prices will increase Brazil’s productive capacity

• **Long-term offer** of products from the soy and corn complexes should increase especially in underutilized pastures
Associated Companies