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Agriculture

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Marketing  
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A low-angle photograph of a soybean field under a clear blue sky. The plants are in the foreground, showing their stems, leaves, and numerous brown, mature soybean pods hanging from the stalks. The background is a solid, clear blue sky.

# SOYBEAN TRANSPORTATION GUIDE: BRAZIL 2009

United States Department of Agriculture  
Marketing and Regulatory Programs  
Agricultural Marketing Service  
Transportation and Marketing Programs

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# SOYBEAN TRANSPORTATION GUIDE: BRAZIL

## Introduction

Brazil is the second largest soybean exporter after the United States and one of the most important U.S. competitors in the world oilseeds market. Brazil's competitiveness in the world market depends largely on its transportation infrastructure and cost. It is estimated by the Confederação Nacional do Transporte (CNT) that, because of the poor conditions of the paved roads, Brazilian operational costs of cargo trucks are 28 percent higher than they would be on paved roads under optimal conditions. The Brazilian government has instituted the Growth Acceleration Program (PAC) 2007-2010 and the National Plan of Logistics and Transportation (PNLT) 2008-2023 to improve infrastructure and aid Brazil's competitiveness in the world market.

The Soybean Transportation Guide is a visual snapshot of Brazilian soybean transportation in 2009. It provides data on the cost of shipping soybeans via highways and ships to Shanghai, China, and Hamburg, Germany, and gives information about soybean production, exports, railways, ports, and infrastructural developments.

Brazilian soybean transportation costs to Hamburg and Shanghai as a percentage of total landed costs declined 2–26 percent in Mato Grosso (MT), Paraná (PR), Rio Grande do Sul (RS) and South Goiás (GO) from a year earlier as a result of a drop in ocean rates. These selected routes saw proportionally greater decreases in transportation costs in terms of the U.S. dollar because of the 9 percent depreciation of the real against the dollar, from 1.8346 to 1.9977. This is the largest drop in the value of the real against the U.S. dollar since its peak in 2005.

The Brazilian soybean export transportation cost index decreased 10 percent in 2009, dropping almost to the 2007 levels of \$8.44/mt. The cost of shipping a metric ton (mt) of soybeans 100 miles by truck decreased from \$9.75 in 2008 to \$8.74 in 2009. Truck rates recuperated during the second and third quarter, but still remained 17 percent below the peak of \$11.15 per mt/100 miles reached in the 3rd quarter 2008. In the last 4 years, the peaks of Brazilian soybean exports have occurred in July, when almost three quarters of the year's soybeans are exported. Costs in the fourth quarter declined slightly but remained about 29 percent higher than the same period in 2008.

Ocean rates to Europe continued to decline in 2009 because of sluggish world trade volumes, declining ship utilization ratios, cuts in bunker fuel surcharges as a result of the drop in oil prices, and carriers' efforts to gain or hold market share. Ocean rates from the ports of Santos, Paranaguá, and Rio Grande to Hamburg dropped about 38 percent. Freight rates to Shanghai also declined, but not as much as the rates to Hamburg, falling 16–18 percent from 2008 rates.

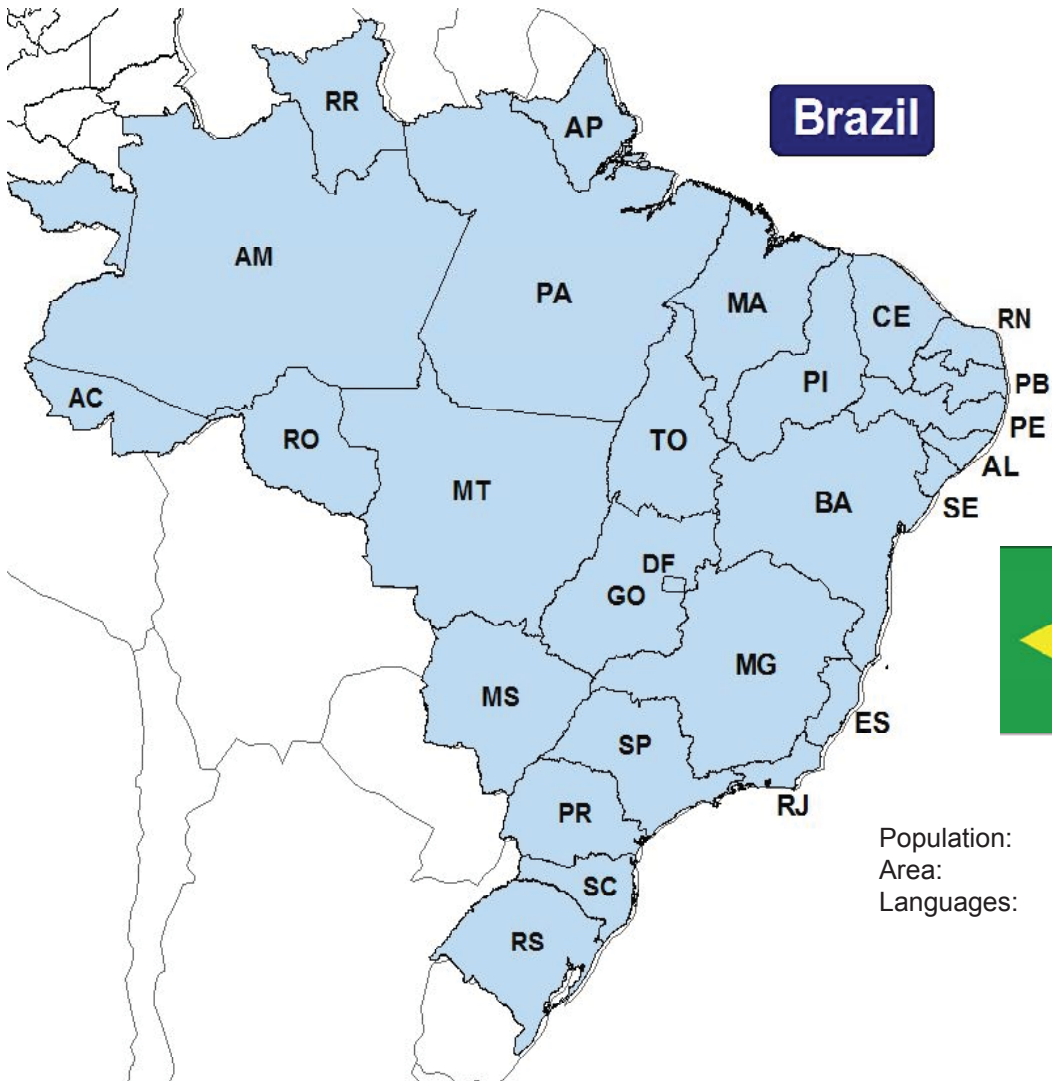
Carriers serving the Brazil–Hamburg route do not have the flexibility to reduce capacity in the same way as the Brazil–Shanghai route due to the shorter voyage distance and lack of markets caused by the world recession. The distance from Santos to Hamburg is 5,683 nautical miles; from Santos to Shanghai it is almost twice that—11,056 nautical miles. Santos was the most important soybean export port in 2009, accounting for 34 percent of Brazilian exports.

Farm prices, in reais, increased 6–18 percent from 2008, with the highest increase in the state of Paraná. However, when farm prices are measured in US\$, they decreased because of the depreciation of the real against the U.S. dollar. Mato Grosso farm prices reached their peak in the second quarter and dropped in the third and fourth quarter, but still remained 6 percent higher than the previous year.

Transportation costs represent 29–33 percent of the total landed costs of shipping soybeans from Sorriso, North MT (the largest Brazilian soybean-producing state), to Shanghai and Hamburg through Santos and Paranaguá, compared with 43–45 percent in 2006. Higher farm prices caused the decline in transportation costs as a percent of total landed costs. Sorriso is located 1,190 miles from Santos and 1,262 miles from Paranaguá. The cost from Cruz Alta in Northwest RS to the same destinations was only 14–19 percent of the total landed cost because of the shorter road distance (288 miles) to the Port of Rio Grande. U.S. total landed costs for soybeans to Hamburg and Shanghai were down 24–34 percent in 2009 and well below Brazil's percentages, due to lower barge and ocean rates.

## Acknowledgements

The author would like to acknowledge João Paulo de Moraes Filho and Mariano Marques (Companhia Nacional de Abastecimento, CONAB), Francisco P. Magalhães Gomes, (National Agency of Inland Transportation, ANTT), Rodrigo Vilaça and Ellen Capistrano Martins (National Association of Railroads, ANTF), and Curt Reynolds (USDA, Foreign Agricultural Service) for providing regional information and maps of Brazil. Comments and critiques by Keith Menzie and David Stallings (USDA, Office of the Chief Economist) and Mark Ash (USDA, Economic Research Service) are greatly appreciated. The support provided by Alan Hrapsky, Irene Mota, Priscila Ming, and Julie Morin (USDA, Foreign Agricultural Service) is gratefully acknowledged. The author would also like to thank Michael D. Smith, editor, and Jessica Ladd, graphic designer.



**Brazil**

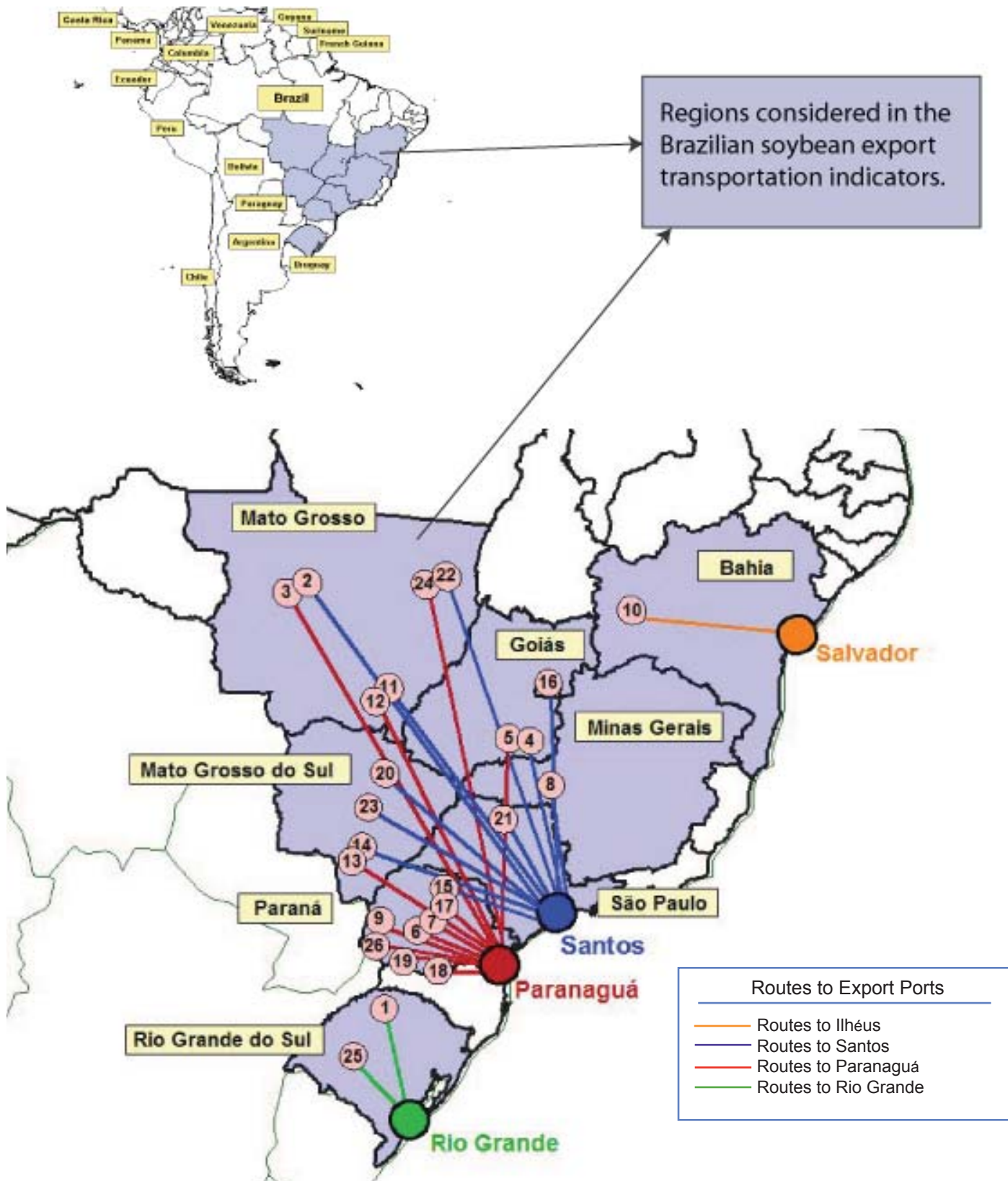


Population: 198,739,269  
 Area: 8,511,965 sq km  
 Languages: Portuguese (official), Spanish, English, French

State and Abbreviation	
Acre (AC)	Paraíba (PB)
Alagoas (AL)	Paraná (PR)
Amapá (AP)	Pernambuco (PE)
Amazonas (AM)	Piauí (PI)
Bahia (BA)	Rio de Janeiro (RJ)
Ceará (CE)	Rio Grande do Norte (RN)
Distrito Federal (DF)	Rio Grande do Sul (RS)
Espírito Santo (ES)	Rondônia (RO)
Goiás (GO)	Roraima (RR)
Maranhão (MA)	Santa Catarina (SC)
Mato Grosso (MT)	São Paulo (SP)
Mato Grosso do Sul (MS)	Sergipe (SE)
Minas Gerais (MG)	Tocantins (TO)
Pará (PA)	



Routes<sup>1</sup> and regions considered in the Brazilian soybean export transportation indicator<sup>2</sup>



<sup>1</sup>Table defining routes by number is shown on page 13

<sup>2</sup>Regions comprised about 82 percent of Brazilian soybean production, 2008

Source: USDA/AMS & ESALQ - University of São Paulo (USP), Brazil

In 2009, Brazilian soybean transportation costs from South Goiás (GO), Mato Grosso (MT), Paraná (PR) and Rio Grande do Sul (RS) to Hamburg, Germany, as a percentage of total landed costs declined 9–26 percent from a year earlier.

Cost of transporting soybeans from Brazil to Hamburg, Germany										
	2006	2007	2008	2009	Percent change 2008-2009	2006	2007	2008	2009	Percent change 2008-2009
	--US\$/mt--					--US\$/mt--				
	North MT <sup>1</sup> - Santos <sup>2</sup>					Northwest RS <sup>1</sup> - Rio Grande <sup>2</sup>				
Truck	79.46	97.67	115.74	97.00	-16.20	16.16	21.82	22.29	24.50	9.93
Ocean	46.76	73.01	52.36	32.48	-37.96	45.03	71.73	54.30	33.79	-37.77
Total transportation	126.22	170.68	168.10	129.48	-22.98	61.18	93.55	76.60	58.30	-23.89
Farm value <sup>3</sup>	164.88	233.82	358.99	324.34	-9.65	210.34	267.06	394.66	359.51	-8.91
Landed cost	291.11	404.50	527.09	453.82	-13.90	271.53	360.61	471.26	417.80	-11.34
Transport % of landed cost	43.4	42.5	31.6	28.7	-9.42	22.3	26.1	16.1	14.0	-12.90
	North Center PR <sup>1</sup> - Paranagua <sup>2</sup>					South GO <sup>1</sup> - Santos <sup>2</sup>				
Truck	21.31	32.36	33.60	27.37	-18.55	43.56	50.47	80.61	50.83	-36.94
Ocean	45.76	71.05	53.81	33.34	-38.04	46.76	73.01	52.36	32.48	-37.96
Total transportation	67.07	103.42	87.41	60.71	-30.55	90.32	123.48	132.97	83.32	-37.34
Farm value <sup>3</sup>	213.81	281.14	399.30	372.46	-6.72	189.63	268.65	358.99	338.31	-5.76
Landed cost	280.88	384.56	486.71	433.17	-11.00	279.96	392.12	491.97	421.63	-14.30
Transport % of landed cost	23.8	27.0	17.9	14.1	-21.12	32.2	31.8	26.9	19.8	-26.44

<sup>1</sup>Producing regions: RS = Rio Grande do Sul, MT= Mato Grosso, GO = Goiás, PR = Paraná

<sup>2</sup>Export ports

<sup>3</sup>Source: Companhia Nacional de Abastecimento (CONAB) [www.conab.gov.br](http://www.conab.gov.br)

Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

## 2009 Summary

In 2009, Brazilian soybean transportation costs to Shanghai, China, as a percentage of total landed costs declined 2-10 percent compared with 2008 due to a decline in ocean rates and higher farm values. In Sorriso, North MT (the largest Brazilian soybean-producing state) transportation costs represented 33 percent of the total landed costs of shipping soybeans to Shanghai through Santos and Paranaguá, compared with 45 percent in 2006.

Cost of transporting soybeans from Brazil to Shanghai, China										
	2006	2007	2008	2009	Percent change 2008-2009	2006	2007	2008	2009	Percent change 2008-2009
	--US\$/mt--					--US\$/mt--				
	North MT <sup>1</sup> - Santos <sup>2</sup>					Northwest RS <sup>1</sup> - Rio Grande <sup>2</sup>				
Truck	79.46	97.67	115.74	97.00	-16.20	16.16	21.82	22.29	24.50	9.93
Ocean	57.31	82.83	70.38	58.78	-16.47	55.81	81.56	72.08	59.42	-17.56
Total transportation	136.77	180.51	186.12	155.78	-16.30	71.97	103.37	94.37	83.92	-11.07
Farm value <sup>3</sup>	164.88	233.82	358.99	324.34	-9.65	210.34	267.06	394.66	359.51	-8.91
Landed cost	301.65	414.33	545.11	480.12	-11.92	282.31	370.43	489.03	443.43	-9.32
Transport % of landed cost	45.4	43.9	34.1	32.6	-4.41	25.2	28.1	19.4	19.0	-1.93
	North Center PR <sup>1</sup> - Paranaguá <sup>2</sup>					South GO <sup>1</sup> - Santos <sup>2</sup>				
Truck	21.31	32.36	33.60	27.37	-18.55	43.56	50.47	55.33	50.83	-8.13
Ocean	56.31	80.81	71.66	59.00	-17.67	57.31	82.83	70.38	58.78	-16.47
Total transportation	77.62	113.18	105.26	86.37	-17.95	100.87	133.30	125.71	109.62	-12.80
Farm value <sup>3</sup>	213.81	281.14	399.31	372.46	-6.72	189.63	268.65	373.13	338.31	-9.33
Landed cost	291.43	394.32	504.56	458.83	-9.06	290.50	401.95	498.84	447.93	-10.21
Transport % of landed cost	26.5	28.9	21.0	18.9	-10.05	34.6	33.5	25.4	24.6	-3.13

<sup>1</sup>Producing regions: RS = Rio Grande do Sul, MT= Mato Grosso, GO = Goiás, PR = Paraná

<sup>2</sup>Export ports

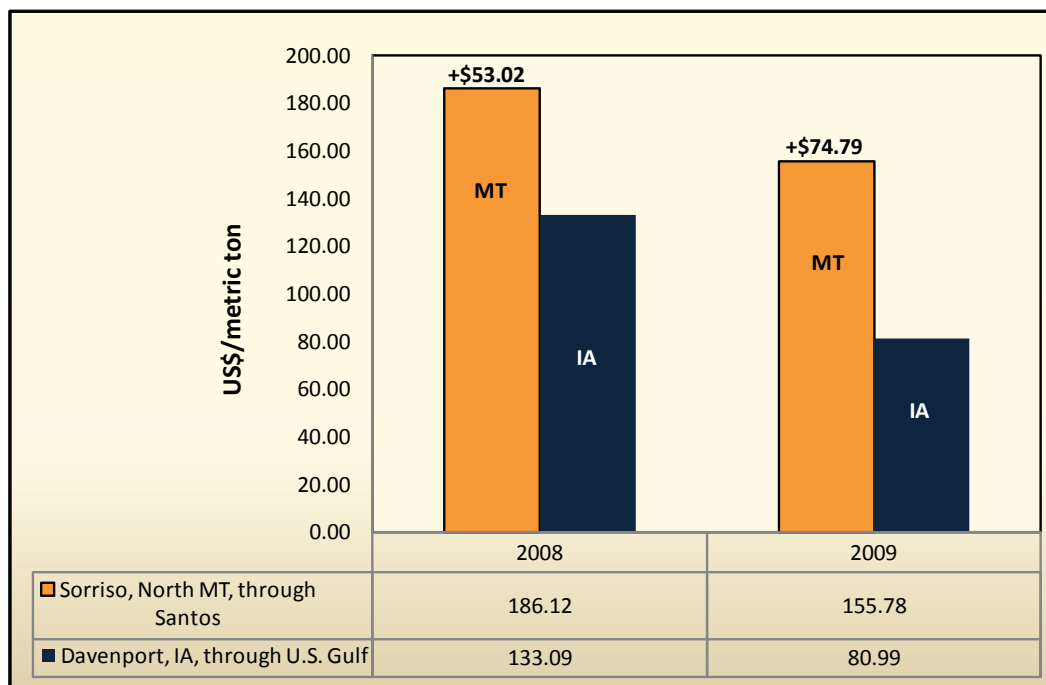
<sup>3</sup>Source: Companhia Nacional de Abastecimento (CONAB) [www.conab.gov.br](http://www.conab.gov.br)

Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS



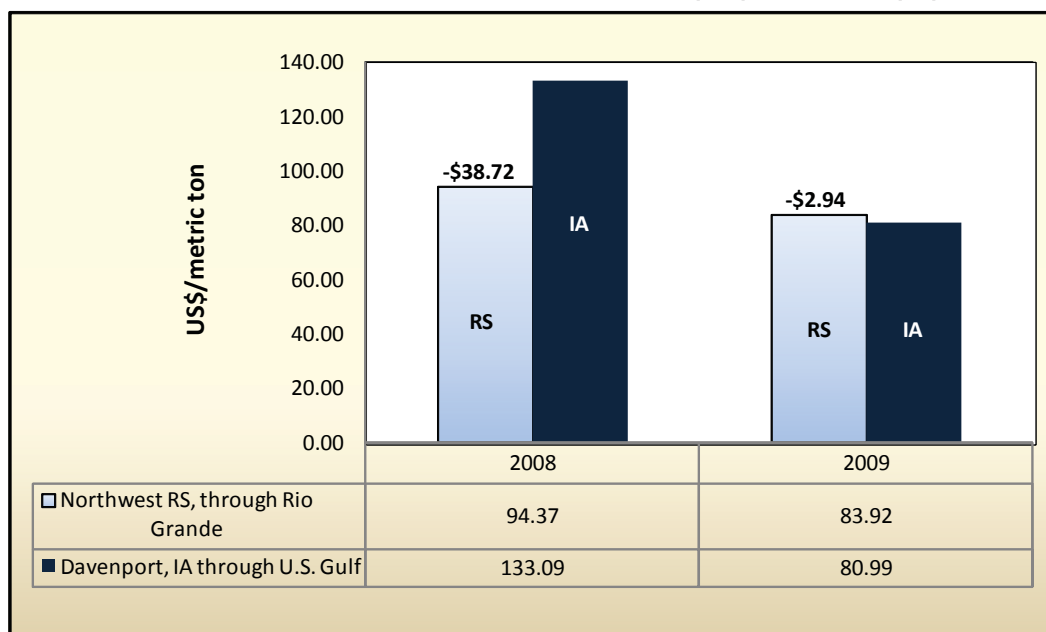
In 2009, it cost \$74.79 more per metric ton to ship soybeans from Sorriso, North Mato Grosso (MT) to Shanghai, China, than from Davenport, IA. Sorriso is located 1,190 miles from the Port of Santos. Davenport is about 900, 908, and 1,343 miles from the Port of New Orleans by truck, rail, and barge, respectively.

## Transportation cost differences between Mato Grosso (MT) and Iowa (IA) to Shanghai, China



In 2009, the cost of shipping a metric ton of soybeans from Cruz Alta, Northwest Rio Grande do Sul (RS), to Shanghai, China, cost \$2.94 less than from Davenport, IA. The distance from Cruz Alta to the port of Rio Grande is 288 miles.

## Transportation cost differences between Rio Grande do Sul (RS) and Iowa (IA) to Shanghai, China



## 2009 Summary

In 2009, truck rates (valued in reais) from Sorriso, North Mato Grosso (MT), to Santos and Paranaguá decreased 7 and 8 percent, respectively. In contrast, truck rates from Cruz Alta, Rio Grande do Sul (RS) to Rio Grande increased 22 percent.

Truck rates for selected Brazilian soybean export routes, 2005-2008									
Route #	Origin <sup>1</sup> (reference city)	Destination	Distance (miles) <sup>2</sup>	2005	2006	2007	2008	2009	Percent Change 08-09
				Reais/metric ton					
1	Northwest RS <sup>3</sup> (Cruz Alta)	Rio Grande	288	31.25	35.09	42.83	39.75	48.32	21.56
2	North MT (Sorriso)	Santos	1190	191.83	172.90	190.37	206.25	191.73	-7.04
3	North MT (Sorriso)	Paranaguá	1262	188.40	169.84	171.59	196.05	180.30	-8.03
4	South GO (Rio Verde)	Santos	587	90.56	94.74	98.45	99.16	100.36	1.20
6	North Center PR (Londrina)	Paranaguá	268	52.26	46.35	62.89	60.78	54.50	-10.33
11	Southeast MT (Primavera do Leste)	Santos	901	143.14	125.29	135.70	144.86	147.22	1.64

<sup>1</sup>Although each origin region comprises several cities, the main city is considered as a reference to establish the freight price

<sup>2</sup>Distance from the main city of the considered region to the mentioned ports

<sup>3</sup>RS = Rio Grande do Sul, MT= Mato Grosso, GO = Goiás, PR = Paraná, MG = Minas Gerais, BA = Bahia, MS = Mato Grosso do Sul, SP = São Paulo

Source: ESALQ/USP (University of São Paulo, Brazil) and USDA/AMS

In 2009, selected Brazilian export truck routes saw proportionally higher decreases in transportation costs in U.S. dollars due to the depreciation of the real against the U.S. dollar. In 2009, the real depreciated about 9 percent against the dollar, from 1.8346 to 1.9977 per dollar. This is the largest drop in the value of the real against the U.S. dollar from the peak of 2005.

Truck rates for selected Brazilian soybean export routes, 2005-2008									
Route #	Origin <sup>1</sup> (reference city)	Destination	Distance (miles) <sup>2</sup>	2005	2006	2007	2008	2009	Percent Change 08-09
				US\$/metric ton					
1	Northwest RS <sup>3</sup> (Cruz Alta)	Rio Grande	288	4.46	5.61	7.58	7.74	8.51	9.93
2	North MT (Sorriso)	Santos	1190	6.65	6.68	8.21	9.73	8.15	-16.20
3	North MT (Sorriso)	Paranaguá	1262	6.15	6.18	6.98	8.71	7.24	-16.87
4	South GO (Rio Verde)	Santos	587	6.40	7.42	8.60	9.43	8.66	-8.13
6	North Center PR (Londrina)	Paranaguá	268	8.03	7.95	12.08	12.54	10.21	-18.55
11	Southeast MT (Primavera do Leste)	Santos	901	6.54	6.39	7.72	8.95	8.26	-7.71

<sup>1</sup>Although each origin region comprises several cities, the main city is considered as a reference to establish the freight price

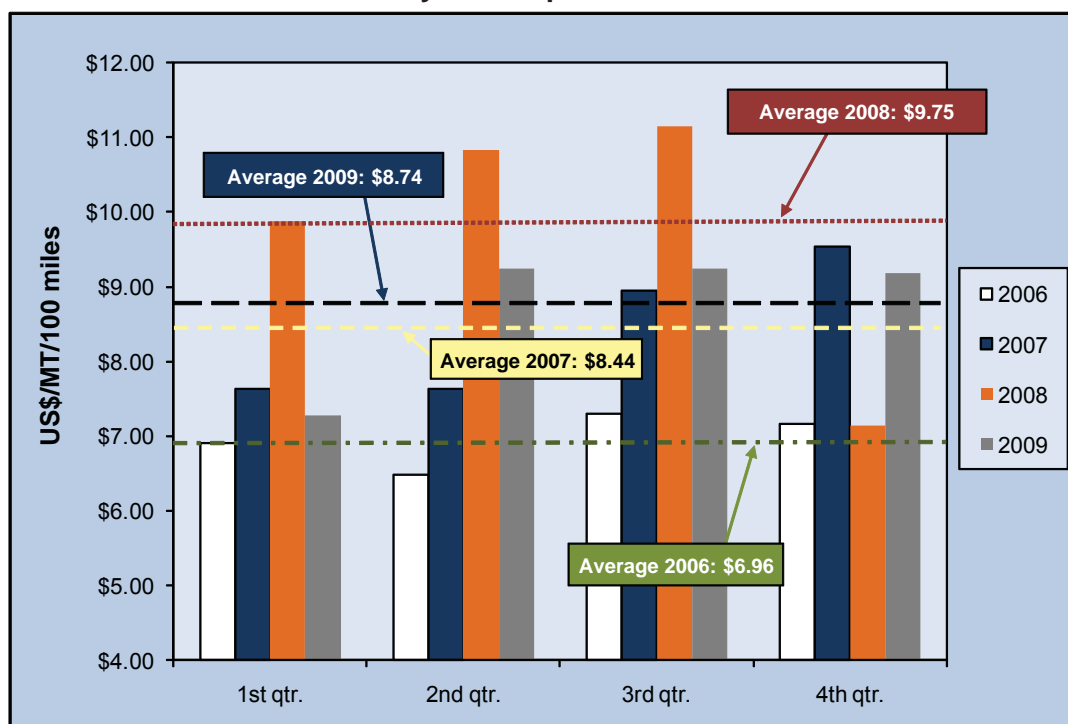
<sup>2</sup>Distance from the main city of the considered region to the mentioned ports

<sup>3</sup>RS = Rio Grande do Sul, MT= Mato Grosso, GO = Goiás, PR = Paraná, MG = Minas Gerais, BA = Bahia, MS = Mato Grosso do Sul, SP = São Paulo

Source: ESALQ/USP (University of São Paulo, Brazil) and USDA/AMS

The Brazilian soybean export transportation cost index decreased 10 percent in 2009. The cost of shipping a metric ton (mt) of soybeans 100 miles by truck decreased from \$9.75 in 2008 to \$8.74 in 2009.

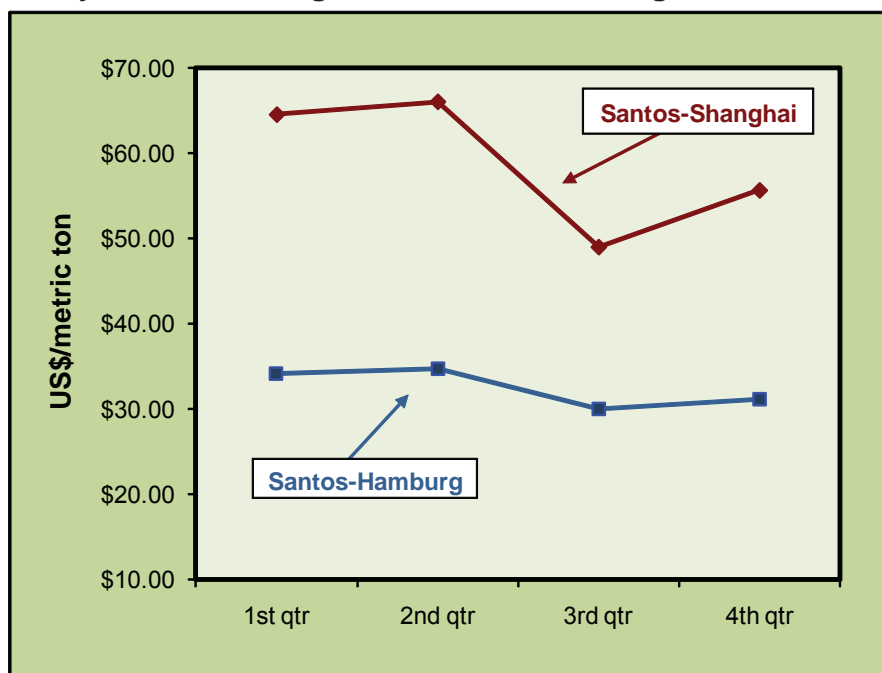
**Brazilian soybean export truck cost index**



Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

In 2009, ocean rates from the Port of Santos to Shanghai, China, hit a low of \$48.78/mt in the third quarter of the year, but later recovered; ending the year 11 percent higher, at \$54.23/mt. Ocean rates to Hamburg followed a similar trend, ranging from \$32-\$34/mt.

**Brazilian soybean ocean freight from Santos to Shanghai and Hamburg, 2009**

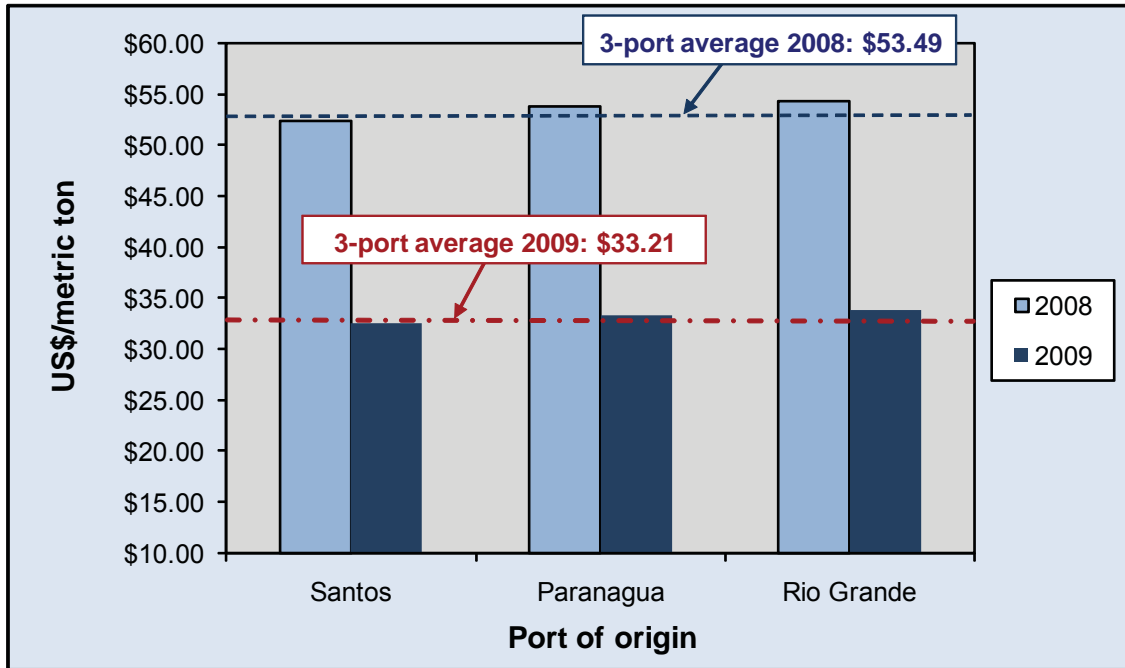


Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

## 2009 Summary

The cost to ship 1 mt of soybeans from Brazil to Hamburg by ocean-going vessel decreased on average almost 38 percent from \$53.49/mt to \$33.21/mt.

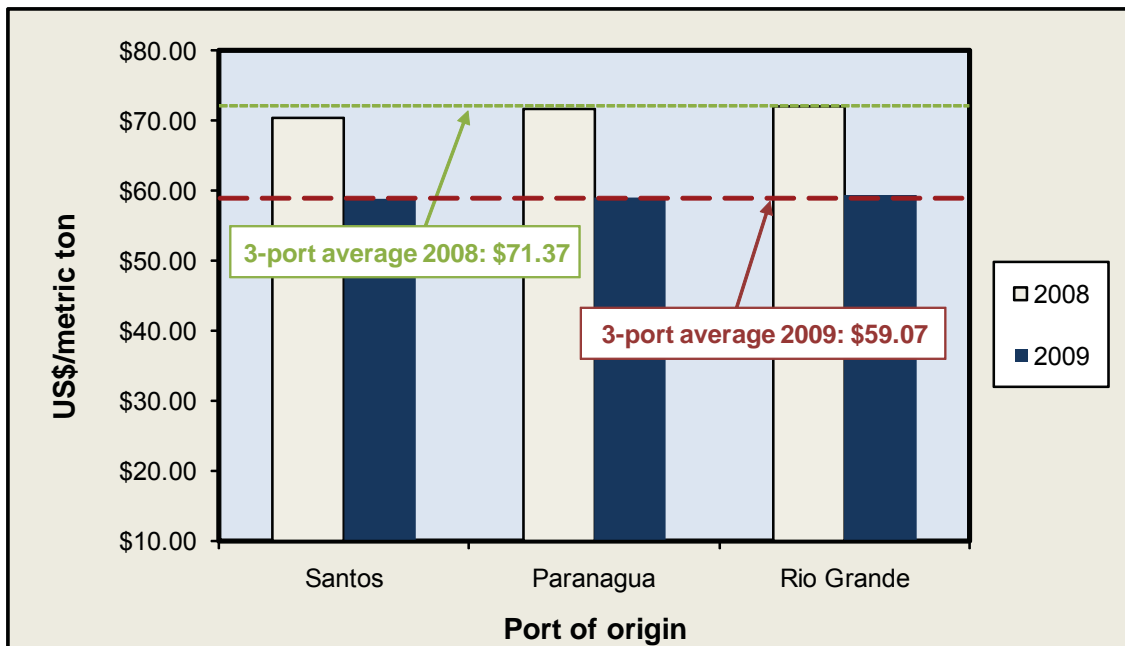
Ocean rates from Brazil to Hamburg, Germany, declined in 2009



Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

In 2009, the cost to ship 1 mt of soybeans from Brazil to Shanghai by ocean vessel fell on average 17 percent, from \$71.37/mt to \$59.07/mt.

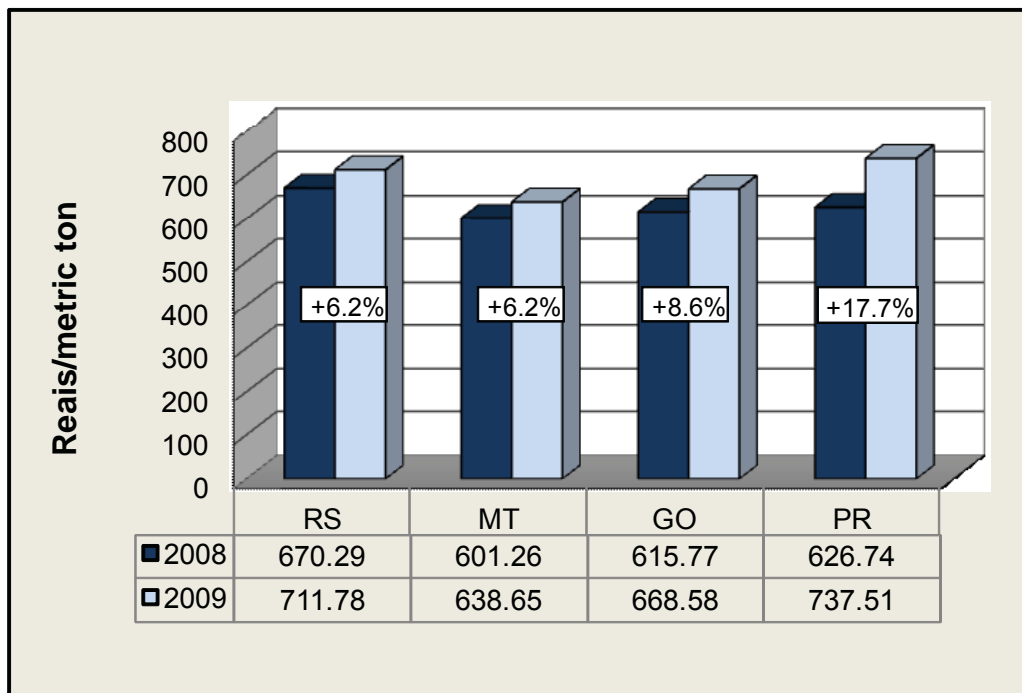
Ocean rates from Brazil to Shanghai, China, dropped in 2009



Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

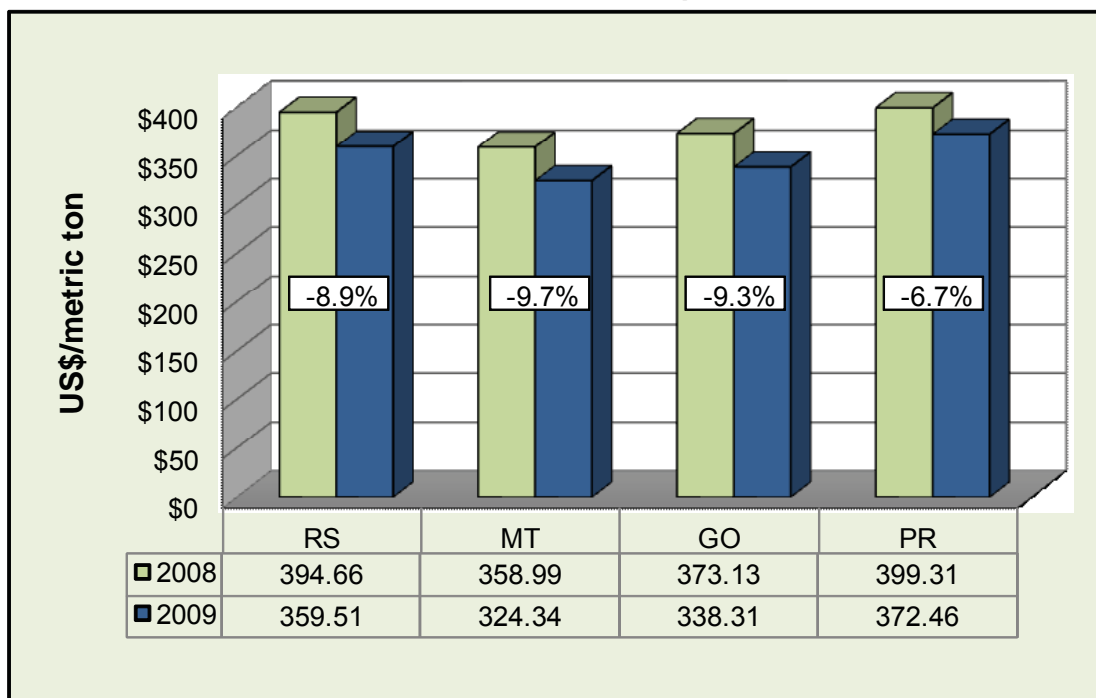
Farm prices in reais increased 6.2 percent in Mato Grosso (MT) in 2008. However, when farm prices are measured in US\$, they decreased from a year earlier, due to the depreciation of the real against the U.S. dollar.

Selected Brazilian farm prices



RS = Rio Grande do Sul, MT = Mato Grosso, GO = Goiás, PR = Paraná  
 Source: Companhia Nacional de Abastecimento (CONAB)

Selected Brazilian farm prices

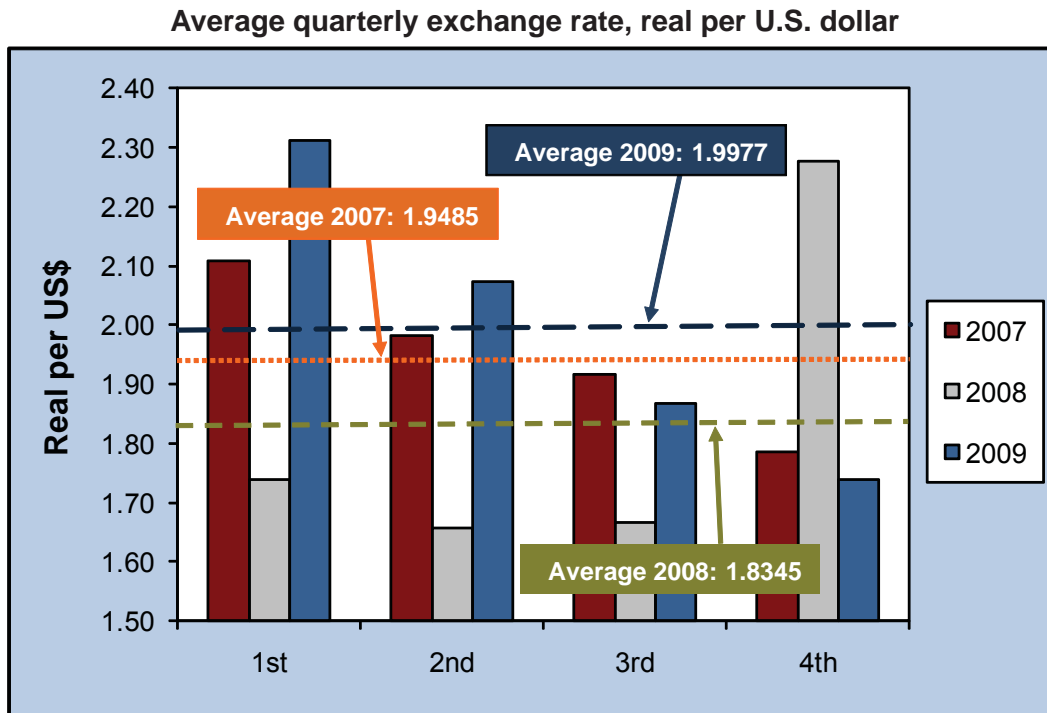


RS = Rio Grande do Sul, MT = Mato Grosso, GO = Goiás, PR = Paraná  
 Source: Companhia Nacional de Abastecimento (CONAB)



## 2009 Summary

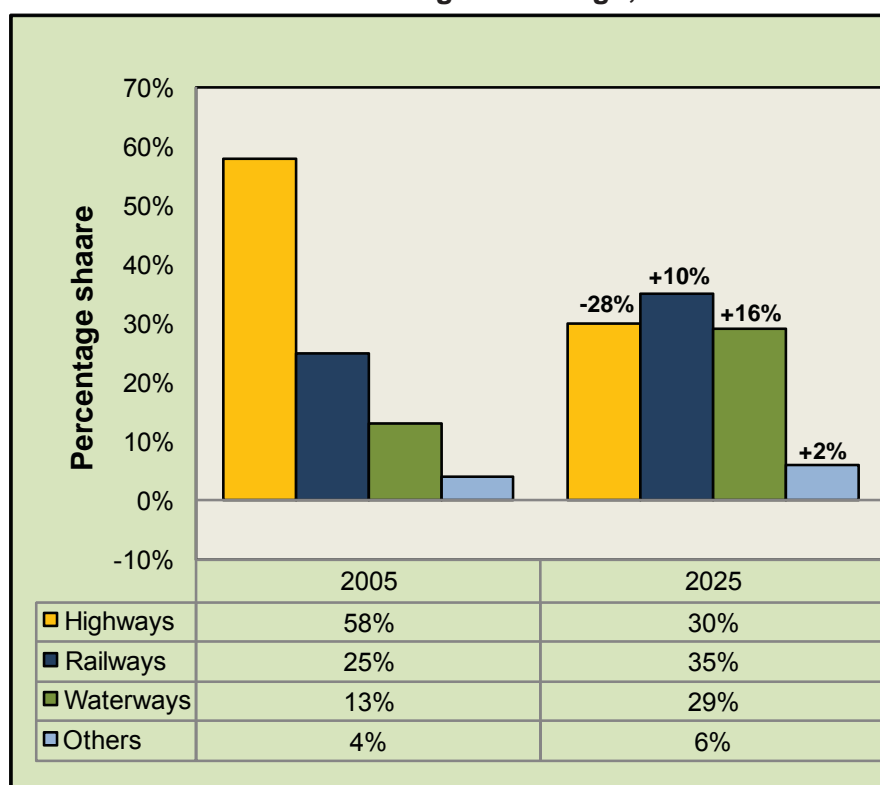
In 2009, the real depreciated 8.9 percent against the US\$ compared with 2008, from 1.8346 reais to 1.9977 per 1 US\$.



## Transportation Infrastructural Developments

The Brazilian government plans to change the current cargo transportation matrix by developing an integrated intermodal system. The intention is that within 15 to 20 years, railways' participation will increase from 25 to 35 percent; waterways from 13 to 29 percent; and truck shipments will be reduced by 28 percent, from 58 to 30 percent. To modify the transportation matrix, in January 2007, the Brazilian government created the Growth Acceleration Plan (PAC) to promote sustainable social and economic development by generating employment, income, and reducing regional inequalities. During the same year, the PAC was integrated into the National Plan of Logistic and Transportation (PNLT). The PNLT is executed through the Ministry of Transportation and Defense allocating funds in 3 phases from 2008 to 2023.

**Brazil modal share for general cargo, 2005-2025**



Source: Brazil Ministry of Transportation, National Plan of Logistic & Transportation (PNLT)

**National Logistics and Transportation Program (PNLT), timeframe 2008 — after 2015, billion**

Phases	Total (billion)		% share
	R\$	US\$	
I: 2008-2011	109.2	54.7	37.55
II: 2012-2015	84.3	42.2	28.99
III: 2015-2023	97.3	48.7	33.46
<b>Total</b>	<b>290.8</b>	<b>145.6</b>	<b>100</b>

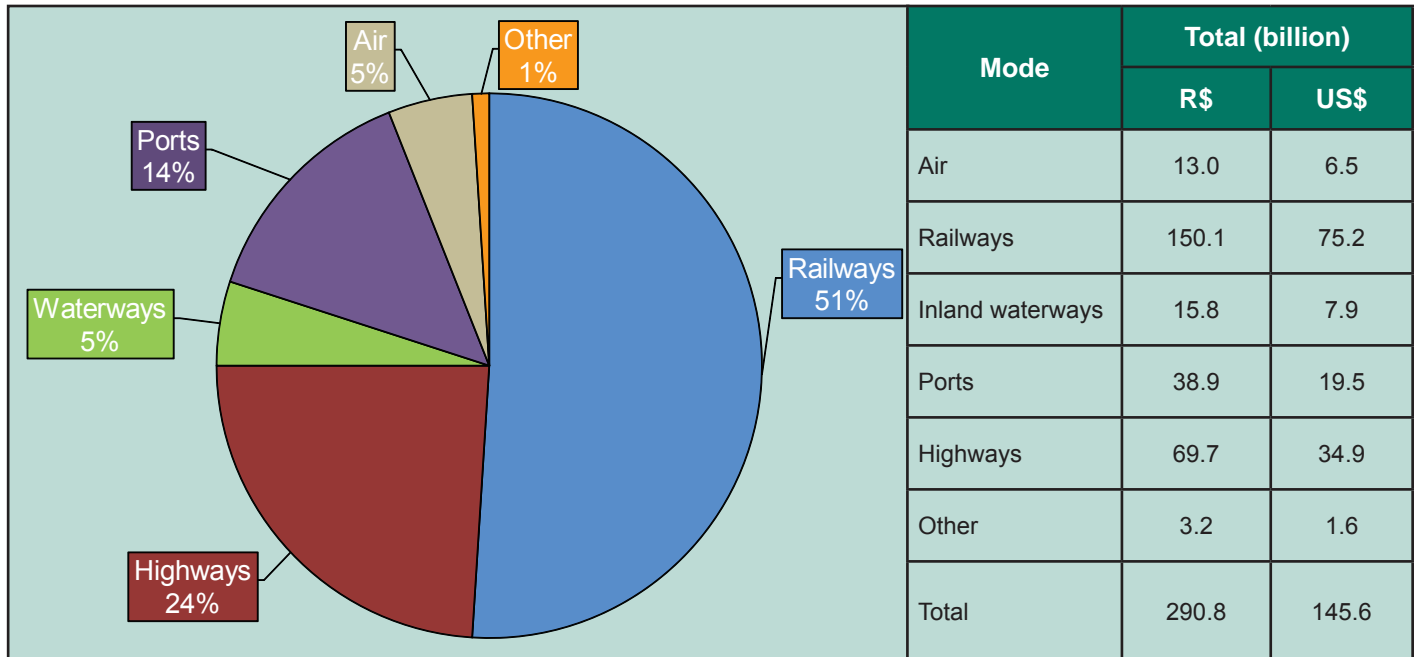
\*Average 2009 exchange rate: 1 US\$ = R\$ 1.9977

Source: Brazilian Ministry of Transportation

# Transportation Infrastructural Developments

Of the US\$ 145.6 billion to be allocated to the logistic sector, about 51 percent of the funds will be allocated to the railway system, totaling about US\$ 75.2 billion.

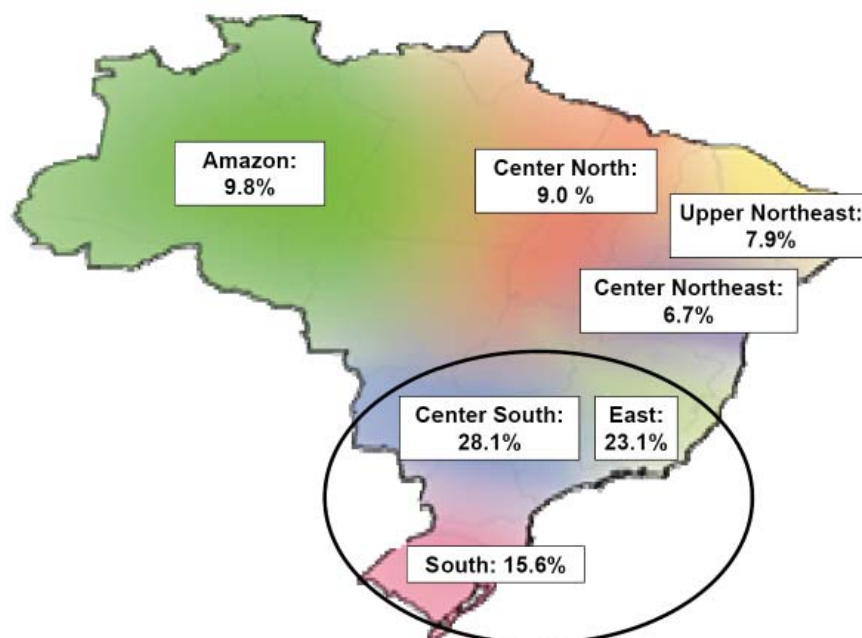
**National Logistics and Transportation Program (PNLT), allocations by mode, 2008-2023**



Average 2009 exchange rate: 1 US\$ = R\$ 1.9977  
Source: Brazil Ministry of Transportation

Two-thirds of the funds will be allocated in the Center-South, East, and South regions.

**PNLT allocation by logistic vectors**



Source: Brazil Ministry of Transportation

## Transportation Infrastructural Developments

US\$ 7.8 billion are assigned to improve the inland waterways: 61 percent of the funds will be allocated to improve the inland waterways in the Amazon and Center North regions; 62 percent of the port funds will be allocated to improve the ports in the East and Center South; and 34 percent of highway funds will be allocated to improve the highway system of the Amazon and South regions.

PNLT — Transportation mode investments by logistic vectors, and % of total								
Mode	Amazon	Center-North	Center-South	East	Center Northeast	Upper Northeast	South	Total
Air	5.27	6.56	28.20	20.81	2.76	25.04	11.35	100
Railways	6.82	6.24	37.42	24.18	5.89	4.54	14.92	100
Inland waterways	31.34	29.67	12.98	9.57	1.73	1.02	13.69	100
Ports	2.61	8.69	20.84	41.50	4.03	5.33	17.00	100
Highways	16.50	9.11	15.47	14.55	12.01	14.40	17.96	100
Other	-	49.30	24.33	7.18	0.45	16.50	2.50	100
% of Brazil	9.9	9.2	11.3	9.6	20.4	22.7	16.9	100

\*Average 2009 exchange rate: 1 US\$ = R\$ 1.9977

Source: Brazilian Ministry of Transportation

# Transportation Indicators

Quarterly costs of transporting soybeans from Brazil to Shanghai, China										
	2009					2009				
	1st qtr	2nd qtr	3rd qtr	4th qtr	Avg	1st qtr	2nd qtr	3rd qtr	4th qtr	Avg
	<b>North MT<sup>1</sup> - Santos<sup>2</sup></b> --US\$/mt--					<b>North MT<sup>1</sup> - Paranagua<sup>2</sup></b> --US\$/mt--				
Truck	81.73	98.89	100.41	106.95	97.00	76.17	89.88	97.14	102.23	91.36
Ocean	64.50	66.00	49.00	55.63	58.78	65.70	67.30	48.78	54.23	59.00
Total transportation	146.23	164.89	149.41	162.58	155.78	141.87	157.18	145.92	156.45	150.36
Farm Value <sup>3</sup>	264.63	315.88	347.80	369.07	324.34	264.63	315.88	347.80	369.07	324.34
Landed Cost	410.86	480.78	497.21	531.65	480.12	406.50	473.07	493.72	525.52	474.70
Transport % of landed cost	35.6	34.3	30.1	30.6	32.6	34.9	33.2	29.6	29.8	31.9
	<b>Southeast MT<sup>1</sup> - Santos<sup>2</sup></b> --US\$/mt--					<b>North Center PR<sup>1</sup> - Paranagua<sup>2</sup></b> --US\$/mt--				
Truck	61.20	81.79	74.43	80.15	74.39	25.71	28.28	28.08	27.39	27.37
Ocean	64.50	66.00	49.00	55.63	58.78	65.70	67.30	48.78	54.23	59.00
Total transportation	125.70	147.79	123.43	135.79	133.18	91.41	95.58	76.86	81.61	86.37
Farm Value <sup>3</sup>	264.63	315.88	347.80	369.07	324.34	326.95	373.16	391.57	398.17	372.46
Landed Cost	390.33	463.68	471.23	504.85	457.52	418.36	468.74	468.44	479.78	458.83
Transport % of landed cost	32.2	31.9	26.2	26.9	29.3	21.9	20.4	16.4	17.0	18.9
	<b>South GO<sup>1</sup> - Santos<sup>2</sup></b> --US\$/mt--					<b>Northwest RS<sup>1</sup> - Rio Grande<sup>2</sup></b> --US\$/mt--				
Truck	41.44	52.23	53.43	56.23	50.83	16.83	29.43	28.78	22.97	24.50
Ocean	64.50	66.00	49.00	55.63	58.78	66.87	67.80	49.50	53.50	59.42
Total transportation	105.94	118.23	102.43	111.86	109.62	83.70	97.23	78.28	76.47	83.92
Farm Value <sup>3</sup>	288.68	336.86	356.43	371.29	338.31	315.99	359.68	374.28	388.08	359.51
Landed Cost	394.62	455.09	458.87	483.15	447.93	399.69	456.91	452.56	464.55	443.43
Transport % of landed cost	26.8	26.0	22.3	23.2	24.6	20.9	21.3	17.3	16.5	19.0

<sup>1</sup>Producing regions: RS = Rio Grande do Sul, MT = Mato Grosso, GO = Goiás, PR = Paraná

<sup>2</sup>Export ports represent 60 percent of total soybean exports; <sup>3</sup>Companhia Nacional de Abastecimento (CONAB)

Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS



# Transportation Indicators

Quarterly costs of transporting soybeans from Brazil to Hamburg, Germany										
	2009					2009				
	1st qtr	2nd qtr	3rd qtr	4th qtr	Avg	1st qtr	2nd qtr	3rd qtr	4th qtr	Avg
	<b>North MT<sup>1</sup> - Santos<sup>2</sup></b> --US\$/mt--					<b>North MT<sup>1</sup> - Paranagua<sup>2</sup></b> --US\$/mt--				
Truck	81.73	98.89	100.41	106.95	97.00	76.17	89.88	97.14	102.23	91.36
Ocean	34.10	34.75	30.00	31.08	32.48	35.50	35.79	31.55	30.53	33.34
Total transportation	115.83	133.64	130.41	138.03	129.48	111.67	125.67	128.69	132.76	124.70
Farm Value <sup>3</sup>	264.63	315.88	347.80	369.07	324.34	264.63	315.88	347.80	369.07	324.34
Landed Cost	380.46	449.53	478.21	507.10	453.82	376.30	441.56	476.49	501.83	449.04
Transport % of landed cost	30.4	29.7	27.3	27.2	28.7	29.7	28.5	27.0	26.5	27.9
	<b>Southeast MT<sup>1</sup> - Santos<sup>2</sup></b> --US\$/mt--					<b>North Center PR<sup>1</sup> - Paranagua<sup>2</sup></b> --US\$/mt--				
Truck	61.20	81.79	74.43	80.15	74.39	25.71	28.28	28.08	27.39	27.37
Ocean	34.10	34.75	30.00	31.08	32.48	35.50	35.79	31.55	30.53	33.34
Total transportation	95.30	116.54	104.43	111.24	106.88	61.21	64.07	59.63	57.92	60.71
Farm Value <sup>3</sup>	264.63	315.88	347.80	369.07	324.34	326.95	373.16	391.57	398.17	372.46
Landed Cost	359.93	432.43	452.23	480.30	431.22	388.16	437.23	451.21	456.09	433.17
Transport % of landed cost	26.5	27.0	23.1	23.2	24.9	15.8	14.7	13.2	12.7	14.1
	<b>South GO<sup>1</sup> - Santos<sup>2</sup></b> --US\$/mt--					<b>Northwest RS<sup>1</sup> - Rio Grande<sup>2</sup></b> --US\$/mt--				
Truck	41.44	52.23	53.43	56.23	50.83	16.83	29.43	28.78	22.97	24.50
Ocean	34.10	34.75	30.00	31.08	32.48	35.80	36.20	32.00	31.17	33.79
Total transportation	75.54	86.98	83.43	87.31	83.32	52.63	65.63	60.78	54.14	58.30
Farm Value <sup>3</sup>	288.68	336.86	356.43	371.29	338.31	315.99	359.68	374.28	388.08	359.51
Landed Cost	364.22	423.84	439.87	458.60	421.63	368.62	425.31	435.06	442.22	417.80
Transport % of landed cost	20.7	20.5	19.0	19.0	19.8	14.3	15.4	14.0	12.2	14.0

<sup>1</sup>Producing regions: RS = Rio Grande do Sul, MT = Mato Grosso, GO = Goiás, PR = Paraná

<sup>2</sup>Export ports represent 60 percent of total soybean exports; <sup>3</sup>Companhia Nacional de Abastecimento (CONAB)

Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

# Transportation Indicators

Truck rates for selected Brazilian soybean export transportation routes, 2009

Route #	Origin <sup>1</sup> (reference city)	Destination	Distance (miles) <sup>2</sup>	Share (%) <sup>3</sup>	Quarterly Freight Price (US\$)				Avg 2009
					1st -----	2nd (per 100 miles) <sup>4</sup> -----	3rd	4th	
1	Northwest RS(Cruz Alta)	Rio Grande	288	14.85	5.84	10.22	9.99	7.98	8.51
2	North MT(Sorriso)	Santos	1190	11.14	6.87	8.31	8.44	8.99	8.15
3	North MT(Sorriso)	Paranaguá	1262	10.50	6.04	7.12	7.70	8.10	7.24
4	South GO(Rio Verde)	Santos	587	5.62	7.06	8.90	9.10	9.58	8.66
5	South GO(Rio Verde)	Paranaguá	726	4.54	5.74	7.09	7.44	7.71	7.00
6	North Center PR(Londrina)	Paranaguá	268	4.00	9.59	10.55	10.48	10.22	10.21
7	Western Center PR(Mamborê)	Paranaguá	311	3.66	8.66	10.70	9.79	8.19	9.33
8	Triangle MG(Uberaba)	Santos	339	3.31	10.68	12.47	14.30	15.28	13.18
9	West PR(Assis Chateaubriand)	Paranaguá	377	5.09	7.07	8.64	8.57	8.79	8.27
10	West Extreme BA(São Desidério)	Salvador	535	4.80	9.09	9.90	9.53	10.49	9.75
11	Southeast MT(Primavera do Leste)	Santos	901	3.20	6.79	9.08	8.26	8.90	8.26
12	Southeast MT(Primavera do Leste)	Paranaguá	975	2.96	6.26	7.56	7.44	8.02	7.32
13	Southwest MS(Maracaju)	Paranaguá	612	3.58	6.63	7.98	8.52	8.51	7.91
14	Southwest MS(Maracaju)	Santos	652	3.37	6.84	8.15	8.86	9.20	8.26
15	West PR(Assis Chateaubriand)	Santos	550	0.00	9.21	10.95	11.57	12.34	11.02
16	East GO(Cristalina)	Santos	585	1.53	7.65	8.99	9.07	9.75	8.86
17	North PR(Cornélio Procópio)	Paranaguá	306	1.86	8.62	10.03	9.44	9.48	9.39
18	Eastern Center PR(Castro)	Paranaguá	130	2.60	9.42	12.62	13.74	14.58	12.59
19	South Center PR(Guarapuava)	Paranaguá	204	2.38	11.68	13.69	10.37	9.34	11.27
20	North Center MS(São Gabriel do Oeste)	Santos	720	1.05	6.46	7.87	8.00	8.18	7.63
21	Ribeirão Preto SP(Guairá)	Santos	314	0.80	9.83	10.90	11.42	12.20	11.09
22	Northeast MT(Canarana)	Santos	950	1.79	7.95	9.05	9.37	9.61	8.99
23	East MS(Chapadão do Sul)	Santos	607	0.98	6.84	7.82	8.80	9.20	8.16
24	Northeast MT(Canarana)	Paranaguá	1075	1.58	6.67	7.64	7.75	7.90	7.49
25	Western Center RS(Tupanciretã)	Rio Grande	273	2.60	5.54	10.78	8.77	8.44	8.38
26	Southwest PR(Chopinzinho)	Paranaguá	291	2.22	10.42	10.36	10.22	11.05	10.51
<b>Weighted average</b>			<b>578</b>	<b>100.0</b>	<b>7.28</b>	<b>9.25</b>	<b>9.24</b>	<b>9.19</b>	<b>8.74</b>

<sup>1</sup>Although each origin region comprises several cities, the main city is considered as a reference to establish the freight price; na = not available

<sup>2</sup>Distance from the main city of the considered region to the mentioned ports

<sup>3</sup>Share is measured as a percentage of total production

<sup>4</sup>US\$ per metric ton (average monthly exchange rate from "Banco Central do Brasil" was used to convert Brazilian reais to the U.S. dollar)

<sup>5</sup>RS = Rio Grande do Sul, MT= Mato Grosso, GO = Goiás, PR = Paraná, MG = Minas Gerais, BA = Bahia, MS = Mato Grosso do Sul, SP = São Paulo

Source: ESALQ/USP (University of São Paulo, Brazil) and USDA/AMS

# Transportation Indicators

## Truck rates for selected Brazilian soybean export transportation routes, 2005-2009

Route #	Origin <sup>1</sup> (reference city)	Destination	Distance (miles) <sup>2</sup>	Share (%) <sup>3</sup>	Quality Freight Price (US\$) 2005 2006 2007 2008 2009 ----- (per 100 miles) <sup>4</sup> -----					Percent Change 2008-09
					2005	2006	2007	2008	2009	
1	Northwest RS5(Cruz Alta)	Rio Grande	288	3.23	4.46	5.61	7.58	7.74	8.51	9.93
2	North MT(Sorriso)	Santos	1190	14.34	6.65	6.68	8.21	9.73	8.15	-16.20
3	North MT(Sorriso)	Paranaguá	1262	13.52	6.15	6.18	6.98	8.71	7.24	-16.87
4	South GO(Rio Verde)	Santos	587	7.17	6.40	7.42	8.60	9.43	8.66	-8.13
5	South GO(Rio Verde)	Paranaguá	726	5.80	5.11	5.78	6.73	7.65	7.00	-8.49
6	North Center PR(Londrina)	Paranaguá	268	3.69	8.03	7.95	12.08	12.54	10.21	-18.55
7	Western Center PR(Mamborê)	Paranaguá	311	3.35	5.72	6.68	8.62	9.38	9.33	-0.52
8	Triangle MG(Uberaba)	Santos	339	4.39	9.48	10.30	12.20	13.87	13.18	-4.93
9	West PR(Assis Chateaubriand)	Paranaguá	377	3.36	5.82	6.76	7.55	8.07	8.27	2.43
10	West Extreme BA(São Desidério)	Ilhéus	544	5.50	7.28	8.08	9.78	11.52	9.75	-15.33
11	Southeast MT(Primavera do Leste)	Santos	901	3.93	6.54	6.39	7.72	8.95	8.26	-7.71
12	Southeast MT(Primavera do Leste)	Paranaguá	975	3.64	6.06	5.95	7.16	8.02	7.32	-8.72
13	Southwest MS(Maracaju)	Paranaguá	612	2.71	5.83	8.16	8.05	7.94	7.91	-0.43
14	Southwest MS(Maracaju)	Santos	652	2.54	6.01	8.00	7.72	8.11	8.26	1.90
15	West PR(Assis Chateaubriand)	Santos	550	2.30	5.84	7.20	8.32	9.87	11.02	11.58
16	Western Center RS(Tupanciretã)	Rio Grande	273	2.09	--na--	--na--	--na--	10.36	8.86	-14.41
17	Southwest PR(Chopinzinho)	Paranaguá	291	1.61	--na--	--na--	--na--	9.21	9.39	1.96
18	Eastern Center PR(Castro)	Paranaguá	130	2.37	10.12	9.55	16.24	13.42	12.59	-6.22
19	South Center PR(Guarapuava)	Paranaguá	204	1.84	8.33	9.56	10.98	13.66	11.27	-17.50
20	North Center MS(São Gabriel do Oeste)	Santos	720	1.92	5.47	6.21	7.02	7.58	7.63	0.60
21	Ribeirão Preto SP(Guairá)	Santos	314	1.40	7.55	8.91	10.82	12.54	11.09	-11.58
22	Northeast MT(Canarana)	Santos	950	2.21	7.35	7.87	8.90	10.69	8.99	-15.91
23	Assis SP(Palmital)	Santos	285	1.37	--na--	--na--	--na--	8.73	8.16	-6.55
24	Northeast MT(Canarana)	Paranaguá	1075	1.95	--na--	--na--	--na--	9.08	7.49	-17.52
25	Western Center RS(Tupanciretã)	Rio Grande	273	2.36	--na--	--na--	--na--	11.23	8.38	-25.32
26	Southwest PR(Chopinzinho)	Paranaguá	291	1.41	--na--	--na--	--na--	12.38	10.51	-15.10
<b>Average</b>			<b>626</b>	<b>100</b>	<b>--na--</b>	<b>--na--</b>	<b>--na--</b>	<b>9.75</b>	<b>8.74</b>	<b>-10.40</b>

<sup>1</sup>Although each origin region comprises several cities, the main city is considered as a reference to establish the freight price; na = not available

<sup>2</sup>Distance from the main city of the considered region to the mentioned ports

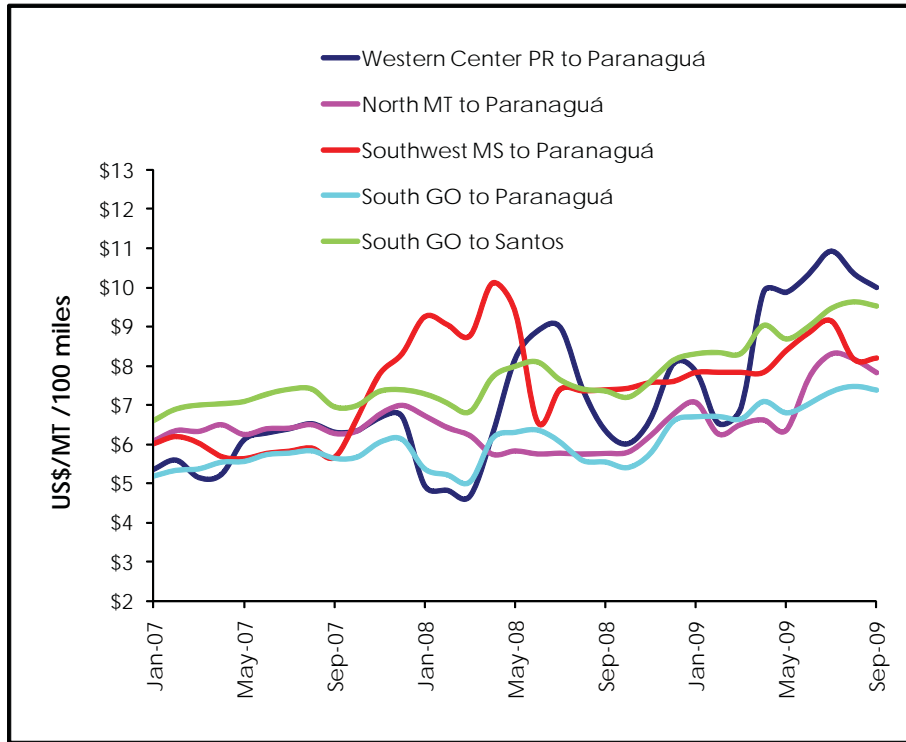
<sup>3</sup>Share is measured as a percentage of total production

<sup>4</sup>US\$ per metric ton (average monthly exchange rate from "Banco Central do Brasil" was used to convert Brazilian reais to the U.S. dollar)

<sup>5</sup>RS = Rio Grande do Sul, MT= Mato Grosso, GO = Goiás, PR = Paraná, MG = Minas Gerais, BA = Bahia, MS = Mato Grosso do Sul, SP = São Paulo

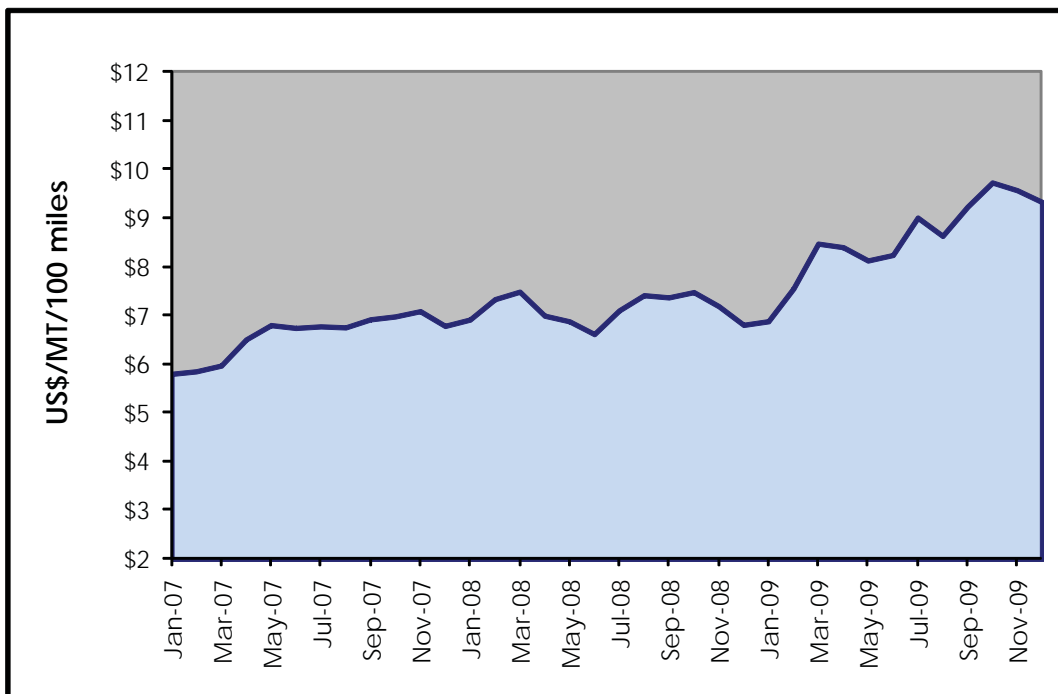
Source: ESALQ/USP (University of São Paulo, Brazil) and USDA/AMS

## Truck rates for selected Brazilian soybean export transportation routes



Source: ESALQ/USP (University of São Paulo, Brazil) and USDA/AMS

## Brazilian soybean export truck transportation weighted average prices, 2007/09



Source: ESALQ/USP (University of São Paulo, Brazil) and USDA/AMS

## Monthly Brazilian soybean export truck transportation cost index

Month	Freight price* (per 100 miles)	Index variation (%) (Base: prior month)	Index value (Base: Jan. 05 = 100)	Month	Freight price* (per 100 miles)	Index variation (%) (Base: prior month)	Index value (Base: Jan. 05 = 100)
Jan-05	5.80	40.8	100.00	Jul-07	9.00	9.3	155.20
Feb-05	5.85	0.9	100.90	Aug-07	8.63	-4.2	148.75
Mar-05	5.97	2.0	102.92	Sep-07	9.23	6.9	159.05
Apr-05	6.51	9.0	112.14	Oct-07	9.72	5.4	167.61
May-05	6.80	4.5	117.22	Nov-07	9.56	-1.6	164.86
Jun-05	6.74	-0.9	116.22	Dec-07	9.32	-2.5	160.71
Jul-05	6.77	0.5	116.76	Jan-08	9.40	0.9	162.12
Aug-05	6.75	-0.3	116.41	Feb-08	9.63	2.4	166.02
Sep-05	6.92	2.5	119.27	Mar-08	10.59	9.9	182.46
Oct-05	6.98	0.9	120.28	Apr-08	10.81	2.1	186.35
Nov-05	7.09	1.6	122.15	May-08	10.69	-1.1	184.32
Dec-05	6.78	-4.3	116.95	Jun-08	11.00	2.9	189.67
Jan-06	6.91	1.9	119.18	Jul-08	12.05	9.5	207.73
Feb-06	7.33	6.0	126.36	Aug-08	11.14	-7.6	192.00
Mar-06	7.48	2.1	129.02	Sep-08	10.27	-7.8	177.00
Apr-06	6.99	-6.6	120.57	Oct-08	7.44	-27.5	128.24
May-06	6.88	-1.7	118.56	Nov-08	7.20	-3.2	124.13
Jun-06	6.62	-3.8	114.05	Dec-08	6.79	-5.7	117.11
Jul-06	7.10	7.3	122.41	Jan-09	6.91	1.7	119.11
Aug-06	7.41	4.4	127.79	Feb-09	7.28	5.4	125.52
Sep-06	7.37	-0.6	127.02	Mar-09	7.65	5.1	131.89
Oct-06	7.48	1.5	128.88	Apr-09	8.44	10.3	145.42
Nov-06	7.19	-3.8	123.92	May-09	9.56	13.3	164.72
Dec-06	6.81	-5.3	117.32	Jun-09	9.74	2.0	167.97
Jan-07	6.88	1.1	118.60	Jul-09	9.28	-4.8	159.94
Feb-07	7.55	9.7	130.15	Aug-09	9.29	0.1	160.16
Mar-07	8.47	12.2	146.00	Sep-09	9.14	-1.6	157.62
Apr-07	8.40	-0.9	144.76	Oct-09	9.32	1.9	160.66
May-07	8.12	-3.3	140.05	Nov-09	9.22	-1.1	158.93
Jun-07	8.24	1.4	141.99	Dec-09	9.02	-2.2	155.48

\*Weighted average and quoted in US\$ per metric ton

Source: ESALQ/USP (University of São Paulo, Brazil) and USDA/AMS



## Transportation Indicators

Quarterly ocean freight rates for shipping soybeans from selected Brazilian ports to Shanghai, China (US\$/metric ton)*			
	Ports		
	Santos	Paranaguá	Rio Grande
<b>2006</b>			
1st qtr	50.13	49.13	48.63
2nd qtr	44.80	43.80	43.30
3rd qtr	60.98	59.98	59.48
4th qtr	73.32	72.32	71.82
<b>2006 Average</b>	<b>57.31</b>	<b>56.31</b>	<b>55.81</b>
<b>2007</b>			
1st qtr	73.32	72.32	71.82
2nd qtr	111.20	110.20	109.70
3rd qtr	72.00	65.50	70.50
4th qtr	74.81	75.22	74.20
<b>2007 Average</b>	<b>82.83</b>	<b>80.81</b>	<b>81.56</b>
<b>2008</b>			
1st qtr	64.81	66.53	67.01
2nd qtr	80.27	80.79	81.27
3rd qtr	72.43	74.03	74.23
4th qtr	64.00	65.30	65.80
<b>2008 Average</b>	<b>70.38</b>	<b>71.66</b>	<b>72.08</b>
<b>2009</b>			
1st qtr	64.50	65.70	66.87
2nd qtr	66.00	67.30	67.80
3rd qtr	49.00	48.78	49.50
4th qtr	55.63	54.23	53.50
<b>2009 Average</b>	<b>58.78</b>	<b>59.00</b>	<b>59.42</b>

\*Correspond to the average actual values negotiated between shippers and carriers and weighted according to the magnitude of the shipped volume

Source: Sistema de Informações de Fretes, SIFRECA, ESALQ/USP (University of São Paulo, Brazil)

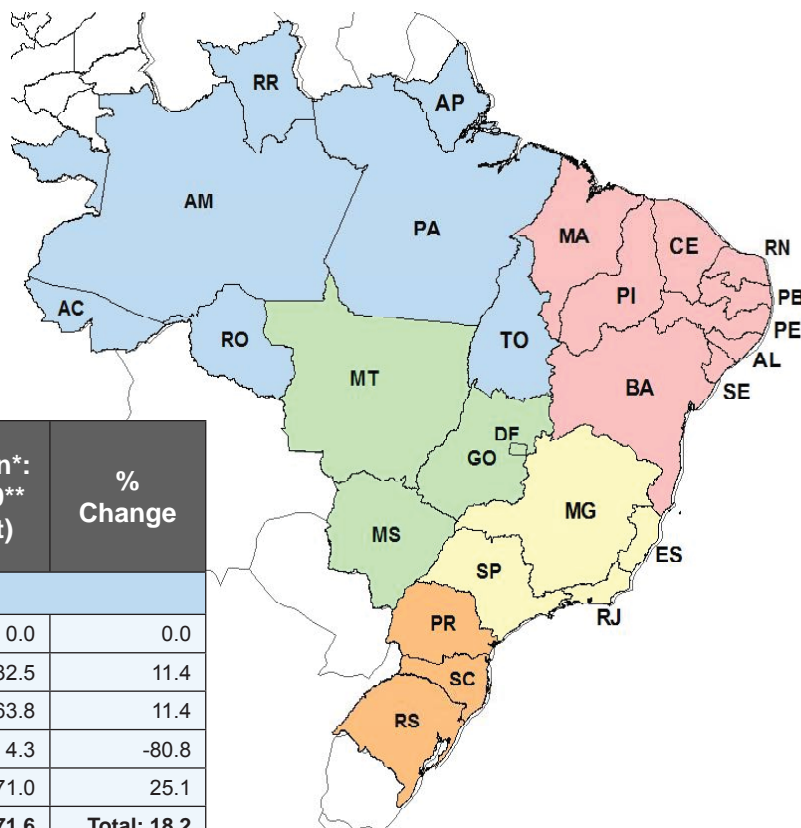
Quarterly ocean freight rates for shipping soybeans from selected Brazilian ports to Hamburg, Germany (US\$/metric ton)*			
	Ports		
	Santos	Paranaguá	Rio Grande
<b>2005</b>			
1st qtr	45.53	44.64	44.20
2nd qtr	45.84	44.84	44.39
3rd qtr	44.54	43.54	43.04
4th qtr	56.73	55.73	55.23
<b>2005 Average</b>	<b>48.16</b>	<b>47.19</b>	<b>46.71</b>
<b>2006</b>			
1st qtr	39.51	38.51	37.06
2nd qtr	36.91	35.91	35.41
3rd qtr	50.24	49.24	48.74
4th qtr	60.40	59.40	58.90
<b>2006 Average</b>	<b>46.76</b>	<b>45.76</b>	<b>45.03</b>
<b>2007</b>			
1st qtr	60.40	59.40	58.90
2nd qtr	91.61	90.61	90.11
3rd qtr	59.35	53.12	57.85
4th qtr	80.67	81.08	80.06
<b>2007 Average</b>	<b>73.01</b>	<b>71.05</b>	<b>71.73</b>
<b>2008</b>			
1st qtr	57.38	58.90	59.36
2nd qtr	71.08	72.68	73.18
3rd qtr	48.80	50.20	50.70
4th qtr	32.18	33.48	33.98
<b>2008 Average</b>	<b>52.36</b>	<b>53.81</b>	<b>54.30</b>
<b>2009</b>			
1st qtr	34.10	35.50	35.80
2nd qtr	34.75	35.79	36.20
3rd qtr	30.00	31.55	32.00
4th qtr	31.08	30.53	31.17
<b>2009 Average</b>	<b>32.48</b>	<b>33.34</b>	<b>33.79</b>

\*Correspond to the average actual values negotiated between shippers and carriers and weighted according to the magnitude of the shipped volume

Source: Sistema de Informações de Fretes, SIFRECA, ESALQ/USP (University of São Paulo, Brazil)

# Soybean Production

Soybean production by state



Region/State	Production*: 2008-2009 (1,000 mt)	Production*: 2009-2010** (1,000 mt)	% Change
<b>North</b>			
Amazonas (AM)	0.0	0.0	0.0
Pará (PA)	208.7	232.5	11.4
Rondônia (RO)	326.5	363.8	11.4
Roraima (RR)	22.4	4.3	-80.8
Tocantins (TO)	856.4	1,071.0	25.1
	<b>Total: 1,414.0</b>	<b>Total: 1,671.6</b>	<b>Total: 18.2</b>
<b>Northeast</b>			
Bahia (BA)	2,418.0	3,110.5	28.6
Maranhão (MA)	975.1	1,380.5	41.6
Piauí (PI)	768.8	879.3	14.4
	<b>Total: 4,161.9</b>	<b>Total: 5,370.3</b>	<b>Total: 29.0</b>
<b>Midwest</b>			
Distrito Federal (DF)	156.50	159.00	1.6
Goiás (GO)	6,836.2	7,380.0	8.0
Mato Grosso (MT)	17,962.50	18,779.20	4.5
Mato Grosso do Sul (MS)	4,179.7	5,307.8	27.0
	<b>Total: 29,134.9</b>	<b>Total: 31,626.0</b>	<b>Total: 8.6</b>
<b>Southeast</b>			
Minas Gerais (MG)	2,751.1	3,021.3	9.8
São Paulo (SP)	1,306.5	1,592.3	21.9
	<b>Total: 4,057.6</b>	<b>Total: 4,613.6</b>	<b>Total: 13.7</b>
<b>South</b>			
Paraná (PR)	9,509.7	14,180.5	49.1
Rio Grande do Sul (RS)	7,912.6	9,900.7	25.1
Santa Catarina (SC)	974.8	1,345.2	38.0
	<b>Total: 18,397.1</b>	<b>Total: 25,426.4</b>	<b>Total: 38.2</b>
<b>Total Production:</b>	<b>57,165.5</b>	<b>68,707.9</b>	<b>20.19</b>

\*Data based on calendar year, January-December

\*\*Forecast, June 2010

Source: Companhia Nacional de Abastecimento (CONAB)

**Brazil soybean supply and distribution  
(1,000 metric tons)**

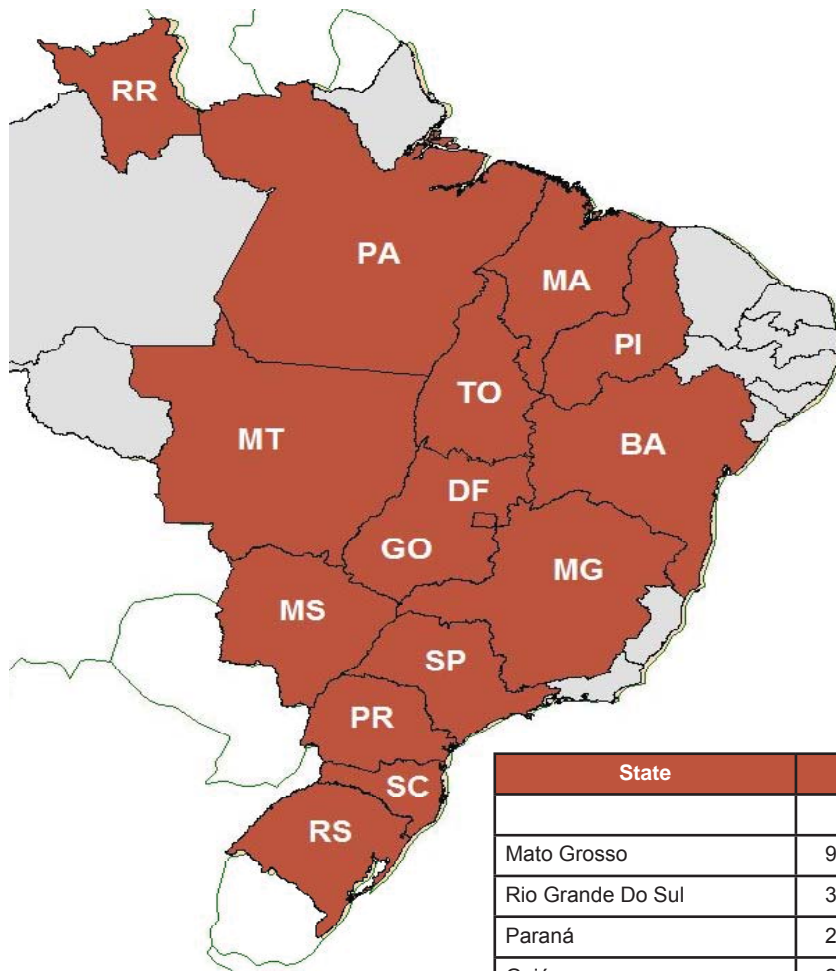
Year*	Area Harvested	Beginning Stocks	Production	Imports	Total Supply	Exports	Crush	Domestic Consumption	Ending Stocks
1997/98	13,000	599	32,500	634	33,733	9,325	21,832	23,586	822
1998/99	12,900	822	31,300	616	32,738	8,912	21,645	23,423	403
1999/00	13,600	403	34,700	794	35,897	11,779	21,578	23,502	616
2000/01	13,934	616	39,500	854	40,970	15,521	22,773	24,992	457
2001/02	16,350	457	43,500	1,100	45,057	16,074	25,843	28,302	681
2002/03	18,448	681	52,000	1,124	53,805	19,987	27,796	30,520	3,298
2003/04	21,476	3,298	51,000	364	54,662	19,257	28,914	31,807	3,598
2004/05	22,800	3,598	53,000	352	56,950	22,799	29,730	32,515	1,636
2005/06	22,229	1,636	57,000	40	58,676	24,770	28,754	31,654	2,252
2006/07	20,700	2,252	59,000	108	61,360	23,805	31,511	34,445	3,110
2007/08	21,300	3,110	61,000	83	64,193	24,515	31,890	34,860	4,818
2008/09	21,600	4,818	57,800	124	62,742	28,041	30,300	33,067	1,634
2009/10	23,300	1,634	68,000	185	69,819	30,350	33,100	36,050	3,419
2010/11**	23,500	3,419	65,000	175	68,594	29,200	32,800	35,900	3,494

\*Data based on Brazil's local February/January Marketing Year (MY)

Where February 2006 - January 2007 is the 2005/06 MY

\*\*Forecast: June 10, 2010

Source: USDA/Foreign Agricultural Service/Circular Series



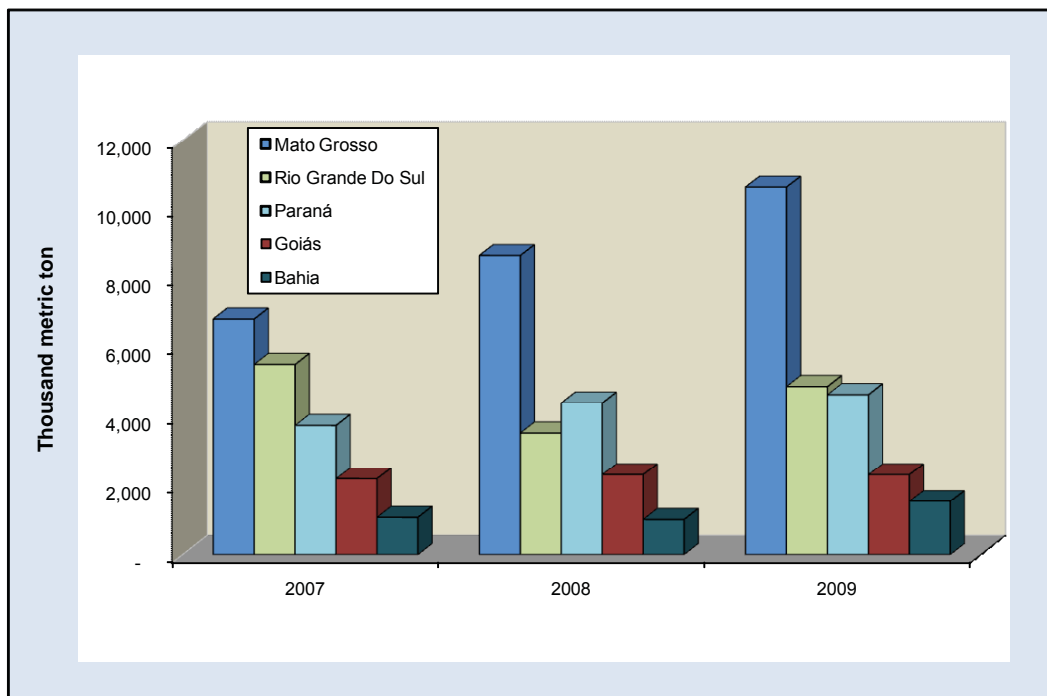
**Top 15 Brazilian soybean exporting states**

State	2006	2007	2008	2009	Rank
	-----metric ton-----				
Mato Grosso	9,920,599	6,822,137	8,661,067	10,647,884	1
Rio Grande Do Sul	3,281,005	5,503,371	3,516,357	4,858,823	2
Paraná	2,891,525	3,729,772	4,395,927	4,631,059	3
Goiás	2,800,224	2,192,407	2,311,912	2,308,431	4
Bahia	448,706	708,876	951,041	1,529,468	5
Maranhão	1,021,543	841,944	921,861	921,349	6
Mato Grosso Do Sul	1,182,096	1,065,860	1,006,343	781,844	7
Minas Gerais	1,179,189	379,804	370,795	780,983	8
São Paulo	939,202	630,970	761,981	640,583	9
Tocantins	633,956	434,541	551,883	557,836	10
Rondônia	250,120	229,107	312,364	314,403	11
Santa Catarina	206,735	1,057,247	424,549	259,734	12
Piauí	24,429	9,132	131,996	150,295	13
Pará	81,853	67,484	129,640	124,508	14
Distrito Federal	57,873	30,115	38,843	47,384	15
Others	38,918	31,008	12,931	8,113	
<b>Total</b>	<b>24,957,973</b>	<b>23,733,775</b>	<b>24,499,490</b>	<b>28,562,697</b>	

Sources: Secretaria de Comércio Exterior (SECEX) and Companhia Nacional de Abastecimento (CONAB)/Digem/Suinf/Geint

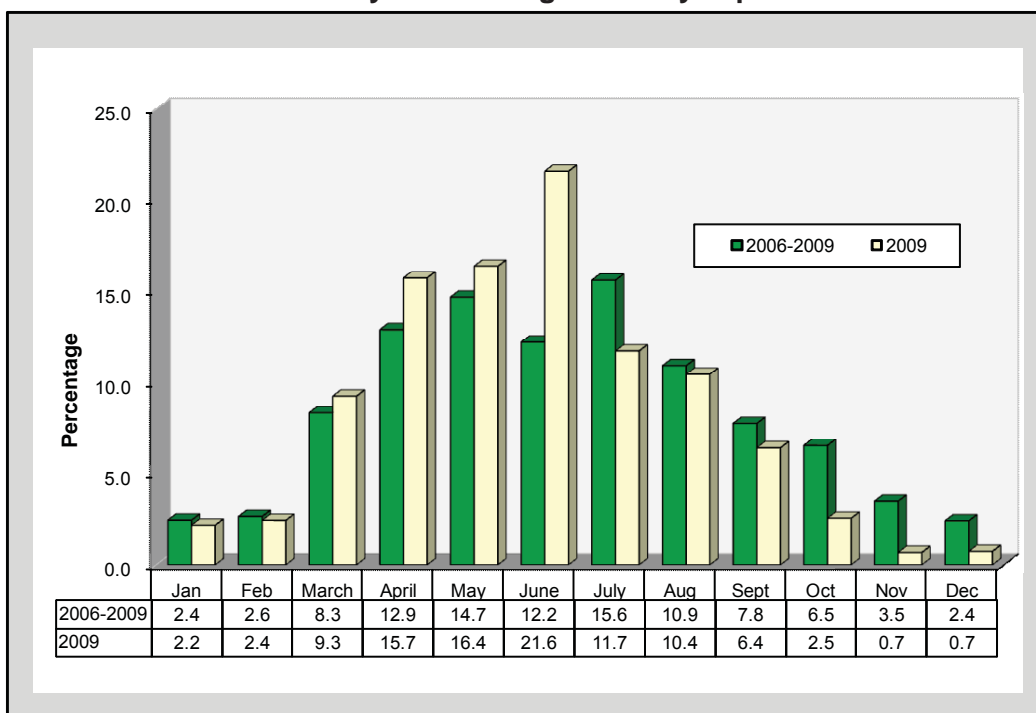


### Top 5 Brazil soybean exporting states



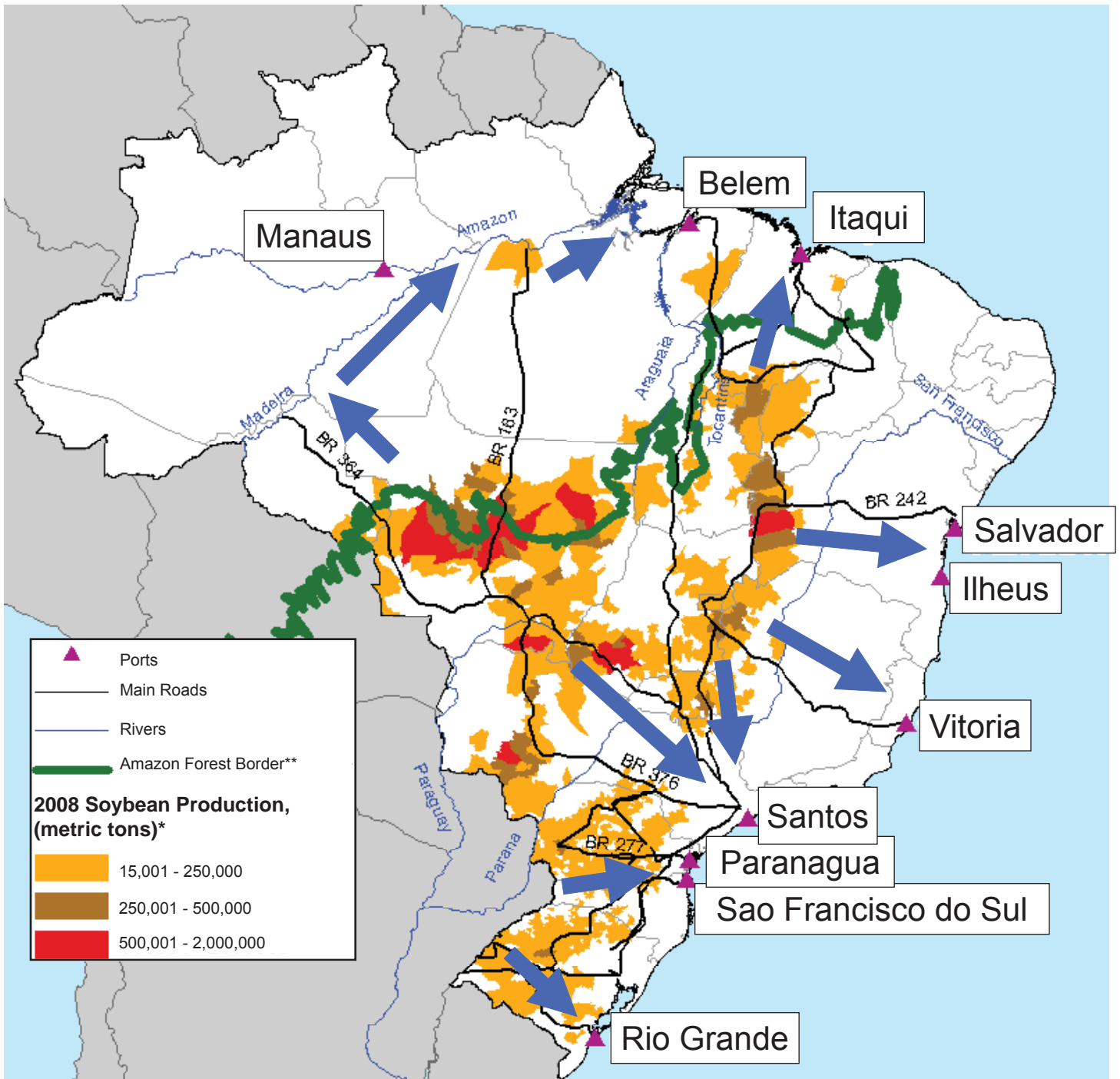
Sources: Secretaria de Comércio Exterior (SECEX) and Companhia Nacional de Abastecimento (CONAB)

### Brazil soybean average monthly exports



Sources: Secretaria de Comércio Exterior (SECEX) and Companhia Nacional de Abastecimento (CONAB)

## Main export routes for soybeans

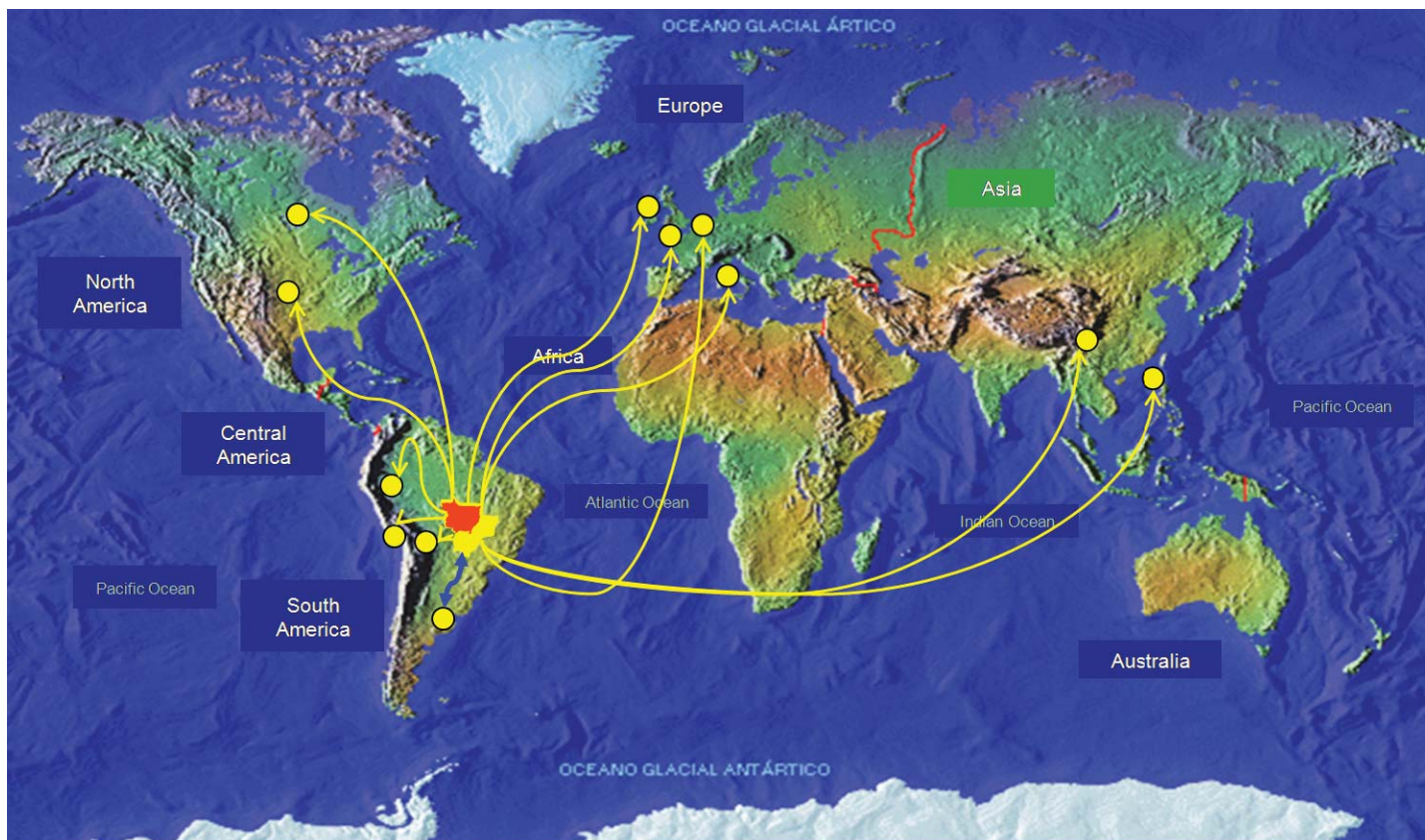


\*Companhia Nacional de Abastecimento (CONAB)

\*\*World Wildlife Fund (WWF)

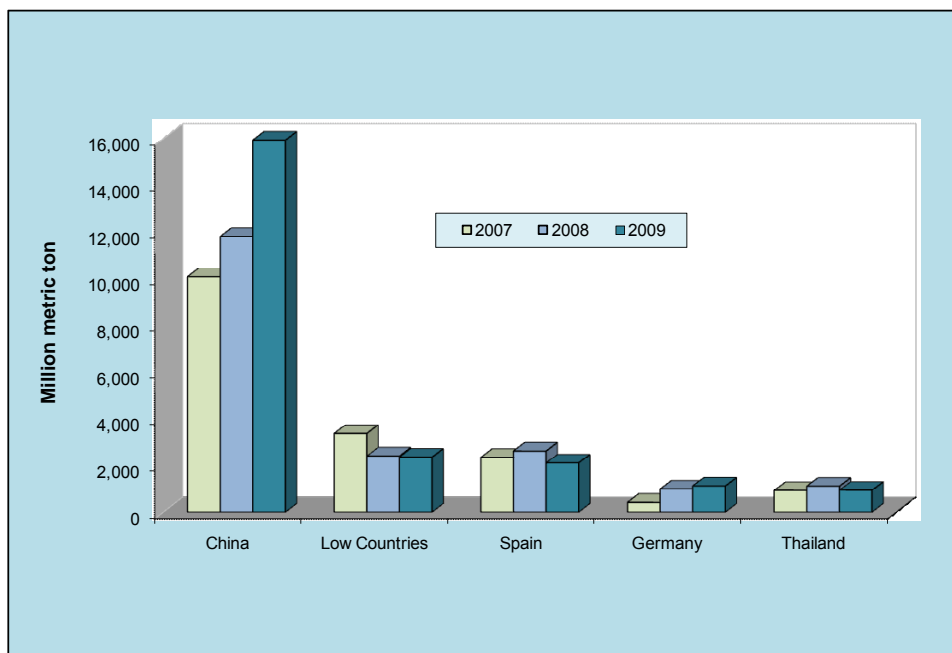
Source: USDA /Agricultural Marketing Service & Foreign Agricultural Service

### World export routes for Brazilian soybeans



Source: State of Mato Grosso, Department of Tourism and Commerce, Caceres

### Brazil soybeans: top 5 export destinations

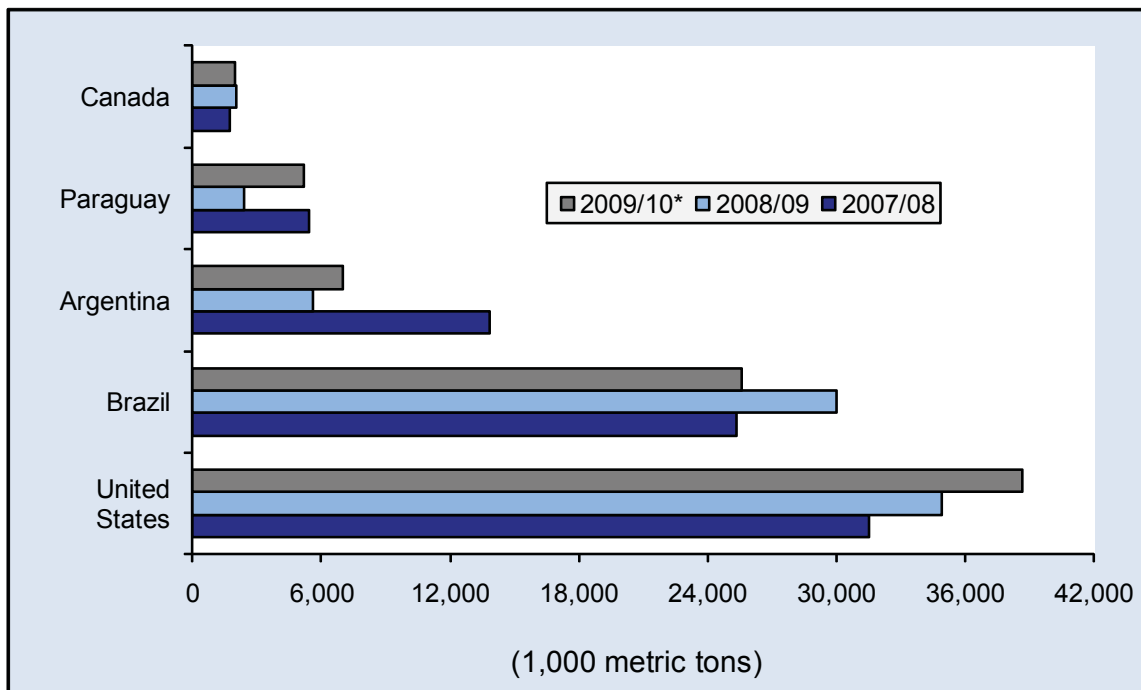


Sources: Secretaria de Comércio Exterior (SECEX) and Companhia Nacional de Abastecimento (CONAB)

# Exports

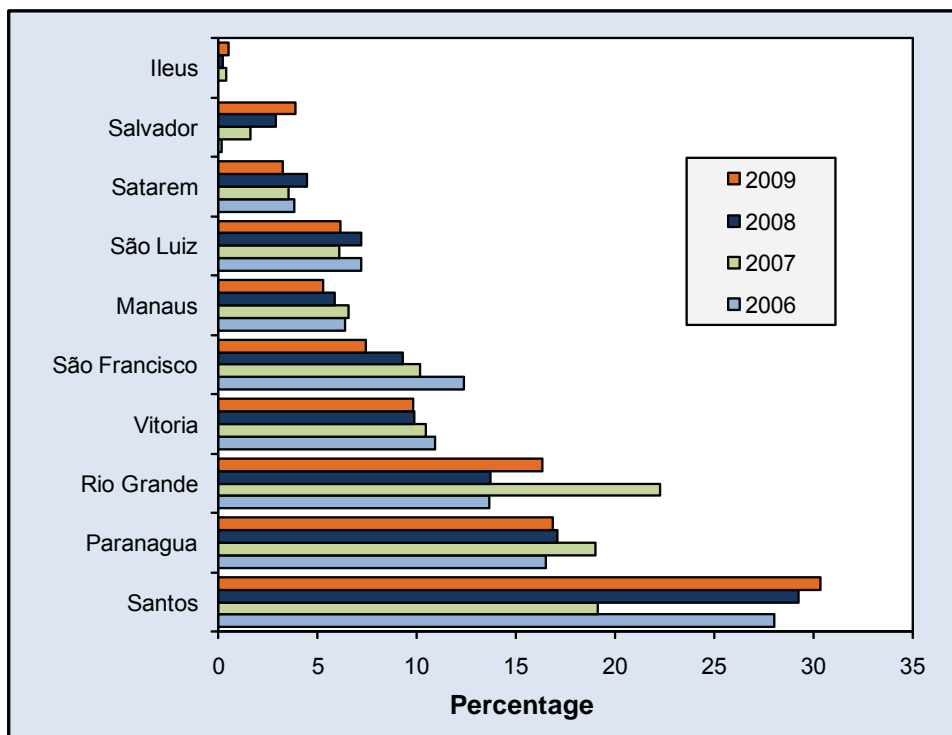
Brazil is the second largest soybean exporter country after the United States. In 2008, Santos was the largest Brazilian soybean export port followed by Paranaguá and Rio Grande.

**Top 5 world soybean exporting countries**



\*Forecast: March 10, 2010  
Source: USDA/FAS

**Brazil soybean exports by port**



Sources: Secretaria de Comércio Exterior (SECEX) and Companhia Nacional de Abastecimento (CONAB)

### Brazilian ports

There are 40 water and sea ports and 42 private terminals. The Port of Santos Channel is 426.4 ft wide and 42.64 ft deep. The Port of Paranaguá's entrance strip is 656 ft wide and 39.36 ft deep. It has 3 access channels. Galheta, the major access channel, extends 17.7 miles and has a width ranging from 492 to 656 ft, and a depth of 39.36 ft. The Port of Vitória's entry strip is 820 ft wide and 62.32 ft deep. Its access channel extends 4.34 miles, and is 393.6 ft wide and 36.08 ft deep.



Sources: Companhia Nacional de Abastecimento (CONAB)  
Ministério dos Transportes, Brazil



## Major rivers of the Amazonian Basin



Source: National Agency for Waterway Transportation (ANTAQ)

Brazil has 39,060 miles of river-lake surface water and 27,280 miles of navigable rivers but only 8,060 miles commercially navigated.

Brazil waterway system	
Extension	Miles
River-lake surface water	39,060
National river network	27,280
Naturally navigable waterways	17,980 (100%)
Commercial navigations	8,060 (45%)
Vessel owned	1,148

Source: Confederação Nacional do Transporte (CNT)  
National Agency for Waterway Transportation (ANTAQ)

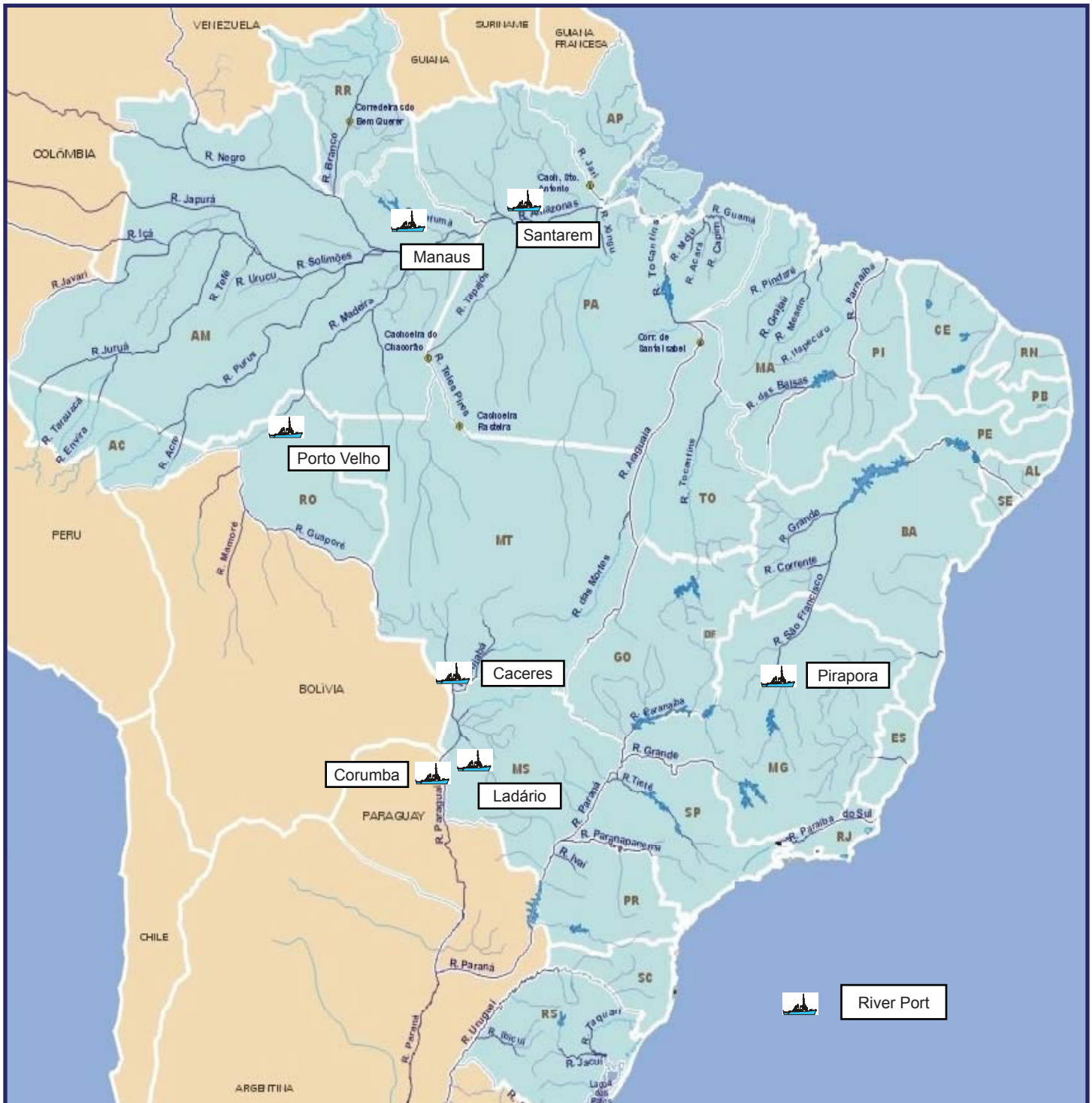




# Transportation Modes

## Brazilian river system

The Port of Manaus access channel is 1,640 ft wide and 114.8 ft deep. Porto Velho's access channel depth varies from 8.2 to 57.4 ft. The Port of Santarém's access channel is 5,904 ft wide and 49.2 ft deep.



Sources: Ministério dos Transportes, Brazil  
Companhia Nacional de Abastecimento (CONAB)





## Brazilian multimodal transportation system



Source: Agência Nacional de Transportes Aquavários

Major Brazilian highways



Source: Confederação Nacional do Transporte

## Transportation Modes

The Brazilian highway system extends 1 million miles with only 13 percent paved and 87 percent unpaved roads.

Brazil highway system extension in miles, 2009			
	Paved roads	Unpaved roads	Total
<b>Federal</b>	38,008	8,454	46,463
<b>Federal/State</b>	10,575	3,946	14,521
<b>State</b>	66,060	70,340	136,399
<b>County</b>	16,597	799,143	815,741
<b>Total</b>	131,240	881,884	1,013,124
<b>% share</b>	13	87	100

Source: Confederação Nacional do Transporte



Brazilian highways condition classification



Source: Confederação Nacional do Transporte

## Brazilian public highways



Source: Confederação Nacional do Transporte

Brazilian private highway conditions



Source: Confederação Nacional do Transporte

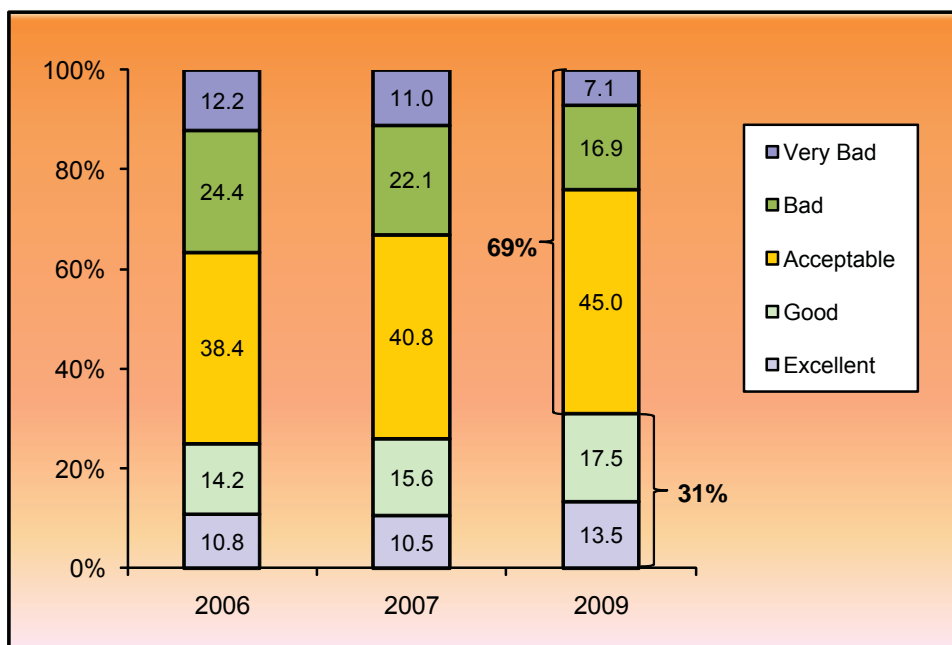


# Transportation Modes

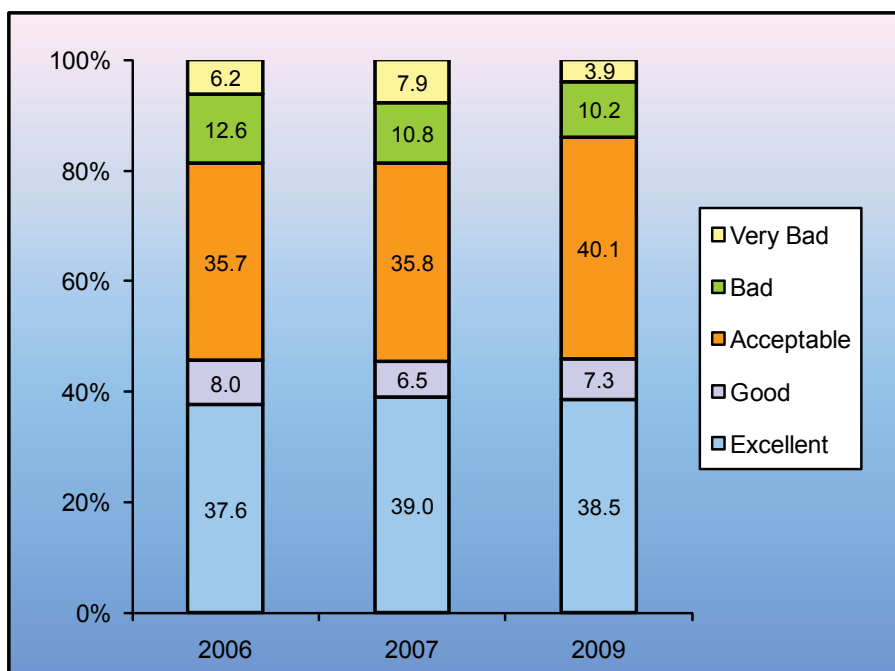
## Brazilian highways

The 2009 Confederação Nacional do Transporte (CNT) survey of the overall highway condition in Brazil indicated an improvement from previous years. It shows that 31 percent of the roads ranged between good to excellent in 2009 compared to 26 percent in 2007. Still, 69 percent ranged from acceptable to inadequate. The survey also shows that more than half of the paved roads ranged from acceptable to very bad and 45.8 percent were in good to excellent condition; 63.9 percent of traffic road signs had problems; and 88.9 percent of the roads are two lane.

### Brazilian highway conditions 2006-2009

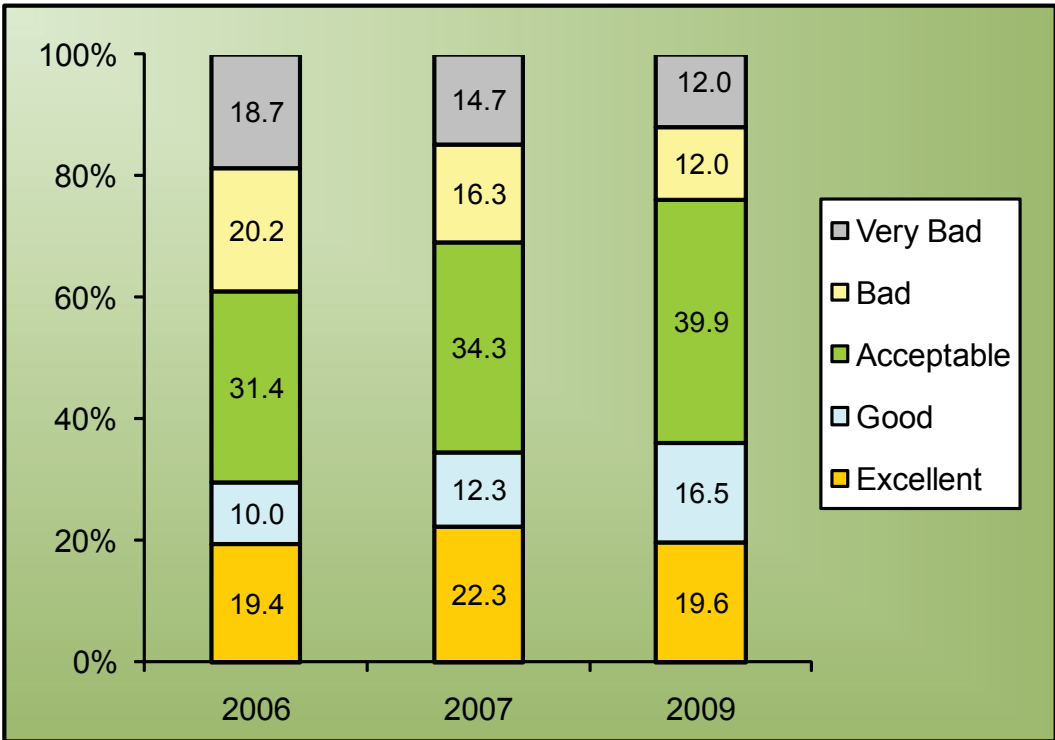


### Brazilian paved highway conditions 2006-2009



Source: Confederação Nacional do Transporte

Brazilian road sign conditions  
2006-2009



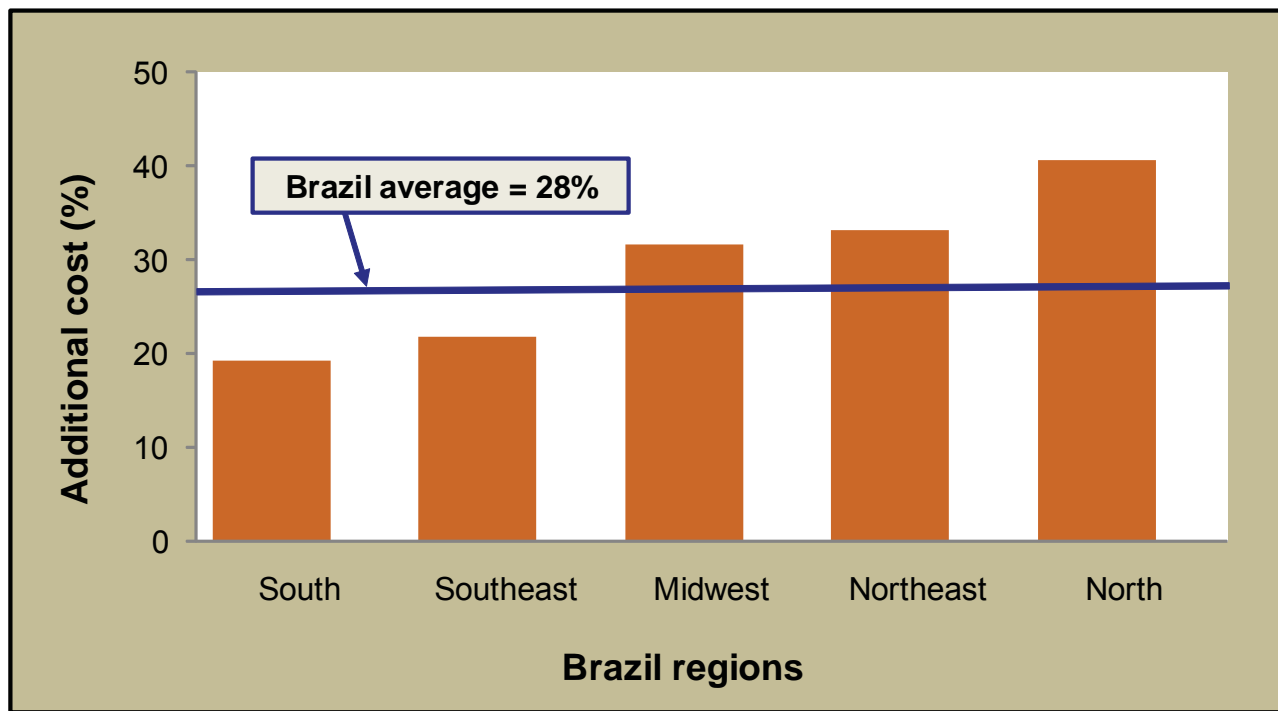
Source: Confederação Nacional do Transporte

## Transportation Modes

CNT—survey indicators, 2009		
Indicators	Percentage	Miles
Paved road in critical conditions (acceptable, bad, and very bad)	54.2	30,131
Road signs with problems	63.9	35,489
Road without shoulders	46.3	25,690
Road signs covered with shrubbery	13.1	7,248
Road segments with potholes	4.6	2,569
Predominantly two lane roads	88.9	49,371

The CNT estimates that due to the poor conditions of the paved roads, the operational cost of cargo trucks is 28 percent higher compared with a paved road under optimal conditions. This cost is higher in the North, Northeast and Midwest regions. For example, if the cost of shipping a metric ton of soybeans from Sorriso, North MT to Santos is \$100/mt. The optimal cost should be \$72/mt.

Cost increases due to road pavement conditions, 2009



Source: Confederação Nacional do Transporte

## Brazilian railway expansion: ongoing projects

The Brazilian railroad system consists of 12 railroads with an extension of 18,487 miles, mostly concentrated in the South, Southeast, and Northeast. Currently, there are ongoing projects to expand the railways by 3,168 miles in the North, Northeast and Midwest regions.

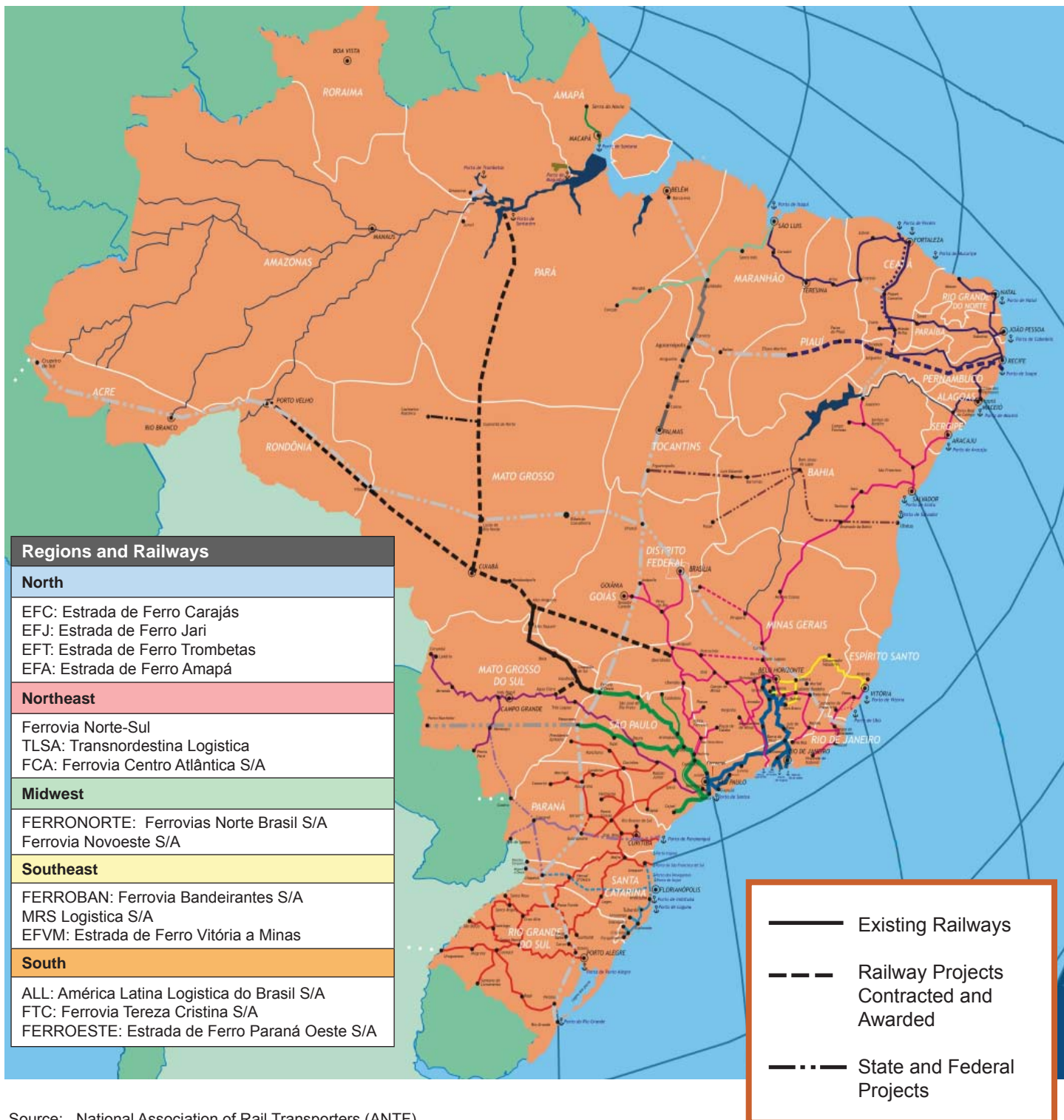


Source: National Agency of Inland Transportation (ANTT)

# Transportation Modes

## Brazilian rail system: gauge sizes

The gauge system (distance between two rails) varies by region, creating difficulties in integrating the system like the North American region which uses a standard gauge. There are 3 types of gauge: metric (39”), broad (63”) and mixed (39”-63”). The metric gauge accounts for 81 percent of the total Brazilian railroads, and predominates in the Southern region. The broad gauge accounts for 17 percent of total railroads and prevails in the Southeast region.



Source: National Association of Rail Transporters (ANTF)

**United States: soybean supply and distribution  
(1,000 metric tons)**

Year*	Area Harvested	Beginning Stocks	Production	Imports	Total Supply	Exports	Crush	Domestic Consumption	Ending Stocks
1997/98	27,968	3,588	73,176	136	76,900	23,796	43,464	47,666	5,438
1998/99	28,507	5,438	74,598	96	80,132	21,899	43,262	48,749	9,484
1999/00	29,318	9,484	72,224	114	81,822	26,537	42,927	47,388	7,897
2000/01	29,303	7,897	75,055	97	83,049	27,103	44,625	49,203	6,743
2001/02	29,532	6,743	78,672	63	85,478	28,948	46,259	50,867	5,663
2002/03	29,339	5,663	75,010	127	80,800	28,423	43,948	47,524	4,853
2003/04	29,330	4,853	66,783	151	71,787	24,128	41,632	44,600	3,059
2004/05	29,930	3,059	85,019	152	88,230	29,860	46,160	51,410	6,960
2005/06	28,834	6,960	83,507	92	90,559	25,579	47,324	52,751	12,229
2006/07	30,190	12,229	87,001	246	99,476	30,386	49,198	53,473	15,617
2007/08	25,959	15,617	72,859	269	88,745	31,538	49,081	51,627	5,580
2008/09	30,222	5,580	80,749	361	86,690	34,925	45,232	48,004	3,761
2009/10	30,907	3,761	91,417	408	95,586	39,599	47,355	50,964	5,023
2010/11**	31,201	5,023	90,083	272	95,378	36,741	44,633	48,836	9,801

\*Data based on local Marketing Year (MY). Soybeans are on a September/August MY

\*\*Forecast: June 10, 2010

Source: USDA/Foreign Agricultural Service/Circular Series

**Soybean production: world supply and distribution  
(1,000 metric tons)**

Country*	2006/07	2007/08	2008/09	2009/10	2010/11**
United States	87,001	72,859	80,749	91,417	90,083
Brazil	59,000	61,000	57,800	69,000	65,000
Argentina	48,800	46,200	32,000	54,000	50,000
China	15,967	14,000	15,540	14,700	14,600
India	7,690	9,470	9,100	8,750	8,800
Paraguay	5,856	6,900	4,000	7,200	6,500
Canada	3,466	2,696	3,336	3,500	3,650
Other	9,346	7,881	9,439	10,635	11,301
<b>Total</b>	<b>237,126</b>	<b>221,006</b>	<b>211,964</b>	<b>259,202</b>	<b>249,934</b>

\*Most countries are on an October/September Marketing Year (MY). The United States, Mexico, and Thailand are on a September/August MY. Canada is on an August/July MY. Paraguay is on a March/February MY and Turkey is on an March/February MY.

\*\*Forecast: June 10, 2010

Source: USDA/ Foreign Agricultural Service/Circular Series

Soybean imports: world supply and distribution (1,000 metric tons)					
Country*	2006/07	2007/08	2008/09	2009/10	2010/11**
China	28,726	37,816	41,098	47,000	49,000
EU-27	15,291	15,123	13,213	13,000	12,600
Japan	4,094	4,014	3,396	3,600	3,600
Mexico	3,844	3,584	3,327	3,450	3,500
Taiwan	2,436	2,148	2,216	2,500	2,500
Thailand	1,532	1,753	1,510	1,600	1,850
Egypt	1,328	1,061	1,575	1,623	1,650
Indonesia	1,309	1,147	1,393	1,500	1,600
Turkey	1,268	1,277	1,007	1,280	1,400
Korea, South	1,231	1,232	1,167	1,200	1,210
Other	8,007	8,963	7,263	7,395	7,470
<b>Total</b>	<b>69,066</b>	<b>78,118</b>	<b>77,165</b>	<b>84,148</b>	<b>86,380</b>

\*Most countries are on an October/September Marketing Year (MY). The United States, Mexico, and Thailand are on a September/August MY. Canada is on an August/July MY. Paraguay is on a March/February MY and Turkey is on an March/February MY.

\*\*Forecast: June 10, 2010

Source: USDA/ Foreign Agricultural Service/Circular Series

Soybean exports: world supply and distribution (1,000 metric tons)					
Country*	2006/07	2007/08*	2008/09	2009/10	2010/11**
United States	30,386	31,538	34,925	39,599	36,741
Brazil	23,485	25,364	29,986	29,350	28,900
Argentina	9,560	13,839	5,590	7,500	12,500
Paraguay	4,361	5,400	2,637	5,400	4,835
Canada	1,683	1,753	2,017	2,100	2,225
Other	1,846	1,695	2,185	2,397	3,043
<b>Total</b>	<b>71,321</b>	<b>79,589</b>	<b>77,340</b>	<b>86,346</b>	<b>88,244</b>

\*Most countries are on an October/September Marketing Year (MY). The United States, Mexico, and Thailand are on a September/August MY. Canada is on an August/July MY. Paraguay is on a March/February MY and Turkey is on an March/February MY.

\*\*Forecast: June 10, 2010

Source: USDA/ Foreign Agricultural Service/Circular Series



Soybean crush: world supply and distribution (1,000 metric tons)					
Country*	2006/07	2007/08	2008/09	2009/10	2010/11**
China	35,970	39,518	41,035	47,280	52,900
United States	49,198	49,081	45,232	47,355	44,633
Argentina	33,586	34,607	31,243	34,830	38,650
Brazil	31,110	32,117	31,868	31,500	32,800
EU-27	14,670	14,870	12,860	12,500	12,400
India	6,615	8,170	7,500	6,200	7,620
Mexico	3,900	3,620	3,465	3,510	3,570
Japan	2,925	2,890	2,497	2,530	2,530
Taiwan	2,161	1,965	1,917	2,150	2,225
Russia	805	1,051	1,497	1,950	2,080
Egypt	1,250	1,129	1,545	1,635	1,644
Thailand	1,406	1,514	1,390	1,450	1,600
Paraguay	1,355	1,400	1,500	1,550	1,550
Bolivia	1,670	1,160	1,350	1,410	1,370
Canada	1,524	1,383	1,286	1,275	1,325
Other	7,465	7,344	6,829	8,099	8,403
<b>Total</b>	<b>195,610</b>	<b>201,819</b>	<b>193,014</b>	<b>205,224</b>	<b>215,300</b>

\*Most countries are on an October/September Marketing Year (MY). The United States, Mexico, and Thailand are on a September/August MY. Canada is on an August/July MY. Paraguay is on a March/February MY and Turkey is on an March/February MY.

\*\*Forecast: June 10, 2010

Source: USDA/ Foreign Agricultural Service/Circular Series

Soybean ending stocks: world supply and distribution (1,000 metric tons)					
Country*	2006/07	2007/08	2008/09	2009/10	2010/11**
Argentina	22,606	21,760	16,588	26,670	23,850
Brazil	18,189	18,898	12,037	17,472	17,947
China	2,700	4,245	9,048	12,618	12,048
United States	15,617	5,580	3,761	5,023	9,801
India	53	116	336	1,281	781
Other	3,825	2,307	1,892	2,403	2,560
<b>Total</b>	<b>62,990</b>	<b>52,906</b>	<b>43,662</b>	<b>65,467</b>	<b>66,987</b>

\*Most countries are on an October/September Marketing Year (MY). The United States, Mexico, and Thailand are on a September/August MY. Canada is on an August/July MY. Paraguay is on a March/February MY and Turkey is on an March/February MY.

\*\*Forecast: June 10, 2010

Source: USDA/ Foreign Agricultural Service/Circular Series



## Reference Material

Quarterly costs of transporting U.S. soybeans to Hamburg, Germany, and Shanghai, China										
	2009					2009				
	1st qtr	2nd qtr	3rd qtr	4th qtr	Avg	1st qtr	2nd qtr	3rd qtr	4th qtr	Avg
	<b>To Hamburg, Germany</b>									
	<b>Minneapolis, Minnesota --US\$/mt--</b>					<b>Davenport, Iowa --US\$/mt--</b>				
Truck	8.17	10.10	10.38	11.38	10.01	8.17	10.10	10.38	11.38	10.01
Rail**	-	-	-	-	-	-	-	-	-	-
Barge <sup>1</sup>	22.42	22.44	23.88	33.50	25.56	17.12	16.57	18.88	26.51	19.77
Ocean <sup>2</sup>	16.88	21.33	19.81	26.38	21.10	16.88	21.33	19.81	26.38	21.10
Total transportation	47.47	53.87	54.07	71.26	56.67	42.17	48.00	49.07	64.27	50.88
Farm Value <sup>3</sup>	346.00	385.69	376.50	346.86	363.76	350.66	388.50	389.36	351.51	370.01
Landed Cost	393.60	439.56	430.57	418.12	420.46	392.83	436.50	438.43	415.78	420.89
Transport % of landed cost	12.06	12.26	12.56	17.04	13.5	10.73	11.00	11.19	15.46	12.1
	<b>To Shanghai, China</b>									
	<b>Minneapolis, Minnesota --US\$/mt--</b>					<b>Davenport, Iowa --US\$/mt--</b>				
Truck	8.17	10.10	10.38	11.38	10.01	8.17	10.10	10.38	11.38	10.01
Rail**	-	-	-	-	-	-	-	-	-	-
Barge <sup>1</sup>	22.42	22.44	23.88	33.50	25.56	17.12	16.57	18.88	26.51	19.77
Ocean <sup>2</sup>	35.47	47.19	56.53	65.64	51.21	35.47	47.19	56.53	65.64	51.21
Total transportation	66.06	79.73	90.79	110.52	86.78	60.76	73.86	85.79	103.53	80.99
Farm Value <sup>3</sup>	346.13	385.69	376.50	346.86	363.80	350.66	388.50	389.36	351.51	370.01
Landed Cost	412.19	465.42	467.29	457.38	450.57	411.42	462.36	475.15	455.04	450.99
Transport % of landed cost	16.03	17.13	19.43	24.16	19.2	14.77	15.97	18.06	22.75	17.9

\*\*Rail service is required due to seasonal closure of the Minneapolis segment of the Mississippi River

<sup>1</sup>The Mississippi River closes from Minneapolis to just north of St. Louis from mid-December to late March. The distance by barge between Minneapolis and Davenport to the Port of New Orleans is 1,713 and 1,343 miles, respectively.

<sup>2</sup>The Baltic Exchange; excludes handling charges; <sup>3</sup>USDA/NASS

Source: USDA/AMS

Average quarterly exchange rate															
	1st qtr	2nd qtr	3rd qtr	4th qtr	2005	1st qtr	2nd qtr	3rd qtr	4th qtr	2006	1st qtr	2nd qtr	3rd qtr	4th qtr	2007
Real per US\$	2.6652	2.4818	2.3428	2.2509	<b>2.4352</b>	2.1959	2.1852	2.1711	2.1520	<b>2.1761</b>	2.1082	1.9818	1.9177	1.7857	<b>1.9484</b>
	1st qtr	2nd qtr	3rd qtr	4th qtr	2008	1st qtr	2nd qtr	3rd qtr	4th qtr	2009					
Real per US\$	1.7365	1.6561	1.6678	2.2779	<b>1.8346</b>	2.3113	2.0728	1.8680	1.7386	<b>1.9977</b>					

Source: Banco Central do Brasil

## Average cost of transporting U.S. soybeans to Hamburg, Germany, and Shanghai, China

	2005	2006	2007	2008	2009	% Change 2008-09	2005	2006	2007	2008	2009	% Change 2008-09
	<b>To Hamburg, Germany</b>											
	<b>Minneapolis, Minnesota --US\$/mt--</b>						<b>Davenport, Iowa --US\$/mt--</b>					
Truck	8.59	9.75	10.09	11.50	10.01	-13.00	8.59	9.75	10.09	11.50	10.01	-13.00
Rail**	-	-	-	26.00	-	-	-	-	-	-	-	-
Barge <sup>1</sup>	25.74	33.21	29.38	34.75	25.56	-26.44	21.84	25.59	23.89	30.41	19.77	-34.99
Ocean <sup>2</sup>	28.61	24.03	58.81	52.66	21.10	-59.93	28.61	24.03	58.81	52.66	21.10	-59.93
Total transportation <sup>2</sup>	62.93	66.99	98.28	105.41	56.67	-46.24	59.04	59.38	92.79	94.57	50.88	-46.20
Farm Value <sup>3</sup>	217.58	200.41	274.79	411.71	363.76	-11.65	215.65	204.05	285.77	416.89	370.01	-11.25
Landed Cost	280.51	267.40	373.07	517.12	420.46	-18.69	274.69	263.43	378.56	511.46	420.89	-17.71
Transport % of landed cost	22.47	24.94	25.7	20.1	13.5	-33.03	21.54	22.49	23.9	18.3	12.1	-33.78
	<b>To Shanghai, China</b>											
	<b>Minneapolis, Minnesota --US\$/mt--</b>						<b>Davenport, Iowa --US\$/mt--</b>					
Truck	8.59	9.75	10.09	11.50	10.01	-13.00	8.59	9.75	10.09	11.50	10.01	-13.00
Rail**	-	-	-	26.00	-	-	-	-	-	-	-	-
Barge <sup>1</sup>	25.74	33.21	29.38	34.75	25.56	-26.44	21.84	25.59	23.89	30.41	19.77	-34.99
Ocean <sup>2</sup>	49.50	41.59	81.36	91.18	51.21	-43.84	49.50	41.59	81.36	91.18	51.21	-43.84
Total transportation <sup>2</sup>	83.83	84.54	120.84	143.93	86.78	-39.71	79.93	76.93	115.35	133.09	80.99	-39.15
Farm Value <sup>3</sup>	217.58	200.41	274.79	411.71	363.80	-11.64	215.65	204.07	285.74	416.89	370.01	-11.25
Landed Cost	301.40	284.95	395.62	555.64	450.57	-18.91	295.58	281.00	401.09	549.98	450.99	-18.00
Transport % of landed cost	27.84	29.54	30.1	25.4	19.2	-24.45	27.08	27.31	28.3	23.7	17.9	-24.55

\*\*Rail service is required due to seasonal closure of the Minneapolis segment of the Mississippi River

<sup>1</sup>The Mississippi River closes from Minneapolis to just north of St. Louis from mid-December to late March. The distance by barge between Minneapolis and Davenport to the Port of New Orleans is 1,713 and 1,343 miles, respectively.

<sup>2</sup>The Baltic Exchange; excludes handling charges; <sup>3</sup>USDA/NASS

Source: USDA/AMS

Selected quarterly Brazilian farm prices (US\$/metric ton)*				
Year	Rio Grande do Sul	Mato Grosso	Goiás	Paraná
<b>2005</b>				
1st qtr	202.61	145.15	174.70	196.31
2nd qtr	210.19	161.38	179.81	207.04
3rd qtr	214.23	175.08	188.26	222.81
4th qtr	206.36	174.28	184.89	214.81
Average	208.35	163.97	181.92	210.24
<b>2006</b>				
1st qtr	202.56	157.86	180.71	206.88
2nd qtr	198.03	150.72	175.49	194.83
3rd qtr	207.37	161.30	185.73	211.06
4th qtr	233.43	189.65	216.60	242.47
Average	210.34	164.88	189.63	213.81
<b>2007</b>				
1st qtr	249.78	196.22	231.95	251.13
2nd qtr	228.00	198.61	225.49	239.48
3rd qtr	256.59	234.16	267.93	272.70
4th qtr	333.86	306.30	349.22	361.26
Average	267.06	233.82	268.65	281.14
<b>2008</b>				
1st qtr	404.89	349.23	406.90	423.63
2nd qtr	429.72	389.20	401.89	434.42
3rd qtr	435.02	419.80	409.37	435.49
4th qtr	309.01	277.74	274.34	303.68
Average	394.66	358.99	373.13	399.31
<b>2009</b>				
1st qtr	315.99	264.63	288.68	326.95
2nd qtr	359.68	315.88	336.86	373.16
3rd qtr	374.28	347.80	356.43	391.57
4th qtr	388.08	369.07	371.29	398.17
Average	359.51	324.34	338.31	372.46

Source: Companhia Nacional de Abastecimento (CONAB)



Major river system corridors



Sources: Ministério dos Transportes, Brazil  
National Agency for Waterway Transportation (ANTAQ)



