April 2013

Information Memorandum

Galeão International Airport – Rio de Janeiro

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FIGURES

1.0 OVERVIEW

Galeão International Airport (the Airport) is being offered by the Government of Brazil for a 25-year lease concession. This Information Memorandum along with the following documents presents key information intended to support prospective bidders in their development and presentation of a bid.

Relatório 1 – Market Study and Aviation Activity Forecasts
Relatório 2 – Master Plan
Relatório 4 – Economic and Financial Report

1.1 OVERVIEW OF THE AIRPORT

The Airport is owned by the Federal Government and operated by Empresa Brasileira de Infra-Estrutura Aeroportuária (Infraero), a part of Civil Aviation Ministry (Federal) that operates over 60 airports in Brazil.

Infraero also facilitates operations by airlines, ground handlers, concessionaires and other Government agencies including customs, immigration and federal and state police. Infraero operates the cargo terminals and employs cargo management staff. The Air Traffic Control Tower is operated by DECEA, which will retain this responsibility throughout the concession period.

1.2 LOCATION

Galeão International Airport is located in the southeast region of Brazil; the Airport supports business and tourism activity in Rio de Janeiro and serves as a major air transportation hub for the country and South America. The Airport enjoys (1) a strategic location with respect to domestic air service, (2) a role as the second busiest commercial service airport in Brazil and the fourth busiest in Latin America, (3) a large origin and destination (O&D) passenger base with a strong inbound visitor market, (4) a role as the primary commercial service airport in the Rio de Janeiro region, (5) a role as an airline domestic hub for GOL Linhas Aereas (GOL) and TAM Linhas Aereas (TAM), and (6) a role as an international gateway.

Figure 1-1 presents a map of Brazil's airports. Brazil is the largest aviation market in the Latin America-Caribbean (LAC) Region, with an extensive airport network including primary international gateways and secondary domestic airports at São Paulo and Rio de Janeiro, and domestic hubs in large secondary cities such as Belo Horizonte, Brasilia, Curitiba, Fortaleza, Manaus, Recife, Porto Allegre and Salvador, among others. The commercial air service airports located in Brasilia, Cabo Frio, Campinas (Viracopos), and São Paulo (Guarulhos) are privately operated. Commercial aviation has grown rapidly in Brazil, driven by a major economic expansion.

1.3 INFRASTRUCTURE

The Airport encompasses approximately 1,700 hectares of land and is generally surrounded by Guanabara Bay. The Airport's property boundary and existing facilities are shown on Figure 1-2.

The Airport has two diverging runways – Runway 15-33 which is 3,180 meters long and Runway 10-28 which is 4,000 meters long. Three of the four runway ends have precision approaches, with Runways 15 and 28 equipped with a Category I Instrument Landing System (ILS) and Runway 10 equipped with a Category II ILS.

The Airport's passenger terminal complex is located between the two runways and consists of two main passenger terminal buildings, two passenger aircraft parking aprons, GSE parking and staging areas, and administrative offices. Collectively, the terminal complex encompasses approximately 70 hectares.

Figure 1-1
BRAZIL AIRPORTS
Galeão International Airport – Rio de Janeiro

Note: Natal Airport is currently under construction; opening anticipated in April 2014

Source: LeighFisher, April 2013.

Air cargo facilities are located south of the passenger terminal complex and include apron areas, warehousing, and express cargo facilities. The cargo area includes approximately 180,000 m² of dedicated aircraft parking apron that can accommodate up to 21 cargo aircraft, but is sometimes shared with military aircraft. About 87,800 m² of warehousing/storage space is provided. Included is the Infraero cargo building, one of the largest Brazilian logistics terminals that includes cargo-related administrative offices.

Airport support facilities include the airport maintenance building, ground support equipment, fuel storage facilities, and an airport traffic control tower.

1.4 ACTIVITIES

The Airport has an important role in the international, national, and regional air transportation systems. The Airport is part of Rio de Janeiro Metropolitan Airports System, which also includes Santos Dumont Airport and Jacarepaguá Airport, as illustrated on Figure 1-3. Santos Dumont operates domestic flights and Jacarepaguá serves general aviation.

Figure 1-2 – Existing Condition Plan

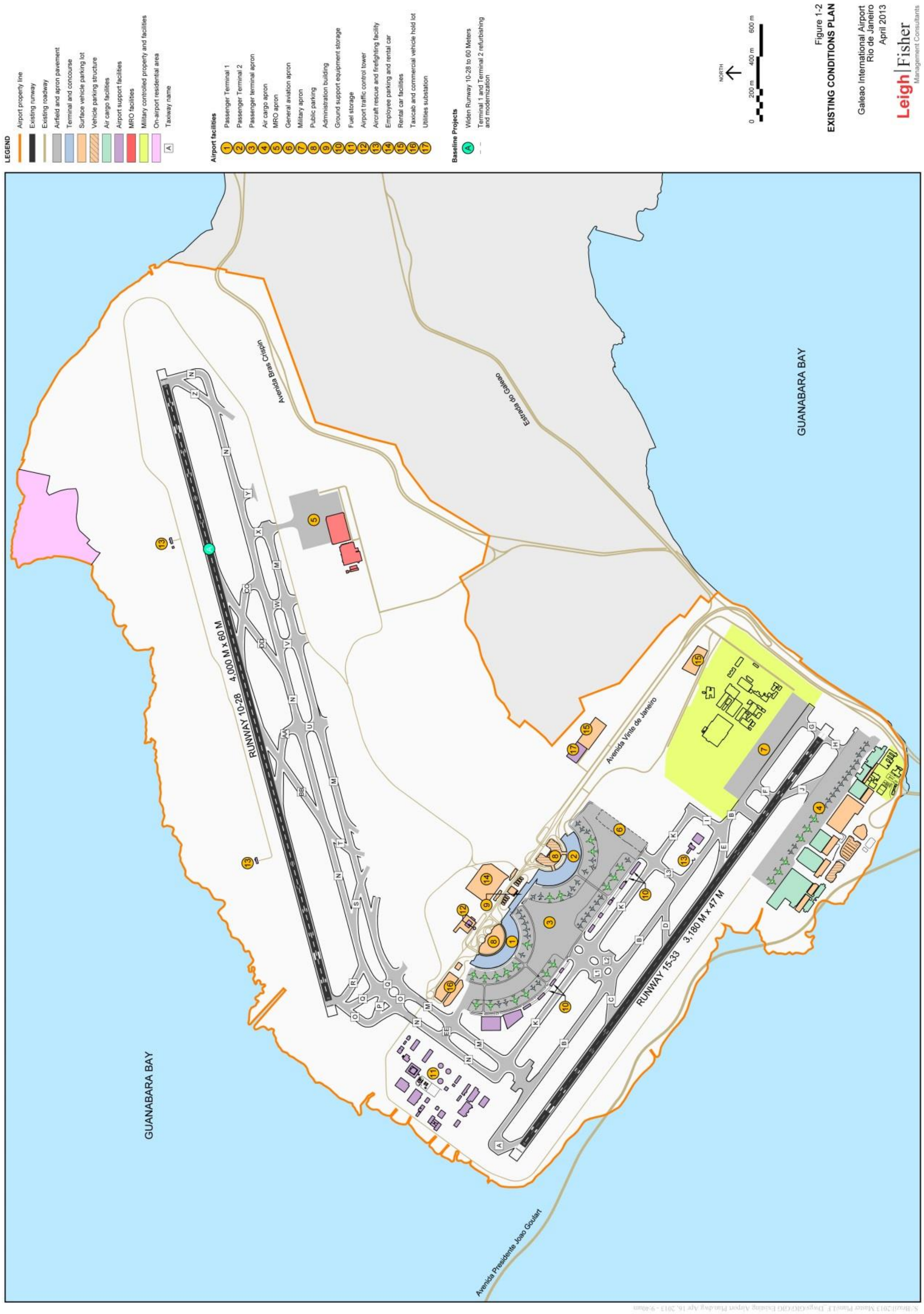


Figure 1-3
RIO DE JANEIRO REGION AIRPORTS
Galeão International Airport – Rio de Janeiro

Source: LeighFisher, April 2013.

The Airport serves origin-destination passengers (i.e., passengers beginning or ending their journeys in Rio de Janeiro) and connecting passengers transferring from one flight to another. In 2012, the Airport was the second busiest in Brazil in terms of passenger traffic.

In 2012 the Airport:

- Handled more than 66% of total passengers in the Rio de Janeiro region (Santos Dumont handled the remaining share of passengers)
- Handled nearly 17.5 million total passengers, including 4.3 million international passengers
- Provided 17.4% of Brazil's total international departing seats

- Handled 142,708 tonnes of cargo, including 86,569 of international cargo and 56,139 tonnes of domestic cargo and mail
- Handled 139,400 aircraft operations
- Served as a domestic hub for GOL Linhas Aereas (GOL) and TAM Linhas Aereas (TAM), Brazil's two largest airlines.

1.5 FINANCIAL SUMMARY

The Airport does not have any capital or debt service expenses as these have been accounted for corporately by Infraero and are not assigned to the Airport or the concession. Table 1-1 summarizes key historical financial data.

Table 1-1
HISTORICAL EBITDA
Galeão International Airport – Rio de Janeiro
(Nominal R$ in thousands)

	2007	2008	2009	2010	2011	2012
Revenues *(a)*						
Aeronautical revenues	103,245	102,993	108,734	108,483	136,374	174,233
Cargo and handling revenues	44,375	59,726	56,787	65,307	71,700	119,409
Non-aeronautical revenues	97,768	112,388	130,063	125,708	146,981	175,095
	245,388	275,107	295,584	299,498	355,055	468,737
OpEx						
Personnel	116,786	128,448	139,736	129,455	135,470	149,076
Non-personnel	142,319	148,044	164,352	178,029	182,704	213,375
	259,104	276,491	304,088	307,484	318,175	362,451
EBITDA	(13,716)	(1,385)	(8,504)	(7,986)	36,880	106,286
EBITDA margin	-5.6%	-0.5%	-2.9%	-2.7%	10.4%	22.7%

(a) Net of PASEP/COFINS and ISS taxes, which are deducted from revenues.

Source: Infraero.

1.6 SUMMARY OF THE INVESTMENT OPPORTUNITY

The Airport is currently owned by the Federal Government, which intends to concession the Airport as a 25-year lease. This concession presents an opportunity to lease Brazil's 2nd busiest international airport serving a growing region that includes Brazil's second largest metropolitan area, a key component of Brazil's large and growing economy, and its most a popular tourist destination. The Airport will also handle a surge of traffic associated with two major international sporting events—the 2014 FIFA World Cup and the 2016 Olympic Games—scheduled for 2014 and 2016, respectively. Rio de Janeiro will serve as one of the key host cities for the FIFA 2014 World Cup, including the final match of the tournament and as the sole host city for the 2016 Summer Olympics.

The Brazilian Government intends to lease the Airport in exchange for an acquisition fee (defined below) of no less that R$______, to be paid in equal annual installments over the 25-year concession period, plus a total annual revenue share of 5% of annual gross revenues (as defined below). The concession will be established as a Special Purpose Entity (SPE) for the life of the concession, with the Concessionaire holding a 51% stake of the SPE and Infraero holding the remaining 49%. The successful Concessionaire will be entitled to generate net revenues that are subject to Brazilian corporate, payroll and other taxes, (summarized later in this Information Memorandum). The Concessionaire will be required to implement a capital improvement program, with some mandatory developments as described in Section 6. This section also includes an indicative master plan and associated CapEx program for bidders reference, but bidders are not required to follow this master plan, except for the designated mandatory elements.

1.7 INVESTMENT HIGHLIGHTS

The Government of Brazil believes that the Concession offers a unique opportunity to operate a highly attractive asset in a prime Latin America location with strong growth and robust cash-flow generation. Key investment highlights include:

- **Excellent location**. The Airport is located in Rio de Janeiro and serves as the Rio region's primary airport, only international airport, and one of Brazil's major air transport hubs. The Airport enjoys a strategic location with respect to domestic and international connecting air service, being well positioned geographically to serve as a connecting point for north-south traffic along Brazil's populous coast.

- **Strong national economic drivers**. Brazil has experienced strong economic growth, not only in terms of gross domestic product (GDP) but also in terms of a growing middle class. Brazil's real GDP grew 47.5% between 2000 and 2012, and 21.8% between 2005 and 2012, according to the Instituto Brasileiro de Geografia e Estatistica (IBGE), and is projected to grow at an annual rate between 4.0% and 5.0% between 2012 and 2020 according to the Banco Central do Brasil. In addition, Brazil's middle-class population (referred to as the C class) increased from 66 million in 2003 to 100 million in 2011, increasing from 37% to 52% of the total population, and is projected to increase to 115 million people (59% of total population) by 2014, greatly expanding the potential O&D passenger market.

- **Strong local economic drivers**. The State of Rio de Janeiro has experienced particularly strong economic growth over the last few years and is expected to benefit economically in the short- and medium-term from serving as one of the key host cities for the FIFA 2014 World Cup, including the tournament final match, and the sole host city for the 2016 Summer Olympics.

- **A positive and robust airline service environment**. Brazil is served by two major national airlines, TAM and GOL, and a wide range of foreign-flag carriers from around the world. TAM recently merged with LAN Airlines of Chile resulting in an increased offering of international destinations and frequencies. The Rio de Janeiro region has a large potential O&D passenger base with a population of about 11.8 million in the Metropolitan region, based on the 2010 census. Additionally, the region has a strong inbound visitor market due primarily to the appeal of Rio de Janeiro as one of the world's most beautiful cities.

- **Limited competition from other airports**. Santos Dumont Airport, although closer to the city center, currently operates at capacity and lacks land for expansion. No other commercial airport sites have been identified in the region, ensuring that Galeão will continue to serve a primary role for many years to come.

- **International service potential**. The Airport is the second busiest international gateway in Brazil, with significant potential for expanded international air service due to available facility capacity and space for expansion when needed, liberalized international air service agreements, a growing economy, and an appealing geographic location for international connecting service. In addition, Brazil's current primary international gateway airport, São Paulo – Guarulhos International, is already experiencing capacity constraints and has limited opportunity to increase capacity, ensuring Galeão's expanded role in serving the country's international traffic.

- **Rights to provide storage and handling of imported and exported cargo**. Infraero directly operates the Airport's international cargo facilities and derives substantial net revenues from the operation (about 25% of total revenues in 2012).

- **Upside in non-aeronautical revenues.** Non-aeronautical revenue programs have significant development potential, particularly in duty-free (departing and arriving), car parking, food and beverage, and other retail services, supported by positive demographic trends and real per capita income growth.

- **Advantageous loan terms**. Debt funding is expected to be available with advantageous terms, similar to the Round 1 airport concessions, for between 60% to 70% of the value of the project (the loan to value ratio). As noted the Airport will not carry any debt service at the time of concessioning.

2.0 TRAFFIC

This section summarizes historical passenger traffic and airline services in the Rio de Janeiro region, as well as key issues that may affect the nature of airline service in the future. The passenger traffic discussion is followed by an historical overview of cargo and mail activity and aircraft operations. More detail regarding the aviation activity forecasts are included in *Relatório 1 – Market Study and Aviation Activity Forecasts*.

2.1 REGULATION

Historically, Brazil has had a tightly controlled air transport market, restricting access to both domestic and international routes and controlling air fares on these routes. In general, the industry is much less regulated now than it was in 1991 and there have been corresponding benefits in terms of increased competition among airlines, reductions in air fares, and increases in passenger traffic. Domestic deregulation began in 1992 with the end of regional airline monopolies, and beginning in 1998, pricing controls were loosened somewhat with the end of tariff bands. In 2001, total pricing liberalization was introduced as well as greater flexibility for airlines to serve new routes. The market was then partially re-regulated in 2003 to control "excess capacity" and unduly low fares. The aim was to avoid damage to competitors, especially the then national flag carrier Varig. In September 2005, the domestic market was again deregulated, just after Varig filed for insolvency. The Varig brand was subsequently purchased by GOL and is still used for a small part of the GOL operation. At the time of this writing, the domestic market is relatively unregulated compared to the pre-1992 time period, but additional liberalization, especially related to slot access at highly congested airports, could further improve competition and reduce air fares.

International air service deregulation has lagged domestic market deregulation, but gained momentum in 2005 with the establishment of the National Civil Aviation Agency (ANAC) and in 2007 with the enactment of a resolution directing ANAC to promote airline competition and lower airfares and increase access to international routes. Between 2008 and 2010, Brazil eliminated price controls on international flights, starting with flights to South America, and established a National Policy for Civil Aviation which eliminated restrictions on capacity and set the stage for the renegotiation of its existing air services agreements to incorporate an "open skies" policy. The number of Brazil air service agreements increased from 67 in 2007 to 88 in 2012 (an increase of 31%), reflecting the establishment of 21 new agreements and the renegotiation of 34 existing arrangements.* In 2012, 35 of Brazil's 88 air services agreements incorporated an open skies policy. The liberalization of Brazil's air services agreements has resulted in increased growth in international passenger traffic since 2007 (an average increase of 9.8% between 2007 and 2012 compared with an average increase of 4.0% between 2000 and 2007) and an increase in the number of international service options. In addition, international airline service has expanded beyond Brazil's primary international gateways—Guarulhos in São Paulo and Galeao in Rio de Janeiro—to 16 other airports in Brazil including the airports located in Brasilia, Confins, Manaus, Porto Alegre, and Recife.

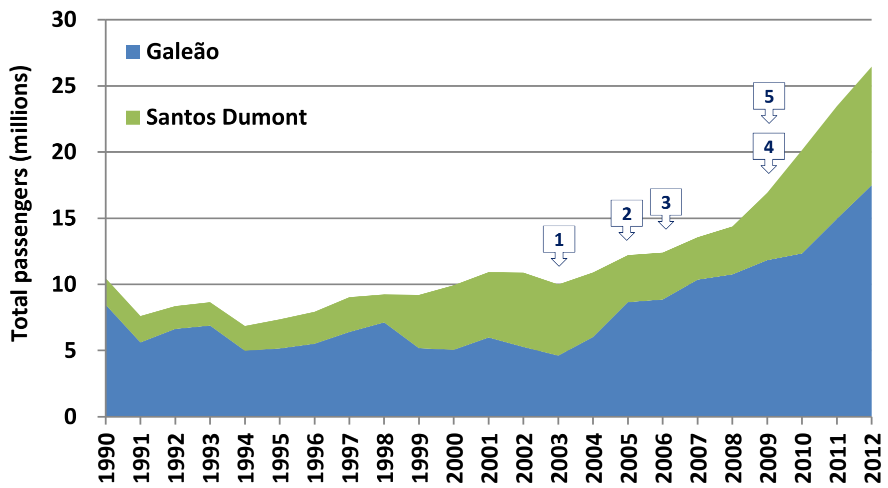
2.2 REGIONAL PASSENGER TRAFFIC OVERVIEW

The Rio de Janeiro region is served by two commercial service airports – the Airport (Galeão) and Santos Dumont. Figure 2-1 presents the historical trends in passenger traffic at these two airports between 1990 and 2012 and significant historical events, particularly regulatory changes since 2005 and the development of airline service at the Airport and Santos Dumont. Galeão has historically been the dominant airport in the region; however, Santos Dumont saw an increase in domestic passengers following repeal in March 2009 of a regulation limiting use of that airport to 50-seat

* International Civil Aviation Organization (ICAO), Worldwide Air Transport Conference, *The Liberalization of International Air Transport in Brazil*, Montreal, March 18-22, 2013.

aircraft. At the same time, Galeão benefited from expanded international service as well as significant growth in domestic passengers.

Figure 2-1
RIO DE JANEIRO REGION HISTORICAL PASSENGERS AND KEY EVENTS
Galeão International and Santos Dumont Airports



1 Expansion of GOL and TAM service at Galeão (2003-2008)
2 Regulation promoting airline service between Santos Dumont and Congonhas and limiting other service at SDU to the use of 50-seat turboprops (March 2005)
3 International service expansion at Galeão (2006-2012)
4 Regulation repealed (March 2009)
5 LCC service added at Santos Dumont (2009-2012)

Source: LeighFisher, April 2013, based on Infraero data and market research.

2.3 LOCAL PASSENGER TRAFFIC OVERVIEW

Total passengers at the Airport increased from 8.5 million in 1990 to 17.5 million in 2012, a compound average annual increase of approximately 3.4%. International and domestic passengers increased over the same period.

The effective boundary of the region served by the Airport (i.e., airport service region) is defined by the availability, type, and cost of airline service at surrounding airports, as well as the location of these airports. The extent to which the Airport is successful in competing with other airports for passengers depends, among other factors, on airline fares and air service frequency at the airports and surface travel times to and from the airports. Santos Dumont, its primary competing airport, offers lower frequency of domestic airline service on most routes. While Santos Dumont does not provide international airline service, Galeão competes with Guarulhos in São Paulo for international passengers.

Table 2-1 summarizes the average daily scheduled passenger airline departures at the Airport and Santos Dumont, and selected airports in Brazil.

Table 2-1
SCHEDULED PASSENGER AIRLINE SERVICE AT KEY AIRPORTS

	Average daily scheduled flights in January 2013			
Airport location	Jet aircraft	Regional jet	Commuter	Total
Rio De Janeiro region				
Galeão	179	14	2	195
Santos Dumont	117	32	4	153
Total	296	46	6	348
Belo Horizonte				
Tancredo Neves	88	51	7	146
Pampulha	--	2	18	20
Total	88	53	25	166
São Paulo region				
Guarulhos	315	11	11	337
Congonhas	220	--	1	221
Viracopos	4	106	28	138
Total	539	117	40	696
Brasilia	194	14	1	209

Source: Official Airline Guides, Inc., online database, accessed January 2013.

The Rio de Janeiro region and the nation as a whole have experienced strong growth in passenger traffic since 1990, as shown in Table 2-2. Between 1990 and 2012, total passengers in the Rio de Janeiro region increased at 4.3% CAGR, compared with a CAGR 8.2% in the nation as a whole during this period. Since 1990, Galeão's share of Rio de Janeiro region passengers has varied as a result of the regulatory changes related to permitted air service at Santos Dumont, development of airline service at both airports, including the expansion of service by GOL and TAM at the Airport between 2003 and 2008, and the development of low cost carrier (LCC) service at Santos Dumont since 2009.

2.4 ECONOMIC BASIS FOR AIRLINE TRAFFIC

From 1990 to 2012, the total number of passengers at Brazil's airports increased at 8.2% CAGR, as shown on Figure 2-2. Domestic passenger traffic fueled most of the growth due to both GDP growth and domestic air transport deregulation, but international passenger traffic also experienced strong growth, increasing at an average of 5.7% during this period. In 2012, domestic passengers accounted for 90% of total passengers at Brazil's airports, with international passengers accounting for the remaining 10%.

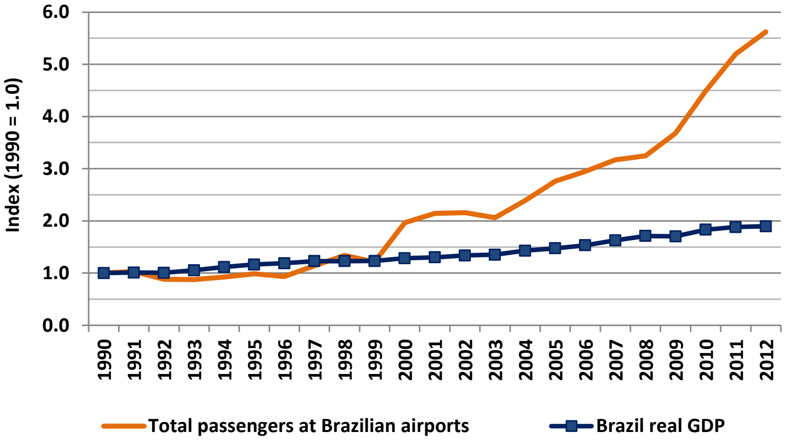
It is generally recognized that Brazil's economic development has been a significant factor supporting passenger development, together with air transport industry deregulation and the resulting growth in Low Cost Carriers (LCC) services, particularly since 2000. For example, between 2005 and 2010 the average domestic yield for the Brazilian airlines decreased from R$ 0.345 to R$ 0.240 per passenger-kilometer (in current prices), according to data reported by ANAC, demonstrating the increasing presence of LCC service. The growth of LCC service in Brazil was made possible when the Brazilian government deregulated certain elements of the airline industry, especially the relaxation of controls on minimum air fares by route beginning in 1998. This made air travel much more accessible to Brazil's growing middle class.

Table 2-2
REGIONAL AND NATIONAL PASSENGER TRENDS
Rio de Janeiro Region and Brazil

	Rio de Janeiro Region				
	Galeão				
Year	Total	Percent of region	Santos Dumont	Total region	Brazil
1990	8,469,404	80.8%	2,010,545	10,479,949	34,098,000
1991	5,612,960	73.7	2,002,196	7,615,156	35,069,160
1992	6,634,156	79.3	1,733,382	8,367,538	29,969,870
1993	6,887,322	79.5	1,774,816	8,662,138	29,900,528
1994	4,992,530	72.7	1,871,043	6,863,573	31,460,904
1995	5,157,778	70.0	2,210,116	7,367,894	33,576,468
1996	5,514,161	69.5	2,423,378	7,937,539	31,781,796
1997	6,403,605	70.8	2,638,471	9,042,076	38,842,058
1998	7,126,907	77.0	2,124,206	9,251,113	45,667,534
1999	5,174,431	56.2	4,037,641	9,212,072	41,375,878
2000	5,061,414	50.9	4,883,361	9,944,775	67,978,352
2001	5,987,053	54.8	4,946,542	10,933,595	72,002,896
2002	5,269,842	48.4	5,626,328	10,896,170	71,847,614
2003	4,619,229	46.2	5,382,829	10,002,058	71,215,810
2004	6,024,930	55.2	4,887,306	10,912,236	82,706,261
2005	8,657,139	70.8	3,562,297	12,219,436	96,078,832
2006	8,856,527	71.4	3,553,177	12,409,704	102,185,376
2007	10,352,616	76.3	3,214,415	13,567,031	110,569,767
2008	10,754,689	74.8	3,628,766	14,383,455	113,263,537
2009	11,828,656	69.9	5,099,643	16,928,299	128,135,616
2010	12,337,944	61.2	7,822,848	20,160,792	155,363,964
2011	14,952,830	63.7	8,515,021	23,467,851	179,949,252
2012	17,495,737	66.1	8,961,745	26,457,482	191,617,646
	Compound annual percent increase (decrease)				
1990-2000	(5.0%)		9.3%	(0.5%)	7.1%
2000-2012	10.9		5.2	8.5	9.0
1990-2012	3.4		7.0	4.3	8.2

Note: Includes enplaned and deplaned passengers.
Source: Infraero, www.infraero.gov.br, accessed January 2013.

Figure 2-2
TRENDS IN BRAZIL GDP AND TOTAL PASSENGERS



Sources: Total passengers 1990 - 2000 – Agência Nacional de Aviação Civil (ANAC).
Total passengers 2000 - 2012 – INFRAERO, www.infraero.gov.br.
Brazil GDP – IBGE, accessed January 2013.

The relationship between economic activity in a region and passenger traffic at an airport can be captured in the average number of airline trips per person. This metric is a valuable tool in top-down estimates of future passenger traffic and in comparing regional economies and passenger activity. As shown on Figure 2-2 the growth in Brazil's passenger traffic has exceeded the trends in Brazilian real GDP since 1999 (using 1990 as the index year). Total passenger traffic in Brazil increased an average of 12.5% per year between 1999 and 2012, compared with an average increase of 3.4% per year in Brazil GDP (in 2011 Reais) during the same period.

In addition to the regulatory environment, the economy of an airport service region is a major factor affecting long-term airline traffic at the airport serving the region. Generally, regions with large populations, high levels of employment, and high average per capita incomes will generate a high demand for airline travel. The demographics and economy of the region—as measured by changes in population, employment, and per capita income, as well as airline service and airfares—are typically the most important factors affecting O&D passenger demand.

- **Regional Population**. In 2012, the Rio de Janeiro metropolitan region's population of 11.9 million comprised 74% of the State of Rio de Janeiro's population and 6.2% of Brazil's population as a whole. The Rio de Janeiro metropolitan area is the second largest in Brazil, after the São Paulo metropolitan area. Population in the Rio de Janeiro metropolitan region increased an average of 0.8% per year between 2000 and 2012, a little slower than that for the State (1.0% per year) and Brazil (1.1% per year) during the same period.
- **Tourism**. The Southeast Region accounted for 82.0% of Brazil's tourist arrivals by air in 2011. Although the State of Rio de Janeiro is the second busiest destination after São Paulo, Rio de Janeiro tourist arrivals increased at a CAGR of 4.6% between 2003 and 2011, faster than growth in São Paulo (0.6%) and the nation (2.7%).
- **Economic Impacts**. It can be expected that the capital developments at the Airport would have a significant positive impact on employment and regional and national economic sectors, including sectors that are strategically important to the Brazilian economy, such as manufacturing. These impacts can be wide reaching and include direct, indirect and induced impacts. Direct impacts relate to the air transport sector (including aerospace),

indirect impacts are those relating to sectors that support the air transport sector (such as construction), and induced impacts relate to the benefits resulting from the increased spending by those directly or indirectly employed in the air transport sector.

2.5 DESTINATIONS AND AIRLINE SERVICE

The following summarizes both domestic and international airline service and destinations.

2.5.1 Domestic Markets

Table 2-3 presents the top 20 domestic scheduled passenger markets for the Airport in 2012. The top five domestic markets—São Paulo, Brasilia, Belo Horizonte, Salvador, and Vitoria—together accounted for 44.7% of total domestic scheduled seats in 2012. The top 20 domestic markets accounted for 95.54% of total domestic scheduled seats.

2.5.2 International Markets

As shown in Table 2-4 the top 5 international markets—Buenos Aires, Paris, Miami, New York, and Lisbon—accounted for 44.7% of total international passengers in 2012. The top 20 destinations from Galeão together accounted for 95.3% of all international passengers from the Airport. By comparison, at Guarulhos the top 20 markets accounted for 75.2% of all international passengers in 2012. Galeão accounted for the largest share of international scheduled seats in two of its top 20 markets in 2012—Houston and Charlotte—and a comparable number of seats as Guarulhos to five markets—Paris, Lisbon, Dubai, Atlanta, and Luanda.

2.6 O&D AND CONNECTING PASSENGERS

The Airport has both origin and destination (O&D) passengers and connecting passengers, about 86% and 14% of total traffic respectively in 2012 according to Infraero estimates. O&D passengers are those that start or end their journey at the Airport, and connecting passengers, those that transfer between flights at the Airport, typically spending about 1 to 2 hours in the terminal concourse waiting for the connecting flight. A very small share of passengers is in a third category called transit passengers. These passengers remain on board the same arriving and departing aircraft and do not enter the terminal building.

Connecting traffic has increased modestly as a share of total traffic over the last few years climbing from 11.8% in 2009 to 14.0% in 2012.

Table 2-5 summarizes the percent of O&D and connecting passengers at the Airport for 2009 through 2012, as reported by Infraero.

Table 2-3
TOP 20 DOMESTIC SCHEDULED PASSENGER AIRLINE MARKETS IN 2012
Galeão International Airport and Santos Dumont Airport

	Rio de Janeiro Region total scheduled seats			Galeão percent of Region
City (Airport)	Galeão	Santos Dumont	Total	
São Paulo (Congonhas)	990,410	7,539,120	8,529,530	11.6%
São Paulo (Guarulhos)	2,404,374	715,392	3,119,766	77.1
Brasilia	1,092,372	1,882,728	2,975,100	36.7
Belo Horizonte (Neves)	1,136,544	1,536,760	2,673,304	42.5
Salvador	1,951,875	106,688	2,058,563	94.8
Vitoria	927,086	1,069,444	1,996,530	46.4
São Paulo (Viracopos)	805,358	1,023,312	1,828,670	44.0
Porto Alegre	1,566,778	218,914	1,785,692	87.7
Curitiba	818,438	754,924	1,573,362	52.0
Recife	1,335,414	--	1,335,414	100.0
Florianopolis	833,194	64,260	897,454	92.8
Fortaleza	814,956	--	814,956	100.0
Natal	692,895	--	692,895	100.0
Joao Pessoa	559,742	--	559,742	100.0
Foz do Iguacu	516,762	--	516,762	100.0
Campinas	451,296	--	451,296	100.0
Aracaju	270,624	98,208	368,832	73.4
Belem	349,896	--	349,896	100.0
São Luiz	335,506	--	335,506	100.0
Manaus	325,546	--	325,546	100.0
Markets listed	18,179,066	15,009,750	33,188,816	54.8
Other markets	851,964	630,150	1,482,114	57.5
Total	19,031,030	15,639,900	34,670,930	54.9

Note: Includes arriving and departing scheduled seats and flights.

Source: Official Airlines Guide, Inc., online database, accessed January 2013.

Table 2-4
TOP 20 INTERNATIONAL SCHEDULED PASSENGER AIRLINE MARKETS IN 2012
Galeão International Airport – Rio de Janeiro

	Total scheduled seats			
City (Airport)	Galeão	Guarulhos	Total	Percent total
Buenos Aires (Ezeiza)	870,030	1,512,712	2,382,742	36.5%
Paris (Charles De Gaulle)	548,150	590,369	1,138,519	48.1
Miami (International)	356,501	957,789	1,314,290	27.1
New York (Kennedy)	308,613	742,270	1,050,883	29.4
Lisbon	306,980	307,607	614,587	49.9
Buenos Aires (Newbery)	304,352	976,741	1,281,093	23.8
Dubai	251,462	259,128	510,590	49.2
Frankfurt	247,674	499,664	747,338	33.1
Santiago (International)	215,690	1,060,846	1,276,536	16.9
London (Heathrow)	209,919	512,179	722,098	29.1
Madrid	206,150	664,524	870,674	23.7
Panama City (International)	195,636	354,666	550,302	35.6
Houston (Intercontinental)	174,726	127,603	302,329	57.8
Atlanta	166,842	180,072	346,914	48.1
Charlotte	156,402	--	156,402	100.0
Rome (Fiumicino)	122,820	238,517	361,337	34.0
Lima	116,397	556,546	672,943	17.3
Amsterdam	108,564	245,244	353,808	30.7
Luanda	102,776	139,561	242,337	42.4
Dallas/Fort Worth	75,150	216,031	291,181	25.8
Markets listed	5,044,834	10,142,069	15,186,903	33.2
Other markets	247,852	4,741,747	4,989,599	5.0
Total	5,292,686	14,883,816	20,176,502	26.2

Note: Includes arriving and departing scheduled seats.

Source: Official Airlines Guide, Inc., online database, accessed January 2013.

Table 2-5
SHARE OF O&D AND CONNECTING PASSENGERS
Galeão International Airport – Rio de Janeiro

		Percent of total	
Year	Total passengers	O&D	Connecting (transfer)
2009	11,828,656	88.2%	11.8%
2010	12,337,944	86.4	13.6
2011	14,952,830	87.3	12.7
2012	17,495,737	86.0	14.0

Source: Infraero, www.infraero.gov.br, accessed January 2013.

2.7 PASSENGER AIRLINE MARKET SHARES

The Airport is served by a total of 26 passenger airlines, including five Brazilian airlines and 21 foreign-flag airlines, as shown in Table 2-6.

Table 2-6
PASSENGER AIRLINES SERVING IN JANUARY 2013
Galeão International Airport – Rio de Janeiro

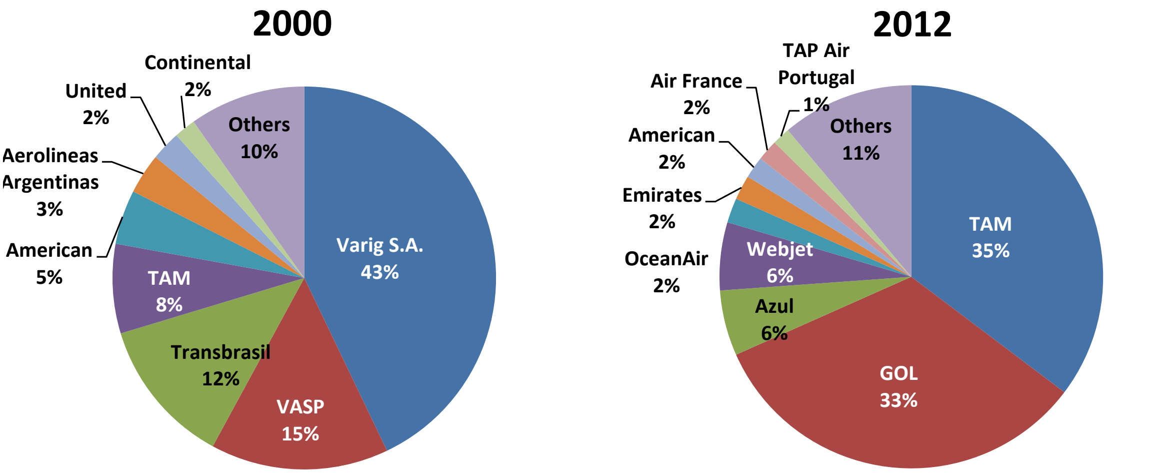
Brazilian airlines	
Avianca Brazil (Oceanair Linhas Aéreas) *(a)*	
Azul TRIP *(b)*	Passaredo Linhas Aéreas
GOL Linhas Aéreas *(c)*	TAM Linhas Aéreas *(d)*
Foreign-flag airlines	
Aerolineas Argentinas	LAN airlines
Air France	Lufthansa
Alitalia	KLM
American Airlines	TAAG Angola Airlines
Avianca	TAM Mercosur
British Airways	TACA (Aviateca, Lacsa)
Copa Airlines	TAP Portugal
Condor	United Airlines
Delta Air Lines	US Airways
Emirates Airlines	Westair Benin
Iberia	

(a) Brand name used for OceanAir flights in Brazil although flights are operated under each airline name. The merger of Avianca and TACA was completed in February 2010.
(b) Azul and TRIP announced plans for a merger in May 2012, and, in March 2013, their merger was approved by CADE.
(c) Includes the operations of Webjet which was acquired by GOL in July 2011 and ceased operations in November 2012.
(d) Merged with LAN Airlines in June 2012, forming the LATAM Airlines Group.

Sources: Infraero and Official Airline Guides, Inc., online database, accessed January 2013.

Figure 2-3 summarizes historical passenger data by airline for 2000 and 2012. GOL and TAM accounted for the largest market shares at the Airport in 2012, together combining for 68% of departing seats, and the three largest airlines accounted for 74% of total seats.

Figure 2-3
AIRLINE SHARES OF TOTAL DEPARTING SEATS
Galeão International Airport – Rio de Janeiro



Sources: Official Airline Guides, Inc., online database, accessed January 2013.

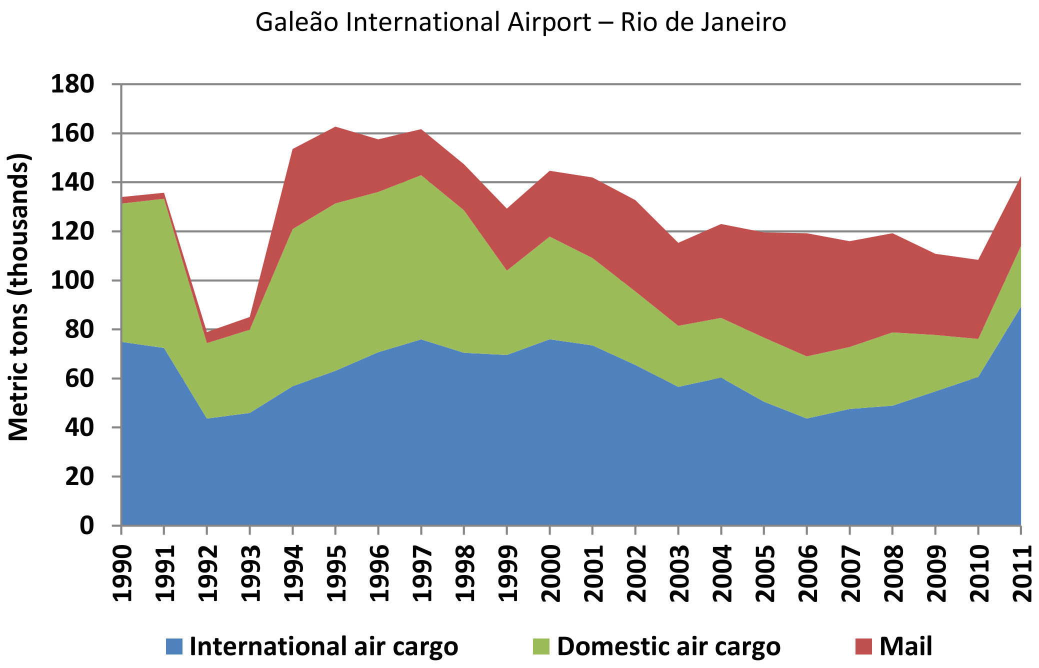
2.8 HISTORICAL AIR CARGO AND MAIL

Historical and future air cargo and mail volumes are influenced by a number of factors including (1) trends in national and international air cargo traffic, (2) national and regional economic growth, (3) national and regional economic policies and strategies related to development of industries more likely to produce or consume relatively high value and low weight goods, (4) air cargo volumes at other airports in the region, and (4) available belly capacity on passenger airlines determined by the growth in passenger airline service and the aircraft fleet used by the passenger airlines.

Air cargo volumes are typically more volatile than passenger traffic because the precise routing of cargo traffic is less sensitive than passenger traffic as long as time expectations and commitments are kept, thus freight forwarders have greater flexibility to choose between airports as well as transport modes depending upon pricing and preferences. Naturally the volatility is more clearly observed at airports without a hub-level presence of an integrated carrier (e.g., FedEx at Memphis) or a stable level of regional and/or local demand.

Figure 2-4 presents the Airport's historical volume of international, domestic and mail cargo from 1990 through 2012. In the periods reviewed, total cargo and mail volume remained relatively stable, but sudden and abrupt changes over a short period are observed. Between 1991 and 1992, the traffic declined by 42%, and, between 2011 and 2012, domestic cargo increased 30% while it decreased an average of 2.5% per year over the preceding 12 years. Sudden change in air cargo volume can be attributable to business decisions between airlines and freight forwarders.

Figure 2-4
HISTORICAL AIR CARGO AND MAIL



Note: Includes enplaned and deplaned cargo.
Source: Infraero. www.infraero.gov.br, accessed January 2013.

In addition to the collection of total cargo movements throughout the airports as shown in Figure 2-4 above, Infraero collects another type of air cargo data, named TECA. TECA refers to a cargo logistics terminal which Infraero directly operates to provide storage and handling services for imports, exports, nacional (domestic), and courier (mail). Infraero is the sole authorized handler of imports and exports, but compete with airlines for storage and handling of nacional (domestic) cargo. At Galeão, Infraero does not provide storage and handling services for nacional (domestic) cargo. TECA facilities contribute a significant percent of the Airport's revenue, about 25% of gross revenue in 2012.

TECA cargo shows a stable growth trend. Table 2-7 presents air cargo handled at the TECA facility at the Airport from 2003 through 2012. Imports at the Airport increased an average of 9.6% per year between 2003 and 2012. Exports were not handled at the Airport until June 2007 and have increased an average of 2.0% per year between 2008 (the first full year of export handling services) and 2012. Total air cargo handled at the TECA facility at the Airport increased an average of 16.2% per year between 2003 and 2012, faster than Brazil GDP growth during this period (an average of 3.8% per year).

Table 2-7
HISTORICAL TECA AIR CARGO
Galeão International Airport – Rio de Janeiro

	Metric tons					Percent increase (decrease)
	Air cargo					
Historical	Imports	Exports	Nacional	Courier (mail)	Total	
2003	20,303	4	--	389	20,696	--%
2004	24,357	-	--	518	24,875	20.2
2005	22,651	-	--	582	23,233	(6.6)
2006	24,185	-	--	175	24,360	4.9
2007	30,997	14,873 *(a)*	--	187	46,057	89.1
2008	37,527	30,454	--	157	68,138	47.9
2009	36,233	29,987	--	202	66,421	(2.5)
2010	45,796	34,273	--	210	80,280	20.9
2011	46,762	41,114	--	214	88,090	9.7
2012	46,428	32,954	--	407	79,788	(9.4)
	Average annual percent increase (decrease)					
2003-2008	13.1%	--%	--	(16.6%)	26.9%	
2008-2012	5.5	2.0	--	26.9	4.0	
2003-2012	9.6	--	--	0.5	16.2	

Note: Includes enplaned and deplaned TECA air cargo.

(a) Includes data for June through December 2007.

Source: Infraero, www.infraero.gov.br, TECA cargo data, accessed January 2013.

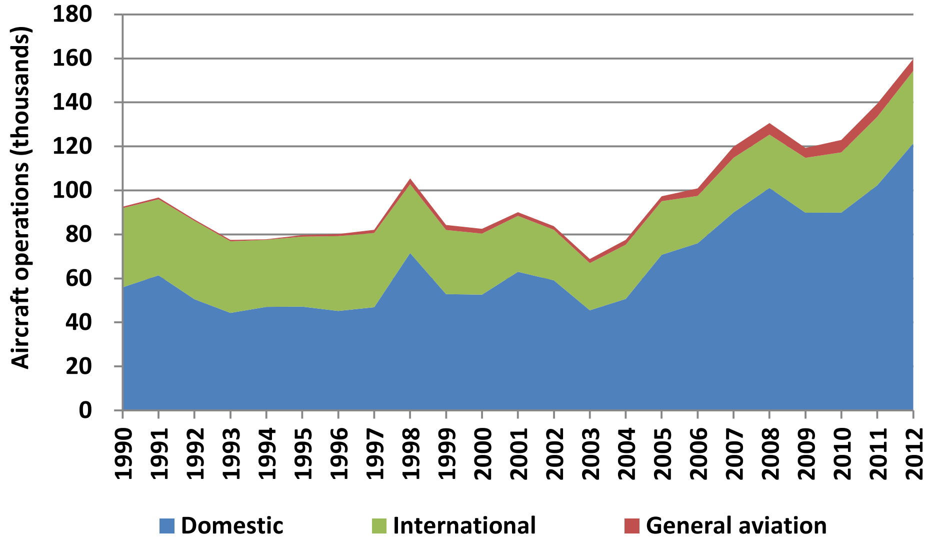
2.9 HISTORICAL AIRCRAFT OPERATIONS

Figure 2-5 presents total aircraft operations at the Airport by type. From 1990 to 2012, passenger and cargo airline aircraft operations at the Airport increased an average of 2.4% per year, with faster growth in domestic operations (an average of 3.6% per year) compared with international operations (a decrease of 0.4% per year). Between 2011 and 2012, domestic and international operations increased an average of 18.6% and 5.8%, respectively.

2.10 AIRLINE INDUSTRY DEVELOPMENTS

The airline industry in Brazil and the world as a whole is constantly undergoing change related to economic conditions, fuel prices, the development of airline alliances and codeshare agreements, mergers and consolidation, labor agreements, technological developments, regulatory policy changes, environmental policy changes, and external events. Changes in the airline industry will continue throughout the forecast period, some of which could impact passenger traffic at the Airport. This section summarizes potential changes in the airline industry and the possible implications for aviation activity at the Airport.

Figure 2-5
HISTORICAL AIRCRAFT OPERATIONS
Galeão International Airport – Rio de Janeiro



Source: Infraero. www.infraero.gov.br, accessed January 2013.

2.10.1 Airline Competition and Airfares

Airline fares have an important effect on passenger demand, particularly for relatively short trips where the automobile, bus, and other travel modes are potential alternatives, and for price-sensitive "discretionary" travel. Future passenger numbers, both nationwide and at the Airport, will depend, in part, on the level of airfares.

In many airline travel markets worldwide, new entrant and other airlines with lower cost structures have provided price and service competition, fundamentally changing the competitive landscape in many cases. LCCs typically operate under a streamlined business model, which may include a single passenger class of service, use of standardized aircraft utilization, basic in-flight services, use of smaller and less expensive airports, and lower employee wages and benefits. Low-cost carrier service development in Brazil has occurred principally since deregulation of elements of the airline industry by the Government of Brazil in the late 1990s and early 2000's.

2.10.2 International Airline Service and Air Service Agreements

Brazil has recently moved to negotiate open-skies agreements with countries that represent the most significant markets for aviation. In the international sector, Brazil has progressively liberalized bilateral agreements with major destination countries such as the United States, Canada, Mexico and European Union (EU) member countries.

In March 2011, the EU and Brazil signed an air services agreement that would allow all EU airlines to operate direct flights to any destination in Brazil from any city in Europe without restrictions on routes, prices and the number of weekly flights and vice versa.

In December 2010, the US and Brazil agreed to enter into a phased-in open skies aviation agreement. This agreement increases scheduled combination, all-cargo and charter flights, including additional services to the currently restricted and congested São Paulo-Guarulhos between October 2011 and October 2014, when the agreement will take full effect in October 2015.

A similar arrangement is in place through a multi-lateral agreement (known as the Fortaleza agreement) with Argentina (limited to 133 weekly flights), Chile, Paraguay, Uruguay, Bolivia and Peru, which encourages flights on routes that are not covered by the bilateral agreements between those countries. Brazil is also a member of Mercosur, an economic and political agreement between Argentina, Brazil, Paraguay and Uruguay. It is expected that Mercosur members will also liberalize international route access over time.

Other open skies agreements have been signed with Bahrain, Qatar, Chile, Singapore, South Korea, Costa Rica, the UAE, Ethiopia, Ghana, Hong Kong, Iceland, Jamaica, Oman, Kenya and Zimbabwe.

3.0 AERONAUTICAL REVENUES

The following describes of the Airport's revenue from aeronautical activities.

3.1 INTRODUCTION

Aeronautical revenues in Brazil are derived from the following categories of fees:

- Passenger boarding fees
- Landing fees, which also covers aircraft parking for up to three hours
- Aircraft parking fees, commencing after three hours
- Air traffic control (ATC) fees
- Cargo storage and handling fees

These fees are currently set by the Agencia Nacional de Aviação Civil (ANAC), which is responsible for fees at all Brazilian airports, based on a charges categorization system as shown in Table 3-1.

At Brazilian airports, cargo processing of exported and imported goods is treated as a separate category of aeronautical revenue, and is regulated in the same fashion as the aeronautical charges levied on passengers and airlines. Infraero directly operates the import and export cargo facilities at the Airport, and is the monopoly handler. However, Infraero does not provide storage and handling of domestic cargo.

While ATC charges are also regulated by ANAC, they do not impact the revenues of an airport under a concession operation because all charges are passed through to DECEA once collected by the airport from airlines.

Table 3-1
AERONAUTICAL FEE CATEGORIES – TIER 1 AIRPORTS
Galeão International Airport – Rio de Janeiro

Fee categories	Domestic	International
Boarding fees	R$ 21.57 per passenger	R$ 74.72 per passenger
Connecting fees	R$ 7.16 per passenger	R$ 7.16 per passenger
Landing fees	R$ 6.75 per tonne	R$ 18.01 per tonne
Parking fees (contact)	R$ 1.33 per tonne per hour	R$ 3.59 per tonne per hour
Parking fees (remote)	R$ 0.29 per tonne per hour	R$ 0.73 per tonne per hour
ATC fees	Varies by a category of aircraft	
Storage and handling fees	Varies by value, weight and days in the storage	

Note: The charges include 35.9% tax and other forms of fees.

Source: "Tarifário", Infraero Aeroportos, Atualizado em Jan/2013.

In addition to the amount of aeronautical charges retained by the Airport, there is a tax known as ATAERO levied on top of the base tariff and is included in the fees in the table above. The airport operator remits certain amounts to various units of the Brazilian Government, including the Treasury.

3.2 THE REGULATORY SYSTEM

A proposed form of regulation has been developed for Galeão and Tancredo Neves (the other airport to be concessioned at the same time as Galeão) based on the application of a CPI-X-Q formula for aeronautical charges and CPI for cargo handling and storage charges.

The proposed CPI-X-Q formula for aeronautical charges encompasses:

- ***CPI.*** Consumer Price Index. Value determined using the Broad National Consumer Price Index (IPCA).

- ***X-Factor***. X is a figure determined at 5 yearly reviews and set at 1.95% for the first regulatory period at Galeão. After 5 years X will be set through a formula so that users benefit from gains in productivity that may be anticipated at the airports that are operated under concession contracts and thus subject to commercial incentives. The X factor is calculated at each 5 year tariff adjustment, based on the latest average total factor productivity growth experienced at five concessioned airports including Guarulhos, Viracopos, Brasilia, Galeão and Tancredo Neves. The X factor is also adjusted by reference to the differences, over the preceding 5 years, in the rate of growth of passenger numbers and the rate of growth of depreciation at Galeão compared to the average growth rates in the comparator group. These adjustments are designed to account for material differences that may occur between the traffic growth and investment cycle at Galeão compared to the average of the comparator group. The value of X may vary to give a formula in the range -5% to +5%.

- ***Q-Factor***. Q is a service factor and is set annually based on the service performance of the Airport in the previous year, against 17 service measures. Q may lie between a 7.5% penalty and a 2% bonus. The level of Q has an impact in the year concerned only. It does not affect long term charges at the Airport.

Cargo handling and storage will be limited to CPI and does not take the X factor or Q factor into account.

It should be noted that:

- The level of charges is not cost related. Independent of the level of aeronautical charges, the Concessionaire is required to undertake the capital expenditure necessary to ensure that all the facilities required to meet demand are provided to at least an International Air Transport Association (IATA) Level of Service “C” specification. Unlike aeronautical charges at airports in many other parts of the world, there is no requirement to change X, or the base price level, in an attempt to bring forecast revenues into line with forecast costs. Instead, the maximum level of charges is set by reference to the average productivity growth achieved at commercially operated airports.

- The development of non-aeronautical income is also not taken into account; aeronautical charges are entirely independent of commercial performance. Maximum levels of aeronautical charges are not reduced by commercial income at the Airport.

Overall, the system provides strong incentives to the Concessionaire to operate efficiently and to improve quality of service to passengers and airlines, and to outperform the concessioned airports average, with the Concessionaire retaining the benefits of out-performance according to the pricing formula, but also facing the risks of any shortfalls.

3.2.1 Aeronautical Charges Formula

It is proposed that the regulatory structure described above will be applied to each aeronautical charge category as it is currently categorized and defined by ANAC. The charges category includes, (1) domestic passenger boarding, (2) international passenger boarding, (3) domestic and connecting passenger boarding, (4) domestic landing, (5) international landing, (6) domestic parking, and (7) international parking. As noted above, airlines are subject to air traffic control charges but they are not considered under the concessionaire's operation.

Passenger boarding and connection charges would be paid by passengers but collected by airlines. Landing and parking charges would be paid by all aircraft operations including passenger airlines, all-cargo airlines, and general aviation flights.

Aeronautical Revenue Formula (Excluding Cargo): The total income from aeronautical charges will be calculated as:

$R_1 + R_2 + R_3 + R_4 + R_5 + R_6 + R_7$

Revenue		**Base unit**		**Charges category**
R_1	=	Domestic departing passengers	x	Domestic boarding charge
R_2	=	International departing passengers	x	International boarding charge
R_3	=	Domestic and international connecting passengers	x	Connection charge
R_4	=	Domestic landing MTOW	x	Domestic landing charge
R_5	=	International landing MTOW	x	International landing charge
R_6	=	Domestic parking MTOW	x	Domestic parking charge
R_7	=	International parking MTOW	x	International parking charge

For each charge category:

$C_t = Cb_{t-1} \times (1 + CPI) \times (1 - X) \times (1 - Q)$

Where:

D is the ratio of annual demand to average daily demand in the peak month
C_t is the level of the charge in the year concerned
Cb_{t-1} is the base level of the charge in the previous year,

Where:

$Cb_{t-1} = Cb_{t-2} \times (1 + CPI) \times (1 - X)$
CPI is the percentage change in Brazilian CPI
X is a factor set every 5 years
Q is an annual service performance factor

Compliance will be assessed against the concessionaire's levy of charges. Levied charges cannot exceed the level of charge set for the year concerned.

Cargo Storage and Handling Revenue Formula: In Brazilian airports, international (exports and imports) elements in the handling and storage will be subject to a separate application of the formula. The exceptions will be the charges for storage of imported goods and for the storage and handling of specific high value cargo – which are charged as a percentage of value. In this case the percentage of value concerned will remain constant.

For each element of charges:

$EC_t = EC_{t-1} \times (1 + CPI)$

Where:

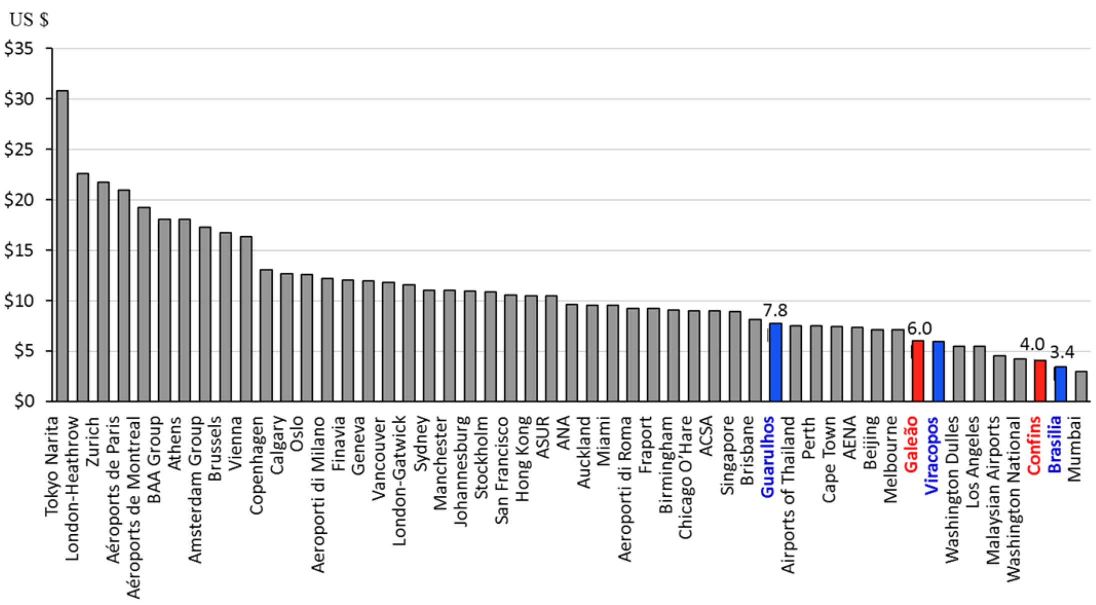
EC_t is the level of the element of charge in the year concerned
EC_{t-1} is the level of the element of charge in the previous year
CPI is the percentage change in Brazilian CPI

The effect of these arrangements will be that the Airport will not normally be able to change the structure of charges in these areas.

3.2.2 Charges Level

Figure 3-1 shows aeronautical revenue at the Airport and at international airports worldwide from the 2012 LeighFisher Airport Performance Indicators benchmarking publication. This compares charges arising from a standard basket of aircraft types (the Airbus A320 and the Boeing B-747-400) operating on international routes at a sample of major airports.

Figure 3-1
TOTAL AERONAUTICAL REVENUE PER PASSENGER
Sample of International Airports



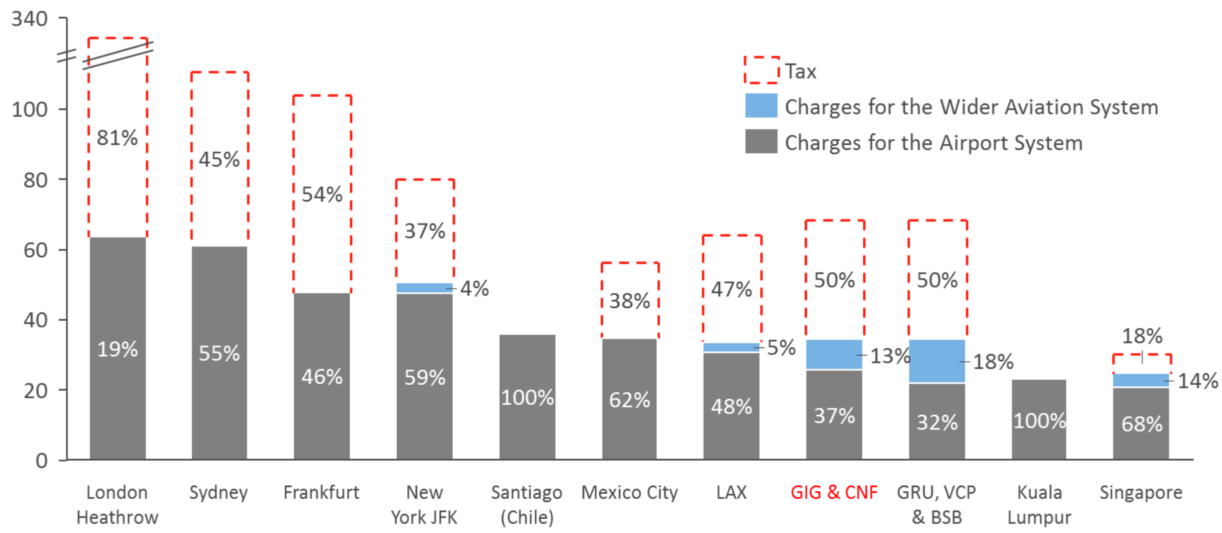
Notes: The figures does not include revenue from cargo storage and handling at Brazilian airports.
Source: Airport Performance Indicators 2012, LeighFisher.
Financial Model, August, 2011, LeighFisher (GRU.VCP.BSB)
Financial data, January 2013, Infraero (GIG. CNF)

For Figure 3-1 above, three adjustments have been made to the figures included in the publication: (1) the currency has been converted from SDRs (a standard basket of currencies used for international comparison purposes) to US Dollars; (2) the results have been converted to a per passenger basis; and (3) the aerodrome air traffic control component has been removed (the Concessionaire will not be responsible for that function at the Airport)

As can be seen, the revenues at the Airport are at the lower end of the range internationally. Please note that the LeighFisher benchmarking study does not include taxes, and the taxes imposed at the Airport are therefore not considered. It should be noted however that passengers at a range of other airports in the study, including many in Europe, face significant taxes; taxes in the UK, for example, are particularly high.

These taxes have a significant bearing on the overall charges at the Airport. Figure 3-2 shows the effects of including charges at a limited sample of airports that also charge taxes for airport use. For comparison purposes, storage and handling charges have been excluded.

Figure 3-2
TOTAL INTERNATIONAL AERONAUTICAL CHARGES PER PASSENGER IN US DOLLARS
Breakdown
Sample of International Airports



Notes: The figures have been produced based on calculating the costs for a 2-hour turn around by an A320 and a B747-400.
For GRU, VCP, and BSB, CWAS includes 100% of terminal navigation charges which is directed to DECEA.
Source: LeighFisher analysis based on IATA charges manual.

The effect of the taxes is to push the headline charges significantly higher up the "league table" and make them comparable with some of the higher charging U.S. and European airports.

3.3 HISTORICAL AERONAUTICAL REVENUES

Historical aeronautical revenues excluding cargo are summarized in Table 3-2.

Table 3-2
HISTORICAL AERONAUTICAL REVENUES
Galeão International Airport – Rio de Janeiro
(Nominal R$ in thousands)

	2007	2008	2009	2010	2011	2012
Domestic Passenger Charge	48,162	50,908	49,907	47,929	60,518	80,393
International Passenger Charge	31,300	28,417	33,636	33,328	42,256	58,896
Landing Fee (Domestic)	4,453	5,506	5,306	5,504	9,492	18,664
Landing Fee (International)	20,327	18,960	20,743	21,104	26,797	35,642
Apron Charge (Domestic)	216	409	429	442	747	1,508
Apron Charge (International)	3,010	3,110	4,211	5,054	5,889	7,251
	107,468	107,310	114,232	113,360	145,700	202,354

Note: The connecting passenger charge of R$ 7.16 was not introduced until 2013, thus are not included in the historical figures above. Source: Infraero.

Historical cargo storage and handling revenues are summarized in Table 3-3.

Table 3-3
HISTORICAL CARGO STORAGE & HANDLING REVENUE
Galeão International Airport – Rio de Janeiro
(Nominal R$ in thousands)

	2007	2008	2009	2010	2011	2012
Imported cargo	51,054	68,278	64,825	74,665	81,408	137,040
Exported cargo	550	1,178	1,192	1,246	1,580	2,213
National cargo	146	195	206	248	627	--*(a)*
	51,749	69,651	66,224	76,160	83,615	139,252

(a) In 2012, the Airport ceased storage and handling services on domestic cargo.

Source: Infraero.

3.4 POTENTIAL FOR DEVELOPMENT OF AERONAUTICAL REVENUES

In line with the regulatory approach described above, the potential for aeronautical charges revenue development is related to growth in aviation activity and the increases in charges permitted within the overall charges cap (CPI-X-Q). In addition, the concessionaire would be allowed to collect a connection fee on all connecting passengers, equivalent to R$ 7.16 per connecting passenger in 2013 money.

Table 3-4 summarizes the effective yield applicable to the concessionaire at commencement, and the basis for the annual charges adjustments.

Table 3-4
AERONAUTICAL YIELDS ASSUMPTIONS
Galeão International Airport – Rio de Janeiro

	2014 maximum yield per unit (R$)		
	Domestic	International	
Initial Yield Level			
Passenger embarkation charge	14.27	28.80	Per departing passenger
Landing fees	4.21	15.70	Per MTOW
Aircraft parking fees	0.17	1.60	Per MTOW
Passenger connection charge	7.16	7.16	Per passenger

Yield represents a portion of total aeronautical charges allocated to the airport operator.

Annual Charge Adjustments
Charge (Year Y+1) = Charge (Year Y)*(1 + CPI)*(1 – X)*(1 -Q)
where:
CPI = Consumer Price Index (inflation)
X-Factor = Efficiency adjustment, cumulative
Q-Factor = Level of service adjustment, non-cumulative

Source: LeighFisher analysis based on Infraero Reports, April 2013.

Table 3-5 summarizes the effective yield applicable to the Concessionaire at commencement, and the basis for the annual charges adjustments.

Table 3-5
CARGO STORAGE AND HANDLING YIELDS ASSUMPTIONS
Galeão International Airport – Rio de Janeiro

	2014 Max yield per unit (R$)
Initial Yield Level	
Importation charge	2,927 Per ton
Exportation charge	67 Per ton
Domestic cargo charge *(a)*	-- Per ton

Annual Charge Adjustments
Charge (Year Y+1) = Charge (Year Y) * (1 + CPI)
where: CPI = Consumer Price Index (inflation)

Unlike the passenger-related aeronautical charges, cargo storage and handling charges are not subject to X-factor or Q-factor.

(a) Fees and charges for storage and handling of domestic cargo are not regulated by ANAC; there is no max yield per unit applied to domestic cargo. Also as noted before, Infraero currently does not provide storage and handling of domestic cargo.

Source: LeighFisher analysis based on Infraero Reports, April 2013.

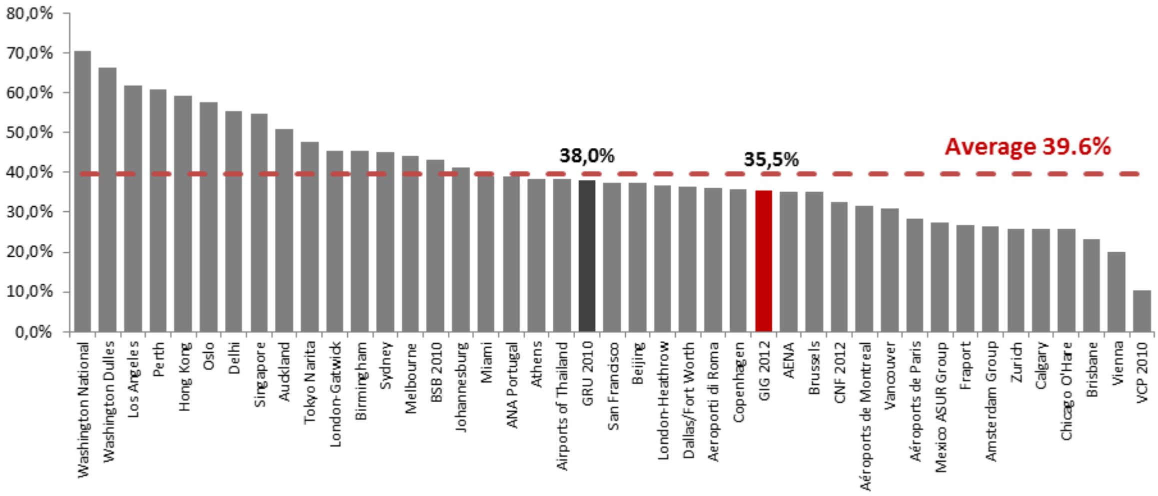
4.0 NON-AERONAUTICAL REVENUES

The following provides a summary of the Airport's major non-aeronautical revenues.

4.1 INTRODUCTION

In 2012 the Airport generated R$ 195.7 million in non-aeronautical revenues, or 35.5% of total Airport revenues, which is close to the 39.6% average of reporting airports in the 2012 LeighFisher Airport Performance Indicators benchmarking publication. The Airport has a similar non-aeronautical revenue share to Guarulhos, due to the high Duty Free spend per passenger. Figure 4-1 presents a comparison of the share of non-aero revenues at the Airport with other international airports

Figure 4-1
NON-AERONAUTICAL REVENUES AS PERCENTAGE OF TOTAL REVENUES
Galeão International Airport – Rio de Janeiro



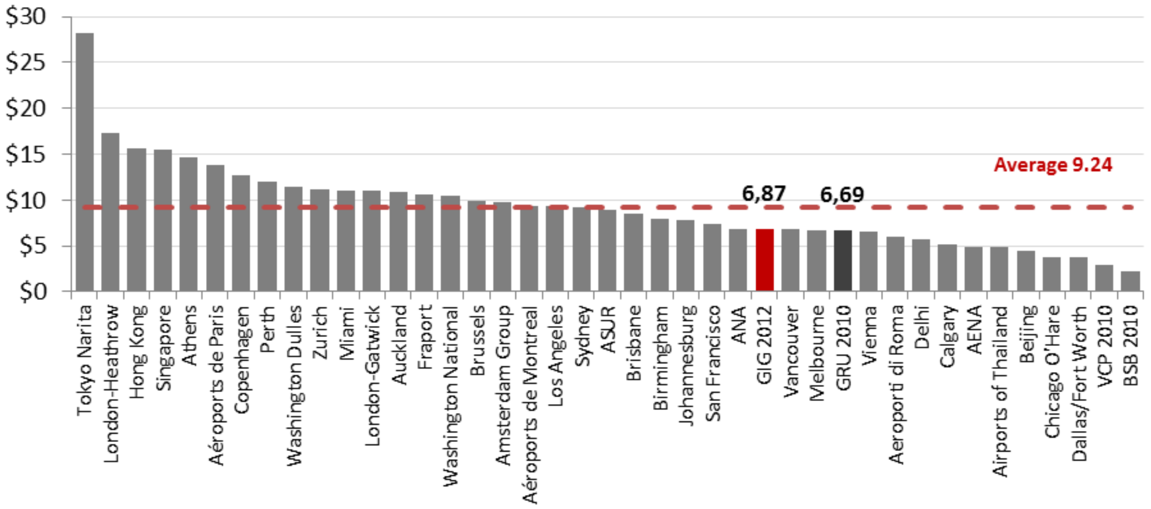
Note: 2011 data, unless otherwise stated

Source: LeighFisher Airport Performance Indicators; Infraero

Figure 4-2 shows the revenues from non-aeronautical sources on a per-passenger basis for each reporting airport as shown in *Airport Performance Indicators 2012*. Non-aeronautical revenue per passenger is shown in USD. Evaluating financial performance on a per-passenger basis is a standard way to compare airports of different sizes, whose total revenues may be disparate.

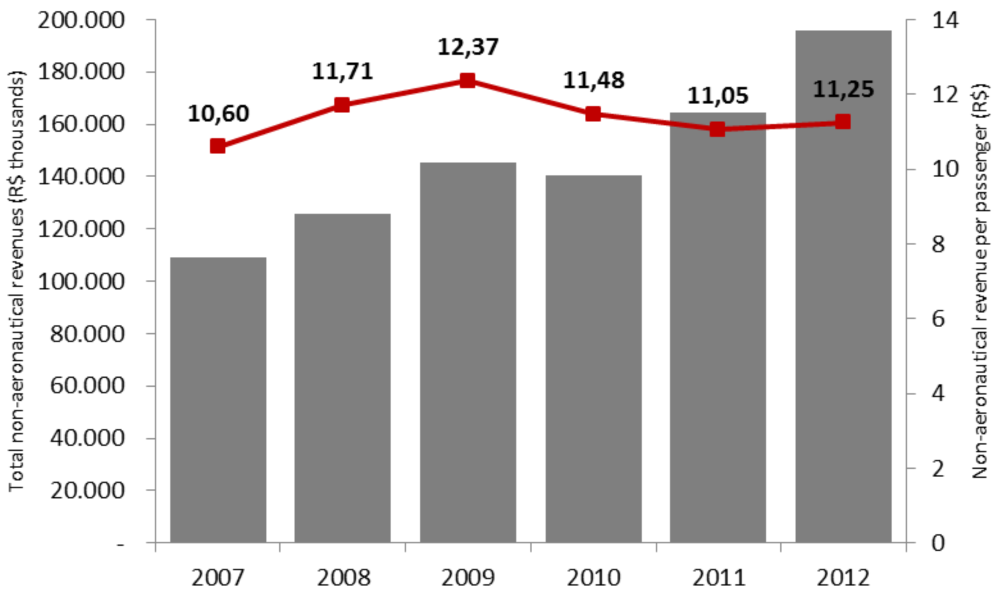
The Airport underperforms the average despite exceptional performance in the Duty Free category, likely due to relatively weak performance in many of the other non-aeronautical revenue categories. As seen in Figure 4-3, despite strong growth in non-aeronautical revenue at a CAGR of 12.4% between 2007 and 2012, the revenue per passenger has marginally declined since 2010. However this is likely to increase as the Airport's share of international passengers increases given the highest revenues per passenger are associated with duty free sales.

Figure 4-2
NON-AERONAUTICAL REVENUES PER PASSENGER (USD)
Sample of International Airports
2011 data, unless otherwise stated



Source: 2012 LeighFisher Airport Performance Indicators; Infraero

Figure 4-3
HISTORICAL NON-AERONAUTICAL REVENUES AND REVENUE PER PASSENGER (Nominal)
Galeão International Airport – Rio de Janeiro



Source: Infraero.

Non-aeronautical revenues are generated from a variety of sources at the Airport. The main non-aeronautical revenue sources, along with the revenues generated in 2007 to 2012, and the corresponding shares of 2012 total non-aeronautical revenue, are shown in Table 4-1.

Table 4-1
NON-AERONAUTICAL REVENUES BY CATEGORY
Galeão International Airport – Rio de Janeiro
(Nominal R$ in millions)

	2007	2008	2009	2010	2011	2012	Percent of total
Non-Aeronautical Revenue Categories							
Advertising	4.0	4.0	2.3	1.9	3.9	4.7	2.4%
Rentals	23.2	23.6	27.0	29.7	33.8	37.4	19.1%
Fuel charges (variable)	9.9	13.3	9.1	11.2	16.4	24.4	12.5%
Airlines - commercial revenues	1.2	1.2	1.7	2.1	3.9	8.6	4.4%
Car rentals	2.2	3.0	4.4	4.7	5.6	6.6	3.4%
Duty free	24.9	26.6	27.4	32.2	37.1	42.6	21.8%
Food and beverage	2.9	3.0	3.4	3.5	4.1	6.6	3.3%
Telephones	7.4	8.3	9.0	8.9	8.9	10.3	5.3%
Car parking	11.2	15.5	33.9	22.4	27.8	31.9	16.3%
Other miscellaneous commercial	0.2	0.3	0.0	(0.3)	(0.0)	(1.3)	-0.7%
Utility sales	18.8	19.4	19.7	18.3	18.4	19.7	10.1%
Miscellaneous non-aero revenues	3.3	7.3	7.6	5.8	4.6	4.5	2.3%
Total non-aeronautical revenues	109.3	125.6	145.4	140.5	164.3	195.7	100.0%
Percentage change		15.0%	15.7%	-3.3%	16.9%	19.1%	

Source: Infraero.

4.2 POTENTIAL DEVELOPMENT OF NON-AERONAUTICAL REVENUES

There is opportunity to develop non-aeronautical revenues, particularly terminal concessions (retail; food and beverage), Duty Free, and car parking revenues. These three categories are discussed below and an assessment of all categories can be found in *Relatório 4 – Economic and Financial Report.*

- **Terminal Concessions (Retail, Food and Beverage)**. The concessionaire will not be bound by the current procurement laws governing Infraero, and, as such, will have much more flexibility to develop and implement an optimized overall terminal concession program, including choosing the best tenant for each space. Current practices require bidding individual spaces, limiting the ability of Infraero to achieve the same outcome. There is opportunity to improve spend rates throughout the terminals, particularly in airside departures areas, which are underserved, and to improve the quality and variety of the overall offer. Increases in sales and revenue performance are possible from (1) the addition of food and beverage, and retail units in airside areas; (2) the implementation of a comprehensive concessions plan; (3) improved tenant selection and contracting practices, following international best practices.

- **Duty Free**. Brazil's high consumer taxes combined with actual and expected growth in disposable incomes have made airport Duty Free a strong revenue producer and will create opportunity to grow this high margin revenue source further. Expansion of duty free shops, particularly arrivals shops, and the development of new shops over time will allow a broader range of offerings, and increased capacity during peak periods, resulting in a better customer experience and increased sales per international passenger. Expiration of the duty free concession contract in 2015 may provide opportunity in the near term for new investments and improved yields. Additional space would also allow for creating high-end branded luxury boutiques.

- **Car Parking.** Expansion of car parking facilities can increase revenue per transaction, in addition to total revenues by: (1) increasing the penetration of overall parking users by improving the level of service; and (2) allowing the new airport operator to offer additional parking products, such as pre-reserved parking, and premium rates for covered (garage) parking. A rate increase, during World Cup and Olympic periods, can be implemented as both a revenue enhancement and as a capacity control measure.

5.0 OPERATING EXPENSES

The following provides a summary of the Airport's major operating expenses (OpEx).

5.1 INTRODUCTION

There are two major categories of OpEx – personnel-related expenses (including wages, salaries and benefits), and non-staff costs. Typically for an airport, staff-related costs represent the largest single category of OpEx, although this can vary depending on the level of outsourcing and contracting for services that an airport undertakes. Depreciation expense is excluded from OpEx, because it is a non-cash expense.

Personnel expense is driven by the number of staff, the seniority profile of the staff cohort, and the average compensation (plus benefits) per staff member within each of the staff categories. The major categories of non-staff costs at the Airport are contractual services (including outsourced services), utilities and public services, and materials and supplies.

In 2012, total OpEx at the Airport was R$ 362.5 million, an increase from R$ 318.2 million in 2011. Historical OpEx from 2007 through 2012 by major category of expenditure is shown in Table 5-1.

Table 5-1
HISTORICAL OPERATING EXPENSES
Galeão International Airport – Rio de Janeiro
(Nominal R$ in millions)

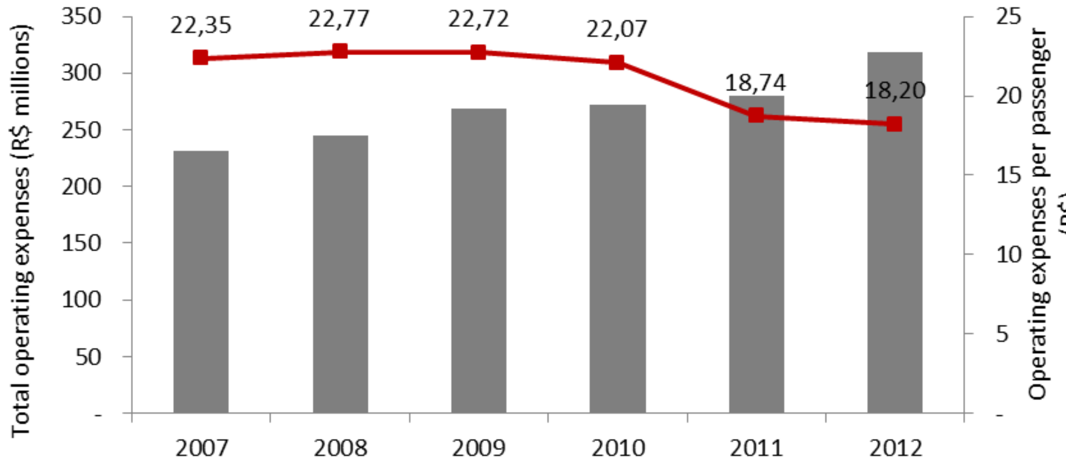
	2007	2008	2009	2010	2011	2012	Percent of total
Personnel expenses	116.8	128.4	139.7	129.5	135.5	149.1	41.1%
Non-staff costs							
Materials	5.9	6.7	8.6	6.9	6.6	6.9	1.9%
Contractual services (third party)	65.1	79.1	91.0	105.4	113.0	135.2	37.3%
General expenses (third party)	9.7	8.6	8.7	10.4	6.5	9.5	2.6%
Utilities and public services	58.5	51.6	53.2	52.1	51.9	59.3	16.3%
Taxes-miscellaneous	3.1	2.1	2.8	3.3	4.8	2.5	0.7%
Subtotal non-staff costs	142.3	148.0	164.4	178.0	182.7	213.4	58.9%
Total OpEx	259.1	276.5	304.1	307.5	318.2	362.5	100.0%
Percentage change		6.7%	10.0%	1.1%	3.5%	13.9%	

Source: Infraero.

Figure 5-1 shows historical total OpEx and OpEx per passenger for the past five years. The total OpEx per passenger is decreasing mainly due to a significant increase in passenger traffic over the last few years.

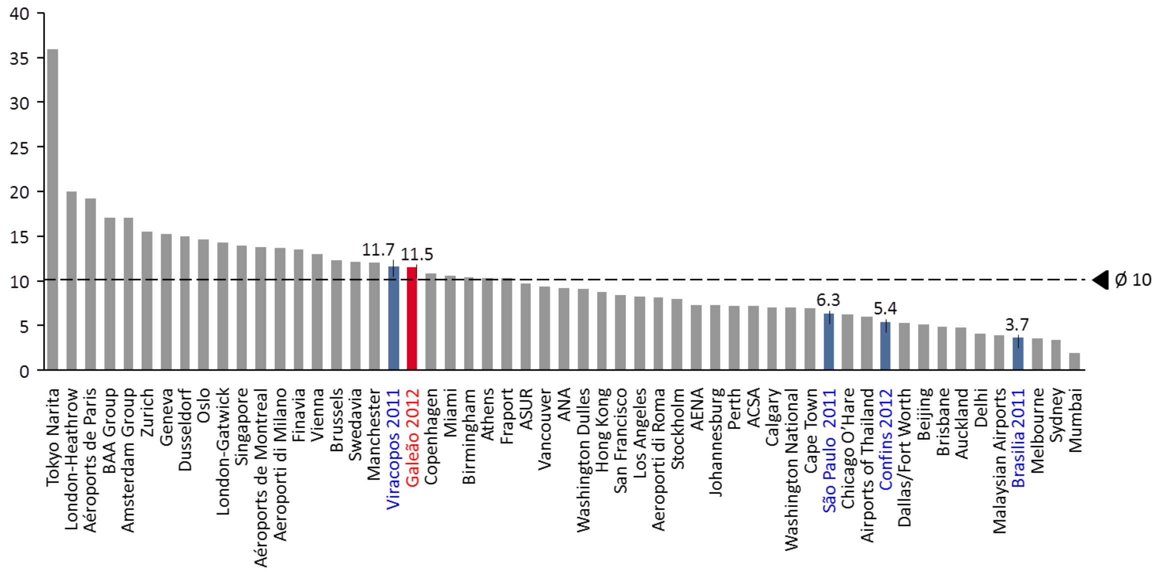
Figure 5-2 shows the OpEx per passenger for each reporting airport as shown in LeighFisher's 2012 Airport Performance Indicators benchmarking publication. OpEx per passenger is shown in USD, at mid-2011 exchange rate of US$ 1.00 = R$ 1.48.

Figure 5-1
HISTORICAL OPERATING EXPENSES PER PASSENGER
Galeão International Airport – Rio de Janeiro
(In Real R$)



Source: Infraero.

Figure 5-2
TOTAL OPERATING EXPENSES PER PASSENGER (US $)
Sample of International Airports
(2011 USD except where indicated)



Sources: Airport Performance Indicators 2012 – LeighFisher, April 2013.
GRU, VCP, BSB – LeighFisher
GIG, CNF – Financial data, Infraero, January 2013

As can be seen, the Airport's OpEx per passenger is among the highest in the comparator group of airports or airport groups. If the chart was adjusted for the average cost of labor in the countries where the airports are located in, Galeão's OpEx per passenger would be even higher. In addition, the contractual costs associated with the Airport's relatively dated and large scale infrastructure (30% larger than GRU but passenger traffic volume is 46% less) are important drivers of the high OpEx per passenger. The Airport's has a significant potential for reductions in operating costs per passenger with time.

5.2 PERSONNEL

Personnel expenses totaled R$ 149.1 million (representing 41.1% of total OpEx for the Airport) in 2012. Infraero employs 1,034 staff at the Airport, encompassing cargo (storage and handling) activities, air navigation as well as core airport operations. Table 5-2 presents a summary of staffing levels by function.

Table 5-2
STAFFING SUMMARY
Galeão International Airport – Rio de Janeiro

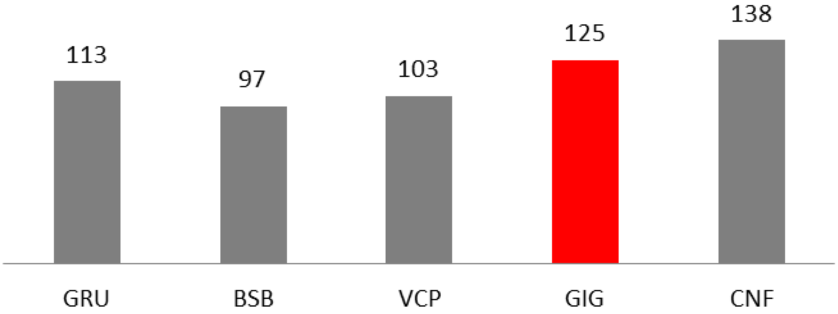
Function	Management	Staff position	Total
Air navigation	3	79	82
Cargo	5	225	230
Safety/security	6	64	70
Management and administration			
Senior management	8	-	8
Administration	3	51	54
Marketing and PR	22	1	23
Commercial	9	11	20
Information technology	--	13	13
Others	--	32	32
Total	42	108	150
Operations	18	483	501
Other	--	1	1
Total	74	960	1,034
Summary (excluding navigation)			
Cargo	5	225	230
All other functions	66	656	722
Total	71	881	952

Note: The distinction between management and staff positions is inferred from job titles.

Source: Infraero, file titled: "Empregados SBGL."

As shown on Figure 5-3, the average personnel cost at the Airport (including salaries and wages as well as the cost of employment benefits) in 2011 was approximately R$ 125,000 which is higher than at most Brazilian airports. That is mostly due to higher average salaries paid in Rio de Janeiro's market place.

Figure 5-3
2011 PERSONNEL COST PER STAFF (R$ 000'S)
Galeão International Airport – Rio de Janeiro



Source: Infraero.

5.3 NON-PERSONNEL COSTS

The following are the main categories of non-personnel costs:

- **Contract Services**. Infraero currently engages in a range of outsourcing activities at the Airport. Contractual services totaled R$ 135.2 million (37% of total OpEx) in 2012.
- **Utilities and Public Services**. Utilities and public services – the purchase of electricity, sewer and telephone services – amounted to R$ 59.3 million (16.3% of total OpEx) in 2012. Of this total, approximately 90% is attributable to electricity and water, while a further 10% relates to telephone service purchases.
- **Materials**. Materials expense was R$ 6.9 million in 2012, representing 1.9% of total OpEx. Items purchased include fuels and lubricants, supplies related to the general maintenance and upkeep of Airport assets, and office supplies.
- **General Expenses and Taxes**. Additionally, the Airport incurs a wide range of other operating expenses associated with the day to day operation of the airport. These expenses totaled R$ 9.5 million in 2012 (2.6% of the total). This expense category includes miscellaneous taxes (excluding PASEP/COFINS, ISS tax, and the IR and CSSL income taxes), which are not included in the OpEx totals. Also included are insurance expenses, general maintenance expenses, and airline administrative fees.

5.4 COST MANAGEMENT POTENTIAL

Concessionaire has opportunities to achieve higher efficiency in OpEx including:

1. Decreasing unit operating costs over the long term through:
   a. Reduction in staffing levels and average staff costs
   b. More extensive outsourcing or insourcing of contracted services, to conform to a new concessionaire's competitive advantages
   c. Renegotiation of outsourced services contracts to achieve more favorable terms and conditions
   d. Taking advantage of economies of scale as air traffic grows over time
2. Reducing utility costs through development of more efficient terminal facilities
3. Increasing amount of utilities costs that are recovered through revenues, by more effectively metering tenant-occupied areas and charging directly for those services.

6.0 FACILITY REQUIREMENTS AND CAPEX PROGRAM

The following provides a summary of key existing Airport facilities and the CapEx program to meet demand over the 25-year concession period.

6.1 EXISTING AIRPORT FACILITIES

The Airport's property boundary and the locations of existing facilities are shown on Figure 1-2. The Airport encompasses 1,700 hectares, of which about 800 hectares is urbanized area. The Airport is bounded by dense urban development to the east and south; and open space and Guanabara Bay to the west and north.

The use and total area of land by functional designation is summarized in Table 6-1.

Table 6-1
EXISTING AIRPORT LAND USES
Galeão International Airport – Rio de Janeiro

Land use	Description	Hectares	Percent of total
Airfield	Runways, taxiways and safety areas directly related to the movement of aircraft	530	31%
Passenger terminal complex	Passenger terminal building, aircraft parking stands, aprons and GSE storage and parking facilities	70	4
Access/circulation/ parking	Primary access corridor into the airport, terminal curbsides, and public/private vehicle parking facilities	45	3
Air cargo	Areas utilized and dedicated to the movement, distribution, and delivery of cargo	70	4
General aviation	Areas utilized by private and non-commercial aviation users	5	1
Airport support	Facilities that support aviation operations, including the fuel storage facilities, airport maintenance areas, the ATCT, and ARFF	35	2
Commercial development	Properties leased to private entities for office, warehouse, and other revenue-generating development	25	1
Military	Reserved and operated by the Base Aérea do Galeão	65	4
Reserve/vacant	Vacant, on-airports areas for future aviation- and/or non-aviation related development	855	50
Total area		1,700	100%

Source: LeighFisher, April 2013.

6.1.1 Airfield

The existing airfield facilities, including the runways and taxiways, are described below. Runway data is summarized in Table 6-2.

Table 6-2
RUNWAY DATA
Galeão International Airport – Rio de Janeiro

	10	28	15	33
Primary use	Air carrier	Air carrier	Air carrier	Air carrier
Runway length (m)	4,000	4,000	3,180	3,180
Runway width (m)	45	45	47	47
Overrun length (m)	60	60	-	-
Runway end elevation (ft AMSL)	16	28	16	11
Displaced threshold (m)	--	--	--	--
Pavement type	Concrete	Concrete	Asphalt	Asphalt
Pavement strength	78/R/A/W/T	78/R/A/W/T	73/F/A/X/T	73/F/A/X/T
Approach aids	ILS Cat. II / RNAV	ILS Cat. I / RNAV	ILS Cat. I / RNAV	VFR
Declared distances (meters)				
Take off run available (TORA)	4,000	4,000	3,180	3,180
Take off distance avail (TODA)	4,000	4,000	3,180	4,775
Accelerate stop distance avail (ASDA)	4,060	4,060	3,180	3,180
Landing distance available (LDA)	4,000	4,000	3,180	3,180

ILS = Instrument landing system
RNAV = Area navigation

Source: LeighFisher, April 2013, based on ROTAER and ADC Aeronautical Chart (Brazilian Air Force Publication) and Jeppesen approach and departure procedures (dated June 13, 2011).

The Airport has two diverging runways. Runway 15-33 is 3,180 meters long by 47 meters wide and situated on the south side of the airfield. This runway is primarily used for arrival operations. Runway 10-28 is 4,000 meters long by 45 meters wide and located on the north side of the airfield. This runway is primarily used for departure operations. The current runway configuration and operating principles oftentimes result in relatively high runway occupancy times due to the inability to use the military area for maneuvering.

Three of the four runway ends have precision approaches, with Runways 15 and 28 equipped with a Category I Instrument Landing System (ILS) and Runway 10 equipped with a Category II ILS.

6.1.2 Passenger Terminal Complex

The Airport's passenger terminal complex is located between the two runways and consists of two main passenger terminal buildings, two passenger aircraft parking aprons, GSE parking and staging areas, and administrative offices. Collectively, the terminal complex encompasses approximately 70 hectares. The allocation of space within the terminal complex is presented on Table 6-3.

The passenger terminal is comprised of two semicircular core buildings (Terminals 1 and 2) each having three levels—two dedicated to passenger processing and a third with concessions and offices. Baggage sorting, baggage claim, immigrations, customs, rental car counters, and a meeter-greeter space are located on the lower level. Airline ticket counters and offices, security screening, concessions, and passenger hold areas are located on the second level. The third level in both Terminals includes office space and food services. Table 6-3 summarizes the allocation of space within Terminals 1 and 2.

Table 6-3
TERMINALS 1 AND 2 BUILDING SPACE ALLOCATION
Galeão International Airport – Rio de Janeiro

Space category	Gross area (m^2) Terminal 1	Gross area (m^2) Terminal 2
Ticketing/check-in *(a)*	5,100	5,100
Concessions *(b)*	30,900	2,300
Baggage claim	8,200	8,100
Security	1,800	1,500
Circulation/other	91,800	80,100
Hold areas	6,400	8,400
Customs/immigration	2,900	2,900
Meeter-greeter	2,100	700
Total	149,200	109,100

(a) Check-in area includes ticket counters and operations space.
(b) Concessions include restaurants, shops and consumer services.

Source: Infraero.

The apron that surrounds both passenger terminal buildings is approximately 480,600 m^2. Approximately 222,600 m^2 of apron area is allocated to Terminal 1, while 258,000 m^2 of apron area is allocated to Terminal 2. Both aprons are used for aircraft maneuvering and parking, passenger enplaning/deplaning, and GSE parking and storage. Combined, the two aprons can accommodate a total of 47 commercial aircraft, including 28 Code C and 19 Code E aircraft as illustrated in Table 6-4.

Table 6-4
STAND ALLOCATION ON EXISTING AIRCRAFT PARKING APRONS
Galeão International Airport – Rio de Janeiro

Stands	Code C	Code E	Total
Terminal 1 contact stands	6	6	12
Terminal 2 contact stands	11	4	15
Passenger terminal apron remote hardstands	11	9	20
Subtotal	28	19	47

Source: AIP BRASIL, August 2011.

The southeast corner of the passenger terminal apron is reserved for general aviation aircraft. This section of the apron can accommodate seven additional parking positions (depending on aircraft size) and is used for parking commercial aircraft when both aprons are at capacity.

The passenger terminal apron also includes ten GSE staging and parking "pavilions" located south of Terminals 1 and 2. Combined, the GSE pavilions provide approximately 25,000 m^2 of GSE staging and parking area.

6.1.3 Airport Access and Parking

The primary access to the Airport is provided via Avenida Vinte de Janeiro, which is a two-lane highway connecting back to Estrada do Galeão and the city's highway infrastructure.

A 2.4 kilometer one-way loop road consisting of two lanes provides access to the terminal complex from Avenida Vinte de Janeiro. The loop diverges in front of each terminal to provide an upper and lower curbside with two travel lanes and two passenger pickup/drop-off lanes on each curbside. Enplaning passengers are dropped-off on the upper level while deplaning passengers are picked-up on the lower level. For Terminal 1, the upper curbside has an effective length of approximately 320 linear meters and the lower curbside has an effective length of approximately 290 linear meters. For Terminal 2, the upper curbside has an effective length of approximately 620 linear meters and the lower curbside has two extra lanes and an effective length of approximately 560 linear meters. The total effective curbside is approximately 1,790 linear meters.

A 19,000 m^2 public parking lot is located northeast of Terminal 1, and a three-level parking garage with 13,000 m^2 per level is located northeast of Terminal 2. Both serve as the main parking facilities for commercial airline passengers, and provide approximately 2,800 public parking spaces. Airport employees use a 47,900 m^2 parking lot located adjacent to the Infraero administrative building.

Taxis and commercial vehicles pick up customers on the arrivals curbside. Commercial vehicles use a 20,300 m^2 parking facility at the eastern terminus of Avenida Vinte de Janeiro as a staging area.

6.1.4 Air Cargo

Air cargo facilities, located south of the passenger terminal complex, include apron areas, warehousing, and express cargo facilities. The cargo area includes approximately 180,000 m^2 of dedicated aircraft parking apron that can accommodate up to 21 cargo aircraft, but is sometimes shared with military aircraft. About 87,800 m^2 of warehousing/storage space is provided. Included is the Infraero cargo building, one of the largest Brazilian logistics terminals that includes cargo-related administrative offices. Vehicle access to the cargo area is provided via Avenida Presidente João Goulart.

6.1.5 Airport Support Facilities

Airport support facilities include the airport maintenance building, ground support equipment, fuel storage facilities, and an airport traffic control tower. These facilities are described in more detail in *Relatório 2 – Master Plan*.

6.2 INDICATIVE CAPITAL IMPROVEMENT PROGRAM

This section provides a summary of capacity-related improvements necessary to meet demand and level of service requirements over the proposed 25-year concession period. The capital investments presented in this Information Memorandum and *Relatório 2 – Master Plan* have been classified as either indicative or mandatory, depending on government objectives for near-term and long-term development of the Airport.

The improvements have been identified through a master planning process using the activity forecasts presented in *Relatório 1 - Market Study and Aviation Activity Forecasts*. The master plan is an indicative plan representing one potential way to develop the Airport and is provided as a reference and courtesy to bidders rather than serving as a recommendation or requirement, except for CapEx elements designated as mandatory.

6.2.1 Mandatory Capital Improvements

The Concession Contract defines a guideline for major capital improvements including the minimum dimensioning parameters. In addition, the Contract delineates the following capital improvement projects as the Mandatory Capital Improvements (PGI) that must be fulfilled by the concessionaire:

- **Independent Runways**. When annual aircraft operations reach 90% of Annual Service Volume (ASV) or 2017, whichever comes first, the Concessionaire is required to begin airfield improvements that will result in a pair of independent parallel runways in the 10-28 configuration. Assuming a 4 to 5-year construction schedule, the independent runway system is assumed to be operational by 2022 in order to avoid demand exceeding the ASV. ASV is a metric used to define the capacity of an airfield system and for the Airport's, existing runway system it is equal to 239,000 annual operations.

- **Terminal 1 Modernization Projects**. Improvements to Section C terminal equipment (elevators, escalators, etc.) and installation of a new baggage handling system.

- **Terminal 1 and 2 Passenger Walkway Connector**. Upgrading and modernizing the current passenger walkway between Terminals 1 and 2.

- **Infraero Administration Building Modernization**. Completing an ongoing modernization of Infraero's existing administration building.

- **Cargo Facility Expansion**. Includes construction of a 12,000 m^2 of cargo facility to handle 120,000 annual tons of air cargo.

Please refer to the *Anexo 2, Plano de Exploracao Aeroportuaria* of the Concession Contract for additional details on Concessionaire's mandatory capital investment projects.

The indicative facility requirements and implementation plan provided below include all projects required to meet demand; therefore PGI (Mandatory Capital Improvements) are included below for completeness.

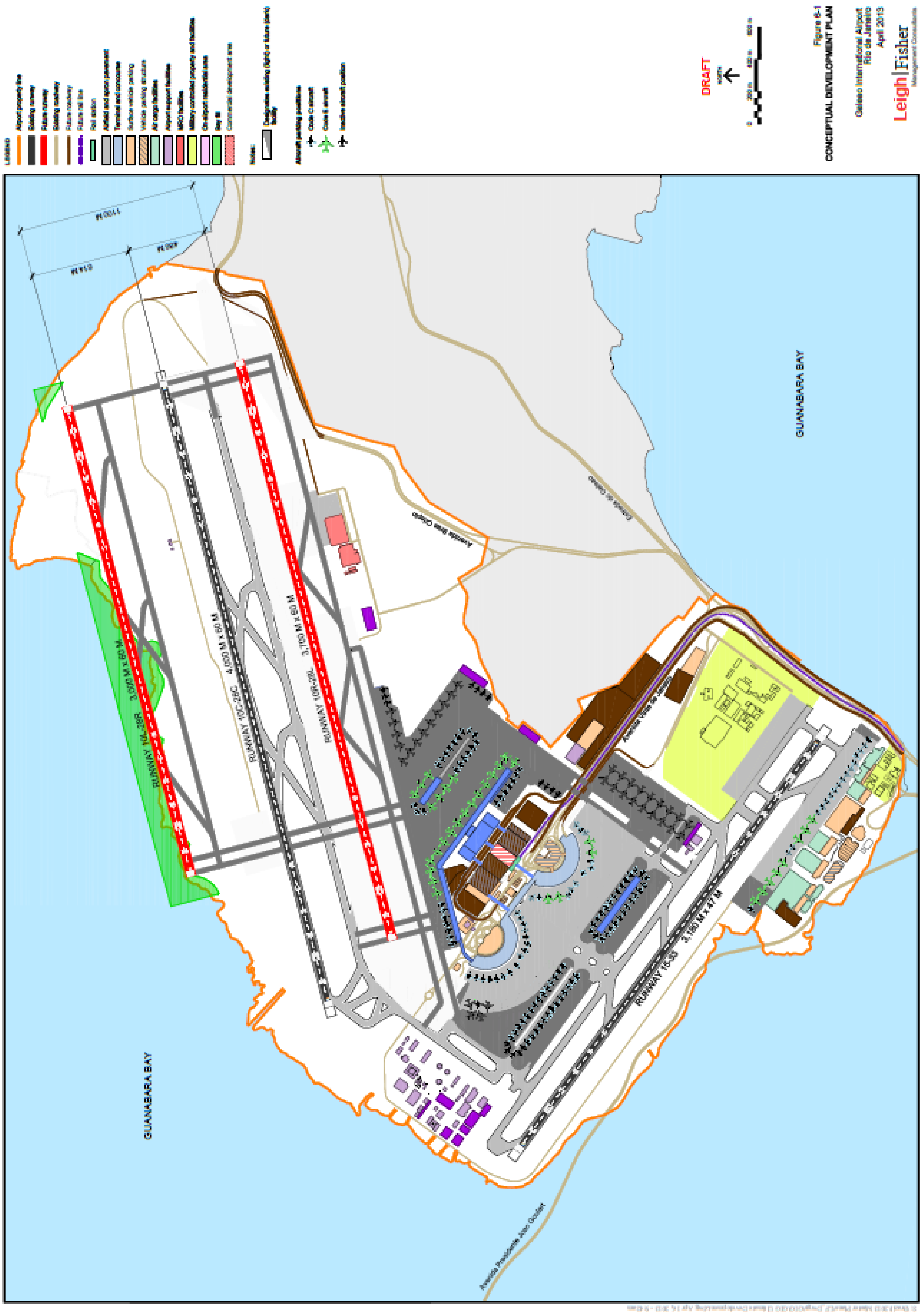
6.2.2 Indicative Facilities Requirements

A Conceptual Development Plan for the Airport depicting the ultimate disposition of Airport facilities is presented on Figure 6-1. Notable requirements over the proposed 25-year concession period include the following:

- **Airfield**. Construct two new runways, one 486 meters inboard and one 614 meters outboard of existing Runway 10-28. The two new runways would have centerline spacing of 1,100 meters allowing independent operations. A taxiway system supporting the new runways and terminal development would also be required. ***(Note: This approach is just one way to achieve independent parallel runways in the 10-28 configuration at the Airport, and is only provided for reference given that bidders may choose another alternative as long as it provides fully independent operations).***

- **Passenger Terminal Aircraft Parking**. Substantial increases in aircraft parking aprons and contact stands are required to meet forecast aviation activity. The existing apron is 481,000 m^2, with 1,522,000 m^2 being required by 2038. Required aircraft parking positions increase from 47 today to 191 in 2038.

Figure 6-1
CONCEPTUAL DEVELOPMENT PLAN



- **Passenger Terminal Complex**. The current terminal buildings encompass 258,300 m^2. Expansion of the passenger terminal complex will be necessary to accommodate projected activity levels, with approximately 489,500 m^2 of terminal space required by 2038.
- **Vehicle Parking**. Total public parking space will need to be expanded. The existing public parking areas is 58,000 m^2, with approximately 280,300 m^2 required by 2038. An additional 185,400 m^2 will be required for employee parking by the end of the planning period.
- **Aviation Support**. As the Airport's activity level increases, support facilities also need to be added. Major support facilities include maintenance buildings, ground service equipment storage, and fuel storage.

6.2.3 Indicative Implementation Plan

Table 6-5 summarizes the indicative facility requirements and CapEx phased over the proposed 25-year concession period. This indicative 25-year implementation plan groups projects into the following phases of development:

Phase A—2014 to 2018 (5 years)
Phase B—2019 to 2023 (5 years)
Phase C—2024 to 2029 (6 years – 1 year longer due to terminal expansion starting in 2028 and finishing in 2029)
Phase D—2030 to 2034 (5 years)
Phase E—2035 to 2038 (4 years)

Table 6-6 summarizes the costs associated with the indicative implementation plan.

- **Passenger Terminal Complex**. The current terminal buildings encompass 258,300 m^2. Expansion of the passenger terminal complex will be necessary to accommodate projected activity levels, with approximately 489,500 m^2 of terminal space required by 2038.
- **Vehicle Parking**. Total public parking space will need to be expanded. The existing public parking areas is 58,000 m^2, with approximately 280,300 m^2 required by 2038. An additional 185,400 m^2 will be required for employee parking by the end of the planning period.
- **Aviation Support**. As the Airport's activity level increases, support facilities also need to be added. Major support facilities include maintenance buildings, ground service equipment storage, and fuel storage.

6.2.3 Indicative Implementation Plan

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Phase A—2014 to 2018 (5 years)
Phase B—2019 to 2023 (5 years)
Phase C—2024 to 2029 (6 years – 1 year longer due to terminal expansion starting in 2028 and finishing in 2029)
Phase D—2030 to 2034 (5 years)
Phase E—2035 to 2038 (4 years)

Table 6-6 summarizes the costs associated with the indicative implementation plan.

Table 6-5

CONCEPTUAL DEVELOPMENT PLAN –INDICATIVE 25-YEAR IMPLEMENTATION PHASING AND COSTS ESTIMATES (R$ MILLIONS)

Galeão International Airport – Rio de Janeiro

Phase and projects	Cost
Phase A—2014 to 2018	
Airfield	$355.15
Passenger terminal	$614.68
Landside access and vehicle parking	$94.28
Aviation support	$53.52
Miscellaneous projects	$45.75
Phase A total	**$1,163.38**
Phase B—2019 to 2023	
Airfield	$1,476.34
Passenger terminal	$75.19
Landside access and vehicle parking	$36.35
Aviation support	$13.33
Miscellaneous projects	$48.16
Phase B total	**$1,649.37**
Phase C—2024 to 2029 (a)	
Passenger terminal	$513.24
Landside access and vehicle parking	$116.66
Aviation Support	$14.53
Miscellaneous Projects	$38.67
Phase C total	**$683.09**
Phase D—2030 to 2034	
Passenger terminal	$39.03
Airfield	$318.02
Landside access and vehicle parking	$48.80
Aviation Support	$22.65
Miscellaneous Projects	$25.65
Phase D total	**$454.24**
Phase E—2035 to 2038	
Passenger terminal	$199.33
Landside access and vehicle parking	$38.76
Aviation Support	$22.38
Miscellaneous Projects	$15.63
Phase E total	**$276.10**

(a) Six year phase, one year longer than normal, due to terminal expansion starting in 2028 and finishing in 2029.

Sources: Projects and phasing—LeighFisher, April 2013.
Cost estimates—Proficenter Planejamento de Obras Ltda., April 2013.

Table 6-6
COST SUMMARY –
INDICATIVE 25-YEAR IMPLEMENTATION PHASING (R$ MILLIONS)
Galeão International Airport – Rio de Janeiro

Cost by phase	Cost
Phase A—2014 to 2018	$ 1,163.38
Phase B—2019 to 2023	$ 1,649.37
Phase C—2024 to 2029 (a)	$ 683.09
Phase D—2030 to 2034	$ 454.31
Phase E—2035 to 2038	$ 276.10
Conceptual Development Plan Total	**$ 4,226.19**
Cost by functional area	
Airfield	$ 1,870.51
Passenger terminal	$ 1,720.46
Landside access and vehicle parking	$ 334.85
Aviation support	$ 126.52
Miscellaneous projects	$ 173.85
Conceptual Development Plan Total	**$ 4,226.19**

(a) Six year phase, one year longer than normal, due to terminal expansion starting in 2028 and finishing in 2029.
Source: Proficenter Planejamento de Obras Ltda., April 2013.

7.0 FINANCIAL FORECASTS

This section presents a summary of the business plan forecast for the Airport. A more detailed description may be found in *Relatório 1 – Market Study and Aviation Activity Forecasts* and *Relatório 4 – Economic and Financial Report.* Both relatorios should be read in their entirety, including the underlying assumptions on which the forecasts are based.

7.1 KEY DRIVERS

The key drivers for the financial forecasts include:

- Projected future aviation activity
- Investments required to meet demand and level of service requirements (CapEx)
- Opportunities to enhance aeronautical and non-aeronautical revenues
- Opportunities to reduce operating costs (OpEx)
- Regulatory framework and rules related to allowed aeronautical charges (X-factor and Q-factor)
- Length of the concession – 25 years
- Variable concession fee – 5% of annual total revenue

A summary description of each of these drivers has been presented in the earlier sections of this Information Memorandum. Additional detail is provided in Relatorio's 1 and 4.

7.1.1 Traffic Forecasts

The key elements of traffic projections are (1) passenger volumes and the mix of domestic vs. international, and O&D vs. connecting, (2) aircraft movements and the mix of aircraft types, and (3) volume of cargo.

Table 7-1 below provides a summary of the traffic forecasts from years 2014 through 2038, as well as historical 2012 and estimated 2013. More information regarding these forecasts can be found in *Relatório 1 - Market Study and Aviation Activity Forecasts*.

Table 7-1
AVIATION ACTIVITY FORECASTS
BRAZIL NATIONAL TREASURY ASSUMPTIONS
Galeão International Airport – Rio de Janeiro
(in thousands)

	2012	2013	2014	2015	2016	2017	2018	2023	2028	2033	2038
Passengers											
Domestic	13,112	14,827	17,636	18,346	20,568	21,503	22,834	27,880	33,465	40,299	48,469
International	4,289	4,339	4,771	4,684	5,043	5,090	5,302	6,491	7,916	9,616	11,638
General aviation	95	103	112	120	128	135	141	166	193	223	259
Total	17,496	19,269	22,518	23,149	25,739	26,728	28,278	34,538	41,574	50,138	60,366
% YoY Growth		10.1%	16.9%	2.8%	11.2%	3.8%	5.8%	3.7%	3.8%	3.8%	3.7%
Aircraft operations	150	166	185	194	209	218	229	273	323	383	449
% YoY Growth		10.2%	11.5%	5.1%	7.7%	4.5%	5.0%	3.4%	3.4%	3.5%	3.0%
Cargo and mail (tons)	143	143	146	152	158	164	171	208	251	303	365
% YoY Growth		0.2%	2.4%	3.6%	3.8%	4.1%	4.1%	3.9%	3.9%	3.8%	3.7%

Sources: Historical: Infraero, www.infraero.gov.br, accessed January 2013; Forecast: Brazil National Treasury, March 2013.

7.1.2 Passenger Growth

Passenger traffic growth is expected to be broadly in-line with growth trends established about 10 to 15 years ago when the Brazilian government began to deregulate elements of the domestic airline industry setting the stage for LCCs to enter the market. This resulted in a very rapid reduction in air fares which has generally been sustained and is now “baked in” to the Brazil air traffic “baseline”. Combined with strong past and predicted future GDP growth, passenger traffic has experienced strong growth in recent years and is expected to continue to do so with a resulting 4.9% CAGR from 2014 to 2038. Growth is expected to be accelerated in years 2014 and 2016, reflecting so-called “Halo Effect” during the World Cup and Olympics.

As discussed above, the Airport has experienced growth in international passengers. In 2012, the Airport accounted for 22% of international scheduled seats at all airports in Brazil. Moreover, the Airport has experienced faster growth in international seating capacity, 6.5% at the Airport compared to 4.4% Brazil-wide over the period from 2000 to 2012.

7.1.3 ATM Growth

Air traffic movement (ATM) growth, or aircraft operations, is expected to be marginally lower than passenger growth as airlines are expected to achieve higher load factors and upguage aircraft over time.

7.1.4 Cargo and Mail Growth

Growth is expected to be broadly in line with the assumed GDP growth.

7.2 EARNINGS BEFORE INTEREST, TAX, DEPRECIATION, AND AMORTIZATION

Under private operation, the Airport is expected to achieve higher Earnings before Interest, Tax, Depreciation, and Amortization (EBITDA) margins, increasing from approximately 23% in 2012 to 59% in 2038. The significant increase in EBITDA margin is expected to be fueled by market driven non-aeronautical revenue strategies as well as efficiency gains in operating expenses. Table 7-2 below provides the actual 2012 EBITDA and the projected EBITDA from years 2013 through 2038.

7.2.1 Revenue Growth

Between 2013 and 2038, revenue is forecast to grow at 4.5% CAGR. Among the three categories of revenue, (i.e., aeronautical, non-aeronautical, and cargo storage and handling), the highest growth is expected in non-aeronautical revenue. Specifically, the concessionaire is expected to achieve significantly higher levels of revenue from Fuel Charges, based on increased fees and ATM growth, and Terminal Concessions, Food and Beverage, Car Parking, and Duty Free, largely driven by improved revenue yields from new retail agreements, expanded concession spaces, improved product offerings, and development of new concession areas better exposed to passenger flows through the terminal. Total non-aeronautical revenue per passenger is forecast to increase from R$ 11.32 in 2013 to R$ 14.13 in 2038, expressed in constant 2013 Reais.

7.2.2 Operating Expenditure Growth

Within the first year after the transfer of operation, the concessionaire is expected to achieve significant reductions in OpEx through reduction in staff counts, reduction in average staff salaries (new hires, not existing Infraero employees that transfer to the concessionaire), and renegotiation of key outsourcing contracts. However, after these initial “step change” gains, total OpEx is expected to grow, primarily driven by air traffic and cargo growth, at 2% CAGR between 2012 and 2038. However, on a per-Work Load Unit (equal to 1 passenger or 100kg of cargo) basis, OpEx is expected to decrease in real terms from R$ 17.24 in 2013 to R$ 9.14 in 2038 reflecting efficiency gains overtime.

Table 7-2
EBITDA PROJECTIONS
Galeão International Airport – Rio de Janeiro
(Constant 2013 R$ in millions)

	2012	2013	2014	2015	2016	2017	2018	2023	2028	2033	2038
Revenues (a)											
Aeronautical	174.2	195.8	216.7	216.0	231.3	233.5	240.2	288.9	344.4	410.6	488.3
% YoY Growth		12.4%	10.7%	-0.4%	7.1%	0.9%	2.9%	3.6%	3.6%	3.6%	3.5%
Storage & handling	119.4	126.0	133.3	141.6	148.0	154.0	159.3	187.4	218.9	254.4	294.3
% YoY Growth		5.5%	5.8%	6.2%	4.6%	4.0%	3.5%	3.2%	3.1%	3.0%	2.9%
Non-aeronautical	175.1	194.1	229.3	243.1	284.8	297.5	317.9	399.5	503.0	621.1	759.9
% YoY Growth		10.8%	18.2%	6.0%	17.2%	4.5%	6.9%	4.0%	4.4%	4.1%	4.0%
Total Revenue	468.7	515.8	579.3	600.6	664.1	685.0	717.5	875.8	1,066.3	1,286.0	1,542.6
% YoY Growth		10.0%	12.3%	3.7%	10.6%	3.1%	4.7%	3.7%	3.9%	3.7%	3.6%
OpEx											
Personnel	(149.1)	(149.1)	(102.1)	(101.4)	(110.7)	(107.8)	(113.1)	(138.2)	(186.1)	(221.6)	(284.4)
% YoY Growth		0.0%	-31.5%	-0.6%	9.2%	-2.6%	4.9%	2.7%	10.6%	3.2%	3.1%
Number of staff	1,034	1,034	856	843	919	885	920	1,061	1,327	1,446	1,698
Non-personnel	(213.4)	(212.6)	(215.1)	(196.0)	(199.2)	(177.2)	(182.8)	(202.0)	(241.9)	(252.7)	(284.6)
% YoY Growth		-0.3%	1.2%	-8.9%	1.6%	-11.0%	3.2%	0.4%	8.0%	0.5%	0.5%
Total OpEx	(362.5)	(361.7)	(317.2)	(297.4)	(309.9)	(285.0)	(295.9)	(340.1)	(428.0)	(474.4)	(569.1)
% YoY Growth		-0.2%	-12.3%	-6.2%	4.2%	-8.0%	3.8%	1.3%	9.1%	1.7%	1.8%
Concession Fee *(b)*	--	--	(33.2)	(34.4)	(38.0)	(39.2)	(41.1)	(50.1)	(61.0)	(73.5)	(88.1)
PASEP/COFINS Rebate	--	--	16	15	15	13	14	15	18	19	21
EBITDA	106.3	154.1	244.9	283.3	331.0	373.8	394.0	500.6	595.2	756.9	906.5
EBITDA margin	22.7%	29.9%	42.3%	47.2%	49.8%	54.6%	54.9%	57.2%	55.8%	58.9%	58.8%

Note: 2012 value is in nominal

(a) Net of the PASEP & ISS tax, which is deducted from revenues. Also, excluding air navigation revenues starting in 2014 (which will not be part of the Concession).

(b) Equal to 5% of revenues.

Source: LeighFisher, April 2013.

7.2.3 Variable Concession Fees

The Concessionaire will be obligated to pay an annual concession fee to the government equal to 5% of Airport gross annual revenues, as defined in the Concession agreement. Gross revenue is total revenue before the PASEP/COFINS and ISS tax adjustments. PASEP/COFINS and ISS taxes are accounted for above EBITDA in Brazil.

7.3 CAPITAL INVESTMENTS

The Airport is expected to require significant capital investments over the life of the concession consistent with expected traffic growth during the same period. The capital investments presented in this Information Memorandum and Relatorio 3 can be classified as either indicative or mandatory.

Immediately following the transfer of the operation, the concessionaire will need to add additional contact and remote gate capacity. A third terminal and concourse, expected to be implemented in three phases, would be needed in the mid-term according to the forecasts. The concessionaire is required under the Concession Contract to build a new runway(s) parallel to the existing

Runway 10-28 that would allow for independent aircraft operations. Additional improvements over the course of the concession include substantial upgrades to the ground access and parking facilities to meet the needs of the expanded terminal area, and expansion and improvement to aviation support facilities, such as the fuel farm, to accommodate long-term demand. The expected level of capital investments, including maintenance investments, is estimated to be R$ 4.9 billion, expressed in constant 2013 Reais. Table 7-3 summarizes the indicative capital investment program by phase.

Table 7-3
CAPEX SUMMARY
Galeão International Airport – Rio de Janeiro
(Constant 2013 R$ in millions)

	2014-17	2018-22	2023-33	2034-38	Total
CapEx Category					
Expansion CapEx *(a)*	1,430	1,414	933	127	3,904
Maintenance CapEx	101	159	474	289	1,023
	1,531	1,573	1,408	416	4,928

(a) A net of REIDI, a form of tax rebate on infrastructure projects in Brazil.

Source: LeighFisher, based on cost estimates provided by Proficenter Planejamento de Obras Ltda., April 2013.

7.4 NET PRESENT VALUE

The project Net Present Value (NPV), calculated on the basis of net cash flow to the Airport over 25 years and a real WACC of 6.46%, is approximately R$ 1.5 billion. Net cash flows and the calculation of the project NPV are summarized in Table 7-4.

Table 7-4
CALCULATION OF NET PRESENT VALUE
Galeão International Airport – Rio de Janeiro
(Constant 2013 R$ in millions)

	2014	2015	2016	2017	2018	2023	2028	2033	2038
CapEx	(112.5)	(526.8)	(564.7)	(326.7)	(441.4)	(326.5)	(212.3)	(161.6)	(62.2)
EBITDA	244.9	283.3	331.0	373.8	394.0	500.6	595.2	756.9	906.5
Less: Taxes	(83.2)	(95.1)	(107.9)	(108.9)	(113.2)	(112.7)	(122.9)	(152.7)	(227.2)
Less: Change in Working Capital	(5.3)	(1.8)	(5.3)	(1.7)	(2.7)	(2.6)	(3.3)	(3.8)	(4.5)
Less: Initial Working Capital	(27.9)	--	--	--	--	--	--	--	--
Net cash flow	15.9	(340.4)	(346.9)	(63.5)	(163.3)	58.8	256.7	438.8	612.7
25 year Concession cash flow (beginning January 1, 2014)	15.9	(340.4)	(346.9)	(63.5)	(163.3)	58.8	256.7	438.8	612.7
PV of cash flow	14.9	(300.3)	(287.5)	(49.4)	(119.4)	31.4	100.4	125.5	128.1
Net Present Value	1,524.4								

Net Present Value (NPV) of the project assuming a real WAAC of 6.46%.

Source: LeighFisher, April 2013.