

Doc 9940



Caribbean/South American Regional Traffic Forecasts 2009–2030

**Report of the Eighth Meeting
of the CAR/SAM Traffic
Forecasting Group (CAR/SAM TFG)**

Kingston, Jamaica, 29 March – 2 April 2010

**Approved by the CAR/SAM TFG and published
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1. INTRODUCTION

1.1 The main purpose of the Caribbean/South American (CAR/SAM) Region Traffic Forecasting Group (TFG) which was established in 1996, is to prepare forecasts for air passenger traffic and aircraft movements as well as peak period analysis, used to support the planning of air navigation services in the Region. Traffic forecasts and the analysis of peak-period planning parameters are important in anticipating where and when airspace and airport congestions may occur. It is then possible to plan for the required expansion of capacity. These forecasts also have an important role in planning the implementation of CNS/ATM systems. The primary users of the forecasts developed by the CAR/SAM TFG are expected to be Member States of ICAO, air navigation service providers in the region, and the ICAO planning and implementation regional group for CAR/SAM (GREPECAS).

1.2 The CAR/SAM TFG to date has held 8 meetings. During the last meeting, held in Kingston, Jamaica from 29 March to 2 April 2010, the Group developed a new set of forecasts for the six major route groups to, from and within the Region, taking into account the recent developments. The forecasts cover passenger and aircraft movements traffic. Passenger traffic forecasts are based on assumptions made for economic growth and passenger yields. Aircraft movements traffic forecasts are based on assumptions for future trends in average load factors and average aircraft seating capacity. Projections of aircraft movements traffic for the top 25 city pairs in each of the major route groups were also developed. In addition, the analysis of FIR aircraft movements traffic data including peak-period planning parameters for the airspace controlled by Jamaica (Kingston FIR) and by COCESNA (CENAMER FIR) was carried out. In preparing the forecasts, the base year was 2009, and the forecasts were done for the periods 2010 to 2014 and target years 2019 and 2030.

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2. METHODOLOGY

2.1 Definition of Route Groups

2.1.1 Traffic to, from and within the CAR/SAM Region is classified, into the following six major route groups as defined in Appendix C:

- 1) South Atlantic
- 2) Mid-Atlantic
- 3) Intra-South America
- 4) Between South America and Central America/Caribbean
- 5) Intra-Central America/Caribbean
- 6) Between North America and South America and Central America/Caribbean

2.2 Air Passenger Forecast Methodology

2.2.1 In preparing passenger forecasts for the CAR/SAM region, the Group estimated a passenger model that uses Gross Domestic Product and yields to explain air passenger demand for scheduled service. Non-scheduled, or charter service is not included. No specific assumptions were made about various possible geo-political and economic events in the future beyond those implicit in the GDP assumptions (GDP assumptions are discussed in Section 2.3.2 and Yields Assumptions in Section 3.3.3).

2.2.3 The Group's model uses both time series and cross-sectional sets of data from 1993 to 2008 covering all of the above six routes. Scheduled air passenger statistics and yields were obtained from ICAO whereas GDP data was obtained from IHS Global Insight. With respect to the form of the model, a log linear regression model was estimated using Excel, and this was similar to the model developed at the previous 2008 meeting. In order to account for the disparities among the six routes, the model was calibrated with the following three dummy variables:

- South Atlantic and Mid Atlantic
- Intra-South America and Intra Central America/Caribbean
- Between South America and Central America/Caribbean AND between North America and South America/Central America/Caribbean

2.2.4 The model calibration resulted in the equation shown below, which was deemed to be the best fit of the historical data, hence it was used to forecast air passenger traffic. Total CARSAM region air passenger forecasts were then produced using the model results and forecasts of GDP and yields. To finalize the forecasts, adjustments were applied accordingly to each of the routes using differential growth rates.

$$\text{LN (Passengers)} = \text{Constant} + A \cdot \text{LN}(\text{GDP}) + B \cdot \text{LN}(\text{Yield}) + \text{Dummy Variables}$$

In this functional form, A and B are constant coefficients which represent elasticities.

The calibration produced the following results:

$$\text{Ln (Passengers)} = -13.37 + 1.95 \ln(\text{GDP}) - 0.71 \ln(\text{Yield}) - 2.43 (D_1) + 1.88 (D_2) - 0.45 (D_3)$$

$$(\text{Adj. } R^2 = 0.95, t_{\text{GDP}} = 22.52, t_{\text{Yield}} = -3.26, t_{D1} = -20.69, t_{D2} = 18.87, t_{D3} = -5.33)$$



2.3 Aircraft Movement Forecast Methodology

2.3.1 Forecasts of aircraft movements for each route group were derived from forecasts of air passengers and assumptions about future trends in load factors and average aircraft seating capacity. The link between these variables is expressed below:

$$\begin{aligned}\text{Number of Aircraft Movements} &= \frac{\text{Number of Air Passengers}}{(\text{Passengers/Seats}) * (\text{Seats per Aircraft})} \\ &= \frac{\text{Number of Air Passengers}}{(\text{Load factors}) * (\text{Average Aircraft Seating Capacity})}\end{aligned}$$

2.3.2 The relationship between changes in the same variables can therefore be deduced to:

$$Y = X1 - X2 - X3$$

Where:

- Y = Change in number of aircraft movements (%)
- X1 = Change in number of air passengers (%)
- X2 = Change in load factors (%)
- X3 = Change in average aircraft seats (%)

2.3.3 Judgement was applied to assess expected trends in load factors. In addition an analysis of future trends in average aircraft seating capacity was discussed. It was assumed that historical trends of using aircraft with larger seating capacity and matching of aircraft size to demand levels will be continued by airlines over the forecast horizon.

2.3.4 Aircraft movement forecasts were then allocated to each of the respective city-pairs taking into account traffic service patterns, types of aircraft, demographics and other pertinent factors.

2.3.5 The historical trends in total seats available, average aircraft size, average load factor as well as aircraft movements were established for each of the route groups concerned based on data from Traffic by Flight Stage (TFS) compiled by ICAO.

2.3.6 For each of the major route groups concerned, a detailed city-pair traffic flow was developed using the 2009 Official Airline Guide (OAG) data as the basis. A relationship between the TFS data and the aircraft movement data from the OAG was established.

3. HISTORICAL TRENDS AND FORECAST ASSUMPTIONS

3.1 Global Trends

3.1.1 Global Economic trends

3.1.1.1 Between 1999 and 2009, the aggregate world economy measured in terms of Gross Domestic Product (GDP) grew at an average annual rate of 3.4 per cent in real terms. Growth rates varied across regions, from a low of 1.8 per cent for Europe to as high as 5.6 per cent for Asia/Pacific. During the same period the world population increased at an average annual rate of 1.2 per cent. The resulting world GDP per capita was a healthy increase of 2.2 percent per year over the 10 year period.

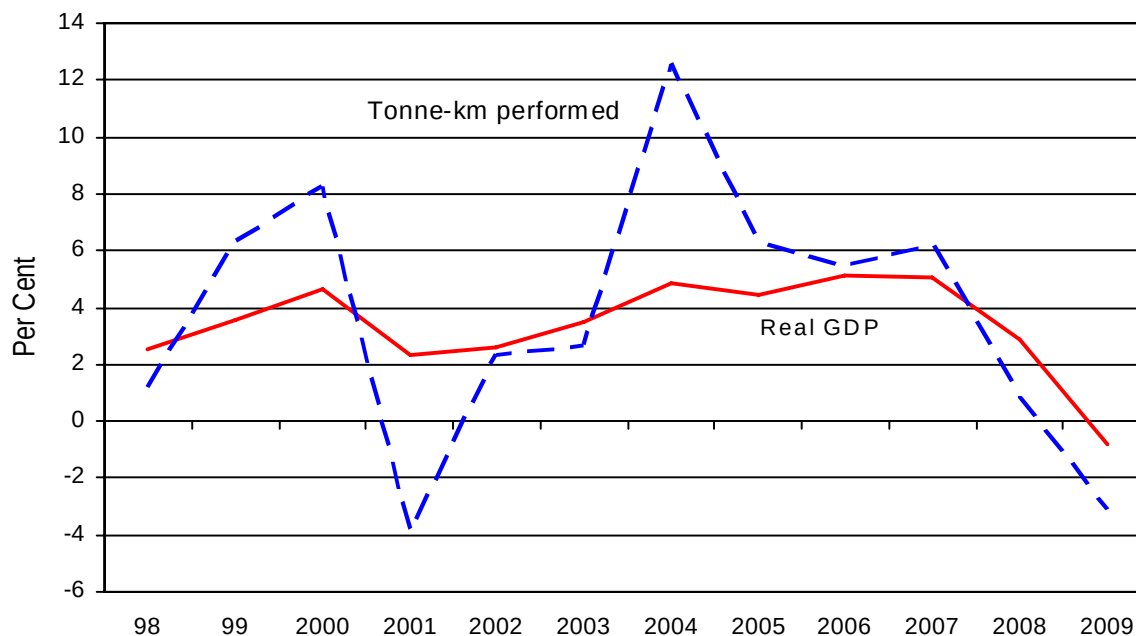
3.1.1.2 After a decline of about 1 per cent in 2009, the world economy is expected to rebound in 2010 with growth of 3.9 percent followed by another expansion of 4.1percent in 2011. Over the long-term (2009 to 2030) the world economy is projected to grow at an average annual rate of 4.0 per cent in real terms, while world GDP per capita is projected to grow by 3.0 per cent.

3.1.2 Global Traffic trends

3.1.2.1 Between 1999 and 2009 total scheduled airline traffic, measured in terms of passenger-kilometres performed (PKPs), grew at an average annual rate of 4.2 per cent reaching 4226 billion PKPs by 2009. As expected, the growth pattern of passenger traffic reflects that of economic growth and this linkage is illustrated in Figure 1 below. The early to mid 1990s were generally a period of robust growth for both GDP and air passenger traffic. Following that period, traffic growth slowed down considerably amid weak global economic conditions which were set-off by the Asian financial crisis in 1997 followed by the oil price increases of 1999 and further exacerbated by the events of September 11, 2001. It was only in 2004 that world traffic growth fully recovered registering a whopping 14.1 per cent growth, reflecting strong recovery by the airlines in Asia/Pacific (the region worst affected by the SARS outbreak), improved performance of some regional economies and the sustained expansion of the Middle East economy. Global traffic continued to grow remarkably between 2005 and 2007, supported by a strong performance of the world economy, registering growth rates of 8.0, 5.8 and 6.7 per cent respectively. In 2008 the global financial crisis and the ensued economic recession led to a significant slowdown in traffic growth resulting in a modest increase of 1.8 percent. In 2009 the worst decline of 3.1 percent in air passenger traffic was experienced.



FIGURE 1
WORLD ANNUAL GROWTH IN GDP AND AIRLINE TRAFFIC
1999-2009



3.2 Trends and Prospects for The Latin American And Caribbean Region

3.2.1 Data sources

3.2.1.1 In order to study the relationship between traffic and socio-economic trends in the Latin American and Caribbean Region, data from several sources were collected on the economies of the countries in the area. GDP historical and forecast data originate from IHS *Global Insight*. Airline yield information was obtained from ICAO and adjusted by the CAR/SAM TFG based on the most recent information available from other sources.

3.2.2 Historical Traffic Trends of the Latin America and Caribbean Airlines

3.2.2.1 During the past decade (1999-2009), scheduled traffic of the Latin American and Caribbean region airlines, measured in terms of passenger-kilometers performed, grew at an average annual rate of about 3.6 per cent, compared to 4.2 per cent for global traffic, reaching some 191 billion passenger kilometers by 2009. Traffic growth was volatile over this period. After experiencing declining growth rates in 2001 (1 percent) and 2002 (3 percent), the region's traffic recovered in 2004 (9.6 percent) and continued to expand until 2007 supported by an improved economic environment. In 2008 the region's traffic maintained its momentum and grew by 8.1 percent, contrary to the world traffic which slowed down. In 2009 as the economic crisis took its toll on global traffic the region's traffic also suffered a decline of 0.7 per cent.

3.2.3 Economic trends and prospects

3.2.3.1 Over the 1999-2009 period, the aggregate Latin American and Caribbean economies grew at an average annual rate of 3.0 per cent in real terms, whereas GDP per capita grew 1.7 per cent, a relatively lower rate compared to world GDP per capita growth of 2.2 percent for the same period.

3.2.3.2 In the late nineties, the economy of the region experienced a slowdown and grew only by 0.4 per cent in 1999. This was partly due to the financial market setback, which led Brazil to introduce severe austerity measures. Other countries in the region, such as Peru, Ecuador, El Salvador, Honduras and Nicaragua, suffered from the adverse effects of repeated natural disasters which resulted in constricted output, especially due to devastation in the agricultural and industrial sectors, and consequently declining overall economic performance. While the Latin American and Caribbean Region enjoyed above average growth in the 1990s, due mainly to large capital inflows, the years 2000 and 2001 posted weak growth, affected by the 2001 slowdown and the 2002 recession. In 2003, recovery began to take its root causing GDP growth to strengthen. During 2004, with the world's economy enjoying an impressive growth of 4.8%, the Latin American and Caribbean Region also registered robust growth of 5.9 per cent and that upswing held up well until 2007. In 2008, economic growth in the region eased somewhat, showing an increase of 4.1 per cent as a result of moderating exports, softer commodity prices and severe financial conditions. In 2009 the economic conditions continued to deteriorate pushing the region into a recession with a decrease of 2.1 per cent.

3.2.3.3 **Table 1** below shows GDP growth rates for the major economies in the CAR/SAM region and those of other regions.

TABLE 1
GDP GROWTH RATES FOR THE REGION'S MAJOR ECONOMIES

Country/Region	GDP Growth Rate (per cent)							
	Estimate 2009	Forecast						
		2010	2011	2012	2014	Average annual growth rate		
						2009 to 2014	2014 to 2020	2009 to 2030
Countries								
Argentina	-0.3	1.8	3.4	4.0	3.9	3.4	3.8	3.6
Brazil	-0.4	4.7	5.4	5.3	4.5	4.9	4.1	4.3
Chile	-1.7	4.5	5.1	4.6	4.9	4.8	5.0	4.8
Colombia	-0.1	2.1	3.2	3.8	3.7	3.3	3.6	3.4
Mexico	-6.5	3.8	3.5	3.4	3.9	3.7	4.1	4.0
Peru	0.8	6.0	5.7	5.3	4.8	5.4	4.6	4.8
Venezuela	-2.8	-1.2	3.5	3.4	3.2	2.5	3.7	3.2
Regions								
Latin America and Caribbean	-2.1	3.3	4.2	4.3	4.0	4.0	4.0	3.9
North America	-2.4	2.9	2.9	3.7	2.4	3.1	2.5	2.6
Europe	-4.1	1.1	1.9	2.3	2.3	2.1	2.3	2.1
Asia-Pacific	3.4	6.7	6.0	6.2	6.4	6.3	5.9	5.6
Middle East	-0.6	3.9	5.5	5.1	4.5	4.8	4.1	4.0
Africa	2.6	4.2	5.0	5.0	4.8	4.8	4.6	4.4
Total World	-0.8	3.9	4.1	4.5	4.3	4.3	4.1	4.0

Note: Regional growth rates based on all the countries in the region.

Source: ICAO/ IHS Global Insight.

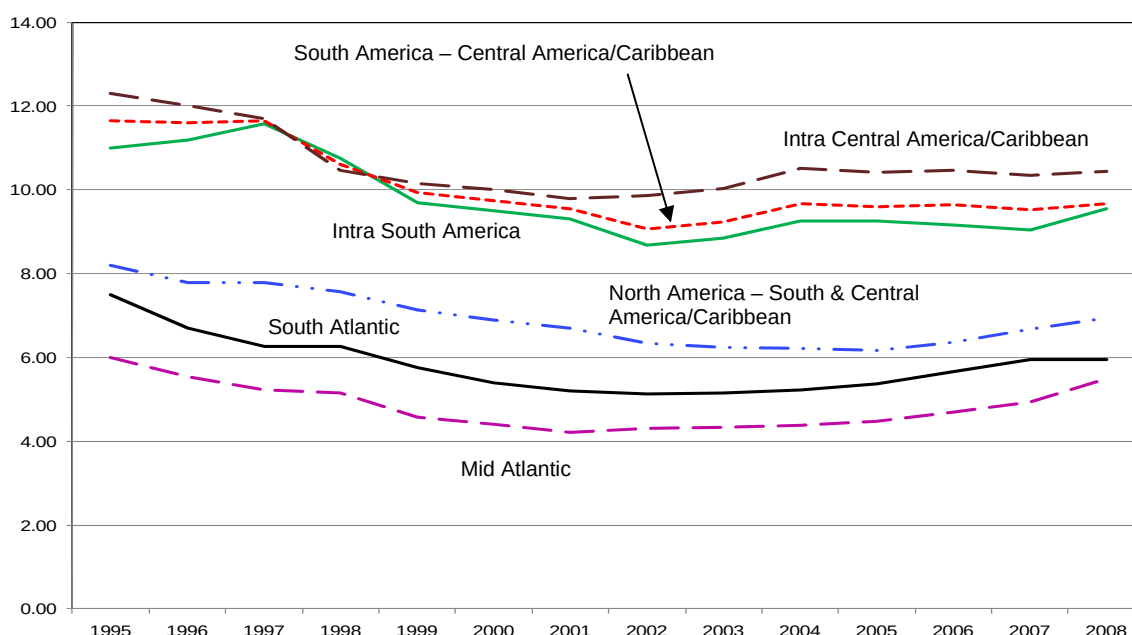
3.3 Yields trends and assumptions

3.3.1 The prospects for airline yields are closely related to cost developments and market conditions in the airline industry. Changes in fuel prices have significant effects on costs, hence on financial returns and airline yields. After soaring in 1999 and 2000, fuel prices declined moderately in 2001 and have risen continuously since then until July 2008 when they reached record breaking levels inflicting financial strain on the world airline industry. After August-2008, oil prices declined dramatically to reach levels below 50\$/barrel by the end of 2008 and increased somewhat to average about 60 \$/barrel in 2009. In the long run, oil prices are expected to remain moderate between 80 and 100\$/barrel. These various cost pressures will provide a benchmark for airline yields, with revenues needing to be sufficient to cover costs over the long term.

3.3.2 **Figure 2** depicts the developments in average yields over the past decade for the six major route groups considered in this report. Overall, it shows that average yields on routes between the CAR/SAM region and North America and between the CARSAM region and Europe are lower than those for routes within the CARSAM region. It also shows that the declining trend reversed in 2004, when yields in general started to increase. Faced with increasing fuel costs, airlines managed to increase their fares in conjunction with other productivity improvements such as higher load factors and aircraft utilization.

FIGURE 2

DEVELOPMENTS IN AVERAGE PASSENGER YIELDS (1995-2008)



3.3.3 Yields assumptions are provided in **Table 2**. Yields are expected to increase in mature markets and in markets with limited competition and to decline moderately on growing markets with increasing competition.

TABLE 2

YIELDS CHANGE ASSUMPTIONS (PER CENT)

Route Groups	2009-2014 (%)	2014-2019 (%)	2019-2030 (%)
South Atlantic	2.0	1.0	0.0
Mid-Atlantic	2.0	1.0	0.0
Intra-South America	-1.5	-1.0	-0.5
Between South America and Central America/Caribbean	-1.1	0.5	0.0
Intra-Central America/Caribbean	2.6	0.5	0.5
Between North America and South America and Central America/Caribbean	2.5	1.5	0.5

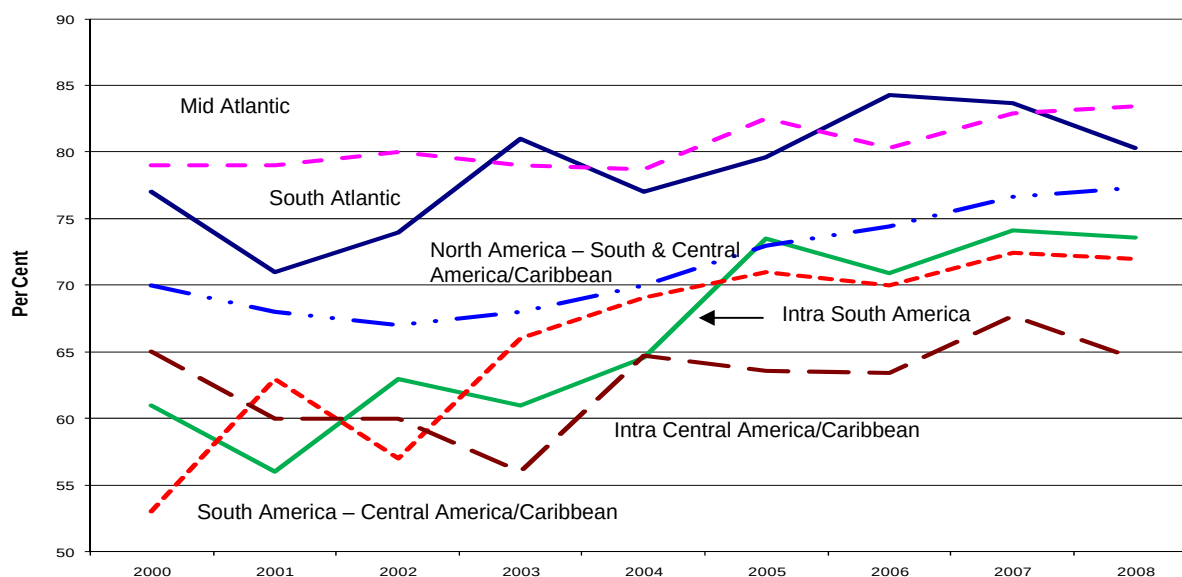
3.4 Analysis of Load Factors and Capacity

3.4.1 The projections for load factors and average aircraft seating capacity for the period up to 2030 have been developed using the approach described in the Methodology section.

3.4.2 **Figure 3** below depicts the historical load factors for the six CARSAM routes and shows that since the year 2000, airlines have been increasing load factors as part of their efficiency improvement strategies.

FIGURE 3

HISTORICAL LOAD FACTORS (2000-2008)



3.4.3 **Table 3** below shows the load factors and indicates that compared to 2009 levels, load factors are projected to be significantly higher in 2030 on all route groups with the exception of the South Atlantic and Mid-Atlantic where they are anticipated to increase only marginally.

TABLE 3
ANALYSIS OF LOAD FACTORS (PER CENT)

Route Groups	Historical			Forecast		
	2000	2005	2009	2014	2019	2030
South Atlantic	77	79.6	80.3	80.3	85.0	85.0
Mid-Atlantic	79	82.5	83.4	83.4	85.0	85.0
Intra-South America	61	73.5	73.6	73.6	76.5	80.0
Between South America and Central America/Caribbean	53	71.0	72.0	72.0	74.4	80.1
Intra-Central America/Caribbean	65	63.6	64.5	64.5	67.6	75.0
Between North America and South America and Central America/Caribbean	70	73.0	77.3	77.3	80.0	85.0

3.4.4 Average aircraft seats for each of the route groups for the period 2000-2009 and the projected average aircraft seats for the target years 2014, 2019 and 2030 are provided in **Table 4**. The average aircraft seats in 2030 are expected to vary from a low of 105 seats for the Intra Central America/Caribbean route group to a high of 290 seats for the Mid-Atlantic route group.

TABLE 4
ANALYSIS OF CAPACITY (AVERAGE AIRCRAFT SEATS)

Route Groups	Historical			Forecast		
	2000	2005	2009	2014	2019	2030
South Atlantic	283	281	277	281	281	280
Mid-Atlantic	304	304	269	290	290	290
Intra-South America	162	160	165	164	166	170
Between South America and Central America/Caribbean	166	163	153	148	146	159
Intra-Central America/Caribbean	92	96	100	100	101	105
Between North America and South America and Central America/Caribbean	175	167	164	164	163	169

4 FORECASTS OF PASSENGER TRAFFIC AND AIRCRAFT MOVEMENTS FOR MAJOR ROUTE GROUPS TO, FROM AND WITHIN THE LATIN AMERICAN AND CARIBBEAN REGION

4.1 South Atlantic

4.1.1 **Table 5a)** depicts the number of passengers for the South Atlantic route for selected periods from 1999 to 2009 and projections for traffic from 2010 to 2030. Passenger traffic grew at an average annual rate of 5.8 per cent, from some 4.3 million passengers in 1999 to about 7.6 million passengers in 2009.

4.1.2 For the period 2009-2030, passenger traffic is expected to grow at an average annual growth rate of 5.3 per cent, reaching approximately 22.5 million passengers in the year 2030.

TABLE 5a)

	Year	Passengers (Million)	Load Factor	Average Seats
Historical	1999	4.33	75.1	291
	2004	6.43	76.0	279
	2009	7.60	80.3	281
Forecast	2010	7.94	80.3	281
	2011	8.34	80.3	281
	2012	8.77	80.3	281
	2013	9.20	80.3	281
	2014	9.58	80.3	281
	2019	12.53	85.0	281
	2030	22.48	85.0	280
Average Annual Growth (Per cent)	2009-2014	4.7	0.0	0.0
	2014-2019	5.5	1.1	0.0
	2019-2030	5.5	0.0	0.0
	2009-2030	5.3	0.3	0.0

4.1.3 The aircraft movements for the period 2009-2030 are projected to grow at an average annual growth rate of 5.1 per cent, reaching over 92 000 movements in the year 2030, as illustrated in **Table 5b).**

TABLE 5b)

	Year	Aircraft Movements
Historic	2009*	32 845
Forecast	2010	34 323
	2011	36 039
	2012	37 898
	2013	39 757
	2014	41 387
	2019	51 283
	2030	92 663
Average Annual Growth (Per cent)	2009-2014	4.7
	2014-2019	4.4
	2019-2030	5.5
	2009-2030	5.1

* OAG data



4.1.4 Aircraft movements forecast of the top 25 city pairs for the **South Atlantic** route group are illustrated in **Table 5c**).

TABLE 5c)

Rank	City Pair	Total Aircraft Movements ^{1/} 2009 ^{2/}	Total Aircraft Movements ^{1/} 2030	Average Annual Growth (Per cent) 2009-2030
1	Madrid - Buenos Aires	3 407	12 291	6.3
2	Sao Paulo(Intl) - Paris(CDG)	2 685	7 942	5.3
3	Sao Paulo(Intl) - Madrid	2 136	6 575	5.5
4	Rio De Janeiro(Intl) - Paris(CDG)	1 978	7 136	6.3
5	Santiago - Madrid	1 462	4 155	5.1
6	Sao Paulo(Intl) - London(Heathrow)	1 460	5 164	6.2
7	Sao Paulo(Intl) - Frankfurt	1 455	3 452	4.2
8	Rome(Fiumicino) - Buenos Aires	1 094	3 236	5.3
9	Sao Paulo(Intl) - Milan (Malpensa)	1 028	3 495	6.0
10	Sao Paulo(Intl) - Lisbon	995	3 063	5.5
11	Rio De Janeiro(Intl) - Lisbon	989	2 984	5.4
12	Sao Paulo(Intl) - Dubai	730	2 159	5.3
13	Sao Paulo(Intl) - Johannesburg	730	2 482	6.0
14	Paris(CDG) - Buenos Aires	728	1 835	4.5
15	Rio De Janeiro(Intl) - Madrid	680	1 400	3.5
16	Sao Paulo(Intl) - Amsterdam	680	2 312	6.0
17	Zurich - Sao Paulo(Intl)	678	1 396	3.5
18	Salvador - Lisbon	658	2 237	6.0
19	Lisbon - Fortaleza	642	1 618	4.5
20	Lisbon - Brasilia	633	1 595	4.5
21	Recife - Lisbon	628	1 858	5.3
22	Sao Paulo(Intl) - Rome(Fiumicino)	624	1 921	5.5
23	Santiago - Paris(CDG)	606	1 688	5.0
24	Frankfurt - Buenos Aires	590	1 517	4.6
25	Montevideo - Madrid	535	1 583	5.3
	Total above routes	27 831	85 093	5.5
	All other routes	5 014	7 570	2.0
	TOTAL	32 845	92 663	5.1

^{1/} Both directions.

^{2/} OAG data.

4.2 Mid-Atlantic

4.2.1 **Table 6a)** depicts the number of passengers for the Mid Atlantic route for selected periods from 1999 to 2009 and projections for traffic up to 2030. Mid-Atlantic traffic grew from 5.8 million passengers in 1999 to slightly over 8 million passengers in 2009, which is an average annual growth rate of 3.5 per cent.

4.2.2 For the period 2009-2030, passenger traffic is forecast to grow at an average annual growth rate of 5.4 per cent, reaching approximately 24.7 million passengers in the year 2030.

TABLE 6a)

	Year	Passengers (Million)	Load Factor	Average Seats
Historical	1999	5.78	74.2	255
	2004	7.00	78.7	256
	2009	8.12	83.4	278
Forecast	2010	8.49	83.4	278
	2011	8.91	83.4	278
	2012	9.42	83.4	278
	2013	9.92	83.4	278
	2014	10.43	83.4	278
	2019	13.70	85.0	278
	2030	24.68	85.0	278
Average Annual Growth (Per cent)	2009-2014	5.1	0.0	0.0
	2014-2019	5.6	0.4	0.0
	2019-2030	5.5	0.0	0.0
	2009-2030	5.4	0.1	0.0

4.2.3 The number of aircraft movements for the period 2009-2030 are projected to increase at an average annual growth rate of 5.3 per cent, reaching slightly over 162 000 movements in the year 2030, as illustrated in **Table 6b)**.

TABLE 6b)

	Year	Aircraft Movements
Historic	2009*	54 857
Forecast	2010	57 326
	2011	60 192
	2012	63 612
	2013	67 032
	2014	69 948
	2019	90 209
	2030	162 565
Average Annual Growth (Per cent)	2009-2014	5.0
	2014-2019	5.2
	2019-2030	5.5
	2009-2030	5.3

* OAG data.



4.2.4 Aircraft movement forecasts of the top 25 city pairs for the **Mid-Atlantic** route group are illustrated in **Table 6c**).

TABLE 6c)

Rank	City Pair	Total Aircraft Movements ^{1/} 2009 ^{2/}	Total Aircraft Movements ^{1/} 2030	Average Annual Growth (Per cent) 2009-2030
1	Pointe A Pitre - Paris(Orly)	2 719	6 196	4.0
2	Paris(Orly) - Ft. De France	2 591	5 336	3.5
3	Mexico City - Madrid	2 416	13 401	8.5
4	Madrid - Havana	1 905	9 045	7.7
5	Madrid - Bogota	1 898	5 614	5.3
6	Madrid - Lima	1 811	5 575	5.5
7	Paris(CDG) - Mexico City	1 730	9 054	8.2
8	Madrid - Caracas	1 670	6 267	6.5
9	London(Gatwick) - Barbados	1 589	8 813	8.5
10	Santo Domingo - Madrid	1 381	3 480	4.5
11	Madrid - Guayaquil	1 343	4 134	5.5
12	Curacao - Amsterdam	1 236	2 545	3.5
13	Paris(Orly) - Cayenne	1 061	3 982	6.5
14	San Jose - Madrid	781	2 176	5.0
15	Paramaribo - Amsterdam	763	2 126	5.0
16	London(Gatwick) - Antigua	756	2 470	5.8
17	Paris(CDG) - Caracas	722	2 222	5.5
18	Madrid - Cancun	719	2 170	5.4
19	Paris(CDG) - Bogota	714	1 470	3.5
20	Lima - Amsterdam	712	2 106	5.3
21	Frankfurt - Caracas	708	2 657	6.5
22	Mexico City - Frankfurt	708	1 458	3.5
23	Mexico City - Amsterdam	704	1 961	5.0
24	Rome(Fiumicino) - Caracas	704	1 774	4.5
25	Paris(CDG) - Havana	678	2 006	5.3
	Total above routes	32 019	108 039	6.0
	All other routes	22 838	54 526	4.2
	TOTAL	54 857	162 565	5.3

^{1/} Both directions.

^{2/} OAG data

