



**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

**THE MIDDLE EAST AIR NAVIGATION PLANNING  
AND IMPLEMENTATION REGIONAL GROUP  
(MIDANPIRG)**

**REPORT OF THE SECOND MEETING OF THE  
TRAFFIC FORECASTING SUB-GROUP**

**(Cairo, 1 – 3 May 2006)**

The views expressed in this Report should be taken as those of the MIDANPIRG TF SG/2 and not of the Organization. This Report will, however, be submitted to the MIDANPIRG and any formal action taken will be published in due course as a Supplement to the Report.

Approved by the Meeting  
and published by authority of the Secretary General

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TF SG/2  
History of the Meeting

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## **PART I – HISTORY OF THE MEETING**

### **1. PLACE AND DURATION**

1.1 The Second Meeting of the MIDANPIRG Traffic Forecasting Sub-group (TF SG/2) was held at the meeting room of the ICAO Middle East Regional Office, Cairo, 1 - 3 May 2006.

### **2. OPENING**

2.1 Mr. M. Khonji, ICAO Regional Director, addressed the opening session and welcomed participants to the MID Regional Office and to the meeting. He reminded participants that the Ninth Meeting of the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG/9) has adopted recommendations made by the Sub-group at its First Meeting. He briefly outlined the objective of the meeting, namely to develop forecast and other planning analyses to support regional air navigation planning and implementation processes. Mr. Khonji ended his opening remarks by wishing that this meeting be a successful and fruitful meeting.

### **3. ATTENDANCE**

3.1 The meeting was attended by a total of 19 participants from 7 States (Bahrain, Egypt, Jordan, Oman, Pakistan, Saudi Arabia, Sudan and Syria) and one Organization (IATA).

### **4. OFFICERS AND SECRETARIAT**

4.1 The meeting was chaired by Mr. Saleem Mohamed Hassan, Chief Air Traffic Management from Bahrain. Mr. E. Gngang, RO/AT served as Secretariat of the meeting.

### **5. LANGUAGE**

5.1 The discussions were conducted in English. Documentation was issued in English.

### **6. AGENDA**

6.1 The following agenda was adopted:

- Agenda Item 1: Adoption Of Provisional Agenda
- Agenda Item 2: Review Of The Conclusions And Decisions Made By MIDANPIRG/9 In Connection With The TF SG
- Agenda Item 3: Review of Updated Forecast
- Agenda Item 4: Peak-Period Analysis
- Agenda Item 5: Presentations By States
- Agenda Item 6: Future Work Programme
- Agenda Item 7: Any Other Business

**7. CONCLUSIONS AND DECISIONS – DEFINITION**

7.1 All MIDANPIRG Sub-groups and Task Forces record their actions in the form of Conclusions and Decisions with the following significance:

- a) **Conclusions** deal with matters which, in accordance with the group's terms of reference, merit directly the attention of States on which further action will be initiated by ICAO in accordance with established procedures; and
  - b) **Decisions** deal with matters of concern only to MIDANPIRG and its contributory bodies.
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**PART II: REPORT ON AGENDA ITEMS**

**REPORT ON AGENDA ITEM 1: ADOPTION OF PROVISIONAL AGENDA**

1.1 The meeting reviewed the Provisional Agenda and adopted it as in paragraph 6.1 of the History of the Meeting.

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**REPORT ON AGENDA ITEM 2: CONCLUSIONS MADE BY MIDANPIRG IN CONNECTION WITH THE TRAFFIC FORECASTING SUB-GROUP**

2.1 Under this agenda item, the meeting was presented with the conclusions adopted by MIDANPIRG/9 in connection with traffic forecasting activities in the MID region at **Appendix 2A** to the report on Agenda Item 2. MIDANPIRG/9 Conclusion 9/58 which is a consolidation of former MIDANPIRG Conclusions 6/22, 6/32, 7/43 and 8/58 dealt with the membership and the composition of the Sub-group and the identification of the support which States are expected to extend to the forecasting activities in the region. A list of follow up actions of MIDANPIRG/9 conclusion taken by the Secretariat was outlined.

2.2 It was suggested, during the discussion, that States be required to supply analyzed data to ICAO. The meeting decided to stick to the format approved by MIDANPIRG until a new format is proposed and approved. In the mean time, States will continue to send raw data in the format agreed at its first meeting to ICAO.

2.3 The meeting agreed that MID States be encouraged to host workshops and seminars in a view to improve traffic forecasting capabilities of the region. During these workshops/seminars, issues, such as defining a format of the analysed data to be supplied by States, could be discussed and possibly presented to MIDANPIRG as an amendment to MIDANPIRG/9 Conclusion 9/58.

2.4 The meeting noted the information provided in the working paper and agreed to reiterate MIDANPIRG/9 Conclusion 9/58 as the basis of its work programme.

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TF SG/2  
Appendix 2A to the Report on Agenda Item 2

**MIDANPIRG/8 CONCLUSIONS/DECISIONS RELATING TO THE TRAFFIC FORECASTING FIELD**

CONCLUSIONS/ DECISIONS	ACTION TAKEN	REMARKS
<p><b>CONCLUSION 9/58: TRAFFIC FORECASTING REQUIREMENTS IN THE MID REGION</b></p> <p>That,</p> <ul style="list-style-type: none"> <li>a) Membership of the Traffic Forecasting Sub-Group shall include all members of MIDANPIRG and that meetings of the Sub-group shall be open to all MID States;....</li> <li>b) the Secretariat coordinates with other international and regional organizations; including IATA, with a view to establishing a MID database to support regional traffic forecasting activities;</li> <li>c) MID States continue their support to the TF SG by ensuring that their respective nominees to the membership of the Sub-group include, as much as possible, forecasting experts, air traffic management experts and, when required, financial analysts to carry out business case and cost/benefit analyses;</li> <li>d) MIDANPIRG and its subsidiary bodies clearly identify the data they require for the efficient development and implementation of regional air navigation plans;</li> <li>e) MID States continue to avail required FIR and other data to the Sub-group in the format agreed by the TFSG to facilitate the development of forecasts and other air navigation planning and implementation parameters; and</li> <li>f) the Secretariat continue organizing workshops, seminars and other training programmes with a view to upgrading regional traffic forecasting capabilities.</li> </ul>	<p>Actioned</p> <p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p>	<p>Action by States</p> <p>Action by States</p> <p>Action by States</p>

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**REPORT ON AGENDA ITEM 3: REVIEW OF UPDATED FORECAST**

3.1 Under this agenda item the meeting was presented with a set of updated forecasts of passenger and aircraft movements up to year 2020. In this regard, the meeting was informed that the basic raw data used for the development of the forecast is extracted from ICAO database, airline schedules and the Official Airline Guide (OAG).

3.2 The meeting was informed that, due to ICAO budgetary constraints the Air Transport Bureau is undergoing a major structural reorganization resulting in the reorganization of some of its branches and sections that will have a significant impact on the Sub-group activities as, ICAO Headquarter will no longer be able to participate in the activities of the regional forecasting groups.

3.3 The meeting noted and adopted the updated forecasts as in **Appendix 3A** to the report on Agenda Item 3, for presentation to MIDANPIRG/10.

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**PRELIMINARY AIRCRAFT MOVEMENT FORECASTS  
FOR THE MIDDLE EAST REGION**

May 2006

**PREPARED BY:  
ECONOMIC ANALYSIS AND DATABASES SECTION  
INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO)**

## 1. INTRODUCTION

1.1 The MIDANPIRG Traffic Forecasting Sub-Group (TF SG) superseded, in 2004, the Middle East Traffic Forecasting Group (MER TFG) which was set up in 1998 with the objective of developing traffic forecasts and other planning parameters in support of the planning of air navigation services in the AFI region. The TF SG has, so far, held one meeting in September 2004.

1.2 This report provides forecasts prepared by the Economic Analysis and Databases section of ICAO Secretariat for discussion by the TF SG at its meeting in Cairo from 1 to 3 May 2006.

## 2. GLOBAL OUTLOOK

### 2.1 Economic Trends and Prospects

2.1.1 The demand for air passenger travel is primarily determined by income levels and demographics, and the cost of air travel. World energy demand, supply and prices are critically important both to economic progress and to the cost of travel. Hence, the airline industry is highly vulnerable to economic cycles and fluctuations in fuel prices.

2.1.2 Between 1994 and 2004, 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 high of 4.4 per cent for Asia/Pacific to a low of 2.3 per cent for Europe. Between 1994 and 2004, the world population increased at an average annual rate of 1.3 per cent. Hence, the world's GDP per capita increased, during the same period, at an average annual rate of 2.1 per cent.

2.1.3 The world economy is expected to grow by 4.3, 4.4 and 4.2 per cent in 2005, 2006 and 2007, respectively. Over the long period up to 2020, the world economy is projected to grow at an average annual rate of 3.0 per cent in real terms.

2.1.4 The reasonably positive economic outlook augurs well for global traffic demand over the forecast period.

### 2.2 Historical Traffic Trends

2.2.1 Total scheduled airline traffic, measured in terms of total tonne-kilometres performed, grew at an average annual rate of 5.3 per cent between 1994 and 2004. Passenger-kilometres grew at an average rate of 5.1 per cent per annum and freight tonne-kilometres at nearly 6.1 per cent per annum.

2.2.2 In broad terms, the pattern of traffic growth over the 1994-2004 period was a reflection of economic conditions experienced over this period. The economic slowdown in 1991 had a serious effect on air traffic. The recovery in traffic in 1992, which occurred despite continuing poor economic performance, was achieved at a cost of significantly reduced revenue yield. Although real yields declined further in 1993 and 1994, the stimulating effect on traffic demand was less dramatic than had been the case in 1992. On the other hand, economic growth began to provide a more solid foundation for traffic growth. These trends continued until 1997 but reversed in 1998 when GDP grew at only 1.9 per cent, providing for a simultaneous growth of total scheduled passenger traffic of only 2.1 per cent. In 1999 and 2000, traffic increased by 6.5 and 8.6 per cent respectively, supported by the strong performance of the world economy. The economic downturn and related decline in business and consumer confidence had a negative impact on traffic in late 2000 and in 2001, when the events of 11 September exacerbated an already difficult situation. As a result, traffic declined in 2001 by 2.9 per cent, the first decline since 1991 and only the second since 1945. In 2002, demand for air travel remained depressed and traffic grew at only 0.5 per cent.

Following declines in the first part of the year due to the outbreak of the Severe Acute Respiratory Syndrome (SARS) and the war in Iraq, traffic rebounded in the second part of 2003 and increased by 1.8 per cent for the whole year. In 2004, traffic recovery continued, mainly of the airlines in the Asia/Pacific region, the worst affected by the SARS outbreak. It was supported by improved performance of some regional economies (Africa, Asia/Pacific, Europe, North America, Latin America/Caribbean) and sustained performance of the Middle East economy, and to some extent by marginal decline of cost of travel expressed in real terms. Traffic recovered strongly in 2004 and 2005 with growth rates of 14 and 7.4 per cent respectively due mainly to strong GDP growth rates of 5.1 and 4.3 per cent respectively. However, the average annual growth during the period 2000–2005 is 4 per cent.

### 2.3 Air Passenger Traffic Forecast

2.3.1 The global scheduled passenger traffic forecasts for 2006 and 2007 and over the period to the year 2015 have been developed based on the economic and yield assumptions. According to those forecasts the general economic performance provides the main factor affecting traffic demand. Global passenger traffic measured in terms of passenger-kilometres is expected to grow by 6.5 per cent in 2006 and 6.2 per cent in 2007. The ICAO long term forecast over the period 2002-2015 provides for an average annual increase of 4.4 per cent.

## 3. OUTLOOK FOR THE MIDDLE EAST REGION

### 3.1 Economic Trends and Prospects

3.1.1 The economy of the Middle East region has been characterized by some pronounced cycles over the past decade. With political and economic stability in the region, GDP growth comparatively low (1.6 per cent) in 1994 regained its momentum in 1995 which was sustained, varying in strength, for the following nine years. In 2004, the economy achieved a rate of 5.5 per cent in real GDP growth, well above the 5 per cent level for the second consecutive year, benefiting from higher oil prices. Political instability and tensions continued to have a marked negative influence on tourism and air travel to and from the region. Over the period concerned, the aggregate GDP for the Middle East grew at an average annual rate of 4.1 per cent in real terms, while GDP per capita averaged a 1.8 per cent growth rate per annum.

3.1.2 Having shown some resilience to geopolitical tensions and conflicts, the Middle East economy is expected to maintain a higher than world average growth through to the end of the forecast period. The GDP for the region is expected to increase at an average annual rate of 4.5 per cent for the 2004-2010 period and 3.5 per cent for the period 2010-2020.

### 3.2 Middle East Airlines Air Passenger Traffic Trends and Forecast

3.2.1 Scheduled passenger traffic (in PKPs) of *the airlines of the Middle East region* increased at an average annual rate of 9.1 per cent over the 1994-2004 period, substantially higher than the world average. After a slowdown in 2001, traffic rebounded and increased by 9.7 per cent in 2002, 12.7 per cent in 2003 and 23.8 per cent in 2004.

3.2.2 Scheduled passenger traffic for the airlines of the Middle East region is expected to grow by 12 per cent in 2006 and 8.8 per cent in 2006. These rates reflect an expected good economic performance in the region. The long term average annual growth rate to the year 2015 is anticipated to be 6.4 per cent, the highest growth among all regions.

## 4. GEOGRAPHICAL SCOPE AND HISTORICAL DATA

### 4.1 Geographical Scope

4.1.1 In order to facilitate the group's work and the forecasting process, the following major route groups to, from and within the Middle East Region have been identified:

- Between Middle East - Europe
- Between Middle East - Africa
- Between Middle East - Asia/Pacific
- Between Middle East - North America
- Intra Middle East

### 4.2 Historical Passengers Traffic on Major Identified Route Groups

4.2.1 It is estimated that the air traffic on the identified five major route groups to, from and within the Middle East region increased from some 20.0 million in 1993 to more than 50 million passengers in 2004 at an average annual growth rate of 8.5 per cent. The annual passengers carried and growth rates for each of the route groups concerned are illustrated in **Table 1**.

**TABLE 1**  
**Traffic By Major Route Group - 1993 -2004**  
(thousand passengers)

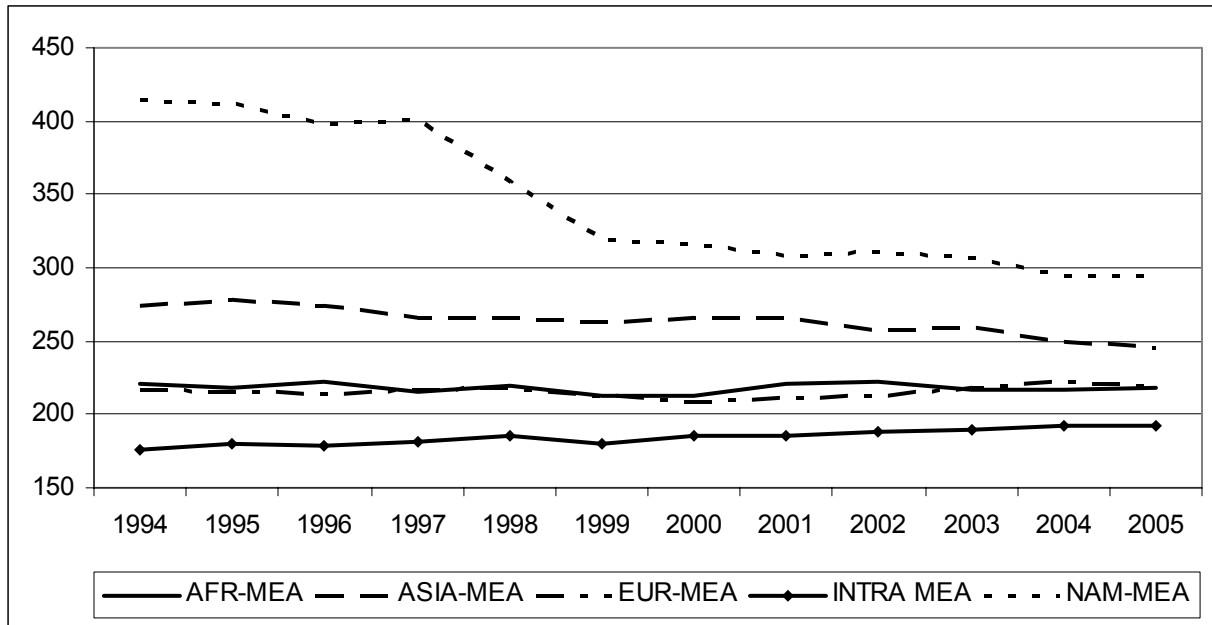
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Average Annual Growth (1993-2004) (per cent)
AFR-MEA Growth (per cent)	3192	3412	3419	3703	3955	4113	4179	4162	4275	4676	5205	6522	6.7
ASIA-MEA Growth (per cent)	5339	6369	7561	8180	8786	9181	9676	10682	11163	11844	12922	15261	10.0
EUR-MEA Growth (per cent)	8300	8342	8959	9917	10542	11490	12008	12897	13077	13116	14389	16547	6.5
INTRA MEA Growth (per cent)	2350	3261	3809	4282	4958	6511	6654	7033	7350	8592	8961	10377	14.5
NAM-MEA Growth (per cent)	1300		1398	1318	1362	1040	1081	1178	1025	960	1230	1536	1.5
TOTAL Growth (per cent)	20481	21385	25146	27401	29603	32335	33598	35953	36890	39188	42706	50243	8.5

4.2.2 In 2004, the highest passenger share occurred in the Middle East-Europe route group, followed by Middle East-Asia, Intra Middle East, Middle East-Africa, and Middle East-North America route groups.

### 4.3 Historical Average Aircraft Seat Size on Major Identified Route Groups

4.3.1 During the 1994-2005 period, the average aircraft size has decreased on the Middle East - Asia Pacific and Middle East North America route groups from 274 to 245 and from 414 to 294 seats per aircraft, respectively. This average has fluctuated in the range of 210-220 seats per aircraft for the Middle East Africa and the Middle East-Europe route groups while it has increased from around 175 to 190 seats per aircraft for the Intra-Middle East route group, during the same period. The historical trends of the average aircraft size by route group is provided in Figure 1 below.

**FIGURE 1**  
**Average aircraft size by route group**



**4.4 Historical Load Factor on Major Identified Route Groups**

4.4.1 All route groups experienced increases in the Load Factors during the period 1993 to 2004. The highest load factors are those achieved on the Middle East-North America and Middle East-Asia route groups followed by load factors on the Middle East – Europe route group. Load factors on the Middle East-Africa and Intra-Middle East route groups are the lowest.

4.4.2 The historical trends in load factors for the route groups concerned are presented in **Table 2** below.

**TABLE 2**  
**LOAD FACTORS FOR THE YEARS 1993-2004**

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
AFR-MEA	57.5	56.4	57.2	58.9	58.9	59.5	58.5	58.3	61.1	63.8	65.1	68.7
ASIA-MEA	66.2	63.3	63.8	61.5	65.4	67.5	66.1	68.9	69.7	72.7	69.8	72.1
EUR-MEA	62.2	59.7	60	63.8	65.9	66.2	65.9	68.1	66.3	69.1	68.1	70.6
INTRA MEA	56.9	55.9	58.4	60.2	58.3	65.1	58.9	60	61.9	61.2	63.9	66.2
NAM-MEA	49.9	N.A.	N.A.	67	71.7	67.8	66.5	71.7	72.8	75.5	75.7	78.6

**4.5 Regional Economic Trends**

**Middle East**

4.5.1 The economic trends and prospects for the Middle East region have been discussed under paragraphs 3.1.1 and 3.1.2.

## Africa

4.5.2 Over the 1994 - 2004 period, the aggregate economy of the African region grew at an average annual rate of 3.7 per cent, while GDP per capita increased at a rate of 1.3 per cent per annum in real terms. Factors such as greater macroeconomic stability, modest progress in liberalizing markets and privatizing state enterprises helped the region's improved economic performance significantly. Favourable external conditions such as the rapid growth in world trade, surging private capital flows and a mini-boom in commodity prices (1994–1995) also helped. After achieving a GDP growth of 5 per cent in 1996, the aggregate economy witnessed a decline in growth rates through to 1999. The years 2000 through 2002 were not very impressive in terms of growth rates either. The contributing factors for these declines include increases in oil prices, the resurgence of civil conflict, and the losses from terms of trade resulting from weak commodity prices. The aggregate African economy is estimated to have grown at 5.1 per cent in 2004 compared to 4.6 per cent in 2003. It is anticipated to grow at an average annual growth rate of 3.6 per cent over the period 2004-2010 and 3.1 per cent over the period 2010-2020.

## Asia/Pacific

4.5.3 Over the 1994 - 2004 period, the aggregate economy of the Asia/Pacific region grew at an average annual rate of 4.4 per cent in real terms, and GDP per capita increased at 3.0 per cent per annum. Asia/Pacific has achieved the largest share in the world economy and has also been the fastest growing region despite a slowdown and recession when GDP growth dropped from 3.9 per cent in 1997 to –0.3 per cent in 1998. Following a financial crisis, the region regained its economic strength and GDP continued to grow well above the world average even in 2001 (3.9 per cent) despite a global slowdown that year. In 2002, the region's economy grew by about 4.6 per cent. Despite the adverse effects of the SARS outbreak in the first half of 2003, the economy bounced back in the second half of the year with a surge in domestic demand coupled with export growth boosted by increased global activity, the upturn in demand for high technology goods, favourable exchange rates, higher consumer confidence and a boost in tourism and registered a growth rate of 5.9 per cent for 2003. The region's GDP grew at 6.5 per cent in 2004, the highest growth rate among ICAO regions.

4.5.4 Asia/Pacific GDP expressed in real terms is projected to grow at an annual average growth rate of about 4.5 per cent over the period 2004-2010 and 4.0 per cent between 2010 and 2020.

## Europe

4.5.5 The aggregate economy of the European region went into decline starting in 1990, the primary reason being the serious contractions of the economies of Eastern Europe and the Commonwealth of Independent States (CIS). By 1997, total output was back to where it had been in 1989, but masked a persistent divergence between countries in Western and Eastern Europe. Over the 1994 - 2004 period, the GDP for the entire region (including the CIS), grew at an average annual rate of 2.3 per cent in real terms while the aggregate GDP per capita grew at a rate of about 1.9 per cent. It is estimated that the European economy grew by 3.2 per cent in 2004, to which the European Union contributed 2.5 per cent. Economies of Central and Eastern European countries grew in the aggregate at around 6.1 per cent while those of the CIS grew faster, at 8.2 per cent.

4.5.6 The aggregate European economy is expected to grow at 2.3 per cent per annum over the period 2004-2020.

## North America

4.5.7 Over the 1994–2004 period, the economy of the North American region grew at an average annual rate of 3 per cent in real terms and GDP per capita increased at 2.1 per cent. The U.S. economic expansion, which began in 1991, has been the longest since 1945. By the end of 2000, an economic slowdown had affected economic activities, with a worsening impact after the events of 11 September 2001. As a result, the year 2001 saw GDP growth of 0.4 per cent only. In the years 2002 to 2004 the region’s economic growth showed a steady recovery with growths of 2.3, 2.9 and 4.2 per cent respectively.

4.5.8 The economy of the region is expected to grow at the annual growth rates of 2.9 and 2.5 per cent over the periods 2004-2010 and 2010-2020 respectively.

4.5.9 **Table 3** depicts the trends in the economic growth rates for the period 1993-2004.

**TABLE 3**  
**ANNUAL GDP GROWTH RATES OF RESPECTIVE REGIONS**  
 (Per Cent)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>NAM</b>	3	3.6	2	2.6	3.8	4.2	4.2	4.1	0.4	2.5	3	4.2
<b>EUR</b>	-3.2	0.1	2	2.5	2.8	2.5	2.3	3.8	1.8	1.3	1.3	3.2
<b>ASIA/PAC</b>	3.7	4.3	5	3.3	2.1	-0.3	3.5	5.7	3.9	4.8	6	6.5
<b>AFR</b>	1.1	2.4	2.9	5	3.4	3.1	2.7	3.1	3.6	3.4	4.1	5.1
<b>MEA</b>	3.8	1.6	3.8	5.2	3.2	2.7	2.5	5.4	3.9	3.9	5.4	5.5

## 5. METHODOLOGY

5.1 The demand for air travel is primarily determined by economic developments, notably the growth of world and regional income levels as measured by the aggregate economic activities (GDP), demographic trends, and the cost of air travel measured by airline yields (gross passenger revenue per passenger kilometre flown). It is also assumed that the political and general economic climate are conducive to growth, however, no specific assumptions are made about possible political and economic scenarios beyond those implicit in the basic GDP growth rates forecast. World energy demand, supply, and prices are important to both economic progress and to the cost of air travel. It is assumed that during the forecast period there will be no major disruptions in the availability of fuel, or significant fluctuations in fuel costs for the airlines.

5.2 Econometric models were developed wherever possible to understand the cause and effect relationship between traffic and other causal factors. It was recognized, however, that even where models were developed, the forecasts should incorporate a significant element of judgement.

5.3 In route groups where consistent data were not available, forecasts were developed based on general assessments of traffic trends, economic and other relevant factors.



5.4 Forecasts of aircraft movements in a particular route-group can be derived from forecasts of passengers and assumptions about future trends in load factors and average aircraft size. The link between these variables is given by:

$$\text{Aircraft movements} = \frac{\text{passenger numbers}}{(\text{passenger/seats}) \cdot (\text{seats/aircraft})}$$

$$\frac{\text{passenger numbers}}{(\text{load factor}) \cdot (\text{aircraft size})}$$

5.5 Judgements would be necessary about whether gradual improvements in load factors could be expected from marketing initiatives and yield programs. Assumptions were made about future trends in average aircraft size based on expectations about the types of aircraft that might be introduced to the route over the forecast period. Historical trends as well as data concerning aircraft orders were also factored into the development of future trends.

5.6 Having established the aircraft movement growth rates for each of the route-groups concerned, in the manner described above, aircraft movement forecasts for the year 2020 were estimated. These forecasts were developed for each of the major route groups concerned using the 2005 OAG (Official Airline Guide) data as the base year.

## 6. PASSENGER TRAFFIC FORECASTS

6.1 Based on the methodology described above, passenger traffic forecasts were developed for the major route groups concerned. The traffic to, from and within the Middle East region on the five major route groups concerned for the period 2004-2020 is expected to increase at an average annual rate of 8.3 per cent. The Intra-Middle East route group is expected to experience the highest average annual growth rate of 12.7 per cent per annum, followed by Asia/Pacific-Middle East, Africa-Middle East, Europe-Middle East and North America-Middle East route groups with growth rates of 7.1 per cent, 6.7 per cent, 6.2 per cent and 3.0 per cent respectively for the period concerned as illustrated in **Table 4**.

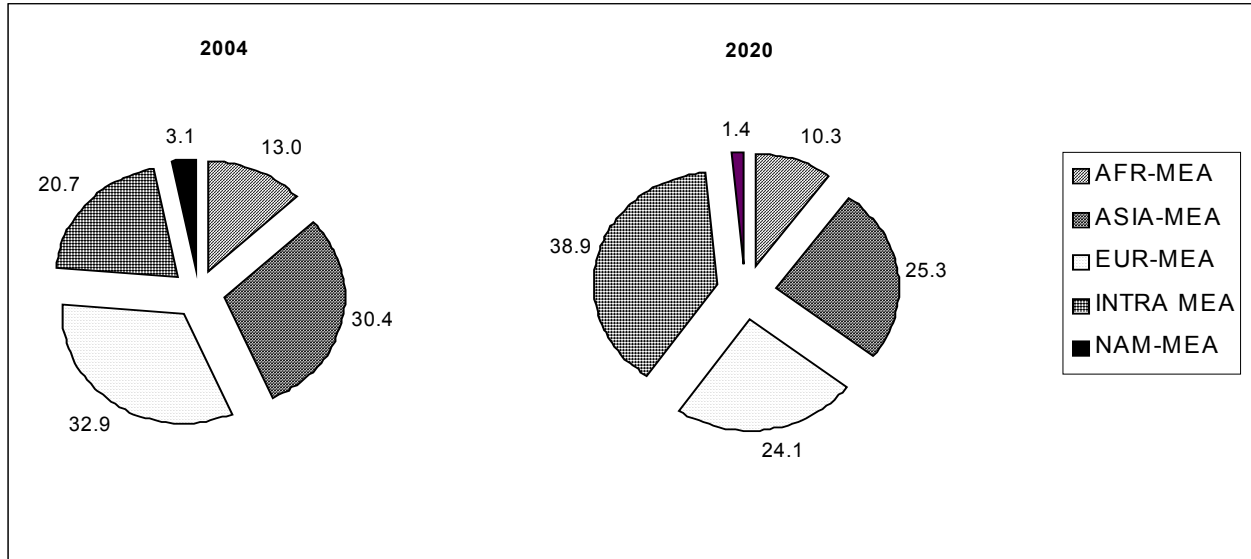
**TABLE 4**

**PASSENGER FORECAST TO THE YEAR 2020**  
(thousand passengers)

	Actual		Forecast		Average 1993-2004	Average 2004-2010	Annual (per cent) 2010-2020	Annual (per cent) 2004-2020
	1993	2004	2010	2020				
<b>AFR-MEA</b>	3192	6522	9679	18512	6.7	6.8	6.7	6.7
<b>ASIA-MEA</b>	5339	15261	24488	45537	10	8.2	6.4	7.1
<b>EUR-MEA</b>	8300	16547	25112	43304	6.5	7.2	5.6	6.2
<b>INTRA MEA</b>	2350	10377	23753	69916	14.5	14.8	11.4	12.7
<b>NAM-MEA</b>	1300	1536	1834	2465	1.5	3	3	3
<b>TOTAL</b>	20481	50243	84866	179734	8.5	9.1	7.8	8.3

6.2 These forecasts result in a change in the shares of the various route groups in terms of passenger traffic as depicted in **Figure 2**.

**FIGURE 2**  
**Shares of selected route groups in passenger traffic**



## 7. FORECASTS OF AIRCRAFT MOVEMENTS

7.1 In order to develop aircraft movements forecasts for the major route groups assumptions were made regarding the evolution of the average aircraft size and load factors. These assumptions are depicted in Table 5.

**TABLE 5**

**ASSUMPTIONS ON THE EVOLUTION OF THE AVERAGE AIRCRAFT SIZE AND LOAD FACTOR OVER THE 2004-2020 PERIOD**

	1994	2005	2020			1993	2004	2020
<b>AFR-MEA</b>	221	218	220		<b>AFR-MEA</b>	57.5	68.7	73
<b>ASIA-MEA</b>	274	245	250		<b>ASIA-MEA</b>	66.2	72.1	77
<b>EUR-MEA</b>	216	219	220		<b>EUR-MEA</b>	62.2	70.6	75
<b>INTRA MEA</b>	176	192	200		<b>INTRA MEA</b>	56.9	66.2	70
<b>NAM-MEA</b>	414	294	300		<b>NAM-MEA</b>	49.9	78.6	80

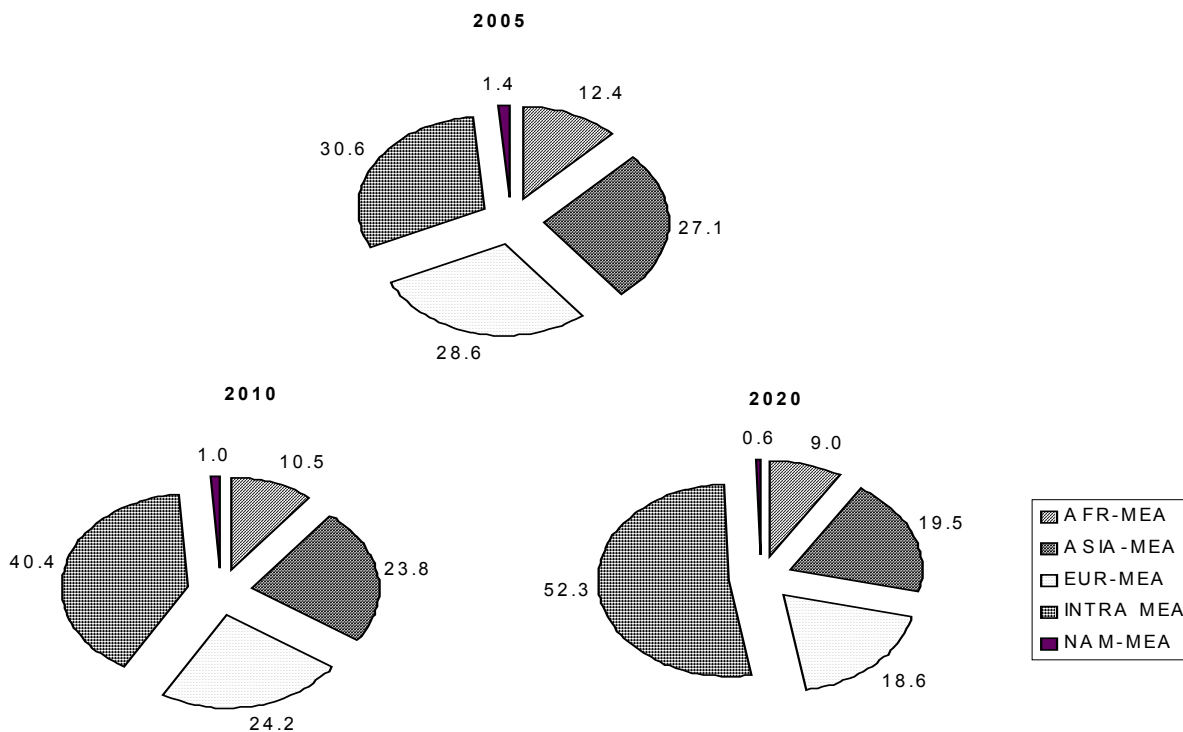
7.2 Using the methodology described above, movement forecasts for the major route groups for the 2004-2020 period are depicted in Table 6.

**TABLE 6**  
**AIRCRAFT MOVEMENTS FORECAST TO THE YEAR 2015**

	Actual		Forecast		Average 2004-2010	Annual (per cent) 2010-2020	Growths 2004-2020
	2004	2005	2010	2020			
	<b>AFR-MEA</b>	52412	59519	81200			
<b>ASIA-MEA</b>	117826	129862	183500	325300	7.7	5.9	6.6
<b>EUR-MEA</b>	125877	137032	186700	310000	6.8	5.2	5.8
<b>INTRA MEA</b>	140640	146687	311600	872000	14.2	10.8	12.1
<b>NAM-MEA</b>	6343	6816	7500	9800	2.8	2.7	2.8
<b>TOTAL</b>	443098	479916	770500	1667100	9.7	8.0	8.6

7.3 The total aircraft movements to/from and within the Middle East region are estimated to increase from some 443000 in 2004 to around 1667000 in 2020 at an average annual growth rate of 8.6 per cent. The resulting movements' shares for the years 2005, 2010 and 2020 are depicted in Figure 3.

**FIGURE 3**  
**Shares of selected route groups in aircraft movements**



TF SG/2  
Report on Agenda Item 4

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**REPORT ON AGENDA ITEM 4: PEAK-PERIOD ANALYSES**

4.1 Under this agenda item, the meeting was presented with a detailed peak-period analysis of Muscat FIR for the period from July 2003 to May 2004. The paper highlighted peak-periods and aircraft movements from, to, and across Muscat FIR on a monthly and daily basis.

4.2 The meeting recalled that a similar analysis for Bahrain FIR was presented at its last meeting. This information would also serve as inputs to the database on the air traffic of the region.

4.3 The meeting agreed to adopt the peak-period analysis as in **Appendix 4A** to the report on Agenda Item 4, for presentation to MIDANPIRG/10.

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TF SG/2  
Appendix 4A to the Report on Agenda Item 4

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**MUSCAT FIR AIRCRAFT MOVEMENT ANALYSIS**  
**PERIOD: JULY 2003 – MAY 2004**

**Summary Results**

The analysis of the Muscat FIR traffic data for the period July 2003 – May 2004 shows the following results:

Total traffic:	184751	aircraft movements	
Average monthly traffic:	16795	aircraft movements	
Highest monthly traffic:	19478	aircraft movements	January 2004
Lowest monthly traffic:	14427	aircraft movements	October 2003
Average daily traffic:	563	aircraft movements	
Highest daily traffic:	708	aircraft movements	11/01/2004
Lowest daily traffic:	463	aircraft movements	03/10/2004

It should be noted that data were not available for the four day period 6-9 March 2004.

**Monthly and Daily Traffic Distribution**

Figure 1 below shows the monthly distribution of traffic. Traffic variability is medium since monthly traffic ranges from about 15000 to about 20000 aircraft movements a month. The highest month is January 2004 and the lowest month is October 2003.

**Figure 1**

**Muscat FIR Monthly Traffic**  
01 July 2003 - 31 May 2004

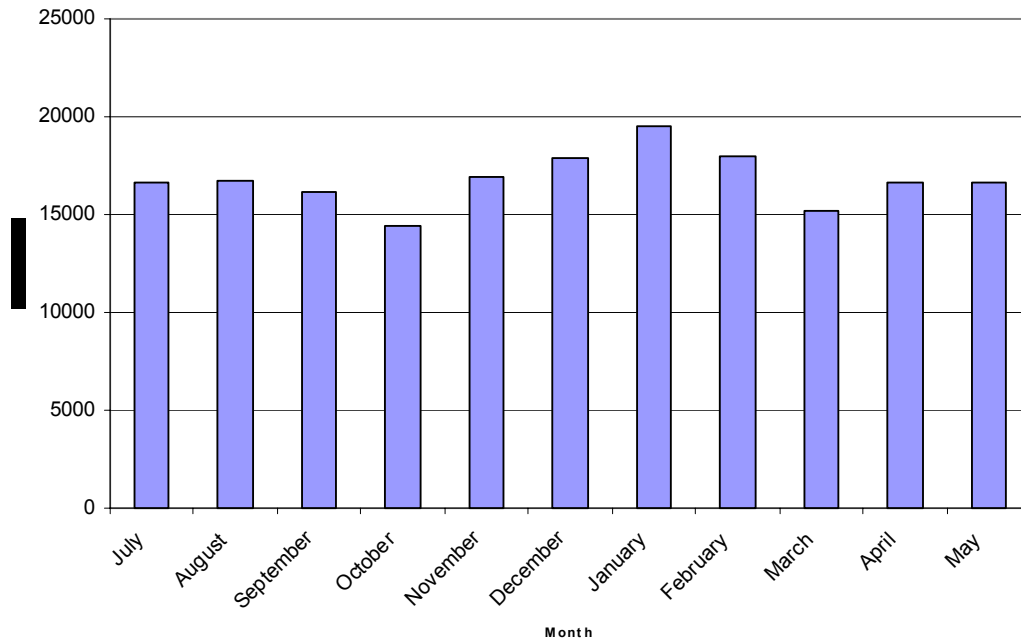


Figure 2 shows the daily distribution of traffic. It shows a steady weekly pattern, with a daily aircraft movements traffic hovering between 500 and 600. This pattern peaks in the January-March 2004 period, with a daily aircraft movements traffic hovering between 600 and 700. The figure also shows that during the peak period, there is a significant dip in traffic from 26 January 2004 to 04 February 2004. This coincides with the period of the Hajj.

**Figure 2**

**Muscat FIR daily traffic  
01 July 2003 - 31 May 2004**

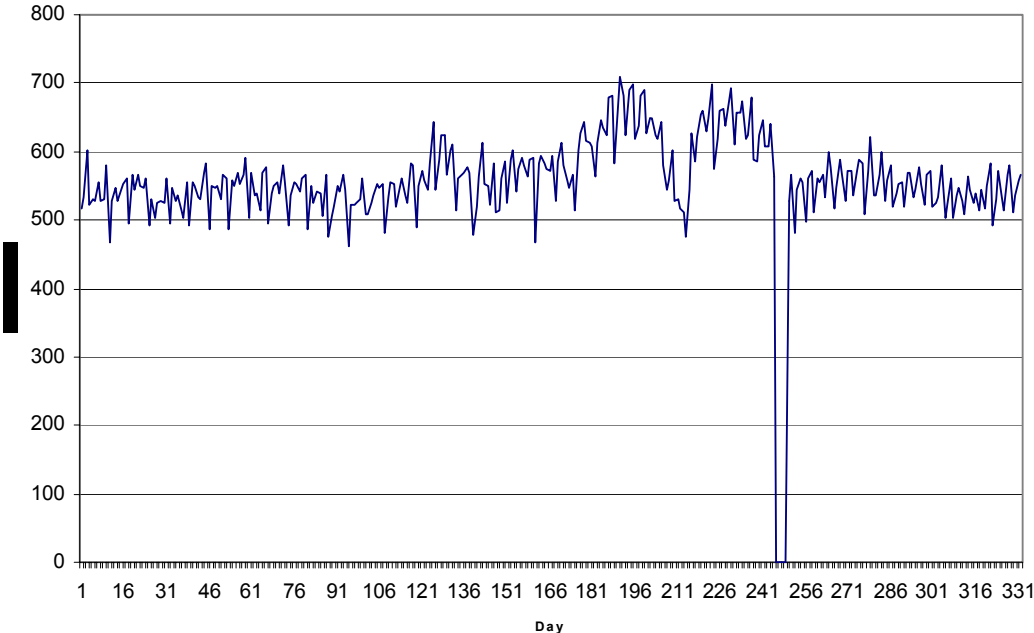
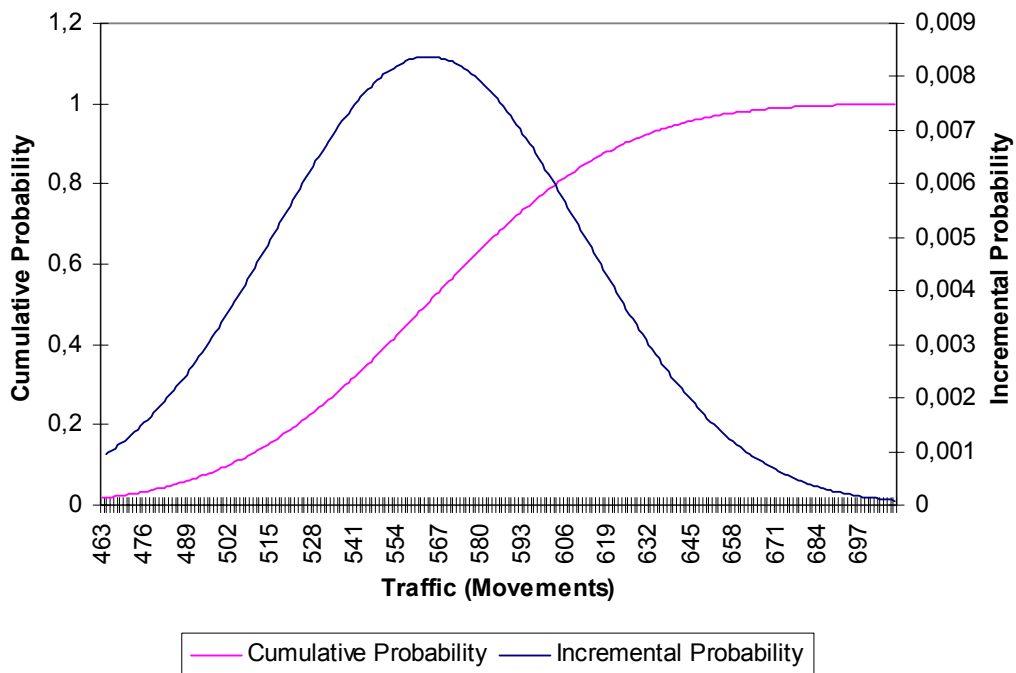


Figure 3 and Figure 4 show the theoretical and empirical distribution of traffic. The analysis of the distribution of traffic helps determine the probability of the daily traffic being at (or greater than) a certain value. The theoretical distribution is the Normal distribution, the mean of which is equal to the average daily traffic (563 movements) and the standard deviation of which is equal to the standard deviation of the daily traffic over the period concerned (48). The empirical distribution is build using the actual data. Both distributions provide similar results.

Figure 3

Muscat FIR Traffic

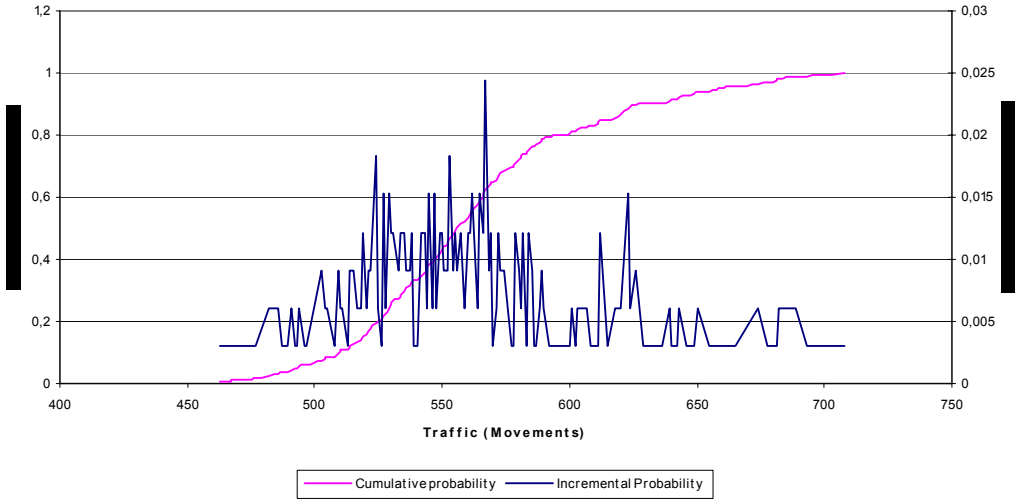




The theoretical distribution shows that there is a probability of 5 per cent that the daily traffic be greater than 642 movements and a 10 per cent chance that the daily traffic be greater than 625 movements and a probability of 20 per cent that the daily traffic be greater than 604 and a 25 per cent chance that the daily traffic be greater than 596 movements.

**Figure 4**

**Muscat FIR Traffic  
Empirical Probability Distribution**



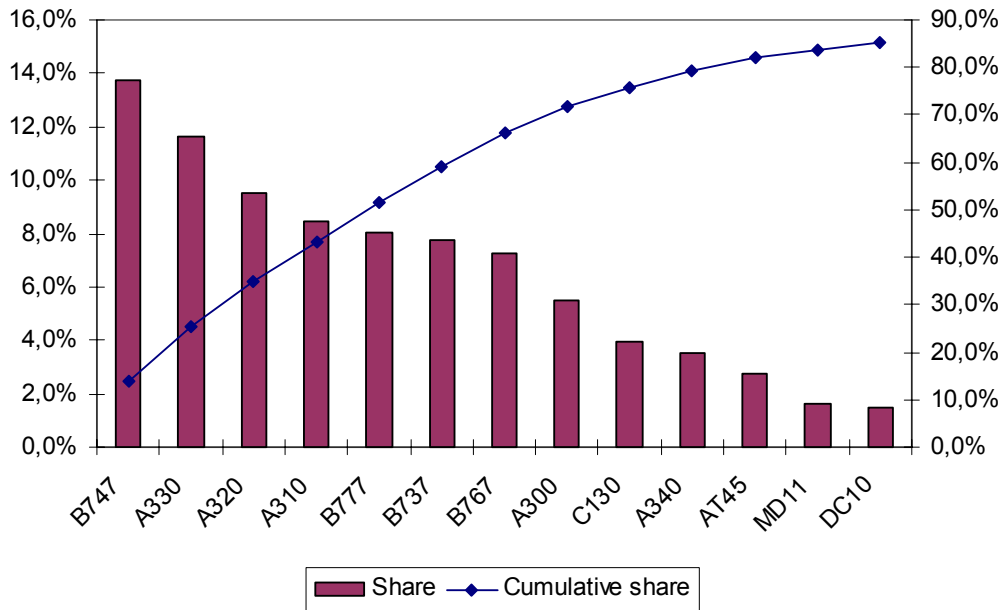
The empirical distribution shows that there is a probability of 5 per cent that the daily traffic be greater than 660 movements and a 10 per cent chance that the daily traffic be greater than 629 movements and a probability of 20 per cent that the daily traffic be greater than 598 and a 25 per cent chance that the daily traffic be greater than 584 movements.

**Traffic by Aircraft Type**

Figure 5 below shows the distribution of the total traffic by aircraft type. It shows that the most active aircraft type in the Muscat FIR is the Boeing 747 with a share of about 14 per cent followed by the Airbus 330, the Airbus 320, the Airbus 310, the Boeing 777, the Boeing 737 and the Boeing 767 with a share of about 12, 10, 9, 8, 8 and 7 per cent respectively. The seven aircraft types listed above represent about 66 per cent of the total aircraft movements. The detailed distribution is provided in the Appendix to this paper.

**Figure 5**

**Muscat FIR Traffic  
 Traffic Distribution by Aircraft Type  
 01 July 2003 - 31 May 2004**



**Traffic by Flight Classification**

The table below shows the distribution of traffic by flight classification:

Flight classification	Movements	Share (per cent)
Inbound	18881	10.2
Outbound	18685	10.1
Overflight	135614	73.4
Within FIR	11393	6.2
Non Specified	178	0.1
<b>Total</b>	<b>184751</b>	<b>100</b>

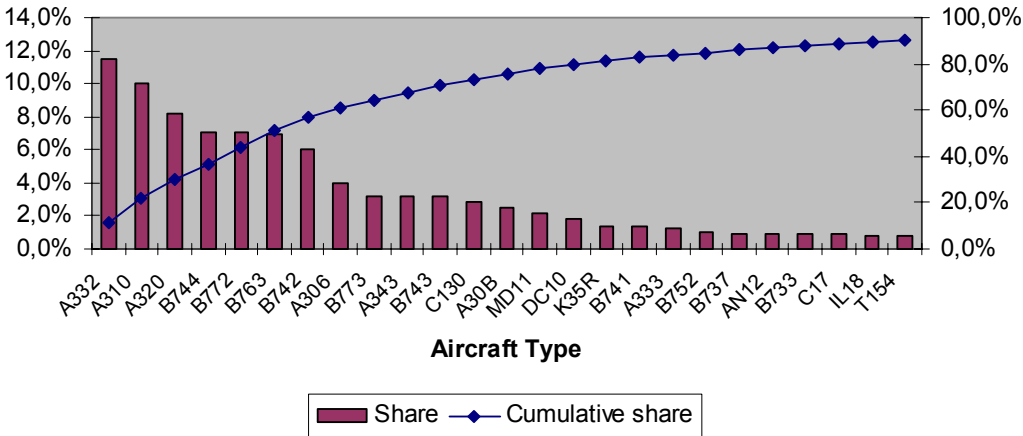
This table shows that traffic is dominated by the Overflight class.

**Traffic by Flight Classification and by Aircraft Type**

Overflight Traffic

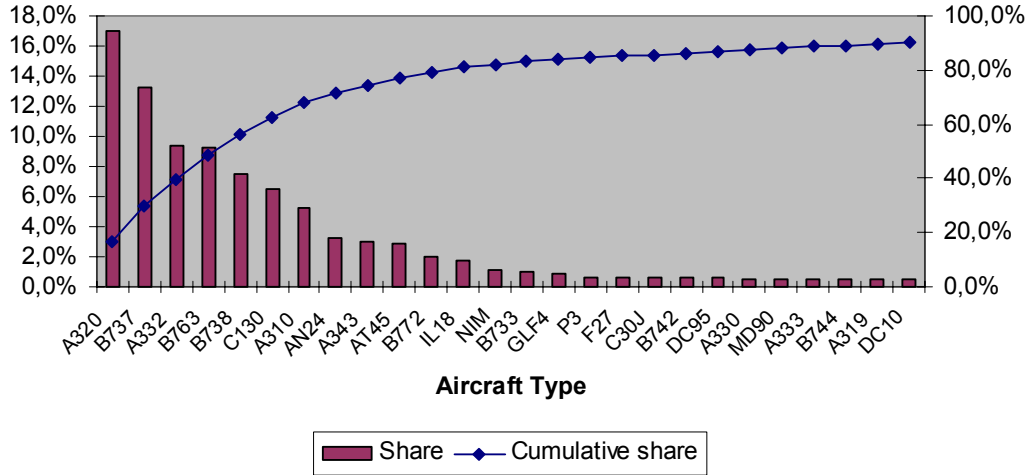
The main aircraft types for the overflight traffic are the A330-200, A310, A320, B747-400, B777-200, B767-300 and B747-200. Their share in the overflight traffic are 11.5, 10.1, 8.2, 7.1, 7.0, 6.9 and 6.0 per cent respectively. They all together represent 57 per cent of the overflight traffic.

**Muscat FIR**  
**Overflight Traffic Distribution by Aircraft Type**  
**01 July 2003 - 31 May 2004**

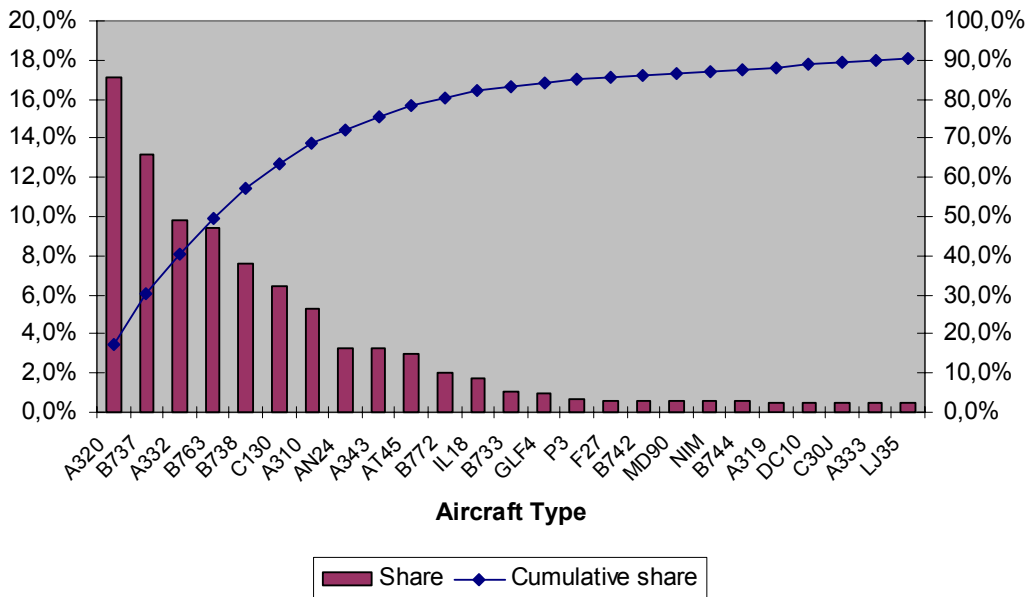


Inbound and Outbound traffic

**Muscat FIR**  
**Inbound Traffic Distribution by Aircraft Type**

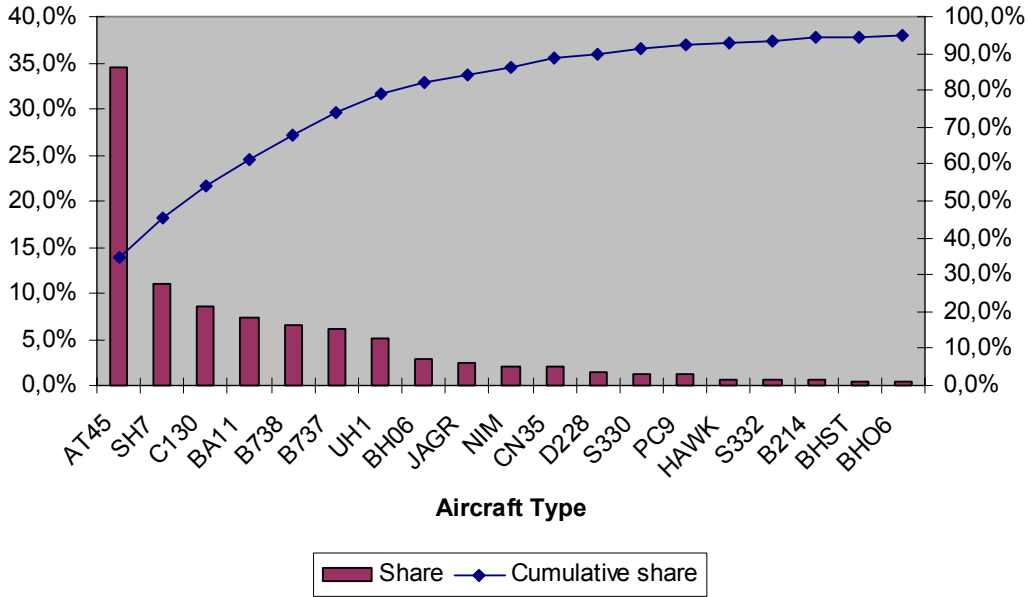


**Muscat FIR**  
**Outbound Traffic Distribution by Aircraft Type**  
**01 July 2003 - 31 May 2004**



Within FIR Traffic

**Muscat FIR**  
**Within FIR Traffic Distribution by Aircraft Type**  
**01 July 2003 - 31 May 2004**



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**REPORT ON AGENDA ITEM 5: PRESENTATIONS BY STATES**

5.1 Under this item, four (4) Working papers were presented by the delegation from Saudi Arabia. The presentation highlighted peak-period analyses of the Hajj season 2004-2005 and air traffic movement statistics of 2001-2005 in Jeddah FIR. The presentation also addressed peak-period analyses for seven (7) selected Saudi airports as well as General airport statistics in Saudi Arabia for the period of 2001-2005. A forecast of future trends for the period of 2006-2020 on airport and airway traffic was highlighted.

5.2 An information paper was also presented by the delegation from Saudi Arabia describing general information on airport traffic in Saudi Arabia including the trend of future traffic of aircraft movements, passenger and freight in Saudi Arabia.

5.3 The meeting noted the presentation with appreciation and decided to include the presented material as inputs as in **Appendix 5A** to the report on Agenda Item 5, for presentation to MIDANPIRG/10.

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والسلامة وحماية البيئة وحقوق المستهلكين



KINGDOM OF SAUDI ARABIA  
GENERAL AUTHORITY of CIVIL AVIATION

AIR TRAFFIC MANGMMENT

SAFETY FIRST



Appendix 5A to the Report on Agenda Item 5

TF SG/2

Appendix 5A

TF SG/2-REPORT



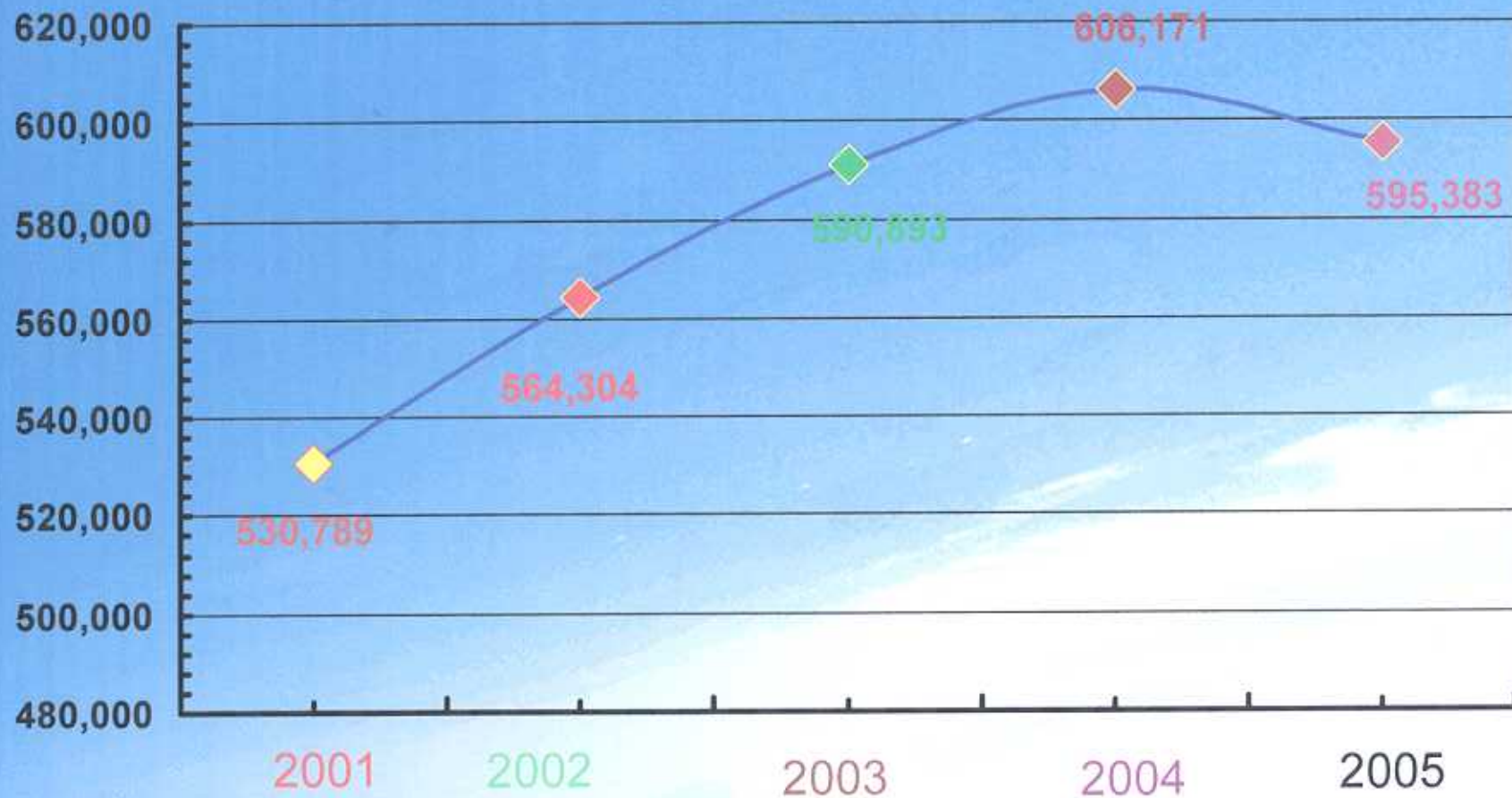




Seq.	AIRPORT	2001	2002	2003	2004	2005	TOTAL
1	KAIA	167,339	197,262	198,889	204,308	208,129	975,927
2	KKIA	80,943	80,614	80,190	83,061	90,771	415,579
3	KFLA	60,678	59,881	67,008	61,837	56,024	305,428
4	PMA	15,314	16,832	20,964	19,743	22,439	95,292
5	ABHA	64,162	64,822	63,301	64,642	41,178	298,105
6	KABAA	7,635	7,309	7,412	7,591	7,410	37,357
7	TAIF	25,139	28,479	32,616	32,462	30,238	148,934
8	GASSIM	5,673	5,088	5,912	6,188	6,066	28,927
9	HIAL	5,497	5,513	5,532	6,057	6,047	28,646
10	TABUK	29,280	26,578	32,711	51,043	56,496	196,108
11	YENBO	3,932	3,686	3,613	3,034	3,070	17,335
12	HASA	4,238	7,100	5,428	6,080	6,194	29,040
13	NEJLAN	4,532	4,324	4,450	4,304	4,488	22,098
14	JOUF	3,204	3,258	3,154	4,073	4,034	17,723
15	SHARURAH	2,076	1,745	1,700	1,874	1,673	9,068
16	BISHA	2,234	2,134	2,104	2,078	2,318	10,868
17	BAHA	1,841	1,882	1,926	1,992	2,101	9,742
18	W.ADAWASER	1,458	1,268	1,448	1,550	1,354	7,078
19	WAJH	1,002	1,140	1,692	1,465	4,207	9,506
20	QAISUMAH	1,426	1,679	1,162	1,218	1,262	6,747
21	GURIAT	1,496	1,556	1,656	1,864	1,756	8,328
22	TURAIIF	680	624	642	658	689	3,293
23	ARAR	2,198	2,236	1,736	2,300	2,234	10,704
24	RAFHA	1,028	1,030	988	1,006	924	4,976
25	R,MIL	25,129	25,227	30,421	20,852	19,259	120,888
26	KKMC	12,655	13,037	14,238	14,302	14,083	68,315
27	PSBAA	0	0	0	589	939	1,528
<b>TOTAL</b>		<b>530,789</b>	<b>567,304</b>	<b>590,893</b>	<b>606,171</b>	<b>595,383</b>	<b>2,887,540</b>
<b>G,Rate</b>		<b>-0,06</b>	<b>0,06</b>	<b>0,05</b>	<b>0,03</b>	<b>-0,02</b>	



# K . S . A AIR TRAFFIC MOVEMENTS STATISTICS FOR THE PERIOD OF 2001 TO 2005 G





Seq.	AIRPORT	2001	2002	2003	2004	2005	TOTAL
1	KAIA	167,339	197,262	198,889	204,308	208,129	975,927
	AIRPORT G. Rate	-16.1%	17.9%	0.8%	2.7%	1.9%	
2	KKIA	80,943	80,614	80,190	83,061	90,771	415,579
	AIRPORT G. Rate	5.8%	-0.4%	-0.5%	3.6%	9.3%	
3	KFIA	60,678	59,881	67,008	61,837	56,024	305,428
	AIRPORT G. Rate	-0.3%	-1.3%	11.9%	-7.7%	-9.4%	
4	PMA	15,314	16,832	20,964	19,743	22,439	95,292
	AIRPORT G. Rate	8.7%	9.9%	24.5%	-5.8	13.7%	
5	ABHA	64,162	64,822	63,301	64,642	41,178	298,105
	AIRPORT G. Rate	-1.4%	1.0%	-2.3%	2.1%	-36.3%	
6	TAIF	25,139	28,479	32,616	32,462	30,238	148,934
	AIRPORT G. Rate	-17.8%	13.3%	14.5%	-0.5%	-6.9%	
7	TABUK	29,280	26,578	32,711	51,043	56,496	196,108
	AIRPORT G. Rate	13.1%	-7.1%	23.08%	56.0%	10.7%	
<b>TOTAL</b>		<b>442,855</b>	<b>474,468</b>	<b>495,679</b>	<b>517,096</b>	<b>517,096</b>	<b>2,435,373</b>
<b>G. Rate</b>		<b>-0.8%</b>	<b>7.1%</b>	<b>4.5%</b>	<b>4.3%</b>	<b>2.3%</b>	



EXAMPL KAIA G.RATE FOR YAER 2003 IS  
 ( TOTAL FOR 2003 – TOTAL FOR 2002)/TOTAL FOR2002

4

Seq.	AIRPORT	2001	2002	2003	2004	2005	TOTAL
I	KAIA	167,339	197,262	198,889	204,308	208,129	975,927
	AIRPORT G. Rate	-16.1%	17.9%	0.8%	2.72%	1.9%	

$$( 198,889 - 197,262 ) / 197,262$$

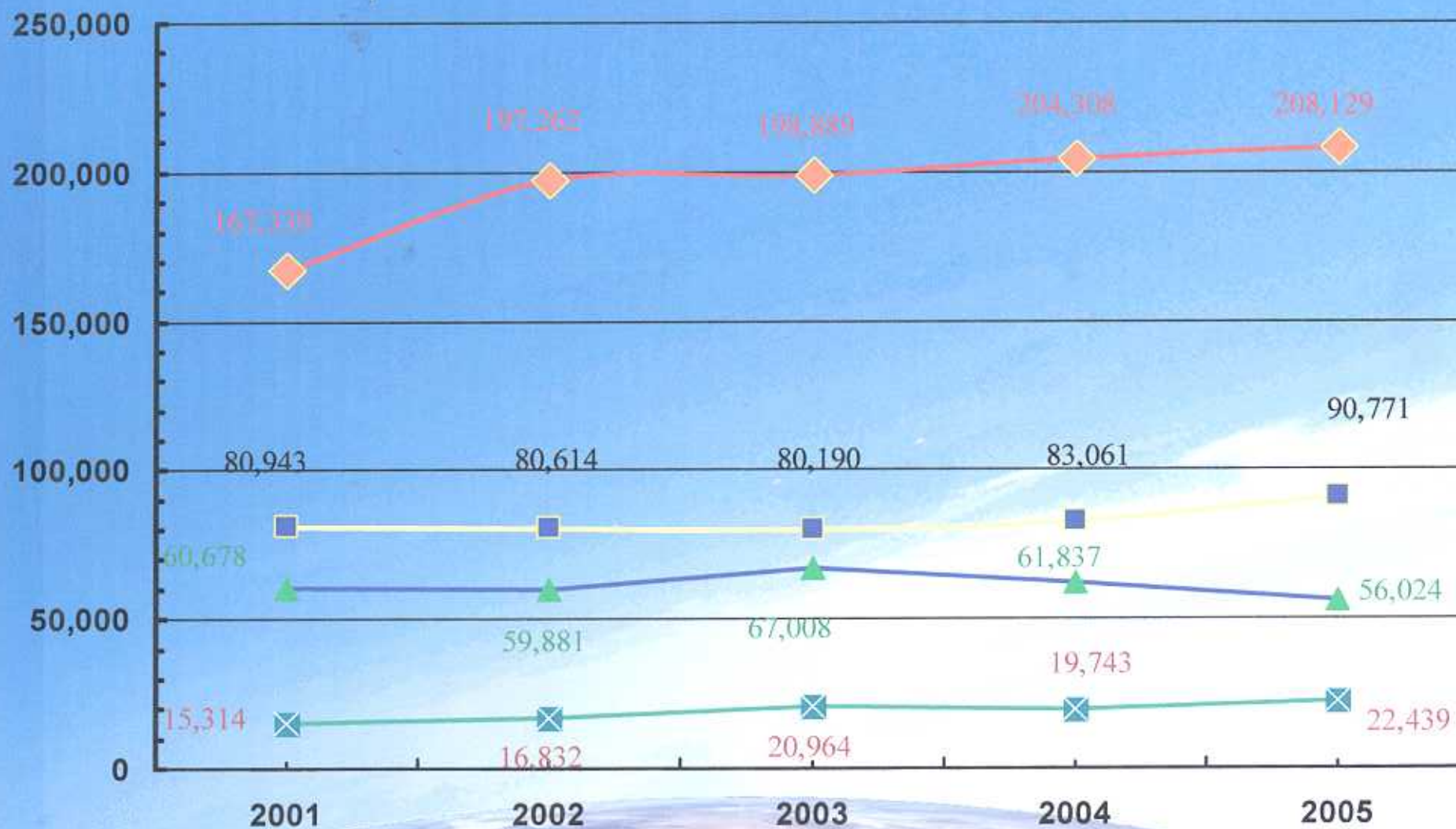
$$1,627 / 197,262$$

THE RESULT IS 0.8%



# AIR TRAFFIC MOVEMENTS STATISTICS FOR THE PERIOD 2001 TO 2005 G KAIA-KKIA-KFIA-PMA

KINGDOM OF SAUDI ARABIA  
GENERAL AUTHORITY of CIVIL AVIATION  
AIR TRAFFIC MANAGEMENT DEPT



Slide V

KAIA-JED KKIA-RID KFIA-DAM PMA-MAD



# AIR TRAFFIC MOVEMENTS

STATISTICS FOR THE PERIOD OF 2001 TO 2005 G

HI - PEAK PERIOD FOR "7" AIRPORT ONLY MARKET IN YELLOW & RED COLOR

YEAR 2001 G

Seq	AIRPORT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1	KAIA	13,406	12,503	14,320	12,543	11,255	12,478	13,095	13,007	16,847	16,847	16,987	18,237	167,339
2	KKIA	8,745	5,032	8,855	8,828	6,623	7,131	7,246	7,268	6,699	6,699	2,212	2,786	80,943
3	KFAI	5,036	5,802	5,196	5,261	4,986	5,042	5,081	4,930	4,995	4,995	4,770	4,813	60,678
4	PMA	1,208	1,832	1,573	1,195	1,091	1,104	1,151	1,137	1,197	1,197	1,388	1,394	15,314
5	ABHA	5,524	5,218	5,708	4,859	4,598	5,625	5,510	5,414	5,420	5,420	5,586	5,264	64,162
6	TAIF	2,106	1,929	1,510	2,384	2,527	2,154	2,341	2,145	2,298	2,298	1,922	1,605	25,139
7	TABUK	2,452	2,066	2,218	2,702	2,652	2,704	1,830	2,524	2,774	2,774	2,648	2,204	29,280
<b>TOTAL</b>		<b>38,477</b>	<b>37,382</b>	<b>39,380</b>	<b>37,772</b>	<b>33,732</b>	<b>36,238</b>	<b>36,254</b>	<b>36,425</b>	<b>36,149</b>	<b>40,230</b>	<b>35,513</b>	<b>36,303</b>	<b>442,855</b>



## AIR TRAFFIC MOVEMENTS

STATISTICS FOR THE PERIOD OF 2001 TO 2005 G

HI - PEAK PERIOD FOR "7" AIRPORT ONLY MARKET IN YELLOW & RED COLOR

YEAR 2003 G

Seq	AIRPORT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1	KAIA	16,247	19,004	19,485	13,702	14,445	16,247	16,862	17,040	15,592	15,345	16,871	16,422	197,262
2	KKIA	6,552	6,286	6,725	6,271	6,502	7,087	7,169	7,111	6,763	6,730	6,653	6,765	80,614
3	KFAI	4,912	4,579	5,181	4,736	5,064	5,244	5,202	5,264	4,863	5,064	4,902	4,870	59,881
4	PMA	1,490	1,706	1,830	996	1,163	1,248	1,338	1,374	1,286	1,432	1,694	1,275	16,832
5	ABHA	5,855	5,326	5,542	4,889	5,213	5,625	5,847	4,199	5,432	6,021	5,789	5,084	64,822
6	TAIF	2,566	1,532	2,269	2,260	2,285	2,625	2,968	2,316	2,596	2,558	1,935	2,569	28,479
7	TABUK	1,834	1,880	2,347	2,423	2,648	2,360	2,568	1,392	2,156	2,004	2,220	2,746	26,578
TOTAL		39,456	40,313	43,379	35,277	37,320	40,436	41,954	38,696	38,688	39,154	40,064	39,731	474,468



## AIR TRAFFIC MOVEMENTS

STATISTICS FOR THE PERIOD OF 2001 TO 2005 G

HI - PEAK PERIOD FOR "7" AIRPORT ONLY MARKET IN YELLOW & RED COLOR

**YEAR 2003 G**

Seq	AIRPORT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1	KAIA	19,427	21,697	17,468	13,534	14,995	15,598	16,698	17,061	16,089	12,853	17,895	15,574	198,889
2	KKIA	6,653	6,464	6,167	6,071	6,574	6,610	7,195	6,873	6,949	6,836	6,886	6,912	80,190
3	KFIA	4,954	4,912	7,220	7,298	6,321	5,386	5,454	5,068	5,177	5,310	4,882	5,026	67,008
4	PMA	2,825	2,559	2,179	1,084	1,333	1,401	1,576	1,452	1,548	2,052	1,612	1,343	20,964
5	ABHA	4,865	5,214	5,524	4,859	5,144	5,218	4,789	5,900	6,422	4,856	5,250	5,260	63,301
6	TAIF	2,976	1,919	2,747	2,667	2,568	2,680	3,200	2,720	2,842	2,644	1,832	3,821	32,616
7	TABUK	1,464	2,387	5,923	3,252	640	2,518	2,730	2,422	3,120	3,135	1,510	3,610	32,711
TOTAL		43,164	45,152	47,228	38,765	37,575	39,411	41,642	41,496	42,147	37,686	39,867	41,546	495,679





## AIR TRAFFIC MOVEMENTS

STATISTICS FOR THE PERIOD OF 2001 TO 2005 G

HI - PEAK PERIOD FOR "7" AIRPORT ONLY MARKET IN YELLOW & RED COLOR

**YEAR 2004 G**

Seq	AIRPORT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1	KAIA	21,242	20,289	14,852	14,084	15,070	16,688	16,688	15,940	16,364	17,900	18,185	17,006	204,308
2	KKIA	7,088	6,456	6,939	6,591	6,612	7,078	7,264	7,204	7,163	6,881	6,931	6,854	83,061
3	KFIA	4,947	4,796	5,122	5,126	5,251	5,375	5,436	5,106	5,167	5,113	5,028	5,370	61,837
4	PMA	2,661	2,139	1,292	1,153	1,328	1,470	1,505	1,499	1,479	1,659	1,440	2,118	19,743
5	ABHA	5,479	5,101	4,968	5,169	5,349	4,371	5,147	5,706	6,544	6,526	4,201	6,081	64,642
6	TAIF	2,550	2,318	3,191	2,492	2,979	3,168	2,697	2,805	2,554	3,353	1,695	2,660	32,462
7	TABUK	4,113	3,976	5,762	5,643	4,510	4,421	3,741	3,990	3,630	2,845	2,693	5,719	51,043
TOTAL		48,080	45,075	42,126	40,258	41,099	42,571	42,478	42,250	42,901	44,277	40,173	45,808	517,096



## AIR TRAFFIC MOVEMENTS

STATISTICS FOR THE PERIOD OF 2001 TO 2005 G

HI - PEAK PERIOD FOR "7" AIRPORT ONLY MARKET IN YELLOW & RED COLOR

**YEAR 2005 G**

Seq	AIRPORT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1	KAIA	23,793	17,489	14,397	14,252	15,587	16,132	16,482	17,339	16,945	19,128	16,341	20,244	208,129
2	KKIA	7,384	6,700	7,311	6,980	7,229	7,776	8,276	8,295	7,923	7,676	7,661	7,560	90,771
3	KFIA	5,237	4,599	5,156	4,736	4,723	2,747	2,747	4,992	4,931	4,537	4,923	4,387	53,715
4	PMA	2,741	2,425	1,157	1,559	1,478	1,554	1,558	1,732	1,535	1,830	1,348	3,522	22,439
5	ABHA	3,856	4,660	3,176	2,602	4,173	3,279	3,306	3,948	3,255	2,761	2,519	3,643	41,178
6	TAIF	1,871	2,578	2,755	2,819	2,841	2,861	2,717	2,722	2,573	1,584	2,160	2,757	30,238
7	TABUK	3,266	4,725	5,418	5,152	5,325	4,678	4,618	5,562	5,252	5,252	4,474	5,406	59,128
TOTAL		48,148	43,176	39,370	38,100	41,356	39,027	39,704	44,590	42,414	42,768	39,426	47,519	505,598

# HAJJ DEP & ARR PERIOD TRAFFIC STATISTICS FOR KAIA & PMA FROM 1423 H TO 1427 H

**KAIA**

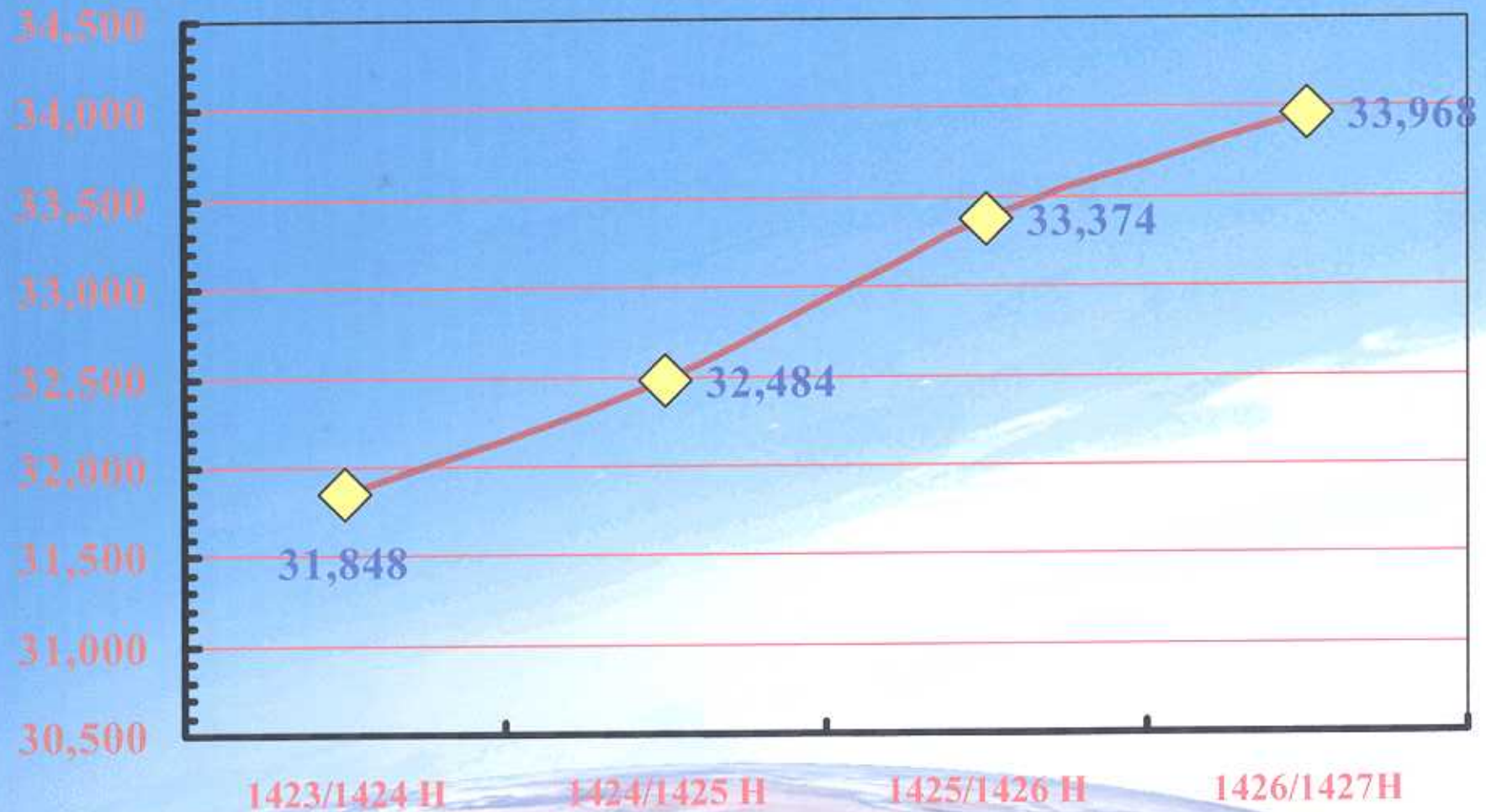


TOTAL 1423/1424H 04/01/2003 TO 28/03/2003 G	TOTAL 1424/1425H 24/12/2003 TO 07/03/2004 G	TOTAL 1425/1426H 13/12/2004 TO 28/02/2005G	TOTAL 1426/1427H 2/11/2005 TO 18/02/2006G
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TOTAL ARR PER	15,466	16,387	16,188	16,096
TOTAL DEP PER	16,382	16,097	17,206	17,872
TOTAL ARR & DEP	31,848	32,484	33,374	33,968



# HAJJ DEPARTURES AND ARRIVALS PERIOD TRAFFIC STATISTICS FROM 1423 H TO 1427 H FOR KAIA



# HAJJ DEP & ARR PERIOD TRAFFIC STATISTICS FOR PMA FROM 1423 H TO 1427 H

PMA



TOTAL 1423/1424H 04/01/2003 TO 28/03/2003 G	TOTAL 1424/1425H 24/12/2003 TO 07/03/2004 G	TOTAL 1425/1426H 13/12/2004 TO 28/02/2005G	TOTAL 1426/1427H 2/11/2005 TO 18/02/2006G
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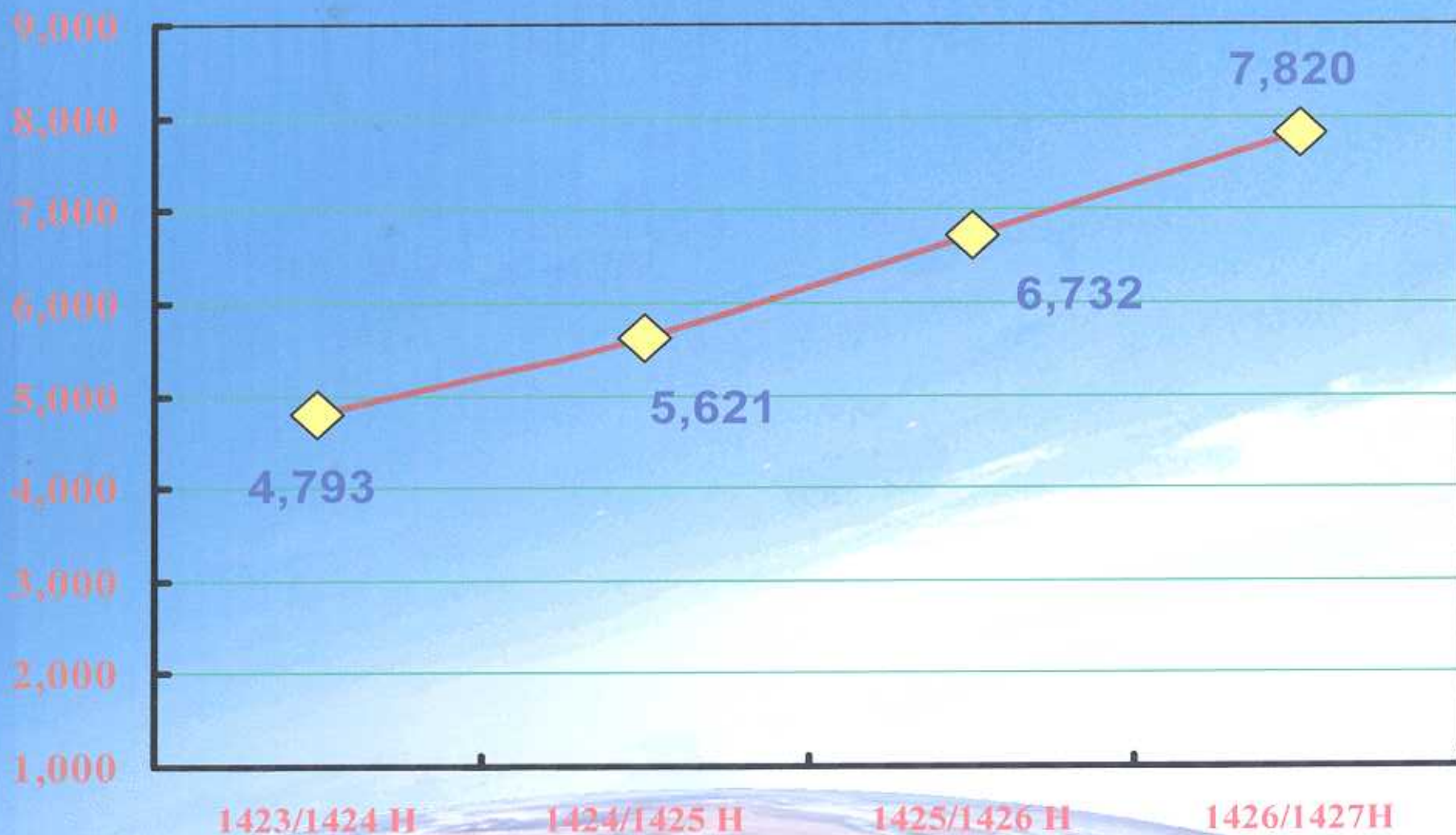
TOTAL ARR PER
TOTAL DEP PER
TOTAL ARR & DEP

2,524	3,039	3,669	4,221
2,269	2,582	3,063	3,599
4,793	5,621	6,732	7,820



# HAJJ DEPARTURES AND ARRIVALS PERIOD

TRAFFIC STATISTICS FROM 1423 H TO 1427 H FOR PMA







# AIR TRAFFIC MOVEMENTS STATISTICS ACTUAL FROM 2000 G TO 2005 G FORECAST STATISTICS FROM 2006 TO 2020G

YEAR	TOTAL	G. Rate	YEAR	TOTAL
2000	567,292	0.00	2011	797,870
2001	530,789	-0.06	2012	837,764
2002	564,304	0.06	2013	879,652
2003	590,893	0.06	2014	923,634
2004	606,171	0.03	2015	969,816
2005	595,383	-0.02	2016	1,018,307
2006	625,152	5.00	2017	1,069,222
2007	656,410		2018	1,122,683
2008	689,230		2019	1,178,818
2009	723,692		2020	1,237,758
2010	759,876			

Actual

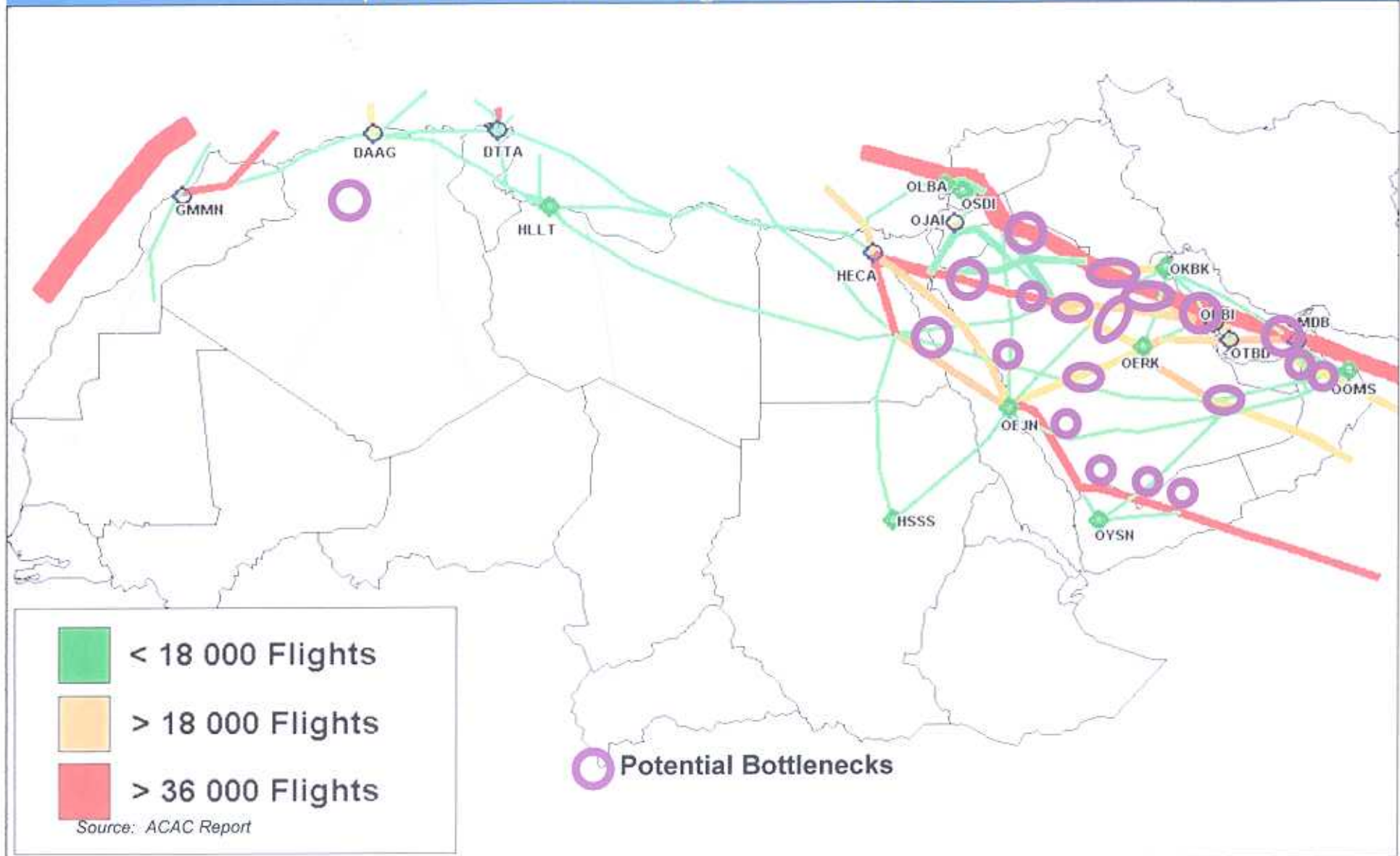
Forecast

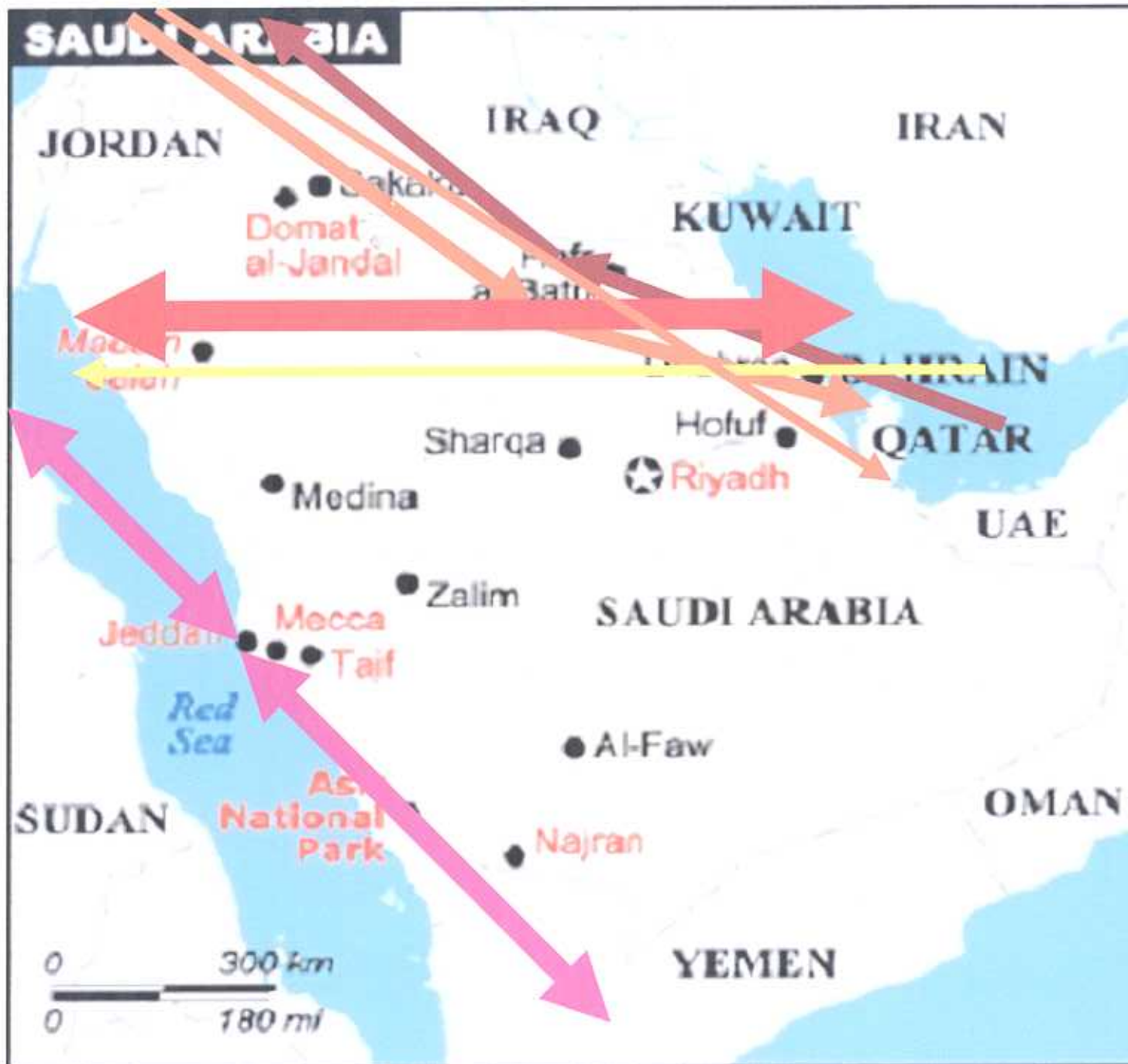
Average Growth Rate 5%



In fact, ACAC forecasts air traffic movements to conservatively grow by 5% in Saudi Arabia, creating further bottlenecks throughout the system

### ACAC Potential Air Navigation Bottlenecks in 2020

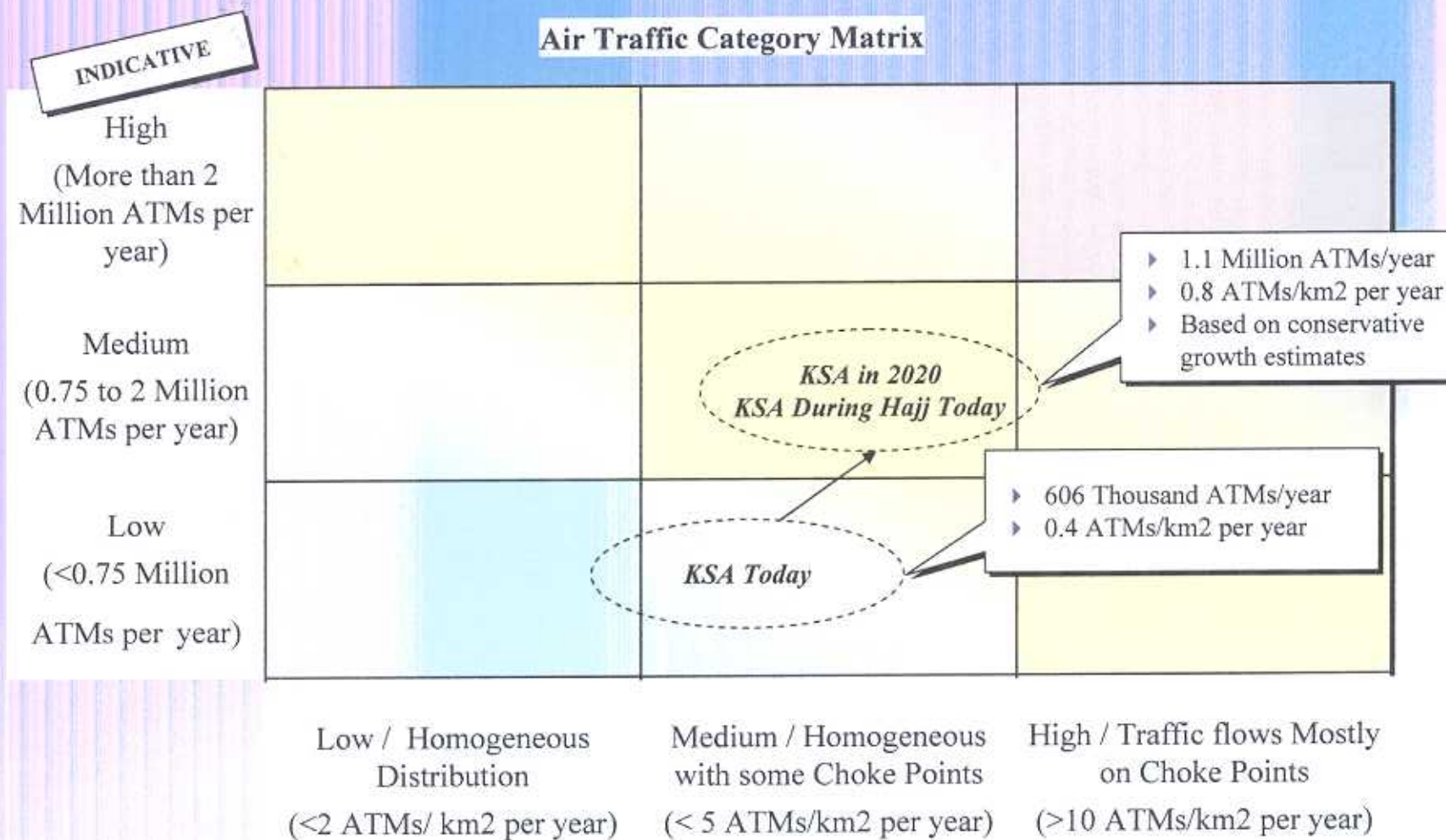






As a result, Saudi Arabia's air navigation operational environment will become increasingly complex

### Air Traffic Category Matrix



### Traffic Density and Complexity

TF SG/2  
Report on Agenda Item 6

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**REPORT ON AGENDA ITEM 6: DATE, VENUE AND WORK PROGRAMME OF THE SUB-GROUP**

6.1 Under this agenda item, the meeting was requested to agree on the dates, venue and the work programme of the sub-group for the triennium 2007-2009 and further to agree on the mechanisms and target dates for the implementation of the agreed Work Programme.

6.2 The meeting agreed that the tentative work programme of the Sub-group should include, as basic elements, a forecast of aircraft movements to, from, within and across the MID Region and peak-period analyses for the FIRs identified at its first meeting.

6.3 With regard to the scheduling of the meetings, it was agreed that the sub-group meetings be held once before every MIDANPIRG meeting in order to prepare inputs for presentation to MIDANPIRG. However, workshops, seminars and other training programmes with a view to improve forecasting capabilities of the region should be included in the work programme of the Sub-group and conducted between regular group meetings.

6.4 The meeting further agreed that States should continue to send traffic data to ICAO in accordance with the format approved by MIDANPIRG until a new format is adopted. Data are to be sent **at the end of the months of April, August and December**, data for the next period being expected **at the beginning of August 2006**.

6.5 Bahrain has graciously offered and the group accepted to host the next workshop. IATA reaffirmed that it will take part in the workshop.

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TF SG/2  
Report on Agenda Item 7

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**REPORT ON AGENDA ITEM 7: ANY OTHER BUSINESS**

7.1 Under this agenda item, the meeting was briefed on how to access the MID Forum website. Recalling that MID Forum website should be the window of the group activities with a view to enhance the activities of the Sub-group, the meeting agreed to encourage participation of high level forecasting experts from member States. The meeting further agreed to encourage Sub-group members to make active contributions on the MID Forum website.

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TF SG/2  
 Attachment A to the Report

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10 May 2006

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