

## CONFERENCE ON THE ECONOMICS OF AIRPORTS AND AIR NAVIGATION SERVICES

(Montreal, 19 - 28 June 2000)

**Agenda Item 1: Economic situation of airports, air navigation service providers and their financial relationships with air carriers and other users**

### FINANCIAL SITUATION OF AIRPORTS AND AIR NAVIGATION SERVICES

(Presented by the Secretariat)

#### SUMMARY

This paper presents the results of a study on the financial situation of airports and air navigation services. Suggested action by the Conference is at paragraph 5.1.

#### 1. Background

1.1 The purpose of the study presented in this paper is to assist the Conference in its consideration of issues pertaining to economics of airports and air navigation services arising under the various agenda items. The study, based on data for the year 1998 (or in some instances 1997 or 1999), is composed of three sections: 1 - Financial Aspects of International Airport Operations; 2 - Financial Aspects of Air Navigation Services Operations; and 3 - Financial Situation of Scheduled Airlines and the Impact of Airport and Air Navigation Services Charges. Comparisons are made where relevant and possible with the results of a similar study prepared for the 1991 Conference on Airport and Route Facility Management (CARFM) based on data for 1989 (or in some instances 1988 or 1990). The sources for the analyses in Sections 1 and 2 are identified in the beginning of each section, while Section 3 is entirely based on data received under the ICAO Statistics programme.

1.2 This paper summarizes the data received from States essentially in global and regional terms. This summary, together with data reported with regard to individual airports or groups of airports and air navigation services will be published after the Conference, as part of a comprehensive package of material on the economics of airports and air navigation services prepared for the Conference.

## 2. Section 1 - Financial Aspects of International Airport Operations

### 2.1 Coverage

2.1.1 The basis for the analyses in this section are financial data covering 271 airports or groups of airports<sup>1</sup> provided by 88 States. Both income and expense data were available for 252 airports (or groups of airports). The data were provided from ICAO Air Transport Reporting Form J - Airport Financial Data and in response to a pre-conference questionnaire, which also covered a range of other subjects, circulated under State letter SR 167/1-99/80, dated 6 August 1999. The traffic data used were essentially those provided under the ICAO Statistics programme on ICAO Air Transport Reporting Form I - Airport Traffic; traffic data were not available for 40 airports (or groups of airports).

2.1.2 An important limitation is that in many instances the data, in particular the expenses, were incomplete. For example, depreciation and other capital costs, which are a major expense for capital intensive enterprises such as airports, in some instances were not reported or unexpectedly low amounts were reported. Similarly all or nearly all the expenses for areas such as approach and aerodrome control (often provided by the same entity that provides en-route services and included in the financial data for air navigation services) and meteorological services were not reported in many instances. For these reasons and because of the different organizational structures under which airports operate, comparisons were not made between individual airports.

2.1.3 The number of airports for which data were reported is not high considering that the ICAO Regional Air Navigation Plans listed 1178 airports as being open to international traffic in 1998. However, the data provided refer essentially to the major international airports<sup>2</sup> in States which in 1998 accounted for 91 per cent of the total number of passengers carried by the world's scheduled airlines, and 86 per cent of their international passenger traffic.

2.1.4 At the same time, the data used for this study provide a better coverage than the data available for the study prepared for the 1991 CAREFM Conference. At that time financial data were available for 297 airports or groups of airports in 69 States, (including consolidated revenue data for 71 airports in the United States) which in 1989 accounted for approximately 71 percent of the total number of passengers carried by the world's scheduled airlines, and about 78 percent of their international passenger traffic.

### 2.2 Analysis of data

2.2.1 For airports, for which total income and expenses as well as traffic data were reported, the total income was US\$ 12 730 per traffic unit and total expenses US\$ 10 420 per traffic unit (one traffic unit corresponds to 1000 passengers or 100 tonnes of freight or mail). Airports with less than 50 traffic units were not included in these calculations. Total income expressed as a percentage of total expenses broken down by region is presented in Table 1. The Table indicates that for 190 airports (or groups of airports) or three quarters of the total, income exceeded (or was equal to) expenses in 1998. By comparison in the 1989 pre-CARFM study, only 92 airports (a third of the total concerned) showed income in excess of expenses. As was the case

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<sup>1</sup>Refers to two cases with groups of airports where the number of airports in the group has not been indicated.

<sup>2</sup>Where consolidated data was provided for a group of airports it is possible that the group included airports serving domestic traffic only.

in the pre-1991 CARFM study *the large majority of airports showing revenues to exceed expenses by 175 per cent or more appear not to have reported all their expenses.*

**TABLE 1**  
**TOTAL AIRPORT INCOME IN RELATION TO TOTAL REPORTED EXPENSES**  
**1998**

	Number of States	Number of Airports	Number of Airports with Income Less than Reported Expenses				Number of Airports with Income Exceeding Reported Expenses				
			Sub-Total	0-49%	50-74%	75-99%	Sub-Total	100-124%	125-149%	150-174%	175% & over
Africa	18	68	25	10	3	12	43	5	1	11	26
Asia, Middle East and the Pacific	24	40	11	3	1	7	29	8	6	4	11
Central America, the Caribbean and South America	10	27	4	1	2	1	23	3	2	2	16
Europe	32	101	17	4	7	6	84	34	20	15	15
North America	2	16	5	2	1	2	11	6	2	3	0
Total Sample	86	252	62	20	14	28	190	56	31	35	68

2.2.2 The data reported showed a relationship between the volume of traffic and cost efficiency. Thus for airports with less annual traffic than 300 traffic units, expenses per traffic unit averaged US\$ 15 000, for airports with traffic between 300 and 2 500 traffic units, the average was about US\$ 9 400; and for airports with traffic between 2 500 and 25 000 traffic units the average was about US\$ 8 000. Airports with traffic exceeding 25 000 units were very few (only 16) and showed a wide range (from US\$ 3 000 to US\$ 40 000). These averages should be viewed with caution, because of the incomplete expense data.

2.2.3 Table 2 compares total income as a percentage of total expenses for the 77 airports in 30 States for which these data were available for both 1989 and 1998. The table confirms the continued improvement in the financial situation for the sample as a whole. Only 12 of the 77 airports did not cover their expenses in 1998 compared to 24 airports in 1989. For all the airports in the sample total income expressed in US\$ grew faster, at an average annual rate of 9.2 per cent, than expenses at 7.4 per cent per annum. Also, further analysis gives clear indications that expenses per traffic unit were on average lower for airports of comparable size operated by autonomous entities than for other airports.

2.2.4 Operating subsidies were reported by 19 States for 61 airports and groups of airports. These included States in Europe and North America with major aviation activities. In the previous survey subsidies were reported by 11 States for 121 airports or groups of airports (including the grouping of 71 airports in the United States).

TABLE 2

**TOTAL AIRPORT INCOME IN RELATION TO TOTAL EXPENSES  
FOR 77 AIRPORTS FOR WHICH SUCH DATA WERE REPORTED  
IN BOTH 1989 AND 1998**

Year	Number of Airports with Income Less than Reported Expenses				Number of Airports with Income Exceeding Reported Expenses				
	Sub- Total	0-49%	50-74%	75-99%	Sub- Total	100- 124%	125- 149%	150- 174%	175% & over
1989	24	4	6	14	53	25	7	3	18
1995	12	3	2	7	65	15	13	19	18

2.2.5 Income from ground handling charges was reported by 35 States, mainly located in Africa (9 States) and Europe (22 States), covering 104 airports or groups of airports. The income from ground handling charges accounted on average for 16 per cent of total income for these airports.

2.2.6 Income from non-aeronautical activities, which include all revenues from concessions and rentals together with all “other” income which is not directly related to air traffic operations, accounted on average for 34 per cent of total income per airport. This percentage was highest in North America, with an average of 56 per cent for each airport, while Africa and Central and South America showed the lowest regional averages (21-22 per cent). (North American airports do not themselves provide air traffic services which reduces their charges on air traffic and thereby increases the share accounted for by non-aeronautical revenues). Many international European airports and major airports in Asia and the Pacific and Middle East showed shares of around 50 per cent or higher. Airports with high traffic volumes generally have higher shares of non-aeronautical income; for example, the average for airports with more than 25 000 traffic units was 58 per cent.

2.2.7 Table 3 compares non-aeronautical income for the airports for which such income was reported both in 1989 and 1998. The table shows that the average percentage of the total income accounted for by such income increased slightly from 34 in 1989 to 36 per cent in 1998. It increased in all regions except for North America, Caribbean, Central and South America. However, the sample for North America was limited to one State. Average non-aeronautical income per passenger worldwide increased from US\$ 3.86 to US\$ 5.22 during that period in current prices, but only marginally in real terms (from US\$ 5.07 in 1989 to US\$ 5.22 in 1998 calculated in 1998 prices)<sup>3</sup>. Non-aeronautical income per passenger was highest in Europe at US\$ 6.84; however, 1998 was the last full year when passengers travelling between European Union member States were entitled to duty-free purchases.

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<sup>3</sup> The Consumer Price Index (CPI) for United States increased from 100 in 1989 to 131.4 in 1998.

**TABLE 3**

**NON-AERONAUTICAL INCOME, AS A PERCENTAGE OF TOTAL INCOME AND ON A PER PASSENGER BASIS, FOR AIRPORTS WHERE SUCH DATA WERE REPORTED IN BOTH 1989 AND 1998**

	Number of States	Income from Non-Aeronautical Activities			Income from Non-Aeronautical Activities		
		Number of airports	Percentage of total income		Number of Airports	Per Passenger US\$	
			1989	1998		1989	1998
World	31	78	34	36	53	3.86	5.22
Africa, Asia, Middle East and Pacific	13	23	30	35	9	2.69	4.51
Caribbean, Central and South America	5	16	21	18	10	2.14	1.93
Europe	12	31	38	45	30	4.76	6.84
North America	1	8	52	44	4	4.65	4.07

2.2.8 Capital costs, including depreciation/amortization and interest were reported for 187 airports (or groups of airports) or about two thirds of the total airports covered. Comparing capital costs to total expenses shows that on average capital costs accounted for 27 per cent of total airport expenses, up from the 20 per cent they constituted in the pre-1991 CARFM Conference study (when 147 airports or groups of airports, about half of the responding total, did not report any depreciation or amortization expenses). The average share of capital costs was higher for airports in Asia/Pacific and North America, on average 35-40 percent, than for airports in other regions, while it was on average lowest for airports in Central and South America (8-13 percent). In Europe the range was from 30-35 percent. Of interest was the direct relationship between the share capital costs constituted of total expenses and traffic volume. For airports with up to 5 000 air traffic units that share was on average below 25 per cent of expenses, for airports with 5 000 to 25 000 traffic units, the share was around 30 per cent, while for the largest airports (more than 25 000 traffic units) it exceeded 40 per cent.

2.2.9 Capital investments were reported for 220 airports in 67 States (see Table 4). The gross capital investments for these airports amounted to US\$ 7 621 million during 1998, or US\$ 6 365 per traffic unit. In 1998 these States accounted for 46 per cent of the total number of passengers carried by the world's

scheduled airlines, and 67 per cent of their international passenger traffic. The average was strongly influenced by a handful of airports in the Asia and Middle East regions undertaking major investment programmes. The averages for other regions were well below US\$ 5 000 per traffic unit.

**TABLE 4**  
**CAPITAL INVESTMENTS AT 220 AIRPORTS**  
**1998**

	<b>Number of States</b>	<b>Number of Airports</b>	<b>Total Capital Investments US\$ '000</b>	<b>Capital Investments per Traffic Unit US\$ '000</b>
Africa	15	62	318 575	4 160
Asia, Middle East and the Pacific	15	25	3 397 344	12 626
Central America, the Caribbean and South America	8	20	82 731	1 244
Europe	28	103	3 520 035	4 883
North America	1	10	302 476	4 189
<b>Total Sample</b>	<b>67</b>	<b>220</b>	<b>7 621 161</b>	<b>6 365</b>

### 2.3 Conclusions

2.3.1 The data provided show that there has been a clear improvement in the financial situation of airports over the last decade. However, it is also apparent that for many airports around the world capital costs are not included at all or only partly included in their accounts, as are frequently other costs. Taking that into account, it can be assumed that the majority of international airports for which no data were reported and which generally have low volumes of traffic, still operate at a loss.

## 3. Section 2 - Financial Aspects of Air Navigation Services

### 3.1 Coverage

3.1.1 The basis for the analyses in this section are air navigation services financial data provided by 71 States and traffic data provided by 66 of these States for 1998 (or in some instances 1999). The data were provided on ICAO Air Transport Reporting Forms K (financial data) and L (traffic data) or in response to the pre-conference questionnaire circulated under State letter SR 167/1-99/80, dated 6 August 1999.

3.1.2 In 1998 the airlines of the 71 reporting States accounted for 79 percent of the total tonne-kilometres performed by the world's scheduled airlines on scheduled and non-scheduled flights on domestic

and international services and 78 percent of the international tonne-kilometres performed. By comparison, data were provided by 57 States accounting for close to 70 percent of total international tonne-kilometres performed when the comparable analysis was carried out for 1989.

### 3.2 Analysis of Data

3.2.1 Table 5 shows that income equalled or exceeded expenses in 49 of the 62 States reporting both income and expense data, which represents a considerable improvement over 1989 when only 24 out of 49 States showed income that exceeded expenses. The situation has improved in all regions and is primarily explained by the growing emphasis States at large are placing on recovering their air navigation services costs. Also of relevance is the continued growth of air traffic, and an increase in the number of States levying approach and aerodrome control charges. However, *as with airport data, very high ratios of income over expenses may primarily be accounted for by less complete identification and reporting of expenses than for income.*

**TABLE 5**

**TOTAL ROUTE FACILITY INCOME IN RELATION TO TOTAL REPORTED EXPENSES  
1998**

	Number of States	Number of Airports with Income Less than Reported Expenses				Number of Airports with Income Exceeding Reported Expenses				
		Sub-Total	0-49%	50-74%	75-99%	Sub-Total	100-124%	125-149%	150-174%	175% & over
Total Sample	57	13	2	1	10	44	27	4	5	8
Africa, Asia, Middle East and the Pacific	19	2	1	0	1	17	10	2	2	3
Caribbean, Central and South America <sup>1)</sup>	10	4	1	1	2	6	2	0	0	4
Europe	27	7	0	0	7	20	14	2	3	1
North America	1	0	0	0	0	1	1	0	0	0

1) incl. COCESNA (6 States)

3.2.2 Table 6 compares total income as a percentage of total expenses for the 26 States for which such data were available for both 1989 and 1998. The Table confirms the improvements that have taken place since 1989 when 9, as opposed to 18 States in 1998, of the 26 States reported income in excess of their total expenses. Between 1989 and 1998 income for these States increased at an annual rate of 12.7 per cent compared with 7.3 per cent for expenses. More detailed analysis indicates that expenses per flight tended to be lower in States where the provision of air navigation services was vested in an autonomous entity.

TABLE 6

**TOTAL ROUTE FACILITY INCOME IN RELATION TO TOTAL EXPENSES FOR 26 STATES  
FOR WHICH SUCH DATA WERE REPORTED IN BOTH 1989 AND 1998**

Year	Number of States with Income Less than Reported Expenses				Number of States with Income Exceeding Reported Expenses				
	Sub- Total	0-49%	50-74%	75-99%	Sub- Total	100-124%	125-149%	150-174%	175% & over
1989	17	6	3	8	9	6	0	1	2
1998	8	1	1	6	18	14	2	0	2

3.2.3 Air navigation services charges accounted for an average of 97 per cent of the total income per State for the 63 States for which this information was available for 1998. In seven instances the other income consisted only of, or included, grants and subsidies. 41 States reported air navigation services charges as the only income source. For the 27 States reporting approach and aerodrome control charges the income from this source accounted on average for 24 per cent of total income from charges.

3.2.4 Of the 65 States for which total expense data were available for 1998, 51 reported depreciation and/or amortization, which for these States accounted on average for 17 per cent of total expenses. This is a marked change from 1989 when depreciation reported by 39 States averaged 9 per cent of total expenses. These developments can be assumed to reflect the considerable investments in new air navigation facilities around the world and a growing awareness of the need to allow fully for depreciation in the accounts of air navigation services providers. Nevertheless, since cost data on depreciation and/or amortization were still not available (or not reported) in several instances, the question again arises as to the extent to which many States are allowing for this important cost item when establishing the cost basis for their air navigation services charges, and thereby building reserves for facility renewal and expansion.

3.2.5 28 States reported capital investments on Form K for 1998. For these States the gross capital investments accounted for US\$ 1 642 million, which corresponded to US\$ 139 per flight.

3.2.6 From the data available on costs by category of service, air traffic services (ATS) and communications (COM) combined accounted for the major share of total expenses, ranging in most States between 70 and 95 per cent. The share accounted for by meteorological services (MET) was also of significant magnitude and generally varied between 5 and 20 percent. The share of aeronautical information services (AIS) costs accounted on the average for 5 per cent. Search and rescue (SAR) costs, which were reported by a very small number (14) States, ranged with a few exceptions between 0 and 3 percent of total expenses. Compared to 1989 ATS and COM costs combined appear to have continued to grow in relative (as well as absolute) terms while the relative share of MET has declined slightly.

3.2.7 With regard to the recovery of costs of providing MET services it appears that many States may not take these costs into account when establishing the cost basis for their air navigation services charges. The reason is probably that MET services are usually performed by another branch of government

or entity, separate from that involved in providing ATS and COM services. A similar situation applies to SAR costs.<sup>4</sup>

### 3.3 **Conclusions**

3.3.1 The data available indicate that the financial situation of air navigation services has shown considerable improvement in the last decade. However, major cost components such as depreciation or amortization are frequently not included and the same applies to MET costs, a major category of service. Bearing this in mind it may be assumed that the majority of States for which no data were reported and which generally have low volumes of traffic, do not recover the full costs of providing air navigation services.

## 4. **Section 3 - Financial Situation of Scheduled Airlines and the Impact of Airport and Air Navigation Services Charges**

### 4.1 **Development of Traffic**

4.1.1 The total scheduled traffic of the world's scheduled airlines, measured in revenue tonne-kilometres performed, increased at an average annual rate of 5.1 per cent over the 1989 -1998 period (see Table 7). During the same period, the number of aircraft departures increased at a much lower rate (3.5 per cent per annum), reflecting an increase in average payload capacity (from 24.7 tonnes in 1989 to 26.6 tonnes in 1998). Passengers carried on scheduled flights increased at an average rate of 3.1 per cent over the period.

### 4.2 **Airline Financial Results**

4.2.1 The financial situation of the world's scheduled airlines, international and domestic combined, is summarized in Table 8 for the 1989 -1998 period. Over this period operating revenues in US\$ increased at a slightly higher annual rate (5.9 per cent) than total operating expenses (5.8 per cent). Operating results expressed as a percentage of operating revenues fluctuated, with an operating result of 4.3 per cent in 1989 followed by losses of 0.8, 0.2 and 0.8 per cent during the following three years and then rising to reach a positive 5.5 per cent in 1998. Net results (profit or loss after income tax expressed as a percentage of operating revenues) varied from 2 per cent in 1989 followed by losses during the subsequent five years, bottoming out at -3.6 per cent in 1992, and then rising to a positive three per cent in 1998. These results for the world's scheduled airlines as a whole do not portray the considerable differences in the financial results of individual airlines.

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<sup>4</sup> Cost allocation for SAR services is the focus of ANSCConf-WP/8.

TABLE 7

**WORLD'S SCHEDULED AIRLINES  
TOTAL SCHEDULED TRAFFIC**

**1989-1998**

	Unit	1989	1998 <sup>2)</sup>	Average annual growth rate 1989-1998 (per cent)
Aircraft departures <sup>1)</sup>	[000]	13 945	18 980	3.5
Passengers carried	[000]	1 109 478	1 462 380	3.1
Passenger load factor	%	68	69	-
Total tonne-kms performed	Millions	222 977	348 780	5.1
Total tonne-kms available	Millions	366 528	584 210	5.3
Average aircraft payload capacity <sup>1)</sup>	Tonnes	24.7	26.6	0.8

1) Excluding the States of the former Soviet Union

2) Data for 1998 are provisional

#### 4.3 Airport and route facility charges<sup>5</sup>

4.3.1 The costs of landing and associated airport charges<sup>6</sup> levied on the international and domestic services of the world's scheduled airlines increased from US\$ 6 290 millions in 1989 to US\$ 11 000 millions in 1998, representing an average annual increase of 6.4 per cent (see Table 9). This results from the increase in air traffic during this period in terms of aircraft departures (an average growth of 3.5 per cent per annum), aircraft size and increased levels of charges. However, landing and associated airport charges as a proportion of total operating expenses while rising steadily from 3.7 per cent in 1989 to 4.5 per cent in 1995 subsequently declined to 3.9 per cent in 1998, to a certain extent reflecting the fluctuation in oil price as fuel is a major cost component for aviation.

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<sup>5</sup>The discussion of air navigation services charges in this section is limited to route facility charges as for 1998 airlines were still only required to report such charges but not all air navigation services charges separately. Expenses for approach and aerodrome control are included in the cost basis for landing charges at a major share of airports but the application of separate approach and aerodrome continual charges is growing.

<sup>6</sup>User charges paid directly by passengers to airports, which are substantial in global terms, are not included.

**TABLE 8**  
**FINANCIAL SITUATION OF WORLD'S SCHEDULED AIRLINES**  
**INTERNATIONAL AND DOMESTIC SERVICES**  
**TOTAL SCHEDULED AND NON-SCHEDULED OPERATIONS**

**1989-1998**

Item	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 <sup>1)</sup>	Average annual increase 1989-1998 %
	<b>Millions of United States Dollars</b>										
Total operating income	177 800	199 500	205 500	217 800	226 000	244 700	267 000	282 500	291 000	298 500	5.9
Total operating expenses	170 200	201 000	206 000	219 600	223 700	237 000	253 500	270 200	274 700	282 000	5.8
Operating result	7 600	-1 500	-500	-1 800	2 300	7 700	13 500	12 300	16 300	16 500	-
Net result	3 500	-4 500	-3 500	-7 900	-4 400	-200	4 500	5 300	8 550	9 000	-
	<b>Percentage of total operating revenues</b>										
Operating result	4.3%	-0.8%	-0.2%	-0.8%	1.0%	3.1%	5.1%	4.4%	5.6%	5.5%	-
Net result	2.0%	-2.3%	-1.7%	-3.6%	-1.9%	-0.1%	1.7%	1.9%	2.9%	3.0%	-

1) Data for 1998 are provisional

**TABLE 9**  
**IMPACT OF AIRPORT AND ROUTE FACILITY CHARGES**  
**INTERNATIONAL AND DOMESTIC SERVICES OF SCHEDULED AIRLINES**  
**TOTAL SCHEDULED AND NON-SCHEDULED OPERATIONS**  
**1989-1998**

Item	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Average annual change 1989-98 %
Landing and associated airport charges	6 290	7 730	8 160	8 460	9 260	10 480	11 440	11 600	11 210	11 000	6.4
Route facility charges	2 560	3 250	4 050	5 240	5 390	6 280	7 080	7 200	7 570	7 330	12.4
Total airport and route facility charges	8 850	10 980	12 210	13 700	14 650	16 760	18 520	18 800	18 780	18 330	8.4
	<b>Percentage of total operating expenses</b>										
Landing and associated airport charges	3.7	3.8	4.0	3.9	4.1	4.4	4.5	4.3	4.1	3.9	-
Route facility charges	1.5	1.6	2.0	2.4	2.4	2.6	2.8	2.7	2.8	2.6	-
Total airport and route facility charges	5.2	5.5	5.9	6.2%	6.5	7.1	7.3	7.0	6.8	6.5	-
	<b>Millions of available tonne-kilometres</b>										
Total tonne-km available	366 528	392 092	390 682	419 706	429 482	457 761	492 051	527 187	566 410	584 210	5.3
	<b>United States cents per tonne-km available</b>										
Total operating expenses	46.4	51.3	52.7	52.3	52.1	51.8	51.5	51.3	48.5	48.3	0.4
Landing and associated airport charges	1.72	1.97	2.09	2.02	2.16	2.29	2.32	2.20	1.98	1.88	1.0
Route facility charges	0.70	0.83	1.04	1.25	1.26	1.37	1.44	1.37	1.34	1.25	6.7
Total airport and route facility charges	2.41	2.80	3.13	3.26	3.41	3.66	3.76	3.57	3.32	3.14	3.0

4.3.2 The costs of route facility charges paid by the airlines increased from US\$ 2 560 million in 1989 to US\$ 7 330 million in 1998 at an average annual rate of 12.4 per cent. This reflects not only the increase in the number of States introducing air navigation services charges during this period, but also the efforts of States already levying such charges to recover a higher share of their costs of providing air navigation facilities and services. As a proportion of total operating expenses, en route charges increased from 1.5 per cent in 1989 to reach 2.8 per cent in 1995 and thereafter stabilized; being 2.6 per cent in 1998. The proportion of airline expenditure for airport and route facility charges combined thus increased from 5.2 per cent of total operating expenses in 1989 to 7.3 per cent in 1995 and then decreased to 6.5 per cent in 1998.

4.3.3 In terms of unit operating expenses per tonne-kilometre available, landing and associated airport charges increased from 1.72 US cents in 1989 to 2.32 cents in 1995 and thereafter declined to 1.88 cents in 1998. On average this represented an annual increase of 1.0 percent. Route facility charges increased from 0.70 US cents per tonne-kilometre in 1989 to 1.44 cents in 1995 and then declined to 1.25 cents in 1998; this represented an average annual increase of 6.7 percent. In real terms, unit operating expenses per tonne-kilometre available, landing and associated airport charges fell by 17 per cent over the 1989-1998 period, while those of the route facility charges rose by 36 per cent. Total airline expenditure on airport and route facility charges per tonne-kilometre available increased from 2.41 US cents in 1989 to 3.76 cents in 1995 and then declined to 3.14 cents in 1998; this represented an average annual increase of 3.0 percent. (By comparison in real terms total operating expenses per tonne-kilometre available fell by 28 percent (25 percent if fuel is excluded) over the 1989 to 1998 period).

## 5. Action by the Conference

5.1 The Conference is invited to:

- a) note the information presented in this paper in connection with its consideration of specific issues under other agenda items, and in particular when reviewing the *Statements by the Council to Contracting States on Charges for Airports and Air Navigation Services* (Doc 9082/5)<sup>7</sup>; and
- b) comment on the need, scope and frequency of analyses by ICAO of the financial situation of international airports and air navigation services.

– END –

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<sup>7</sup>Proposed by the Secretariat in ANSCConf in WP/4 to be retitled *ICAO Policies on Charges for Airports and Air Navigation Services*.