


# Statistical Annual Review 2002

# 2002



# Statistical





**Statistical  
Annual Review  
2002**

**2002**



# Preface

April, 2003

In the case of the 2002 Annual Statistical Review, we felt that we had to respond to changes in the way that information can be presented. Whereas in the past this review largely consisted of tables supplemented with brief analyses, now the analyses have been greatly expanded and the number of tables have been kept to a minimum.

Furthermore, we have now opted for a clear classification of the topics.

The tables that are no longer included in the report are available on our website [www.schiphol.nl](http://www.schiphol.nl).

If you require any further information, please feel free to contact the department mentioned below.

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**Published by**

Amsterdam Airport Schiphol  
P.O. Box 7501  
1118 ZG Schiphol

Amsterdam Airport Schiphol  
Airlines  
Marketing & Account Management  
Statistics & Forecasts  
Phone : 31 (20) 601 2664  
Fax : 31 (20) 601 4195  
E-mail : [kreek@schiphol.nl](mailto:kreek@schiphol.nl)

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# 1. Summary of Developments 2002



# Developments



**Following the sharp decline of traffic and transport in the wake of the attacks on the World Trade Centre in New York and the Pentagon in Washington in September 2001, 2002 clearly had to be the year of recovery. However the consequences along with the uncertainty that other potential strikes could follow, certainly had a negative impact on developments in the aviation industry at the beginning of 2002. In addition, the global economic slowdown and rising oil prices also played a significant role. Once again, the aviation industry appeared to be very sensitive to such events and developments.**

According to the IATA, passenger transport fell by almost 5% in Europe and global figures remained virtually unchanged in comparison with 2001. Globally, some 2.7% growth was achieved in the international cargo sector. In the absence of disasters (i.e. a new gulf war), on the other hand, the IATA anticipates just over 6% growth for international passenger and cargo transport in 2003.

#### **Forming alliances in order to survive**

Throughout the world, airlines are forming alliances in order to achieve closer collaboration,

which should lead to a bigger market share and increased earnings. In the end it is expected that only a few major players will remain throughout the world and they will define the market in addition to a number of low-fare carriers. KLM Royal Dutch Airlines has been trying to find appropriate European partners for a number of years now. In 2000, its collaboration with Alitalia stranded and negotiations with British Airways were resumed. A potential partnership involving the American airlines Northwest, Continental and Delta Air Lines meant that KLM also initiated talks with Air France in 2002.

#### **Safety increasingly important**

In the past year a huge effort has been made not only by the airlines but also by the airports and a great deal of money has been invested in guaranteeing passenger safety. These measures were important first of all to prevent further attacks and, secondly, to regain diminishing passenger confidence in the aviation industry. Both passengers and their luggage were subjected to increasingly tougher security measures. The number of security measures will not diminish in the future. However, these processes will occur less noticeably



thanks to new technological developments. A fine example of these technological developments can be found in the automatic border passage system that was introduced at Schiphol in 2002 after a year-long trial. This has made it possible to pass the border with the aid of an iris scan and without any intervention from the Dutch border police.

#### **More than 40 million passengers for the first time**

Traffic and transport also declined at Amsterdam Airport Schiphol in the first few months of the year. It was only after eight months that passenger transport recovered to its 2001 level. The growth recorded in the last four months of the year may be explained by the sharp fall-off of traffic and transport during the same period in 2001 as a result of the terrorist attacks. An important development in the aviation industry, and certainly also at Schiphol, is that of the low-fare sector. The latter is made up of airline companies that offer transport within Europe without any frills, keeping fares as low as possible. In the past year, the low-fare market at Schiphol expanded by more than one million passengers to reach almost three million, thereby accounting for a 10.5% share of European passenger transport at Schiphol.

Partly thanks to this sharp increase, the scheduled flight sector recorded an increase of more than 4% to more than 36 million passengers. The charter flight sector shrank by almost 5%. The reason for this lies in the fact that, unlike in 2001, far more holidaymakers were flown to intercontinental destinations on scheduled flights instead of on charter flights. Because scheduled flights account for 90% of passenger transport at Schiphol, a growth of 3% was nevertheless achieved over the entire year. The number of passengers ultimately rose to 40.7 million, which may be described as a very good result in view of developments within Europe.

#### **Increase in cargo despite a slowdown of global economic growth**

Cargo transport staged a healthy recovery following a decline in 2001. Although there was a fall-off of transport in the first two months of the year, growth occurred in the months that followed,



even exceeding 10% in June and July. The rest of the year also passed on a positive note, as a result of which the annual figure closed with a substantial growth rate of 4.8% to 1,239,900 tonnes.

A steep fall of almost 24% was visible in European cargo transport. For years now air transport has been declining in this region and has been largely replaced by truck transport. A sharp increase in export to North America boosted transport by more than 7% in this region. The Far East continues to be the most important region for Schiphol certainly with regard to cargo imports, and accounted for an increase of more than 7% to boost the volume of transport in excess of 460,000 tonnes. However, at almost 13% the Middle East accounted for the largest increase in 2002, largely thanks to the transshipment of goods from the Far East.

#### **Fewer movements and improved punctuality**

For the first time since 1982 the number of air transport movements dropped at Schiphol, and did so by 3.6%. As a result of the attacks of 11 September and the rise in insurance premiums, airline companies felt the need to cut their winter services for 2001-2002, mainly reducing the frequency of flights. The slowdown of economic growth subsequently ensured that they did not reverse this reduction in frequency. By deploying larger aircraft and boosting their load factor, they still managed to raise the number of passengers and volume of cargo.





There was a positive development in the past year in that additional routes were created in the European airspace, thereby making more capacity available. Together with the reduction of traffic above Europe, this ensured that punctuality improved at Schiphol compared to 2001, rising from 75.6% to 80.4% in the case of arrivals and departures climbing from 64.1% to 69.1%.

Schiphol's capacity was also extended following the completion of the fifth runway called "Polderbaan". The official opening occurred in February 2003. The extension of the terminal and the preparatory work on a new pier with 17 gates was resumed after these projects had been suspended for some time in connection with the uncertain situation prevailing in the world.

#### **Schiphol gained market share**

Compared to the other major airports in Europe, Schiphol's result may be described as good. With passenger transport up by 3.0%, Schiphol recorded the best figures along with London (up 3.2%). The 4.8% increase in cargo transport at Schiphol was even the best result achieved by any of the four largest airports. However, compared to London, Paris and Frankfurt, Schiphol was the one which achieved the sharpest reduction in the number of flights, namely 3.6%. With an increase of 0.7%,

Frankfurt was the only airport to achieve a positive result in this area.

With these figures, Schiphol has again amply managed to maintain its position as number four in Europe in all areas, and to increase its share of the passenger and cargo volume markets.

#### **Traffic and transport records and peaks**

Despite the negative trend in the aviation sector, Schiphol again succeeded in setting new records in the past year. For instance, for the first time in history it tore past the milestone of 40 million passengers, even though it was only five years ago that it reached 30 million. At 4,131,400 passengers (excluding those in transit), August was the busiest month of the year. The busiest day was 4 August, when 145,808 passengers were transported.

The volume of cargo rose to a new record amounting to 1,239,900 tonnes. November was the busiest month for cargo, when 118,098 tonnes were transported. The most cargo to be transported on a single day was 4,804 tonnes on 1 December.

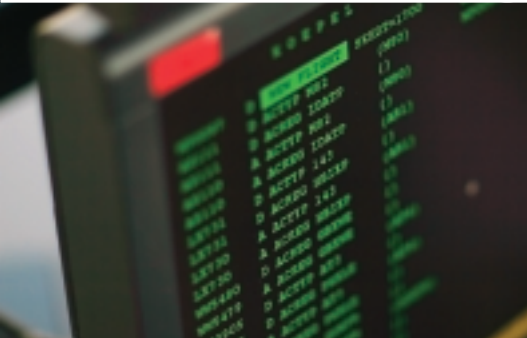
July was the busiest month for air traffic, recording 36,973 air transport movements. The busiest day was 13 August with 1,237 movements.

## Traffic and transport summary

	2002		Compared to 2001 in %
<b>Total air transport movements</b>	<b>417,120</b>	-	<b>3.5</b>
Air transport	401,385	-	3.6
General aviation	15,735	+	0.6
- scheduled traffic	369,089	-	3.5
- non-scheduled traffic	32,296	-	4.6
- passenger services	389,265	-	3.8
- full-freighter services	12,120	+	3.8
<b>Passenger transport (incl. transit-direct 1x)</b>	<b>40,736,009</b>	+	<b>3.0</b>
Transit-direct passengers	148,447	-	33.0
Passenger transport (excl. transit-direct)	40,587,562	+	3.3
- scheduled traffic	36,102,477	+	4.4
- non-scheduled traffic	4,485,085	-	4.8
- domestic	130,717	-	8.2
- europe	27,923,906	+	4.7
- intercontinental	12,532,939	+	0.2
<b>Cargo transport (tonnes)</b>	<b>1,239,900</b>	+	<b>4.8</b>
- scheduled services	987,335	+	4.5
- non-scheduled services	252,565	+	6.0
- passenger services	611,353	+	1.7
- full-freighter services	628,547	+	8.0
<b>Mail transport (tonnes)</b>	<b>48,726</b>	-	<b>4.4</b>



## 2. Air Transport Movements



In connection with the regulations governing noise, Amsterdam Airport Schiphol was allowed to complete 460,000 commercial movements in 2002. The actual number of air transport movements fell far short of this due to the events of 11 September and economic developments. Declining frequency after 11 September and the bankruptcy and departure of a number of European airlines meant that ultimately there were 401,385 air transport movements, which represented a drop of 3.6% from the corresponding figure of more than 416,000 in 2001.

The remaining traffic, which consisted in the main of taxi, business and private flights, rose slightly by 0.6% to 15,735, thereby bringing the total number of movements in 2002 to 417,120.

#### Increase in night movements

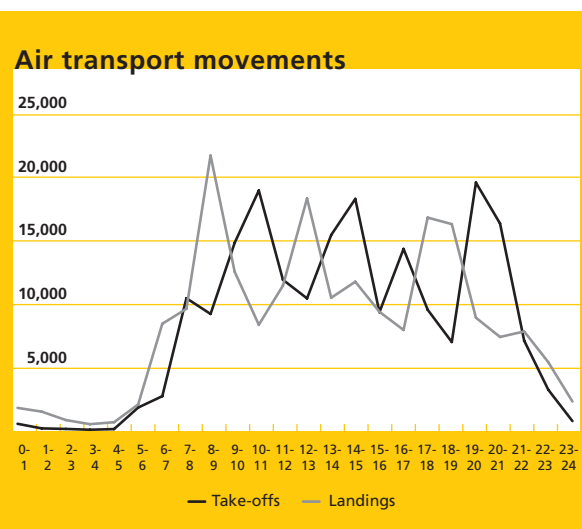
Unlike the total number of movements, the number which occurred at night (between 11 pm and 6 am), rose by 1.5% to 12,721. The number of night movements accounted for by full-freighters fell by 233. The main reason for this was that KLM outsourced its European cargo to TNT, which transported it by truck. In previous years approximately one third of these European cargo movements occurred at night. As a result, KLM accounted for 274 fewer full-freighter movements. The rise in the number of night movements was entirely due to the number of passenger movements owing to the fact that more use was made of the right to take off and land at night. In addition, the slot co-ordinator issued 100 additional night slots for 2002.

#### Hub operation subject to change

The makeup of the hub operation (KLM and its partners) at Schiphol changed again in 2002. For instance, at the end of 2001 KLM entered into a code-share agreement with the Danish airline Maersk Air and the intercontinental airlines Continental and China Southern. Apart from these new agreements, some partners also left. For instance, Swisswings went bankrupt in April 2002 and KLM sold its 30% stake in the Norwegian

#### Air transport movements per hour of the day

Local-time	Landings	Take-offs
0 - 1 h	1,752	501
1 - 2	1,458	139
2 - 3	796	96
3 - 4	471	33
4 - 5	624	84
5 - 6	2,022	1,777
6 - 7	8,366	2,672
7 - 8	9,545	10,376
8 - 9	21,598	9,138
9 - 10	12,456	14,733
10 - 11	8,288	18,848
11 - 12	11,364	11,828
12 - 13	18,225	10,362
13 - 14	10,412	15,347
14 - 15	11,674	18,186
15 - 16	9,311	9,274
16 - 17	7,879	14,255
17 - 18	16,717	9,470
18 - 19	16,203	6,931
19 - 20	8,843	19,469
20 - 21	7,328	16,248
21 - 22	7,764	7,036
22 - 23	5,344	3,175
23 - 24	2,253	714
<b>Total</b>	<b>200,693</b>	<b>200,692</b>
<b>Total movements</b>		<b>401,385</b>



airline Braathens, which led to the termination of that partnership as of the beginning of the summer services. Together with KLM's reduced flight frequency and economic developments, this led to a 4.7% decline in the number of movements of the overall hub operation in 2002. Destinations which disappeared from the network for these reasons, included Antwerp, Bern, Muscat, Nagoya and Sapporo. The destinations of Abuja and Strasbourg were added to the network.

The intention on the part of KLM's partners Northwest and Continental, to work together with Skyteam partner Delta Air Lines, has ensured that, in addition to talks with British Airways, KLM was also involved in negotiations about collaboration with Air France.

#### **Decline of leisure market limited due to strong growth of Turkish charter airlines**

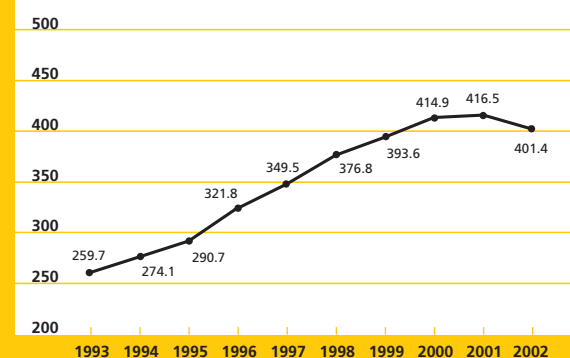
Typical of the leisure market, which also includes Martinair and Transavia, are airlines which focus specifically on sunny destinations and the transport of holidaymakers. This market consequently includes both charter and scheduled airlines. The number of movements in the leisure market dropped by 2.7% in 2002. Among other things, this decline was due to the fact that Hapag Lloyd, one of the newcomers in 2001, offered its last flight from Schiphol in January 2002. Air Holland, which commenced operations in 2001, again found itself in difficulties in 2002, as a result of which its future seemed uncertain once more. The decline of the leisure market remained limited owing to the fact that, just as in 2001, the Turkish charter airlines exhibited rather strong growth of 31.7%.

Excluding BasiqAir, the number of movements operated by Transavia dropped by 3.9% in 2002. This fall was due to the fact that more of the Transavia fleet was used for BasiqAir operations.

#### **New low-fare airlines**

The low-fare market was responsible for the largest increase in the number of movements: 45.9%. This sector, which consists of easyJet and BasiqAir, was extended to include Buzz and bmibaby when the

#### **Air transport movements (x 1,000)**



2002-2003 winter services started. Buzz, a KLM subsidiary, took over five daily flights to London Stansted from KLM uk, while bmibaby took over the three daily flights to East Midlands operated by its parent company, bmi british midland. As of May 2002 BasiqAir extended its destinations to include daily flights to Madrid, Marseille and Bordeaux. The number of low-fare airlines and the frequency of their flights are scheduled to increase further in 2003.

#### **Bankruptcy of European carriers**

The European market consists of European airline companies which do not specifically focus on sunny destinations and which are not part of the hub operation at Schiphol, such as Air France, Lufthansa and British Airways. The bankruptcy of Sabena and Swissair in 2001 was responsible for a sharp drop of



10.9% in the number of movements within the European market. The Swiss airline Crossair took over Swissair's five daily flights to Zurich and also took over its intercontinental operation from Zurich when the summer services started in 2002, operating under the new name of Swiss. A number of smaller European airlines such as Fly Metropolis and Trans Travel Airlines also did not manage to survive the economic downturn. The latter company ceased its four daily flights to Groningen in July 2002.

The intercontinental market consisting of intercontinental airline companies excluding the KLM partners, remained reasonably stable. If one disregards the airlines Continental and China Southern, as these airlines have been regarded as part of the hub operation as of 2002 and not of the intercontinental market, a growth rate of as much as 2.1% was achieved despite the attacks of 11 September and the financial difficulties besetting a number of American airlines. For instance, the American airline companies US Airways and United Airlines filed for Chapter 11 relief (the American version of a moratorium). The 2.1% growth was due to the return of Air Canada, the resumption of the daily United Airlines flight to Chicago and the advent of Varig with a daily flight to Sao Paulo.

### Air transport movements according to type

	2001	2002	% Change
1 Boeing 737	133,297	141,403	+ 6.1%
2 Fokker 70	26,206	33,908	+ 29.4%
3 Fokker 50	34,083	29,668	- 13.0%
4 Fokker 100	28,782	28,512	- 0.9%
5 Boeing 747	27,894	27,347	- 2.0%
6 Boeing 767	16,864	18,454	+ 9.4%
7 Airbus 320	14,480	16,921	+ 16.9%
8 Boeing 757	16,360	12,200	- 25.4%
9 MD11	8,965	8,772	- 2.2%
10 Airbus 319	4,908	8,298	+ 69.1%

### Increase in the number of full-freighter movements

The number of full-freighter movements increased for the first time in years, climbing by 3.8% to 12,120. Martinair, the largest full-freighter cargo carrier at Schiphol, consolidated its position in the cargo market. This airline is able to exercise some flexibility in the deployment of its fleet for both passenger and cargo services. Owing to the large demand for cargo capacity, fewer full-freighters were converted into passenger aircraft during the summer months this year, thereby making additional cargo capacity available. El-Al, the airline with the second largest full-freighter operation at Schiphol, began to develop Schiphol as its cargo hub from the late 1980's. In 2002 Schiphol saw the number of El-Al flights increase mainly because it was being used as the European cargo hub on the route from Tel Aviv to the United States.

### Deployment of larger aircraft

The proportion of propeller-driven aircraft, which operate as feeder aircraft within Europe, as in 2001, accounted for the most significant reduction of movements in 2002. The reason for this was, among other things, the end of the partnership involving KLM and Eurowings, the latter transported German transfer passengers to Schiphol. The proportion of narrow-body aircraft (i.e. the Boeing 737) increased in 2002. This was mainly due to the rapid increase in the number of





movements in the low-fare market. In addition, KLM also used narrow-body planes for a larger proportion of its movements through the more widespread deployment of the Fokker 70 and the Boeing 737-900. Because small aircraft accounted for the bulk of the reduction of movements by more than 15,000 in 2002, the average maximum take-off weight (MTOW) rose from 90.3 tonnes in 2001 to 92.8 tonnes in 2002.

In connection with European legislation, the use of so-called Chapter 2 aircraft was no longer permitted as of 1 April 2002. This Chapter 2 category includes the Boeing 707 and the Tupolev 154B, among others. Chapter 2 aircraft still accounted for 62 movements in the first three months of 2002.

#### Stabilisation of network

As a result of the attacks of 11 September, many airlines cancelled flights when the 2001-2002 winter services commenced. In this respect, the emphasis lay on reducing the frequency of flights and not the elimination of destinations. At the end of 2002 it was possible to reach 201 destinations in 83 countries directly from Amsterdam Airport Schiphol. Of the total number of destinations there were 3 which were solely served by cargo operations. In 2002 11 fewer destinations were served, while 8 new ones were added. On balance, the network of

routes served by Amsterdam Airport Schiphol covered 3 fewer destinations. The number of airline companies amounted to 90 at the end of the year. Of these companies, 7 only provided cargo services. This year 11 new airlines introduced scheduled services to Amsterdam, while 9 stopped flying to the airport.

The following airlines were newcomers in 2002:

- Swiss, which started up in March and took over all of Crossair's operations;
- Air Transat, which operated three weekly flights to Canada as part of seasonal operation. They had previously been operated as charter flights;
- Air Bosna, which commenced two weekly flights to Sarajevo in June;
- Air Canada, which operated a daily flight to Toronto as a seasonal operation from June onwards;
- Skynet Airlines, which started daily flights to Shannon in June;
- VLM, which commenced a daily cargo flight to Antwerp in July;
- Varig, which initiated a daily flight to Sao Paulo and Porto Alegre in September;
- bmibaby, which took over three daily flights to East Midlands from its parent company, bmi british midland;



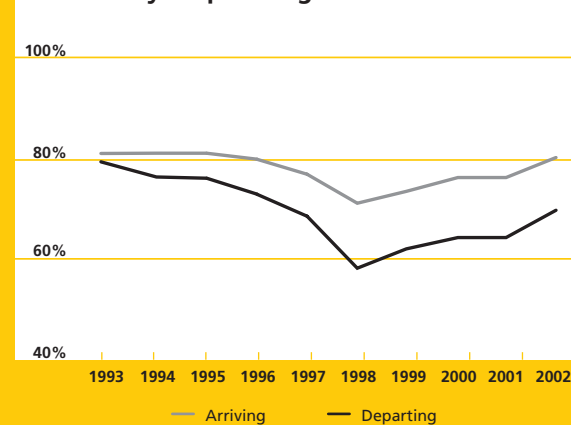
- BUZZ, which took over five daily flights to London Stansted from KLM uk;
- Libyan Arab Airlines, which started a fortnightly flight to Tripoli in October and halted this operation in December;
- Armenian Airlines, which terminated its operation at Schiphol in April 2002 but resumed them the same year in December with a weekly flight to Yerevan.

The following airlines terminated their services at Schiphol in 2002 or ceased to exist: Airzena Georgian Airlines, Fly Metropolis, Braathens, Crossair, Armenian Airlines, Swisswings, Trans Travel Airlines, Tarom and Libyan Arab Airlines.

#### Punctuality greatly improved

The punctuality of both arriving and departing passenger flights improved significantly in 2002. Reasons that may be cited for this include a reduction of air traffic in European air space of some 2% and the addition of routes in this airspace, which came into effect on 24 January 2002. These additional routes were created by reducing the vertical distance between aircraft from 2000 feet (600 metres) to 1000 feet (300 metres). Arrival punctuality rose by 4.8 percentage points to reach 80.4% and the corresponding figure for departures went up by 5.0 percentage points in

#### Punctuality of passenger services



2002 to 69.1%. Within this context, a flight is considered to be punctual if it arrives or departs within no more than 15 minutes of its scheduled arrival or departure time respectively. In January and February, many flights were hindered by high winds of 30 knots or more, which had a negative effect on punctuality. The same applied for October when there were powerful westerly winds. In November and December, punctuality suffered mainly due to days of mist.

In March 2002, the punctuality rate of passenger flight arrivals amounted to 86.2% and that of departing flights was 76.7%. Both figures amounted to records since 1996.



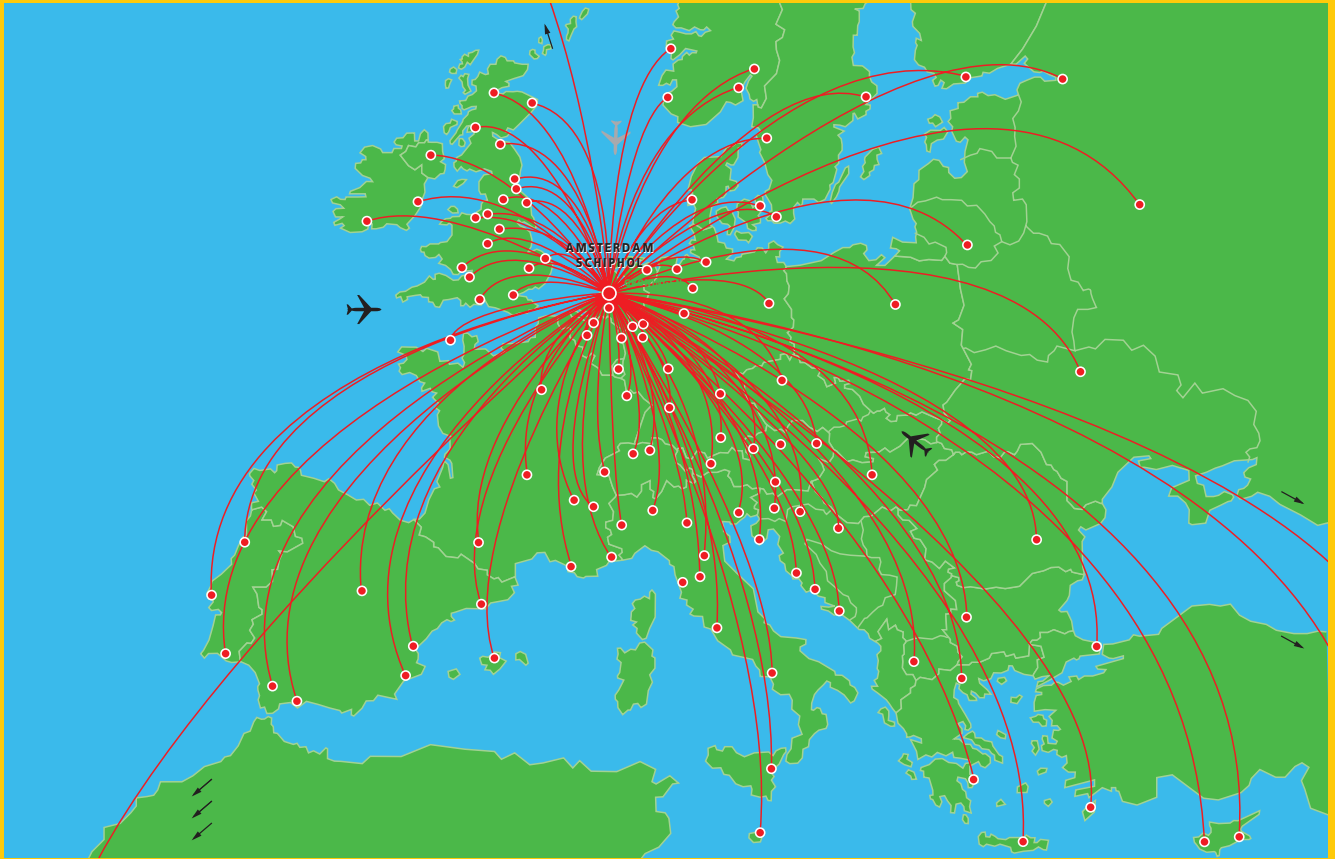
## Air transport movements, monthly totals 2002

	January	February	March	April	May	June	July	August	September	October	November	December
<b>I. Air transport</b>												
1. Scheduled flights												
Passenger services	29,018	26,530	29,955	30,099	31,516	30,619	32,184	31,991	31,020	31,514	29,306	28,006
Full-freighter services	500	566	670	579	564	594	619	555	625	674	713	672
Subtotal	29,518	27,096	30,625	30,678	32,080	31,213	32,803	32,546	31,645	32,188	30,019	28,678
2. Non-scheduled flights												
Passenger services	900	955	1,299	2,036	3,154	2,964	3,845	3,951	3,112	3,027	1,172	1,092
Full-freighter services	417	402	441	393	365	342	325	343	354	448	479	480
Subtotal	1,317	1,357	1,740	2,429	3,519	3,306	4,170	4,294	3,466	3,475	1,651	1,572
Total air transport	30,835	28,453	32,365	33,107	35,599	34,519	36,973	36,840	35,111	35,663	31,670	30,250
<b>II. General aviation</b>												
Taxi / business / private	664	695	935	842	1,060	1,032	860	605	913	871	774	617
Training flights	57	43	32	29	25	7	5	14	21	20	25	14
Other flights	365	369	529	480	498	541	515	451	472	505	503	347
Total general aviation	1,086	1,107	1,496	1,351	1,583	1,580	1,380	1,070	1,406	1,396	1,302	978
Grand total	31,921	29,560	33,861	34,458	37,182	36,099	38,353	37,910	36,517	37,059	32,972	31,228

## Air transport movements, annual totals 1993 - 2002

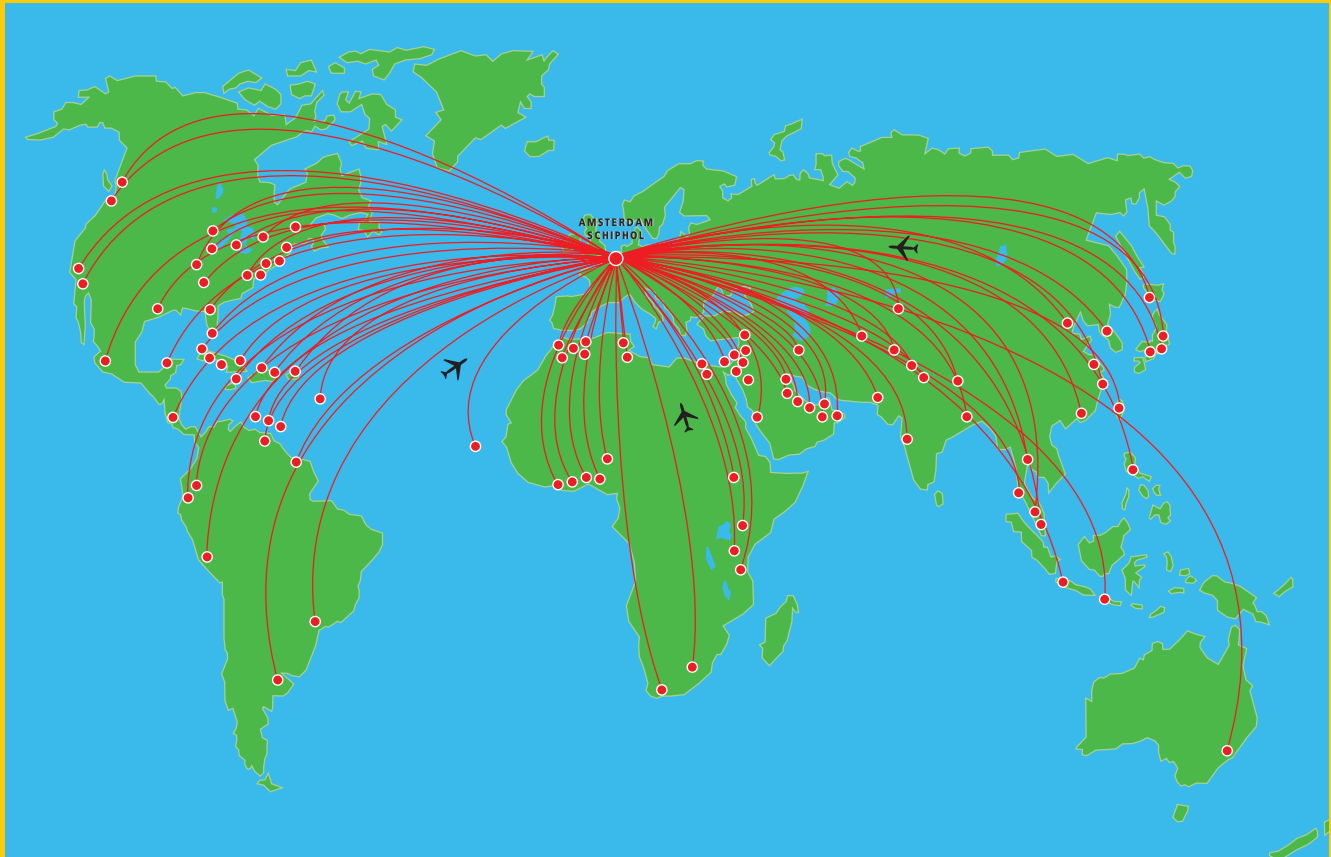
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Compared to 2001 in %
<b>I. Air transport</b>											
1. Scheduled flights											
Passenger services	230,595	243,216	255,917	285,801	312,415	339,195	354,377	374,421	375,455	361,758	- 3.6
Full-freighter services	4,913	5,496	6,656	7,977	9,120	8,842	8,202	7,230	7,159	7,331	+ 2.4
Subtotal	235,508	248,712	262,573	293,778	321,535	348,037	362,579	381,651	382,614	369,089	- 3.5
2. Non-scheduled flights											
Passenger services	20,311	21,177	23,323	23,048	24,040	24,897	26,712	28,627	29,326	27,507	- 6.2
Full-freighter services	3,856	4,175	4,793	4,953	3,901	3,876	4,315	4,650	4,522	4,789	+ 5.9
Subtotal	24,167	25,352	28,116	28,001	27,941	28,773	31,027	33,277	33,848	32,296	- 4.6
Total air transport	259,675	274,064	290,689	321,779	349,476	376,810	393,606	414,928	416,462	401,385	- 3.6
<b>II. General aviation</b>											
Taxi / business / private	17,597	14,603	11,949	10,192	9,051	9,106	9,899	10,890	9,989	9,868	- 1.2
Training flights	4,306	4,753	5,684	3,986	1,575	1,184	825	389	431	292	- 32.3
Other flights	6,360	6,292	6,490	6,646	7,423	5,619	5,669	6,276	5,219	5,575	+ 6.8
Total general aviation	28,263	25,648	24,123	20,824	18,049	15,909	16,393	17,555	15,639	15,735	+ 0.6
Grand total	287,938	299,712	314,812	342,603	367,525	392,719	409,999	432,483	432,101	417,120	- 3.5

## Origins and destinations Europe



ABERDEEN • ALICANTE • ANTWERP • ATHENS • BARCELONA • BASEL • BELFAST • BELGRADE • BERGEN • BERLIN  
BILLUND • BIRMINGHAM • BOLOGNA • BORDEAUX • BREMEN • BRISTOL • BRUSSELS • BUCHAREST • BUDAPEST  
CARDIFF • CHAMBERY • CLERMONT-FERRAND • COLOGNE • COPENHAGEN • CORK • DUBLIN • DUSSELDORF  
EAST MIDLANDS • EDINBURGH • EINDHOVEN • FARO • FLORENCE • FRANKFURT • FUNCHAL • GENEVA • GLASGOW  
GOTHENBURG • GUERNSEY • HAMBURG • HANOVER • HELSINKI • HERAKLION • HUMBERSIDE • INNSBRUCK • ISTANBUL  
KIEV • LARNACA • LAS PALMAS • LEEDS • LINZ • LISBON • LIVERPOOL • LJUBLJANA • LONDON • LUXEMBOURG • LYON  
MAASTRICHT • MADRID • MALAGA • MALTA • MANCHESTER • MARSEILLE • MILAN • MOSKOW • MUNICH • NAPELS  
NEWCASTLE • NICE • NORWICH • NUREMBERG • OPORTO • OSLO • PALMA • PAPHOS • PARIS • PRAGUE • REYKJAVIK  
RHODOS • ROME • SALZBURG • SANDEFJORD • SARAJEVO • SEVILLA • SHANNON • SKOPJE • SOUTHAMPTON  
ST. PETERSBURG • STAVANGER • STOCKHOLM • STRASBOURG • STUTT GART • TEESSIDE • TENERIFE • THESSALONIKI  
TOULOUSE • TURIN • VALENCIA • VENICE • VERONA • VIENNA • VILNIUS • WARSAW • YEREVAN • ZAGREB • ZURICH

## Origins and destinations intercontinental



ABIDJAN • ABU DHABI • ABUJA • ACCRA • ADDIS ABABA • AL HOCEIMA • ALEPPO • ALMATY • AMMAN • ARUBA  
 ATLANTA • BAHRAIN • BANGKOK • BEIJING • BEIRUT • BONAIRE • BOSTON • CAIRO • CANCUN • CAPETOWN • CARACAS  
 CASABLANCA • CHICAGO • CURACAO • DAMASCUS • DAMMAM • DAR-ES-SALAAM • DELHI • DETROIT • DOHA • DUBAI  
 GUANGZHOU • GUAYAQUIL • HAVANA • HOLGUIN • HONG KONG • HOUSTON • ISLAMABAD • JAKARTA  
 JOHANNESBURG • KANO • KARACHI • KATHMANDU • KILIMANJARO • KUALA LUMPUR • KUWAIT • LAGOS • LAHORE  
 LIMA • LOS ANGELES • MADRAS • MANILA • MEMPHIS • MEXICO CITY • MIAMI • MINNEAPOLIS • MONASTIR  
 MONTEGO BAY • MONTREAL • MUMBAI • NADOR • NAIROBI • NEW YORK • NEWARK • ORLANDO • OSAKA • OUJDA  
 PARAMARIBO • PENANG • PHILADELPHIA • PORTO ALEGRE • PUERTO PLATA • PUNTA CANA • QUITO • SAL  
 SAN FRANCISCO • SAN JOSE • SANTO DOMINGO • SAO PAULO • SEATTLE • SEOUL • SHANGHAI • SHARJAH • SINGAPORE  
 ST. MAARTEN • TAIPEI • TANGER • TEHERAN • TEL AVIV • TOKYO • TORONTO • TRIPOLI • TUNIS • VANCOUVER  
 VARADERO • WASHINGTON



# 3. Passenger Transport



# Passenger



A record number of more than 40.7 million passengers travelled to, from or via Schiphol in 2002. This amounted to an increase of 3.0% compared to 2001 in spite of the attacks of 11 September and disappointing economic growth. The effect of the attacks was clearly visible in the transport of passengers in the first eight months of 2002. Only in the month of May, 2.2% more passengers were transported than in the same month the year before.

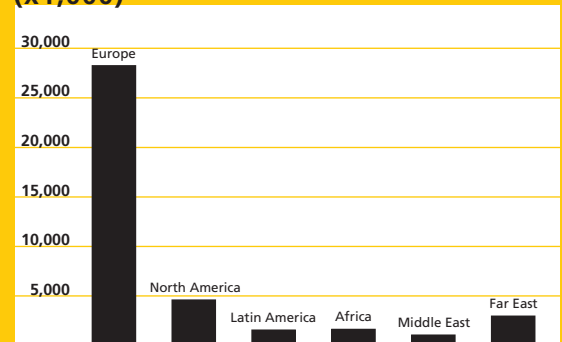
Obviously, September to December saw a sharp increase compared with 2001 owing to the dramatic reduction of passenger numbers in 2001 following the above-mentioned attacks. The 40 millionth passenger was finally welcomed at Schiphol on 23 December.

#### No dip in low-fare market

Despite the sharp increase in the number of passengers carried by Turkish charter airlines, the figure for all charter flights fell by 4.8% in 2002. The sharpest drop in this market occurred in January. The reason for this lay in Martinair's decision to scrap intercontinental routes when the 2001 summer service schedule came into effect as part of operation 'red alert'. Another reason was Transavia's reduction of the frequency of flights to a number of European destinations when the 2001-2002 winter service schedule came into force, as a result of the attacks in the United States.

In 2002 the number of passengers on scheduled services rose by 4.1% compared to 2001. Rapid

#### Passenger transport by continent (x1,000)

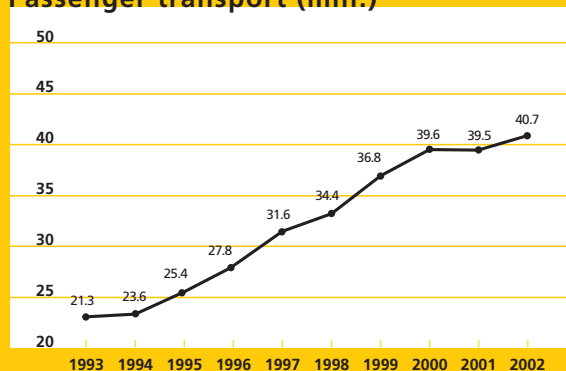


growth on the part of the low-fare airlines was responsible for this sharp increase. The total number of passengers in the low-fare market leapt by more than 56%. The low prices charged by low-fare airlines ensured that this sector was the only one which did not see a dip in passenger numbers despite the attacks of 11 September. In addition BasiqAir introduced a number of new destinations while Buzz and bmibaby commenced operations as new low-fare airlines at Schiphol.

#### Increase in transfer passengers

The number of 'O&D' passengers (those who arrive at or depart from Schiphol locally) increased marginally by 1.3% compared to 2001 as a result of 11 September and sluggish economic developments. Growth was limited despite the spectacular development of the low-fare market in which more than one million additional 'O&D' passengers were transported. In order to achieve a passenger load factor rate which would produce a sufficiently high yield, the hub carriers compensated for the low 'O&D' passenger numbers by transporting additional transfer passengers. Transfer passengers are those passengers who use Schiphol to change planes. Thanks to this compensation, the number of transfer passengers rose by 6.1% following a sharp decrease in 2001. Transfer passenger accounted for 41.9% of the total number of passengers (excl. transit-direct).

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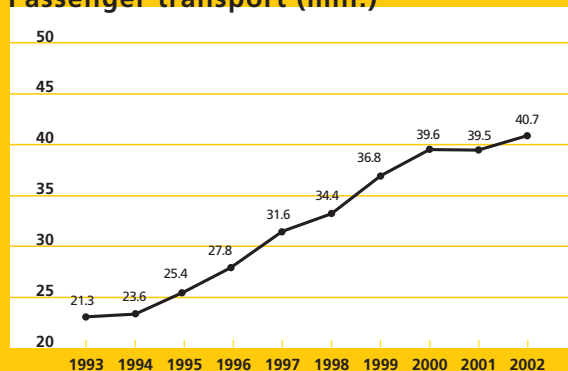


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#### Passenger transport (mln.)





### Halt of downward trend of business travel

Compared to 2001, the proportion of business to non-business travel remained stable at 38% to 62% respectively. This marked the halt of the downward trend of business travel in the past five years. The attacks in the United States mainly affected holiday travel. For instance, the proportion of passengers travelling for holiday reasons dropped to 42%, a decline of 2% compared to 2001. On the other hand, visits to family and friends rose by 2% thereby ensuring the persistence of the rising trend of recent years. The proportion of other reasons for travelling remained unchanged compared with 2001.

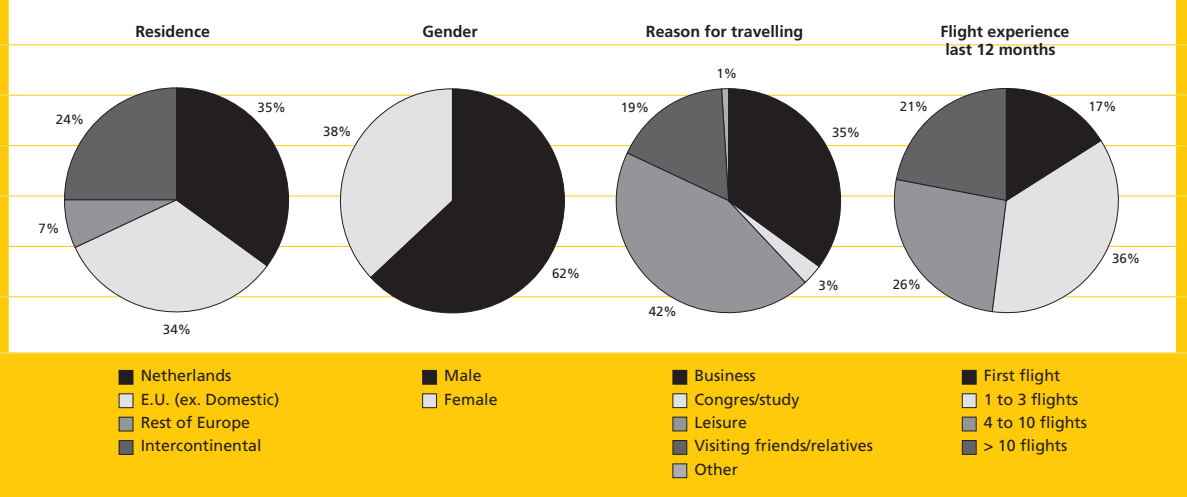
The number of Dutch passenger departures from Schiphol rose by 3% in 2002, thereby ensuring that the proportion of Dutch to the total number of passengers remained stable at 35% as in previous years. Whereas there was a slight decline of 1% in the number of Dutch business travellers in 2001, this trend was reversed in 2002 with a marginal increase of 1% to 1.9 million. At 3%, the number of Dutch passengers travelling for reasons other than business, rose somewhat faster to 5.2 million. Over the entire year the proportion of passengers who travelled to Schiphol by train remained almost the same as in 2001 despite the decline of train travel in the fourth quarter of 2002. This decline was largely due to extreme weather in autumn and problems affecting the infrastructure. 34% of

### Passenger destinations, scheduled services (end of the year)

	2001	2002
Domestic	3	2
Europe	104	103
North America	20	19
Latin America	19	21
Africa	20	21
Middle East	14	13
Far East	24	22
Total	204	201

passengers used public transport (train and regular bus services) to travel to the airport, of whom 33% travelled by train. Together with those passengers who were dropped off by car - also 33% - these were the dominant means of transport to the airport.

### Passenger profile



## Passenger transport, monthly totals 2002 (x 1,000)

	January	February	March	April	May	June	July	August	September	October	November	December
<b>I. Scheduled</b>												
Arrival	1,242.3	1,207.2	1,495.9	1,484.5	1,614.0	1,581.4	1,659.7	1,773.6	1,656.5	1,623.3	1,375.3	1,322.3
Departure	1,209.2	1,236.6	1,471.3	1,526.5	1,557.1	1,605.9	1,775.7	1,652.0	1,668.6	1,616.5	1,364.4	1,382.6
Subtotal	2,451.5	2,443.8	2,967.3	3,011.0	3,171.1	3,187.3	3,435.4	3,425.6	3,325.2	3,239.9	2,739.7	2,704.9
<b>II. Non-Scheduled</b>												
Arrival	62.6	70.9	96.7	117.2	261.0	227.1	305.9	388.1	266.3	266.7	80.0	63.1
Departure	58.3	81.9	101.3	175.0	266.2	254.2	389.2	317.7	272.9	214.5	72.8	75.4
Subtotal	120.9	152.8	198.0	292.2	527.2	481.3	695.1	705.8	539.2	481.2	152.9	138.5
<b>III. Total air transport</b>												
Arrival	1,305.0	1,278.1	1,592.6	1,601.6	1,874.9	1,808.5	1,965.5	2,161.8	1,922.9	1,890.0	1,455.3	1,385.4
Departure	1,267.4	1,318.6	1,572.6	1,701.5	1,823.3	1,860.1	2,164.9	1,969.6	1,941.5	1,831.1	1,437.2	1,458.1
Total	2,572.4	2,596.6	3,165.2	3,303.1	3,698.2	3,668.6	4,130.4	4,131.4	3,864.4	3,721.1	2,892.5	2,843.5
Transit-direct	11.4	7.9	9.7	10.2	13.0	14.5	18.7	18.2	12.3	10.2	10.2	12.1
Grand total	2,583.8	2,604.5	3,174.9	3,313.4	3,711.3	3,683.1	4,149.2	4,149.6	3,876.6	3,731.3	2,902.7	2,855.6

## Passenger transport, annual totals 1993 - 2002 (x 1,000)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Compared to 2001 in %
<b>I. Scheduled</b>											
Arrival	8,876.4	9,951.7	10,735.0	11,903.2	13,647.6	14,940.7	16,043.2	17,215.2	17,303.0	18,036.1	+ 4.2
Departure	8,839.5	9,931.5	10,745.2	11,886.1	13,657.3	15,015.3	16,056.4	17,281.3	17,294.1	18,066.4	+ 4.5
Subtotal	17,715.9	19,883.2	21,480.2	23,789.3	27,304.9	29,956.0	32,099.6	34,496.4	34,597.1	36,102.5	+ 4.4
<b>II. Non-Scheduled</b>											
Arrival	1,520.2	1,587.5	1,678.1	1,730.9	1,848.6	1,958.4	2,143.0	2,365.0	2,326.1	2,205.5	- 5.2
Departure	1,534.2	1,598.7	1,698.4	1,741.8	1,867.5	2,037.7	2,182.5	2,409.2	2,386.3	2,279.5	- 4.5
Subtotal	3,054.4	3,186.2	3,376.5	3,472.7	3,716.1	3,996.1	4,325.5	4,774.2	4,712.4	4,485.1	- 4.8
<b>III. Total air transport</b>											
Arrival	10,396.6	11,539.2	12,413.1	13,634.1	15,496.2	16,899.1	18,186.2	19,580.1	19,629.0	20,241.6	+ 3.1
Departure	10,373.7	11,530.1	12,443.6	13,627.9	15,524.8	17,053.0	18,239.0	19,690.5	19,680.4	20,346.0	+ 3.4
Total	20,770.4	23,069.4	24,856.7	27,262.0	31,021.0	33,952.1	36,425.1	39,270.6	39,309.4	40,587.6	+ 3.3
Transit-direct	504.1	490.1	498.3	532.8	549.0	468.0	346.9	336.3	221.7	148.4	- 33.1
Grand total	21,274.4	23,559.5	25,355.0	27,794.9	31,570.0	34,420.1	36,772.0	39,606.9	39,531.1	40,736.0	+ 3.0



## 4. Cargo Transport

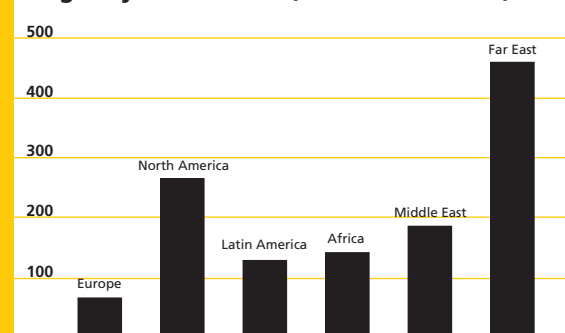


After five years of limited growth and even a reduction in 2001, the volume of cargo rose sharply at Amsterdam Airport Schiphol in 2002. A total of 1,239,900 tonnes of cargo were transported, which represented a record growth rate of 4.8%. The transport of cargo through Schiphol grew more strongly than that of its most important European competitors, thereby consolidating its fourth place in the European cargo market.

**Increased cargo capacity and higher load factor**

The increase in the volume of cargo was dominated by growth in the transport of cargo using full-freighters. The latter accounted for 628,547 tonnes or 50.7% of the total cargo volume. The shipment of cargo by full-freighters rose by 8.0% compared with 2001. The number of air transport movements performed by full-freighters increased by 3.8% to 12,120. In addition to the fact that the increase in

**Cargo by continent (x 1,000 tonnes)**

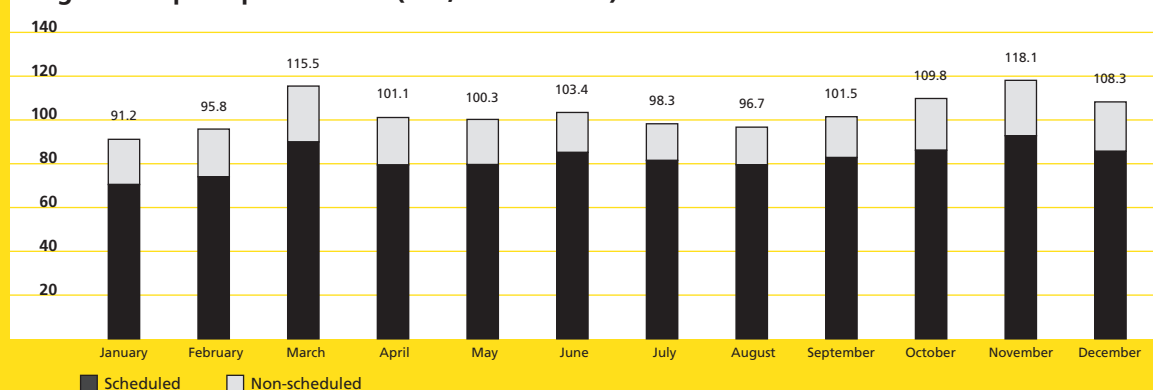


the number of movements involved larger aircraft, which resulted in greater cargo capacity, there was also a higher load factor, which translated into more cargo per flight on average.

The average maximum take-off weight (MTOW) of full-freighter aircraft rose from 307 tonnes in 2001



### Cargo transport per month (x 1,000 tonnes)



to 315 tonnes in 2002. This increase was partly occasioned by KLM's decision to outsource the transport of a large part of its European cargo, which was formerly shipped in smaller Airbus aircraft, to TNT, which transported it by truck to Liège.

In spite of the decline in the number of movements featuring passenger aircraft, the quantity of cargo shipped in these aircraft rose by 1.7%. The regions to which the largest quantity of cargo was shipped using passenger aircraft were North America and the Far East. Thanks to a relative high dollar exchange rate, the transport of cargo from Schiphol to North America, in particular, increased sharply.

#### Home carriers dominate cargo market

The home carrier KLM was the largest cargo transporter active at Schiphol in 2002, as was the case in previous years. In 2002 KLM only shipped 10% of its cargo volume by full-freighter. Unlike the situation of overall cargo transport at Schiphol, KLM saw its cargo volume decline somewhat compared to the previous year. As mentioned above, the reason for this decrease was its decision to outsource the shipment of a large part of its European cargo to TNT as of November 2001.

Following KLM, Martinair was the largest cargo transporter active at Schiphol. In 2002 Martinair increased its volume of cargo mainly because fewer full-freighters were converted into passenger aircraft during the summer months, as a result of which more capacity was available for cargo. At the



end of 2001 and in 2002 Martinair added the following destinations to its cargo network: Bahrain, Caracas, Chicago, Doha, San Francisco and Sharjah. In July 2002 VLM commenced daily cargo shipments to Antwerp. Because VLM used a Piper 31 with a small cargo capacity for these flights, these operations had virtually no effect on the volume of cargo.

#### New cargo airline and increased frequency

Following the economic crisis in the Far East, the transport of cargo on this region has increased for the fourth year in a row. In 2002 this increase amounted to 7.2%. The growth of volume is largely due to the transport of cargo from this region to Amsterdam. On the other hand, the volume of cargo on the Middle East route, which had fallen



sharply in the previous four years, recovered in 2002 rising sharply by 12.9% mainly due to the transshipment of cargo from the Far East.

In 2002 JAL Cargo commenced a fortnightly shipment of cargo using a Boeing 747-200F, in addition to its existing daily passenger flight to Tokyo. Together with an increase in the frequency of flights operated by the airlines Dragonair Cargo, El-Al, Malaysia Airlines, Singapore Airlines and Emirates, JAL Cargo was responsible for the substantial increase in the cargo transport to and from the Middle and Far East.

The total number of cargo movements operated by Dragonair Cargo rose, among other things, because of an increase in the frequency of flights from five to six services per week in November, which

enabled the airline to respond to the growing demand for transport from China to Europe. An increase in the frequency of flights operated by Malaysia Airlines to Kuala Lumpur ensured that the latter became the fastest growing cargo destination for Schiphol in 2002. Hong Kong also recorded strong growth as a cargo destination mainly due to the airlines Martinair and Dragonair Cargo.

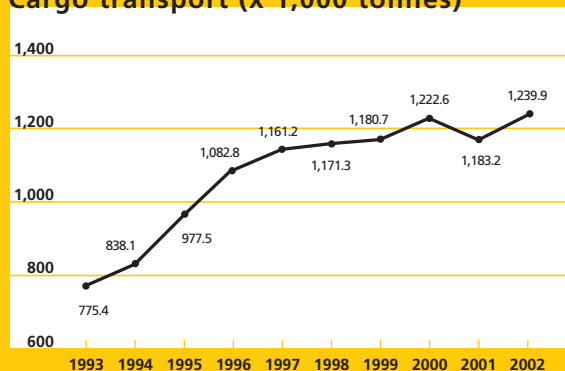
Amsterdam was and is the top destination for Dubai. From the other direction, Dubai was also one of the Schiphol destinations which recorded the strongest growth. In 2002 Emirates boosted its services to Dubai from four to five times a week. These services had been established together with KLM at some stage in order to offer capacity to Hong Kong. For several years now Emirates has been operating these services in its own right. In addition, Malaysia Airlines, KLM, Martinair and Dragonair Cargo also shipped more cargo to this destination.

In 2002 China Airlines temporarily grounded its aircraft in connection with a crash in May that year. In September it resumed its fortnightly full-freighter service to Taipei.

#### Dollar exchange rate boosts exports

Cargo transport on the North American route grew by 7.4% in 2002. A high dollar exchange rate ensured that less cargo was transported from North

**Cargo transport (x 1,000 tonnes)**



America to Schiphol but that there was a sharp increase of shipments in the opposite direction. Airlines which recorded strong growth included Continental, Northwest, Martinair, US Airways and El-Al. The latter operated far more cargo flights than in the previous year, using Schiphol as a hub for flights to North America. Chicago became the second fastest growing destination for Schiphol largely thanks to the El-Al operations.

Airline companies also benefited from the strikes in the harbours on America's west coast in the period from September to October 2002. Shippers who could not use these harbours, opted in favour of air transport. There was a shortage of capacity chiefly on the route from the Far East to North America, in which Europe was used as a stopover and European airports were able to benefit from the additional volume of cargo.

#### **Mail transport to Kenya nearly doubled**

Mail transport, which takes place almost totally on passenger aircraft, declined in the past year by 4.4% compared with 2001, to 48,726 tonnes. The transport of mail grew in the past decade by an average of 5% annually. The seasonal pattern in 2002 also showed a clear peak in December - which

was naturally caused by all the cards, letters, and packages that were sent during the holidays.

Distinct differences could be observed in 2002 in the development per region. For instance, transport to the Middle East demonstrated a very sharp decline of more than 41%, to 3,869 tonnes compared with 2001 in which strong growth was realised in this region. Both the solid increase in 2001 and the decrease in 2002 were for the most part at the expense of the mail transport to Israel.

Transport to Africa exhibited the strongest increase with a growth of nearly 19%, to 3,679 tonnes. In this context, the transport to Kenya rose significantly from 663 tonnes in 2001 to 1,174 tonnes in 2002 - an increase of more than 77%. Transport within the 15 countries of the European Union, which with nearly 15,000 tonnes had a 30% share of the total transport, declined by more than 3%. Strong growth in the mail transport within the European Union was primarily visible in the Scandinavian countries Finland (+10.4%), Denmark (+21.7%) and Sweden (+23.7%). On the other hand, a sharp decrease was particularly evident in Germany (-8.9%), France (-11.6%), Great Britain (-12.1%), and Italy (-17.8%).





## Cargo transport, monthly totals 2002 (tonnes)

	January	February	March	April	May	June	July	August	September	October	November	December
<b>I. Scheduled</b>												
Arrival	46,024	46,207	52,541	48,986	49,832	51,842	50,781	50,867	52,007	53,334	54,843	51,188
Departure	24,501	27,859	37,433	30,477	29,800	33,313	30,724	28,668	30,833	32,828	37,969	34,478
Subtotal	70,525	74,066	89,975	79,462	79,632	85,155	81,505	79,535	82,840	86,162	92,812	85,666
<b>II. Non-Scheduled</b>												
Arrival	125	210	220	240	256	246	216	264	382	383	194	162
Departure	20,512	21,562	25,288	21,418	20,366	18,022	16,535	16,916	18,267	23,264	25,093	22,422
Subtotal	20,637	21,773	25,508	21,658	20,622	18,268	16,751	17,180	18,649	23,647	25,286	22,585
<b>III. Total air transport</b>												
Passenger services	70,525	74,066	89,975	79,462	79,632	85,155	81,505	79,535	82,840	86,162	92,812	85,666
Full-freighter services	20,637	21,773	25,508	21,658	20,622	18,268	16,751	17,180	18,649	23,647	25,286	22,585
Grand total	91,162	95,839	115,482	101,120	100,253	103,424	98,256	96,716	101,489	109,809	118,098	108,250

## Cargo transport, annual totals 1993 - 2002 (tonnes)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Compared to 2001 in %
<b>I. Scheduled</b>											
Arrival	459,063	500,256	538,119	560,707	591,748	588,098	586,548	613,024	595,585	608,454	+ 2.2
Departure	191,321	211,791	275,193	322,490	368,602	371,852	370,900	351,179	349,273	378,881	+ 8.5
Subtotal	650,384	712,047	813,312	883,197	960,350	959,950	957,449	964,203	944,857	987,335	+ 4.5
<b>II. Non-Scheduled</b>											
Arrival	10,175	4,796	6,140	5,861	7,872	6,951	7,434	8,574	5,701	2,900	- 49.1
Departure	114,827	121,284	158,079	193,788	193,012	204,355	215,835	249,817	232,650	249,665	+ 7.3
Subtotal	125,002	126,080	164,219	199,649	200,884	211,306	223,268	258,391	238,351	252,565	+ 6.0
<b>III. Total air transport</b>											
Passenger services	469,238	505,052	544,259	566,568	599,620	595,049	593,982	621,598	601,285	987,335	+ 64.2
Full-freighter services	306,148	333,075	433,272	516,278	561,614	576,207	586,735	600,996	581,923	252,565	- 56.6
Grand total	775,386	838,127	977,531	1,082,846	1,161,234	1,171,256	1,180,717	1,222,594	1,183,208	1,239,900	+ 4.8

## Mail transport, annual totals 1993 - 2002 (tonnes)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Compared to 2001 in %	
<b>I. Incoming</b>												
E.U.*)	6,494	6,197	7,278	6,597	7,580	7,867	7,139	6,512	7,952	7,546	-	5.1
Rest of Europe	1,679	1,698	1,686	1,635	1,915	1,881	1,702	1,986	2,101	2,497	+	18.8
North America	1,938	3,620	5,114	5,944	6,716	5,596	6,404	6,056	5,223	4,229	-	19.0
Latin America	459	454	409	498	554	397	410	498	646	864	+	33.7
Africa	499	502	512	503	446	371	439	383	633	761	+	20.2
Middle East	390	406	444	453	652	2,514	2,610	2,781	3,999	1,754	-	56.1
Far East	2,333	2,292	2,378	2,149	1,999	2,147	2,024	2,364	2,550	2,959	+	16.0
Subtotal	13,793	15,169	17,822	17,779	19,860	20,772	20,729	20,579	23,105	20,609	-	10.8
<b>II. Outgoing</b>												
E.U.*)	5,954	7,636	8,282	8,209	8,113	7,548	7,332	7,027	7,462	7,380	-	1.1
Rest of Europe	2,156	2,861	3,898	4,255	4,443	4,805	4,050	3,922	4,506	4,777	+	6.0
North America	3,550	2,917	2,669	2,283	3,067	3,784	3,383	3,662	4,692	5,419	+	15.5
Latin America	1,935	1,694	1,434	1,377	1,700	1,760	1,276	1,589	1,820	1,709	-	6.1
Africa	1,349	1,320	1,488	1,576	1,717	1,869	1,558	1,793	2,462	2,918	+	18.5
Middle East	1,119	1,263	1,490	1,978	2,473	2,589	1,952	1,988	2,606	2,115	-	18.8
Far East	3,732	3,714	4,701	4,349	4,675	4,362	4,288	4,231	4,300	3,799	-	11.7
Subtotal	19,796	21,405	23,961	24,027	26,188	26,718	23,839	24,213	27,848	28,117	+	1.0
<b>Total air transport</b>	<b>33,589</b>	<b>36,574</b>	<b>41,784</b>	<b>41,806</b>	<b>46,048</b>	<b>47,490</b>	<b>44,567</b>	<b>44,792</b>	<b>50,953</b>	<b>48,726</b>	-	<b>4.4</b>

\*) The 15 official members of the European Union



## 5. Other Airports



# Airports



In 2002 the quality of the mainport network of Amsterdam Airport Schiphol was compared with that of nine competing Western European mainports using quantitative criteria with the aid of the marketing mainport index (MMX). These competing mainports were Brussels, Frankfurt, Copenhagen, London, Manchester, Milan, Munich, Paris and Zurich. The comparison covers the routes between these mainports and a set of 70 selected intercontinental destinations. It includes the most important economic metropolises and air transport hubs outside Europe.



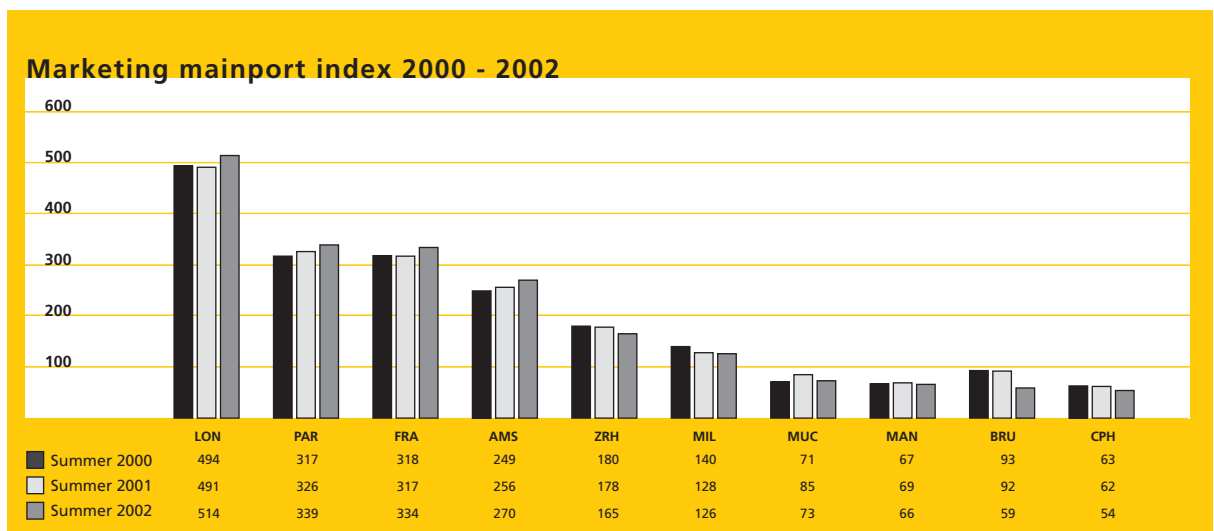
The MMX for each European mainport consists of the following three elements:

- destinations - how many of the 70 selected destinations are served directly?
- frequency - how often can these destinations be reached?
- degree of competition - how many of these flights are operated by the home carrier's alliance? In other words, how much choice do travellers have?

The score for the elements of destinations and frequency are combined to produce an index figure, while the degree of competition is specified separately as a percentage. The MMX is determined once a year based on a typical week during the summer season.

These calculations revealed that Amsterdam occupied fourth position, which is entirely in line with the fact that Schiphol is the number four airport in Europe. They also showed that Amsterdam serves more destinations and offers a greater frequency of flights to those selected destinations than the average for the ten European mainports. However, it also appeared that Amsterdam is rather highly dependent on its hub carriers - KLM and partners - in order to maintain its mainport network.

A split is clearly visible within Europe. The mainport networks of the four major airports (London, Paris, Frankfurt and Amsterdam) improved while those of the others deteriorated. Because the MMX covers



**Air transport movements (x 1,000)**

849.5	London
709.2	Paris
444.0	Frankfurt
<b>401.4</b>	<b>Amsterdam</b>
367.2	Madrid
320.3	Munich
298.8	Milan
295.7	Rome
263.2	Copenhagen
237.6	Brussels

relative changes within the ten airports mentioned above, the four large mainports achieved their improvement at the expense of the other six. In absolute terms the networks of all European mainports shrank in 2002 compared to 2001. For instance, Amsterdam lost two destinations and 22 weekly services. The fact that the quality of Amsterdam's mainport network improved in relative terms, is due to the fact that its loss was smaller than average. An important reason for the split lies in the fact that the flow of passengers between Europe and other parts of the world is increasingly concentrated within a number of large European hubs.

**Air traffic diminished in Europe**

Apart from comparing European mainports on the basis of the mentioned MMX, the absolute traffic and transport data of the top ten European airports and airport systems have also been compared.

An airport system refers to a cluster of airports. For example, a reference to Paris airport means the airports Charles de Gaulle and Orly together.

The top ten European airports registered a 1.9% drop in the number of movements. This decrease was due to a reduction of flights in response to 11 September and economic developments in 2002. Because Schiphol with a drop 3.6% showed a sharper decline than its most important European competitors, its market share within the top ten shrank somewhat ending up at 9.5%. Brussels, which was hit hard by Sabena's bankruptcy and the resultant drop in the number of movements by 17.1%, has disappeared from the list of the ten largest airports. Its place has now been taken by Barcelona, despite the fact that it also saw a fall in the number of its movements compared with the previous year. Of the top ten airports, only three saw an increase in the number of movements, with Munich registering the largest increase at 3.2%. Frankfurt and Rome achieved more modest results of 0.7% and 0.3% growth respectively. Milan and Copenhagen recorded the sharpest drop, namely 6.0% and 7.6% respectively.



### Passenger transport (x 1,000)

109,016	London
71,465	Paris
48,450	Frankfurt
<b>40,736</b>	<b>Amsterdam</b>
33,906	Madrid
26,266	Rome
25,257	Milan
23,164	Munich
21,348	Barcelona
17,902	Zurich

#### Top ten passenger market went up slightly

The passenger market in Europe was negatively affected by the attacks of 11 September, particularly at the beginning of 2002. In the first few months passenger numbers were down, particularly at the larger European airports. This was primarily due to the fact that these airports are relatively more dependent on intercontinental transport and transfer passengers. It were precisely these sectors which were hit hardest by the attacks of 11 September. The most severe impact was to be seen in transport on the North American route. Like Amsterdam, London and Paris also saw a reduction in the number of passengers on this

route over the entire year. Frankfurt was the only major airport which saw a slight increase in the number of passengers on the North American route. Swissair's bankruptcy caused that Zurich saw a decline of about 17.3%, with the result that it disappeared out of the top ten. Its place was taken over by Manchester airport in spite of its 7.7% fall in the number of passengers transported.

Of the top ten airports, Munich and Milan also experienced a decline of around 2% in passenger transport. The rest remained unchanged from 2001 or even managed to achieve growth. London, Amsterdam and Barcelona headed the list with an increase of some 3%. It should be noted that the figures for London comprise those of the individual airports of Heathrow, Gatwick and Stansted. There was a sharp decrease in the number of passengers at London Gatwick, while the other two airports achieved substantial growth. This was largely due to the limitation of British Airways capacity at Gatwick with intercontinental flights being switched from the latter to Heathrow.

Schiphol saw its share of the top ten passenger market rise slightly to 9.7%. This increase in market share was attributed to bankruptcies at the Zurich and Brussels airports on the one hand. On the other hand, Schiphol did not depend on domestic transport unlike its competitors Frankfurt and Paris. It was precisely this domestic transport that is facing major declines due to the switch to high-speed train routes, for example those between Paris and Marseille and between Frankfurt and Stuttgart.

#### Growth of low-fare operations mainly at satellite airports

A significant proportion of the growth of European passenger transport at Schiphol was due to the low-fare market, which already accounts for 10.5% of European transport. In the case of competing airports the low-fare sector grew mainly at satellite airports, as a result of which this growth has not been included in the figures for those airports. For instance, in the case of Frankfurt, low-fare transport mainly increased at the airport Frankfurt Hahn. In 2002, the number of passengers using this





airport tripled to almost 1.5 million, primarily due to the low-fare transport offered by Ryanair. Low-fare transport in Paris occurred chiefly at the satellite airport Paris Beauvais. Ryanair, MytravelLite and Volare were the most important low-fare airlines which operated at this airport. In the case of London, low-fare transport was concentrated at Luton airport in addition to Stansted, whose figures have been incorporated in those for London. Brussels saw its low-fare transport predominantly at the satellite airport Charleroi.

**Consolidation of position of Schiphol in relation to cargo**

Despite disappointing economic growth throughout the world, most airports achieved positive results in cargo transport. Only Brussels and Zurich experienced a major decrease of 10% or more. Liège achieved the strongest rate of growth this year. Growing by 19.4%, this European competitor entered the top ten for the first time, ousting Madrid. The reasons for Liège’s growth lie in the extensive environmental measures adopted at other airports, the reduction of transport at Brussels and various new operations on the part of cargo airlines. As a result, Liège saw its transport grow from 35,000 tonnes to 326,000 tonnes in the past five years. Luxembourg also benefited from the situation in Brussels and saw its transport rise by almost 10%.

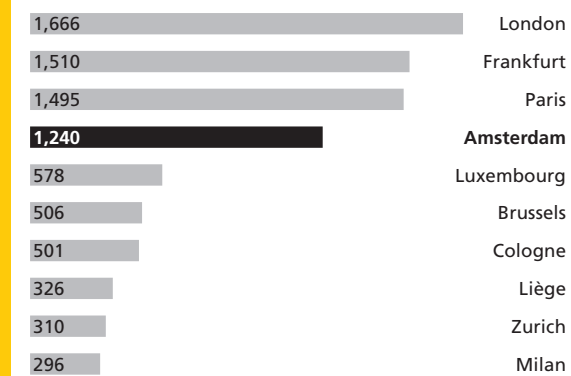
The volume of cargo passing through Schiphol

increased by 4.8% in 2002 partly thanks to growth on the Far East region. This was a better result than the growth achieved by its most important European competitors London, Paris and Frankfurt.

Within this context, Schiphol mainly benefited from its strong position in the Far East, thereby consolidating its fourth position in the European cargo market. With the growth it attained in its volume of cargo, Schiphol managed to achieve a modest increase in its top ten market share, ultimately pushing it to 14.7%.

The 2.4% increase achieved in London was clearly undermined by the sharp reduction in cargo transport at Gatwick by more than 12%.

**Cargo transport (x 1,000 tonnes)**





#### Traffic and transport at other Dutch airports

Of the airports situated in the Netherlands, those of Rotterdam, Eindhoven and Lelystad are also part of Schiphol Group in addition to Amsterdam Airport Schiphol.

In 2002, Rotterdam Airport accounted for the commercial transport of more than 612,000 passengers, which was a decrease of more than 18%. The number of commercial movements also fell by almost 10% to 18,000. Although the volume of cargo passing through this airport is limited, it also fell sharply. Apart from economic developments, the extremely far-reaching limitations that were imposed on Rotterdam Airport, are considered to be the chief reasons for this. For instance, a limit was imposed on the total number of movements permitted each year and the airport's opening hours for virtually all movements was confined to a period from 7 am to 11 pm. The potential use of Rotterdam Airport has consequently been extremely limited in the case of both the airline companies and passengers. The commercial highlights of 2002 were the fact that KLM Cityhopper deployed a Fokker 70 on the route between Rotterdam and London Heathrow and that the Austrian airline company Welcome Air decided to offer flights to Hanover from Rotterdam in addition to Innsbruck and Graz.

Eindhoven Airport set a new record in passenger transport in 2002. Compared to 2001, the number of passengers rose by more than 30% to 363,000. The most important reason for this increase was

the arrival of the Irish low-fare airline Ryanair, offering a daily scheduled service to London Stansted. As a result there was a 27% increase in the number of passengers transported by scheduled services to 255,000. In 2002 there were regular services to Amsterdam, Birmingham, Hamburg, Paris Charles de Gaulle, London Heathrow, London Stansted, Manchester and Rotterdam. There was also a sharp increase in the number of holidaymakers, rising by 43% to reach 92,000 passengers. The holiday destinations served during the charter season included Antalya, Bodrum, Dalaman, Izmir, Palma de Mallorca and Lourdes. Flights also went to Antalya during the winter months. Compared to 2001, the number of movements fell by more than 5% to 10,758.

Lelystad Airport, which is currently only used for general aviation flights, saw its air traffic rise by almost 1% to more than 138,000 movements.

In 2002 Groningen Airport Eelde achieved strong growth in the form of an increase in the number of movements by more than 23% and a rise of more than 14% in the number of passengers transported. This was thanks to the scheduled service which the airline company Trans Travel Airlines operated between Groningen and Amsterdam up until the end of July. The fact that a growing number of charter flights are also being operated from regional airports, also contributed to this.

Maastricht - Aachen Airport saw its passenger transport figures fall by more than 13%. This was entirely due to a reduction in the scheduled services. Owing to the economic situation the scheduled services to Berlin and Milan were halted in the course of 2001. This was followed by the termination of flights between Maastricht and Munich in the spring of 2002. In 2002, the charter market remained unchanged from the previous year at 158,000 passengers, as a result of which the total number of passengers transported amounted to 312,000. At 18%, there was a sharp increase in the amount of cargo passing through Maastricht-Aachen airport. In 2003, the airport expects an increase in the number of movements and passengers following the arrival of the low-fare carrier Ryanair.



**Air transport movements (x 1,000). Provisional figures**

		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Compared to 2001 in %
1	London a)	616.5	648.2	676.9	715.4	744.3	782.0	832.1	858.7	855.4	849.5	- 0.7
2	Paris b)	508.3	527.8	558.1	605.9	632.6	663.5	708.1	747.5	730.7	709.2	- 2.9
3	Frankfurt	334.4	346.7	362.5	370.5	377.0	403.5	421.3	441.6	441.1	444.0	+ 0.7
4	Amsterdam	259.7	274.1	290.7	321.8	349.5	376.8	393.6	414.9	416.5	401.4	- 3.6
5	Madrid	187.0	194.0	218.7	235.0	252.4	265.8	305.7	357.6	374.7	367.2	- 2.0
6	Munich	180.8	188.4	201.9	221.0	255.9	255.0	270.4	290.7	310.3	320.3	+ 3.2
7	Milan c)	151.8	155.4	173.6	193.5	204.2	229.6	285.8	313.1	317.7	298.8	- 6.0
8	Rome d)	202.7	208.7	219.5	248.2	259.1	269.8	272.8	297.9	294.7	295.0	+ 0.1
9	Barcelona	133.9	142.8	152.8	180.5	211.0	213.1	229.4	253.8	270.4	267.8	- 0.9
10	Copenhagen	217.0	224.3	236.6	265.8	279.3	277.6	295.1	299.7	284.9	263.2	- 7.6
<hr/>												
a)	Heathrow	394.1	409.4	418.8	426.9	430.4	438.2	449.5	459.7	457.6	460.3	+ 0.6
	Gatwick	174.7	181.1	192.0	211.0	229.5	241.2	246.5	252.5	245.2	234.7	- 4.3
	Stansted	47.7	57.7	66.1	77.5	84.4	102.6	136.2	146.5	152.5	154.5	+ 1.3
<hr/>												
b)	Ch. de Gaulle	303.7	318.7	325.3	360.6	395.5	421.5	466.8	508.6	515.1	501.5	- 2.6
	Orly	204.6	209.0	232.7	245.4	237.1	242.0	241.3	238.9	215.6	207.7	- 3.7
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c)	Linate	114.2	119.6	132.6	156.9	165.7	156.8	69.6	65.5	84.6	86.6	+ 2.4
	Malpensa	37.6	35.8	41.0	36.6	38.5	72.9	216.2	247.6	233.2	212.2	- 9.0
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d)	Fiumicino	193.6	200.1	209.2	236.5	245.7	258.1	260.6	283.4	283.7	282.8	- 0.3
	Ciampino	9.1	8.7	10.3	11.7	13.4	11.7	12.2	14.5	11.0	12.2	+ 11.2

**Passenger transport (x 1,000) (transit-direct counted once). Provisional figures**

		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Compared to 2001 in %
1	London a)	70,761	76,221	80,919	85,230	90,357	96,720	102,275	108,537	105,587	109,016	+ 3.2
2	Paris b)	51,483	55,298	55,090	59,089	60,349	63,581	68,946	73,643	71,025	71,465	+ 0.6
3	Frankfurt	32,526	35,114	38,169	38,750	40,263	42,143	45,870	49,340	48,569	48,450	- 0.2
4	Amsterdam	21,274	23,559	25,355	27,795	31,570	34,420	36,772	39,607	39,531	40,736	+ 3.0
5	Madrid	17,573	18,453	19,919	21,715	23,602	25,254	27,532	32,895	33,987	33,904	- 0.2
6	Rome c)	19,810	20,873	21,898	23,860	25,881	26,134	24,715	27,118	26,284	26,266	- 0.1
7	Milan d)	13,028	13,814	14,719	16,367	18,192	19,534	23,604	26,743	25,707	25,257	- 1.8
8	Munich	12,732	13,497	14,868	15,686	17,895	19,321	21,283	23,126	23,647	23,164	- 2.0
9	Barcelona	9,992	10,642	11,728	13,435	15,282	16,082	17,418	19,809	20,748	21,345	+ 2.9
10	Manchester	13,379	14,815	14,975	14,843	16,168	17,508	17,760	18,804	20,633	19,038	- 7.7
<hr/>												
a)	Heathrow	47,899	51,718	54,453	56,038	57,975	60,684	62,263	64,607	60,743	63,339	+ 4.3
	Gatwick	20,159	21,212	22,546	24,327	26,962	29,173	30,559	32,055	31,182	29,628	- 5.0
	Stansted	2,703	3,291	3,920	4,865	5,420	6,863	9,453	11,875	13,661	16,049	+ 17.5
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b)	Ch. de Gaulle	26,115	28,680	28,355	31,724	35,293	38,629	43,597	48,246	47,997	48,303	+ 0.6
	Orly	25,368	26,618	26,654	27,365	25,056	24,952	25,349	25,397	23,029	23,162	+ 0.6
<hr/>												
c)	Fiumicino	19,273	20,316	21,091	23,046	25,001	25,328	24,029	26,288	25,566	25,341	- 0.9
	Ciampino	537	557	806	814	880	806	686	830	719	925	+ 28.8
<hr/>												
d)	Linate	9,469	10,134	10,827	12,563	14,271	13,614	6,630	6,026	7,136	7,815	+ 9.5
	Malpensa	3,559	3,679	3,892	3,803	3,921	5,920	16,974	20,717	18,570	17,441	- 6.1

## Cargo transport (x 1,000 tonnes). Provisional figures

		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Compared to 2001 in %
1	London a)	1,105.7	1,278.7	1,367.9	1,436.9	1,548.0	1,661.7	1,740.1	1,795.4	1,627.7	1,666.0	+ 2.4
2	Paris b)	934.8	1,080.9	1,100.4	1,112.5	1,129.4	1,089.8	1,227.7	1,517.8	1,460.3	1,510.2	+ 3.4
3	Frankfurt	1,143.1	1,245.7	1,297.2	1,338.1	1,373.2	1,333.5	1,404.6	1,573.2	1,476.4	1,494.9	+ 1.3
4	Amsterdam	775.4	837.9	977.5	1,082.8	1,161.2	1,171.3	1,180.7	1,222.6	1,183.2	1,239.9	+ 4.8
5	Luxembourg	175.2	241.5	286.2	282.5	337.7	381.6	447.4	499.9	526.4	577.5	+ 9.7
6	Brussels	306.2	380.7	426.6	450.7	518.7	585.7	642.7	623.4	559.6	506.1	- 9.6
7	Cologne	193.0	241.4	276.4	322.5	374.3	354.9	390.8	423.6	443.0	501.1	+ 13.1
8	Liège	0	0.4	1.2	7.9	35.4	163.8	207.6	270.3	273.2	326.2	+ 19.4
9	Zurich	291.6	320.0	326.9	322.5	335.0	329.8	356.6	395.1	352.6	309.7	- 12.2
10	Milan c)	160.3	177.9	194.5	164.0	184.5	213.2	269.1	300.8	292.8	296.1	+ 1.1
a)	Heathrow	846.6	967.5	1,042.8	1,052.5	1,156.2	1,207.6	1,265.8	1,307.1	1,180.3	1,235.0	+ 4.6
	Gatwick	196.8	223.6	232.1	277.2	265.3	274.7	294.6	319.6	280.1	244.8	- 12.6
	Stansted	62.4	87.6	93.0	107.2	126.5	179.4	180.7	168.7	167.4	186.3	+ 11.3
b)	Ch. de Gaulle	664.6	786.3	824.2	866.1	907.0	887.1	1,106.4	1,283.5	1,360.5	1,398.9	+ 2.8
	Orly	270.2	294.6	276.2	246.4	222.5	202.7	121.3	103.2	99.8	111.3	+ 11.5
c)	Linate	62.4	66.8	65.3	66.0	61.2	51.5	24.1	9.8	15.3	15.7	+ 2.7
	Malpensa	97.9	111.1	129.2	98.0	123.3	161.7	245.0	291.0	277.6	280.4	+ 1.0

## Dutch airports

	2000	2001	2002	Compared to 2001 in %	
<b>Air transport movements</b>					
Amsterdam Airport Schiphol	432,480	432,101	417,120	-	3.5
- air transport movements	414,928	416,462	401,385	-	3.6
- general aviation	17,552	15,639	15,735	+	0.6
Rotterdam Airport	113,324	92,874	86,971	-	6.4
- air transport movements	24,806	19,933	17,991	-	9.7
- general aviation	88,518	72,941	68,980	-	5.4
Maastricht - Aachen Airport	71,016	58,534	47,093	-	19.5
- air transport movements	13,626	12,700	9,285	-	26.9
- general aviation	57,390	45,834	37,808	-	17.5
Eindhoven Airport	23,294	17,524	16,313	-	6.9
- air transport movements	16,174	11,347	10,758	-	5.2
- general aviation	7,120	6,177	5,555	-	10.1
Groningen Airport Eelde	69,054	61,324	67,783	+	10.5
- air transport movements	1,475	1,828	2,250	+	23.1
- general aviation	67,579	59,496	65,533	+	10.1
Lelystad					
- general aviation	136,423	137,144	138,192	+	0.8
<b>Passenger transport (transit-direct not included)</b>					
Amsterdam Airport Schiphol	39,270,610	39,309,441	40,587,562	+	3.3
Rotterdam Airport	696,612	747,827	612,021	-	18.2
Maastricht - Aachen Airport	383,268	359,613	312,431	-	13.1
Eindhoven Airport	340,606	278,517	363,373	+	30.5
Groningen Airport Eelde	78,266	94,220	107,466	+	14.1
<b>Cargo transport (tonnes)</b>					
Amsterdam Airport Schiphol	1,222,594	1,183,208	1,239,900	+	4.8
Rotterdam Airport	782	563	285	-	49.4
Maastricht - Aachen Airport	44,268	33,463	39,477	+	18.0
Eindhoven Airport	65	198	511	+	158.1

\*) Source: CBS, except Schiphol figures

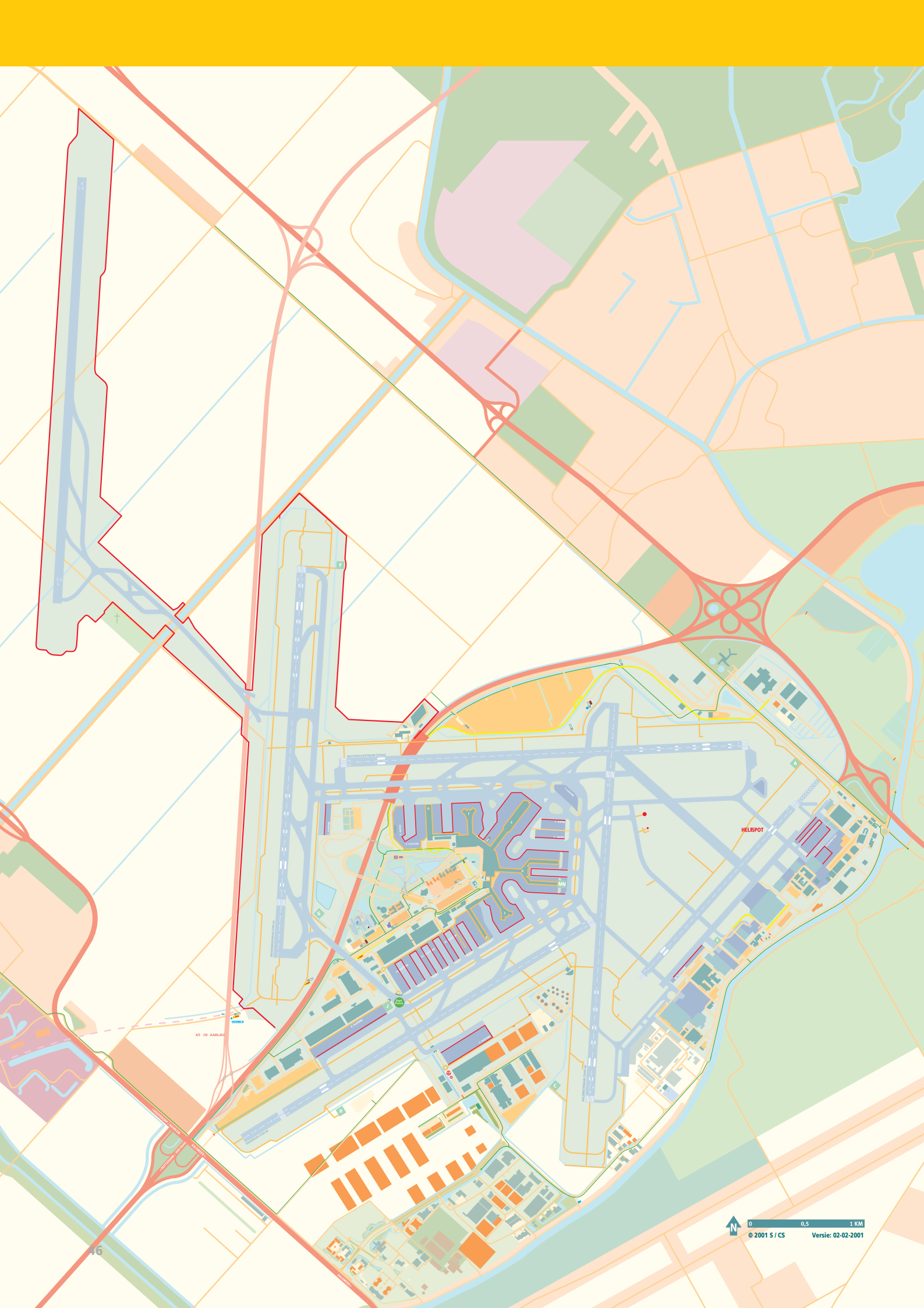


## 6. Infrastructure



# Infrastructure





# Infrastructure

Amsterdam Schiphol area 2,787 ha

## Capacity

Terminal passengers 45 mln per year

Take-offs and landings 460,000 per year

## Aircraft stands

- connected 87

- disconnected\* 77

- total 164

\* minimum number of disconnected stand available; actual number depends on aircraft size.

## Car parking spaces

- passengers/visitors 17,840

- employees 12,900

- total 20,740

## Runways

Name	Location	Length	Width
Zwanenburg	01L-19R (18C-36C**)	3,300 metres	45 metres
Kaag	06-24	3,500 metres	45 metres
Aalsmeer	01R-19L (18L-36R**)	3,400 metres	45 metres
Buitenveldert	09-27	3,450 metres	45 metres
Oost	04-22	2,014 metres	45 metres
Polder	18R-36L***	3,800 metres	60 metres

\*\* new location numbers per 20 februari 2003

\*\*\* new runway, completed november 2002, operational per 20 februari 2003



# Definitions

## **Passenger transport**

All passengers on scheduled and non-scheduled flights including free passengers, service passengers and infants.

Transfer passengers (those who change planes within 24 hours without leaving the customs area) are counted both incoming and outgoing; they are included in the figures.

Transit-direct passengers (those who leave the airport on the same flight number as the one by which they arrived, without leaving the customs area) are not counted incoming or outgoing, but stated separately.

Passengers on taxi-, photo- and sightseeing flights are excluded.

## **Cargo transport**

Both paying and non paying cargo, including military mail, including express cargo.

Goods leaving the airport on the same aircraft as the one by which they have arrived (transit-direct) are left out of account, as well as trucking cargo.

## **Mail transport**

Mail handled exclusively by TNT Post Group N.V. excluding mail leaving the airport on the same aircraft as the one by which it has arrived (transit-direct).

## **Air transport movements**

An air transport movement means a landing or take-off. Air transport movement in scheduled traffic means a movement in commercial traffic according to an official timetable, including relief service of a scheduled service.

Air transport movement in non-scheduled traffic means a non-scheduled movement in commercial traffic (charter, inclusive tour charter, etc.; taxi flights excluded).

## **Passenger load factor**

The passenger load factor means the number of passengers (including 2x transit-direct) expressed in a percentage of the number of available seats.

## **Punctuality**

Punctuality is the percentage of flights departing/arriving within no more than 15 minutes of its scheduled time on/off blocks, regarding passenger flights only.