



EU INTERREG III B Programme

The SEAPLANE Project

Sustainable and Efficient Air Transport - Platform for Linked Analysis
of the North Sea Air Transport Environment



European Community
European Regional
Development Fund



Interreg North Sea Region

Resolution to the Commission of the European Union, DG TREN, May 14th, 2004

Annex 7

Provision of sufficient runway capacities and the optimum use of existing runways at European network airports to secure access for existing or future regional air services to peripheral regional airports

Background

The majority of the major European network [or hub] airports such as London Heathrow, London Gatwick, Frankfurt, Amsterdam Schiphol, Paris Charles de Gaulle and Paris Orly are already slot constrained, or will be within the next 5 to 10 years. All are co-ordinated airports with airlines having to bid for and negotiate slot allocation with the appointed coordinator. Some, such as the primary London airports, are so severely slot constrained that many air routes previously operated to points in the UK regions have been lost with the slots substituted for higher value inter-continental services. Specific examples are the British Airways services to Inverness and Belfast from London Heathrow.

New runways have been developed at Paris Charles de Gaulle and Amsterdam Schiphol over the last few years, and there is planned development of additional runways at Frankfurt and other European network airports. However, lengthy planning processes will result in significant delays before they become available.

Airport capacity

The following table taken from the International Air Transport Association (IATA) airport capacity and demand profiles for 2003 shows the variations in achievable and achieved throughputs on the runways at the major European airports in terms of:

- number of operational runways available
- the declared capacity in total air transport movements per hour
- the declared capacity in air transport movements per hour per runway
- the achieved number of air transport movements in 2002
- the average number of passengers per air transport movement in 2002

Not all runways at European airports are capable of simultaneous operation due to runway configuration, direction in relation to prevailing wind, length, layout, ATC requirements, and noise restrictions. This makes a true and fair comparison difficult; even at airports where runways are not constrained and are in parallel, there are significant differences in the declared and achieved capacities.

Table 1 Declared runway capacity and throughput at major European airports, 2002

City	Airport	Number of Operational Runways	Declared Capacity (ATMs/hour)	Declared Capacity per Runway	ATMs 2002 (000s)	Average Pax per ATM
London	LGW	1	50	50.0	234.7	125.8
Milan	LIN	1	32	32.0	86.6	90.2
London	LHR	2	87	43.5	460.3	136.9
Munich	MUC	2	86	43.0	320.3	71.7
Oslo	OSL	2	80	40.0	172.9	77.6
Stockholm	STO	2	76	38.0	236.2	69.6
Vienna	VIE	2	66	33.0	184.9	64.5
Manchester	MAN	2	59	29.5	178.5	104.3
Athens	ATH	2	52	26.0	144.0	81.5
Milan	MXP	2	44	22.0	212.2	81.8
Dusseldorf	DUS	2	38	19.0	175.1	83.6
Copenhagen	CPH	3	83	27.7	263.2	68.9
Frankfurt	FRA	3	78	26.0	450.3	107.0
Madrid	MAD	3	78	26.0	367.2	91.7
Paris	ORY	3	76	25.3	207.7	111.5
Brussels	BRU	3	74	24.7	237.5	60.2
Paris	CDG	4	101	25.3	501.5	96.3
Rome	FCO	4	90	22.5	282.8	88.3
Amsterdam	AMS	5	108	21.6	401.4	101.1

The table shows that the declared hourly capacity ranges from a high of 50 ATMs per hour at London Gatwick with its single runway, to 19 per hour per runway at Dusseldorf due to environmental constraints.

Although there are technical and environmental reasons for the difference in performance, there would appear to be some apparent shortfalls where, if available runway capacity were used in a technically optimal way, significant additional capacity could be achieved. This may, in some instances, enable some regional services to peripheral regions to be secured.

However, it should be noted that the high throughputs per hour achieved at Gatwick, Heathrow and Munich come at a cost. These levels can only be sustained by aircraft being required to spend longer in taxiing before departure, and stacking before arrival, in order to optimise the flow pattern of flights on to and off from the available runways. This has led to an increase in some 20 minutes aircraft time required to fly to and from the two London network airports. This in turn requires more aircraft and crews to operate any given flight programme and results in extra costs for consumers.

In addition, it is important to note that, at those airports where there is still spare capacity for more flights, the average number of passengers per flight tends to settle at around 60 to 85 passengers per air transport movement. Where that number is exceeded, it will generally mean that regional flights to peripheral regions are being squeezed out by more profitable flights to intercontinental destinations. Once the average is above 100, it can be assumed that few regional flights are still being operated. The Heathrow figure of 135 in 2002 – and still rising – reflects the fact that almost all domestic destinations are being denied access to their network airports. The figure of 126 at Gatwick suggests that the remaining domestic services, and particularly those to small, peripheral regions, are likely to find themselves without slots in a short period of time.

Recommendations

Although in the short term, routes from peripheral regions of the EU to network hub airports can be secured through the use of Public Service Obligation (PSO) designations, as happens extensively in France, (See Annex 6), alternative solutions should include:

Existing runway capacity to be more fully utilised to achieve the optimum level of throughput for each single runway. This suggests aiming to achieve the current best in class figure of 50 ATMs per hour, subject to the increased costs for airlines and consumers caused by extra taxiing and stacking time. The EU Transport Directorate should be encouraged to work with the major European Airports, Air Traffic Control service providers and Eurocontrol to achieve this.

The EU to be encouraged to identify new runway capacity requirements at EU network airports and ensure that a policy framework is in place to enable timely development. As part of that remit, it should recognise that development of 2000 metre “reliever runways” for regional services at or close to EU network airports is a method of focussing capacity for regional service needs, and immune from potential slot-sales to intercontinental airlines.

It is suggested that once an airport achieves an average level of more than 100 passengers per air transport movement, it is likely to be turning away significant numbers of potential flights from peripheral regions. It is recommended that the EU require the operators of constrained network airports to come forward with plans for additional runways so as to reduce the number of passengers per movement to a maximum of 110, and with an objective of achieving a maximum of 100.