ITPU[1] International Seminar
on
Transport Congestion Policy

Airport Slot Regulation in the EU: A Study of Secondary Slot Trading

The University of Tokyo - Japan
3 July 2007

Mott MacDonald

Agenda

- The problem
- Study objectives
- Different experience
- Analysis
- Findings
- Summary
- Questions

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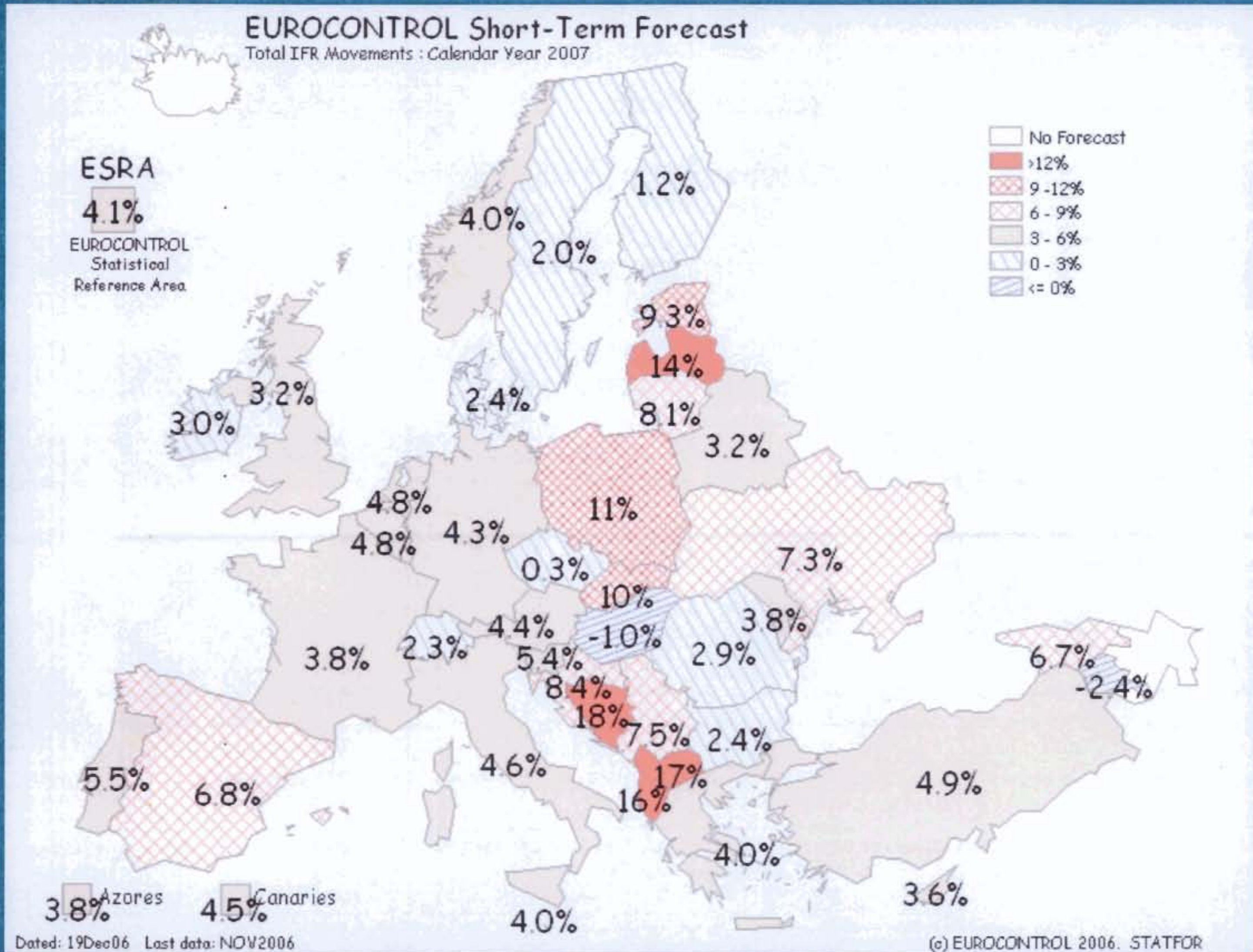
The problem!

IFR movement forecast for 2007 in Europe



Source: Eurocontrol

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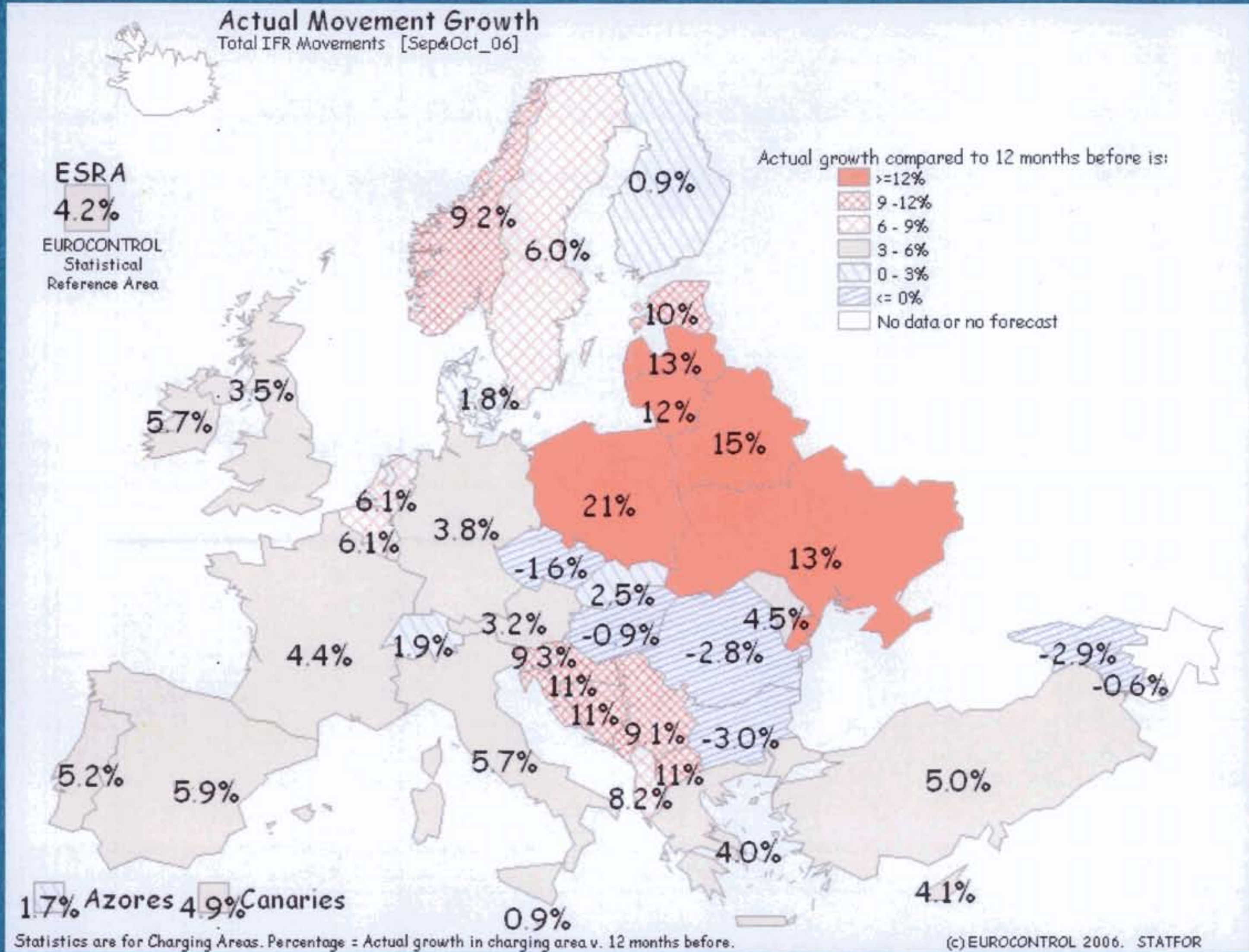
European Air Traffic will continue to grow at high rate



Source: Eurocontrol

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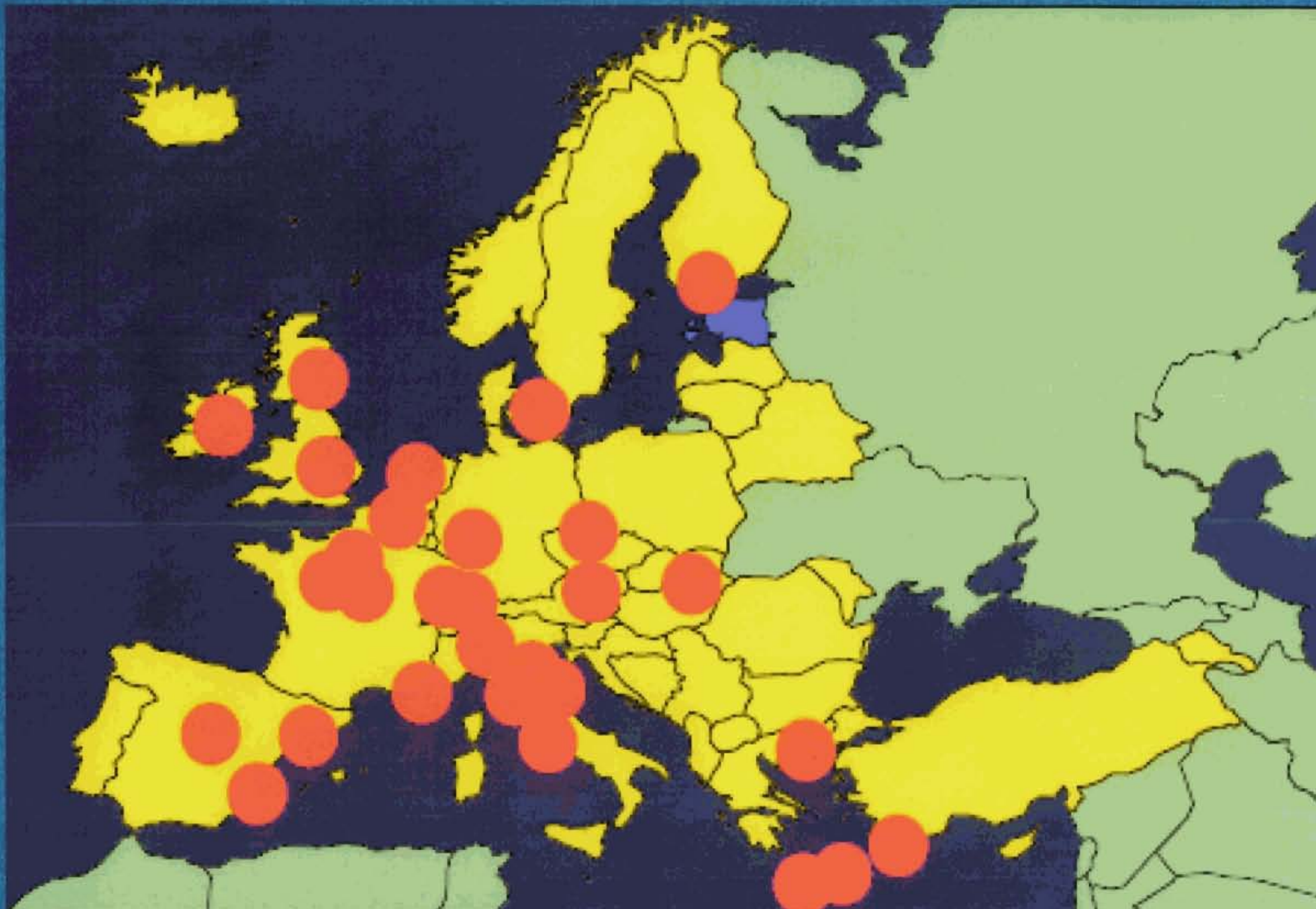
Airport capacity problems in Europe



Source: Eurocontrol

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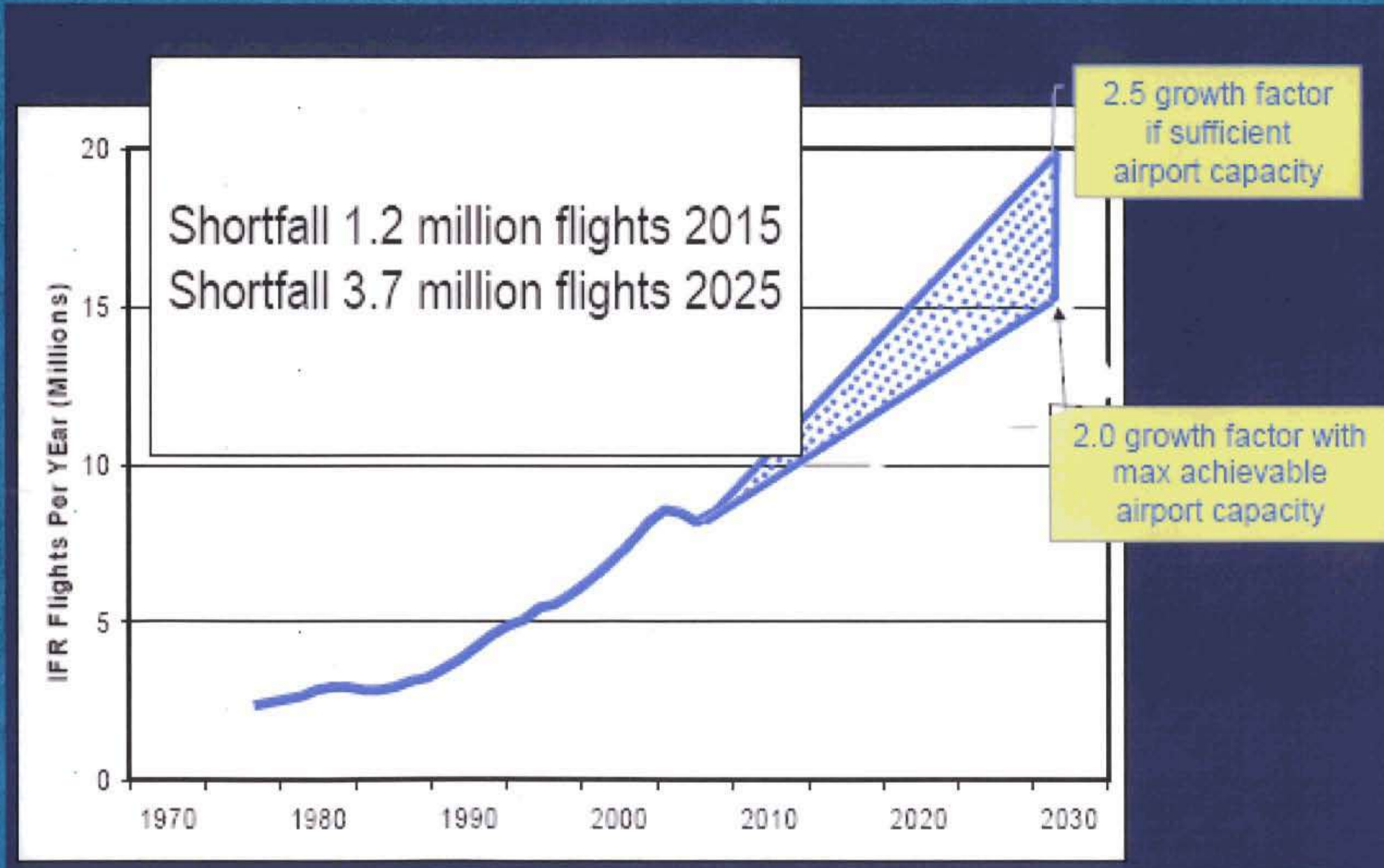
European airport capacity shortfall



Source: Eurocontrol

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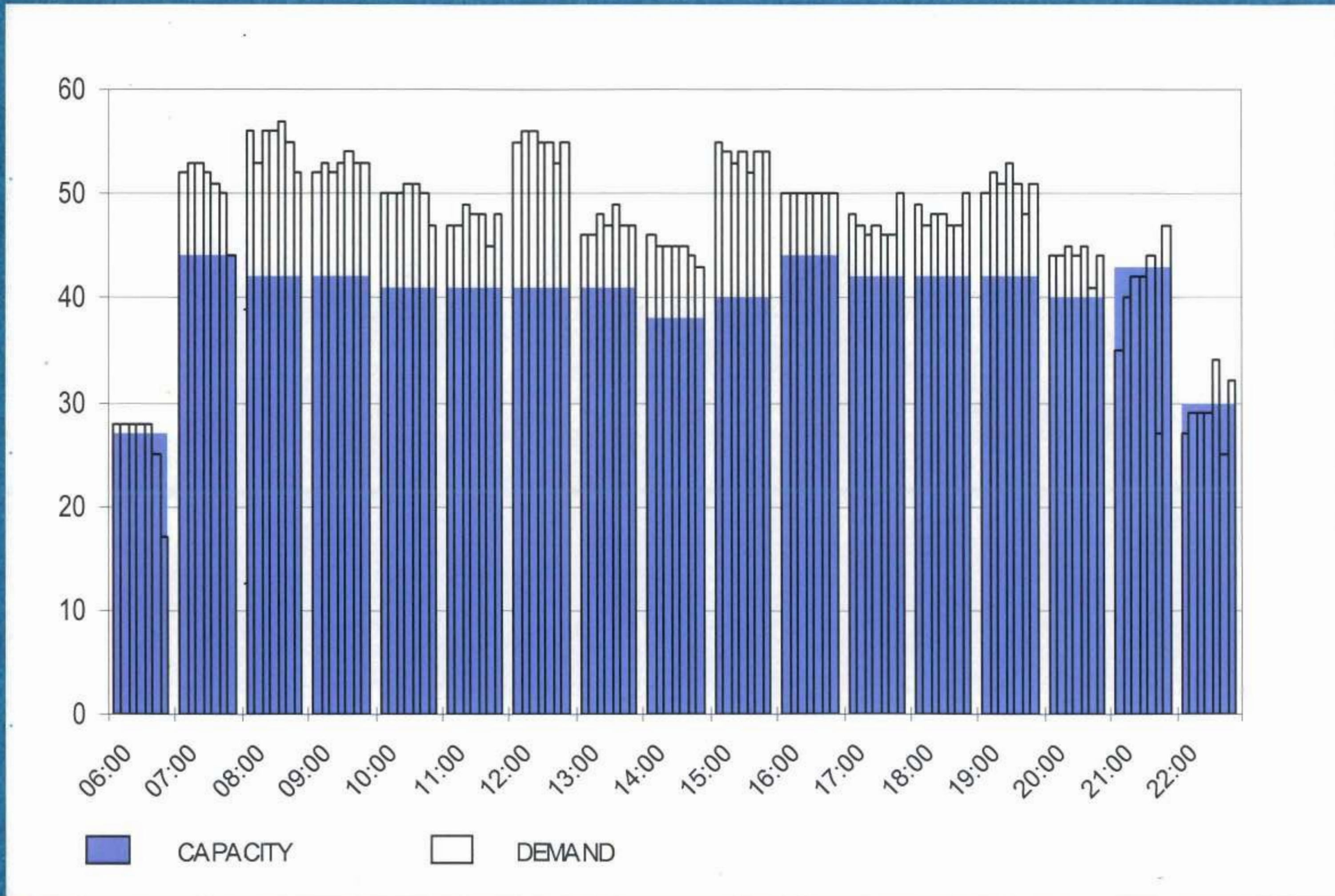
Heathrow Summer Demand
DEPARTURE MOVEMENTS (Typical week - all times local time)



Source: Airport Coordination Limited (ACL)

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Size Comparison of London Airports

Airport	Land area (hectares)
London Heathrow	1,227
London Gatwick	678
London Stansted	957
Paris Charles de Gaulle	3,000

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Runway Issues – Mott MacDonald's views

AIR TRANSPORT

INFRASTRUCTURE DAVID LEARMOUNT / LONDON

UK runway plans face long delay

With south east started of capacity, industry is warned not to expect action on infrastructure for at least a decade

Industry is being warned to expect a 10- to 15-year wait before the UK government's future aviation strategy produces even a timetable for action.

The government is trying to develop a policy to enable the necessary infrastructure to be provided – particularly additional runways in the London area – to allow increasing demand for air travel to be met, and published a White Paper – or legislative proposal – last year.

Speaking at a 28 June conference in London, at which the air transport industry met to assess progress towards implementing the policy options outlined in a government White Paper, consultancy Mott MacDonald's director of aviation strategy, Laurie Price, said there would be a review of the White Paper next year, which would only delay decisions further.

After eight years in power, the Labour government was yet to produce a timetable for infrastructure action, Price said, despite there having been several judicial reviews on new runway options that produced no barrier to action. Meanwhile, Price said, air transport movements had been expanding by 6-8% a year – well ahead of the forecasts on which the White Paper plans were based.

Aviation law specialist Michael Nott of Blake Lapthorne Linnell said that, although the government had set up procedures to accelerate local planning inquiries for major infrastructure projects, "if the government tries to speed up the process unreasonably, it will be possible to hold it to account [in law]".

British Airways general manager airport policy Paul Ellis was more upbeat. He said he believed the government was behind BA's main objective, which was to gain approval for a third runway at London Heathrow airport. But although Ellis said the airport master plan – including provision for a third runway – would be ready next year, he still predicted the new runway could not be operating before 2015. A property blight compensation scheme would be ready this year, he said.

Meanwhile, mixed-mode operation for the two existing runways was "Heathrow's first deliverable", said Ellis, and if approved would create additional take-off and landing slots. The operational plan for mixed mode would be ready before the end of this year. Currently one Heathrow runway is used for take-offs and the other for landings.

Hurdles for the White Paper

Mott MacDonald's director of aviation strategy, Laurie Price, says there are many factors that could influence or stall progress towards an improved UK airport infrastructure, as detailed in the government White Paper. These include:

- lack of capacity at National Air Traffic Services;
- inability of airports to optimise the use of existing infrastructure in time to meet the need;
- planning permission impediments;
- legal challenges;
- airports' unwillingness to invest;
- airlines' unwillingness to pay;
- regulatory impediments;
- inability of the industry to meet environmental targets;
- security demands;
- government inertia.

Source: Flight International 5/7/2005

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Objectives of the Commission

The purpose of the study was to:

- Assess the likely effects of the introduction of secondary slot trading.

The Commission's other primary objectives were:

- To ensure mobility of slots and 'efficient' transport for passengers and cargo
- To strengthen competition at Community airports
- To match secondary trading with the overall EU (air) transport policy
- To ensure compatibility of secondary slot trading with world-wide procedures

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US Experience of secondary Slot Trading

- Led to a liquid and flexible market in slots
- Fostered new entry
- Supported by the industry and generated activity
- Works well with minimal regulatory intervention
- Liquidity facilitated by a high incidence of slot leasing
- Direct competitors already trade slots with each other
- Slots have been used as security in financings
- The approach has been adapted to the characteristics of each specific airport

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UK Experience of secondary slot trading (1)

- Led to a liquid and flexible market in slots
- Fostered new entry
- Supported by the industry and generated activity
- The regime has permitted slot leasing
- Direct competitors are prepared to trade slots with each other
- Regulatory approach identical at all UK airports
- Use of slots as security in financings has not developed

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UK Experience of secondary slot trading (2)

- Key developments:
  - To date BA have been the largest purchaser of slots,
  - Other short-haul carriers have been the main sellers of slots at London-Heathrow.
  - New long-haul entrants have purchased slots.
  - Slot efficiency in ASKs per slot has significantly improved :
    - small short haul aircraft replaced by large long haul aircraft.

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Secondary trading in other markets (1)

- There are parallels in other markets:
  - range of market participants;
  - information publication;
  - range of transfers allowed;
  - competition issues.

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Secondary trading in other markets (2)

- Six examples analysed:
  - Capacity rights for the UK–Europe natural gas interconnector
  - Capacity rights for the England–France electricity interconnector
  - Gas entry capacity rights for the UK gas transmission system
  - EU Emission Trading Scheme
  - Spectrum trading
  - Water abstraction rights in the UK

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Secondary trading in other markets (3)

- Key findings
  - Majority of forms of secondary trading are bilateral. Occasional auctions
  - Rights differ according to the nature of the market e.g.:
    - Gas – single day to 17 years.
    - Spectrum rights held indefinitely.
    - Water rights held indefinitely, or for shorter terms.

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Trends in airport capacity and slot demand

- Commercial flights replace general aviation and other ad hoc flights
- Scheduled passenger flights replace cargo and passenger charter flights
- Aircraft size increases
- The average distance of flights increases
- General trend most evident at congested airports
- Demand for slots is likely to grow at a compound rate of 3.1% a year to 2025

Slots are used more efficiently at congested airports - even without secondary trading.

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Total Flights at 30 European Airports, 1993 and 2005

Airport category Year	Uncongested 14	Partially congested 10	Heavily congested 6	Total 30
1993	1,582,026	1,681,929	1,460,502	4,724,457
2005	2,801,333	2,773,710	1,779,217	7,354,260
Total Growth	77.1%	64.9%	21.8%	55.7%
AAGR %	4.9%	4.3%	1.7%	3.8%

Source: OAG

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Non-Commercial Flights at 30 European Airports, 1993 and 2005

Airport category Year	Uncongested 14	Partially Congested 10	Heavily Congested 6	Total 30
1993 % total movt	260,729 (16.5%)	127,411 (7.6%)	79,738 (5.5%)	467,878 (9.9%)
2005 % total movt	307,605 (11.0%)	97,992 (3.5%)	70,078 (3.9%)	475,675 (6.5%)
Total Growth	18.0%	- 23.1%	-12.1%	1.7%
AAGR %	1.4%	- 2.2%	- 1.1%	0.1%

Source: OAG

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Air Transport Movements at 30 European Airports, 1993 and 2005

Airport category Year	Uncongested 14	Partially Congested 10	Heavily Congested 6	Total 30
1993	1,321,297	1,554,518	1,380,764	4,256,579
2005	2,493,728	2,675,718	1,709,139	6,878,585
Total Growth	88.7%	72.1%	23.8%	61.6%
AAGR %	5.4%	4.6%	1.8%	4.1%

Source: OAG

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Average Passengers per PATM for 19 European Airports, 1993 and 2005

Airport category Year	Uncongested 7	Partially Congested 6	Heavily Congested 6	Total 19
1993	62.2	75.8	109.2	86.9
2005	77.0	100.4	120.1	100.4
Growth – pax/flt	14.8	24.6	10.9	13.5
Growth - %	23.8%	32.4%	10.0%	15.6%
AAGR %	1.8%	2.4%	0.8%	1.2%

Source: OAG

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Growth Rates by Destination by Airport Category, 1975 to 2005

Airport category Destination	Uncongested 19	Partially Congested 10	Heavily Congested 6	Total 35
Domestic	3.81%	3.52%	2.18%	3.18%
Europe West	6.00%	4.83%	2.90%	4.66%
Europe East	5.72%	7.16%	6.21%	6.23%
Africa and Asia	3.57%	3.14%	3.25%	3.27%
The Americas	2.72%	3.70%	4.48%	3.86%
Total	5.10%	4.40%	2.97%	4.18%

Source: OAG

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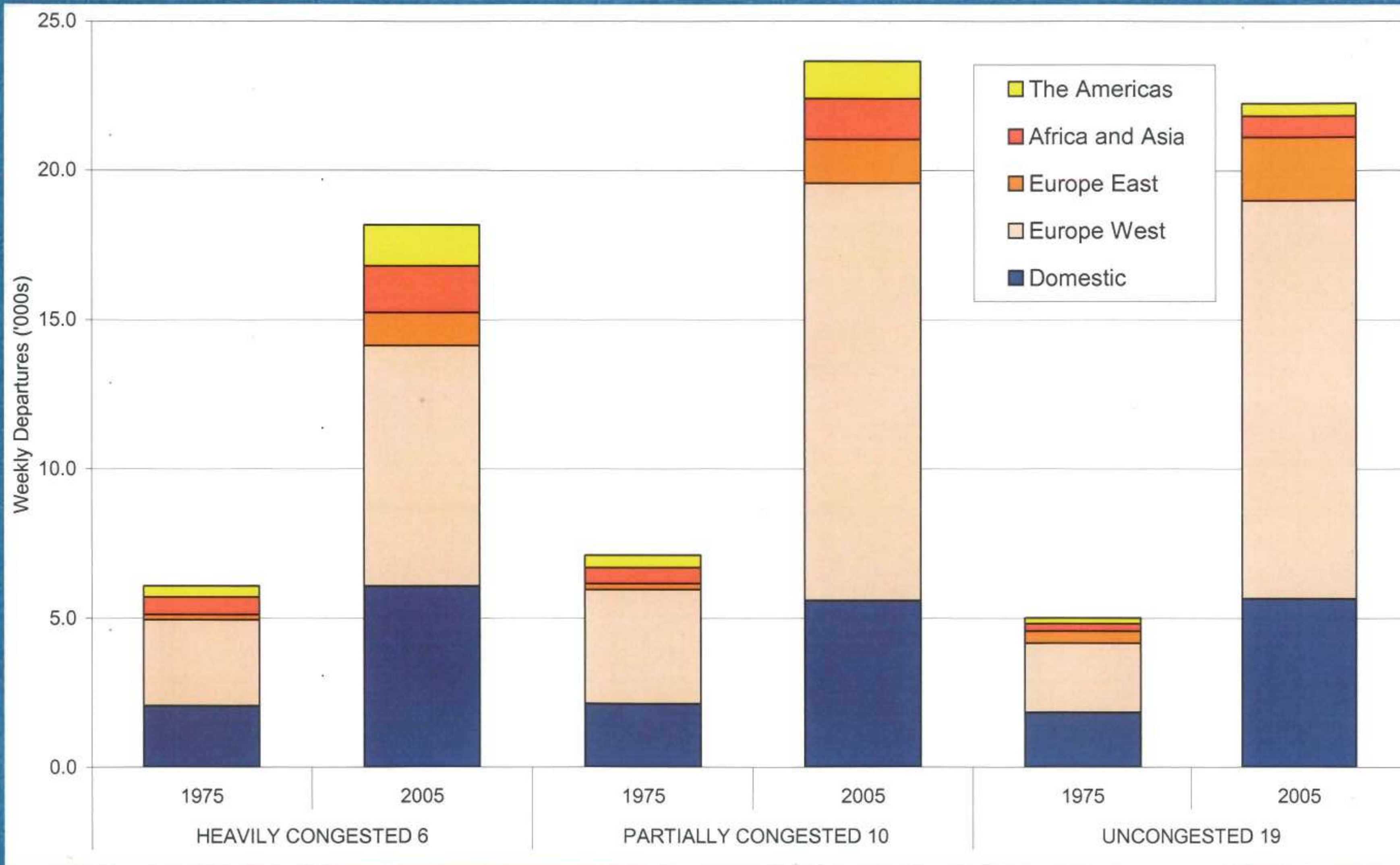
Weekly departures by region, 1975 - 2005



Source: OAG

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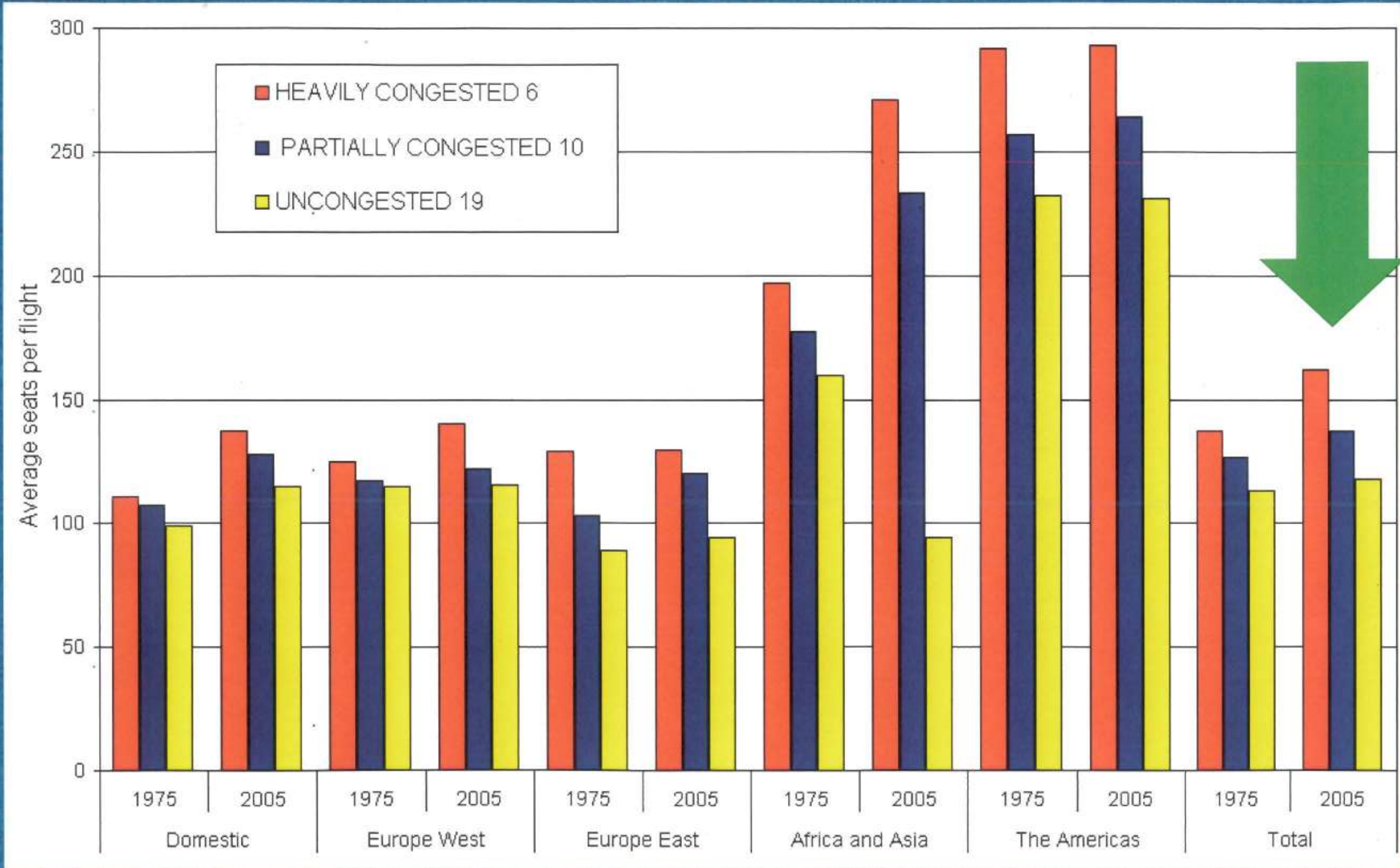
Average seats per flight, by region



Source: OAG

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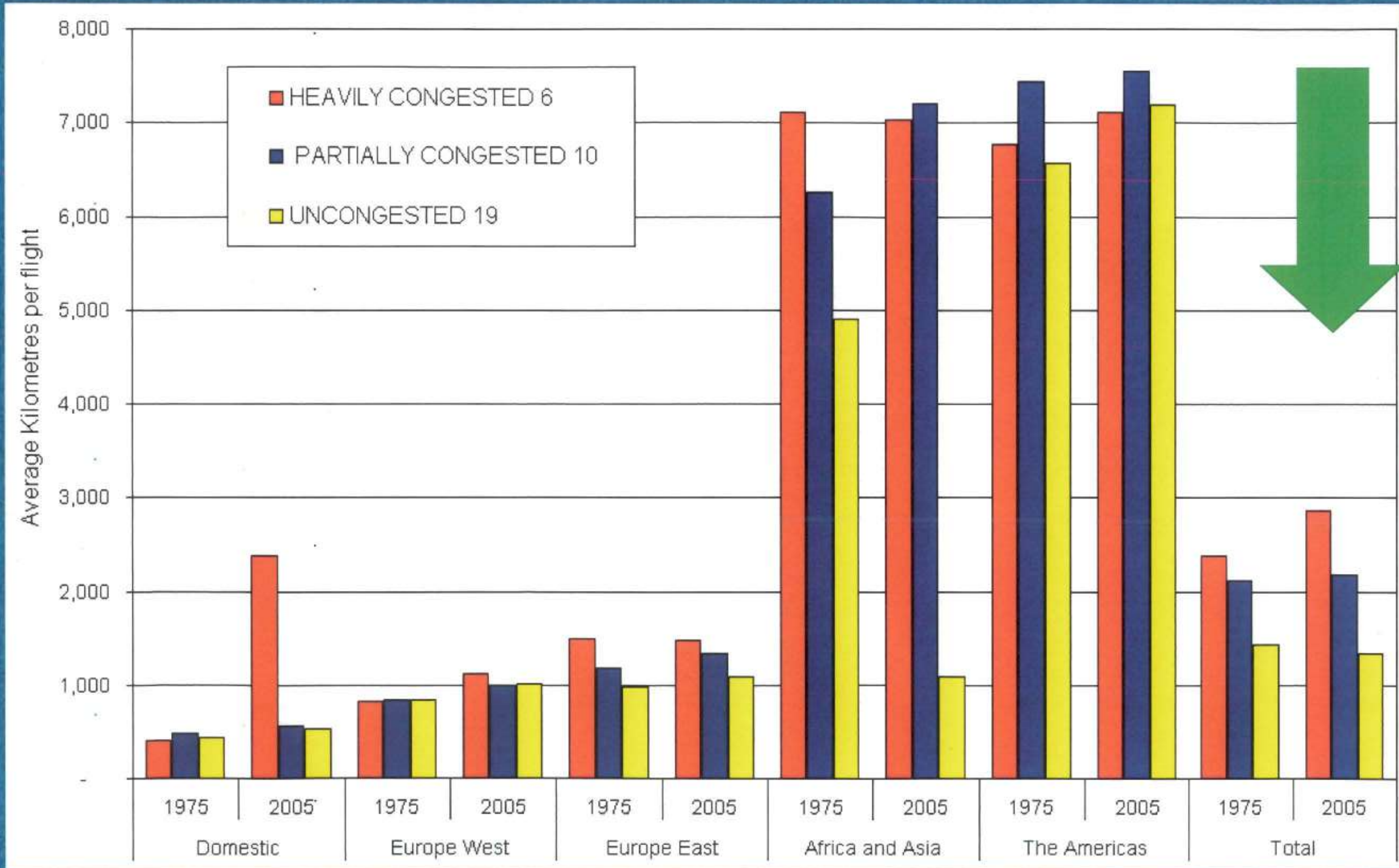
Average kilometres per flight, by region



Source: OAG

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Industry Expectations of the Impact of Secondary Trading

The industry recognises that allowing trading will accelerate the trend towards larger aircraft travelling longer distances.

It is generally agreed that:

- long-haul new entrants and dominant hub carriers will benefit most
- smaller regional carriers and routes to peripheral destinations will suffer most
- short-haul competition may diminish
- long-haul competition is expected to increase.

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Statistical Assessment of Impact of Secondary Slot Trading

- Secondary trading at European airports is forecast to:
  - Increase passenger numbers by 7.2%
  - Increase revenue passenger kilometres by17.1%
  - Lead to an extra 51.6 million passengers at congested European airports in 2025.

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Economic and Environmental Impact Assessment

The study also looked at the effects on

- producer and consumer welfare;
- the degree of competition between airlines and between airport hubs;
- the effect on thin community routes;
- airport finances;
- local and wider economic costs and benefits;
- CO_2, NO_x and noise emissions.

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Consumer Welfare Outcomes Resulting from Introducing Secondary Trading (€m)

Airport / Flight Category	London-Heathrow	London-Gatwick	Paris-Orly	Paris-C. de Gaulle	Amsterdam	Dusseldorf	Frankfurt	Milan-Linate	Total Eight Airports	EU Total
Long-haul	**4,418**	**1,639**	**187**	**5,941**	**4,198**	**203**	**3,168**	**0**	**19,754**	**32,594**
Dominant incumbent	2,728	518	0	2,596	1,665	0	1,163	0	8,670	14,306
Other incumbent	603	252	78	786	0	0	0	0	1,719	2,837
New entrant	1,087	868	109	2,560	2,533	203	2,005	0	9,365	15,452
Short-haul >100 seats	**-404**	**192**	**624**	**194**	**296**	**116**	**-28**	**-1**	**989**	**1,632**
Dominant incumbent	75	-61	-100	130	231	0	73	14	362	597
Other incumbent	-479	197	272	-175	0	0	-203	-19	-407	-672
Low-cost	0	-85	26	-54	-97	0	0	-15	-224	-370
New entrant	0	141	426	293	161	116	102	18	1,258	2,076
Short-haul <100 seats	**-9**	**-6**	**-18**	**-43**	**-78**	**-8**	**-45**	**-2**	**-209**	**-345**
Dominant incumbent	0	-6	-14	0	-48	0	-10	0	-77	-128
Other incumbent	-9	0	-4	-43	-27	-8	-36	-2	-129	-213
Low-cost	0	0	0	0	0	0	0	0	0	0
New entrant	0	0	0	0	-3	0	0	0	-3	-5
Charter	**0**	**-46**	**-9**	**-101**	**-49**	**-24**	**0**	**0**	**-229**	**-378**
Cargo	**0**	**-84**	**0**	**-867**	**-398**	**0**	**-262**	**0**	**-1,611**	**-2,658**
Total	**4,006**	**1,696**	**784**	**5,124**	**3,969**	**287**	**2,832**	**-4**	**18,694**	**30,845**

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Summary of Economic and Environmental Impacts from Slot Trading

Parameter	Impact
Consumer welfare	€31 bn
Producer welfare	0 to €1.2 bn
Competition	Neutral to slight negative
CO_2	- €1.3 bn to - €6.7 bn
NO_X	- €50 mn to - €134 mn
Noise	Neutral
Local economy	Neutral to slight positive
Thin community routes	Slight negative

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Secondary Slot Trading – The Effects

- It would support the Commission's objective of 'ensuring mobility of slots and efficient transport for passenger and cargo':
- It will increase the mobility of slots
- Improve the ability of airlines to trade and to respond to market demand
- But may be limited once a new equilibrium is reached so may not lead to a continuing high turnover of slots.
- New entrants, especially intercontinental carriers, will find it easier to gain access to congested hubs
- Other airlines with small slot shares will have an improved mechanism enabling them to grow.

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Objective to strengthen competition at Community airports

- Existing dominant hub carriers at congested airports increase their share of slots from average 47% to 49%
- Significant network benefits Competition between major European hubs will increase in line with major carrier hub dominance.
- Competition will increase for long-haul flights and reduced on intra-EU flights as slots are traded.
- Routes to peripheral regional airports may be lost from congested hub airports
- Possible increasing role for Public Service Obligations [PSOs] protection.

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Objective - Match the secondary trading with the overall EU (air) transport policy

- It increases consumer welfare some €31 bn in 2025 and producer welfare by some €1.2 bn.
- It improves the finances of major airports by 7%
- It increases the broader economic contribution of major hub airports.
- The direct environmental impacts of congested airports will be marginally worsened, despite significant increases in throughput
- The broader environmental impact of specific airports may be more considerable, reflecting the expansion of long-haul services, and the transfer of short-haul services

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Consistency with other EC Policies

- Trade – EC / US Open Skies
- Regional development
- Environmental
- Competition

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Primary Slot Allocation Issues

The Commission also asked the study to conduct initial analysis of three areas of the current Primary Slot Allocation regulations that could be amended:

- Amending the 80/20 rule on slot usage to a higher percentage
- Auctioning any large tranches of new slots at an airport (though without specifying which party would receive the revenues)
- Withdrawing a set percentage of 'historic' slots on an annual basis, for re-allocation to the highest bidder
- Study concluded there would be no benefits amending current 80/20 rule.
- It also recommended that the US policy in relation to New York-LaGuardia be closely monitored - the FAA has proposed withdrawing all (domestic) slots over a ten year period, for auctioning to the highest bidder for a period of ten years.

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How the EC Study was Reported by Flight International

AIR TRANSPORT AIMEE TURNER / LONDON

Slot-trading revamp could damage regional services

Study into tackling congestion at primary airports warns peripheral routes may suffer

Europe's move to increase airport capacity through a slot-trading revamp could force a substantial increase in state-supported routes to ensure that far-flung regions continue to receive services.

A European Commission study into how secondary slot trading by airlines might increase efficiency at increasingly congested EU airports has been conducted by aviation consultancy Mott MacDonald. It points to a potential proliferation of publicly funded air services, termed public service obligations (PSO).

"Routes to peripheral regional airports and to the more peripheral member states may be forced out of the congested primary airports to less convenient secondary airports, unless they are protected by PSOs being applied," says the report.

Slot allocation in Europe is governed by detailed EC regulations on how national slot co-ordinators should decide between competing demands. Under current regulations, there are no effective mechanisms to maximise efficiencies in slot allocation, and no official system for trading slots. However, the report says secondary slot trading at Europe's airports could lead to them handling an extra 51 million passengers by 2025, a 7% increase.

In terms of available seat kilometres, airlines' trading of slots could see a 17% increase as a result of some small aircraft on short-haul routes being replaced by larger aircraft on long-haul routes.

Laurie Price, Mott MacDonald director of aviation strategy, says: "If efficiencies are to be adopted through secondary trading, this could lead to a loss of some peripheral routes. The alternative could be to offer protective guarantees to ensure continuity of service, such as PSOs, which are widely used in France, Italy and Spain."

"There are very real efficiencies to be gained through secondary trading, although it is not a substitute for new infrastructure in terms of improved air traffic control and runway capacity. There is an element of 'make do and mend' in secondary trading."

The report concludes that secondary trading would allow new entrants easier access to congested hubs and improve competition between major European hubs, especially on long-haul services – although competition could be weaker on intra-EU flights as carriers sell their slots.

Mott MacDonald, which consulted a broad spectrum of the industry, says there was widespread agreement that slots used for short-haul routes would be culled, especially those with less-than average numbers of transfer passengers. "Typically, these would be routes serving peripheral regions or member states and operated with smaller than average aircraft," says the report.

Source: Flight International 2007

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Summary of secondary slot recommendations

- Secondary slot trading recommended for broader use in Europe
- The general approach should be similar to that currently adopted by the U.K.
- In addition, it is recommended that coordinators regularly publish details of all slot trades, but excluding the price paid
- Following US domestic practice, although currently against IATA Guidelines, it was recommended that further consideration be given to allowing any party to purchase and own slots, not just airlines

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Questions

Thank you

Laurie Price
Director of Aviation Strategy,
Mott MacDonald Ltd.

Tel. direct line: +44 208 774 2757
Fax: +44 208 681 5706
Mobile: 07721 747640
Laurie.price@mottmac.com

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