

# **THE EU-US 'OPEN SKIES' AGREEMENT:**

## **A PROBLEM WITH THE CAPACITY OF LONDON HEATHROW AIRPORT (UK)**

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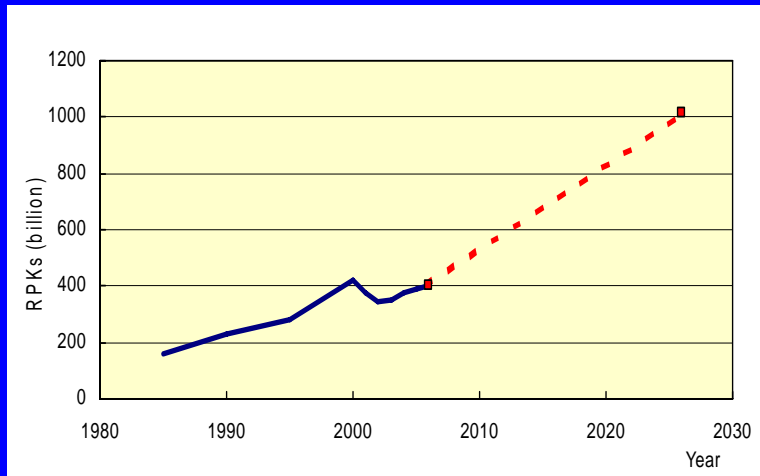
1. Introduction
2. Traffic development and impact of the EU-US 'Open Skies' agreement
3. The most likely exposed European airports
4. Case of London Heathrow airport
5. Conclusions

# 1. Introduction: The main market liberalization elements

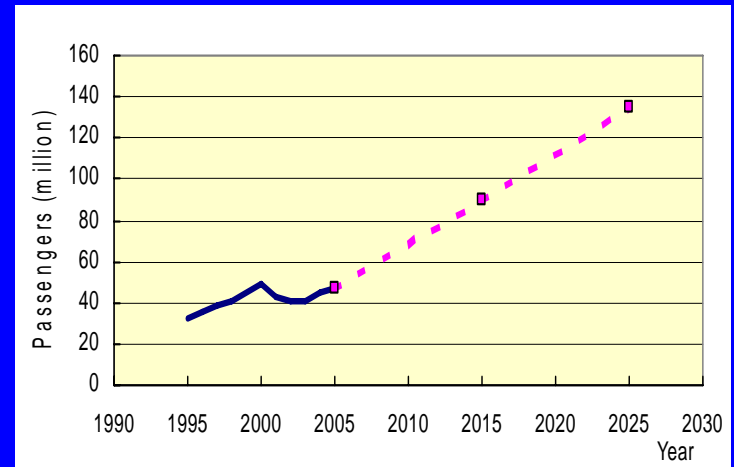
- Fairness and equality in competition;
- Free determinations of routes, flight frequencies, and airfares;
- Flying rights to/from and over both areas;
- Sharing common standards and procedures in safety and security;
- Excluding governmental subsidies to particular airlines;
- Creation and implementation of the common environmental protective measures

## 2. The current and prospective development of the EU-US air traffic (1)

- **Development of passenger demand**



**Revenue Passenger Kilometers (RPKs)**  
(Boeing, 2007)



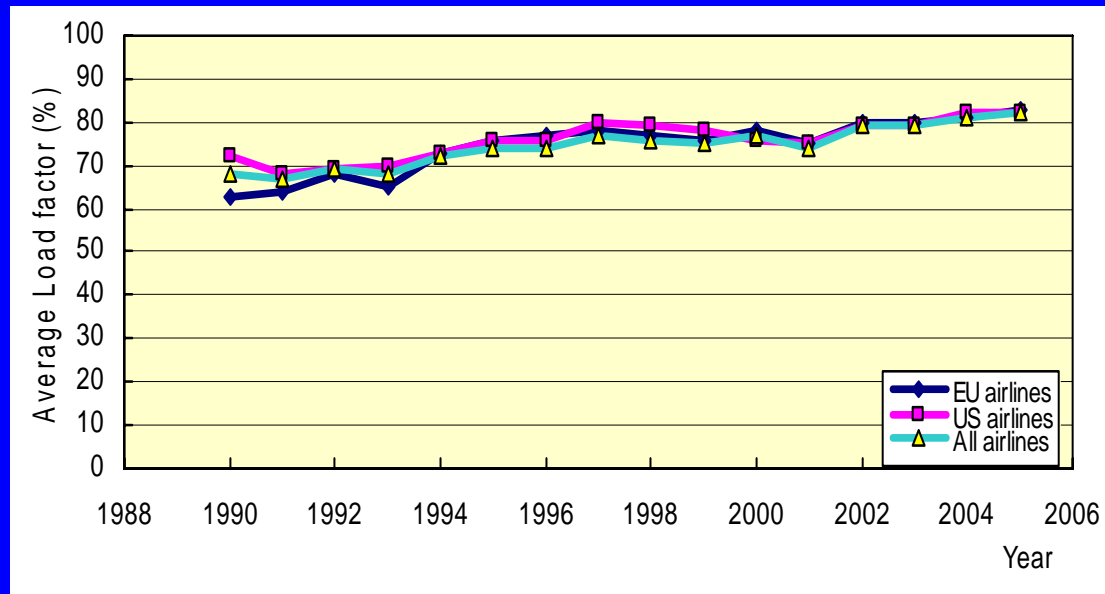
**Passengers: (Booz Allen Hamilton, 2007)**

- The forecasted passenger growth rate: **4.9%yr** without and **6.4%yr** with the Agreement

- **80-100** million passengers until 2015
- **120-150** million passengers until 2025

## 2. The current and prospective development of the EU-US air traffic (2)

- The airline supply: 7 EU and 7 US airlines (Total 14)



Average Load factor ( Booz Allen Hamilton, 2007)

# 3. The most likely exposed European airports (1)

- Some characteristics of the airport market (1)

**Table 1** Market share of the airline alliances at their European hubs

Airport	Alliance market share (%)		
	<u>STAR</u>	<u>SkyTeam</u>	<u>Oneworld</u>
Frankfurt Main	70 (59) <sup>1)</sup>	4	1
Paris Charles de Gaulle	9	63(57)	7
<u>London Heathrow</u>	<u>25</u>	<u>5</u>	<u>50 (41)</u>
Amsterdam Schiphol	8	59(53)	7

<sup>1)</sup> The market share of the main airline – a leader of the alliance is given in parentheses; <sup>2)</sup> The complement to 100% is the market share of other airlines  
 Source: EC, 2002; 2003

### 3. The most likely exposed European airports (2)

- Some characteristics of the airport market (2)

**Table 2 Some characteristics of the main EU and US airlines in the North Atlantic market to/from the main European hubs**

Airport	Main EU airlines		US airlines	
	Number	Load factor (%)	Number	Load factor (%)
Frankfurt Main	1	82.5	6	81.4
Paris Charles de Gaulle	1	80.8	7	79.0
<b><u>London Heathrow</u></b>	<b><u>2</u></b>	<b><u>77.0</u></b>	<b><u>2</u></b>	<b><u>79.7</u></b>
Amsterdam Schiphol	2	86.8	4	79.2

Source: Booz Allen Hamilton, 2007

### 3. The most likely exposed European airports (3)

- Some characteristics of the airport market (3)

Table 3 Some traffic characteristics at the main European hubs (2007)

Airport	ATM (thousand )	Passengers (million)	Flights (departures/week)	Share of the NA <sup>1)</sup> traffic (%)
Frankfurt Main	489.4	52.8	141	-
Paris Charles de Gaulle	495.4	56.8	155	9.8
<u>London Heathrow</u>	<u>476.7</u>	<u>67.9</u>	<u>386</u>	<u>20.6</u>
Amsterdam Schiphol	465.7	47.8	75	12.0

<sup>1)</sup> North Atlantic;

Compiled from: *Aéroports de Paris, 2007; BAA, 2007; Fraport, 2007; Schiphol Airport, 2007;*

### 3. The most likely exposed European airports (4)

- Some characteristics of the airport market (4)

Table 4 Some characteristics of the capacity of the main European hubs

Airport	Active runways	Capacity (ATM/h)	Capacity <sup>1)</sup> (thousand ATM/yr)	Land taken (ha)
Frankfurt Main	3	80	492	1397
Paris Charles de Gaulle	4	114	687	3309
<u>London Heathrow</u>	<u>2</u>	<u>78</u>	<u>480</u>	<u>1227</u>
Amsterdam Schiphol	5	106	638	2147

<sup>1)</sup> Estimated for the period of 16.5 h/day

## 4. Case of London Heathrow Airport (1)

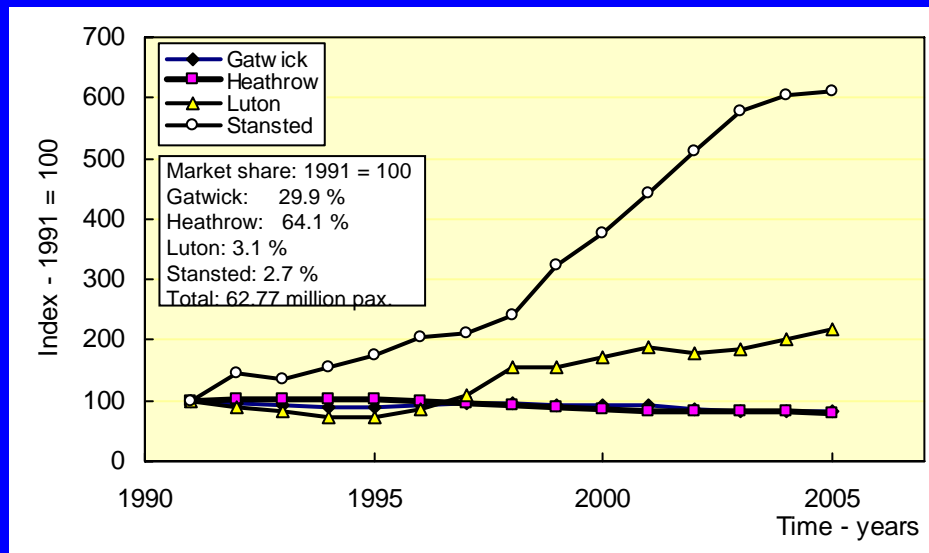
- **Background**
- **Existing layout**
- **Capacity**
  - Runway system
  - Passenger terminal complex
- **Traffic**
  - Annual number of ATM
  - Annual number of passengers

## 4. Case of London Heathrow Airport (1A)

- Background
- The third in the world regarding the total number of passengers in the year 2007;
- The first in the world regarding the number of international passengers in the year 2007;
- About 83% of passengers are O&D passengers;
- Share in the total traffic at five London airports is about 54% in ATM and 72% in the number of passengers.

# 4. Case of London Heathrow Airport (1B)

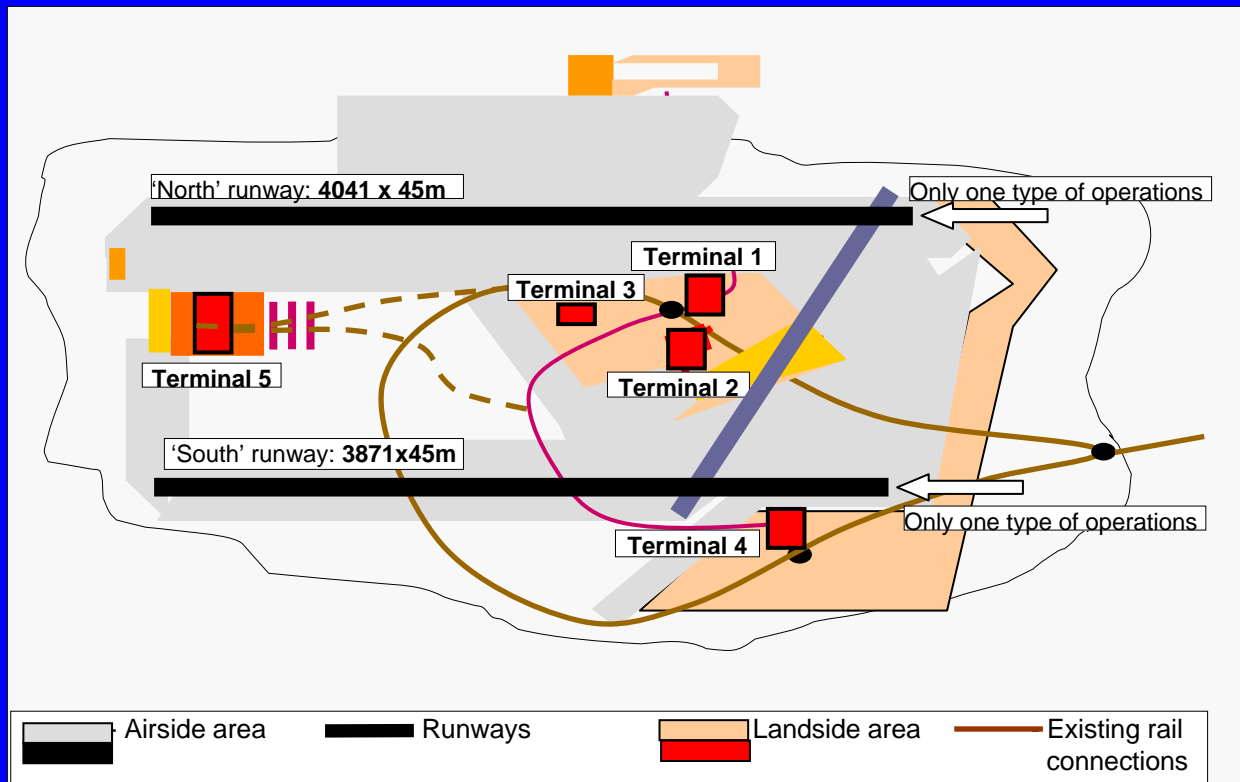
- Background



Development of the relative market share at four London airports (CAA, 2006)

# 4. Case of London Heathrow Airport (2A)

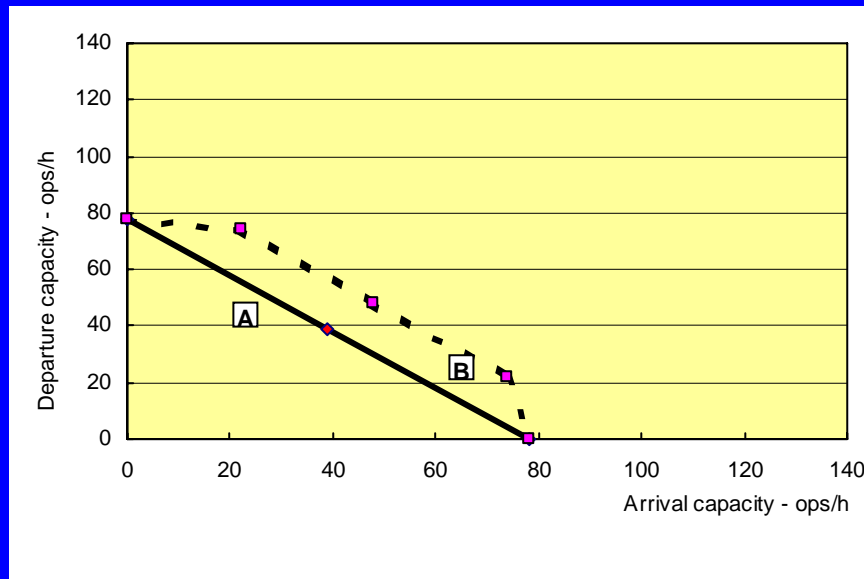
- Existing layout



Simplified layout of the existing airside and landside area at London Heathrow airport ( BAA, 2005)

# 4. Case of London Heathrow Airport (3A)

- Capacity
- Runway system

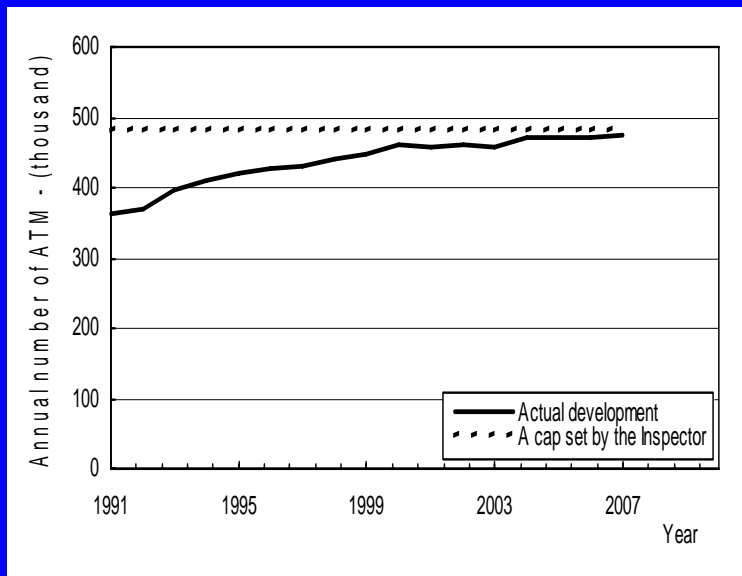


The two-runway system

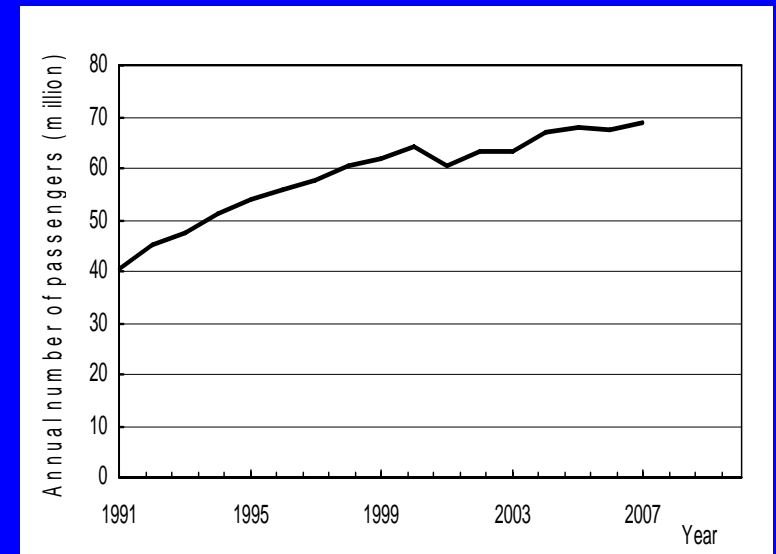
- Passenger terminal complex
- 5 Terminals:  
90-95 million passengers/yr

# 4. Case of London Heathrow Airport (4A)

- Traffic



a) Air Transport Movements (ATM)



b) Passengers

## 4. Case of London Heathrow Airport (2)

- **Long-term traffic forecast:**
  - Annual number of ATM
  - Annual number of passengers
- **Capacity expansion:**
  - Airside area – solutions
  - Landside area – solutions
- **Prospective layout:**

## 4. Case of London Heathrow Airport (2A)

- Long-term traffic forecast
- Demand - Air Transport Movements (ATM)

### “Optimistic” scenario:

Growth rate:

2.2% – 2007-2020

**508** K ATM in 2010

**567** K ATM in 2015

**632** K ATM in 2020

### “Pessimistic” scenario:

Growth rate:

1.4% - 2007-2020

**497** K ATM in 2010

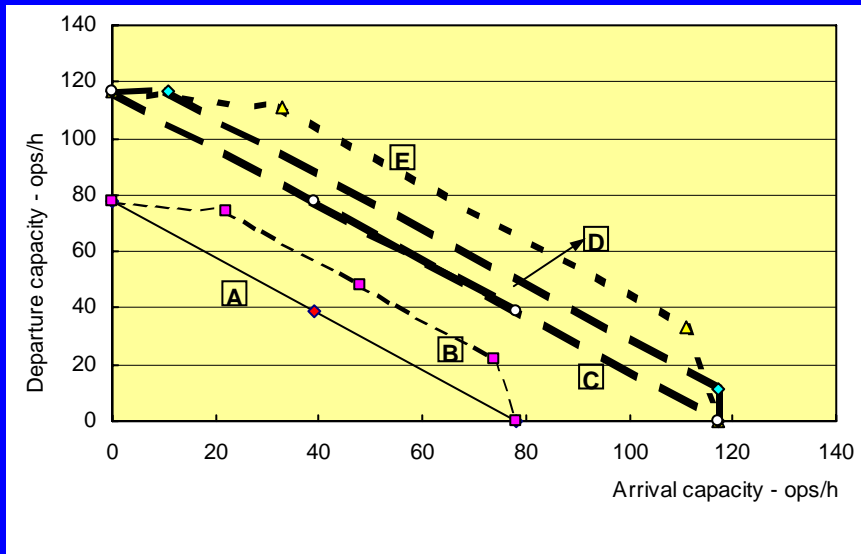
**532** K ATM in 2015

**571** K ATM in 2020

# 4. Case of London Heathrow Airport (2B)

- Capacity expansion - Runway system

- ATM/h



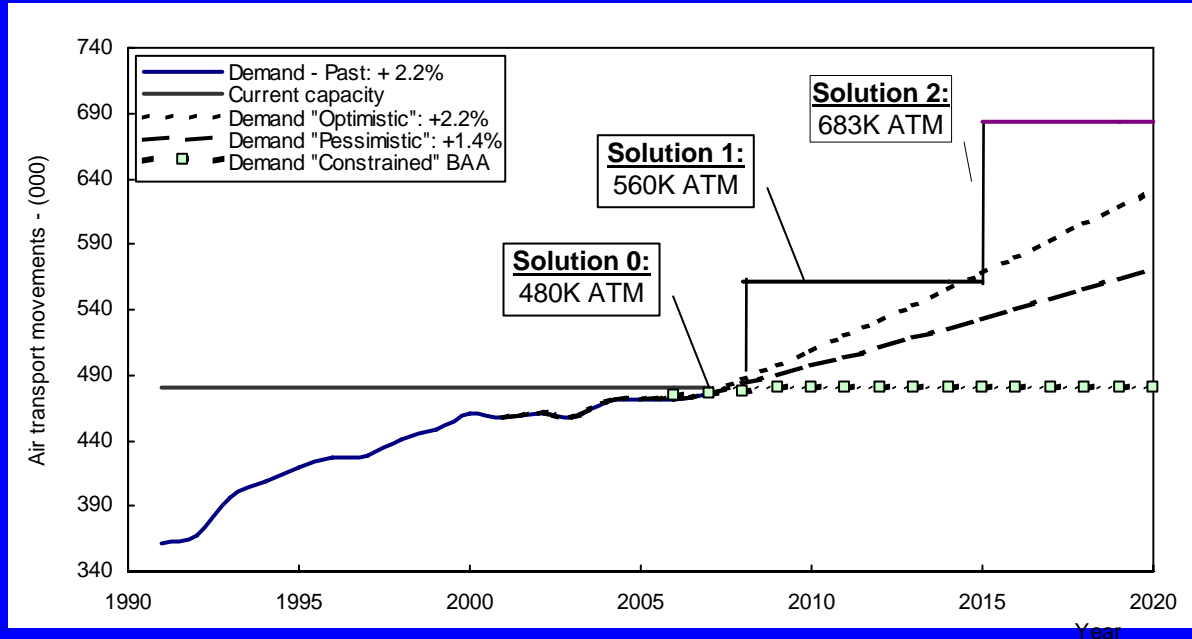
The capacity envelope for three runway system

- Annual ATM

- Solution 0  
(Do nothing) - 480 K
- Solution 1  
(Mixed mode) - 561 K
- Solution 2  
(New runway) - 683 K

# 4. Case of London Heathrow Airport (2C)

- Matching capacity to demand – ATM



Air Transport Movements (ATM)

## 4. Case of London Heathrow Airport (3A)

- Long-term traffic forecast
- Demand - passengers

### “Optimistic” scenario:

Growth rate:

4.2% - 2007-2020

**77** M passengers in 2010

**94** M passengers in 2015

**116** M passengers in 2020

### “Pessimistic” scenario:

Growth rate:

3.0% - 2007-2020

**74** M passengers in 2010

**86** M passengers in 2015

**100** M passengers in 2020

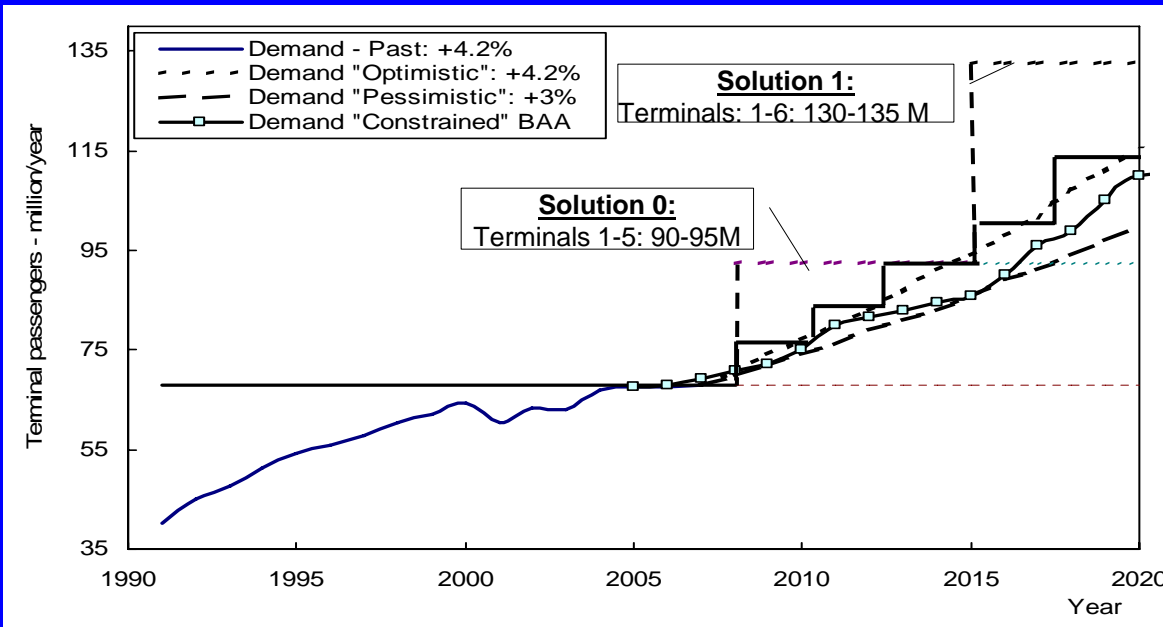
## 4. Case of London Heathrow Airport (3B)

- Capacity expansion - passengers

- Solution 0:  
5 Terminals – 90 - 95 M Passengers
- Solution 1:  
6 Terminals – 130 - 135 M Passengers

# 4. Case of London Heathrow Airport (3C)

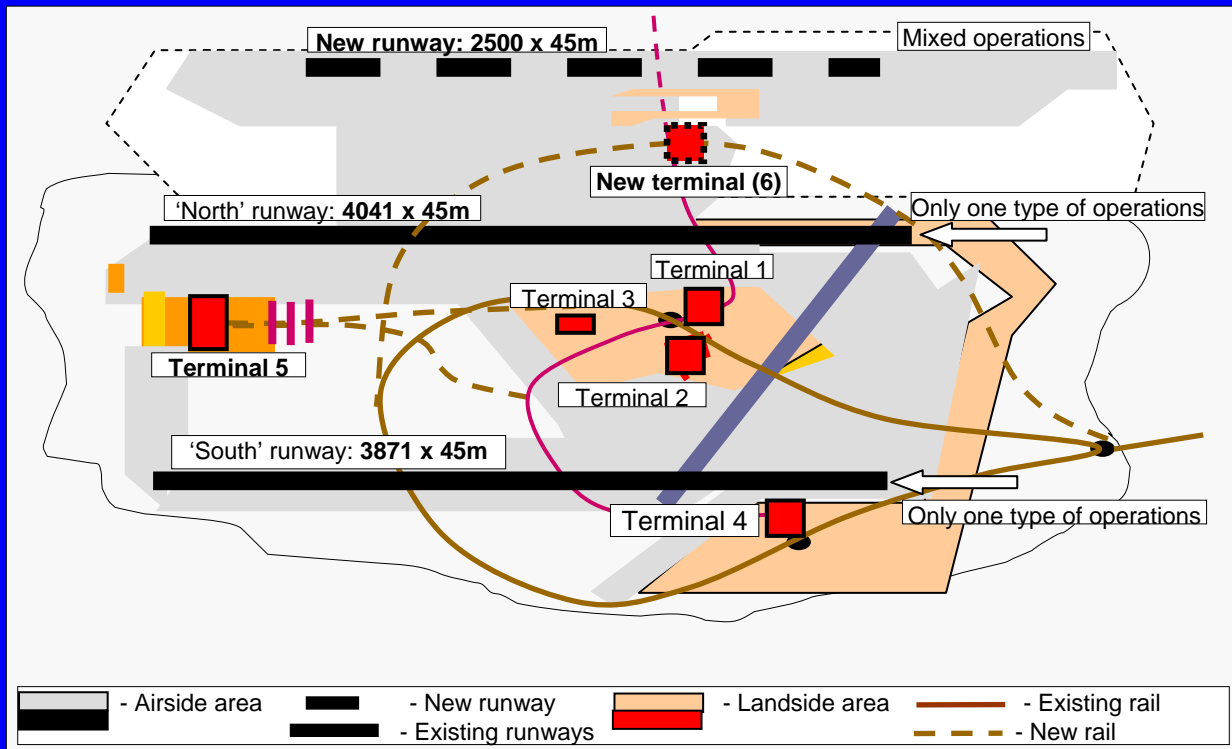
- Matching capacity to demand – Passengers



Passengers

# 4. Case of London Heathrow Airport (4)

## • Prospective layout



The prospective layout

# 5. Conclusions

- Solutions for increasing the capacity

- Changing the runway system operating mode;
- Building new (third ) parallel runway;
- Building new (sixth) terminal