

Passenger forecasts for Stansted in Q5

Introduction

1. In this appendix we examine the passenger forecasts for Stansted for the Q5 period. We consider the historical growth at Stansted and set out the forecasts of the various parties, together with their incentives to influence the forecasts. We examine certain aspects of the forecasts, focusing on the economic conditions, spill and clawback (these terms are explained in paragraph 101), the growth of long-haul traffic, oil prices, fares and airport charges. We also consider the extent to which the Stansted routes are mature. Finally, we set out our own forecasts.
2. Passenger forecasts are an important input into the calculations underlying the level of the price cap as they directly affect the per-passenger allowable yield and they also affect the amount of capital and operating expenditure which is needed.
3. Forecasts were undertaken by the DfT, BAA, York Aviation and ASA. The key results from these models are shown in Table 1.

TABLE 1 **Most recent air passenger forecasts for Stansted Airport, 2009 to 2014**

<i>Mppa</i>	<i>2009/10</i>	<i>2010/11</i>	<i>2011/12</i>	<i>2012/13</i>	<i>2013/14</i>
BAA May 08	23.5	24.7	26.6	28.5	31.0
% annual growth	3.52	5.11	7.69	7.14	8.77
DfT Nov 2007*	26.2	28.5	32	33.8	34.1
% annual growth	5	8.8	12.3	5.6	0.9
SACC July 2008*†	22.7	24.0	24.8	25.7	26.7
% annual growth	5.9	5.9	3.5	3.5	3.5
ASA July 2008*	22.2	23.3	24.8	26.4	28.1
% annual growth	0	5.0	6.5	6.5	6.5

Source: BAA, DfT, SACC and ASA.

*DfT, SACC and ASA forecasts are for full calendar years.

†These forecasts are predicated on no change to current airport charges, with higher growth expected if charges were to reduce.

4. The DfT model is highly complex and covers forecasts for the whole of the UK. The DfT owns the model and specifies its methods and assumptions, with the support of consultants (Scott-Wilson). It uses econometric techniques to estimate the parameters of its national forecasting model, which is used to forecast total passenger demand in the UK. The resulting forecast for total demand is then allocated to specific airports using a passenger allocation model based on the principle of minimizing generalized cost, so that passengers are more likely to choose an airport that minimizes their total costs of travel.
5. BAA uses an elasticity-based model to forecast long-term passenger demand for the BAA airports and set passenger allocation rules to allocate this level of demand across the London airports. Its short-term demand forecast for Stansted is achieved by using a bottom-up approach; for the medium term BAA uses a mixture of elasticity-based modelling, extrapolation and market intelligence.

6. The SACC¹ applies the DfT national air passenger growth rates, with some modifications, to the South-East, South-West, East Anglia and the East and West Midlands, and then allocates a proportion of this traffic demand to Stansted in a similar way to the DfT model, on the basis of shadow costs.
7. ASA, our consultants who studied Stansted's capex plans, also produced passenger forecasts for the Q5 period for the purpose of undertaking its evaluation of BAA's capex proposals. ASA's forecasts used a bottom-up approach for the first one to two years. For the following years, ASA used the DfT and BAA growth rates as the basis for its forecasts, taking account of factors which may reduce passengers' propensity to fly.
8. A similar base set of assumptions was used in all the forecasts:
 - (a) The Stansted limit on passenger numbers would be raised to 35 mppa before the start of Q5.
 - (b) A new runway at Stansted would open in time for the start of 2015/16.²
 - (c) There would be no mixed mode at Heathrow but a third runway was expected in 2020.³
 - (d) There would be no second runway at Gatwick before 2020.
9. Figure 1 shows air passenger numbers at Stansted Airport from 1985 to 2008 with the various forecasts for Q5. The DfT forecasts were significantly above the others. The more recent forecasts, SACC and ASA, were less optimistic: the SACC, in particular, predicted very moderate growth compared with the other models.

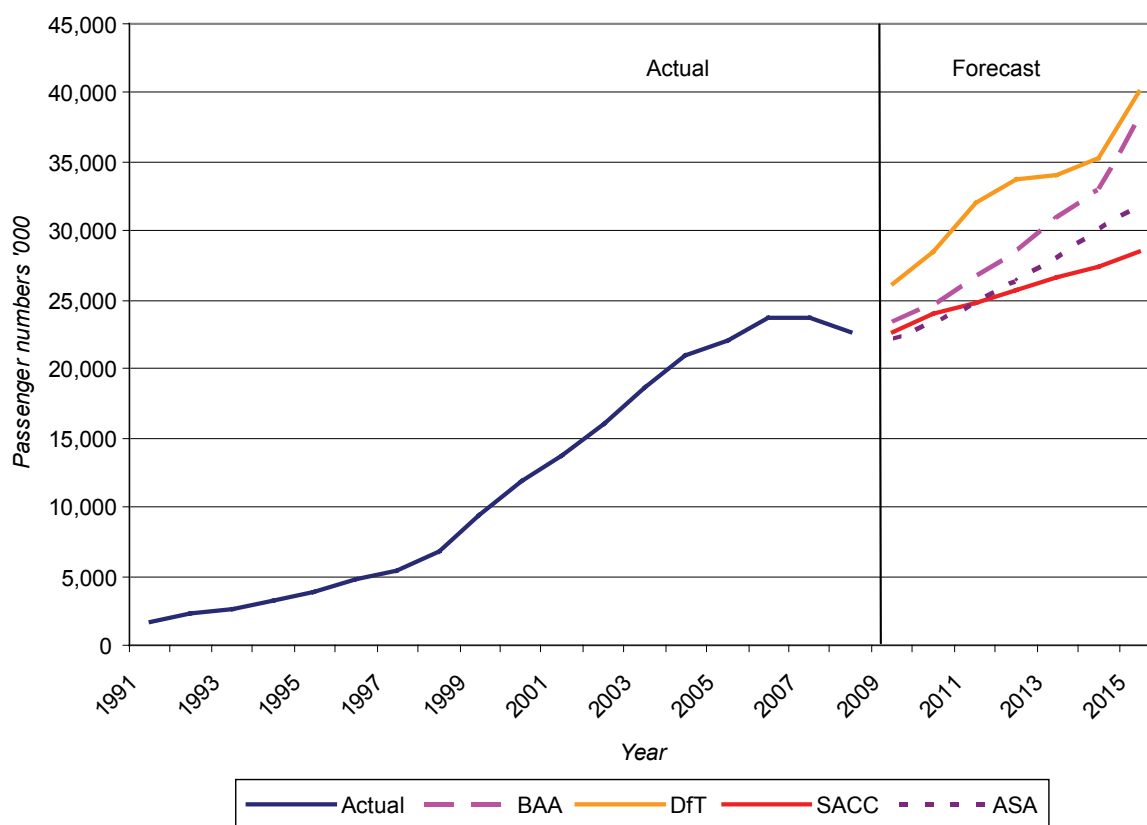
¹The SACC engaged York Aviation to produce its own passenger forecasts. These forecasts were independently prepared by York Aviation and subsequently adopted by the SACC.

²The SACC assumed that a new runway at Stansted would open either by the start of 2015/16 or in time to meet demand, whichever is later.

³The SACC assumed that there would be mixed mode at Heathrow but that, in the medium term, it would not lead to any increase in capacity.

FIGURE 1

Stansted air passengers, 1985 to 2008



Source: DfT, BAA, SACC, ASA, CAA.

Historical growth

10. Over the past few decades air travel in the UK has experienced robust growth. The number of air passengers using UK airports increased from 32 million in 1970 to 235 million in 2006, which is equivalent to an average annual growth rate of just under 6 per cent. This is approximately twice the rate of growth of UK GDP during the same period.⁴ Within the south-east airports, air passenger numbers have grown at a compound rate of 5.2 per cent per year over the 20-year period to 2006.
11. In the ten-year period from 1996 to 2006, Stansted increased its share of passengers from 5 per cent of the South-East total to 17 per cent. Stansted has grown from just 0.7 mppa in 1987 to 23.8 mppa in 2007, with the largest percentage increases being achieved in 1991 (46 per cent) as a result of the launch of Ryanair services from the airport, and over the period 1997 to 2000 (30 per cent a year) following the rapid expansion of Ryanair's route network and the introduction of new generation B737-800 aircraft.⁵ The availability of peak-time slots and significantly discounted airport charges made Stansted particularly popular for LCCs. In 1993, easyJet entered Stansted through its acquisition of another LCC, Go, and it has continued to expand its route network at the airport. easyJet and Ryanair currently have a combined share of 80 per cent of airport traffic at Stansted.

⁴Recent trends in growth of UK air passenger demand CAA Jan 2008.

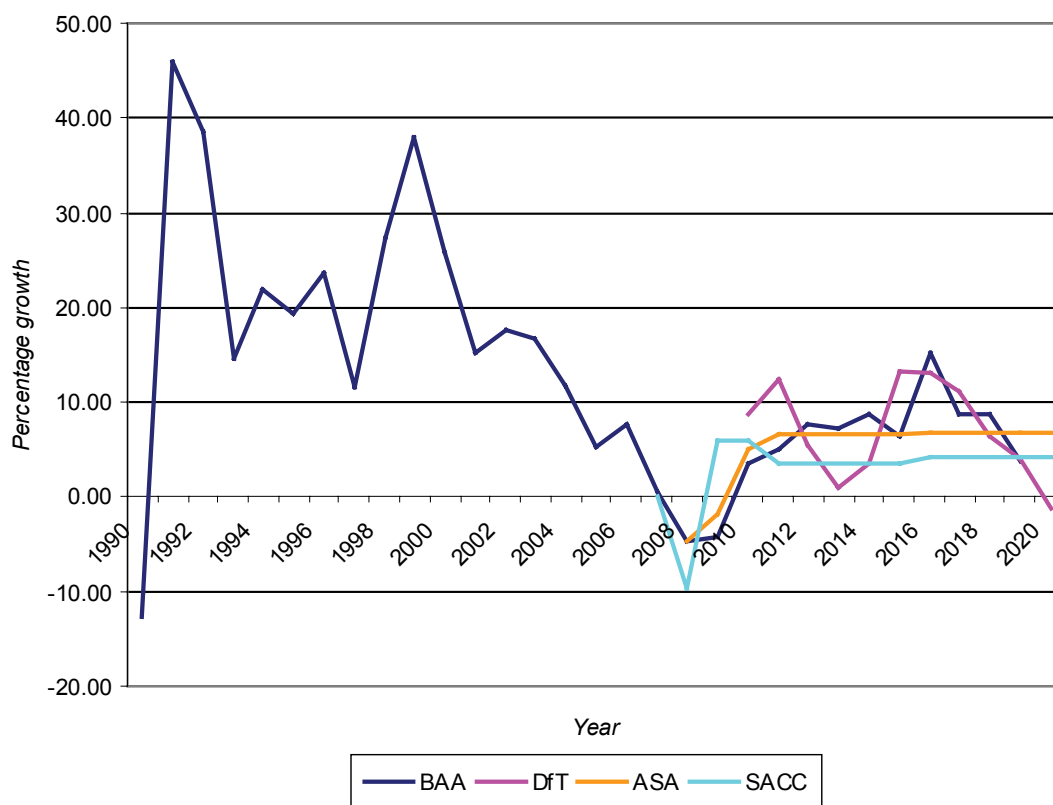
⁵ASA Review of the masterplan options and costs of the Generation 2 proposals at London Stansted Airport.

12. However, in the last couple of years, the growth of UK air traffic has slowed, even though there have been no major adverse external effects and before the most recent increases in the oil price. Passenger demand growth at Stansted has also been much reduced in recent years (see Figure 2), and negative growth is expected this year. Furthermore, LCC growth at Stansted has declined in comparison with that at Gatwick, Luton and regional airports. Over the past year the monthly annual decline has been much sharper at Stansted than at the other London area airports, and during the past six months the biggest decline in passenger numbers has been in domestic and European charter traffic.
13. Historically, according to the CAA, UK passenger growth has exceeded growth in GDP, typically by a factor of two. However, since early 2005, year-on-year passenger growth has been declining such that, from the start of 2006 to the end of 2007⁶ growth has been broadly in line with the growth of UK GDP growth. For example, in 2006, 235 million passengers used UK airports—an increase of 3 per cent on 2005. This is only just above the rate of growth of UK GDP during the same period.
14. The CAA found that the slowdown in passenger growth was due to factors that affected most or all airports and airlines, albeit to varying extents. It has also found that passenger segments for UK resident international holiday travel and domestic traffic had borne the brunt of the decline. By contrast, non-UK resident passenger segments for all types of travel have shown robust year on year growth. UK resident international holiday traffic was the largest passenger segment in 2006, accounting for around one-third of all trips, and domestic travel was the second largest, accounting for over one-fifth of all trips.
15. The CAA concluded that the recent decline in passenger growth had been a result of the close relationship between passenger demand and consumer expenditure, increased competition from domestic rail services, assisted in part by increased overall journey times by air (due to stricter security measures), and increases in the cost of air travel, due mainly to the rising fuel price.
16. Many of these factors were relevant for our review as they were likely to influence the growth rates of the future. Figure 2 shows that passenger growth rates at Stansted were volatile. Falls in growth rates at Stansted have historically been brief, of one or two years, with the exception of the decline since 2003 which has been more persistent. Prior to 2003, a fall in the growth rate was generally followed by a sharp recovery, in particular when the growth rate was negative (ie when passenger numbers at Stansted fell).

⁶The latest data available when *Recent trends in growth of UK air passenger demand* was published by the CAA.

FIGURE 2

Passenger growth rates at Stansted Airport, 1990 to 2020



Source: BAA, DfT, SACC, ASA and CAA.

17. Figure 2 also shows the passenger growth rates anticipated from the various models at Stansted. These growth rates were all relatively modest compared with the historical growth rates observed. We noticed that the DfT was expecting higher growth rates in the next couple of years but they declined when Stansted approached full capacity. BAA, the SACC and ASA were also expecting strong growth rates during the period, which could also be due to the presence of spare capacity. Both the DfT and BAA forecast an increase in Stansted's growth rate when its new runway was anticipated to open in 2015. These two forecasts also predicted a decline in growth at Stansted in 2020, due to the anticipated opening of the third runway at Heathrow.
18. If past experience is indicative of future behaviour, we would expect to see a sharp rise in passenger growth rates following the recent decline, but the extent to which we could rely on the past as a good predictor of the future was debatable. We considered that the economic conditions were sufficiently different from previous downturns to suggest that growth in passenger traffic may behave differently from its previous pattern.

Incentives to influence the level of passenger forecasts

19. We considered what incentives the various forecasters had to over- or underestimate passenger demand at Stansted in order to influence the outcome of our investigation.
20. The DfT did not appear to have any such incentives. Its passenger forecast was undertaken for a different purpose and, therefore, could be regarded as independent.

21. BAA's ability to adjust its charges, and hence the revenue it will make, are closely interlinked with our review and we expected BAA to have an incentive to influence the outcome. On the one hand, we recognized that it was in BAA's interest to deflate the passenger numbers for Q5, in order to generate a higher regulated per passenger charge (assuming a RAB-based approach); on the other hand, we recognized that BAA was seeking to justify a significant expansion of the airport and wanted to demonstrate that there were likely to be sufficient passenger numbers in 2015 to require the SG2 developments to go ahead. In previous quinquennial reviews we have considered BAA's incentive to lower forecasts in order to achieve a high regulated passenger yield to be stronger than its incentive to increase forecasts to justify higher capital expenditure.⁷ However, at Stansted, we expected that these conflicting incentives might lead BAA's forecasts to be moderate in the early years of Q5 but to show very high growth rates in the years immediately preceding 2015.
22. The airlines also have an interest in influencing the forecast level of passengers, because they would like future charges to be as low as possible. Therefore, we recognized that we might expect the airlines to seek to overstate demand for Q5. However, at the same time, we recognized that the airlines wished to defer payment for SG2 as long as possible and therefore might underestimate demand in Q5. Overall, we expected the airlines to overstate demand initially but to take a modest approach as to when SG2 was necessary.
23. There was no reason to believe that ASA had any particular incentives to under- or overestimate demand.
24. Overall, we found that both BAA and the airlines might be tempted to influence the forecasts for passenger demand for Q5 and beyond, but that their incentives might be conflicting. We also found it difficult to determine the strength of these incentives and the degree to which they were likely to alter the final forecasts. In this context, we found that it was not practicable for us to form a final view on the parties' overriding incentives.

DfT air passenger demand forecasts for Stansted Airport

25. An outline of the DfT air passenger demand model is found in Annex B of the CAA's reference to us. A more detailed description is found in the DfT's *UK Air Passenger Demand and CO₂ Forecasts*, November 2007.⁸
26. The DfT models air passenger demand for 31 UK airports. The forecast is in two stages: first, the model forecasts national demand, unconstrained by airport capacities; next, the model allocates this demand between airports.
27. The DfT national demand model is a highly complex set of econometric models and is to a large degree free of forecaster judgement. For example, its forecasts of macroeconomic variables (GDP, consumption, oil price etc) are the same as those used across government, and can be checked against third party forecasts. In summary, the model establishes, for each market segment, the responsiveness of passenger demand to the economic drivers which best explain past demand movements and then combines these relationships with assumptions about the economic drivers to project demand into the future.

⁷BAA pointed out that its forecast for Q5 at Heathrow and Gatwick airports was lower than that of the CAA, the CC and the airlines, but was almost certain to be closer to the out-turn.

⁸www.dft.gov.uk/pgr/aviation/environmentalissues/ukairdemandandco2forecasts/.

28. The passenger allocation process used in the second part of the model is based on the principle of minimizing ‘generalized cost’, so that passengers are more likely to choose an airport that minimizes their total cost of travel. Generalized costs include direct monetary costs such as airfare and immediate costs of travelling to an airport (eg train tickets or fuel and vehicle costs) and the costs of time spent travelling to the airport, waiting for aircraft and in flight. The time costs are monetized with values varying by passenger segment. Most passenger types are also assumed to place value on the frequency of services.⁹

Comments on the DfT model

29. The DfT model of air passenger demand is designed primarily to forecast passenger demand at airports over the longer term, for the purpose of informing and monitoring strategic aviation policy. Historically, for example, there has been frequent deviation from the long-term trend driven by economic factors such as recessions or oil price increases, or by conditions such as military conflicts, terrorism or fears of a global pandemic.
30. While the DfT model captures short-term movements in demand by seeking to reflect in its forecasts short-term variations in economic growth and oil prices, it does not seek to capture other short-term, airport-specific changes in demand drivers, such as particular airline marketing plans.
31. We believed that such short-term effects on demand were important for the purpose of determining forecasts for Stansted for Q5. Therefore, we considered that, for our purposes, the best use of the DfT forecasts, with their emphasis on explaining past behaviour and capturing system-wide effects, was as a benchmark for ‘sense-checking’ other forecasts which focus more strongly on short-term airport- or airline-specific trends. In particular, we compared the relative growth rates of the DfT model with those derived from other models.
32. Moreover, the base year of the DfT model is 2004. The CAA noted that if the DfT model were to be updated to take into account detailed actual demand from 2006 and 2007, it might improve the short-term forecast accuracy of the model for individual airports, although the overall long-term conclusions were likely to remain the same.
33. For our purposes, we did not review long-term forecasts and, therefore, we did not form a view on the suitability of the DfT model for longer-term forecasting of passenger demand.

BAA’s air passenger demand forecasts

34. BAA’s modelling methodology was also outlined in Annex B of the CAA’s reference to us, which BAA agreed provided an accurate description.¹⁰ BAA uses a number of

⁹The airport choice model is estimated by choosing the weights to place on the different drivers of airport choice which give predictions of airport demand that best fit the base year demand. As such, it avoids making judgements about airports’ catchment areas. The airport-specific forecasts are then produced by projecting forward the generalized costs of using each airport, and feeding in the forecast national demand growth. Furthermore, the allocation process then estimates how demand at each airport would respond to capacity constraints. It reallocates demand from an over-capacity airport to others by raising the cost of using the overcapacity airport and re-running the airport choice model, and iterating until demand is at or below capacity at each airport. The end result is that capacity constraints can lead to some passengers changing their choice of airport, or choosing not to travel. Importantly, this means that the DfT model captures ‘system-wide’ demand and capacity effects, using a model calibrated to past passenger airport choice behaviour.

¹⁰Although the diagram of the BAA model (Fig B1) only mentioned that demand from Luton Airport was being excluded from the passenger demand for the London area but omitted to mention that London City Airport was also excluded.

different approaches to forecasting the traffic demand for its three London airports. The short-term (one to three years) and the medium-term (up to ten years) forecasts are based on a mix of elasticity-based modelling, extrapolation and market intelligence. Its long-term forecasts (10 to 30 years) use elasticity-based modelling.

35. We reviewed some of BAA's modelling techniques and assumptions and set out our findings below.

Short- and medium-term modelling

36. BAA's forecasts for the first year are heavily influenced by: (a) experience of recent traffic developments by airline and/or by segment (LCC, charter, full-service); and (b) knowledge of individual carrier intentions expressed either directly to Stansted management, via trade media (journals and electronic updates) or via the ACL-managed scheduling process.
37. A combination of these factors, plus the application of judgement by the forecaster in assessing the likely accuracy of carrier intentions and the extent to which scheduled capacity will be flown and filled with passengers, produces a 'bottom-up' forecast by carrier or carrier group.
38. BAA's forecasts for the remaining two years of the three-year Business Plan period are the result of combining the extrapolation of trends from the first year with expectations of carrier changes or any changes in the wider aviation industry, for example as a result of changes in the fundamentals driving BAA's unconstrained demand model.
39. BAA's forecasts for three to five years ahead are most closely linked to the underlying demand growth implied by BAA's demand model, with a transition at the end of the period to the 2015 forecasts produced by the long-term forecasting model.
40. Table 2 sets out the key assumptions used in BAA's model. These assumptions are less important for the first few years of the model where the bottom-up approach (including airline intentions) will reflect the present value of the variables but become more important in the latter part of Q5.

TABLE 2 **BAA's forecast assumptions of key variables**

	2009	2010	2011	2012	2013	2014	2015	Elasticity
UK GDP (%)	1.6	2.5	2.3	2.3	2.3	2.3	2.3	1.6–1.7
UK consumer expenditure (%)	1.3	2.5	2.3	2.3	2.3	2.3	2.3	0.8–1.7
Air fares (%)*	-2.1	-0.7	-1.5	-1.1	-0.6	-0.6	-0.6	-0.65†
Oil price (\$)	75	72	70	70	70	70	70	

Source: BAA April 08.

*For Europe.
†Approximately.

Elasticity-based modelling

41. Although BAA's long-term model starts in 2015 and projects spot years for 2020, 2025 and 2030, it is still relevant for Q5 as the long-term forecast demand growth for 2015 is used to estimate demand for 2011/12 to 2014/15 (as explained above).

(a) BAA's unconstrained demand model for London

42. BAA's model builds forecasts of unconstrained traffic demand for its three London airports. Separate econometric models have been developed for each market segment: business, leisure, and transfer traffic (broken down by UK and non-UK residents), with different elasticities for each segment based on the following geographical areas:

TABLE 3 BAA' model's geographical areas

Short haul	Other UK (domestic) Ireland European Union Other short-haul
Long haul	Japan North America Middle East

Source: BAA.

43. The model estimates traffic demand for London for each of these markets, by using forecasts for a number of modelling variables and establishing elasticities relating to the sensitivity of traffic demand.

(b) Constrained demand forecast for Stansted

44. After its estimated demand for Luton and London City airports are subtracted from the total passenger demand, BAA allocates its unconstrained demand to Heathrow, Gatwick and Stansted airports.
45. BAA uses the CAA's origin and destination surveys to identify the factors that cause passengers to choose one airport over another. The major determining factors have been found to be accessibility and airline service frequency, although different passenger segments are not equally sensitive to these factors and may also be influenced by the availability of low airfares or frequent flyer programmes, etc.
46. BAA examines how different segments respond differently to individual airports. Using CAA survey data, Table 4 illustrates the differences in airport choice by UK leisure passengers and overseas resident business travellers.

TABLE 4 Choice of airport by catchment area

Airport catchment	UK leisure—airport used				Foreign business—airport used			
	LHR	LGW	STN	Total	LHR	LGW	STN	Total
LHR	50	36	14	100	86	10	4	100
LGW	25	65	10	100	63	33	4	100
STN	27	31	42	100	65	10	25	100
Total	36	42	22	100	77	15	8	100

Source: BAA analysis of CCA survey data covering period Jan–Dec 2003.

47. Table 4 shows that UK leisure travellers were more likely to use the airport in the catchment in which they originated. However, the local attraction was weaker for the Stansted catchment, where many people seem willing to travel to Heathrow and Gatwick. Business travellers had a strong preference for Heathrow in whatever catchment area they originated.

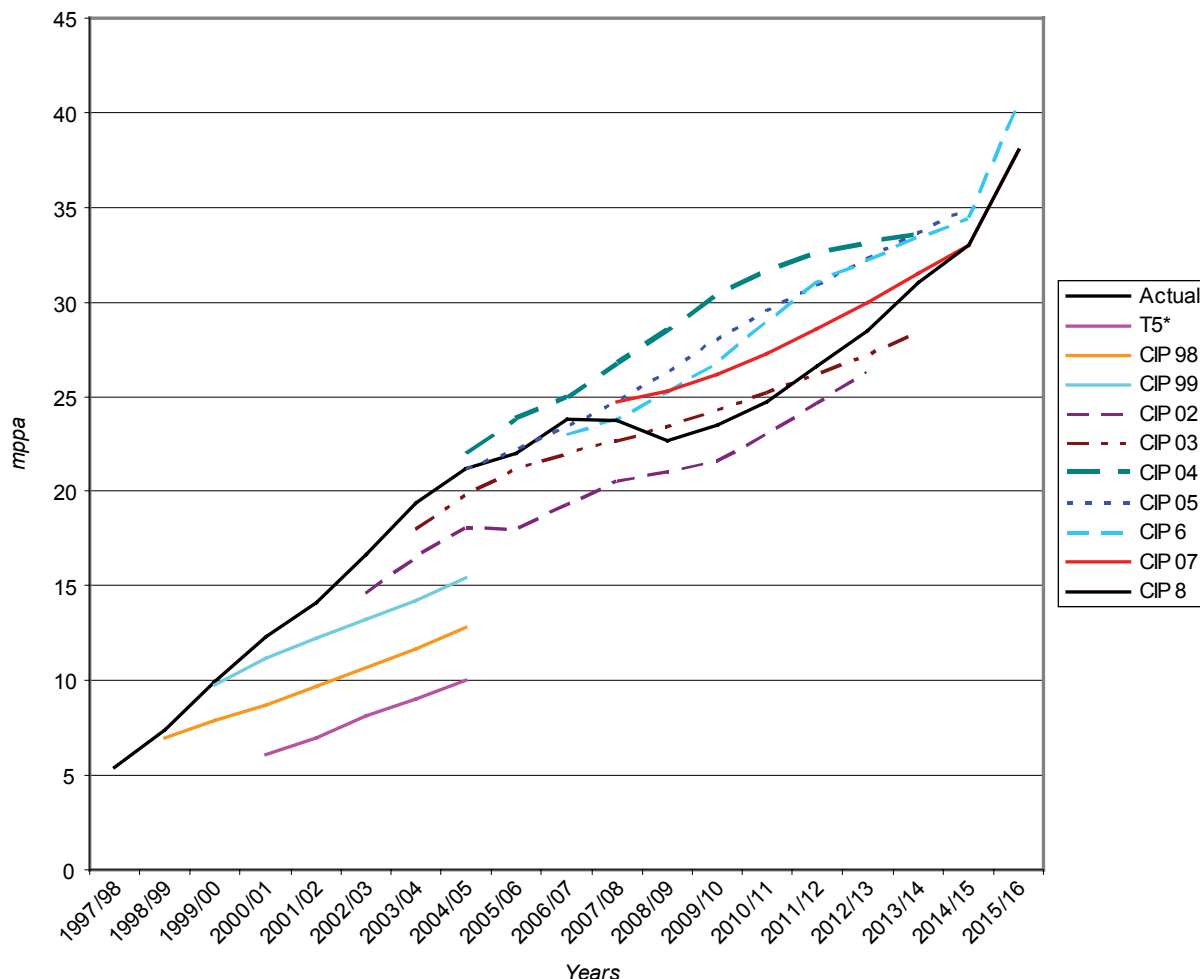
48. BAA uses this type of data to estimate the proportion of passengers (for a number of categories, such as 'UK leisure') using each of the airports in 2015, for each of the three 'natural' catchment areas. These proportions are then adjusted for future periods to reflect the forecaster's view about the impact of new airport capacity on passengers' propensity to use an individual airport.
49. As excess demand in the system arises due to capacity constraints at Heathrow and Gatwick, the BAA model reallocates this excess demand to other BAA airports whilst allowing for some to be lost to the system. The impact of these assumptions is discussed further below with regard to spill and clawback (see paragraph 100).

BAA's record of forecasting for Stansted

50. We examined BAA's previous forecasts to form a view on how well the model can be expected to predict future demand at Stansted. We noted that BAA did not fully develop its long-term forecasting model until 2006 and it was only in 2007 that it used it to inform its CIP forecasts.

FIGURE 3

BAA's passenger demand forecast for Stansted, 1998 to 2008



*T5 inquiry BAA/1775. Last two years assumes T5.
Source: BAA.

51. Figure 3 shows that, up to 2003, BAA underestimated Stansted's future passenger demand, although the margin of error declined considerably over time. From 2004, the model overestimated growth for the first time, and BAA's forecasts have declined ever since. In 2008, BAA forecast a considerable drop in passenger numbers up to 2010, compared with its forecast in 2007. After 2010, passenger numbers were forecast to grow significantly until 2015, where the forecast reached the level of the 2007 forecast.

CC view of the BAA forecasting model

52. BAA uses a number of different forecasting techniques, reflecting changes in short-term supply conditions, which are likely to make its forecasts more up-to-date than the DfT model in the short run. The BAA model has been updated relatively frequently and takes account of new data and airlines' intentions.
53. In our view, the methodology adopted by the BAA model is appropriate but is subject to a fair degree of judgement on key decisions. We recognized that most models involve a degree of judgement and we tested some of BAA's key assumptions. In particular, we found that BAA's long-haul forecasts were optimistic and that its oil price forecasts seemed low (see paragraphs 115 to 136 and 137 to 159 respectively).
54. We were also concerned that BAA's desire to reach certain passenger numbers by 2015, so as to support its proposed timetable for SG2, resulted in a higher growth rate than would otherwise have been the case. We noted that, in 2008, BAA reduced its forecasts for the initial years of Q5 because of the current economic downturn and high oil prices but, though we might have expected the forecasts for the whole of Q5 to be reduced, BAA forecast that demand would 'catch up' and accelerated the growth rate in the latter years of Q5 in order to reach the same level by 2013/14 as in its 2007 forecast. Similarly, in the course of our inquiry, BAA reduced its forecast for Stansted for 2009/10, from 23.5 mppa to between 21.5 and 21.8 mppa, but BAA told us that the forecasts for the end of Q5 remained the same, even though it implied an even faster growth rate. We noted that, to get to 31.0 million passengers by 2013/14, BAA forecast that passenger numbers would grow by over 40 per cent during Q5, or nearly 10 per cent per year.
55. We investigated BAA's long-haul forecasts for Stansted and concluded that BAA's long-haul growth forecasts should be delayed by three years, which reduced the long-haul passenger forecasts by 0.7 million in 2009/10 and by 1.6 million by 2013/14 (see paragraphs 115 to 536).
56. We also investigated BAA's oil price assumptions and concluded that the \$80 per barrel price suggested by BAA for 2009 seemed low, but it remained a possibility. We accepted BAA's view that the oil price could change very quickly and considered several sensitivities (see paragraphs 137 to 159).

SACC air transport model 2008

57. The SACC's model focused on estimating demand at Stansted by reference to the other London area airports. There were two separate parts to the model, as explained below.

Part 1: Unconstrained passenger demand forecast for London

58. The SACC's total market forecast examined the growth of individual market segments over time. This part of the process was based heavily on published passenger forecasts for the UK, prepared by the DfT. The DfT's forecasts are based on complex regression analysis and the SACC was of the view that this approach provided the most robust available estimate of unconstrained demand. Following discussions with the DfT, the SACC produced its own forecasts of unconstrained demand, reflecting the recent increases in oil prices (see paragraph 143). The SACC did not take into account fully the effects of the current global financial crisis on GDP and consumer expenditure.¹¹
59. After adjusting the national unconstrained passenger forecasts, the SACC applied these growth rates to five CAA regions around Stansted Airport (the South-East, South-West, East Anglia, and the East and West Midlands) and used these estimates as a basis for calculating the demand at Stansted. Demand from passengers outside these areas represented a very small proportion of Stansted's traffic so the SACC estimated it outside the core model.

Part 2: Passenger forecasts for Stansted Airport

60. The second part of the SACC's approach involved the allocation of traffic to Stansted. The SACC model was developed using 2006 actual data and calibrated against actual performance in 2007. It was then used to model passenger decisions as to choice of airport in future years, based on the journey time to each of the airports in the model and the frequency of services on offer at each airport. Where necessary, airports were constrained in future years to reflect their infrastructure or planning capacities using a shadow cost (similar to the approach adopted by the DfT, but on a smaller scale and using a simpler model). The shadow cost was a notional monetary value that was converted to time using the DfT's values of time for air travellers and added to the journey time of travellers at the relevant airports.
61. This top-down approach to examining passenger throughput at Stansted was supplemented by bottom-up analysis to sense-check the top-down results. This process included a detailed scrutiny of the market for long-haul services within Stansted's catchment area. The bottom-up approach considered the demand by destination from an airport's catchment area, in order to estimate which routes were likely to be operated viably from the airport. The SACC submitted that its approach was an appropriate way to assess the likelihood of Stansted developing and sustaining services to key long-haul destinations, in competition with services already offered from Heathrow and Gatwick. This approach was in contrast to any top-down approach which would rely on the track record of an airport in the long-haul market as the basis for making future forecasts and which in the SACC's model, in common with that of the DfT, made it difficult to project growth of long-haul passengers at Stansted given the poor track record in this area.
62. The SACC examined 12 main market segments.¹² Transfer passengers were considered separately, due to the likely network effects and the network-driven probability of passengers choosing to transfer via Stansted.

¹¹This work requires the DfT to update its underlying assumptions.

¹²Domestic UK business passengers; domestic UK leisure passengers; domestic foreign business passengers; domestic foreign leisure passengers; short-haul UK business passengers; short-haul UK leisure passengers; short-haul foreign business passengers; short-haul foreign leisure passengers; long-haul UK business passengers; long-haul UK leisure passengers; long-haul foreign business passengers; long-haul foreign leisure passengers.

63. The SACC's model was calibrated to 2006 data and actual performance by market segment in order to provide a datum before the effect of the step change in airport charges at Stansted in 2007. The model was run for 2007 to isolate the Stansted-specific effects arising from that cost increase. A number of scenarios were run to produce passenger demand estimates for 2010, 2015, 2020, 2025 and 2030.
64. Table 5 sets out the SACC's 'most likely' estimates, which assumed no change to the current level of airport charges in Q5 and beyond, but assumed that, over the long term, fuel prices would trend back to the BERR central case, from the BERR high-blended case.

TABLE 5 The SACC's 'most likely' passenger forecast assuming no further change to airport charges

	<i>Passengers (m)</i>	<i>Scenario</i>
2006	23.7	Actual
2007	22.9*	Oil Price High 1: BERR central—current prices
2008	21.4†	Oil Price High 2: BERR high blended—current prices
2010	24.0	Oil Price High 2: BERR high blended—current prices
2015	28.5	Oil Price High 2: BERR high blended—current prices
2030	52.1	Oil Price High 2: BERR central—current prices

Source: York Aviation working for the SACC August 2008.

*This scenario assumed that increased airport charges were in force throughout 2007. In reality increased charges were not introduced until part way through the year and the airlines' ability to pass through costs or withdraw capacity in the short run is extremely limited. Consequently, this result was slightly below the 23.8 million passengers seen at Stansted.

†This scenario assumed oil prices at \$140 per barrel throughout 2008. The SACC considered that this might be an extreme assumption and, consequently, the fall in traffic might be overstated to some extent, albeit that this would be counterbalanced by current economic circumstances.

65. Given that the SACC used the DfT model as its basis for assessing overall unconstrained demand levels in the UK as a whole, we examined whether the SACC model gave rise to some of the same concerns with respect to the applicability of the DfT model for estimating demand at Stansted in Q5. We found that the SACC approach overcame some concerns by using more up-to-date data in the unconstrained forecasts (eg oil prices) and by using more recent survey data in its constrained forecasts. Moreover, the SACC's ability to check the forecasts against a bottom-up approach ensured that the near term forecasts for long-haul traffic reflected current market conditions. The SACC recognized that a top-down approach might be less applicable in the shorter term due short-term cyclical factors and, indeed, in the past had advocated a bottom-up approach as more appropriate for short- to-medium term forecasts.
66. The SACC's bottom-up approach to forecasting long-haul traffic, by considering the airport's catchment area in terms of destinations and determining which long-haul routes were likely to be viably operated, suggested that there was already significant underlying demand for some long-haul destinations. In particular, the SACC found potential demand to established, high-volume markets, and estimated that, by 2015, there were likely to be 1 mppa long-haul passengers at Stansted, rising to 6.6 to 8.6 mppa by 2030, depending on oil price assumptions and the type of long-haul carriers. Although these long-haul forecasts were produced outside of the model, the SACC considered that the growth of long-haul passengers would have the effect that the costs of constraint at other airports would be reduced. Because some of the long-haul passengers modelled at those airports would have been clawed back, resulting in more short-haul traffic being retained at those airports, there would be a consequent impact on Stansted's relative attractiveness for short-haul traffic.
67. We noted that the SACC's unconstrained forecasts, which were based on the DfT's UK demand forecasts adjusted for oil prices, relied on macroeconomic variables

which needed updating, in particular to reflect recent trends in GDP and consumer demand. The SACC commented that its use of a higher short-term oil price would, to some extent, counterbalance its use of higher macroeconomic variables in the short term.

Sensitivity

68. The SACC considered several scenarios to test different oil prices and airport charges (see Table 6). The 'no price effect' scenario assumed charges of £3 per passenger, whereas the 'current price' scenario assumed £5.83. (We outline the BERR oil price assumptions in paragraph 142.) The figures in bold in Table 6 show the SACC 'most likely' scenario, which is a mixture of the BERR central and BERR blended oil price assumptions, both under current prices.

TABLE 6 **SACC sensitivity analysis**

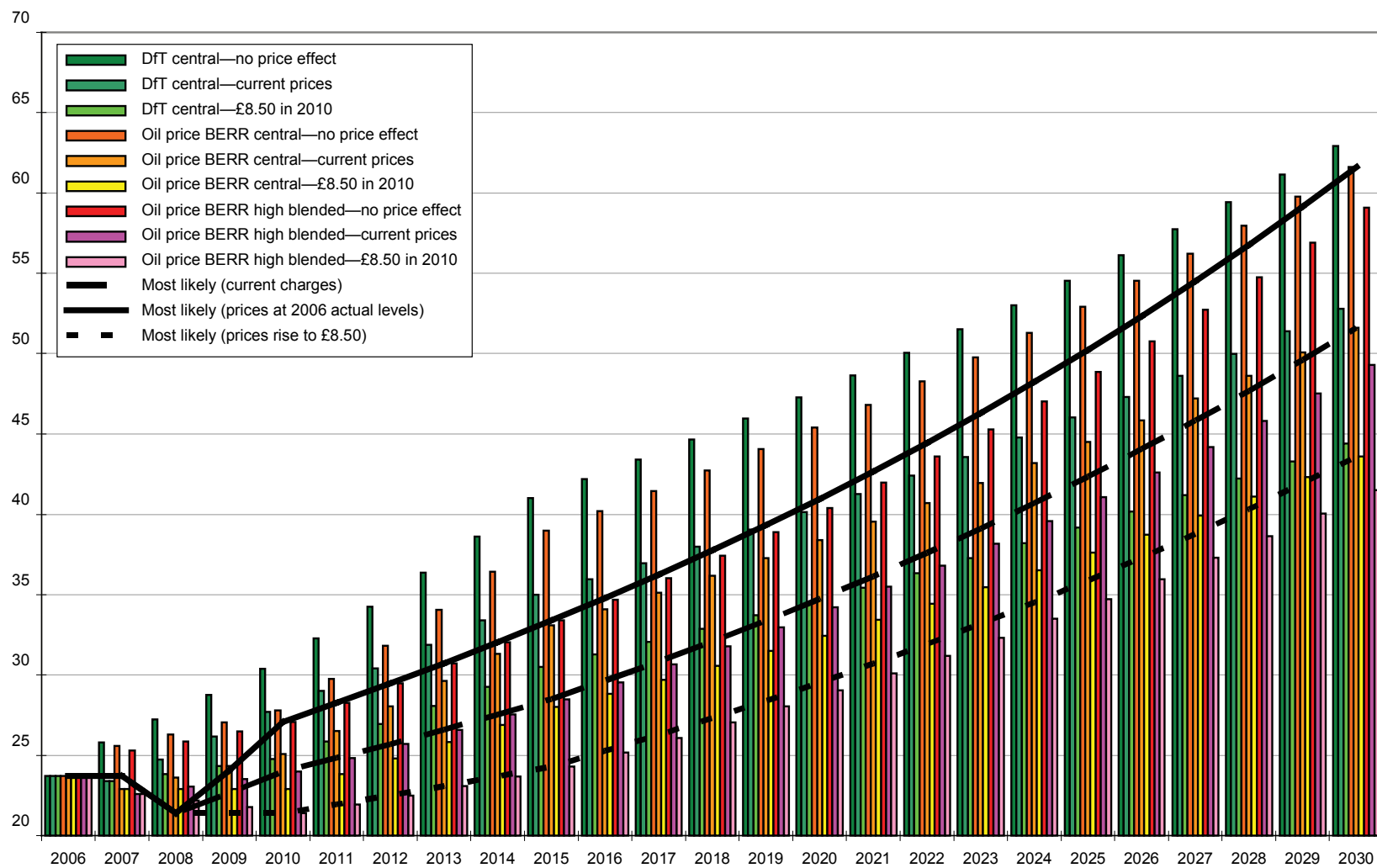
	2007	2010	2015	2030
				<i>mppa</i>
DfT central no price effect	25.8	30.4	41.0	62.9
BERR central oil price, no price effects	25.6	27.8	39.0	61.6
High blended oil price—no price effects	25.3	27.1	33.4	59.1
DfT central case—current prices	23.4	27.7	35.0	52.8
BERR central—current prices	22.9	25.1	33.1	51.6
BERR high blended—current prices	22.6	24.0	28.5	49.3
DfT central case—£8.50 per passenger in 2010	23.4	24.8	30.5	44.4
BERR central—£8.50 per passenger in 2010	22.9	22.9	28.0	43.6
BERR high blended—£8.50 per passenger in 2010	22.6	21.4	24.3	41.5

Source: York Aviation working for the SACC August 2008.

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69. The DfT commented that the high passenger charge scenarios failed to consider the impact of higher charges at airports other than Stansted.
70. Figure 4 shows the forecasts under the various scenarios graphically.

FIGURE 4

Range of passenger forecasts indicating 'most likely' scenarios dependent upon airport charges



Source: York Aviation working for the SACC August 2008.

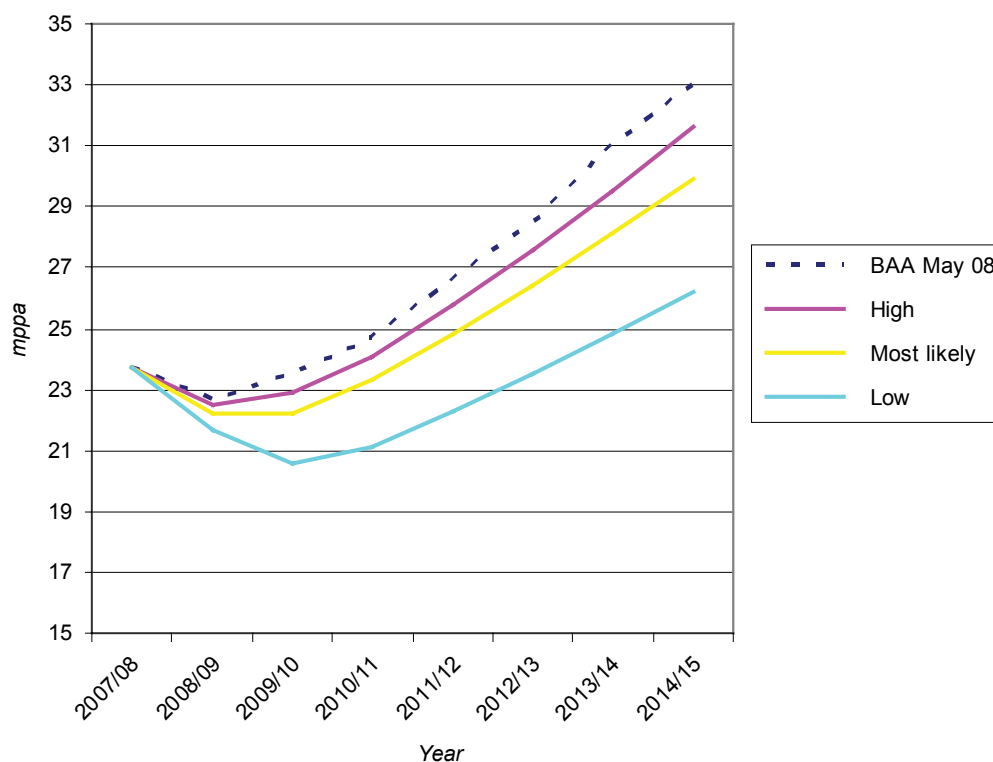
ASA model of passenger demand at Stansted

71. ASA's methodology for estimating passenger forecasts at Stansted is set out in its review of BAA's SG2 capex proposals (see Appendix G).¹³
72. ASA's forecasts were based on the DfT and BAA models but made adjustments for the out-turn results at Stansted over the past 18 months, and for short-term factors affecting growth over the next one to two years. In the medium and longer term (three to eight years), ASA took account of the likely growth rates predicted by BAA and the DfT, but was concerned at both the oil price forecasts and the reduction of real air fares, which were suggested in these models. ASA noted that, in the future, oil prices might be significantly higher, for example \$150 to \$200 per barrel. Therefore, ASA made some adjustments to these models based on the assumptions that oil prices continue to rise and that there would be no reduction to the real costs of air fares. ASA also took account of factors affecting long-haul passenger growth.
73. ASA assumed that SG2 would become available in 2015 and a third runway at Heathrow would come into operation in 2020. In its most likely case, ASA estimated that, in 2008, passenger traffic at Stansted would fall by 6.5 per cent, remain stable in 2009, and recover partially in 2010, with 5.0 per cent growth. Between 2010 and 2015, ASA estimated that passenger traffic at Stansted would grow by 6.5 per cent a year (lower than BAA's forecasts over the same period, but higher than those of the DfT).
74. ASA did not make year-on-year forecasts for long-haul passenger traffic as it regarded long haul as too unpredictable. However, ASA believed that there was some potential for low-cost services to North America and possibly to other destinations in the Middle East, South Asia and South-East Asia. ASA felt it was reasonable to anticipate that there might be around 1.7 mppa long-haul passengers at Stansted by 2015.
75. ASA forecast high and low cases around its most likely case, which reflected the spread between the DfT's high and low cases. In ASA's high case, Stansted's traffic was forecast to be in line with BAA's base case, reaching 35.6 million passengers by 2015. In ASA's low case, by 2015 passenger numbers were projected to reach 28.4 million.

¹³ASA was primarily required by the CC to assess whether BAA had conducted an appropriate analysis of the nature and extent of airport facilities required at Stansted to meet reasonable demands and whether, in the light of all relevant factors and constraints, BAA's proposed layout and design for the new terminal building, runway and associated facilities and the budgeted /forecast costs are appropriate to meet reasonable demands for airport services over the relevant period. In order to make this assessment, ASA was asked to conduct a critical evaluation of BAA's assessment of the future use of the airport and to develop its own view on an appropriate range of forecasts in evaluating BAA's G2 proposals.

FIGURE 5

ASA vs BAA traffic forecast base case scenario



Source: ASA July 2008.

76. We thought that ASA’s approach to deriving a forecast for Stansted’s passenger numbers was sensible, given its purpose in reporting to us on BAA’s capex proposals and given the time and resources available. However, we believed that ASA’s assumed 6.5 per cent growth rate was relatively high, as it would be more than twice the level of GDP growth predicted for Q5. We noted that it was based on BAA and DfT growth rates, which were based on economic and oil price data which now seemed optimistic in current market conditions. We also noted that even the DfT ‘low’ forecast, which uses an oil price of \$80 per barrel, results in a growth rate of 5.5 per cent.

Airline intentions

Ryanair

77. In the course of our review, Ryanair announced that it intended to cut back its winter 2008 schedule (ie from October 2008 to March 2009), from the 36 aircraft which operated at Stansted during winter 2007 to 28 aircraft, representing a 25 per cent reduction. This cutback equated to approximately a 14 per cent reduction in the number of flights, from over 1,850 per week last year to just under 1,600 in 2008/09. Ryanair estimated that its winter 2008 traffic at Stansted would decline by 900,000 passengers, compared with the schedule for last winter.¹⁴ The airline blamed this decrease on high airport charges and high oil prices.

¹⁴Ryanair press release, 17 July 2008.

78. Ryanair told us that, although it intended to double its total passenger numbers over the next four years, it had no plans to expand its business at Stansted under the current cost regime. Ryanair said that any changes would involve either replacing existing routes, which had become unprofitable, with new, more profitable routes or closing some routes. Consequently, Ryanair did not expect any material increase in its passenger numbers at Stansted over Q5. For the next two years, it expected [✂].
79. In the BAA model, domestic LCC passengers at Stansted are expected to grow from 19 million passengers today to over 24 million by 2015. However, a period of no growth from Ryanair, the airline which is currently responsible for approximately 65 per cent of Stansted's passenger numbers, could seriously undermine the growth predicted by BAA. If easyJet, for example, were expected to achieve all the domestic LCC growth which BAA is forecasting, it would have to double its passenger numbers at Stansted by 2015.
80. Although we took account of Ryanair's short-term plans in deriving our forecasts, we had some scepticism about them. We noted that Ryanair agreed with the traffic forecasts produced by the SACC, which predicted that short-haul traffic (including domestic traffic) at Stansted would grow by 3.5 per cent over Q5.¹⁵ As one of the most efficient operators in Europe, it seemed unlikely to us that other operators would continue to grow profitably at Stansted while Ryanair was unable to do so.
81. Ryanair stated that its predictions were consistent with the SACC forecasts because some airlines might enter even when there were no profitable entry opportunities. We accepted that uneconomic entry may occur but such airlines would not stay in business for very long. Therefore, we did not believe that it would be appropriate for our forecasts to rely on these operators to provide market growth. We concluded that [✂].

easyJet

82. easyJet told us that it expected to reduce its aircraft at Stansted during winter 2008, below the 12 aircraft which were based there in winter 2007. For the first half of winter 2008, easyJet intended to base ten aircraft at Stansted, rising to 11 aircraft in the second half of the season. easyJet expected this reduction, along with adjusted patterns of flying, to result in 22 per cent fewer passengers.
83. For the summer 2009 season, easyJet expected [✂].
84. easyJet cited the higher oil price and higher airport charges as the key drivers for its proposed cuts in capacity at Stansted.
85. As for Ryanair, we had some scepticism about assuming all of easyJet's reductions in our forecasts. We concluded that [✂].

The current economic conditions

86. During our investigation, the UK economy has experienced volatile conditions, with the credit crunch, a banking crisis, high fuel prices and high food prices. These conditions have resulted in a fall in consumer confidence, increasing household bills and declining house prices. We recognized that these factors were likely to result in

¹⁵From around 20.3 mppa to 25.9 mppa in 2015.

cutbacks in discretionary expenditure, which might have an effect on passenger demand at Stansted.

87. GDP growth has slowed well below the trend rate of 2.5 to 2.7 per cent, and the outlook for GDP growth for 2008 and 2009 was very low. Using the Treasury¹⁶ collated forecasts, which are based on the forecasts of 22 independent companies, we found an average forecast for GDP growth of 1.4 per cent in 2008 and 0.9 per cent in 2009. Forecasts for disposable income growth were also down to 2.0 per cent for 2008 and 0.3 per cent for 2009.
88. There was considerable uncertainty as to how long and how deep the downturn in the UK economy would be, and as to the extent to which the downturn would have an impact on air passenger demand. Few forecasters considered more than two years ahead. We noted that a more prolonged downturn might have a proportionately greater impact on passenger demand than a short one, not only because some people would defer travelling or choose not to travel during this time, but also because it may change the underlying propensity to travel, for example if business travellers became more used to communicating in other ways or if leisure passengers discovered other ways to travel.
89. Table 7 shows the GDP growth forecasts used by BAA, the SACC and various independent forecasters. Given the high level of uncertainty about future growth, we recognized that these forecasts should be treated with caution.

TABLE 7 **UK GDP and consumption expenditure annual growth rate and air traffic growth forecasts at Stansted compared**

	<i>Growth % pa</i>						
	2009	2010	2011	2012	2013	2014	2015
<i>GDP</i>							
BAA Apr 08	1.6	2.5	2.3	2.3	2.3	2.3	2.3
SACC July 08	1.9–3.0	1.9–3.0	1.9–3.0	1.9–3.0	2.3	2.3	2.3
IMF APR 08	1.7*	3.3	3.2	2.8	2.7		
Oxford Economics	1.7	2.8	4.3	3.1			
Consensus Economics	1.3	2.0	2.2	2.3	2.4	2.4	2.4
HMT comparison of independent forecasts August 08	1.3†	2.2	2.6	2.6			
<i>Consumption</i>							
BAA Apr 08	1.3	2.5	2.3	2.3	2.3	2.3	2.3
SACC July 08	2.0–3.0	2.0–3.0	2.0–3.0	2.0–3.0	2.0	2.0	2.0
Consensus Economics	1.0	1.7	2.0	2.1	2.2	2.3	2.3
<i>Traffic forecasts</i>							
<i>Growth rates</i>							
BAA May 08	3.5	5.1	7.7	7.1	8.8	6.5	15.2
SACC July 08	5.9	5.9	3.5	3.5	3.5	3.5	3.5
ASA July 08	0.0	5.0	6.5	6.5	6.5	6.5	6.5

Source: BAA, SACC, ASA, HMT.

*Increased in July 08 from 1.6.

†This number differs from the text above because it was based on 18 medium-term projections as compared with 29 forecasts for the short-term forecasts.

90. In BAA's forecasts, UK GDP was assumed to grow at a trend rate of 2.2 per cent a year over the period to 2015, and 1.9 per cent thereafter. However, in the short term, BAA expected the economy to grow below this trend rate, given the current economic conditions, and had recently reduced its forecasts for GDP and consumer expenditure in 2009 to 1.3 per cent and 1 per cent respectively. BAA submitted that its

¹⁶Forecasts for the UK economy, a comparison of independent forecasts, August 2008.

passenger forecasts at Stansted took account of the downturn in the economy by considering short-term airline intentions, which resulted in it forecasting a decline in passenger numbers in 2008/09. For 2010, BAA assumed that GDP growth would increase to 2.5 per cent and, thereafter, BAA assumed that GDP growth would be 2.3 per cent a year.

91. BAA estimated that a 1 per cent increase in GDP and consumer expenditure from 2010 onwards would result in increased passenger demand at Stansted of 3.2 per cent in 2015.
92. The SACC used the DfT forecasts for GDP growth, which varied between 1.9 per cent and 3.0 per cent a year from 2005 to 2012, and assumed 2.3 per cent a year thereafter to 2017. Similarly, for consumer expenditure, the SACC used the DfT's forecasts, which varied between 2.0 and 3.0 per cent a year from 2005 to 2012 and assumed 2.0 per cent a year thereafter to 2017.
93. ASA's model did not make any explicit assumptions about GDP growth.
94. The independent UK GDP growth forecasts in Table 7 all predicted that the growth rate would recover and return to trend in 2010. BAA's UK GDP forecasts were more optimistic than Consensus Economics for the size of recovery but were more pessimistic than the IMF and Oxford Economics. The SACC's GDP and consumer expenditure forecasts, which were based on the DfT's forecasts, seemed high in the short term, in comparison with these independent benchmarks.
95. Despite modest forecasts for GDP and consumer expenditure growth over Q5, BAA predicted significant air passenger growth over the same period. On average over the period, BAA forecast that passenger demand would be almost four times GDP growth but, in 2015, the passenger growth rate would be over six times the GDP growth rate. The SACC predicted high passenger growth rates in the short term, due to its forecasts being based on the DfT's 2006 forecast, but, in the medium term, the SACC's forecast growth rates were more modest and only one percentage point above the predicted GDP and consumer expenditure growth rates. ASA's passenger growth forecasts were nearly three times the GDP and consumer expenditure growth rates predicted by independent forecasts.

Conclusion on GDP

96. Historically, the growth rate of UK air passenger traffic has been approximately twice the growth rate of UK GDP. However, since early 2005, the rate of UK air passenger growth has been declining such that, from the start of 2006, the growth rate has been approximately the same as the growth rate of UK GDP.
97. However, we recognized that the rate of passenger growth at Stansted might exceed GDP growth because the airport might absorb a proportion of the growth which could not take place at some of the other airports in the London area, due to capacity constraints.
98. We concluded that BAA's medium- and long-term assumptions about UK GDP and consumer expenditure growth seemed reasonable, as they were in line with other independent forecasts. However, in the short term, we believed that BAA's GDP and consumer growth rates were optimistic, as even its revised figures exceeded the Treasury average of independent forecasts. We noted that this optimism would not influence BAA's short-term passenger forecasts as these were derived from airline intentions and market intelligence. However, overall, we noted that the passenger

growth rates for Stansted in both the BAA and the ASA models seemed high given the forecast levels of growth for UK GDP and consumer expenditure.

99. We concluded that the SACC's forecasts for GDP growth were also optimistic, at least initially, but we noted that they were in line with other forecasts in the medium term.
100. In our forecasts, we estimated that short-haul passenger demand (ie not including long-haul passengers) should grow by 5 per cent a year over the period. We noted that this growth rate would exceed the recent trend of UK air traffic growth, which had been in line with the growth rate of UK GDP, but would maintain the historical trend by being approximately twice the growth rate of UK GDP. We concluded that passenger numbers at Stansted are likely to grow faster than at other London airports, due to factors such as spill and clawback (see paragraphs 101 to 114), and these features are reflected in our forecast growth rate. We recognized that our estimated growth rate of 5 per cent is slightly lower than the growth rate in the DfT's low forecast (5.5 per cent), but noted that the DfT's low case assumed a level of growth which exceeds both the current economic conditions and the future predictions of independent forecasts. We also noted that our estimated growth rate of 5 per cent is at the midpoint of the ASA and SACC forecasts.

Spill from other airports, and clawback

101. In the BAA model, where the unconstrained demand for an airport exceeds the physical capacity of that airport, there are a series of calculations to reallocate passengers to other airports. The model uses attrition factors to calculate which passengers are willing to 'spill' to other airports. The combination of the level of excess demand at the airport and the attrition factors determines the volume of each passenger type that spills.
102. In order to establish to which airport passengers will spill and what proportion of passengers will not fly at all, BAA applies a matrix of spill factors. If the passenger numbers calculated following this reallocation process exceed the available capacity at an airport then the process is repeated. Any passengers who are reallocated for a second time to an airport that is already capacity constrained are assumed to be lost to BAA, rather being allocated to a third choice BAA London airport.
103. BAA estimated that, until Stansted reaches 35 mppa, one-third of its incremental growth will be due to overspill from Heathrow and Gatwick. According to BAA, by 2015, the shortage of capacity at Heathrow and Gatwick will amount to approximately 11.6 mppa. Of these passengers, BAA forecast that approximately 2.5 mppa would travel from Stansted instead. In the absence of spill, BAA forecast that demand at Stansted in 2014/15 would be 30.5 mppa but, with spill from Heathrow and Gatwick, demand at Stansted would rise to 33 mppa.
104. In the BAA model, spill to Stansted includes both long-haul and short-haul traffic. In 2011, long-haul traffic accounts for 40 per cent of spill to Stansted but, by 2015, it accounts for 60 per cent of the spill (equivalent to 0.2 million passengers in 2011 and 1.5 million passengers in 2015). We set out our analysis of long-haul passenger growth in paragraphs 115 to 136. Even without the long-haul element, the short-haul spill in BAA's model grows from 0.3 million passengers in 2011 to 1 million

passengers in 2015, which represents a growth rate of approximately 45 per cent a year.¹⁷

105. The SACC argued that BAA's approach did not properly reflect how the LCCs respond to the market. The SACC said that it was not clear how much the four different types of passenger that BAA considered reflected the types of flight being offered by the LCCs. BAA seemed to be assuming that a proportion of the residual demand from Heathrow and Gatwick would go to Stansted, but the SACC was concerned that passengers could not spill to an alternative airport unless an airline was willing to put on the relevant sort of services from there. The SACC was concerned that the judgements in BAA's approach led it to overstate significantly the willingness of passengers and airlines to relocate from Heathrow to Stansted.¹⁸
106. The SACC also argued that spill was already occurring, and was reflected in the existing growth in demand at Stansted. Therefore, it was not a new phenomenon to be added in to the forecasts but could be modelled by reference to observed growth patterns over recent years.
107. Rather, in its model, the SACC used a concept called 'clawback', which assumed that shadow costs changed the balance of probability of passengers choosing between airports. If services at Stansted improved, for example if more destinations were served from the airport, then the shadow cost of using Stansted compared with other airports would fall and passengers more local to Stansted would be clawed back. At the same time, airports with capacity constraints would appear more costly, and therefore less attractive for passengers to use, in turn making Stansted relatively more attractive. The SACC argued that this analysis, as presented in its model, reflected the natural working of the market, as increasing demand at Stansted would lead to more services being offered. The capacity constraints at Heathrow and Gatwick would simply accelerate this process.
108. The SACC differentiated clawback from spill, as it understood spill traffic to arise when airline services which would ideally have operated from a congested airport were displaced to a less-congested airport, so passengers whose preference would have been for the congested airport were forced to make lengthy journeys to the alternative airports instead.
109. The CAA noted that the SACC's interpretation of spill, which referred to an airline relocating a service from one airport to another airport, happened rarely. BAA and the DfT used spill to refer to passengers who, in the unconstrained scenario, would choose one airport but, due to capacity constraints, fly from a different airport instead. The CAA noted that the SACC's use of clawback included this latter type of spill, but also included passengers who were now able to fly from their preferred airport due to an increase in the services offered there.

Conclusion on spill and clawback

110. Whilst the BAA and the SACC models differed in their process of allocating passengers between airports, both models assumed that capacity constraints at other London airports resulted in increased demand and supply at Stansted. As air travel demand in the London area was expected to grow further, we found it reasonable to expect that, where this demand could not be satisfied by Heathrow and Gatwick, due to their capacity constraints, some of it would end up at Stansted. Where routes were

¹⁷Stansted demand growth without spill is only about 5.5 per cent a year.

¹⁸SACC, Stansted Airport forecasts, report 2006, York Aviation.

already supplied by existing Stansted airlines, the substitution seemed more obvious. However, we believed that some passengers would be willing to choose a different destination, so as still to be able to fly from a London airport. We noted that Stansted already served more short-haul destinations¹⁹ than either Heathrow or Gatwick, so it did not seem unreasonable to assume that some excess demand for short haul would switch to Stansted, particularly for leisure travel.

111. In the medium term, we expected that, if there was sufficient unsatisfied demand for further short- or long-haul destinations, either existing carriers or new carriers would seek to satisfy it. If Stansted had capacity, and if it fitted with a profitable business model, then we would expect a profitable new route to be served.
112. We were sceptical about BAA's judgement on the amount of short-haul spill to Stansted in Q5. We calculated that, by 2015, BAA's short-haul spill assumptions would be equivalent to filling three short-haul planes at Stansted completely for a year, which we did not believe was realistic.
113. We did not have sufficient information to analyse the clawback in the SACC model, mainly because the clawback could not be split from Stansted's general growth.
114. We accepted that some transfer of short-haul passengers to Stansted, due to capacity constraints at other London airports, would occur. However, in the absence of historical data, we did not take a view on the amount of spill that would occur. Rather, we included short-haul spill within our assumed growth rate of 5 per cent. This growth rate exceeded the recent UK air traffic growth rate and therefore included the assumption that Stansted would grow faster than the national average.

Long-haul traffic at Stansted

115. BAA has predicted that long-haul traffic will be one of the main drivers of growth in the London area, growing at 4.4 per cent a year until 2012 and at 4.6 per cent a year until 2017 (compared with short-haul growth rates of 3.1 per cent to 2012 and 3.3 per cent to 2017).
116. BAA forecast that, at Stansted, long-haul traffic would grow partly due to airlines wanting to be based at Stansted as their first choice, and partly due to spill from other airports, though BAA did not identify specific carriers. Rather, for forecasting purposes, it took the view that, because long-haul traffic represented the main growth opportunity for air traffic in London, and with Heathrow and Gatwick being constrained, Stansted was well placed to benefit.²⁰ BAA forecast that, by 2015, long-haul traffic at Stansted would still have less than 3 per cent of the overall London unconstrained demand for long-haul services, which it considered was a relatively modest prediction. However, in terms of passenger numbers, BAA's long-haul forecast for Stansted did represent over 10 per cent (3.3 million) of all passengers at the airport by 2014/15.
117. The SACC argued that there was no evidence to suggest that BAA's forecast level of long-haul spill from Heathrow and Gatwick would occur, particularly given possible capacity developments at Heathrow. Rather, the SACC argued that it was more likely that, for the foreseeable future, growth at Stansted would continue to be driven by the LCCs, focusing on short-haul opportunities. The SACC forecast that long-haul traffic

¹⁹CAA Airport Statistics, all routes to Western or Eastern Europe carrying more than 1,000 passengers, excluding routes to Uzbekistan and including all domestic routes 2005. Stansted 142, Gatwick 108, Heathrow 87.

²⁰We noted that BAA said that it was in discussion with long-haul carriers who had voiced a real interest to be based at Stansted, but these were not identified and BAA told us that for forecasting purposes it took no account of such discussions.

at Stansted would be much more modest in the short to medium term, reaching 1 mppa by 2015.

118. The SACC also argued that any growth in long-haul services which did occur would not be through displacement from Heathrow and Gatwick but would be either through airlines seeing opportunities to initiate services to and from Stansted in parallel with other airports, or from airlines not presently serving the UK. The SACC suggested that long-haul routes which did not depend on transfer traffic could operate out of Stansted, as they did out of regional airports, for example to destinations such as Dubai and Barbados.
119. ASA did not estimate annual forecasts for long-haul traffic as it considered that long-haul demand was too unpredictable. However, it concluded that it was reasonable to anticipate that, by 2015, there might be approximately eight to ten daily long-haul flights from Stansted, which would equate to approximately 1.7 mppa.

Other views

Long-haul airlines

120. We asked airlines already operating long-haul flights out of London about their predictions for future long-haul growth. On average, the airlines estimated that long-haul traffic would grow by approximately 4 or 5 per cent a year to the end of Q5. However, this growth would be driven largely by increasing demand to destinations such as India, the Middle East (Dubai in particular) and China. The airlines expected that the long-haul market to the USA would see some growth, as a result of the Open Skies agreement, and some airlines identified Africa as a possible growth area.
121. For long-haul demand from London as a whole, these growth projections were in line with those of BAA.
122. We also asked whether it was necessary for an airport seeking to attract long-haul operators from non-US destinations to be able to offer connecting flights, even with a different operator, to the USA. One airline said:

In 2007, flights from the UK to the US represented 38% of total UK long-haul services and, as such, represent a significant proportion of total UK long-haul traffic. Indirect services to the US are no competitive constraint to direct services. In the densest markets, particularly London-US, the proportion of passengers using indirect services is extremely small. MIDT data highlights that only 1.9% of passengers travelling to the US from Heathrow do so via Europe. Any airport intent on operating a sustainable long-haul network is therefore likely to be highly dependant on direct flight connections to the US.
123. Many other airlines supported this view, saying that, for an airport which wanted to attract long-haul operators, it was vital that it offered direct flight connections to the USA because of the size of the US market and because the USA offered an additional sales channel.
124. We asked airlines whether they considered that Stansted could operate long-haul services and whether it was likely to do so during Q5. Most airlines thought that Stansted was a suitable airport from which to operate long-haul services and facilities were currently adequate to serve long-haul traffic: for example, Stansted had a lack of airfield congestion, suitable runway length and stands, and reasonably good access via public transport to central London. However, the airlines highlighted

several concerns about Stansted's ability to operate as a successful long-haul airport:

- (a) *Connectivity*: Long-haul operations rely on interline traffic, particularly to support thinner routes. The airlines were concerned that Stansted does not have sufficient scheduled carriers and frequency to make interlining a real possibility.
- (b) *Type of carriers*: Stansted is dominated by LCCs, which operate a distinctive business model. This model does not offer the possibility of interlining, ie passengers wanting to connect from a short-haul service to a long-haul service cannot be 'through-checked' from their point of origin to their final destination. Rather, passengers can only 'self-connect', which may add additional time and expense to the journey. Without interlining, the airlines considered that it is difficult for long-haul full-service carriers to offer commercially-viable services, particularly on thinner routes.
- (c) *Reputation*: Stansted is known as a low-cost airport. Also, it is not well known outside the UK, and certainly not outside of Europe, so it would be difficult to market in the USA. The airlines highlighted that there is also an overall lack of familiarity with Stansted as a long-haul gateway, which would limit its potential to grow quickly.
- (d) *Location and market characteristics*: In the past, long-haul operations in London have been focused on Heathrow due to its favourable demographic profile, and its greater access, convenience and connectivity rather than any other alternative, particularly for high-yielding business passengers. The airlines submitted that, without such market characteristics, a concentration of long-haul services at Stansted would be implausible. In particular, some airlines noted the smaller number of business passengers in Stansted's catchment area compared with Heathrow.
- (e) *EU-US Open Skies Agreement*: The airlines told us that this agreement had caused some long-haul flights at Gatwick to transfer to Heathrow, thereby freeing capacity at Gatwick. As a result, Gatwick, rather than Stansted, was now more likely to pick up any overflow in long-haul flights which could not obtain slots at Heathrow. The airlines submitted that Gatwick had a long history of dealing with long-haul services and good facilities for long-haul airlines, which would make it a more obvious destination for long-haul services than Stansted.

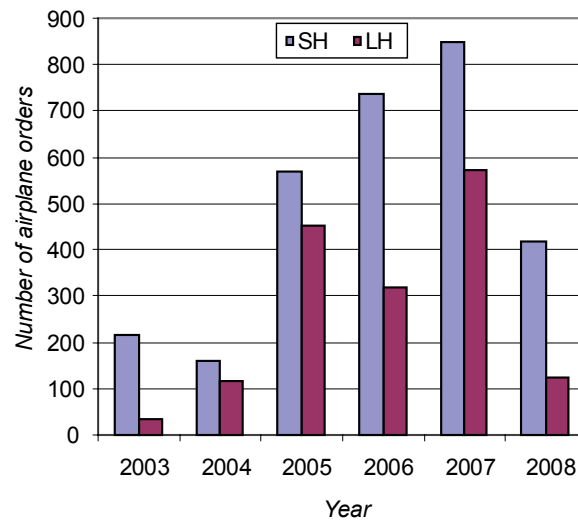
125. Some airlines considered that, if the economic situation improved, Stansted could support point-to-point carriers, but they submitted that long-haul traffic at Stansted would not grow very quickly. A few airlines indicated that they would consider operating from Stansted in the future but most would prefer Heathrow and Gatwick.

Airframe order books for long-haul planes

126. Airbus told us that the Open Skies agreement between the USA and the EU could provide opportunities for new entrants. Airbus noted that 45 routes currently operated by LCCs were longer than London to New York, and the LCCs had already captured significant shares on some routes, for example Australia to Japan.
127. We considered the order books for the two main airframe manufacturers, Boeing and Airbus, to see if orders for long-haul aircraft supported BAA's general proposition that most future growth in UK air travel will be long haul.

FIGURE 6

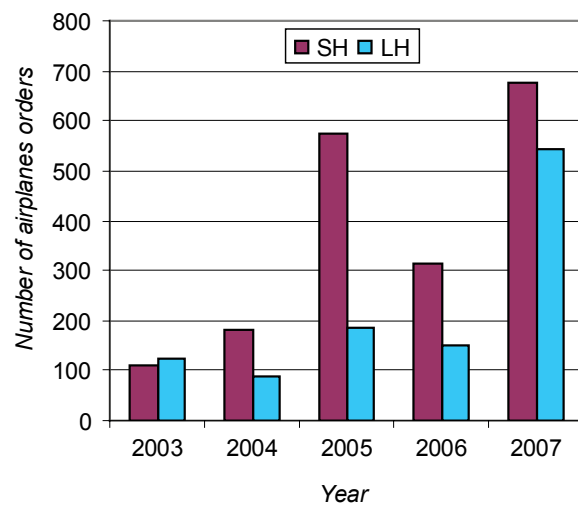
Boeing orders 2003 to 2008, short-haul and long-haul



Source: Boeing website.

FIGURE 7

Airbus orders 1989 to 2007, short-haul and long-haul



Source: Airbus website.

128. We noticed that the order books for Boeing and Airbus showed a marked increase in demand for long-haul aircraft since 2005, with a peak in 2007. However, in 2008, Boeing's orders are down (though this could have been because the data did not include orders for the full year).
129. We concluded that orders for long-haul aircraft were generally increasing but that orders for short-haul aircraft were also strong. However, without knowing the degree to which these orders represented the replacement of existing aircraft, we could not tell whether it confirmed the proposition that long-haul traffic would become the main source of growth in the future.

Conclusion on long-haul

130. BAA forecast that long-haul traffic at Stansted would grow rapidly over Q5 and, by 2014/15, would account for just over 10 per cent of all passengers at the airport (3.3 million passengers). We estimated that, to achieve this forecast, Stansted would need to attract approximately 19 new long-haul services flying once a day.²¹ BAA forecast that long-haul growth rates at Stansted over Q5 would vary between 27 per cent and 75 per cent, which were much higher than the average rate forecast by BAA for long-haul growth in London as a whole, but reflected a low starting point and rapid growth. We believed that these forecasts were unrealistically optimistic.
131. Historically, Stansted's ability to attract and maintain long-haul operators has been poor. Many long-haul routes have failed or been withdrawn after a short period of operation.²² Stansted does not offer any long-haul connectivity, in particular to the USA, which long-haul airlines told us was vital in order to operate as a significant long-haul airport, and it suffers from poor recognition abroad. The LCCs, which operate at the airport, would not show up on the Computer Reservations System (CRS), which means that passengers may be unaware of connecting flights even when these are available. We noted the many concerns which long-haul airlines cited about operating from Stansted, and in particular the barrier of its insufficient critical mass of both long-haul passengers and destinations.
132. We concluded that new long-haul routes out of Stansted would have to rely, to a significant extent, on the local catchment area to support their operation. Some airlines thought that it was possible to provide point-to-point services, but others did not.
133. We noted that there was considerable uncertainty about which carriers might provide the growth in long-haul traffic at Stansted. BAA told us that it expected long-haul traffic at Stansted to reach 1 mppa in 2009/10, but it could not provide us with details of any definite long-haul operators that were committed to operating there. We noted that AirAsia X had shown an interest in operating from Stansted and we understood that it was planning to commence a service with six flights per week to Kuala Lumpur during 2009.²³ On the basis of using an A330 with 330 seats and being in full operation by the start of April 2009, Air Asia X could account for approximately 0.2 mppa, if all seats were taken, but we saw no basis for the remaining 0.8 mppa. In our view, there was substantial doubt that the volume of long-haul passenger traffic forecast by BAA at Stansted over Q5 would materialize.
134. However, with Heathrow and Gatwick airports facing capacity constraints, and with demand for long-haul travel to and from London being expected to grow,²⁴ we accepted that some long-haul operators were likely to decide to fly from Stansted eventually. We believed that some long-haul airlines would operate from Stansted if no other London airport had capacity and if there was a profitable entry opportunity. We concluded that the most feasible long-haul routes at Stansted were likely to be point-to-point routes, principally serving local demand, for example to New York, Dubai or Barbados.
135. We did not believe that the present economic climate, including high oil prices and low consumer confidence, was conducive to the entry of new long-haul operations at

²¹On the basis that one daily service generates 180,000 passengers per year.

²²American Airlines and Maxjet are recent examples of long-haul failures at Stansted.

²³According to Telegraph.co.uk (29 July 2008) AirAsia X could commence flights from March 2009 and definitely from June 2009.

²⁴Airlines supported the view that long-haul was one of the main growth areas, particularly to Asia and the Middle East.

Stansted. Indeed, due to these conditions, the previous long-haul airlines at Stansted had all withdrawn.²⁵ We concluded that the emergence of significant long-haul traffic at Stansted in Q5 was unlikely.

136. We concluded that our forecasts should delay BAA's long-haul growth forecasts by three years, as shown in Table 8. We forecast that, by 2013/14, Stansted would be serving approximately 1.2 mppa, compared with 2.8 mppa in BAA's forecasts.

TABLE 8 BAA long-haul forecasts for Stansted and CC adjustments

	<i>mppa</i>				
	2009/10	2010/11	2011/12	2012/13	2013/14
BAA long-haul	1	1.2	1.7	2.3	2.8
CC long-haul	0.3	0.4	0.5	1	1.2

Source: BAA, CC.

The oil price

137. The oil price has an impact on passenger demand for air travel through the level of airfares and general economic variables (GDP and disposable income in particular). Fuel costs currently accounted for 25 to 35 per cent of airlines' operating costs (up from 15 to 20 per cent two years ago), rising to around 40 per cent for some LCCs. A sharp increase in the oil price may be passed on to customers in the form of higher fares, new or higher ancillary charges and/or specific fuel surcharges. BAA assumed a 75 to 100 per cent pass-through rate of oil price increases for the airline operators at Stansted. BAA cited oil prices as one of the many factors which contributed to the recent deceleration in the rate of traffic growth. Both American Airlines and Ryanair stated that the oil price was one factor causing them to reduce their operations at Stansted. Ryanair also announced that its profits for Q1 were 85 per cent lower than for the same quarter last year,²⁶ which it partly blamed on high oil prices.
138. The table below sets out the oil price assumptions used in the various passenger forecast models. We noted that the SACC's oil price assumptions were nearly double those of the DfT, and significantly higher than BAA's. However, all three models agreed that the trend was downwards, albeit from a recent high level. ASA noted that the oil price in the medium and long term might be significantly higher than assumed in any of these models, at around \$150 to \$200 per barrel.

TABLE 9 The various oil price assumptions in the respective base cases

	<i>Oil price (\$ per barrel)</i>		
	2009	2010	2015
BAA April 2008	80	75	70
DfT	70*	57	50
SACC July 08	132	125	105

Source: BAA, DfT and SACC.

*Estimated level.

²⁵American Airlines withdrew its operations from Stansted on 2 July 2008, quoting high jet fuel prices as its main reason.

²⁶Ryanair announced a Q1 profit of €21 million down €118 million (or 85 per cent) as fuel costs almost doubled and yields fell due to the absence of Easter in this quarter and its presence in the prior year comparable. Despite the absence of Easter, traffic grew by 19 per cent to 15 million, as average fares (including bag charges) fell by 8 per cent to €42, while total revenues grew 12 per cent to €777 million. Unit costs excluding fuel fell by 6 per cent; including fuel they increased by 18 per cent, due to higher oil prices and longer sector lengths. Source: Ryanair website.

139. In BAA's model, oil prices were considered in the unconstrained demand scenario through their impact on airfares. BAA calculated the oil price on the basis of external forecasts, which are summarized in Table 10.

TABLE 10 Independent forecasts used by BAA

	Oil price \$/barrel						
	2009	2010	2011	2012	2013	2014	2015
NIER Jan 2008	75.4	75.8	75.8	75.8	75.8	75.8	75.8
WTI Oct 2007	69.9	69.9	70.8	70.7	71.1	71.1	71.1
BP projects test price*	60	60	60	60	60		

Source: BAA.

*Less geo-political risk premium of \$15–\$30 per barrel.

140. BAA assumed that airlines would engage in hedging against the oil price and that this activity would have a smoothing effect, causing fares, and in turn passenger forecasts, to fluctuate less. For example, in 2008, BAA assumed an average 17.7 per cent increase in the oil price, but reduced it to an effective 12 per cent increase when hedging was taken into account. BAA further assumed that fuel costs accounted for approximately 30 per cent of airline operating costs in 2008. Therefore, a 12 per cent increase in the fuel price paid by airlines after hedging was equivalent to a 3.6 per cent increase in airfares, assuming 100 per cent pass-through of the increased costs to customers. BAA did not assume any hedging after 2012.
141. As the SACC model was based on the DfT model we considered how the DfT model accounted for the impact that oil prices could have on forecast demand.
142. In the DfT model, airfares were assumed to move in line with airline costs. These costs were split into fuel costs and non-fuel costs. Fuel costs were assumed to be driven by the fuel price and fuel efficiency. The DfT assumed that the strong historic relationship between the aviation fuel price and oil prices would continue into the future. Oil prices were also assumed to move in line with BERR's central oil price projection, as illustrated in Table 11.²⁷

TABLE 11 BERR and SACC range of real oil price assumptions

	BERR 2004 prices (used in DfT model)*			BERR 2007 prices (updated May 08)				\$ barrel SACC July 2008	
	Low	Central	High	Low	Central	High	High high	High 1	High 2
	2005/07†	55	55	55	73	73	73	73	82
2010	25	57	70	45	65	85	107	109	125
2015	25	50	75	45	68	90	150	68	105
2020	25	53	80	45	70	95	150	70	105
2025	25	53	80	45	73	100	150	73	105
2030	25	53	80	45	75	105	150	75	105

Source: BERR and the SACC.

*BERR projections to 2020, with the DfT assumption of constancy thereafter.

†2005 for BERR 04, 2007 for BERR 07 and the SACC.

143. The SACC's fuel price assumptions were derived from BERR's updated assumptions, shown in Table 11, but adjusted by the SACC to reflect the conditions in 2008.

²⁷ Annex B *Updated Energy and Carbon and Emissions Projections*, (Energy White Paper Supporting Document) BERR, May 2007, URN 07/947.

'High 1', referred to as the 'BERR Central' scenario in its forecasts (see paragraph 64), used higher oil prices for 2007 and 2010. 'High 2', referred to as the 'BERR high blended' scenario in its forecasts, assumed \$140 per barrel in 2008, gradually falling to \$125 per barrel in 2010, and declining further to \$105 per barrel from 2015 onwards. As in the DfT model, the SACC assumed that oil prices impacted forecast demand through their effect on airline fares.

Sensitivity

144. We asked BAA to calculate what its overall Stansted demand would be if the oil price remained at \$130 per barrel for the whole period. BAA found that its London area base forecasts would be reduced by 14 per cent in 2010 and by 14.9 per cent by 2015.²⁸
145. We noted that BAA's short-term forecasts at Stansted were to some degree already taking the higher oil price into account through their reflection of airline intentions. However, the medium- and long-term forecasts were based on the oil price assumptions described above. If we assumed that the decrease in passenger demand which BAA calculated for the London area on the basis of an oil price of \$130 per barrel was the same at Stansted, BAA's forecast passenger demand for Stansted would fall to around 28 mppa for 2014/15. We considered whether passenger demand at Stansted would be more or less sensitive than overall London demand to higher oil prices. On the one hand it could be argued that, because the LCCs' fuel costs make up a greater proportion of the fares they charge, and the type of passengers who fly with LCCs are more price sensitive, demand at Stansted could be more sensitive to oil price changes than overall London demand; however, on the other hand, it was also possible that demand at Stansted would increase if airline fares rose across the market and passengers from other airlines switched to LCCs.
146. BAA did not calculate an oil price elasticity but calculated a fare elasticity of -0.65 , which included oil prices. This result suggested that passenger demand was more elastic in the BAA model than in the DfT model (-0.44).
147. The SACC carried out various sensitivity analyses with the different oil prices from the DfT/BERR and found that a difference of \$55 per barrel between the DfT Central case (ie BERR Central 2004 prices) and the High 2 case (ie BERR high blended prices) resulted in forecast passenger demand at Stansted falling by 6.5 mppa in 2015 (a 19 per cent reduction) and by 3.5 mppa in 2030 (a 7 per cent reduction).
148. We considered the outlook for oil prices for 2009 and found that, even for the near term, forecasts were subject to large differences. For example, Energy Information Administration (EIA) predicted that the oil price would rise again at the beginning of 2009, with a projected average of \$124 per barrel,²⁹ while Oil-price.net showed a one-year forecast for August 2009 of \$151 per barrel.³⁰
149. We also considered the crude oil future prices on NYMEX, as shown in Table 12.³¹

²⁸BAA noted that this estimate was before Emissions Trading Scheme (ETS) adjustments and therefore exaggerated the overall impact of a long-term \$130 oil price (since overall demand and therefore emissions costs would be lower in this scenario). No adjustment has been made in the model for changes in long-term economic growth caused by a \$130 oil price.

²⁹Official energy statistics from the US Government—short-term energy outlook.

³⁰www.oil-price.net.

³¹Oil future prices reflect the price that both the buyer and the seller agree will be the price of oil upon delivery. Therefore, these prices provide direct information about an investor's expectations about the future prices of oil.

TABLE 12 Oil price futures in \$ per barrel 2009 to 2014

	2009	2010	2011	2012	2013	2014
NYMEX	101–127	116–133	73–138	112–138	112–119	94–112

Source: Nymex website, August 08.

-
150. These figures suggested that the oil prices may remain high for a number of years, and that a reduction was not expected until 2013, and then only slightly. However, academic literature was sceptical on the suitability of using a futures price as a predictor of a future spot price, as research had shown that they were usually wrong.
151. We consulted an investment banker who suggested that futures prices were more reliable predictors than forecasts, which were judgemental. However, we also spoke to an oil company which told us that future prices were bad predictors as the futures markets were strongly influenced by the spot price. He explained that the markets for futures contracts more than two years in the future tended to be very thinly traded and therefore were influenced by a small number of investors.
152. The oil company told us that, in the short term, over the next one to two years, it was likely that the oil price would decline as demand was now falling. We noted that this prediction has so far proved accurate in the two months following when it was made. We were told that this decline would be because of a worldwide economic slowdown and also due to an increase in supply by Saudi Arabia. However, in the medium term, we were told that demand was likely to pick up again, and oil prices would increase, possibly reaching new record highs as there was limited spare supply-side capacity and no significant new supplies of oil were likely to come on stream. We were told that output from the OPEC cartel was likely to be more stable than had previously been the case because Saudi Arabia was now the only supplier not operating at full capacity, and was therefore controlling the spare supply-side capacity in the market. The oil company suggested that prices between \$90 and \$120 per barrel in the medium term seemed very likely, but stressed that there would continue to be a period of large volatility. We were told that new highs could be expected well above \$120 per barrel, and there would be periods below \$90 per barrel, but the average would be somewhere within this range.
153. The oil company also told us that, in the future, the price of aviation fuel could be expected to follow more closely the price of crude oil as new refining capacity was coming on stream, causing refining margins to fall, and meaning that the source of the supply and the form of the oil was less critical.

Comments on forecasts and conclusion on oil prices

154. We concluded that oil prices did have significant impact on the passenger forecasts and that the recent period of high oil prices did have significant consequences on the level of passenger forecasts and airlines' profitability. Moreover, the oil price was highly volatile and very difficult to forecast.
155. BAA's oil price assumption of \$90 per barrel for 2008 was lower than the actual price during most of the year, when the crude oil price had been up to \$146. We considered it unlikely that the average price for 2008 would be as low as \$90. We noted that EIA predicted that the average price of crude oil for 2008 would be \$119.³² BAA said that its approach was consistent because it sought to model the long-term trend,

³²EIA short-term energy outlook.

which should not be influenced by temporary shocks. Moreover, BAA argued that its short-term forecasts took account of the higher oil price by reflecting current airline intentions, and the increase in the oil price was one of the reasons why its passenger forecasts for Stansted for 2009/10 had already been cut by 1 mppa.

156. We accepted that long-term forecasting of trends would not generally take into account short-term fluctuations. However, we did not believe that BAA's oil forecasts over the medium or longer term reflected recent market evidence. By 2010, BAA forecast that the oil price would fall to \$75 per barrel, which was broadly consistent with some other independent forecasts from a few months ago and the BERR oil assumptions, but it did not reflect the current view of the market. Given more recent evidence, we believed that BAA had been optimistic in its oil price forecasts for the whole of the Q5 period, and that the effect of its low oil price forecasts could be substantial, as shown by the sensitivity analysis.
157. The SACC's assumptions, in particular its 'high 2' case, seemed to be more in line with the evidence we received. ASA noted that oil prices could reach \$150 to \$200 per barrel, but these forecasts seemed very high to us.
158. We recognized that there was great uncertainty surrounding oil price forecasts for Q5 and this uncertainty was exacerbated by the expectation that prices would be more volatile in the future. In the short term, we concluded that BAA's forecast for the average price in 2008 (\$90 per barrel) was very unlikely given that, for the first nine months of the year, the price was generally above this figure.³³ We believed that its forecast for 2009 (\$80 per barrel) also seemed low but, recognizing that the market predictions were divided on whether the price would go up or down, we accepted that it was a possibility.
159. Our forecasts considered two scenarios:
 - (a) a high oil price throughout the period, which reduced passenger forecasts by 5 per cent; and
 - (b) a short period in which the oil price declined, followed by another period in which it increased again, which reduced the passenger forecasts by 7 per cent from 2011/12.

Airfares

160. In BAA's model, real airfares are made up of fuel and non-fuel costs, including technological innovation and market competition. BAA assumed that real airfares would decline slightly over the period (by less than 0.5 per cent a year), with the rate varying between airports and markets. BAA predicted that gains from technological innovation and competition would be mostly counteracted by increased fuel and environmental costs, including an assumption that aviation would be included in the EU Emissions Trading Scheme from 2011/2012. BAA forecast that a one-way airfare for LCCs would cost £50 in 2007, falling to £43 by 2015.
161. We believed that the present economic conditions, coupled with high oil prices, would make it less likely that real airfares would continue to fall as they had in recent years.

³³Shortly before finalizing this report, the oil price fell sharply to below \$70 per barrel, amid concerns of global economic recession. We believed that this illustrated the extent of the volatility in oil prices and forecasting uncertainty, but we still concluded that a forecast for an average oil price of \$90 per barrel in 2008 seemed low for the year as a whole.

However, we noted that Ryanair expected real fares to continue to fall in the coming years, and had recently announced a 5 per cent cut in its airfares for winter 2008/09.

162. ASA asked BAA to undertake a sensitivity analysis assuming no fall in airfares and found that demand for 2015 was only 0.2 million passengers lower, suggesting that demand in BAA's model for Q5 was not very sensitive to its assumption on airfares.
163. We concluded that we should not make any adjustments to our Q5 forecasts for the effect of possible changes in real airfares. However, we did test the sensitivity of our results to changes in airfares.

Airport charges

164. Table 13 shows the level of airport charge at Stansted which BAA and the SACC assumed in their forecasts.

TABLE 13 Assumptions on airport charges

	£				
	2009/10	2010/11	2011/12	2012/13	2013/14
BAA	6.38	6.66	7.20	7.77	8.38
SACC (no price effect)	3.00	3.00	3.00	3.00	3.00
SACC (current prices)	5.88	5.88	5.88	5.88	5.88
SACC (high charges)	5.88	8.50	8.50	8.50	8.50

Source: BAA, SACC July 2008.

165. Ryanair told us that airport charges were a major factor when determining how much capacity to supply. Ryanair submitted that the high charges at Stansted were the main contributing factor in its decision to reduce supply in winter 2008 and charges would continue to be a key factor influencing its future growth projections for Stansted during Q5.
166. The SACC modelled the effect of Stansted's doubling of charges in 2007 and found that it was significant. The SACC estimated that demand would have been 11 per cent higher in 2010 and 18 per cent higher in 2015 if charges had not been increased in this way. Moreover if charges were to increase further to £8.50, then demand would be 11 per cent lower in 2010 and 15 per cent lower in 2015.
167. BAA assumed that prices in Q5 would start at £6.38 in 2009/10 and rise to £8.38 by 2013/14. However, in BAA's model, higher charges did not seem to have as large an impact on the passenger forecasts as in the SACC's model.

Conclusion on airport charges

168. We recognized the argument put to us by the SACC and individual airlines that the level of airport charges has a direct impact on the growth of passenger numbers.
169. We reflected future changes in airport charges in our forecasts by testing different growth rates, which implicitly included different levels of charges.

Maturity of markets

170. We considered whether air passenger demand at Stansted is reaching maturity as, at some point, we might expect the rate of growth to begin to slow.

171. The SACC submitted evidence suggesting that some established routes were maturing, as they appear not to have been contributing much towards growth at Stansted in recent years. It showed that, during the period 1996 to 2005, growth at Stansted from new routes accounted for just 41 per cent of total growth; whereas in 2005, growth from new routes accounted for 98 per cent of total growth. The SACC submitted that this evidence suggested that growth rates on established routes were falling, which could indicate a maturing market.
172. The SACC also suggested that the demand base at Stansted was not stable and passengers moved quickly to other destinations if new low-fare offers became available. The SACC noted the high levels of route churn, with many routes being terminated after just one to three years.
173. The SACC also pointed out that new short-haul opportunities at Stansted were limited. The SACC found that there were only 70 cities remaining in Europe (excluding the UK and countries in the former USSR) with a population over 150,000, which were not served by another London airport.
174. We observed that the number of destinations served at Stansted had declined since last year.³⁴ However, this decline was not unique, as many other airports, including Amsterdam, Munich, Heathrow and Dusseldorf, had also seen their range of destinations decline. This evidence suggested that the most profitable routes were already served at these airports and that, as market conditions became tighter, airlines were ceasing to serve destinations which offered marginal profitability. However, we noted that we did not have evidence on the extent to which airlines were increasing frequency on existing routes instead.

Conclusion on maturity

175. We concluded that there was some evidence to suggest that Stansted might be approaching maturity, but we noted that this evidence was affected by current market conditions and that data over a much longer period would be necessary in order to make a robust assessment. We believed that the evidence presented was insufficient for us to conclude that routes at Stansted were mature.

Our forecasts for passenger demand at Stansted

176. We examined the BAA, SACC and ASA forecasts and found that all of them were more optimistic in the short term than was consistent with the evidence we had received from the largest airlines operating at Stansted. Even the SACC's forecast for a downturn in demand for 2008 was not as significant as we would have expected, given a forecast oil price of \$140 per barrel. However, we noted that during our review, BAA lowered its expectations for Stansted in 2009/10 from 21.5 mppa to 21.8 mppa.
177. For the medium term, over the rest of Q5, we concluded that BAA's forecasts were high, in particular because of significant spill and long-haul demand assumptions. We also thought that the growth rate assumed by ASA, in its most likely case, was high, given the current economic conditions and the predicted levels of growth of GDP and consumer expenditure. The SACC's most likely forecasts began below the others but, due to a less optimistic growth rate, the difference became greater over time.

³⁴Source: AnnaAero.

178. We developed our own forecasts using a similar methodology to ASA, but with some adjustments. The first two years of our forecast (the final year of Q4 and the first year of Q5) were based on our assessment of airline intentions. From 2010/11 onwards, we then considered the growth rates resulting from the models produced by BAA, the SACC and ASA, and the assumptions on which the models were based. By challenging the assumptions, we derived our own estimated growth rate. We also considered the medium-term growth plans of the airlines currently operating at Stansted and the likelihood of new short-haul operators entering, as a check on our numbers.
179. Overall, from 2010/11 onwards, we estimated that short-haul passenger demand, before long-haul passenger growth, would grow at most by 5 per cent a year. We noted that this growth rate would exceed the recent UK trend of air traffic growth, which has been in line with GDP growth, but would maintain the historical UK trend of air traffic growth, which has been approximately twice GDP growth. We believed that passenger numbers were likely to grow faster at Stansted than at other London airports, due to factors such as spill and clawback, but we believed these features were reflected in our forecast 5 per cent growth rate for Stansted. We noted that this rate was slightly lower than the growth rate resulting from the DfT's low case (5.5 per cent) but, even in its low case, the DfT was predicting economic growth which was better than the current market conditions and most recent market predictions. We also noted that our 5 per cent forecast growth rate happened to be at the midpoint of the ASA and SACC forecasts.
180. We did not apply a 5 per cent growth rate to long-haul forecasts, as we recognized that, given the very low volume of long-haul traffic at Stansted now, if long-haul services were to begin at Stansted again, the growth rate would be likely to be much higher. Rather, we simply added long-haul passenger forecasts to our short-haul forecasts.

Bottom-up analysis

181. Our forecasts for 2008/09 (the final year of Q4) and 2009/10 were based on information about airlines' intentions from Ryanair, easyJet and BAA.
182. Ryanair said that it was decreasing operations at Stansted during winter 2008 compared with winter 2007 by 900,000 seats. To calculate the implied reduction in passenger numbers, we assumed a load factor of 82 per cent which resulted in a forecast reduction of 738,000 passengers. [REDACTED]
183. easyJet told us that it was expecting to reduce its aircraft at Stansted during winter 2008, below the 12 aircraft which it had based there during winter 2007. For the first half of winter 2008, easyJet predicted that ten aircraft would be based at Stansted, rising to 11 later, which resulted in an expected 22 per cent fall in passenger numbers, to about 1.7 million. [REDACTED]
184. MaxJet, EOS and American Airlines had all ceased operations at Stansted, and [REDACTED].

TABLE 16 Our passenger forecasts for Q5 and oil price scenarios, compared with BAA forecasts

	<i>mppa</i>				
	2009/10	2010/11	2011/12	2012/13	2013/14
BAA May 08	23.5	24.7	26.6	28.5	31.0
% annual growth	3.52%	5.11%	7.69%	7.14%	8.77%
CC scenario 1	21.5	22.7	23.9	25.6	27.0
CC scenario 2	20.5	21.6	22.7	24.3	25.7
CC scenario 3	21.5	22.7	22.2	23.8	25.1

Source: BAA, CC.

188. If the oil price were to follow the trend predicted in scenarios 2 and 3, we estimated that passenger demand at Stansted would be 1.3 or 1.9 mppa (respectively) lower at the end of Q5, compared with our most likely forecast. However, we concluded that scenario 1 was the most likely, as the growth rate assumed in this scenario already took account of the downturn in the economy and a higher oil price. Therefore, we believed that scenario 1 was sufficiently cautious and there was no need to take further account of possible increases in the oil price.

Sensitivity analysis

189. We derived high and low forecasts in 2009/10 by reflecting the possibility of two aircraft or 70,000 passengers being added to or subtracted from the short-haul forecasts. From 2010/11 onwards, we derived high and low forecasts by applying ± 1 per cent to the percentage growth rates of the short-haul forecasts and by varying the overall long-haul forecasts by ± 25 per cent. These assumptions and the results are set out in Tables 17 and 18.

TABLE 17 Assumptions used in the CC scenario testing

2009/10		2010/11 to 2015/16	
		Short haul	Long haul
Most likely	No short-haul growth	5% growth	Delayed long-haul growth derived from BAA projections
High	Add two further airplanes	6% growth	1.25 times most likely long-haul figures
Low	Less two airplanes	4% growth	0.75 times most likely long-haul figures

Source: CC.

TABLE 18 CC most likely forecast, high and low

	<i>mppa</i>				
	2009/10	2010/11	2011/12	2012/13	2013/14
CC High	22.3	23.7	25.3	27.4	29.2
CC Most likely	21.5	22.7	23.9	25.6	27.0
CC Low	20.8	21.6	22.6	23.8	24.9

Source: CC.

190. The overall difference between our high and low forecasts at the end of Q5 after applying these sensitivity assumptions was 4.3 mppa, or 17 per cent.

191. By varying the growth rates, we believed that our sensitivity assumptions had considered the impact of higher or lower oil prices, airport charges and real airfares, as well as macroeconomic factors.

192. We noted that the range resulting from our sensitivity analysis was similar to that of the SACC, where the growth rates from 2011, for the scenarios of high and low charges, were less than ± 1 per cent from the growth rate in the current charges scenario. Similarly, we noted that ASA's high and low forecast differed from its most likely forecast by 0.5 and 1 per cent respectively. We believed that the range between our high and low scenarios was reasonable.
193. We asked the parties whether they thought our most likely forecast should lie in the middle of our high and low forecasts or whether it should be closer to one or other extreme. The airlines believed that the midpoint was appropriate as they saw both advantages and disadvantages from over- or underestimating passenger numbers. The CAA told us:

[There is an] asymmetric risk involved in forecasting traffic for price cap purposes at Stansted, given traffic volatility there. Setting a price cap based on the mid-point expectation could mean that if traffic fell short the revenue shortfall could not be made up later in the period even if traffic recovered to deliver the average volumes for the quinquennium, given the operation of the price cap. As a result, using the mid-point expectation for the traffic forecast would result in a price cap that was expected to yield less than the allowed return. That could suggest aiming down from the mid-point on traffic to take account of this risk or, alternatively, making an explicit adjustment to the level of the price cap.

194. We did not agree. We noted that, if passenger volumes did turn out to be lower than forecast, the airport operator could lower prices so as to increase volumes and, at least within the quinquennium, could recover any shortfall through the correction factor. We also noted that if passenger volumes turned out to be higher than forecast, then the airport would keep the additional return. Overall, we concluded that there was no strong reason to deviate from applying a central estimate.

Comparison of the forecasts

195. Table 19 sets out our most likely forecasts in comparison with those of BAA, the DfT, the SACC and ASA.

TABLE 19 Most recent air passenger forecasts for Stansted Airport, 2009 to 2016

	2009/10	2010/11	2011/12	2012/13	2013/14	Compound average annual growth rate
CC most likely (mppa)	21.5	22.7	23.9	25.6	27.0	
% annual growth	1.41	5.39	5.35	6.99	5.59	5.9
BAA May 08 (mppa)	23.5	24.7	26.6	28.5	31.0	
% annual growth	3.52	5.11	7.69	7.14	8.77	7.2
DfT Nov 2007 (mppa)*	26.2	28.5	32	33.8	34.1	
% annual growth	5	8.8	12.3	5.6	0.9	6.8
SACC July 2008 (mppa)*	22.7	24.0	24.8	25.7	26.7	
% annual growth	5.9	5.9	3.5	3.5	3.5	4.1
ASA July 2008 (mppa)*	22.2	23.3	24.8	26.4	28.1	
% annual growth	0	5.0	6.5	6.5	6.5	6.1

Source: BAA, DfT, SACC and ASA.

*DfT, SACC and ASA forecasts are for full calendar years.

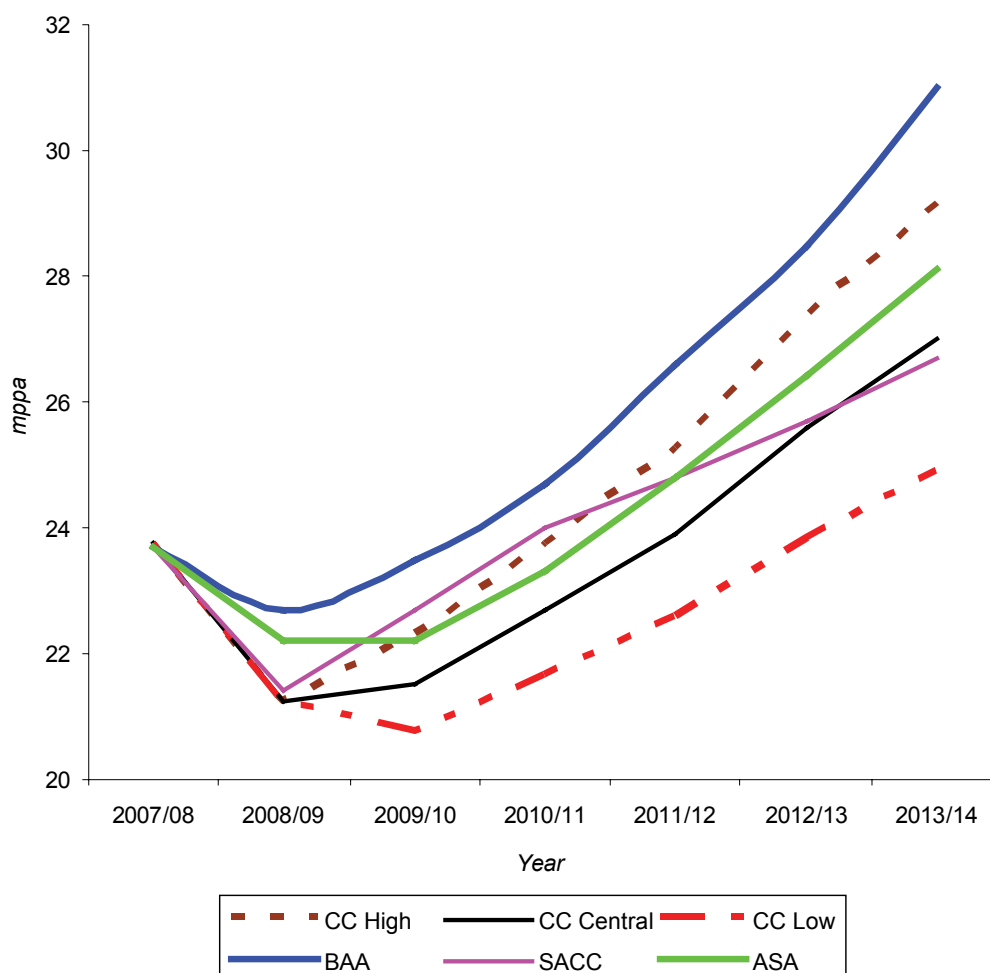
196. In the medium term, the difference between our forecasts and BAA's forecasts increases, due principally to our lower expectation about Stansted's long-haul traffic, which, by 2013/14, differs by 1.4 mppa. Moreover, we assumed a much lower growth

rate in the latter years of Q5, reflecting an expectation of higher oil prices. We noted that, following BAA's more recent forecast for 2009/10, which revised its expectations from 23.5 mppa to between 21.5 and 21.8 mppa (not reflected in Table 19), in order to get to 31 million passengers by 2013/14, which BAA still considered achievable, BAA would have to forecast passenger growth of more than 40 per cent over the whole of Q5, or nearly 10 per cent a year.

- 197. Our forecast trend for short-haul traffic was broadly in line with the trends assumed by both ASA and the SACC. In the medium term, our forecasts exceeded the SACC's forecasts as we assumed more long-haul traffic. Our overall average growth rate was only slightly lower than that of ASA. We noted that both the ASA and SACC most likely forecasts were within the range of our sensitivity analysis from 2010/11 onwards, though the BAA forecast was above our 'high' case for all years of Q5.
- 198. Our range of forecasts and the most likely forecasts of BAA, the SACC and ASA are shown in Figure 8.

FIGURE 8

Passenger forecasts by BAA, SACC, ASA and CC



Source: CC.

- 199. We believed that the main reason why our passenger forecasts for Stansted in the first two years of the quinquennium were lower than the other forecasts was because we were able to take into account the most recent projections from Ryanair and easyJet, the principal airlines operating at Stansted. BAA did not have access to this

information at the time of calculating its forecast, though it later reduced its numbers for 2009/10 in the light of this evidence. We noted that BAA's revised forecast for 2009/10 was consistent with our forecast, though it was nearly 10 per cent below BAA's original forecast. In the same way, ASA did not have access to the same degree of airline information and did not incorporate the full decline which the airlines predicted for 2009/10 into its traffic forecasts. We noted that if we had only taken into account half of the forecast reductions predicted by Ryanair and easyJet, we would have produced forecasts which would have been broadly consistent with ASA's forecasts. The SACC told us that it might not have reflected fully the current economic conditions in its modelling, and therefore its results might have overstated the short-term forecasts for the airport.

Views of the parties

200. BAA commented that we had made no attempt to produce demand or capacity forecasts for other London airports as a basis for justifying our spill assumptions.
201. The airlines responded that they were broadly happy with our forecasts, saying that they looked reasonable and were within 10 per cent of the SACC's forecasts.
202. The CAA submitted that the early years of our forecast might be too high, as it had observed a decline in the forecast rate of consumer expenditure growth for 2009. Moreover, it said that we could not rely on airlines' plans for more than six months in the future, as these plans could change and frequently did.
203. We believed that our assumption of zero growth in short-haul traffic from 2008/09 to 2009/10 reflected the latest consumer expenditure forecasts at the time of our review as well as airlines' intentions. However, we recognized that market conditions may change and we recommend that the CAA considers these matters again before making its final price control determination.

Conclusion

204. The passenger forecast is an important input into the calculations underlying the level of the price cap as it affects directly not only the allowable yield per passenger but also the amount of capex and opex which are needed.
205. We considered various passenger forecasts for Stansted, which estimated passenger traffic in the short and long term, and produced very different projections. We also developed our own forecasts.
206. Overall, we estimated that there would be 21.5 million passengers at Stansted in 2009/10, rising to 27.0 million in 2013/14, representing a compound annual growth rate of 5.9 per cent.