SH&E International Air Transport Consultancy



CAPITAL NEEDS AND REGULATORY OVERSIGHT ARRANGEMENTS

A SURVEY OF EUROPEAN AIRPORTS

Prepared for:

ACI EUROPE
AIRPORTS COUNCIL INTERNATIONAL

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1 EXECUTIVE SUMMARY

INTRODUCTION

1.1 In January 2006, ACI Europe appointed SH&E to conduct a survey of Europe's airports, focusing on capital needs and regulatory oversight arrangements. The survey was intended to provide some factual basis for discussions on the future of airport capacity, airport charges, and the economic regulatory environment. Responses from 50 airports and 10 regulators were collected and analysed, and the following report presents SH&E's findings.

1.2 Information presented in this report has been scaled up to the level of total ACI Europe membership, normally on the basis of passenger throughput. In order to respect our guarantees of confidentiality, data are not given for individual airports, but findings presented in terms of aggregate or average figures.

THE AIRPORTS

1.3 Respondent airports handled some 824 million passengers in 2005. This is almost 69% of the 1,220 million passengers handled by ACI Europe's total membership. These airports were in 23 European countries, and also ranged in size from the small to the very largest. The range in institutional status of the airports also reflected different policies and approaches to provision to this essential infrastructure at a national level.

1.4 While airports have grown at an overall rate of 2.6% per annum since 2000[1], variation exists when the sample is broken down by airport size, with the smallest airports (less than 5 million passengers per annum (mppa)) having grown the fastest, at 6% per annum, compared to just 1.1% for the medium sized group (between 5 and 20 mppa).

1.5 Passenger growth is expected to be much stronger over the next ten years at an average of 4.7% per annum. The recent trend for smaller airports to grow faster is expected to broadly continue. In general, around three quarters of the passenger growth will be handled by increases in frequency, with the remainder coming from a rise in passengers per Air Transport Movement (ATM).

[1] This average growth rate was depressed by the major adverse events in the early years of the decade including the terrorist attacks on 2001, the invasion of Iraq and SARS.

1.6 In terms of expected traffic mix, there is an overwhelming impression that the market share of Low Cost Carriers (LCCs) at Europe's airports will continue to grow, squeezing primarily the traditional scheduled carriers, although charter airlines are also expected on balance to lose market share. Long haul services are also expected to account for a higher share of the market in the future.

THE FINANCES

1.7 Over the last six years, some €44.95 billion, an average of €7.5 billion per annum, was spent by Europe's airports on capital expenditure (capex) to maintain, upgrade or expand the long-term tangible assets of airports, such as terminals, runways, access roads and car parks. Half of this expenditure was on expanding capacity to meet growing demand, with the rest going on maintaining existing assets (25%), meeting safety and security regulations (10%), commercial expansion (10%) and environmental measures (5%).

1.8 While some aspects of the capex plans for the next ten years of many airports are not finalised, expectations are for an expenditure of €82.6 billion over the period, at an average of € 8.26 billion per annum. This is equivalent to some €5.40 for every passenger passing through the airports over the next ten years. An increasing proportion of capex will go towards expanding capacity and on commercial projects to generate more non-aeronautical revenue.

1.9 Levels of aeronautical and non-aeronautical revenues are €10.10 and €7.40 per passenger respectively based on 2005 figures. Operating expenditure (opex) is €12.60 per passenger. This leaves an average EBITDA (Earnings before Interest, Tax, Depreciation and Amortisation) of €4.90 per passenger, which is used to pay depreciation on the existing asset basis (nearly €3.00 per passenger) and provide a Return on Capital of some €1.90 per passenger. We estimate that this implies an average Cost of Capital of just 4.6%, across all assets of airport operators, both those governed by economic regulation and those commercial assets which are subject to control by market forces.

1.10 This average Return on Capital is very low and might not be acceptable to the private sector: certainly a private sector organisation would struggle to survive with a WACC (Weighted Average Cost of Capital) of just 4.6%. As an example of how low this figure is, the UK Civil Aviation Authority (CAA) allows BAA plc a WACC of 7.75% (pre-tax, real terms) on its Regulated Asset Base (RAB), with higher returns assumed on non-regulated assets in view of the higher risk associated with them. To support a WACC of 7.5% across *all* airport assets (regulated and non-regulated), would have required EBITDA at Europe's

airports to be €1.20 per passenger higher in 2005. Airport users currently appear to be benefiting from an under-recovery of capital costs, at the expense of the owners of the airports. In other words, airport users are not paying the full cost of the infrastructure they use.

1.11 Looking forward, the planned capex of €82.6 billion by 2015 would require an *additional* EBITDA of some €4.30 per passenger in real terms based on a WACC of 7.5%.

1.12 It needs also to be recognised that airports are much more capital intensive than airlines, and hence need to generate higher levels of EBITDA than their industry partners in order to produce viable financial results.

1.13 Increases in EBITDA can be achieved only by some combination of reduction in opex and/or an increase in revenue. While this survey has not investigated opex, it is clear that airports are less labour intensive and that airport activities are thinly spread across many different functions (many with regulatory-imposed standards such as rescue/fire and security), so that it can be difficult for airport operators to reduce opex. Traffic growth does though offer potential for economies of scale in some functions so that unit opex may fall for a period until the 'spare' resource is consumed. However, as the additional EBITDA in 2015 resulting from the planned capex at €4.30 per passenger is equivalent to some 34% of current opex, additional revenues are likely to be required (even before consideration of generating a commercial return on the existing asset base).

1.14 Airport operators have striven for many years to increase their commercial revenues. The withdrawal of intra-EU travel duty and tax free allowances, which had high profit margin potential, deprived airport operators of a significant source of revenue. Furthermore, the operators' efforts since the withdrawal to replace this revenue means that now there is inevitably less potential for further development. While efforts in this area will undoubtedly continue, one fifth of airports expect airport charges to have to increase, while a further half are uncertain of the outcome as they complete their analyses or await regulatory approvals.

REGULATORY OVERSIGHT ARRANGEMENTS

1.15 The overriding finding of the survey is that there is a very wide range of variation of economic regulatory oversight arrangements in place across Europe. These differences arise from different national traditions in this area, from

different airport structures, and from different opportunities to allow market forces to operate in lieu of regulation.

1.16 There are some similarities between arrangements including the wide-spread adherence to the application of ICAO's guidelines, the requirement for consultation with users, the existence of approval/review and negotiation/appeal processes within the arrangements, and the very small number of individuals working on economic regulation within the regulatory body.

1.17 95% of airports can only levy airport charges with approval by some regulatory body. Approval is normally preceded by negotiation and potential modification of proposed charges based on transparent criteria and frequently linked to some formula, which for half of airports is a price cap. The Single Till approach is used for only 42% of airports, with Dual Till or Hybrid approaches comprising the balance.

1.18 The most formal and structured regimes exist in Ireland and the UK. In these countries, the regulator's costs have been between €3 million and €5 million for each major review, but are rising. These costs are recovered from the airport operator, which must also cover its own costs, likely to be of a similar magnitude. Airline stakeholders must of course meet their own costs of engagement in the regulatory process, which costs are likely to be commensurate with the scale of regulatory oversight involved. The costs of economic oversight for the regulator are likely to be no more than a tenth of these levels in most other countries, and normally significantly lower even than this figure.

1.19 Given the current variety of approaches, different national policy objectives and needs, and the wide variation in existing capability within the current oversight authorities, it is unlikely that any European level rules on the oversight of airport charges could be more detailed than guiding principles of the form developed by ICAO. A 'one-size-fits-all' approach would certainly be inappropriate.

2 INTRODUCTION

INTRODUCTION

2.1 Business at Europe's airports has generally grown strongly for many years, and this trend is expected to continue. Growth, however, eventually brings with it the need for expansion of facilities, and the ever higher traffic figures require ever larger quanta of investment. The recent report by ECAC/Eurocontrol[2], for example, recognises that the expected growth will more than consume airport capacity currently available and that significant expansion to accommodate growth is required. It is also apparent that many airport operators have already exhausted the cheapest options for expansion, and are increasingly having to use more expensive locations and/or more expensive construction procedures so that live operations can continue with the least possible disruption alongside building works.

2.2 At the same time, the financial pressure on airlines providing the air services continues to increase as a result of many factors including of course fuel costs. Airlines are endeavouring to respond to these pressures by seeking innovative ways to increase their revenues in an ever more liberal environment, and by examining all aspects of their cost base. Consequently, the airlines, through their trade associations, are calling for greater scrutiny of airport charges, with a view to reducing their level. The European Commission, anxious to ensure the continued success of its liberalisation policy for the air transport sector, is presently reviewing the possibility of establishing rules on airport charges at the EU level.

2.3 Although airport charges tend to represent a relatively small proportion of airline costs, airport operators wish to continue to play their part in helping their airline partners address these difficulties. Indeed, over the years, most airport operators have moved away from being simply infrastructure providers, to companies seeking to develop income from commercial sources to provide additional support to their businesses. Most have also changed the structure of their airport charges in order to accept some share of the risks of air service provision with the airlines, and have introduced various incentive schemes to encourage traffic growth. Notwithstanding this, the development of the industry requires the provision of new infrastructure to handle greater traffic volumes, and that infrastructure needs to meet individual airport operators' financial investment criteria.

[2] "Challenges to Growth 2004 Report"

2.4 As a contribution to the current policy debate on airport charges, ACI Europe appointed SH&E to conduct a survey of Europe's airports, focusing on capital needs and regulatory oversight arrangements. The survey was intended to provide some factual basis for discussions on the future of airport capacity, airport charges, and the economic regulatory environment.

2.5 This report presents the findings of this survey.

SCOPE OF WORK

2.6 The survey focused on the capital expenditure plans of Europe's airports and the regulatory oversight arrangements under which they operate. We also collected information on ownership and institutional status, general financial performance and traffic growth. In addition to looking at the situation over the next ten years to 2015, we also considered historic development since 2000.

2.7 Geographically, the survey covered all member airports of ACI Europe, although a survey of Economic Regulators was limited to the 25 Member States of the European Union.

APPROACH

2.8 The primary research method was a formal questionnaire, although a number of economic regulators were visited in person so that a greater understanding of the varied approaches adopted in different countries could be gained[3]. Two questionnaires were prepared. The first was for completion by airport operators and comprised sections on institutional and traffic information; financial and capital expenditure information; and economic regulatory oversight arrangements. The second was for Europe's Economic Regulators, and built on the economic regulatory section of the first questionnaire. Copies of the questionnaires are presented as Appendices A and B.

2.9 The Survey commenced in February 2006, and questionnaires to airports were issued that month, with returns being received between March and June. The Regulators' questionnaire was distributed in April, with the last return being made in June. This regulatory survey was accompanied with a number of face-to-face visits to some key countries, in order to increase understanding of the many varied approaches in use throughout Europe. These interviews took place between 12 and 26 May 2006.

[3] The rationale for this is discussed in more detail in Section 5.

2.10 A total of 50 airports responded, most being single airports although a small number of respondents provided aggregate data for a group of airports. In this latter case, we have counted and treated the information as though from a single airport. In addition to the information provided by respondents, we have also used any available published traffic data or financial results to assist in our analysis.

2.11 Information presented in this report has been scaled up to the level of total ACI Europe membership, normally on the basis of passenger throughput. In order to respect our guarantees of confidentiality, data are not given for individual airports, but findings presented in terms of aggregate or average figures.

2.12 Attempts to compare a particular airport to an average figure presented in this report is almost certain to be invalid since there are invariably many local circumstances that influence individual performances and there is certainly no such animal as an 'average airport'! The purpose of this survey has been to provide an objective assessment of underlying trends affecting the airport industry as a whole. It is not intended to provide a basis for suggestions that any individual airport is generating too high a return on investment or is not exploiting commercial revenue-generating opportunities sufficiently, since there are many reasons for performance which is not 'average', such as scope of activities undertaken, traffic volume, type of airport, age of facilities and local circumstances (this is discussed further in Paragraph 4.16).

2.13 A presentation of the preliminary findings of this survey was given at the ACI Europe Annual Assembly in Athens on June 2006. More data have been received since that time, so that the figures presented in this report supersede this earlier information.

LIMITATION OF LIABILITY

2.14 The analyses presented in this report are based on data supplied by individual airport operators around Europe. This report is intended to inform the general debate between the airline and airport community on the development of the air transport industry. It has not been prepared for use in any individual financial transaction and should not be used for such purpose. While SH&E has used its best endeavours to ensure the consistency of the information and has excluded or corrected obvious anomalies in data, it can accept no liability for any undetected errors in base information. Every effort has been made to ensure the accuracy of the analyses underpinning the information presented in this report, but SH&E can accept no liability to any third party making use of information given here for specific purposes other than that intended.

CONTENTS OF THE REPORT

2.15 Following the Executive Summary presented in Section 1, this report follows the structure of the questionnaire, beginning with an overview of the airports, their current performance and their forecasts for growth (Section 3). Section 4 assesses the finances of the airports, in particular historic and future capital expenditure, and Section 5 provides an overview of regulatory oversight arrangements. In Section 6 we draw some conclusions from the survey.

ACKNOWLEDGEMENTS

2.16 We are most grateful for the efforts made by many individuals throughout Europe in providing us with assistance and information. Members of ACI Economics Committee contributed valuable ideas to the formulation of the questionnaires used, many individuals spent time assembling data to complete our questionnaires, while several economic regulators spared the time to meet with us in person to discuss the situation in their country. The staff of ACI Europe in Brussels assisted in contact with member airports, while they and staff of ACI World in Geneva provided certain traffic statistics.

3 THE AIRPORTS

INTRODUCTION

3.1 In this section, we present and analyse the replies made to Section 1 of the Capital Needs Survey. In particular, we look at the key characteristics of the sample, historic growth rates, the current situation in terms of passengers, movements and freight, and forecasts both in aggregate and by airport size. We also look at the expected changes in the make-up of traffic at European airports.

THE SAMPLE

3.2 Responses were received from 50 airports[4], which handled some 824 million passengers in 2005. This is almost 69% of the 1,220 million passengers handled by ACI Europe's total membership. These airports were in 23 European countries, and also ranged in size from the small to the very largest. In some of the following analyses, we have segmented the data by groups of airports based on passenger throughput: Group A (more than 20 million passengers per annum (mppa); Group B (5 to 20 mppa); and Group C (less than 5 mppa). This categorisation differs from that normally adopted by ACI Europe, but does give a reasonably balanced number of airports in each group.

Exhibit 3.1: The Sample

Group	Passenger Throughput (mppa)	Number of Airports in Sample
A	> 20 mppa	11
B	5 to 20 mppa	19
C	< 5 mppa	20
Total		50

Source: Survey Responses

3.3 The sample is therefore sufficiently large and diverse in terms of geography and size to provide valuable insights into the Europe's airport business.

INSTITUTIONAL POSITION

3.4 Europe's airports are a far from homogeneous group. There are differences not only in size, but also in ownership structures, legal structures,

[4] This counts a group of airports as a single entity.

financing arrangements, and regulatory controls. These differences arise not just by reason of history, but also and more importantly as a result of different national philosophies and policies in relation to the provision of essential components of a nation's infrastructure so vital to economic development and social and political cohesion.

3.5 Of the respondents, 24% are owned by the private sector, 62% are owned by the public sector but are constituted as companies complying with normal commercial laws, while the remaining 14% function as departments or authorities of local or national governments.

3.6 74% of respondents own the assets of the airport, while the remaining operate with a concession agreement to use the assets owned by local or national government. Concession arrangements are particularly common in France and Italy. Concession lengths vary between 8 and 75 years, with the average being 42 years, and both the statistical median and mode being 40 years. These durations are longer than the 20 or 30 year periods common for recent airport privatisation exercises, although there are examples of longer periods (e.g. Budapest with a 75 year life). The mean remaining life of a concession is 34 years, although the median is a little longer at 38 years, indicating that most concessions have been awarded (or extended) relatively recently.

2005 TRAFFIC RESULTS

3.7 The respondent airports handled 824.4 million passengers in 2005 and almost 9 million aircraft movements. Reported total freight handled (flown and trucked) was 11.4 million tonnes.

3.8 To monitor passenger flows in busy periods, the most widely used measure was the 30th Busy Hour[5] (34% of respondents), followed by the actual Peak or Busiest Hour (26%). The range of measures used by the other respondents included the 40th Busy Hour, and then various hours on particularly busy days in the summer period.

HISTORIC TRAFFIC GROWTH

3.9 Growth at Europe's airports over the first six years of this decade has been below the rates which were common during the 1990s, showing the clear

[5] As the loads on airport facilities vary considerably throughout a year, it is customary to define a measure of 'busyness' against which to measure quality standards and to determine design parameters for future expansions. While some airports use the busiest hour as this measure, others choose a less busy hour, particularly for passenger terminal assessments.

impact of major events such as the terrorist attacks of 2001 in the USA and elsewhere later; the invasion of Iraq; and the SARS epidemic. Despite these major adverse factors, both passenger and freight traffic has increased, with freight growing slightly faster. In 2005, ACI Europe member airports handled some 1,200 million passengers.

Exhibit 3.2: Historic Average Annual Growth Rates, 2000 to 2005

Passengers	ATMs	Passengers per ATM	Freight
2.6%	1.6%	1.0%	2.9%

Source: ACI Europe, Survey Results, SH&E Analysis

3.10 It is interesting to note that some 60% of passenger growth has required an increase in frequencies (i.e. more Air Transport Movements (ATMs)), and that 40% has been accommodated by carrying more passengers per flight. On average, there were 82.3 passengers per ATM in 2005 at the sample airports.

3.11 However, this 'average' picture masks some considerable variation in growth rates with size of airport:

Exhibit 3.3: Historic Average Annual Growth Rates by Airport Size, 2000 to 2005

Group	Passengers	ATMs	Passengers per ATM	Freight
A	3.0%	2.2%	0.8%	2.8%
B	1.1%	0.1%	1.0%	3.0%
C	6.0%	4.5%	1.4%	4.1 %
Overall	2.6%	1.6%	1.0%	2.9%

Source: ACI Europe, Survey Replies, SH&E Analysis

3.12 It may be seen that in terms of passengers, ATMs, and freight, the smallest airports have grown at the fastest rates. In the smallest and largest airports, the growth in passengers carried has come about from a greater increase in frequencies (accounting for about three quarters of growth) than in passengers per flight, whereas at medium size airports (Group B), numbers of flights have barely changed as airlines have focused almost exclusively on carrying more passengers per movement. Care is required with such generalities, however, as within this group, some airports have lost flights while others have gained.

3.13 In 2005, there was a considerable variation between the airport groups in the number of passengers per ATM, and hence in all probability in the average size of aircraft used. This in itself has implications for the size of facilities provided (e.g. runway length and strength, apron size) and hence the costs of its provision.

Exhibit 3.4: Variation of Passengers per ATM by Airport Size, 2005

Group	Passengers per ATM
A	104
B	76
C	58
Overall	82

Source: Survey Replies, SH&E Analysis

FORECAST TRAFFIC GROWTH

3.14 Growth rates are forecast to be higher over the next ten years. By 2015, traffic at ACI Europe member airports would reach nearly 1.9 billion passengers per annum, an absolute increase of nearly 700 million passengers or nearly 60% of today's current volumes.

Exhibit 3.5: Forecast Growth Rates, 2006 to 2015

Growth Rate	Passengers	ATMs	Passengers per ATM	Freight
Average Annual Growth				
2006 to 2010	4.7%	3.4%	1.3%	6.8%
2011 to 2015	4.6%	3.3%	1.3%	3.5%
2006 to 2015	4.7%	3.4%	1.3%	4.9%
Cumulative Growth				
2006 to 2015	58%	39%	14%	65%

Source: Survey Replies, SH&E Analysis

3.15 As may be seen, material growth is expected in both passenger and freight traffic over the next ten years, with freight outpacing passenger traffic. However, while the growth of freight traffic is significantly faster than passenger growth in the first five years, it slows considerably in the second five years. In general, growth in ATMs is expected to be required to carry nearly three quarters of the passenger growth, with increases in passengers per ATM accounting for the remainder of growth.

3.16 Again, there is a variation in expectations depending on current throughput at an airport.

Exhibit 3.6: Forecast Passenger Growth Rates by Airport Size, 2006 to 2015

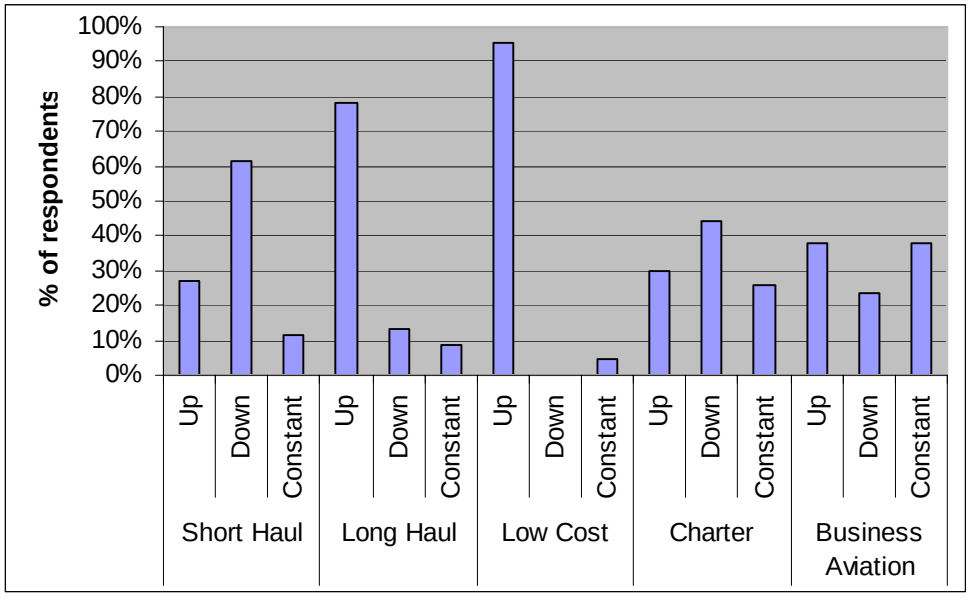
Group	Forecast average annual growth rate		Cumulative growth, 2006 to 2015
	2006 to 2010	2011 to 2015	
A	4.1%	3.8%	47%
B	4.3%	3.6%	47%
C	6.8%	4.8%	76%

Source: Survey Results, SH&E Analysis

3.17 It may be seen that for the next five years, the smallest airports continue to be most bullish, expecting to grow more than 50% faster than the other two groups. While this gap narrows after 2010, faster growth is still anticipated by the smaller airports.

3.18 Respondents were also invited to indicate their expectations regarding changes in the mix of traffic handled at their airports going forward. The expectations of general changes in market share are summarised in Exhibit 3.7 below.

Exhibit 3.7: Expected Changes in Traffic Mix, 2006 to 2015



Source: Survey Replies (Question 1.11), SH&E Analysis

3.19 The overwhelming expectation is that the Low Cost Carriers will continue to increase their market share, predominantly at the expense of traditional short-haul services, although charter services are on balance also expected to see some loss of market share. The other major feature of Exhibit 3.7 is that long haul traffic is expected to increase more rapidly than the average, with four out of five airports anticipating growth in this segment. Airport respondents

may well anticipate the success of the liberalisation initiatives which the European Commission is pursuing with third countries, which initiatives would facilitate the growth of long haul traffic.

4 THE FINANCES

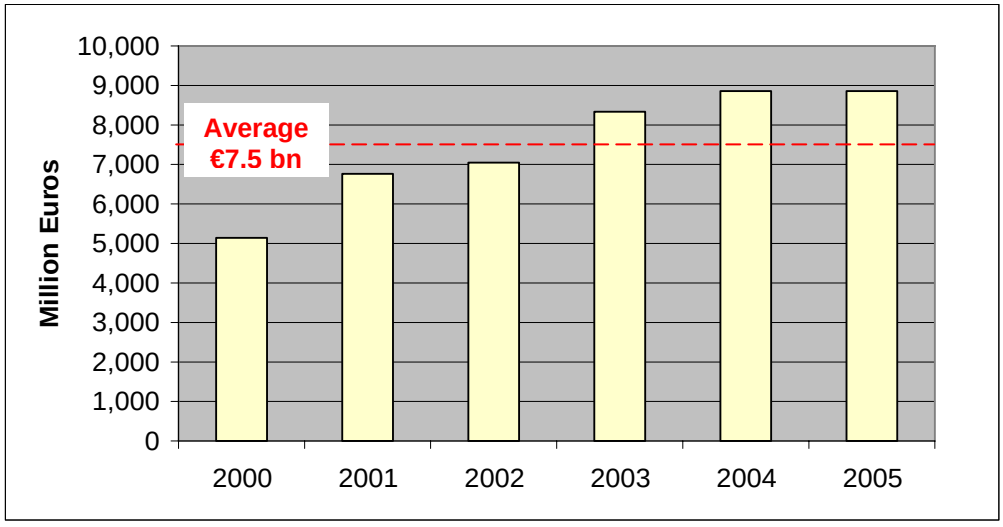
INTRODUCTION

4.1 In this section, we present the results of the second section of the Capital Needs Survey and address the questions of how much capital expenditure[6] is planned by Europe's airports over the next ten years, and how this spending may be financed. Total estimates relate to ACI membership, and these have been derived using the precise 'per passenger' figures obtained from the survey. Growth rates are based on provided forecasts, and the observed relationship between the number of passengers handled by survey respondents and by all ACI Europe members.

HISTORIC CAPITAL EXPENDITURE

4.2 Since 2000, European airports have spent some €44.95 billion on capital expenditure (capex) on investment in maintaining, upgrading or expanding the long-term tangible assets such as terminals, runways, access roads. As a weighted average over the period, this equates to around €7.5 billion per annum (Exhibit 4.1). It may be appreciated that the annual figure has grown over time.

Exhibit 4.1: Estimated Total Capex per annum, 2000 to 2005

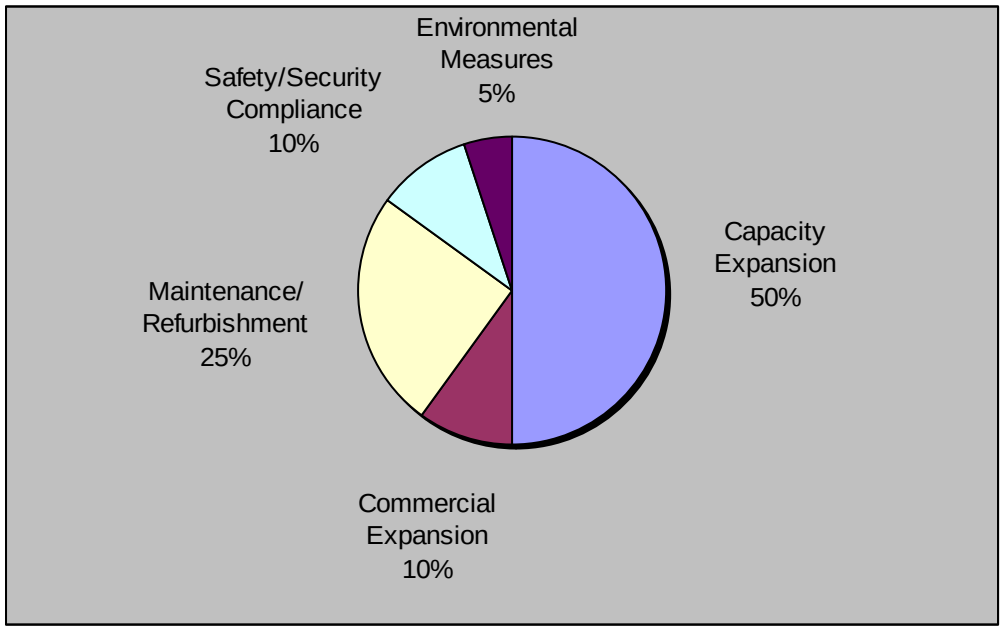


Source: Survey Results, ACI Europe, SH&E Analysis

[6] Capital expenditure is expenditure on major assets needed for the business top function. The expenditure may be on investment in new facilities or major maintenance/refurbishment of existing assets. Day-to-day maintenance would normally form part of operating expenditure (opex), although clearly there will be categories of investment that might be regarded as either capex or opex. The survey has assumed the detailed specification of individual airport operators which will be guided by local accounting standards.

4.3 Of the €44.95 billion spent on capex between 2000 and 2005, 50% was spent on expanding capacity. The next largest category is maintenance and refurbishment at 25%, while the remaining 25% was divided between compliance with safety and security requirements, environmental measures and commercial expansion (e.g. car parking, hotels, office space).

Exhibit 4.2: Allocation of Capex by Function, 2000 to 2005



Source: Survey Results, SH&E Analysis

FUTURE CAPEX

4.4 Airports are at varying stages of finalising their future capex plans, inevitably with greater certainty over the next five years than in the following five years, with more than half of respondents yet to finalise their plans for spending post 2010 (Exhibit 4.3). More than a quarter of respondents reported that while their development plans for the next five years were finalised and approved internally, they were still awaiting necessary external permissions to proceed.

Exhibit 4.3: Status of Capital Expenditure Plans

Status	Capex Plans for 2006 to 2010	Capex Plans for 2011 to 2015
Not yet finalised	11%	51%
A number of options under consideration	32%	28%
Plans approved internally, awaiting external permissions	28%	15%
Plans approved both internally and externally	23%	6%
Awaiting financing	4%	0%
Other	2%	0%

Source: Survey Results, SH&E Analysis

4.5 90% of respondents considered that they would be able to provide sufficient capacity to handle forecast demand, subject of course to receiving external planning and environmental permissions, reaching agreement with airline partners and being able to finance these plans. Airport operators therefore need support both from airport users and from government agencies in order to provide the infrastructure necessary to support growth. Obtaining planning permission from local, regional and national governments can be extremely lengthy and costly processes, so that the public authorities can make a significant contribution to the development of the air transport industry by making these as efficient as possible.

4.6 Capex to meet this demand is estimated to be €82.6 billion in aggregate over the next ten years at Europe's airports. During this period, a total of some 15.2 billion passengers will pass through these airports, making the capex equivalent to some €5.40 per passenger.

4.7 Capex is expected to be slightly lower in the first five year period than in the second, with an average of €8.1 billion per annum between 2006 and 2010, and €8.5 billion per annum between 2011 and 2015.

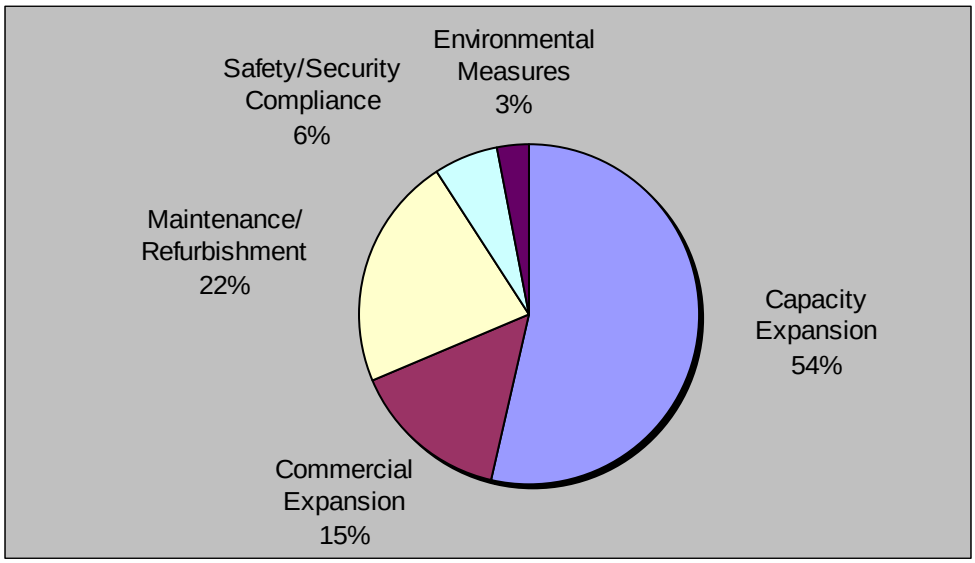
4.8 In both of these two periods, a greater proportion of this capex is expected to go towards increasing capacity than has been the recent historic position, the proportion being 59% in 2011 to 2015 compared to just 50% over the last six years. Also increasing is the proportion of capex for commercial expansion projects, indicating the efforts being made by airport operators to supplement their incomes from non-aeronautical sources.

4.9 While capex on environmental measures remains constant over the entire period, there are significant reductions in capex associated with maintenance/refurbishment and with safety and security compliance. The

reduction in this last category is almost certainly a reflection of the high expenditure here over the last six years to provide major step changes, rather than any reduction in the future importance of compliance in these two essential areas.

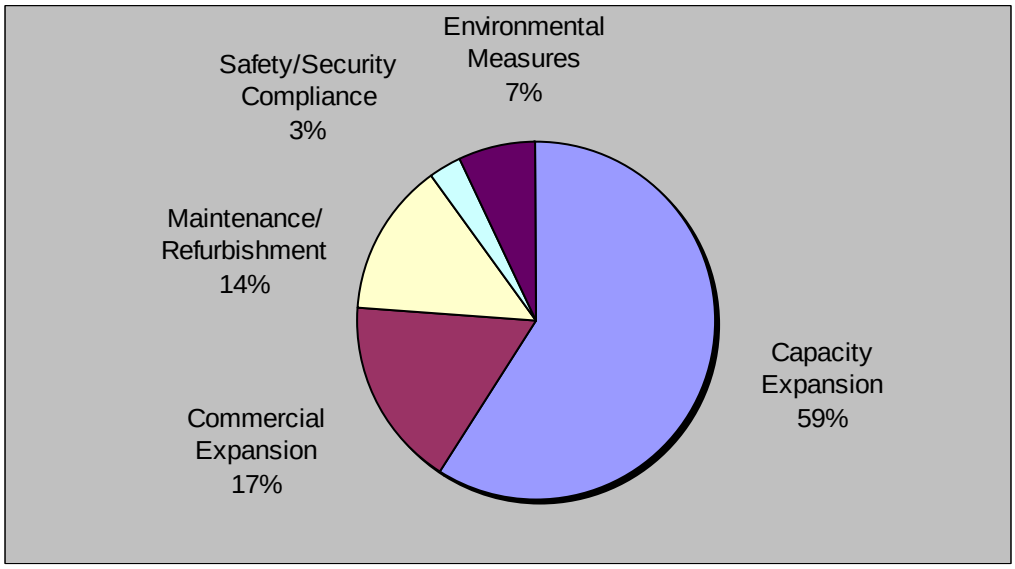
4.10 However, as evident in recent years, environmental and security costs are often regulation-led and therefore difficult to predict, arising as responses to external shocks or policy decisions. Hence, not only may the actual proportion accounted for by these categories be higher than anticipated, but also such measures may result in capex itself being even higher than the estimates presented in this report.

Exhibit 4.4: Breakdown of planned future Capex by Function, 2006 to 2010



Source: Survey Results, SH&E Analysis

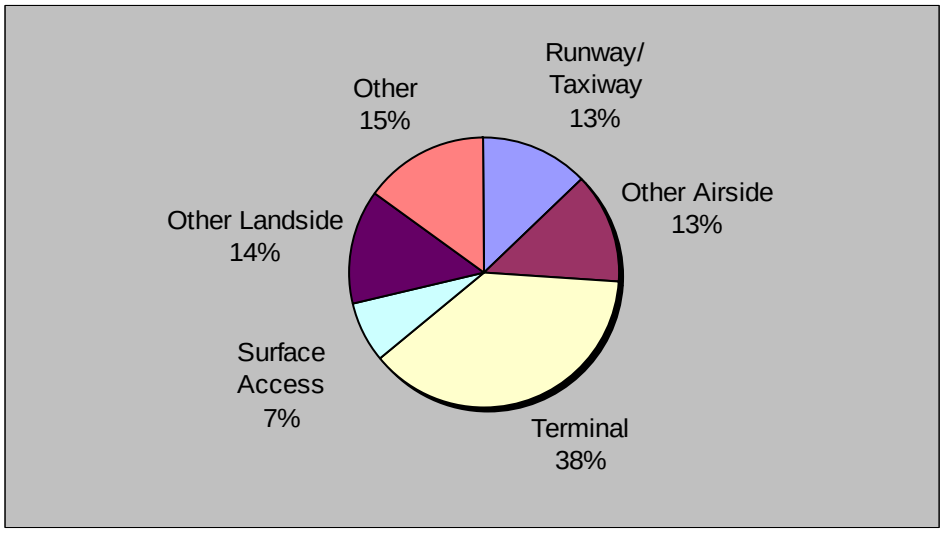
Exhibit 4.5: Breakdown of Planned Future Capex by Function, 2011 to 2015



Source: Survey Results, SH&E Analysis

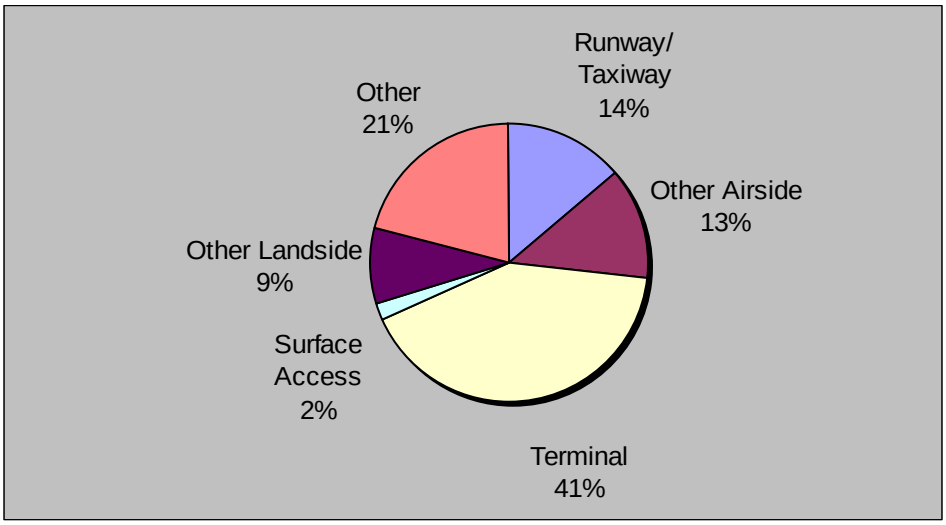
4.11 About two thirds of the planned capex is expected to be in the primary areas of terminals, runway and taxiway system and other airside areas.

Exhibit 4.6: Breakdown of Planned Future Capex by Location, 2006 to 2010



Source: Survey Results, SH&E Analysis

Exhibit 4.7: Breakdown of Planned Future Capex by Location, 2011 to 2015



Source: Survey Results, SH&E Analysis

4.12 Most respondents are planning to use more than one source to finance this future capex (Exhibit 4.8). While virtually all respondents will draw on internally generated funds in the shape of reserves and retaining current earnings (and hence paying lower dividends to the detriment of their shareholders), only a very small proportion of respondent airports stated that *all* of their capital expenditure would be financed from internally generated funds. As this option implies that an airport meets the costs of capital expenditure from the revenues it has received in the past or is receiving currently, that so few can rely on this

approach alone suggests that airports in general have not produced adequate earnings in the past.

Exhibit 4.8: Sources of Finance for Future Capex, 2006 to 2010

Source of Funds	Percentage of Respondents intending to use Source
Internally generated	88%
Grants	18%
Debt	54%
Equity injection	6%
Private Sector Participation	14%

NB: Total sums to more than 100% as most respondents are intending to use multiple sources

Source: Survey Replies (Question 2.10), SH&E Analysis

4.13 As noted, the majority of respondents indicated that they would use one or more other sources, primarily borrowing (i.e. debt). This can come from a wide variety of sources, including loans from banks, bonds issued by the airport, or from other sources. This implies that revenues generated by airport operations are insufficient to meet capex costs, or that it is viewed as preferable from the airport's standpoint to take on debt (when permitted by the airport operator's institutional status). Increasing the level of debt generally reduces an airport's WACC, although companies can become too highly leveraged, have their credit rating reduced, and *in extremis* find it very difficult to withstand a major event adversely impacting revenue.

FINANCING FUTURE CAPEX

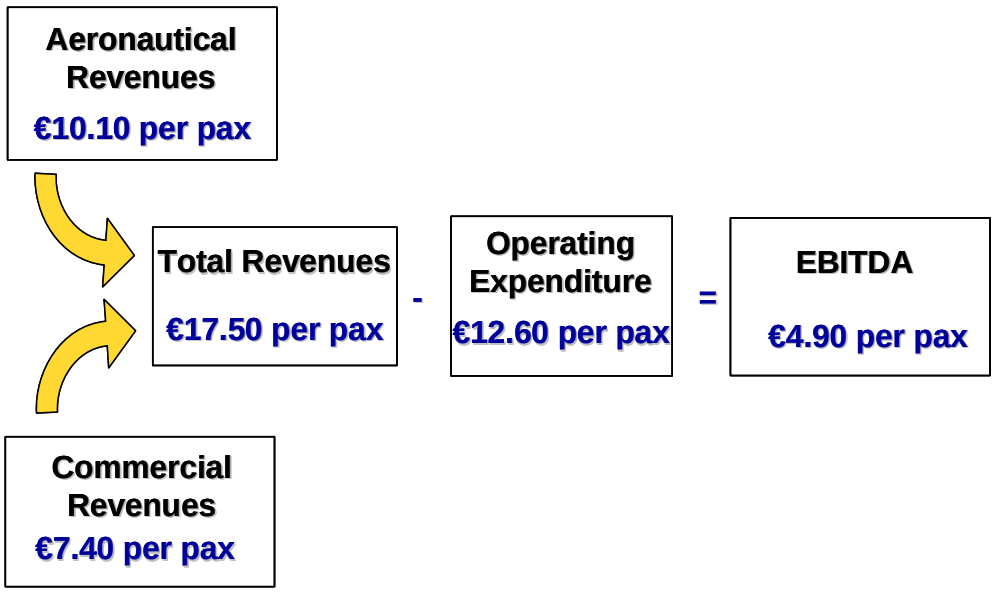
4.14 The survey also examined the financial performance of airport operators. In their most recent financial year[7], airports on average earned €10.10 per passenger as Aeronautical Revenue, and €7.40 per passenger as Commercial (i.e. Non-Aeronautical) Revenues, giving an average Total Revenue per passenger of €17.50. This combining of Aeronautical and Commercial Revenues replicates a Single Till economic regulatory regime. While this exists in Europe, it is by no means the standard approach (a fuller outline of the approaches used in the sample countries is shown in Exhibit 5.5), and it is used here merely to advance further discussion of the financing of airports.

4.15 Operating Expenditure (opex) per passenger was €12.60 per passenger, giving an average EBITDA (Earnings before Interest, Tax, Depreciation and Amortisation) of €4.90 per passenger. It is this EBITDA, of course, which goes

[7] This obviously varied slightly by airport operators, but in general included most months of Calendar Year 2005.

in part to finance capital expenditures. 60% of respondents did not produce separate accounts for aeronautical and non-aeronautical activities. Hence, with the data available it is not possible to attempt further analysis on a Dual Till basis, and so, *per force*, the analysis mirrors a Single Till despite this not being the approach adopted in the majority of situations.

Exhibit 4.9: Revenues and Expenditures per Passenger, 2005



Source: Survey Results, SH&E Analysis

4.16 As stressed at the beginning of this report, comparison of the performance of an individual airport with average figures presented in this report is not meaningful in view of the many local circumstances. This is particularly the case in relation to the information presented Exhibit 4.9, as may be appreciated from a consideration of just one element, opex. Opex is determined by several factors including:

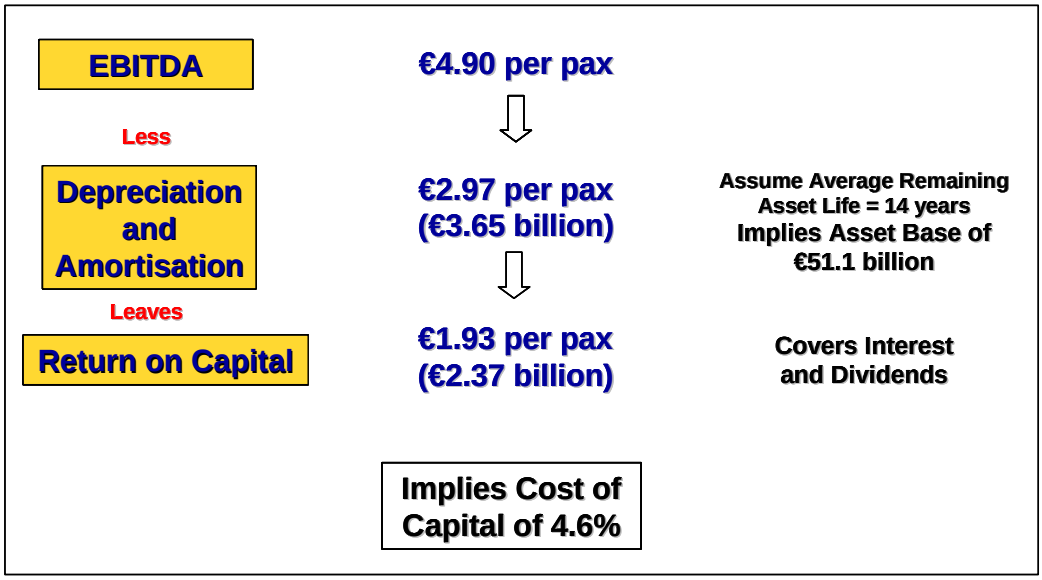
- the **scope of the activities undertaken** by the airport operator: air traffic control is normally provided by a national authority, although some airports provide (or pay for) this service themselves; most provide rescue fire services, but not all; most retail outlets are operated by concessionaires, but a few airports undertake this themselves;
- the **volume of traffic handled** greatly influences the ability of the airport operator to realise economies of scale;
- the **type of airport** involved: a small, single level airport without air bridges will have very different costs from a major hub with moving walkways and escalators etc.;

- the **age of facilities** will affect the level of routine maintenance required, with newer facilities potentially being designed to minimise whole-life costs; and
- **local circumstances** such as prevailing wage rates and climatic conditions exercise considerable influence over costs.

4.17 Similar factors exist to invalidate comparisons on the revenue side.

4.18 The first deduction from EBITDA is depreciation and amortisation, which is of course driven by investment and capex. What remains generates the return on capital (interest on debt capital, dividends on equity capital), and goes to pay tax. From the information provided by respondents, we have estimated the average pre-tax return on capital, as illustrated in Exhibit 4.10 below.

Exhibit 4.10: Return on Capital, 2005



Source: Survey Results, SH&E Analysis

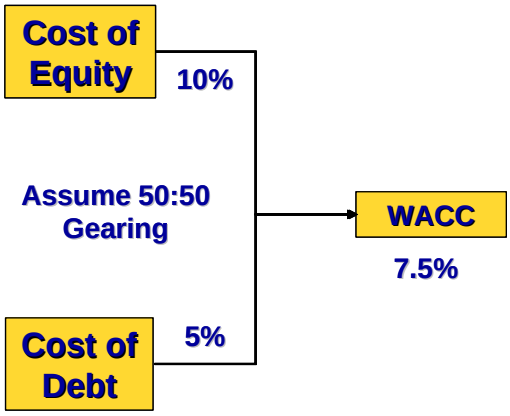
4.19 The reported depreciation, combined with an assumed remaining asset life of 14 years[8], implies an estimated net asset base of €51 billion for Europe's airports. After deduction of depreciation, the return on capital was on average €1.93 per passenger, or slightly less than €2.4 billion. Expressing this as a percentage of the net asset base gives an implied Weighted Average Cost of Capital (WACC) of just 4.6%. This is a low rate, which is unlikely to be either achievable by or accepted by the private sector.

[8] This is the remaining asset life deduced from the annual accounts of several major European airports. The average overall asset life is 28 years, which is compatible with the range of depreciation periods applied to the different types of airport assets.

4.20 Airport users currently appear therefore to be benefiting from an under-recovery of capital costs, at the expense of the owners of the airports. Airport users therefore are not paying the full costs of the infrastructure they use. It needs also to be recognised that this figure of 4.6% is the average return from *all* assets, including those used to support aeronautical activities and those which generate commercial revenues. The aeronautical assets are the ones subject to economic regulation and in general would be accorded a lower return of capital that is likely to be achieved on the other assets.

4.21 The trend of airport privatisations appears set to continue, so that returns on capital at more airports are going to be judged by private sector criteria. Indeed, even if privatisation is not pursued in a particular country, public sector owners may well choose to apply private sector financial performance criteria. We illustrate the impact of such a move using a WACC of 7.5%, based on an equal split between Equity (at 10%) and Debt (at 5%). The circumstances of each individual airport will vary, but we consider this a reasonable basis for an illustration since in the UK, the economic regulator, the Civil Aviation Authority, allows BAA plc a WACC of 7.75% (in pre-tax real terms) on its Regulated Asset Base (RAB). The CAA does not exercise control over BAA's other assets, which would be expected to generate a higher Return on Capital. The issues are complex, but we have estimated that BAA's Return on Capital from all its assets is about one percentage point higher than from its RAB alone, so that the Return on Capital from non-regulated assets is materially higher than 7.75%. Hence, our illustration using a WACC of 7.5% is conservative.

Exhibit 4.11: An Illustrative WACC



Source: SH&E

4.22 If this rate were applied to the current asset base of Europe's airports, it would require an increase in EBITDA of €1.22 per passenger, even without increasing assets beyond present levels. This is of course a snap-shot of the position in 2005, and as traffic volume increases this figure will decline until the

asset base increases. For most airports and for the industry as a whole, the asset base is continually increasing.

4.23 The survey has indicated that the asset base will indeed increase in view of the planned capex over the next ten years of some €82.6 billion. By 2015, the additional depreciation costs, assuming a 28 year asset life, would be some €1.56 per passenger. Again using a WACC of 7.5%, the additional return on capital would be some €2.70 per passenger. Overall, therefore, EBITDA would need to be €4.26 per passenger higher in 2015 than in 2005 to support this level of planned additional capex, *ceteris paribus*.

4.24 These two illustrations using conservative assumptions clearly indicate that average EBITDA per passenger for Europe's airports may well need to increase substantially over the next ten years as a consequence of:

- The need to finance very significant further capex to accommodate continued growth of the industry. New assets are required and investment needs to be justified financially; and
- Increasing the return on capital earned from the existing asset base to cover a typical private-sector benchmark cost of capital. Owners of the current asset base are accepting a very low return to the benefit of the users of the airports.

4.25 The three main options open to airports to achieve this increase in EBITDA are:

- To reduce operating expenditures;
- To increase revenues; and
- To achieve a mixture of both.

THE CHALLENGE OF IMPROVING EBITDA

4.26 Airports are more capital intensive and less labour intensive than airlines. Since these facts present challenges to the improvement of EBITDA, we now discuss them in more detail.

Airports are More Capital Intensive

4.27 As noted, there is a fundamental difference between the businesses of airports and their primary partners, the airlines: airports are more capital intensive. This overall statement is a generality, of course, but it has important implications. The generality is made more complicated to justify, for example,

by different policies on out-sourcing between different companies and for airlines on whether to lease or buy their major 'revenue tool', their aircraft.

4.28 The differences between these two segments of the air transport industry are though apparent in a comparison between British Airways and BAA plc, two companies which most observers would regard as being in the upper echelons of well managed and efficient companies in their sectors. Additionally, BAA has been subject for some 20 years to arguably the most stringent, transparent and professional regulatory scrutiny of any airport operator in the world.

4.29 Despite the difficulties of comparison[9], the difference in nature of the different segments of the industry may be seen in differences in the proportion of total costs (operating costs plus interest charges) represented by the costs associated with capital, namely interest charges, rentals, depreciation and amortisation. For BAA, the annual cash costs associated with capital (as defined here) represent 32% of total costs, while for British Airways the proportion is only 18%.

4.30 The differences are also reflected in the EBITDAR (Earnings before Interest, Taxation, Depreciation, Amortisation and Rentals) of the two companies: British Airways' level was 20.4% in its most recent financial year, while BAA's was 48.8%. The higher level for the regulated BAA reflects the need for it to meet the costs associated with its capital.

4.31 The more capital intensive nature of the airport segment of the industry explains why airports need to (and within a robust and transparent regulatory regime are allowed to) generate higher EBITDA margins than airlines.

Airports are Less Labour Intensive

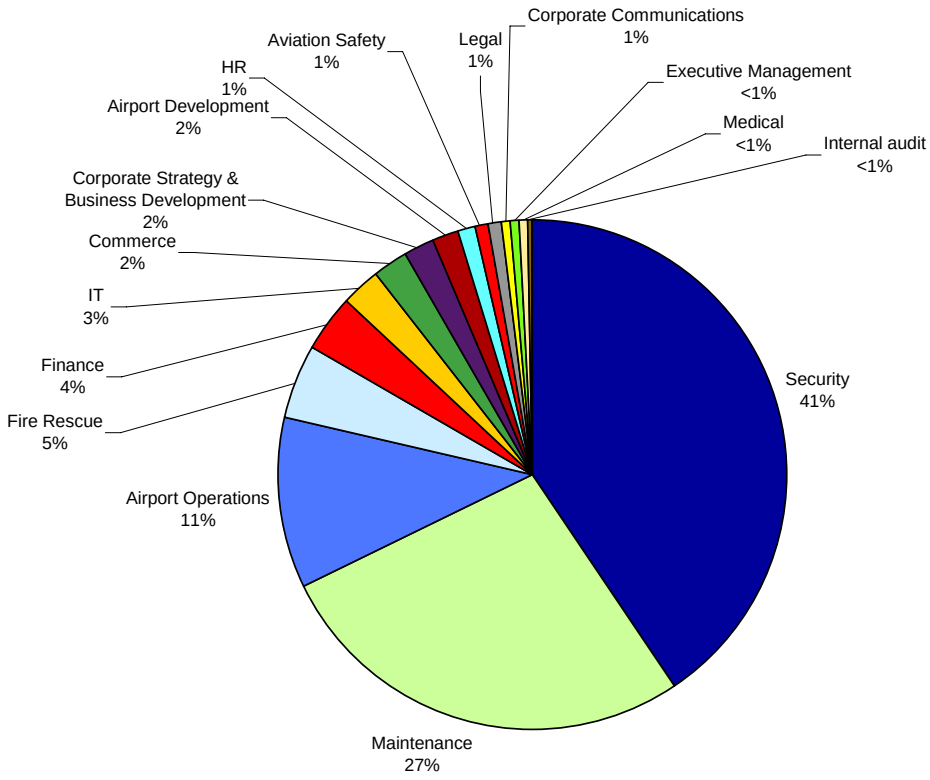
4.32 Airports are less labour intensive than airlines, as apparent from a comparison again of British Airways and BAA: BA employed some 47,000 staff in 2005/6, while BAA had only 15,000. This factor has allowed airlines more potential to reduce costs through efficiency improvements and the greater use of automation and technology. While this survey has not investigated operating costs, one of the more important elements is staff costs, which we now briefly explore to identify the issues associated with lower operating costs.

4.33 Within the organisational structure of a typical airport, staff are divided between many different functions. Several of these functions have manning levels determined (or significantly influenced) by externally imposed quality standards: the Rescue/Fire and passenger search/security functions are normally

[9] Data come from the published annual reports of the two companies, as analysed by SH&E

two of the larger departments at an airport, and in these national and international standards play a major role in determining manning levels. Manning levels are also influenced by the physical size of the airport (e.g. for boundary security, grass cutting) and its hours of operation (and the need for at least three if not four shifts of operational staff).

Exhibit 4.12: Distribution of Manpower at a Typical European Airport



Source: SH&E

4.34 It may be seen that the two largest employment categories are security and maintenance. Security levels are relatively closely related to passenger throughput, while for maintenance it should be recognised that this category covers many aspects including electrical, mechanical, plumbing, vehicles, painting/decorating/cosmetic, each with different skill requirements and varying needs for immediate response to operational needs. Thereafter, there are 14 further and increasingly smaller categories for employment. Making efficiency savings with such a diverse and small employment base is therefore not only difficult but likely to produce marginal savings.

4.35 An airport's opex does not generally rise in direct proportion to passenger growth, as there are economies of scale which can be realised. For a period, growth can take advantage of resources under-utilised in off-peak periods. Only when these 'spare' resources are consumed, does there need to be additional expenditure on extra resources. Another example is the cost of the Fire Rescue

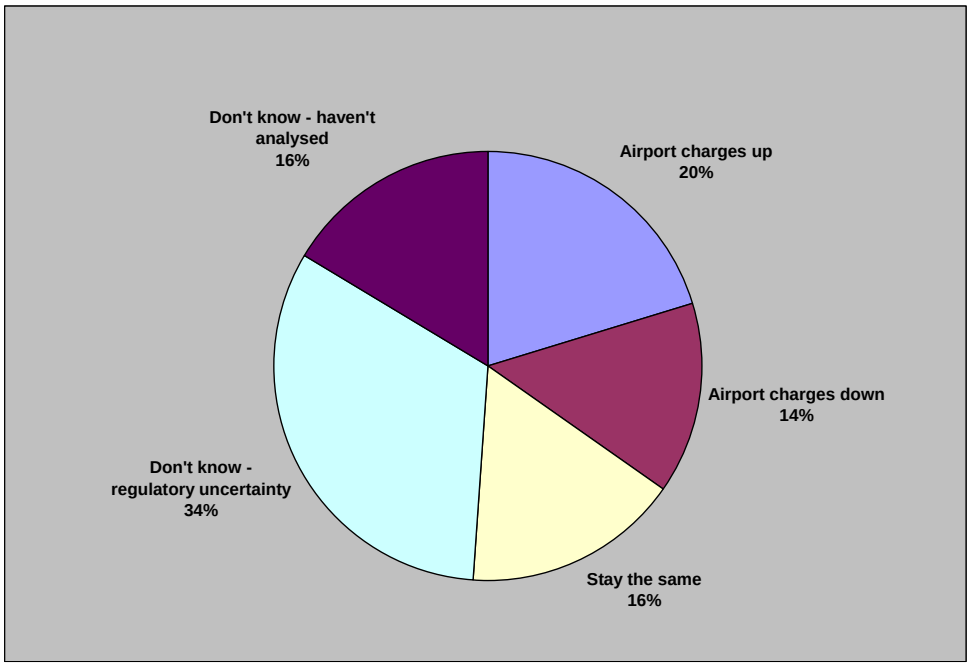
service, which is not determined directly by the number of passengers handled, and only changes when throughput reaches a level requiring upgrading to the next category of service provision. It is only at this stage, that there would be a traffic-related increase in costs (although then it is a step change). Hence, some reduction in unit opex over time can be anticipated. However, as the additional EBITDA in 2015 resulting from the planned capex at €4.26 per passenger is equivalent to some 34% of current opex, additional revenues are likely to be required (even before consideration of generating a commercial return on the existing asset base).

Improving EBITDA

4.36 With a capital intensive business, and potentially limited options to reduce operating expenditure, airport operators are likely to have to improve their revenue. The withdrawal of intra-EU travel duty and tax free allowances, which had high profit margin potential, deprived airport operators of a significant source of revenue. Furthermore, the operators' efforts since the withdrawal to replace this revenue means that now there is inevitably less potential for further development. Hence, increases in net revenue from commercial activities may be insufficient alone to provide the necessary increase in EBITDA. Continuing to develop commercial revenue at good margins may be difficult, so that the focus is likely to be on increases in aeronautical charges.

4.37 This outcome, however, is not yet certain on the basis of the survey findings, which are illustrated below in Exhibit 4.13. Only 20% of respondents expect airport charges to increase in real terms, although half of respondents are uncertain about their future, either because of regulatory uncertainty or because they have not yet analysed future finances.

Exhibit 4.13: Expected Changes to Airport Charges



Source: Survey Replies (Question 2.12), SH&E Analysis

5 REGULATORY OVERSIGHT

INTRODUCTION

5.1 As well as reviewing the capital needs of Europe's airports, our surveys also aimed to gain an overview of the various economic regulatory oversight arrangements in place across Europe today. The picture, both from the airports and from the regulators themselves, shows a great deal of variation between countries. In a number of countries, change is taking place. This is often prompted by privatisation, and new regulatory arrangements have been put in place as a consequence of the privatisation of, for example, Brussels, Budapest, Aéroports de Paris, and Amsterdam Schiphol (pending).

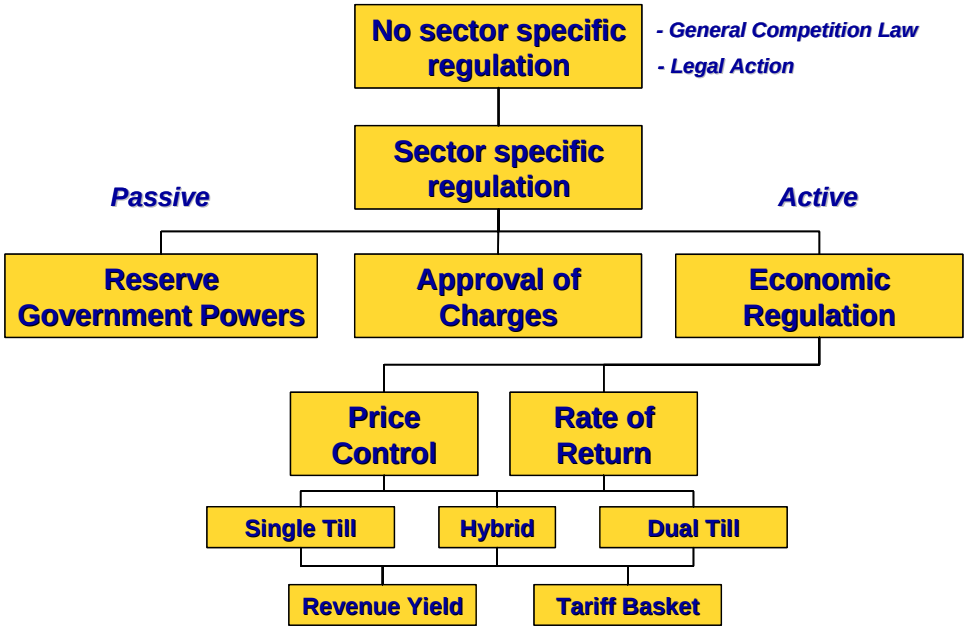
5.2 In view of the considerable variation of oversight arrangements which was known of prior to the commencement of the survey, we organised visits to the regulators in five countries, recognising that a single questionnaire could not hope to capture accurately the many aspects of economic regulation and more especially the local and historic circumstances that have led to a current position. In addition to these visits, we received responses from five other regulators. In view of the number of regulators participating and their great heterogeneity we consider it would be inappropriate to attempt to give a statistical presentation of the information which they provided. Instead, we provide a commentary on their situation.

5.3 This section summarises the survey's main findings. To set the context, it begins with a summary of possible approaches to economic regulatory oversight, before describing the main features of the regulators. It then presents information on the oversight arrangements in place.

REGULATORY OVERSIGHT ARRANGEMENTS

5.4 There is a range of options available to governments for the economic oversight of airport operators, as summarised in Exhibit 5.1. Examples of the application of most if not all of these possibilities can be found throughout Europe. The most formal and active arrangements exist in Ireland and the UK, where selected ('designated') major airports are subject to formal price controls. However, other airports in these countries have few formal controls placed on them, but passive powers exist to allow regulatory action in the event of complaints.

Exhibit 5.1: Regulatory Oversight Arrangements



Source: SH&E

THE REGULATORS

5.5 Of the ten regulators that contributed to the survey, only three considered themselves to be independent regulators, with the others being Departments of Civil Aviation or Ministries. Of the Independent Regulators, only one functioned in other sectors (energy and telecommunications), although the other two also had responsibilities for air traffic control and other aspects of the air transport/travel industry. Ministries also held a wider remit than just airport regulation.

5.6 The objectives of the regulators were broadly similar and were to further the efficient development of the industry, ensure compliance with international regulations, and prevent the abuse of dominant positions or distortion of competition. All followed ICAO principles/guidelines, while some also sought to comply with more general principles concerning economic regulation, such as proportionality.

5.7 A common feature of the regulators was the small number of individuals employed on economic regulation. The maximum number estimated was seven Full Time Equivalents (FTEs): most staff had responsibilities other than economic oversight of airports, so giving an exact number proved difficult for all regulators. The need for expertise in economics, finance/accountancy and legal matters was recognised by all, although many had to supplement internal

resources with either experts from other government agencies and/or external advisors and consultants.

5.8 For most regulators, the costs of regulation of airports are internal to the organisation and not separated between the various other activities which staff undertake. One regulator did report anticipated annual costs of €350,000. For the regulators with more formal oversight arrangements (e.g. Ireland and the UK), the cost of a review are very considerable, typically of the order of €3 million to €5 million, with expectations that these figures will be even higher in the future. In these cases, these costs are recovered from the airport operators concerned, whereas for regulators with a less structured approach, costs tend to be absorbed as part of the organisation's general budget. (This is also discussed in Paragraph 5.16 .) Airport operators in all countries need to cover their own costs of regulation, and these are likely to be of a similar magnitude to the costs of the regulator. Airline stakeholders must also of course meet their own costs of regulatory oversight which are likely to be commensurate with the scale of regulatory oversight involved.

FORM OF OVERSIGHT ARRANGEMENTS

5.9 The findings presented in the following paragraphs come from the responses made by airport operators, since these data come from a wider and more numerous survey population.

5.10 Only 5% of airports do not have their proposed airport charges subject to some form of scrutiny, while a further 10% are approved automatically. The most common approach is for airports to submit proposed charges to their regulator who then considers them against transparent criteria prior to negotiation with the operator.

Exhibit 5.2: Approaches to the Approval of Airport Charges

Approach	Responses
No approval required	5%
Automatic approval	10%
Approval following negotiation, but decision criteria not transparent	8%
Approval following negotiation with transparent criteria	44%
Set by formula with limited further consideration	3%
Set by formula after detailed further consideration	28%
Other	3%

Source: Survey Replies (Question 3.2), SH&E Analysis

5.11 The frequency at which airport operators may change their airport charges varies considerably (Exhibit 5.3). When charges are set for a period, the typical duration is five years.

Exhibit 5.3: Ability to Vary Charges

Ability	Responses
Apply for a change at any time	32%
Approved once a year	30%
Set for a specific period	38%

Source: Survey Replies (Question 3.3), SH&E Analysis

5.12 Consultation with airline users is standard practice for airport operators, with 84% being required by law to adopt this practice (this of course does not mean that the other 16% operators do not consult their users!). Half of the regulatory processes allowed pre-financing of future investments, while half also included quality measures or service standards. Typical service measures were percentage availability of particular facilities (e.g. runways, escalators, moving walkways), with customer satisfaction surveys also being used.

5.13 A number of oversight arrangements were based on the application of a formula, although the actual formula varied.

Exhibit 5.4: Regulatory Formulae Applied

Type of Formula	Responses
Link to passenger growth	8%
Price cap formula	51%
Rate of return formula	14%
Other	27%

Source: Survey Replies (Question 3.6), SH&E Analysis

5.14 The more formal regulatory arrangements provided a reasonably balanced mix of Single Till, Dual Till and Hybrid approaches, although Single Till was the most common.

Exhibit 5.5: Approaches to the Regulatory Till

Regulatory Till	Responses
Single Till	42%
Dual Till	29%
Hybrid	25%
Other	4%

Source: Survey Replies (Question 3.8), SH&E Analysis

5.15 For those airport operators where prices are controlled, 59% must work with a tariff basket, though 41% enjoy the greater management flexibility offered by a revenue yield approach.

5.16 The cost of economic regulation tends to be carried by Government, although in a third of countries it is borne by the industry, either airlines or airport operators.

Exhibit 5.6: Cost of Economic Regulation

Funding	Responses
General government budget	41%
Levy on airlines	12%
Paid by airport operator	20%
Other	9%
Don't know	18%

Source: Survey Replies (Question 3.13), SH&E Analysis

5.17 Given the current variety of approaches, different national objectives and needs, and the wide variation in existing capability within the current oversight authorities, it is unlikely that any European level rules on the oversight of airport charges could be more detailed than guiding principles of the form developed by ICAO. A 'one-size-fits-all' approach would certainly be inappropriate.

6 CONCLUSIONS

6.1 The survey has confirmed that air traffic is widely expected to continue growing over the next ten years. Smaller airports in Europe are expecting to grow faster than larger airports.

6.2 Low Cost Carriers are generally expected to increase their market shares. This evolving change in the market is likely to require airport operators to increasingly focus on the structure of their airport tariffs.

6.3 Europe's airports are prepared to invest in new facilities to support this growth. However, for all but a few airports, internal funds are insufficient to support this investment, and many will be seeking debt financing. This is likely to increase the trend towards privatisation in order that debt is not counted against public sector borrowings.

6.4 The current Return on Capital on airport assets is at such low levels as likely to be unacceptable to the private sector. A corollary of this is that airport users are benefiting at the expense of airport owners, and airport users are not paying fully for the infrastructure used.

6.5 The very significant capex required over the next ten years is likely to require EBITDA of airports to increase. The likelihood is that this will need to come at least in part from an increase in airport charges.

6.6 The diversity of economic oversight arrangements throughout Europe reflects the different traditions, cultures, policies and needs in each country. A "one size fits all" approach to regulation across Europe is unlikely to be either possible or appropriate.

6.7 The costs associated with formal economic regulation are very significant: regulator's costs are typically €3 million to €5million, and similar levels can be expected for airport operators. Other stakeholders, including airlines will also incur costs, although probably of a lower level and of a more discretionary nature. However, this does indicate that any benefits of a formal regime need to be assessed against the additional cost burden created for the air transport industry.

SH&E International Air Transport Consultancy



Appendix A:
AIRPORTS' QUESTIONNAIRE

ACI EUROPE CAPITAL NEEDS QUESTIONNAIRE

INTRODUCTION

This document represents the core data collection exercise of ACI Europe's survey into the financing of airport development in Europe. The survey is intended to assist ACI Europe in its presentation of the funding needs of Europe's airports to policy makers. Your assistance in completing this questionnaire would not only be greatly appreciated, but more importantly, it has a crucial role to play in the development of the airport industry throughout Europe.

SH&E is conducting this survey on behalf of ACI Europe. Guarantees of confidentiality of individual responses have been given by SH&E to ACI Europe, and are also given to respondents to this questionnaire. SH&E has undertaken to use the information provided only for the purposes of this survey.

The questionnaire has three broad sections:

Section 1 covers general issues regarding your airport, including its ownership structure, current and expected traffic levels and details of recent financial performance.

Section 2 focuses on capital expenditure and asks you to outline your investment plans for the next 5 and 10 years.

Section 3 covers the regulatory environment, in particular its impact on price setting and capital expenditure.

Please answer as many questions as possible – partial information may still be useful. While exact information is to be preferred, estimates/judgements are certainly better than no information at all! **Please provide data for 2005 if at all possible**, but if data are not yet available, earlier year data are better than none.

We are aware that many of the terms and definitions used in this questionnaire may have different meanings for different respondents, so we have compiled a glossary of the key terms at the back of this document. However, if any aspects remain unclear, please feel free to contact us at: acieuropesurvey@sh-e.com.

The return date for responses is: Friday 24th March 2006

If completing the survey electronically, please save responses before emailing the completed form to acieuropesurvey@sh-e.com.

If completing the survey manually, please fax the completed form to +44 (0)20 7242 9334 or post it to SH&E Ltd, 210 High Holborn, London, WC1V 7EU, United Kingdom.

Please also send a copy to Stefano Baronci at ACI Europe, Fax: +32 2 502 56 37

e-mail: stefano.baronci@aci-europe.org

CONTACT INFORMATION

Details of person responsible for completion of questionnaire

Title: _____

First name: _____

Surname: _____

Position: _____

Organisation: _____

Address: _____

_____

_____

_____

E-mail address: _____

Telephone number: _____(ext)_____

ABOUT THE AIRPORT

Airport operator name
Airport web-site address (if applicable)

1.1 What is the status of the managing body of the airport?

Private company ☐
Public company complying with normal commercial laws ☐
Government authority or department If so, national or local government? ☐

1.2 What is the ownership structure of the managing body of the airport?

Public ☐	Private ☐
_____%	_____%

1.3 Does the operator own the assets of the airport, or is it a concession company responsible only for future investments? Please give details

1.4 If it is a concession, how long is the concession agreement?

Length of concession	_____Years
Years remaining	_____Years

1.5 Please note any special circumstances existing at the airport that may/can/will influence the development and/or financing of investment

1.6 Number of airports covered by information to be given _____

(If at all possible, for operators of more than one airport, separate questionnaires should be completed for each airport)

1.7 Please provide your latest annual traffic figures below

Year ending	
Annual (terminal) passengers (000s)	
Aircraft movements (000s)	
Air transport movements (000s)	
Freight tonnage (flown)	
Fright tonnage (trucked)	

Alternatively, you may attach a copy of latest annual statistical publication. Please tick here if you have done so ☐

1.8 Please provide your latest peak or busy-hour <u>demand</u> figures

Year ending	
Please describe measure used (e.g. busiest hour, 30th busiest hour etc)	
Passengers	
Aircraft movements*	
Air traffic movements*	
Stand demand	

* See glossary for definition

1.9 Please provide your peak or busy-hour <u>capacity</u> figures

Passengers	
Aircraft movements	
Stands available	

1.10 Please provide your traffic forecasts for 2010 and 2015 for the following components. If forecasts for these years are not available, please provide details of your longest current forecast, stating the end year.

	2010	**2015**	**Other _____**
Annual passengers			
Annual aircraft movements			
Annual ATMs			
Busy-hour passengers			
Peak hour ATMs			
Peak stand demand			
Annual freight			

1.11 What proportion of annual passenger volumes do you expect to come from the following airline types?

	2005	2010	2015
Short Haul Scheduled			
Long Haul Scheduled			
Low Cost Carriers			
Charter			
Business Aviation			
Other			

Please use your own interpretation of these categories. Ideally, please give absolute numbers, but otherwise please give illustrative percentages, or indicate if you consider a category will have above or below average growth. Please add any explanatory notes below.

1.12 Please provide your latest Annual Financial Report (tick here if attached ☐) or latest headline financial figures below

Year ending		Currency	
Aeronautical Revenue			
Non-Aeronautical Revenue			
Total Revenue			
Aeronautical Operating Expenses (if available)			
Non-Aeronautical Operating Expenses (if available)			
Total Operating Expenses			
Interest payable			
Depreciation and amortisation			
Tax			
Net Profit			
ROCE (Return on Capital Employed)			

1.13 Do you have separate accounts for Aeronautical and Non-Aeronautical activities?

Yes ☐	**No** ☐

CAPITAL EXPENDITURE (CAPEX)

2.1 Please give your capital expenditure for the period 2000 to 2005, either as individual years or simply as a total

Financial year ending:	Currency:	Prices:

NB For "Prices" we need to know if inflation has been included or not

2000	2001	2002	2003	2004	2005	**Total**

2.2 For the period 2000-2005, please provide the division of capital expenditure between the following categories:

	Value (OR)	Percentage of total
Refurbishment/maintenance		
Compliance with security/health & safety (or similar) requirements		
Environmental measures		
Capacity expansion		
Commercial expansion (e.g. car parking, hotel, office space)		

2.3 If you use alternative divisions of capital expenditure, please supply below, together with a description of the categorisation

2.4 Turning to the future, what is the status of your capital expenditure plans for the periods 2006-2010 and 2010-2015?

	2006-2010	**2011-2015**
Not yet finalised	☐	☐
A number of options under consideration	☐	☐
Approved internally (e.g. by the Board if a company), but awaiting external permissions to construct	☐	☐
Approved both internally and externally	☐	☐
Awaiting financing	☐	☐
Other (please describe)	☐	☐

Please select and provide information in the following questions on what is considered the most likely capital expenditure programme that will be implemented.

2.5 Will this capital expenditure programme provide sufficient capacity to meet the demand forecasts given in Question 1.10?

Yes ☐	No ☐	Don't know ☐

2.6 If not, please indicate approximate demand that could be accommodated (in the format of Question 1.10) and give reasons why you are not seeking to handle forecast demand.

2.7 For each five year period, please provide the division of capital expenditure between the following categories:

	2006-2010	**2011-2015**
Refurbishment/maintenance		
Compliance with security/health & safety (or similar) requirements		
Environmental causes		
Capacity expansion		
Commercial expansion		
Total		

2.8 If you use alternative divisions of capital expenditure, please supply below, together with a description of the categorisation

2.9 Please indicate the approximate location of this capital expenditure

	2006-2010	**2011-2015**
Runway/taxiway system		
Other Airside		
Terminal		
Surface access projects		
Other Landside		
Other (incl. off-airport) (please describe)		
Total		

2.10 Please indicate how this capital expenditure programme is to be financed (if appropriate giving approximate division between sources)

	2006-2010	**2011-2015**
Internally generated funds		
If so, please specify source (e.g. Reserves, cash flow, both, cash flow augmented by higher airport charges?)		
Grants		
If so, please specify source (e.g. Government, development fund, EU)		
Borrowing		
If so, please specify source (e.g. Loans, bonds, other)		
Equity injection		
If so, please specify details:		
Private sector involvement		
If so, please specify details (e.g. Private sector development of a new terminal):		

2.11 If other, please describe

2.12 Do you expect aeronautical charges (in real terms, i.e. after allowing for inflation) at your airport to:

Go down	☐	If so, by how much?
Stay the same	☐	
Go up	☐	If so, by how much?
Don't know – analysis not yet complete	☐	
Don't know – regulatory uncertainty	☐	
Other (please expand)		

REGULATORY OVERSIGHT ARRANGEMENTS

3.1 Details of person most involved in your airport's economic regulation:

At your airport	**At the regulatory organisation**
Title:	Title:
First name:	First name:
Surname:	Surname:
Position:	Position:
Organisation:	Organisation:
Address: _____ _____ _____	Address: _____ _____ _____
E-mail address:	E-mail address:
Telephone number: (ext)	Telephone number: (ext)

3.2 Which description best sets out how your airport charges are regulated?

No approvals required, free to levy any charges desired	☐
Automatic approval of charges submitted to regulatory organisation	☐
Approval following scrutiny and negotiation, although basis of decisions not transparent	☐
Approval following scrutiny and negotiation, based on transparent criteria	☐
Set by formula, with limited consideration of future finances	☐
Set by formula after detailed consideration of airport traffic and finances	☐
Other (please describe)	☐

3.3 For how many years is approval for your airport charges given?

Can apply any time for a change	☐
Need to be approved once a year	☐
Set for a specific period (please specify for how long)	☐ _____years

3.4 Does the regulatory process require any of the following?

Airline and user consultation	Yes ☐	No ☐
Inclusion of quality measures or service standards	Yes ☐	No ☐
Is pre-financing of future investment allowed	Yes ☐	No ☐

3.5 If yes, please give details below:

3.6 For those oversight arrangements which are based on a formula, how is it best described?

A simple link between passenger and allowed change in average airport charge	☐
A Price Cap formula	☐
A Rate of Return formula	☐
Other	☐

3.7 In all cases, please describe below, in as much detail as possible, including any formula that is applied.

3.8 Where there are formal/transparent regulatory arrangements, how would they be best described?

Single Till	☐
Dual Till	☐
Hybrid	☐
Other	☐

3.9 If your have answered "Hybrid" in question 3.8 above, please indicate to what extent non-aeronautical activities are included in regulated income

3.10 Are any activities excluded from economic regulation (e.g. income from subsidiary companies or investments) ?

Yes ☐	No ☐

3.11 If so, please describe below

3.12 Are you regulated on a Revenue Yield or Tariff Basket basis? Please describe below

3.13 How are the costs of the regulatory organisation recovered?

From general government budget	☐
From levy on airlines	☐
Paid for by airport operator	☐
Other (please describe)	☐
Don't know	☐

3.14 If you, the airport operator, pay for the cost of economic regulation, what would be a typical annual expense?

Thank You for taking the time to complete this questionnaire – your input is very much appreciated!

GLOSSARY

- Aeronautical Operating Expenses – expenses/costs incurred as a result of aircraft and passenger operations i.e. costs of operating the airfield and passenger facilities
- Aeronautical Revenue – revenue from aeronautical activities i.e. fees/charges for aircraft landing/take-off, aircraft parking, passenger fees (PFC), central infrastructure fees
- Air transport movements (ATMs) – all movements by commercial aircraft when carrying payload, including all scheduled and charter, passenger and cargo movements, but excluding positioning movements
- Aircraft movements – total aircraft movements including ATMs, test and training, positioning movements, general aviation and military
- Airport charges - fees/charges for aircraft landing/take-off, aircraft parking, passenger fees (PFC)
- Capacity Expansion – expansion of airfield and terminal facilities to allow higher volumes of traffic to be accommodated
- Capital Expenditure – expenditure on new facilities and equipment (excludes maintenance and running costs i.e. wages, power, water etc)
- Commercial Expansion – expansion of commercial facilities i.e. retail, catering, car parking, property such as hotels and third party office accommodation
- Concession – An agreement whereby a company operates an airport (e.g. Build Operate Transfer [BOT] for a fixed period of time, after which is reverts to the original state (e.g. State)
- Dual Till – this is a regulatory approach that considers aeronautical revenues and expenditures as the basis for setting airport charges. As such, income and costs generated by commercial activities is not used to cross-subsidise aeronautical activities
- Environmental measures – measures designed to control and manage the impacts of aircraft and airport operations such as noise reduction and air and water quality
- Hybrid – a regulatory approach somewhere between a Dual and Single Till, and perhaps a temporary arrangement during a migration period from one to the other
- Non-Aeronautical Operating Expenses – costs incurred form operating commercial facilities. Also includes a share of overhead/corporate costs

- Non-Aeronautical Revenue – revenues from activities such as retail, catering, car parking, property such as hotels and third party office accommodation
- Pre-financing of future investment – this is a regulatory approach that allows airport operators to increase charges as a result of capital expenditure before these facilities are brought into operation
- Price Cap Formula – a formula that sets the maximum airport charges that can be levied by the airport operator
- Quality measures – these are standards that measure the service quality experienced at an airport by passengers and/or airlines. They can include measures of facility availability i.e. airbridges or measures service/process times i.e. time for passengers to check-in or pass through the passenger search/security controls
- Rate of Return Formula – this is a regulatory approach that allows airport operators to set airport charges in order to achieve an allowed rate of return for the assets employed by the airport operator
- Refurbishment/maintenance – the repair of or the improvement of existing facilities ie runways, aircraft aprons and passenger and cargo terminals
- Revenue Yield – this is a regulatory approach that sets the maximum average revenue that can be obtained, normally on a per passenger basis. The limit is on the overall revenue as opposed to limits on the individual charges.
- Service Standards – see Quality measures above
- Single Till – a regulatory approach that considers all airport revenues and costs i.e. aeronautical and non-aeronautical in setting airport charges
- Surface Access – ground access facilities to the airport for passengers and staff i.e. road/highway and rail and bus
- Tariff Basket – this is a regulatory approach that sets the maximum level of the various individual airport charges levied by an airport operator

SH&E International Air Transport Consultancy



Appendix B:
REGULATORS' QUESTIONNAIRE

ACI EUROPE CAPITAL NEEDS QUESTIONNAIRE

INTRODUCTION

ACI Europe, the trade association of Europe's airports, considers that the expansion of airports is vitally important to support Europe's wider air transport industry, and the economic and social benefits that this brings. As part of its contribution to the on-going debate on financing expansion, ACI Europe is undertaking a survey of capital expenditure needs and associated economic regulatory oversight arrangements.

As you may know, the European Commission is considering whether or not to regulate airport charges at a European level. Commissioner Barrot recently organised an Industry Dialogue with all interested stakeholders including ACI Europe. On this occasion, ACI Europe announced that it had commissioned us to review the regulatory regimes applicable at national level in the EU to airport charges. Commissioner Barrot welcomed this initiative and indicated that he would be extremely interested to review the results of such study as a follow up to the Industry Dialogue.

The results of this survey will be published in Summer 2006. An extensive data collection exercise has already been undertaken with Europe's airports, but this questionnaire seeks to gather more information on economic regulation.

This document represents the core data collection exercise of ACI Europe's survey into the financing of airport development in Europe. The survey is intended to assist ACI Europe in its presentation of the funding needs of Europe's airports to policy makers. Your assistance in completing this questionnaire would not only be greatly appreciated, but more importantly, it has a crucial role to play in the development of the air transport industry throughout Europe.

SH&E is conducting this survey on behalf of ACI Europe. Guarantees of confidentiality of individual responses have been given by SH&E to ACI Europe, and are also given to respondents to this questionnaire. SH&E has undertaken to use the information provided only for the purposes of this survey.

Please answer as many questions as possible – partial information may still be useful. While exact information is to be preferred, estimates/judgements are certainly better than no information at all!

We are aware that many of the terms and definitions used in this questionnaire may have different meanings for different respondents, so we have compiled a

glossary of the key terms at the back of this document. However, if any aspects remain unclear, please feel free to contact us at: acieuropesurvey@sh-e.com.

The return date for responses is: Friday 20 May 2006

If completing the survey electronically, please save responses before emailing the completed form to acieuropesurvey@sh-e.com.

If completing the survey manually, please fax the completed form to +44 (0)20 7242 9334 or post it to SH&E Ltd, 210 High Holborn, London, WC1V 7EU, United Kingdom.

Please also send a copy to Stefano Baronci at ACI Europe, Fax: +32 2 502 56 37 or E-mail: stefano.baronci@aci-europe.org

CONTACT INFORMATION

Details of person responsible for completion of questionnaire

Title:

First name:

Surname:

Position:

Organisation:

Address:

E-mail address:

Telephone number:

Ext:

REGULATORY OVERSIGHT ARRANGEMENTS

1.1 For how long has your organisation been regulating airport charges?

_____Years

1.2 When was legislation to support your activities passed?

Please supply a copy of the legislation (or relevant parts if included within wider legislation). While an English language version would be ideal, we expect this to be only available in your mother tongue

1.3 Do you regulate prices in any other sectors?

Yes ☐	No ☐
If yes, please specify:	

1.4 What activities, if any, does your organisation undertake in addition to the regulation of airport charges?

1.5 What is the institutional status of your organisation?

Ministry ☐	Department of Civil Aviation ☐
Independent Regulator ☐	Other (please specify) ☐

1.6 What are the key objectives of regulation of airport charges? Please rank in order of priority

1.7 Are these objectives set out in legislation or a statement of policies?

Yes ☐	No ☐
If yes, please specify:	

1.8 If there any general principles you apply to regulation (e.g. ICAO, least regulatory cost etc.)?

Yes ☐	No ☐
If yes, please specify:	

1.9 How many people are involved in the economic regulation of airports (please give estimate in terms of Full Time Equivalents (FTEs)?

_____Full Time Equivalents

1.10 Please indicate how many of your staff have a formal training/qualification in the following areas:

Economics _____	Corporate finance _____
Accountancy _____	Law _____
Other relevant disciplines (please specify): _____	

1.11 Do you supplement your internal team with other resources (eg consultants, accountants)? Please describe any arrangements and disciplines.

1.12 Which description best sets out how airport charges are regulated?

No approvals required, airports free to levy any charges desired	☐
Automatic approval of charges submitted to regulatory organisation	☐
Approval following scrutiny and negotiation, although basis of decisions not disclosed	☐
Approval following scrutiny and negotiation, based on transparent criteria	☐
Set by formula, with limited consideration of future finances	☐
Set by formula after detailed consideration of airport traffic and finances	☐

Other (please describe)	☐

1.13 For how many years is approval for airport charges normally given?

Airports can apply any time for a change	☐
Charges need to be approved once a year	☐
Set for a specific period (please specify for how long)	☐

1.14 Does the regulatory process include/require any of the following?

Airline and user consultation	Yes ☐	No ☐
If yes, please describe:		
Inclusion of quality measures or service standards	Yes ☐	No ☐
If yes, please describe:		
Pre-financing of future investment allowed	Yes ☐	No ☐
If yes, please describe:		

1.15 For those oversight arrangements which are based on a formula, how is it best described?

A simple link between passenger and allowed change in average airport charge	☐
A Price Cap formula	☐
A Rate of Return formula	☐
Other	☐

1.16 In all cases, please describe below, in as much detail as possible, including any formula that is applied.

1.17 Does the regulatory process consider airport capital expenditure?

Yes ☐	No ☐

1.18 If yes, which aspects?

All ☐	Capacity related only ☐
Other (please describe):	

1.19 Where there are formal/transparent regulatory arrangements, how would they be best described?

Single Till	☐
Dual Till	☐
Hybrid	☐
Other	☐

1.20 If your have answered "Hybrid" in question 1.19 above, please indicate to what extent non-aeronautical activities are included in regulated income

1.21 Are any activities excluded from economic regulation (e.g. income from subsidiary companies or investments)?

Yes ☐	No ☐
If yes, please describe:	

1.22 Are prices regulated on a Revenue Yield or Tariff Basket basis? Please describe below.

1.23 Is there an appeals procedure for the airport?

Yes ☐	No ☐
If yes, please describe:	

1.24 Is there an appeals procedure for airport users?

Yes ☐	No ☐
If yes, please describe:	

1.25 Which organisation considers such appeals?

1.26 How are the costs of your regulatory activities recovered?

From normal budget	☐
From levy on airlines	☐
Paid for by airport operator	☐
Other (please describe)	☐
Don't know	☐

1.27 What would be the cost of a typical regulatory exercise to set prices for a control period?

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