Economic Impact of Glasgow Prestwick Airport

Final report to Glasgow Prestwick Airport, South Ayrshire Council and Scottish Enterprise

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Glasgow Prestwick Airport

Scottish Enterprise

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Executive Summary

1. The report provides analysis of four aspects of the airport's contribution to the Ayrshire and Scottish economies. Each is based on data provided by Glasgow Prestwick Airport (GPA) or has been generated through survey work with Ayrshire businesses.

2. The four strands are:

- the impact on the wider business community – although not valued, there is evidence that the presence of the airport has a significant effect on decisions to operate in Ayrshire and on the performance of the businesses themselves
- the direct impacts of the airport, which includes the wages and salaries of employees and income and employment supported among suppliers
- the impact of the airport on tenant businesses, freight businesses and the aerospace companies that operate nearby
- the impact generated by the expenditure of passengers travelling into Ayrshire and Scotland. The analysis estimates the *net* impact of inbound passengers.

3. Each of these strands has been examined using surveys. The business impacts are drawn from a postal and e-mail survey which generated 174 responses. Samples of tenant and freight businesses were contacted by telephone and the passenger impact results are based on surveys carried out in 2002/03 and 2006 with 831 and 511 visiting passengers respectively.

4. Within each strand the methodology assesses the *gross* impact initially. This is then adjusted to allow for additionality (the extent to which this activity would take place if the airport no longer operated and how much of the expenditure is made within Ayrshire and Scotland).

5. These figures are further adjusted to capture the multiplier or knock-on effects that ripple through the supply chain.

6. The results are presented in terms of two measures:

- **Gross Value Added (GVA)** broadly represents the value of salaries, wages and profits that are generated within the defined geographical area. It excludes the value of goods and services which are bought in.
- **Employment** is the number of jobs that are supported. This is derived from the GVA estimates using average GVA to employment ratios for the relevant sectors.

7. The adjustments for additionality ensure that the results reflect the economic activity that can be attributed to the airport. In other words, this is the value that would be lost (to Ayrshire and Scotland) if the airport was no longer able to operate. The exception to this is the treatment of outbound (Scottish resident) passenger expenditure. To some extent the increase in routes and lower prices offered through GPA (and by Ryanair in particular) is likely to

have increased the number of trips made by Scottish residents. Some of these additional trips will take expenditure out of Scotland.

8. However, there are also benefits for those that would have travelled anyway, perhaps from another airport. GPA offers lower costs, adds to the choice of destination and can be more convenient - all benefits for the Scottish residents that use these routes.

9. The scale of the “lost” income and the consumer benefits cannot readily be measured for inclusion in this work. Consequently, the passenger impacts reported exclude the impact of Scottish residents travelling out and reflect only the expenditure of the additional visitors that travel into Scotland through the airport.

Business survey

10. The business survey demonstrates some of the benefits to local companies that cannot readily be quantified. The analysis is based on responses from 174 businesses in Ayrshire. A sample of 1,000 businesses was chosen initially (excluding retail businesses) and questionnaires were posted to all of them. The sample was boosted by an electronic version that could be accessed through links on the South Ayrshire Council web-site and an e-mail sent out by the Chamber of Commerce. The main points from the survey were that:

- more than half of all the businesses responding considered that the airport was of importance to their performance and almost a fifth thought it very important or critical
- among businesses that had moved to the area from elsewhere, access to the UK was important for more than a quarter and the presence of the airport important for 18%.
- 29% of the businesses benefit from tourists brought by the airport and 17% reported that they would lose up to 10% of their sales without it
- two thirds of the respondents use the airport for business trips (on average for 6 trips a year). Without the airport 20% of respondents would make fewer trips.
- 22% of the businesses made direct sales to the airport or its suppliers, this is almost 40 companies. For most it was less than 10% of their total sales
- 8% would face major problems without the freight service.

11. We also estimate that there are around 120,000 return trips made by Ayrshire residents. Residents using these services will benefit from the convenience of travelling from GPA (timesaving) and from lower prices.

Impact results

12. Based on previous passenger surveys the report estimates that there were around 580,000 visitors who travelled to Scotland through Glasgow Prestwick Airport in 2006/07. In total their expenditure is estimated to be around £173 million. This is equivalent to 4% of the total tourism expenditure in Scotland (£4.1 billion). In Ayrshire expenditure by passengers using

GPA (visitors and outbound Scottish residents) is around £40 million, equivalent to a fifth of the total expenditure made by overnight tourists in Ayrshire and Arran (£204 million)[1]

13. Table 1 presents the airport's contribution to Gross Value Added and employment in Scotland and Ayrshire. This is based on its direct activities, its influence on tenants and its role in bringing additional visitors to Scotland. Through these, the airport is estimated to support Gross Value Added of £48 million within Ayrshire and £79 million in Scotland. It also supports 1,733 jobs in Ayrshire and 2,941 jobs in Scotland. The Scotland figures *include* Ayrshire.

14. To reach these figures a range of assumptions and adjustments have been made:

- the figures include an allowance for the multiplier or knock-on effects through the rest of the economy
- the passenger expenditure figures reflect only the expenditure of *additional* inbound visitors, but not any expenditure that is lost because of additional trips taken by Scottish residents. Equally there is no allowance for the value that is associated with lower fares and greater choice for Scottish residents.
- the figures are adjusted to allow for any double counting between passenger and airport expenditure and the activities of tenant businesses
- the direct effects of the airport are also adjusted to reflect the possibility that, in its absence, some of its current activities might have taken place at other Scottish airports instead.
- all the figures are adjusted to include only employment and GVA that can be attributed to the airport. In other words, theoretically, what would be lost of the airport was to cease operating.

15. There is a distinction between the impacts on Ayrshire and Scotland. For example, Scottish resident expenditure in Ayrshire is counted as additional to Ayrshire but is not additional to Scotland. Offsetting this, the multiplier values for Scotland are much higher than those for Ayrshire.

16. The Scottish levels include Ayrshire (they cannot be added together). In some cases the Ayrshire figure is higher than for Scotland. This is because of the displacement assumptions. For example, it is assumed that some of the direct employment and expenditure generated by GPA is displaced from other airports. This means that the impact of the airport is likely to be lower at a national level than a regional one.

[1] VisitScotland Tourism in Ayrshire and Arran 2006 indicates total UK and overseas expenditure of £204 million.

Table 1: Summary net economic impact of GPA in Ayrshire and Scotland

	Scotland		Ayrshire	
	GVA (£ million)	Employment	GVA (£ million)	Employment
Airport wages and salaries	9.5	430	10.6	481
Supply contracts	5.2	117	7.4	164
Tenant (including HMS Gannet operations), freight and aerospace businesses	23.3	678	16.9	470
Passenger expenditure	40.5	1,717	13.2	618
Total	**78.6**	**2,941**	**48.1**	**1,733**

Source: SQW estimates

17. The airport provides military support including general aviation or technical aviation services (such as refuelling or training in controlled airspace). Any income that is generated through these contracts is covered within the airport's own employment and expenditure.

18. More generally, GPA contributes to improving connectivity with the rest of Europe, supporting both business and leisure activity. Connectivity is important for a number of reasons:

- it increases business productivity, by reducing travel time and costs
- it improves competition and provides opportunities for businesses to work in new markets
- it can attract new investment by offering better access to labour and product markets
- it brings new tourist expenditure
- it provides access to new destinations, saves time and typically offers lower fares.

19. In summary, GPA provides a range of socio-economic benefits, only some of which can readily be measured. In Scotland it generates around £80 million of GVA and supports around 2,900 jobs directly and indirectly. It offers lower fares from GPA but by providing competition and additional capacity it also impacts on fares at other airports too. For Scottish residents, particularly in Ayrshire, it can be more convenient and has added to the range of destinations.

20. These consumer benefits cannot readily be measured, but the use of the airport demonstrates its value. For businesses in Ayrshire, the survey highlights the airport's role in their performance. More than half of all those responding considered it to be important and for 18% it was an important reason for moving to the area in the last ten years.

1: Introduction

1.1 This report presents the results of an economic impact assessment of the contribution to the Ayrshire and Scottish economies made by Glasgow Prestwick Airport (GPA). The results build on and update previous work done for both Scottish Enterprise and South Ayrshire Council. The work has been done to provide supporting material for a master plan that is being prepared by the airport.

1.2 The study considers each of the various ways in which the airport contributes to the economy including the direct, on-site impacts of the airport's operations, the employment and income that it supports among tenant businesses including freight and aerospace companies as well as the impact of the expenditure made by passengers who use routes to and from the airport.

Context

1.3 Air transport is both a substantial employer in its own right and plays a significant role in connecting modern economies. Liberalised markets in air transport through the late 1980s and 1990s and led to the rapid growth of low fares airlines. In 1999, low fares airlines in Europe carried around 17 million passengers; by 2006 this had increased to around 140 million. 280 European airports now have a low fares route and there are 2,263 individual routes in Europe[2].

1.4 The emergence of low fares airlines and specifically the huge increase in point-to-point routes represents a major benefit for the economies and residents of the countries and regions where low fares airlines operate. Connectivity is central to the objectives of the European Union and its economic development. The development of new air routes and airports directly supports this.

1.5 Point-to-point routes provide businesses with direct access to markets, helps labour markets to operate more effectively, distribute tourism benefits and are both more convenient and cheaper for residents. Not all these aspects can be easily measured. The business survey in this report provides some good evidence of business use of GPA, passenger expenditure also provides a measure of economic benefit, but the value to residents of the convenience, range of destinations and lower prices is not calculated.

1.6 GPA has been part of the substantial growth in low fares airlines over the past 10 years. At the time of SQW's original economic impact study of Ryanair routes in 2002/03 there were seven routes (Stansted, Dublin, Brussels, Paris, Frankfurt, Oslo and Bournemouth). By October 2007, the number of scheduled routes had expanded to 25 with passenger numbers of 2.37 million over the previous 12 months.

[2] York Aviation for the European Low Fares Airline Association (November 2007) *Social Benefits of Low Fares Airlines in Europe*

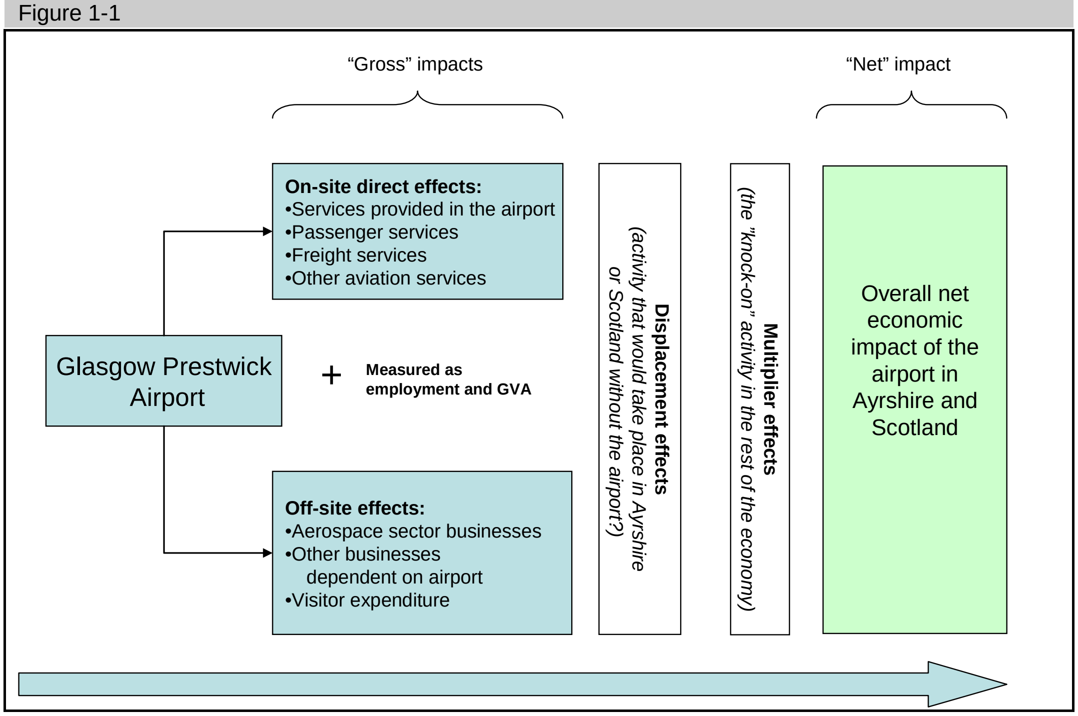
1.7 Ryanair is by far the largest scheduled airline operating from GPA. Although several new smaller airlines, Wizz and Aer Arann have recently launched routes to Eastern Europe and Ireland respectively, Ryanair's growth has been central to the expansion of the Airport.

Model and structure of report

1.8 The analysis follows the model in Figure 1-1 and analyses each aspect of the airport's activities in turn. The aim is to understand the contribution that the airport and its activities make to the regional and national economies. To do this, within each strand the analysis must consider how much of the employment and GVA can fairly be attributed to the airport. Judgements have been made to reflect what would happen if the airport and the air routes were not able to operate.

1.9 Some of the employment, for example within tenant businesses would continue although it may relocate within Ayrshire. In other cases, employment could move to other airports, however, without the airport, its direct employment and the income through salaries and wages would be lost to Ayrshire/Scotland as would the value of the supply contracts that it lets.

Figure 1-1



Source: SQW

1.10 The report is divided into four sections:

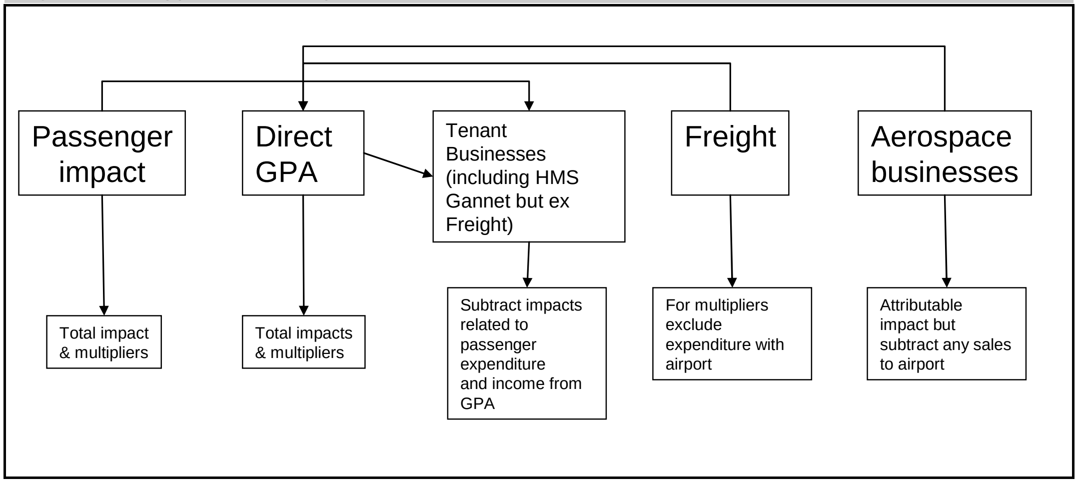
- Ayrshire business impacts
- Direct, on-site impacts
- Passenger impacts
- Tenant businesses (including HMS Gannet) and freight.

1.11 Each section considers the gross value of the activity in terms of the employment and GVA that is supported. This is then adjusted downwards for displacement (how much of the activity would happen anyway within Ayrshire or Scotland even if the airport did not exist). Finally, the multiplier, or knock-on effects are added. These reflect the wider impacts on the economy as a result of the additional demand created for suppliers to the airport, tenants and tourism businesses and also the further expenditure of wages, salaries and profits within the economy.

1.12 The results of each strand are brought together in the final chapter. This makes several further adjustments to allow for double counting, for example, some of the tourism expenditure calculated will also be included as income for tenant businesses such as taxis and retailers.

1.13 The relationships between the different strands are mapped in Figure 1-2. The main strands are passenger expenditure and the direct GPA impacts. The tenant results, freight and aerospace are all adjusted to avoid double counting. For example, because freight businesses provide income for GPA, the analysis should not include multiplier effects for this part of their output as this is already captured through GPA's supply chain.

Figure 1-2: Mapped relationships between different elements



Source: SQW

2: Business impacts in Ayrshire

This chapter presents the results of a survey of 174 businesses in Ayrshire and identifies whether and how GPA impacts on local business activity. The survey results are based on a structured sample of businesses across Ayrshire excluding retail, agriculture and forestry. The key findings are:

- 29% of the sample benefit from tourists brought by the airport and 17% would lose up to 10% of their sales without it. A further 7%would lose more
- Two thirds of the respondents use the airport for business trips (on average for 6 trips a year). Without the airport 20% would make fewer trips. The impact would be through higher transport costs for 21% with impacts on suppliers, patterns of operation and even a threat to the company itself in three cases
- 22% of the businesses made direct sales to the airport or its suppliers, this is almost 40 companies. For most it was less than 10% of their total sales
- Freight services had a more limited impact. 13% (22 businesses) used the service and 8% would face major impacts without it. Five percent would not operate in the same markets without it
- For those businesses that started in the last ten years, while quality of life and attractive physical location are the most important reasons for their location, access to the rest of the UK is also high (22%) and presence of the airport an important factor for 17%. Among businesses that had moved to the area from elsewhere, access to the UK was important for more than a quarter and the presence of the airport important for 18%
- Overall, more than half of all the respondents considered that the airport was of importance to the business performance and almost a fifth thought it very important or critical.

Method

2.1 As part of the study a postal and online survey of businesses within Ayrshire was carried out. This has been used to identify the extent to which the airport impacts on the operation of businesses. Over 1,000 questionnaires were posted out and an electronic version was made available online. It was promoted by the Chamber of Commerce which e-mailed its membership and South Ayrshire Council which put a link to the survey on its own web-site.

2.2 In total 174 postal questionnaires were returned either through completion either online or postal. The results of the survey are set out in the remainder of this chapter.

Impact results

Tourism

2.3 Just less than 30% of the businesses believe that they benefit from tourists that the airport brings to Ayrshire (Table 2-1). Not all these are obvious tourism businesses. It includes for example a fish merchant, a wool and cashmere clothing producer, a training company and retailers.

Table 2-1: Do you benefit from the tourists/leisure visitors that the Airport brings to Ayrshire?

174 responses	**%**
No	72%
Yes	28%
Total	100%

Source: SQW survey 2007

2.4 Where it does have an impact, in most cases this represented less than 10% of sales, but for 13 businesses (6%) the impact was more significant, between 10% and 30% of their sales and in two cases businesses would lose up to half their sales (Table 2-2).

Table 2-2: If there is a tourism impact, what would happen if the Airport did not bring these visitors?

174 responses	**%**
Do not benefit from tourists	72%
It would have no impact (they would still come using other airports or forms of travel)	3%
We would lose a little business (less than 10% of sales)	17%
We would lose some business (10% - 30% of sales)	6%
We would lose a lot of business (30% - 50% of sales)	1%
Grand Total	100%[3]

Source: SQW survey 2007

Business use

2.5 On average respondents claimed that they and their employees use the airport for business six times a year (including around a third that do not use it at all). Around 10% of the local business base uses it more frequently, making more than 25 trips a year. Most of the sample comprises smaller businesses and the number of trips is typically less than 10 a year (Table 2-3).

[3] Does not sum to 100% in Table because of rounding

Table 2-3: Does your company use the Airport for business trips (both outbound or for business visitors)? In total how many business flights made each year?

Based on 174 responses	**Total**
1-10 return flights a year	41%
11-20 return flights a year	14%
21-50 return flights a year	6%
51-100 return flights a year	2%
101-500 return flights a year	2%
No, do not use the airport	32%
No response	2%
Grand Total	100%

Source: SQW survey 2007

2.6 What would happen if the Airport was not there? Twenty percent of respondents reported that they would make fewer business trips (mainly using Glasgow Abbotsinch airport). Twenty eight percent claimed it would make no difference and 45% would make the same number of trips, switching to Glasgow airport instead (Table 2-4).

2.7 The key is that 20% of businesses would make fewer trips and this would presumably impact on the operation of their business.

Table 2-4: What would happen if the Airport was not there? How would these trips be replaced?

Sample of 174	**Total**
Fewer trips mainly by another form of transport	2%
Fewer trips mainly *use another airport* (specify)	18%
No difference	28%
Same number of trips , mainly by another form of transport	5%
Same number of trips but mainly from another airport (specify)	40%
No response	7%
Grand Total	100%

Source: SQW survey 2007

2.8 Would this impact on business performance? The fact that it would change the behaviour of 65% of the sample suggests that it would. Although 21% thought there would be higher transport costs, we know that 40% would have to use another airport and that this would almost certainly increase either direct costs or time. The responses in Table 2-4 suggest that businesses have not taken the value of time savings into account or the fact that in the absence of the competition provided by services operating at GPA, fares at other Scottish lowlands airports would almost certainly be higher. In this context it is surprising that in Table 2-5 only 21% consider that not using the airport would lead to higher transport costs.

2.9 Table 2-5 sets out how business considered these changes would impact on performance. For 13% the impacts would be significant with the possibility of changes in suppliers, patterns of work with the rest of the company and in a small number of cases it could be a threat to the company itself. These three were an IT service company, a financial services business and a construction company. For more than a third of the respondents, the availability of the airport for business travel is a benefit and contributes to their performance.

Table 2-5 What would be the impact on your business if you were not able to use the Airport for business trips?

174 responses	%
It would make no difference	57%
It would mean higher costs to continue to operate as effectively	21%
It would lead to changes in suppliers	2%
It would change the way we work with other parts of the company	4%
It would threaten the existence of the firm's operation in Ayrshire	2%
We would have fewer customer visits	5%
No response	9%
Total	100%

Source: SQW survey 2007

Sales to the airport

2.10 The airport is also a potential source of business itself through contracts for goods and services. Although the economic impact is covered through the expenditure of GPA in the local economy, it is also useful to get a sense of how widely spread this direct impact is (Table 2-6).

2.11 Thirty of the businesses in the sample trade directly with the airport or with its suppliers, 22% of the sample. Of these, the majority generate less than 10% of their turnover from these sales.

Table 2-6 What proportion of your total sales are made to the Airport or businesses directly related to the Airport?

174 responses	Total
Less than 10% of sales	18%
10%-30% of sales	2%
30% - 50% of sales	2%
None	71%
No response	7%
Total	100%

Source: SQW survey 2007

Freight

2.12 Another potential source of benefit is through access to freight services, both for importing goods and exporting. Within the survey 23 (13%) benefited from freight services. Of these, just less than half (5%) thought they would be able to use Glasgow airport instead and another 5% would not operate in the same markets. For another 3%, the freight service means that they import or export more goods than would be possible otherwise and that it reduces transportation costs.

2.13 The businesses where freight service makes the biggest difference were a parcel delivery service, a conference facility, a distillery centre, and construction and transport enterprises.

Table 2-7: What would happen if the Airport did not operate freight services?

174 responses	Total
It would mean a significant impact on transport costs	2%
We would not import/export the same volume of goods	1%
We would not operate in the same markets	5%
We would use another airport	5%
No response	87%
Grand Total	100%

Source: SQW survey 2007

Location

2.14 The airport can play a role in attracting new businesses to the area. In order to assess this it is helpful know the proportion of businesses that have set up or moved to the area within the last ten years, over the period that the airport services have been growing. Two thirds of the businesses in the sample have been in Ayrshire for more than 10 years. Of those that started within the last ten years 46 (26%) are new independents, while 11 had moved to the current location in the past decade.

Table 2-8: Which of these best describes your business?

From 174 responses	Total
Been here for more than 10 years	62%
Branch of a larger company, opened here in last 10 years	1%
Moved to current location from elsewhere in last 10 years	6%
New independent 12 yrs ago	1%
New independent business, opened in last 10 years	26%
Other	2%
No response	2%
Grand Total	100%

Source: SQW survey 2007

2.15 The important reasons for operating from their current location are shown in Table 2-9. For those that have started in the last ten years it is noticeable that while quality of life and attractive physical location are the most important reasons, access to the rest of the UK is also higher than for All businesses as is the importance of the airport.

2.16 For the 11 that moved to their current site in the last ten years, quality of life and physical location remained the most important factors, but access to the rest of the UK was important for more than a quarter. The airport's presence is important for 18% of businesses moving into the area in the last 10 years.

Table 2-9: Most important reasons why your business set up in Ayrshire

From all 174 responses, 63 starting in last ten years and then 11 moving from elsewhere	**Moved from elsewhere (11)**	**In last 10 years (63)**	**All (174)**
Good quality of life	55%	40%	31%
Attractive physical location	45%	29%	21%
Proximity to customers	36%	27%	29%
Access to rest of UK	27%	22%	14%
Availability of skilled labour	18%	11%	10%
Good business environment	18%	16%	13%
Presence of the airport	18%	17%	15%
Low cost of property	18%	22%	17%
Good access to suppliers	0%	2%	3%

Source: SQW survey 2007

Summary of benefits

2.17 There are numerous examples of the value of the airport to these businesses and some of the examples reported are captured below to give a flavour of the types of benefits.

- Accessibility from a wide variety of international destinations
- Affordable convenient flexibility of travel
- Allows us to offer flights to European destinations including Mediterranean resorts and a number of attractive city breaks.
- Allows us to transport turbines worldwide at a better price than shipping elsewhere
- Attracts overseas visitors - particularly with availability of low cost airlines
- Because I live in the area and it is more convenient for my overseas travel and meeting incoming contacts
- Cheap flights to London
- Ease of transport at a reasonable cost to visit customers and suppliers
- Fast access to customers in Midlands, South England and Ireland
- Good communication to N. Ireland and Europe for Low cost Air fares
- I believe that the good air links to Northern Europe directly benefit both our business and some of our primary customers
- It is easier for our agents and larger customers to get to our premises from abroad
- It's more cost efficient to travel from Glasgow Prestwick than from Glasgow International
- Majority of our supplier and machine servicing companies are based in Hampshire and we use the airport for access
- Many people in the area work at the airport or their supplier/contractors etc bringing valuable income into the local

community , who use our business

- National contracts and work all over the UK
- Plans to expand to rest of UK and Europe
- Ryanair make affordable meetings in London and abroad
- The ability to expand our market base through effective transport
- The airport brings in and out 2 million travelling people many of whom need access to food and hopefully are interested in locally sourced food
- The airport increases tourism which increases the number of retail and hospitality business in the area. We support this business
- The Airport was a major influence when considering the set up of the business and remains very important to the effectiveness of the business. Without the airport operation costs would increase and it would impact on our ability to serve our customers.
- The growing aerospace park around the airport increases the markets I serve
- The growth has been helped by easy access to International markets. Particularly business travellers from the London area, Northern Germany and the Netherlands.
- The low cost travel from airport enables us to service all UK and Europe Client destinations
- We are the nearest distillery which attracts visitors here directly from around the world
- We deliver Aircraft Technicians, Customer Care, Hospitality & Tourism courses
- We know that we have more English and Scandinavian customers than before. Boat owners use our marinas for crew changes as well as overseas people leaving their boats for the winter with ease of access home

Source: SQW survey 2007

Overall impact

2.18 To capture the overall impact respondents were asked to summarise the importance of the Airport to the performance of their business. Two percent considered it critical (4 businesses) 16% very important and 36% fairly important. More than half of all the businesses responding considered that the airport was of some importance to performance and almost a fifth thought it very important or critical.

Table 2-10: Overall how, important is the Airport to the performance of your business in Ayrshire?

174 responses	**Total**
Critical	2%
Very important	16%
Fairly important	36%
Of no importance	44%
No response	2%
Grand Total	100%

Source: SQW survey 2007

3: Direct impact of airport investment

This section reviews the direct on-site expenditure of GPA. The airport spends a considerable amount of money in the local economy and directly supports a large number of jobs.

The direct effects are estimated to be £18.0 million GVA within Ayrshire and £14.7 million in Scotland. The Scottish figure includes the Ayrshire figures but is lower because of the assumption that, in the absence of the airport, some of the activity would happen elsewhere in Scotland. In Ayrshire the impact is higher because the activity is assumed to all be additional to the region.

Direct effects

3.1 GPA directly employs 476 people (including part time with a wage bill of just less than £9.4 million (including employer NI and employer pension contributions). Infratil employs a further 33 people with a wage bill of £1.8 million (including NI and pension). Expenditure on wages and pensions will largely represent income to residents in Ayrshire (and Scotland). NI is paid at a UK level and redistributed. We have included these tax payments in the contribution to the economy.

Table 3-1: Glasgow Prestwick Airport employment (excluding subcontractors)

Category	**Full time equivalent jobs**	
	Current	Salary bill
Check in	68	
Air traffic (and engineers)	38	
Fire services	45	
Duty free retail	N/a	
Office	15	
Security	78	
Ground services	80	
Motor transport	19	
Information desk	8	
Freight and cargo	65	
Other	60	
Total GPA	476	£9.4 million
Infratil	33	£1.8 million

Source: Glasgow Prestwick Airport

3.2 It is useful to note that although other activities including services to the military are not reported explicitly they are included in the overall expenditure of the airport within the local and national economies.

Additionality and multipliers

3.3 We have assumed that the income and employment supported at GPA is wholly additional in Ayrshire, but in Scotland a proportion of passenger traffic could have been serviced from other airports in Scotland. The freight activities are more likely to be entirely additional given the runway length which is not available at other airports. From the analysis of passenger traffic in Chapter 4 we have assumed that 45% of trips are a result of GPA and its routes. Freight activity represents a third of GPA revenues and is treated as additional to Scotland. Therefore the proportion of total additional activity is just less than 65%[4].

3.4 In other words, if the airport was not there, 35% of these jobs (and income) would be generated elsewhere in Scotland. These would be in passenger related services rather than in activities such as fire services and air traffic control that do not increase proportionately with passenger traffic. These are largely fixed overheads. For example the scale of the fire services necessary relates to the size of the largest aircraft rather than volume of passengers. Equally the number of air traffic control staff does not increase proportionately.

3.5 Reviewing the employment profile of the airport suggests that an estimate of displacement of 35% of direct employment would be reasonable. In theory, without the airport there may have been faster employment growth at other airports, Glasgow Abbotsinch Airport or possibly in provision of rail services, however, our view is that both would not have been able to grow sufficiently quickly to meet demand. As a result, prices would have been higher and fewer trips made, reducing the level of activity supported.

3.6 We have also assumed that 10% of the wage bill is paid to employees who live outside Ayrshire (leakage).

3.7 The multiplier effects generated by the wage and salary payments are likely to be fairly limited within Ayrshire and Scotland. We have assumed a value of 1.05 in Ayrshire and used the household income multiplier from the Scottish Input Output tables for Scotland (1.3). This gives the results in Table 3-2.

Table 3-2: Estimates of net GVA and employment directly supported by GPA

	GVA (£ millions)	Direct employment
Scotland	9.5	430
Ayrshire	10.6	481

Source: SQW estimates

Suppliers

3.8 The airport also spends money on goods and services supplied by other businesses. A large proportion of these are either based in Ayrshire or have an Ayrshire address. Analysis of the supplier data for the last six months indicates that *over 12 months* the airport will spend around

[4] (33% + 45% of the remaining 67%)

£10 million within Ayrshire, £2.4 million in Scotland and a further £2.4 million outside Scotland.

3.9 Capital investment varies significantly between years. We have used estimates of capital expenditure over the past two years and over the next three to calculate an average of £5.3 million. Around 80% of this expenditure is made within Ayrshire, but 10% is assumed to be made in Glasgow and a further 10% outside Scotland, for example to purchase specialist equipment.

3.10 As with the expenditure on salaries we have assumed that this is all additional activity at an Ayrshire level and that 65% is additional at a Scottish level.

3.11 The Scottish Input Output tables provide multipliers at a national level rather than for Ayrshire. We have assumed a national output multiplier of 1.7 (air transport) and 1.3 at an Ayrshire level. Regional multipliers (including both indirect and induced effects) typically vary from around 1.2 to 1.5. Multipliers are higher where a larger proportion of inputs are sourced locally (leakage is lower). Ayrshire's proximity to Glasgow (which has a larger production base) means that there is a greater chance that suppliers will purchase inputs from outside Ayrshire and that the multiplier effects will be at the lower end of this range.

3.12 The Scottish Government analysis of the Annual Business Inquiry data for 2005 indicates that GVA is, on average, 40% of turnover (Scottish average for all sectors in 2005). This has been used to produce GVA estimates from the expenditure figures.

Table 3-3: Estimates of suppliers and annual capital expenditure on GVA and employment

	Expenditure (£ millions)	Net output	GVA (£ millions)	Employment
Scotland	17.2	13.1	5.3	117
Ayrshire	14.2	18.5	7.4	164

Source: SQW estimates

Direct effect summary

3.13 The direct effects are estimated to be £18.0 million GVA within Ayrshire and £14.7 million in Scotland. The Scottish figure includes the Ayrshire figures but is lower because of the assumption that without the airport some of the activity would happen elsewhere in Scotland, so its impact is less. In Ayrshire the impact is higher because the activity is assumed to all be additional to the region.

Table 3-4: Summary of direct impacts generated by GPA and Infratil expenditure

	GVA £ millions	Direct employment
Scotland	14.7	547
Ayrshire	18.0	645

Source: SQW estimates

4: Passenger impacts

This chapter uses previous the passenger survey findings and applies these to the most recent passenger numbers to provide estimates of the additional expenditure brought to Scotland through GPA. The results indicate that the additional inbound passengers support £40.5 million of GVA in Scotland and £13.2 million in Ayrshire. They also support 1,700 jobs in Scotland and 600 in Ayrshire.

4.1 One of the biggest elements of the airport's economic impact comes through the expenditure of *additional* visitors. Over the past five years SQW has undertaken a number of studies of the potential impact from visiting passengers. The results are based on surveys of passengers to determine the importance of the airport and the routes that it offers in decisions to visit Scotland and Ayrshire. Most of the passenger traffic to and from GPA is carried by Ryanair which offers low prices and a number of destinations which could not be reached directly from other airports in Scotland. As a result this can generate a lot of additional traffic rather than simply displacing travel from other airports.

4.2 This chapter uses the results from previous passenger surveys and applies them to the most recent passenger figures to determine the *net additional* impact that can be attributed to the airport and the airlines.

4.3 The first impact study was carried out in 2002/03 in relation to the Ryanair routes only. At the time of the original study Ryanair operated just seven routes (Stansted, Dublin, Brussels, Paris, Frankfurt, Oslo and Bournemouth). The research found that these passengers contributed £18 million gross expenditure in 2002/03 to Ayrshire and £64m in Scotland.

4.4 A further study was carried out in 2006 for South Ayrshire Council. This was based on a smaller survey conducted from August to October 2006 of departing passengers (i.e. those about to fly out from Prestwick) on nine routes (Stansted, Dublin, Brussels, Paris, Frankfurt, Oslo, Bournemouth, Stockholm and Girona). The 2006 study found that visitors flying on Ryanair routes to Glasgow Prestwick International Airport in 2005/06 brought gross expenditure of £32 million to the Ayrshire economy and £146 million to Scotland.

Visitor numbers

4.5 Passenger numbers and, using the findings from the previous surveys, the proportion of passengers that are visitors to Scotland are shown in Table 4-1. These are based on data from Infratil and the SQW survey from 2006. Although there are also around 134,000 charter flights (67,000 return trips) these are likely to be mainly Scottish residents flying out rather than visitors.

4.6 Trips to and from Stansted make up the largest proportion of trips, around a fifth, with Dublin, Paris Beauvais and Girona the other main destination/origins. The proportion of visitors as opposed to Scottish residents on these flights varies significantly. Overall, on scheduled flights the figures suggest a small net inflow of passengers. In other words slightly more people visiting Scotland than Scots travelling to destinations outside Scotland. The net inflow was greatest from the northern European destinations including London Stansted, Dublin, Paris and Frankfurt. By contrast, the routes where Scots are most likely to travel out on are Murcia, Girona, Marseille, Reus, Pisa, Rome and Milan (all further south of the UK). The patterns seem to show that the more southerly destinations are more likely to be used by Scots and the central and Northern European routes tend to attract a net inflow of passengers.

Table 4-1: Passenger and visitor number estimates Nov 2006 – Oct 2007

Scheduled flights by destination/origin	Total journeys 06/07	Estimate of return trips	% made by visitors to Scotland	Number of visitors
UK and Ireland	899,834	449,919	60%	268,543
North West Europe	485,412	242,706	54%	131,361
Spain/Italy	413,118	206,561	24%	48,866
Scandinavia	188,351	94,176	68%	63,754
Eastern Europe	238,465	119,234	54%	64,285
Other	9,944	4,972	50%	2,486
Totals	2,235,124	1,117,568	52%	579,295

Source :SQW estimates based on Infratil data

Gross expenditure

4.7 Gross expenditure is the total amount of money spent by visiting passengers on flights into GPA. Average expenditure data per day and per trip was captured through survey work.

Table 4.2: Average visitor expenditure per trip and per night

	Expenditure per person per trip	Expenditure per person per day
2003 survey estimate	£215.71	£31.90
2006 survey estimate	£291.67	£36.41
2007 estimate	£298.96	£37.32

Source: SQW estimates

4.8 On this basis the 579,295 visitors are estimated to have spent just over £173 million in Scotland. 26% of all visitors stayed overnight in Ayrshire and stayed an average of 3.1 nights each.

4.9 The surveys also produced estimates of expenditure in Ayrshire, including those that passed through as well as those that stayed. In total this is estimated to be £32.9 million. In addition, Scottish residents travelling out will also spend money in Ayrshire (an average of £15.19 each) adding a further £9.2 million. However, a proportion of this spend will be made by Ayrshire residents and should be deducted. Ayrshire travellers are assumed to spend less locally than visitors and the analysis assumes that 90% of this is additional to Ayrshire. In total, Ayrshire benefits from £41.2 million of gross expenditure. At a Scottish level, expenditure of £298.96 per trip gives an estimated £173 million within Scotland.

Visitor displacement

4.10 Not all these trips represent genuinely new expenditure in Scotland or Ayrshire. Some of those travelling would have visited anyway, perhaps using other airlines or routes or travelling by train. This section considers the extent to which the routes have resulted in a net change to the number of trips taken both in and out of Ayrshire and Scotland.

4.11 As part of the 2006 survey visitors were asked the likelihood of visiting Scotland and Ayrshire if the route they travelled on had not been available (Table 4.3). The results indicate that, at a Scottish level particularly, many of the passengers were *very likely* to come to Scotland anyway (63%) and a further 16% *quite likely*. In terms of Ayrshire, a much smaller proportion would have visited if the route had not been available and they were forced to use a different route or mode of travel.

Table 4.3: Displacement results for visitors

	Inbound visitors	
	Likelihood of visiting Scotland if chosen route had not existed	Likelihood of visiting Ayrshire if had arrived in Scotland by other means
Very likely	63%	19%
Quite likely	16%	7%
Neither	1%	2%
Not very likely	14%	26%
Not at all likely	6%	41%
Don't know	1%	5%

Source: SQW/TNS survey 2006

4.12 Assuming that perhaps 50% of those that considered that they were "quite likely" to visit actually would have, and that those that responded "neither", "not very likely" and "not at all likely" would not have visited, then just under 30% of the trips would be additional. Taken together this gives an overall proportion of additional visiting trips to Scotland of just under 33%. For Ayrshire, additionality is much higher as most of the alternatives that could have been used would not involve a trip through Ayrshire unless it was their planned destination. On this basis, we estimate that around 75% of the trips to Ayrshire were additional.

4.13 The measurement of displacement raises many issues. It varies considerably between types of trip; for some segments of the market, the trip will be considered essential, certainly for a lot of business travel and for some visits to family and friends (VFR) trips, while for holiday makers the level of displacement is likely to be a bit lower. It also depends on the alternative routes and modes to different destinations. On several of the routes, Stansted, Brussels and Paris in particular, displacement was higher (around 70% of passengers reported that they were very likely to travel to Scotland anyway). Visitors from Dusseldorf, Shannon and Murcia were all more likely to have visited anyway, while the visitors from Stockholm, Gothenburg and Girona were less likely to have visited without the routes.

4.14 We would suspect that even where passengers report that they would have made a trip anyway, there may be an element of the decision that has been shaped by the options offered by Ryanair (and others). In some cases it may also be doubtful whether they have investigated alternative routes and the likely costs, particularly for the destinations covered in the new survey, for example, Scandinavia and German airports that were not well served by other providers.

4.15 The new routes to Scandinavia, Germany, Italy and to Poland have less direct competition at Glasgow Abbotsinch Airport and our view would be that the new portfolio of routes is likely to increase the additionality of visitors.

4.16 As we argued in previous reports, these responses do not take into account the longer term influence of Ryanair, and other airlines in encouraging people to travel in the first place. It is cheaper and easier to fly now and attitudes to travelling abroad for short breaks and for business travel have changed. A report by Mercer Management Consultants in 2002[5] concluded that *"the advent of low cost carriers in existing markets has stimulated overall demand on various routes in the UK"*. It used examples of Ryanair's Manchester to Dublin route and Birmingham to Dublin to demonstrate that initially the number of passengers carried by the incumbent dropped shortly after the market entrance of Ryanair but then started to grow again over the next few years.

4.17 Further evidence of the level of displacement comes from a Steer Davies Gleave presentation which suggests that, from evidence on the London/Prestwick routes, 62% of the low cost traffic (Ryanair) is new or transferred from surface transport and 38% comes from other airlines. In other words displacement is likely to be between 40% and 50% depending on the impact on rail.[6]

4.18 The survey results represent only a short-term view of displacement and take no account of the role that Ryanair has played in building up the air travel market over the longer term. We would stress that with so many factors involved it is impossible to provide a simple answer to the level of displacement. The responses to passengers about their likelihood of travelling to Scotland will not reflect how they might have behaved if Ryanair had not been in the market and the possibility that prices would have remained higher in the absence of competition.

4.19 Overall, there is no doubt that GPA and Ryanair have increased the market, both by introducing new destinations, but also, through lower fares, increasing the number of people flying and the frequency of trips. While some of the traffic to and from Prestwick has been displaced from other routes and modes of travel, a substantial proportion of the traffic carried can be considered additional. The analysis assumes that 55% of the trips made by visitors would have taken place anyway and that 45% represent additional visits.

Table 4.4: Summary of displacement estimates

Category	**Displacement (% of trips that would take place anyway)**	
	Ayrshire	Scotland
Inbound visitors	25%	55%

Source: SQW estimates

[5] Impact of low cost airlines, Mercer Management Consultants, 2002
[6] "The economics of low-cost airlines", April 2005, Steer Davies Gleave presentation to the International Consulting Economists' Association (ICEA)

Net visitor expenditure

4.20 Allowing for the displacement figures above gives a net impact figure of £78 million in Scotland and £31 million in Ayrshire. Note that the Scottish figure *includes* Ayrshire. The Ayrshire figure includes expenditure by Scottish residents in the region before and after their trips outside Scotland.

Outbound passengers

4.21 As well as bringing new visitors to Scotland, the growth of the airport has also encouraged Scottish residents to make additional trips. The passenger figures show that there were 605,311 Scottish resident passengers making return trips from GPA. This is almost double the 375,000 that made trips in 2002/03. Many of these trips would have been made anyway, but a proportion will represent growth that has happened because of GPA and Ryanair in particular.

4.22 The increase in routes and lower prices offered through GPA by Ryanair are likely to have increased the number of additional trips made by residents travelling outside Scotland. These trips are likely to take expenditure out of Scotland potentially reducing local income and employment.

4.23 However, many of the Scottish residents that are travelling are likely to have made trips anyway. The survey in 2002/03 asked residents whether they would have made the same trip if the route they used from GPA did not exist. Almost 90% claimed that they would have travelled to the same destination anyway.

4.24 It is argued that for those that would have travelled anyway, the costs will often be lower (because of Ryanair's impact on prices) than they would have been otherwise (a benefit for residents) and for additional passengers, the range and convenience of these additional options represents a benefit. Obviously this is a benefit to both consumers and businesses

4.25 The scale of this "lost" income and the positive consumer benefits cannot readily be measured within this work. Consequently, the passenger impacts are limited to the expenditure of the additional visitors that travel into Scotland through the airport.

Multiplier effects

4.26 The additional expenditure generated by passengers visiting Scotland will have knock-on effects for the rest of the Ayrshire economy and more generally for the Scottish economy. The calculations take account of two types of multipliers both of which occur as a result of the expenditure made by visitors:

- **Indirect effect -** an increase in sales in a business will require that business to purchase more supplies. A proportion of this 'knock-on' effect will benefit suppliers in the local economy.
- **Induced effect -** an increase in sales in a business will usually lead either to an increase in incomes for those employed, incomes for additional employees, be invested in the business or taken as profit. A proportion of this increased income will be re-spent in the local economy.

4.27 The Scottish Tourism Multiplier Study (STMS)[7] provides standard indirect and induced multipliers for the tourism sector. There are no multiplier values specifically for the Ayrshire economy in the study and, instead, we have used the values calculated for Lanarkshire as a proxy. Given that one of the biggest factors affecting multiplier values is proximity to major sources of supplies, in this case Glasgow, Lanarkshire should be a fairly close comparator. Multiplier values are available for different categories of spending. There are separate multiplier values for expenditure on accommodation, entertainment, food and drink, transport and shopping. Table 4-5 shows the Ayrshire multipliers used.

4.28 For Scotland, the Input-Output tables provide multiplier values (Type I and II) by Industry group. The tourism-related output multiplier is given as 1.5 in the Scottish Enterprise Economic Impact guidance[8].

Table 4-5: Tourism multiplier values

Category	**Output multipliers for Ayrshire**
Accommodation	1.27
Food and drink (ex airport)	1.42
Shopping (ex airport)	1.22
Entertainment	1.24
Public transport	1.12
Car-related	1.12
Car parking	1.22
Other	1.22
Airport spending	1.32
Scotland (all tourism expenditure)[9]	1.50

Source: Based on Scottish Tourism Multiplier Study

Summary of net passenger impacts

4.29 The following table shows the *net* expenditure, output, GVA and employment generated by passengers visiting Scotland. These net figures are adjusted for displacement (whether visitors would have made trips even if GPA was not operating) and multiplier effects. They are not adjusted for any "lost" expenditure that might result from additional resident trips outside Scotland nor do they recognise the economic benefits to Scottish residents of this travel.

4.30 The gross expenditure by visiting passengers is estimated to be £41.7 million in Ayrshire and around £173 million in Scotland. After allowing for displacement and multipliers this is estimated to support £38 million of output in Ayrshire and £125 million in Scotland.

[7] From Scottish tourism multiplier data
[8] http://www.scottish-enterprise.com/publications/economic_impact_assessment.pdf
[9] From Scottish Government input output tables 2004 – output multiplier for retail is 1.7 and for hotel and catering 1.5. 1.6 has been used an average.

4.31 GVA and employment is calculated using the ratios between turnover/GVA and employment from the Annual Business Inquiry results[10]. GVA is 32% of the direct tourism expenditure and 40% of the remaining output that is generated through the multiplier effects.

4.32 Applying these ratios gives £40.5 million of GVA in Scotland and £13.2 million in Ayrshire. A similar process was used to derive employment estimates and the results are shown in Table 4.6.

Table 4.6: Net economic impact of passenger expenditure on Ayrshire and Scotland (£million) and jobs (2006/07)

	Scotland	**Ayrshire**
Gross expenditure (£ millions)	173.2	41.2
Net expenditure (£ millions)	77.9	30.9
Net output (including multipliers) (£ millions)	116.9	39.3
Net GVA (£ millions)	40.5	13.2
Net employment	1,717	618

Source: SQW

[10] http://www.scotland.gov.uk/Resource/Doc/982/0051950.xls

5: Tenants, freight and aerospace business impacts

The research has included the collection of data from airport tenants (including HMS Gannet), freight operators and for aerospace businesses located near the airport. Short surveys were used to collect data from each type.

The results are adjusted for any additionality (would these activities be carried out somewhere else in the absence of the airport) and any overlap with the airport's own expenditure. In summary the airport, through the activities of these businesses, is credited with supporting £23 million of GVA within Scotland and £17 million in Ayrshire and 678 jobs in Scotland and 470 in Ayrshire.

Tenants survey

5.1 A total of 57 tenant contact details were provided. Of these, two are no longer operating. Of the remainder, seven are freight businesses and three are aerospace businesses. These categories are analysed separately later in the chapter.

5.2 This section considers the remaining 45 tenants. All were contacted by postal survey and telephone and generated 24 responses. The respondents operated in retail, transport, storage and communication; equipment repair and other services which included foreign exchange, passenger catering, tour operators, IT, Government department, finance, charities and others.

Table 5-1: Which business sectors do you mainly operate in?

Sectors	Total
Other services	54%
Transport, storage and communication	25%
Retail	17%
Equipment repair and maintenance	4%
Grand total	100%

Source: SQW survey and telephone interview, 2007

5.3 Most of the businesses are well established at GPA. The majority had been at GPA for more than 10 years and were part of a larger company (Table 5-2).

Table 5-2: Which of the following best describes your business?

	Total
Part of a larger company, opened in last 10 years	38%
Been here for more than 10 years	25%
New independent business, opened in last 10 years	8%
Moved to current location from elsewhere in last 10 years	8%
No response	21%
Grand total	100%

Source:SQW survey and telephone interview, 2007

5.4 We asked businesses what they would do in the event that of GPA expanding its operations - would this lead to an increase in level of their activity? The responses shown below suggest that majority of respondents would grow their business in line with the growth of the Airport.

Table 5-3: If GPA expanded its operations, would this lead to an increase in the level of your activity?

	Number of responses
No, our growth is not related to activity at the Airport	19%
Yes, we would expand but not as quickly	12%
Yes, we would expect to grow at a similar rate as the Airport business	23%
No response	46%
Total	100%

Source: SQW Survey, 2007

Employment and GVA

5.5 The level of employment generated by respondents' business activities are presented in Table 5.3. Across the respondent businesses there were 465 full-time jobs, 121 part-time jobs and 20 temporary/casual staff. More than half the employment comprises a single airline, Ryanair, with the next biggest employers operating in catering for passengers, aircraft refuelling, retail and transport.

5.6 We have made assumptions on the number of jobs for the non-respondent businesses based on the evidence we obtained from our survey and consultations. Excluding Ryanair, we estimate an average of 11 FTE employees per business. This gives a total of 759 employees in total.

5.7 To get a measure of the GVA produced by all the tenant businesses – including the non-respondents - we applied standard GVA per employee figures to the data we had on staff numbers[11].

5.8 The businesses were categorised to correspond with the Scottish Annual Business Statistics 2004/05 data produced by the Scottish Government which provide GVA per employee[12]. These categories reflected a mix of sectors including retail, transport, tourism and 'other business

[11] Based on the data provided by GPA we are assuming the total population of relevant tenant businesses is 45.
[12] For the non-respondent businesses we applied an average GVA per employee from retail, air transport, tourism and other supporting transport activities.

activities'. We then calculated the total GVA for the whole population. The results are presented in Table 5-4 below.

5.9 This gives a total GVA of £24.6 million generated by tenant businesses.

Table 5-4: Total employment and GVA of tenant businesses

	Employment	GVA per employee	GVA (£ millions)
Retail	63	20,100	1.3
Air transport	328	40,000	13.1
Tourism related	3	18,200	0.1
Supporting and auxiliary transport activities	45	34,903	1.6
Education	11	4,852	0.1
Real estate activities	30	17,162	0.5
Computer related activities	2	66,109	0.1
Other business activities	22	33,813	0.7
Other service activities	24	17,857	0.4
Other non response	231	28,944	6.7
Totals	759		24.6

Source: SQW survey, 2007; SQW estimates; Scottish Government – ABI data

Additionality

5.10 These estimates represent gross figures and need to be discounted for additionality. To get an indication of the level of jobs that are dependent on GPA, we asked whether the jobs that the business supports at GPA would still be supported in Ayrshire or elsewhere in Scotland if the Airport was not there. Excluding Ryanair, half of the 24 respondent businesses reported that the jobs supported at GPA would not exist in Ayrshire or Scotland without the Airport. This represented 207 jobs. In addition the Ryanair jobs would also not be in Ayrshire or Scotland. This gives a total of 455 or 60% of all the employment estimated.

5.11 For the total population of tenant businesses we have assumed that 60% of employment and GVA can be attributable to the presence of the Airport. This translates into 455 FTE jobs and just less than £15m GVA (Table 5-5).

Table 5-5: Total employment and GVA of tenant businesses (net)

Total gross GVA/ employment	Additionality	Total net GVA/ employment
759 FTE jobs	60%	455
£24.6m GVA	60%	£14.7m GVA

Source: SQW estimates

Multiplier effects

5.12 The additional activity supported by the airport will also have knock on effects in the rest of the economy in Ayrshire and Scotland. At a Scottish level, the multiplier values can be derived from the Scottish Input Output Tables. There are no multiplier values for Ayrshire and instead we have assumed a value of 1.25, which is at the lower end of a range for a regional economy. Regional multiplier values are typically between 1.2 and 1.5 – including both indirect and induced effects. Multipliers are lower for smaller areas, where a greater proportion of inputs have to be sourced from outside the region. Larger regions, that are more self sufficient, have higher multipliers. Ayrshire's proximity to Glasgow also means that there is a greater likelihood of spending "leaking" out of the Ayrshire economy. Consequently we have chosen a value at the lower end this range.

5.13 We have applied the GVA and employment ratios to the net values for each of the industry sectors in the previous table. The multiplier for air transport has been reduced to reflect the high proportion of Ryanair jobs which while contributing to GVA within the region through staff wages and salaries will not include profit.

Adjustment for passenger and airport spending

5.14 Finally, a proportion of the value of the tenant impacts is likely to already be counted either as part of the airport's own expenditure (and multiplier effects) or within the passenger expenditure. Our analysis of the airport's supply contracts within Ayrshire do not suggest that there is much overlap - none of the suppliers listed also appeared as tenants.

5.15 There is more potential overlap between tenant income and passenger expenditure (which has already been translated into jobs and income). The most recent passenger survey estimates that each visitor spends £8.39 on-site at the airport and that residents leaving Scotland spend a further £15.19 each. In total this expenditure would support GVA of £5.6 million. Because this has been included through the tourism multipliers, it should not be included here. This reduces the results accordingly. After allowing for additionality, multipliers and removing double counting the results are shown in Table 5-6.

Table 5-6: Tenants' net employment and GVA

	Scotland	Ayrshire
Net GVA (£ millions)	17.4	12.8
Net employment	507	365

Source: SQW estimates

HMS Gannet

5.16 Based at Prestwick airport in Southwest Scotland, Gannet provides 24-hour military and civilian search and rescue across a large area of Scotland, Northern England and Northern Ireland. The flight operates 3 Sea King Mk 5 helicopters and consists of more than 100 staff including 16 officers, 55 ratings and 32 civilian staff. Tasks include rescue of fallen climbers and injured fishermen up to 200 miles offshore. Additionally, Gannet provides an important medical evacuation service to the many island communities on Scotland's West coast.

5.17 It is unclear where these services would be based if the airport was not operating although one option would be the North West of England. The 32 civilian jobs are more likely to be filled locally and these jobs are considered additional in Ayrshire. The 71 *military posts* are not considered as additional employment (these are not local jobs and if the base moved they would not direct impact on employment in the area). However, the expenditure of wages within Ayrshire can be attributed to the presence of Gannet as can any spending with local suppliers.

5.18 We estimate that the 32 additional civilian jobs at Gannet generate wages and salaries of around £1 million in Ayrshire and Scotland. In addition military staff will spend money in the local economy (£10,000 per post in the local economy would generate £710,000). There will also be some modest impact on local suppliers through the base's own expenditure. We have no details of HMS Gannet's expenditure but we estimate that the total might be around £0.3 million a year in Ayrshire and £0.6 million in Scotland.

5.19 The wages, salaries and supplier expenditure will all have different multiplier effects. We have used the Scottish Input Output Tables[13] for these and used approximations for Ayrshire based on the Scottish figures:

- The 32 jobs directly supported are assumed to have a Scottish multiplier effect of 1.4 and 1.2 in Ayrshire. This would give employment of 45 jobs in Scotland and 38 in Ayrshire. The associated GVA comprises the wages and salaries for these employees (£1 million) and the GVA supported by the jobs created by the multiplier effects (£0.6 million in Scotland and £0.3 million in Ayrshire assuming that each job requires £45,000 of GVA per year).

- The expenditure of military wages locally, after multiplier effects, is estimated to support GVA of £0.2 million in Scotland and £0.1 million in Ayrshire[14].

- Expenditure with suppliers supports further GVA of £0.4 million in Ayrshire and £0.2 million in Ayrshire[15].

Table 5-7: HMS Gannet net impact attributable to GPA

	Scotland	Ayrshire
Net GVA (£ millions)	£2.0	£1.4
Net employment[16]	60	45

Source: SQW estimates

Freight

5.20 GPA handled almost 33,000 metric tonnes of freight in 2006/07, accounting for a third of the airport's revenue. The UK has relatively few sufficiently long runways to handle long haul, full payload B747 aircraft under most operating conditions and GPA is the only one in Scotland. This puts the airport in a strong position in handling bulkier goods.

5.21 The volume handled at GPA is much greater than Aberdeen and Glasgow Abbotsinch airports. Edinburgh handles slightly more (36,400 tonnes in 2006) although this is largely carried in

[13] based on the private household expenditure multiplier from the Scottish Input Output Tables produced by the Scottish Government
[14] Assumes *induced* GVA effect only from private household spending of 0.3 at Scottish level and 0.15 in Ayrshire
[15] Assumes GVA effect from air transport of 0.8 for Scotland and 0.6 for Ayrshire
[16] Includes additional employment generated through the multiplier impacts on GVA (this assumes £45,000 of GVA per job

smaller express freight and passenger aircraft. The majority of freight is travelling to and from North America, while most imports to GPA are destined for other parts of the UK and Republic of Ireland.

5.22 There are a host of 'actors' involved in the freight market and before we outline what we consider to be the potential sources of impact, it is appropriate to outline the flow of activities involved in the freight operations based on our discussions with GPA freight staff.

5.23 Essentially, the logic of activities constitutes the following main steps:

- the manufacturer contacts the freight forwarder to enquire about the routes and rates for shipment purposes
- the freight forwarder will then book freight directly with an airline
- the airline provides booking information to GPA who in turn receive the cargo on behalf of the airline from the forwarding agent
- GPA builds freight onto the aircraft pallets for flight and pass the freight onto handling staff for weight and balance preparation who in turn load and dispatch the flight
- freight arrives at the destination airport and is uploaded to go to freight forwarder or be re-pallitised and sent to final destination
- documentation is passed to freight forwarder for customs clearance
- freight forwarder delivers the cargo to consignee via road (usually by truck service) or other forms of transportation.

5.24 For *exports* GPA charges the airlines for export handling, this includes: landing, navigation, "freight-on" and 'freight-off' charge for handling the aircraft on the ramp and apron services (these are services provided on the aircraft ramp). The airline charges the forwarding agent who in turn charges the exporter (consignor). For *imports* GPA charges the airline for import handling on freight transhipping to another destination (e.g. London, Dublin, Manchester, Birmingham etc.) at a reduced rate. They would charge the forwarding agent the import handling on any Prestwick destination shipment.

Impacts

5.25 Based on the freight market outlined above and our discussions with GPA, we understand that freight businesses (both tenants and others) pay charges of around £770,000 p.a. to GPA. Consequently, while the direct GVA and employment for these businesses is included, the multiplier effects of the payments to GPA are excluded (they are already counted within GPA's expenditure)

5.26 To estimate the number of staff employed by businesses using GPA for freight purposes and how many of these are actually dependent on GPA 14 freight businesses were contacted. Of these there were responses from seven. The remaining companies were contacted at least three times but no further responses were obtained.

5.27 The seven businesses interviewed were involved in handling aircraft, logistics/haulage and handled goods from North America, Europe, Asia and other part of the world. We asked them how many jobs are located at their site and would the jobs still be supported in Ayrshire if GPA was not there. Their responses are shown in the table below. We have assigned the level of additionality to each of the responses.

Table 5-8: Freight businesses

Company	No. of staff	Would the jobs that your business supports at this site still be supported in Ayrshire or elsewhere in Scotland without the Airport?	Additionality
1	6	No, these jobs would not exist in Ayrshire or Scotland without the airport	100%
2	11	No, these jobs would not exist in Ayrshire or Scotland without the airport	100%
3	3	No, these jobs would not exist in Ayrshire or Scotland without the airport	100%
4	17	All the jobs would go to Glasgow Airport	Nil
5	8	Jobs are based at Glasgow Airport, therefore makes no difference if GPA was not there	Nil
6	2	Jobs would move to Glasgow airport	Nil
7	9	No, these jobs would not exist in Ayrshire or Scotland without the airport	100%

Source: SQW interview, 2007

Additionality

5.28 These seven businesses support 56 jobs (full-time) or around eight per business. Of these 29 of the jobs were considered to be wholly dependent on GPA's operations. To scale-up from the sample to the population as a whole, we estimate that the total employment for the 14 businesses would be approximately 112 staff. Of these, we estimate that 58 jobs are attributable to GPA. Those employed by GPA directly are included in the GPA's overall headcount and their wages are included in the direct GVA.

5.29 The 58 jobs are included in the total for this section along with the associated GVA figures (using £53,500 of GVA per job[17]). This gives a GVA of £3.1 million in Scotland and £2.5 million in Ayrshire. Of the 14 freight businesses, three were outside Ayrshire (21%) and we have assumed that this is also the proportion of employment and GVA outside the region.

5.30 A proportion of the multiplier effect has already been included through the GPA supply chain (the expenditure that is made in landing charges to GPA which is 10% of the total value of freight business sales). This is accounted for in the figures below.

[17] Based on Scottish Government data from Annual Business Inquiry 2005 – using an average of SIC codes 61 "air transport" and 63 "supporting activities".

Table 5-9: Freight services net employment and GVA

	Scotland	Ayrshire
Net GVA (£ millions)	3.9	2.6
Net employment	110	60

Source: SQW estimates

Aerospace businesses and impact

5.31 Scottish Enterprise Ayrshire provided contact details of 19 aerospace businesses in Ayrshire. Out of these 10 interviews were completed. The remainder were contacted at least three times requesting input to the study but we were unable to get any further responses. The table below shows the responses to the key questions regarding the impact of GPA.

Table 5-10: Aerospace responses

Company	Employment at site	Turnover 2006/07	Does your business benefit from sales to the Airport or its suppliers?	What would be the impact on your business if there was no Airport?	If Airport was not there where else would you be located?
1	12	Just under £1m	No	No impact	Would still be located at current site
2	3	n/a	No	No impact	Would still be located at current site
3	600	n/a	No	No impact	Would still be located at current site
4	118	n/a	No	No impact	Would still be located at current site
5	12	£0.5m	Airport - No Suppliers – Yes	Only if no business from suppliers to Airport then staff would reduce from 12 to 4	1. Irvine 2. Next to Glasgow Airport
6	1,000	n/a	No	No impact	Don't know
7	120	£9m	No	No impact	Would still be located at current site
8	18	n/a	Yes	No impact	Would still be located at current site
9	13	c. £0.5m	No	No impact	Would still be located at current site
10	46	£8m	No	No impact	Would still be located at current site
	1,942				

Source: SQW estimates

5.32 The ten respondents have an average of 194 employees per business which is higher than the national average[18]. This is partly explained by the large numbers employed in 3 out of the 10

[18] Scottish Government – Scottish Corporate Sector Statistics 2005: Profile of the Scottish Aerospace Sector (SIC35.3). National average is 116 employees

businesses. In total these 10 cases employ 1,942 people. For the remainder we have used the national average for the sector of 116. This gives a further 1,044 jobs and a total of just less than 3,000.

5.33 Within the sample, 2 out of 10 companies were direct suppliers to GPA and all but one of those interviewed reported that there would be no impact on their business if the airport was not operating and most would still remain at their current location. However, it is also important to note that the original decision to locate there must have in some way been influenced by the airport, even if the links now are much weaker.

5.34 The development of the aerospace "cluster" of businesses in Ayrshire is clearly a result of the presence of the airport, and the fact that they would not now relocate if the airport were no longer there reflects the investment in plant, buildings and people that has been built up since. Although the airport may have less current influence on this cluster, there remains the potential for growth and stronger linkages and the cluster itself may have been a reason for other suppliers to set up in Ayrshire.

Impact summary for tenants, freight and aerospace

5.35 Analysis of surveys and interviews with tenant, freight and aerospace businesses have helped to identify the pattern of economic activity and the contribution of the airport. In addition we have included the impact of HMS Gannet operations to the extent that we consider them to be additional to Ayrshire and Scotland. Broadly, while there is additional economic benefit supported by tenants, freight and HMS Gannet, the aerospace business responses indicate that their employment and GVA is now largely independent of the airport.

5.36 The results for this section are brought together in Table 5-11.

Table 5-11: additional net employment and GVA generated by **tenants (including HMS Gannet), freight and aerospace**

	Scotland	Ayrshire
Net GVA (£ millions)	23.3	16.9
Net employment	678	470

Source: SQW estimates

Annex A: Profile of business survey respondents

Sector

A.1 The sample excluded retail, agriculture and forestry and public sector services as well as aerospace businesses which are included separately at the end of this chapter. Even so some of the businesses responding considered themselves to be in these categories. The responses cover a good cross section of businesses. Eighteen were construction firms, 36 manufacturers, 12 were tourism related and 12 in transport, communication and storage categories. Forty nine operate in a variety of service activities. The type of businesses in this category range include marine leisure services, business consultancy, IT consultancy, shipping agents, art and drama teaching, distribution, actuary, banking, exporters of seafood, graphic design, advertising, care services, and CCTV services.

Which of the following business sectors do you mainly operate in?

	Total
Manufacturing	36
Hotels, restaurants, cafe, bars	12
Construction	18
Financial intermediation	9
Other services	49
Personal services	7
Retail	11
Transport, storage and communication	12
Other (agriculture, water, business services, real estate)	20
Grand Total	174

Source: SQW survey 2007

5.37 More than half of the businesses were within 10 miles of the airport and 95% were within 25 miles.

Distance of business from Glasgow Prestwick Airport

	Total
Less than 1mile	4%
1-5 miles	34%
6-10 miles	27%
11-25 miles	29%
Over 25 miles	6%
Grand Total	100%

Source: SQW survey 2007

5.38 On average respondents estimate that 38% of sales were made to Ayrshire residents or businesses. On average only 4% were to tourists from outside Ayrshire, 41% of sales were made to businesses and public sector in the rest of the UK and 14% exported overseas. These are the average proportions reported and are not weighted by the value of sales.

What proportion of your sales from this site is made to other businesses/public sector or consumers in the following areas?

	% of sales
Tourists from outside Ayrshire?	4%
Ayrshire residents	21%
Business/public sector at the airport?	2%
Business/public sector the rest of Ayrshire	17%
Business/public sector the rest of Scotland	20%
Business/public sector the rest of UK	21%
Overseas	14%

Source: SQW survey 2007

5.39 Average turnover was around £4.1 million on-site. Although this is skewed upwards by a small number of large businesses. Almost half have a turnover of less than £500,000.

What was your turnover in the last financial year?

158 responses	**%**
£100,000 or less	19%
£100,001 - £500,000	30%
£500,001 - £2 million	19%
£2,000,001 up to 3 million	5%
£3,000,001 up to £5 million	5%
£5,000,001 up to £10 million	6%
£10,000,001 up to £15 million	2%
£15,000,001 up to 20 million	1%
£20,000,001 up to £50 million	3%
More than £50 million	2%
No response	8%
Total	100%

Source: SQW survey 2007

Employment

5.40 On average each business employed 34 people fulltime and 11 part-time. Assuming that part-time is 0.5 of a full time job this would give just less than 40 FTEs per business. Comparing this with the reported turnover gives a ratio of £100,000 of turnover per FTE employee, which is almost exactly the national average[19].

[19] Based on ABI data for 2005 produced by the Scottish Government